



# **PLANNING AND DEVELOPMENT REGULATIONS OF BENTON COUNTY**

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**PLANNING DEPARTMENT**  
905 NW 8<sup>th</sup> Street  
Bentonville, AR 72712

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## **CHAPTER I – GENERAL PROVISIONS**

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### **§1.1 – TITLE**

This Ordinance shall be known as the "Planning and Development Ordinance of Benton County, Arkansas" and shall be referred to herein as "this Ordinance."

### **§1.2 – JURISDICTION AND AUTHORITY**

The provisions of this Ordinance shall apply to all land and structures within the unincorporated areas of Benton County, as they now or may hereafter exist. Single family and agricultural land use is granted as a right and all other land use shall be reviewed as conditional uses. Land use compatibility shall be one of the major criteria.

This Ordinance is adopted under the authority conferred to Benton County by the General Assembly of the State of Arkansas Act 422 of 1977 for the control of land development in the unincorporated areas of the County.

This Ordinance shall be observed through denial of the issuance of building permit and use permits in the unincorporated areas. It shall be unlawful to erect, construct, reconstruct, alter, maintain, or use any land, building, or structure in violation of this Ordinance.

### **§1.3 – EFFECTIVE DATE AND TRANSITIONAL RULES**

This Ordinance including the appendices attached herewith shall be effective after a public hearing, adoption by the Quorum Court of Benton County, Arkansas, and publication or posting as provided by State law.

After the effective date, it shall be unlawful to erect, construct, reconstruct, alter, maintain, or use any land, building, or structure in violation of this Ordinance. Only the applications that have been received by Planning staff and have a staff report and recommendation of the Planning Board may be allowed to proceed without strict adherence to this Ordinance. All other proposals for improvement including division and development of land shall be required to comply with this Ordinance.

If the Planning Board fails to initiate deliberation on any such improvement or acquisition within thirty (30) days after receipt thereof and to furnish in writing its report and recommendations upon a proposal

within sixty (60) days thereafter, the applicant may proceed without the report and recommendation.

#### **§1.4 – PURPOSE AND INTENT**

The purpose of this Ordinance is to guide and accomplish coordinated, efficient, and economic development in the County and seek to best promote the health, safety, convenience, prosperity, and welfare of the people of the County.

This Ordinance with the accompanying maps, charts, appendices, and descriptive matter, make recommendations, among other things, as to:

- i. The conservation of natural resources;
- ii. The protection of areas of environmental concerns;
- iii. The development of land subject to flooding;
- iv. The provision of adequate recreation, education, and community facilities, including water, sewer, solid waste, and drainage improvements;
- v. The development of transportation facilities, housing development, and redevelopment;
- vi. The consideration of school district boundaries; and
- vii. Other matters which are logically related to or form an integral part of a long-term plan for orderly development and redevelopment of the County.

Areas of critical environmental concern include, among other things, aquifers and aquifer recharge areas, soils poorly suited to development, floodplains, wetlands, prime agricultural and forestlands, the natural habitat of rare or endangered species, areas with unique ecosystems, or areas recommended for protection in the Arkansas Natural Areas Plan.

This Ordinance intends to implement the County’s development policies by establishing regulations controlling the development and division of land and establishes land use compatibility through a comprehensive set of procedures, minimum standards, and acceptable criteria for development consistent with the Benton County Land Use Guide as outlined below:

- i. Retain the agricultural nature and rural residential character of the County while recognizing the need for industrial land uses, principally where adequate utilities, roads, and other infrastructure exists or will exist. This will allow for future industrial, commercial and rural residential land usage that will minimize incompatibility with agricultural, residential, and other interests.
- ii. Commercial development must be weighed according to its impact on agricultural and residential areas.
- iii. Ensure protection of the County’s natural environment, floodplains, watershed, and natural resources and features.
- iv. Adequate roads and other infrastructure should be considered in the development process.

- v. Establish a minimum lot size of one (1) acre.
- vi. Ensure that all County plans are consistent, to the extent possible, with state plans and other related regional, County, and municipal plans in order to avoid inconvenience and economic waste, and to assure a coordinated and harmonious development of the County, region, and State.

This Ordinance establishes standards of development in the County and provides a comprehensive development framework to implement land use considerations desired by County leaders and citizens. The aim is to retain the agricultural nature and rural character of the County while allowing for compatible residential, industrial, and commercial development.

### **General Goals**

1. To protect and provide for safe drinking water sources, including Beaver Lake, for the public health, safety, and general welfare of Benton County, Arkansas.
2. To provide for adequate light, air, privacy, to secure safety from fire, flood, and other hazard, and to prevent overcrowding of the land and excessive congestion of population.
3. To protect the character and the social and economic stability of all parts of Benton County and to encourage orderly and beneficial development of the community through appropriate growth management tools assuring the timing and sequencing of development and related infrastructure to avoid costly infrastructure extensions.
4. To assure proper urban and rural development form and open space separation of urban areas, to protect environmentally critical areas and areas premature for development. Protect agricultural lands and uses as a valuable resource.
5. To protect and conserve the value of land throughout Benton County and the value of buildings and improvements upon the land, to minimize the conflicts among the uses of land and buildings, and to encourage compatible mixed uses as appropriate.
6. To ensure that special developments, such as, telecommunication facilities, alternative energy facilities shall be designed in a manner that minimizes conflict with the surrounding development. This may be achieved by ensuring compliance with criteria for location of the facility to minimize potential safety hazards, measures for appropriate landscaping, fencing or buffering on-site.

#### **A. Agricultural and Rural Goals**

While agricultural land uses are generally exempt from these regulations, Benton County seeks to protect and preserve, to the extent feasible and practicable, the agricultural and rural character of the County for successive generations to use and enjoy.

#### **B. Residential Development Goals**

1. To ensure development of residential areas to achieve a safe living environment that aims to preserve the natural beauty and topography of Benton County and retains the agricultural character and rural nature of the County.

2. To protect residential areas from incompatible adjacent land uses.
3. To ensure that land is subdivided only when subdivision is necessary to provide for uses of land which are in the public interest.

**C. Commercial and Industrial Development Goals**

1. To discourage the indiscriminate mixing of commercial development into residential and agricultural areas and encourage development with adequate infrastructure provision.
2. To encourage commercial and industrial land development so that employment opportunities are available for Benton County residents, provided that adequate infrastructure exists for such development.
3. To discourage commercial and industrial development from areas where inadequate or substandard infrastructure exists or where it is unreasonable to expect such infrastructure may be logically and efficiently extended.

**D. Goals Regarding Infrastructure Including Transportation, Public Facilities and Services**

1. To establish an effective transportation system throughout the County that ensures adequate access to commercial areas including provision for emergency and other services, adequate provision of parking based on anticipated traffic and discourages through traffic in public assembly and recreational areas, residential and agricultural areas.
2. To provide the most beneficial relationship between the uses of land and buildings and the circulation of traffic throughout Benton County, having particular regard to the avoidance of congestion in the streets and highways and the pedestrian traffic movements appropriate to the various uses of land and buildings, and to provide for the proper location and width of streets and building lines.
3. To ensure that public facilities and services are available concurrent with development and will have a sufficient capacity to serve the proposed development and that the community will be required to bear no more than its fair share of the cost of providing the facilities and services through requiring the developer to pay fees, furnish land, or establish mitigation measures to ensure that the development provides its fair share of capital facilities needs generated by the development.
4. To prevent the pollution of air, water, and soil; to assure the adequacy of drainage facilities; to safeguard the water table, and to encourage the wise use and management of natural resources throughout Benton County in order to preserve the integrity, stability, and beauty of the community and the value of the land.
5. To guide public and private policy and action in order to provide adequate and efficient transportation, water, sewerage, schools, parks, playgrounds, recreation and other public requirements and facilities.

6. To adequately regulate and maintain the sanitary and sewage collection as well as treatment systems to ensure that they are safe and non-polluting. Establish and implement policies for adequate operation, upkeep and care of decentralized systems.
7. To establish stormwater pollution prevention, grading and erosion control Best Management Practices (BMP).

**E. Planning and Design Standard Goals**

1. To ensure compatible and complementary land uses, site layout, and orientation and provision of adequate utilities and services.
2. To establish reasonable standards of design and procedures for development, subdivisions and re-subdivisions (replats) in order to further the orderly layout and use of land, and to ensure proper legal descriptions and monumenting of subdivided land.
3. To provide for open spaces through the most efficient design and layout of the land, including the use of average density in providing for minimum width and area of lots, while preserving the density of development as established in these regulations.
4. To regulate the subdividing of land within the County so that new additions will be well integrated with the character, infrastructure, and services of the County and will contribute to an attractive, stable, and wholesome community Environment.

**§1.5 – PLANNING BOUNDARY AND REVIEW COORDINATION**

**A. Planning Boundary** – In accordance with amendments to the Arkansas Code § 14-56-413- Territorial jurisdiction the following criteria applies:

1. Cities now having eight thousand (8,000) population or more shall have the authority to administer and enforce planning and Ordinances outside their corporate limits as follows:
  - i. For cities of eight thousand (8,000) to sixty thousand (60,000) population, the jurisdictional area will be one (1) mile beyond the corporate limits;
  - ii. For cities of sixty thousand (60,000) to one hundred fifty thousand (150,000) population, the jurisdictional area will be two (2) miles beyond the corporate limits; and
  - iii. For cities of one hundred fifty thousand (150,000) population and over, the jurisdictional area will be three (3) miles beyond the corporate limits.
  - iv. Upon July 3, 1989, no city with a population in excess of one hundred fifty thousand (150,000) persons shall exercise any zoning authority outside the boundaries of the County wherein it is located without the approval of the quorum court of the County wherein the city is not located and the approval of the governing bodies of all other cities having zoning authority over the area.

2. Cities having a population of eight thousand (8,000) persons or less:
  - i. Shall have a jurisdictional area that does not exceed one (1) mile beyond the corporate limits; and;
  - ii. Shall not exercise any zoning authority outside the corporate limits.
3. Cities now having an eight thousand (8,000) population or more and situated on a navigable stream may administer and enforce zoning Ordinances outside their corporate limits but may not exceed the one (1) mile territorial limits.
4. The city populations will be based on the most recent federal decennial census.
5. The planning commission shall designate the area within the territorial jurisdiction for which it will prepare plans, Ordinances, and regulations.
6. A description of the boundaries of the area shall be filed with the city clerk and with the County recorder.

B. **Procedure for Review Coordination** – In accordance with A.C.A § 14-17-208(i) - unincorporated areas adjoining the corporate limits of a municipality in which the authority to control the subdivision of land is vested and is being exercised in accordance with and under the provisions of A.C.A §§ 14-56-401- 14-56-408 and 14-56-410, 14-56-425, or any amendments thereto or thereof, or other acts of a similar nature enacted by the General Assembly, the municipal authority shall have subdivision jurisdiction, but shall transmit copies of proposed plats for the areas to the County Planning Board for review and comment, which shall be made to the municipal authority within sixty (60) days from the time it is received by the County Planning Board unless further time is allowed by the municipal authority.

#### **§1.6 – INTERPRETATION AND SEPARABILITY**

- A. In their interpretation and application, the provisions of this Ordinance shall be held to be the minimum requirements for the promotion of the public health, safety, and general welfare. This Ordinance shall be construed broadly to promote the purposes and goals for which they are adopted.
- B. **Separability:** If any part or provision of this Ordinance or the application of this Ordinance to any person or circumstances is adjudged invalid by any court of competent jurisdiction, the judgment shall be confined in its operation to the part, provision, or application directly involved in the judgment and shall not affect or impair the validity of the remainder of this Ordinance or the application of them to other persons or circumstances.

#### **§1.7 - RESERVED**

## CHAPTER II – ADMINISTRATION AND ENFORCEMENT

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### §2.1 – ADMINISTRATION AND ENFORCEMENT

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### §2.4 – APPEALS TO THE DECISION OF THE BOARD OF APPEALS

### §2.5 – COMPLIANCE AND INSPECTIONS

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### §2.7 – AMENDMENTS TO THIS ORDINANCE

### §2.8 – AUTHORITY TO ASSESS FEES

### §2.9 – MODIFICATION, VARIANCE, OR WAIVER

### §2.10 – RESERVED

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### §2.1 – ADMINISTRATION AND ENFORCEMENT

Pursuant to A.C.A §14-17-203, the Benton County Planning Board was established in accordance with Ordinance No. 78-5 on June 21, 1978 with subsequent amendments by Ordinance 82-18 approved on September 7, 1982 and Ordinance 1978-05.

#### A. Administration

- i. The Benton County Planning Board shall be charged with the responsibility for the administration of this Ordinance. The Planning Board may adopt by-laws or internal rules and regulations as it deems necessary in order to ensure an orderly and systematic interpretation and administration of this Ordinance so as to serve the public health, safety, welfare, and general well-being of the citizens of Benton County.
- ii. The Planning Board may develop a summarization of the Planning and Development regulations to make the recommendations more accessible to the owner/applicant. In their consideration of a development application, the Planning Board will take into account recommended 'Standard Conditions of Site Plan Approval' (Appendix K) and additional project specific special conditions or amendments thereto attached to the Decision Letter and the approved site plan. The Planning Board shall have no authority to supersede the Planning and Development Regulations of Benton County.
- iii. In addition to the standards established by this Ordinance, all development shall comply with any other regulations or special requirements of the state, local or federal agencies.
- iv. Appeals to administrative or Planning Board decisions and land use interpretations shall be reviewed by the Board of Appeals.
- v. Any appeal concerning roads shall be appealed directly to circuit court in accordance with Arkansas State Code A.C.A. §14-17-209.

## **B. Enforcement**

It shall be the duty of the Benton County Planning staff to enforce this Ordinance and to bring any violations or lack of compliance herewith to the attention of the County's Prosecutor's Office.

In accordance with A.C.A §14-17-207(f) any individual aggrieved by a violation of any such plan or Ordinance may request an injunction against any individual or property owner in violation or may mandamus any official to enforce the provisions of the Ordinance.

### **§2.2 – BOARD OF APPEALS**

A Board of Appeals is hereby established to provide citizens the opportunity to appeal any administrative or Planning Board division on matters pertaining to this Ordinance. The Board of Appeals shall have such powers and duties as are provided by law or Ordinance. The Board of Appeals shall have the following functions:

#### **1. Appeals of Interpretations**

To hear appeals from administrative decisions with respect to the enforcement and application of the Ordinance and affirm or reverse, in whole or part, the administrative decision. This may include alleged error, misinterpretation, oversight, or other means of incorrectly applying the provisions of this Ordinance including the provisions of the Flood Damage Prevention program and the provisions of the International Building Code (IBC) as determined by their respective chapters.

#### **2. Land Use Determinations**

To determine, in cases of uncertainty, the classification of any land use not specifically enumerated in this Ordinance.

## **A. Membership and Terms**

The Board shall consist of seven (7) members who shall be residents of Benton County, appointed by the County Judge, and confirmed by the Quorum Court for a term of two years, where four (4) members shall initially be appointed for the full two (2) years and the remaining three (3) members shall initially be appointed for one (1) year. Thereafter all members shall be appointed by the County Judge and confirmed by the Quorum Court for terms of two (2) years each. No member shall serve more than two (2) consecutive full terms.

To the extent practicable and feasible, the Board shall include members with the following background and experience:

- i. One (1) Quorum Court member
- ii. One (1) attorney
- iii. One (1) professional engineer licensed in Arkansas
- iv. One (1) professional architect or landscape architect

- v. One (1) city, county or regional planner
- vi. One (1) realtor or developer, and
- vii. One (1) master builder or a person with ten (10) or more years of experience in construction or supervision of construction of buildings.

#### **1. Alternate Members**

Three (3) alternate members, who shall be residents of the County, shall be appointed by the County Judge and confirmed by the Quorum Court to serve in the absence of, or disqualification of, the regular members. The first two (2) alternates appointed shall serve for terms of two (2) years and the third for one (1) year. Thereafter, all alternates shall be appointed for two-year terms.

#### **2. Removal and Vacancies**

All members and alternates may be removed for cause by the County Judge, upon written charges after public hearing. The vacancy of any member or alternate member shall be filled by appointment of the County Judge and confirmation by the Quorum Court for the unexpired term only.

### **B. Organization**

#### **1. Officers and Duties**

The Board of Appeals shall elect a Chair and Vice-Chair from among its membership. The Chairperson, or in his/her absence, the Vice Chairperson, shall preside at all meetings.

#### **2. Meetings**

Meetings of the Board of Appeals shall be held on a regular schedule. The Chair, or in his absence, the Vice-Chair, may administer oaths and compel the attendance of witnesses. All meetings of the Board of Appeals shall be open to the public. Agenda items requiring a public hearing shall require sufficient notice as required by law.

#### **3. Required Attendance**

If a member fails to attend three (3) consecutive meetings or misses 20 percent (20%) or more of the meetings held during a calendar year, the County Judge, upon recommendation by the Chair, may declare the position vacant.

#### **4. Quorum**

A quorum of the Board of Appeals shall consist of four (4) members. The concurring vote of four (4) members of the Board of Appeals shall be necessary to reverse any order, requirement, decision or

determination of any such administrative official, or to decide in favor of the applicant on any matter before the Board of Appeals.

#### 5. **Office, Staffing, and Records**

- i. Office – The office of the Board of Appeals shall be the Planning Department or as may be otherwise designated by the County Judge.
- ii. Staffing – The Planning Department must provide the Board of Appeals with staff assistance necessary to enable it to discharge its duties including arrange for its meetings, and perform such other duties, consistent with the provisions of this chapter, as the adopted rules of the Board of Appeals require.
- iii. Records – The Planning Department shall be the custodian of the records of the Board of Appeals including all agendas, minutes, and other documents pertaining to the business of the Board.

### **§2.3 – BOARD OF APPEALS PROCEDURES**

#### **A. Board of Appeals Application**

A written appeal must be filed by the applicant within thirty (30) days of the decision sought to be appealed. The appeal must include the following materials:

1. A completed copy of a Board of Appeals application. Notarized Owners affidavit (Owner, lessee, prospective purchase or legal representation must sign the application. A letter from the property owner giving permission to the applicant to represent the property, if applicable.)
2. Cover letter addressed to the Board of Appeals explaining what relief or action is sought and the justification for the request.
3. Eight (8) sets of survey plan/ site plan showing the lot size, location of all structures, existing and proposed, setbacks, parking and loading facilities, and septic system, if applicable. Such plan shall be the same as that required of the original application, should one have been required.
4. Photos of property and area of concern (as applicable) and other supplemental information as required.

#### **B. Appeals Procedures**

1. Setting a Date – Upon filing of an appeal, the Planning staff shall schedule a hearing date.
2. Notice – The hearing shall be held within thirty (30) days of the application, preceded by at least fifteen (15) days' notice by certified mail to the appellant, and at the appellant's expense, to all landowners within a 500 feet radius from the property line, based on current records of the

Assessor's database, via certified mail with return receipt. Such notice shall be sent no less than fourteen (14) days prior to the scheduled public hearing.

3. Public Hearing Sign: Public Hearing Sign shall comply with §4.8 of this ordinance.
4. The Board's decision shall be final, administratively.

#### **§2.4 – APPEALS TO THE DECISION OF THE BOARD OF APPEALS**

1. County Quorum Court – A decision of the Board of Appeals may be appealed to the County Quorum Court prior to an appeal to a court of record. The County Judge shall be the chair of the Board of Administrative Appeals but shall vote only in the event of a tie. The County Quorum Court shall determine the number of Quorum Court members who shall sit on such an Appeal.
2. Court of Record – All appeals to the decision of the Board of Appeals shall be subject to appeal to a court of record having jurisdiction.

#### **§2.5 – COMPLIANCE AND INSPECTIONS**

- A. **Compliance: Conditions Met as Precursor to certificate of occupancy** – No certificate of occupancy (CO) shall be issued for any development unless all conditions of approval have been met.
- B. **Inspection** – The enforcement entity and/or members of the Benton County Planning Board shall have the right to enter any development for purposes of examination in order to enforce the letter and spirit of this Ordinance. The right to enter extends from the applicant's authorization agreed to by making an application which shall be in effect through confirmation of compliance with any conditions so applied by decision or with this Ordinance.

#### **§2.6 – PENALTIES**

A violation of this Ordinance or failure to comply with the provisions herein or failure to obey a lawfully directed communication from County officials or the Planning Board shall subject the specified person, firm, corporation, limited liability company, partnership, entity, or other private or personal combination, without restriction, to penalties consistent with §1-9 of Benton County Code of Ordinance.

#### **§2.7 – AMENDMENTS TO THIS ORDINANCE**

This Ordinance may be amended in strict accordance with the provisions of A.C.A. §14-17-207-Adoption, Amendment, and Enforcement of official plans and implementing Ordinances.

#### **§2.8 – AUTHORITY TO ASSESS FEES**

- A. **Establishment of Fee Schedule:** The Benton County Planning Board shall establish a schedule of fees which may be from time to time reviewed and modified by the Planning Board and subsequently approved by the Benton County Quorum Court.
- B. **Fee to be Paid in Full:** Until all applicable fees, charges and expenses have been paid in full by the applicant, no action shall be taken on any application or appeal.
- C. **Third Party Consultant Review Fees:** The Planning Board reserves the right to retain professional services including legal, architectural, engineering, land surveying, and such other consulting services in appropriate circumstances to protect the health, safety, and environmental concerns.

Independent engineers or other consultants may be retained for commercial or industrial large scale developments, subdivisions, planned unit developments, development master plans, or any other projects involving significant drainage, transportation, or other complex technical issues. Requests for review fees may only be made by a vote of the Planning Board in a regular meeting. Planning staff may use specifically programmed funds for consultants for the same purpose if an independent assessment of a technical report or data submitted by a consultant is necessary.

The Planning Board shall be reimbursed by the applicant for the reasonable fees and expenses of such consultants, and each application for a development review under this Ordinance hereunder shall contain an agreement by the applicant to that effect regardless of the decision on the project. The cost of special technical reviews shall not be onerous, exorbitant, unreasonable, or in excess of what the market would bear for such services.

## **§2.9 –MODIFICATION, VARIANCE, OR WAIVER**

- A. **Waivers and Modifications:** Waivers and modifications are essentially the same action and may be taken by the Planning Board by regular vote as part of an existing hearing by the Board. Waivers and modifications are applicable to non-dimensional provisions of this Ordinance which, by the scrutiny of the Board and which may be informed by supporting evidence by staff or other experts, can be prudently and judiciously modified or waived to the extent reasonable and necessary to provide relief to the applicant as part of their development request. Waivers and modifications may be requested by an applicant via a formal request in writing that specifies the provision of the regulations where relief is sought and a justification for the request. Consideration of a specific waiver or modification may also be initiated by staff or the Board. As a distinction, a waiver would be the elimination of a provision while a modification would generally be a reduction in scope of a provision.
- B. **Variances:** Variances are relief to a dimensional provision of this Ordinance by an affirmative vote of two-thirds (2/3) of the vote of the total membership of the Planning Board. Note that a two-thirds (2/3) vote of the attending quorum is not sufficient.

The criteria to grant variances shall be without exception and singularly because strict compliance with any provision of this Ordinance would cause exceptional or undue hardship to the applicant.

Additionally, extra expense, economic hardship, or additional outlay of capital funds or money shall never constitute grounds for exceptional or undue hardship. Hardship shall hereby be defined as:

1. There exist exceptional, extraordinary, or unique physical circumstances of the subject property such as irregularity, narrowness, shallowness, or slope.
2. Because of the exceptional physical circumstances, the strict application of this Ordinance would create an exceptional or undue hardship to the property owner.
3. The hardship is not self-imposed. While self-imposition may be a complicated assessment, generally it refers to fore knowledge of the limitation or reasonable expectation of fore knowledge upon assuming ownership or control of the property.
4. The variance, if granted, will not adversely affect the use and/or enjoyment of adjacent property as permitted under this Ordinance.
5. That the variance, if granted, will not change the character of the area in which the property is located, and is in keeping with the intent of this Ordinance; and,
6. That the variance, if granted, does not adversely affect the health, safety, and welfare of the citizens of Benton County.

**§2.10 – RESERVED**

## CHAPTER III DEFINITIONS

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### §3.1 – PURPOSE, AND APPLICABILITY

### §3.2 – GENERAL RULES FOR CONSTRUCTION OF LANGUAGE

### §3.3 – NUMBERED DEFINITIONS

### §3.4 – ALPHABETIC DEFINITIONS

### §3.5 – RESERVED

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#### §3.1 –PURPOSE AND APPLICABILITY

The purpose of this chapter is to promote consistency in the interpretation of this Ordinance.

#### §3.2 – GENERAL RULES FOR CONSTRUCTION OF LANGUAGE

The following general rules of construction shall apply to the textual provisions of this Ordinance.

- A. The word “County” means the areas of jurisdiction under Benton County, Arkansas.
- B. **Headings.** Section and subsection headings contained herein shall not be deemed to govern, limit, modify, or in any manner affect the scope, meaning, or intent of any provision of this Ordinance.

**Illustration.** The text of this ordinance shall control in cases where the text differs in meaning or implication from any chart, graph, illustration, or table.

- C. **Shall and May.** “Shall” is always mandatory and not discretionary. “May” or “Should” is discretionary.
- D. **Tenses and Numbers.** Words used in the present tense include the future, and words used in the singular include the plural, and the plural the singular, unless the context clearly indicates the contrary.
- E. **Conjunctions.** Unless the context clearly indicates the contrary, the following conjunctions shall be interpreted as follows:
  - 1. “And” indicates that all connected items or provisions apply.
  - 2. “Or” indicates that the connected items or provisions may apply single or in any Combination.
  - 3. “Either...or” indicates that the connected items or provisions shall apply single but not in combination.
- F. All public officials, bodies, and agencies to which reference is made are those of Benton County unless otherwise indicated.

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**Key to Symbols:** ◆ Floodplain, ☁ Stormwater, ■ Telecommunications, ▲ Wind Energy

Note that symbols are associated with specific definitions that apply only to that category. For example, definitions that include the Floodplain Symbol ◆ are only applicable to floodplain provisions and not more broadly to other provisions of this Ordinance.

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- G. The words “building” and “structure” are synonymous and include any part thereof.
- H. The words “parcel” and “tract” may be used interchangeably.
- I. The word “Person” shall include individuals, firms, corporations, associations and any other similar entities.
- J. The word “permitted” or words “permitted by right” means permitted without meeting the requirements for a conditional use permit or site plan.
- K. All yards required by this ordinance shall be open and unobstructed by structures from the lowest level of the lot to the sky, except as specifically regulated herein.

**§3.3 – NUMBERED DEFINITIONS**

44 CFR (Emergency Management and Assistance; National Flood Insurance Program Regulations) – This refers to Parts 59-75 which contain Federal regulations upon which local floodplain managements are based ♣

44 CFR §65.12 – This refers to the section of the Federal regulations which involves revision of flood insurance rate maps to reflect base flood elevations caused by proposed encroachments ♣

100-YEAR FLOOD – Refers to any flood with a 1% chance of occurring in any given year. The term is misleading, because of its statistical derivation. A “100-year flood” may occur many times in any given 100-year period, or it may not occur at all in 100 years ♣

**§3.4 – “A” Definitions**

For the purpose of this Ordinance, certain terms and words are to be used and interpreted as defined hereinafter. Where any words are not defined, the standard dictionary definition shall apply. In addition, some definitions listed restrict and define the meaning and intent of permitted uses set forth in this Ordinance.

A ZONES – Special flood hazard areas without detailed studies, where base flood elevations have not been determined ♣

ABUTTING – Having a common boundary. Parcels having no common boundary other than a common corner shall not be considered abutting.

ACCESS – The way or means by which a piece of property is approached or entered. Also referred to as ingress-egress point.

ACCESS PERMIT – A permit issued by the Road Department allowing property owner to establish an Access driveway on a County Street or Road.

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ACCESSORY STRUCTURES – Structures which are on the same parcel of property as the principle structure and the use of which is incidental to the use of the principle structure (such as garages and storage sheds).

ACCESSORY USE – The use of land or a building or a portion thereof customarily incidental, subordinate to the principal use of the land or building, and located on the same lot as the principal use.

ADDITION – Any construction that increases the size of the building such as an attached garage or a new room or wing.

ADJACENT – See Adjoining Land

ADJOINING LAND – A tract, lot, or parcel that shares all or part of a common line with another tract, lot, or parcel (See Abutting).

AE ZONES – Special flood hazard areas where detailed studies have determined base flood elevations ◆

AGENT – An individual or entity empowered to act for or to represent another such as an attorney, engineer, architect, real estate agent, or similar. For example, an applicant for a development permit may be the agent of the owner of the property.

AGRICULTURAL BUILDING – A structure designed and constructed to house farm implements, hay, grain, poultry, livestock, or other horticultural products. This structure shall not be a place of human habitation or a place of employment where agricultural products are processed, treated, or packaged, nor shall it be a place used by the public.

AGRICULTURAL LAND USE – Shall include land used for farming; ranching; algaculture meaning the farming of algae; aquaculture; apiculture; horticulture; viticulture; animal husbandry, including, but not limited to, the care and raising of livestock, equine, and fur-bearing animals; poultry husbandry and the production of poultry and poultry products; dairy production; the production of field crops, tobacco, fruits, vegetables, nursery stock, ornamental shrubs, ornamental trees, flowers, sod, or mushrooms; timber; pasturage; any combination of the foregoing; and the processing, drying, storage, and marketing of agricultural products when those activities are conducted in conjunction with, but are secondary to, such husbandry or production. Agricultural land uses shall not include commercial or industrial scale processing or manufacturing facilities, livestock or other agricultural auction facilities, fairs or shows where livestock or agricultural products are displayed or judged, or any other activity clearly commercial in scale, scope, or use.

AGRITOURISM ACTIVITY – In accordance with A.C.A §2.11.103, an interactive or passive activity carried out with or without payment to an agritourism activity operator on a farm, ranch, or agribusiness operation related to agriculture, food production, historic traditions, or nature watching conducted by an agritourism activity operator for the education, entertainment, or recreation of participants. An agritourism activity includes without limitation:

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- (i) A farming or ranching activity;
- (ii) The viewing of historic, cultural, or natural attractions;
- (iii) A harvest-your-own activity;
- (iv) Nature watching; and
- (v) An activity involving an animal exhibition at an agricultural fair.

Agritourism activity does not include:

- i. A road side fruit and vegetable stand; or
- ii. An operation exclusively devoted to the sale of merchandise or food at retail.

**AGRITOURISM ACTIVITY OPERATOR-** Means an individual or entity that provides the facilities and equipment necessary to participate in an agritourism activity.

**AGRICULTURE-RELATED BUSINESS –** An establishment engaged in the retail sale of supplies directly related to the day-to-day activities of agricultural production, including the bulk storage of hay, feed, seed, fertilizers, and related agrichemicals.

**AH ZONES –** Special flood hazard areas characterized by shallow flooding with ponding effects (where floodwaters accumulate in depressions and linger until absorbed or evaporated) ♣

**AO ZONES –** Special flood hazard areas characterized by shallow flooding with sheet flow (where floodwaters flow in a broad, shallow sheet rather than through a narrow channel) ♣

**ALLEY –** A passage or way affording generally a secondary means of vehicular access to abutting properties, and not intended for general traffic circulation.

**ALTERATIONS –** Any change, addition or modification in construction or type of occupancy, any change in the structural members of a building, such as walls or partitions, columns, beams or girders the consummated act of which may be referred to herein as “altered” or “reconstructed.”

**ALLUVIAL FAN FLOODING –** Flooding occurring on the surface of an alluvial fan or similar landform that originates at the apex and is characterized by high-velocity flows; active processes of erosion, sediment transport and deposition; and unpredictable flow paths ♣

**ANIMAL, FARM –** Any animal that customarily is raised in an agricultural, rather than urban, environment, for profit on farms and has the potential of causing a nuisance if not properly maintained, including, but not limited to chickens, pigs, sheep, goats, horses, cattle, llamas, emus, ostriches, donkeys and mules.

**ANIMAL CLINIC –** An establishment for the diagnosis and treatment of pets and other animals including but not limited to dogs, cats, birds and horses. All boarding of animals takes place in an enclosed structure and is incidental to clinic or hospital use.

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ANIMAL SHELTER OR KENNEL – A public or private facility including outside runs for enclosure of animals, especially stray or unlicensed pets, or for pets being boarded for short periods of time, where more than five (5) animals, more than four (4) months of age are kept.

ANTENNA – An exterior apparatus designed for transmitting or receiving television, AM/FM radio, digital microwave, cellular, telephone, or similar forms of electronic communication ■

ANTENNA ARRAY – One (1) or more rods, panels, discs or similar devices used for the transmission or reception of radio frequency signals, which may include an omnidirectional antenna (rod), a directional antenna (panel) and /or a parabolic antenna (disc). The antenna array does not include the Support Structure, as defined herein ■

ANTENNA, DIRECTIONAL – An antenna or array of antennas, including panels, microwave dishes and satellite dishes, designed to concentrate a radio signal in a particular direction ■

ANTENNA, OMNI-DIRECTIONAL – An antenna that transmits signals in 360 degrees such as a whip antenna ■

ANTENNA, SATELLITE DISH – A dish-shaped antenna used to receive signals transmitted from satellites. Large satellite dish antennas are those where the maximum diameter is greater than 36 inches. Small satellite dish antennas are those where the maximum diameter of the dish is 36 inches or less in diameter ■

APEX – A point on an alluvial fan or similar landform below which the flow path of the major stream that formed the fan becomes unpredictable and alluvial fan flooding can occur ◆

APPLICANT – The person or persons making an application to the County for approval of any type of review subject of this Ordinance. The applicant may be the property owner; a representative or agent of the owner such as an engineer, architect, attorney, or planner; or other party with an interest in the property such as a leaseholder. Any person who is not the owner must obtain the owner's consent in writing to make an application for a specific property or properties.

AREA OF SHALLOW FLOODING – A designated AO or AH zone on the county's flood insurance rate map (FIRM) with a one percent chance or greater annual chance of flooding to an average depth of one to three feet where a clearly defined channel does not exist, and where the path of flooding is unpredictable. Such flooding is characterized by ponding and sheet flow ◆

AREA OF SPECIAL FLOOD HAZARD – The land in a floodplain within the county subject to a one percent or greater chance of flooding in any given year. The area may be designated as zone A on the flood insurance rate map (FIRM). After detailed studies have been completed, zone A usually is refined into zones AE, AH, or AO ◆

ARCHITECT – A registered professional architect as required by Arkansas State Law.

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ARTERIAL ROAD - A street or road of considerable continuity which serves or is intended to serve as a principal traffic way between separate areas, districts, communities or densely developed areas; and is the main means of access to the primary street system or expressway.

AUCTION HOUSE – A building, area or areas within a building used for the public sale of goods, ware, merchandise, or equipment to the highest bidder. This definition excludes an “auto auction” or “livestock market” which are separately defined.

AUTO OR EQUIPMENT AUCTION – A facility for the sale of automobiles and large construction or farm equipment to the highest bidder.

AUTOMOBILE REPAIR – Any building, structure or improvements to land used for the repair and maintenance of automobiles, motorcycles, trucks, buses or similar vehicles including but not limited to body, fender, muffler, or upholstery work, oil change and lubrication, painting, tire services and sales.

AUTOMATIC ENTRY AND EXIT OF FLOODWATERS – The water must be able to enter and exit with no intervening action from a person ◆

### “B” Definitions

BFE – The acronym for Base Flood Elevation ◆

BASE FLOOD – The flood having a one (1) percent chance of being equaled or exceeded in any given year. (100-year flood) ◆

BASE FLOOD ELEVATION – The expected height of floodwaters during the peak of the base flood event ◆

BASEMENT – The space between two floor levels, with the lowest level located more than 1.2 meters below grade.

BLADES – The aerodynamic surface that catches the wind ▲

BLOCK – A tract of land bounded by streets, or by a combination of streets and public parks, cemeteries, transportation rights-of-way, shorelines of waterways, or boundary lines of municipal jurisdictions.

BOND – Any form of surety bond in an amount and form satisfactory to the Planning Board. All bonds shall be approved and be acceptable as to form and content by the Planning Board whenever a bond is required by these regulations.

BUFFER – Buffer area shall include but will not be limited to planted vegetation, natural vegetation, berm, or manufactured barrier such as a wall or screening fence with concealing properties to a height of minimum six feet.

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**BUILDING** – Any structure having a roof supported by columns or walls and intended for the shelter, housing, or enclosure of any individual, animal, process, equipment, goods, or materials of any kind.

**BUILDING LINES** – A line or lines designating the land area beyond which a structure is not permitted. (Also known as a Set Back Line).

**BUOYANCY** – The upward force exerted by water. Buoyancy can cause underground tanks to float free and can lift structures off foundations ♦

### **“C” Definitions**

**CERTIFICATE OF ROAD MAINTENANCE ACCEPTANCE** – A county instrument to record acceptance of maintenance responsibility for roads in previously dedicated and accepted rights-of-way.

**CFR** – The acronym for the Code of Federal Regulations that is the codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the Federal Government. It is divided into 50 titles that represent broad areas subject to Federal regulation. The Federal regulations pertaining to the national Flood Insurance Program are found in title 44, Emergency Management and Assistance ♦

**CO** – An abbreviation for “Certificate of Occupancy”. This certificate is issued by the County and is required before anyone can occupy and live within a building. It is issued only after the County has made all inspections and all monies and fees have been paid.

**CO-LOCATION** – The placement of many different antenna arrays on the same support structure. Each antenna array may have a separate and distinct owner ■

**COLLECTOR ROAD**: A street that, in addition to serving abutting properties, intercepts minor streets, connects with community facilities and carries neighborhood traffic to major arterial street systems.

**COMMERCIAL, GENERAL** – Pertaining to any business, trade, industry, or other activity engaged in for profit

**COMMERCIAL, HEAVY** - Pertaining to any business, trade, or other activity engaged in for profit that during the operation of business uses has the potential to create nuisance due to heavy traffic, or use of noxious chemicals or odors or noise that may be detrimental to the neighboring properties. This may comprise of a grouping of buildings, of retail shops, and offices or automobile repair shop or public garages, cabinet and carpenter shops, and other similar uses.

**COMMON OWNERSHIP** – Ownership by the same person, corporation, firm, entity, partnership, or unincorporated association; or ownership by different corporations, firms, partnerships, entities, or unincorporated associations, in which a stockbroker, partner, or associate, or a member of their family owns an interest in each corporation, entity, or unincorporated association.

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COMPATIBILITY – A condition in which land uses or conditions can coexist in relative proximity to each other in a stable fashion over time such that no use or condition is unduly impacted negatively directly or indirectly by another use or condition.

CONSTRUCTION SITE – Any location where construction activity occurs ☂

CONTIGUOUS – Lots are contiguous when at least one boundary line of one lot touches a boundary line or lines of another lot.

CONTRACTOR – Any person or firm performing or managing construction work at a construction site, including any construction manager, general contractor or subcontractor. Also includes, but is not limited to, earthwork, paving, building, plumbing, mechanical, electrical or landscaping contractors, and material suppliers delivering materials to the site.

COUNTY – Benton County, Arkansas.

COUNTY PLAN – Any of the plans authorized by Act 422 of 1977 which have been recommended by the Benton County Planning Board, adopted by the Benton County Quorum Court and filed in the office of the Ex-officio Recorder and Circuit Clerk, Benton County Courthouse. It includes but is not limited to the County Road Plan and the Land Use Guide.

CRAWLSPACE – A type of structural foundation where the space beneath the lowest floor is typically not deep enough to allow a person to stand and not all four walls are below grade.

CRITICAL FEATURE – An integral and readily identifiable part of a flood protection system, without which the flood protection provided by the entire system may be compromised ♦

CRITICAL FACILITIES – Include: Governmental facilities that are considered essential for the delivery of critical services and crisis management (such as data and communication centers and key governmental complexes); facilities that are essential for the health and welfare of the whole population (such as hospitals, prisons, police and fire stations, emergency operations centers, evacuation shelters and schools); mass transportation facilities (such as airports, bus terminals, train terminals); lifeline utility systems (including potable water, wastewater, oil, natural gas, electric power and communications systems); high potential loss facilities (such as nuclear power plants or military installations); hazardous material facilities (such as industrial facilities housing or manufacturing or disposing of corrosives, explosives, flammable materials, radioactive materials and toxins ♦

CUL-DE-SAC – A minor street having one end open to traffic and the other end terminated by a vehicular turn-around within the platted area.

## “D” Definitions

D ZONES – Areas in which the flood hazard has not been determined, but may be possible ♦

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DE MINIMIS – De minimis is a Latin expression meaning about minimal things, normally in the locutions *de minimis non curat lex* ("The law does not concern itself with trifles). In risk assessment, it refers to a level of risk that is too small to cause concern. Some refer to this as a "virtually safe" level. For the purpose of this Ordinance, de minimis shall be defined as not exceeding one (1) percent.

DETENTION BASIN – An area or facility where excess stormwater is stored or held temporarily and then slowly drains when water levels in the receiving channel recede. In essence, the water in a detention basin is temporarily detained until additional room becomes available in the receiving channel (see RETENTION BASIN below).

DEVELOPER – A person, firm, or corporation engaged in the development of land, and in the dividing, subdividing, or re-subdividing of land into lots or parcels for the purpose or conveyance with the scope and application for these regulations.

DEVELOPMENT OF LAND – Includes but is not limited to providing access to lots and parcels, extending, or providing utilities except for agricultural purposes, subdividing land into lots and blocks, resulting in the need for access and public utilities service.

DEVELOPMENT – Broadly, any manmade change in improved or unimproved real estate. It includes, but is not limited to, construction, reconstruction, or placement of a building, or any addition or substantial improvement to a building. "Development" also includes the installation of a manufactured home on a site, preparing a site for a manufactured home, or installing a travel trailer on a site for more than 180 consecutive days. The installation of utilities, construction of roads, bridges, culverts or similar projects are also "developments." Construction or erection of levees, dams, walls, or fences; drilling, mining, filling, dredging, grading, excavating, paving, or other alterations of the ground surface are "developments." Storage of materials including the placement of gas and liquid storage tanks are "developments," as are channel modifications or any other activity that might change the direction, height, or velocity of flood or surface waters. "Development" does not include maintenance of existing buildings and facilities, maintenance of existing drainage ditches, resurfacing of roads, gardening, plowing, routine farming, or similar practices that do not involve filling, grading, or construction of levees ♠

DEVELOPMENT PERMIT – Refers to the permit required for placing a "development" in the Floodplain ♠

DOMESTIC SEWAGE – Sewage originating primarily from kitchen, bathroom and laundry sources, including waste from food preparation, dishwashing, garbage grinding, toilets, baths, showers and sinks.

DRIVEWAY: A travelway installed and maintained by others and not part of the County road system. They are intended to provide access to and from a residence, lot, parcel of land, apartment complex or other private development to a private or public road as approved by the County Planning Board.

DRIVEWAY APRON – The area between the sidewalk and the curb. When there is no sidewalk, the apron shall extend a minimum of 6 feet from the back of the curb or edge of pavement towards the property.

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DWELLING – The building that contains one or two dwelling units used, intended or designed to be used, rented, leased, let or hired out to be occupied for living purposes.

DWELLING UNIT – A single unit providing complete, independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking and sanitation.

#### **“E” Definitions**

EARTHWORK – The disturbance of soils on a site associated with clearing, grading, or excavation activities.

EASEMENT – A formal contract that allows a party to use another party’s property for a specific purpose. E.g., a utility easement might allow one party to run utility line through a neighbor’s property.

ELEVATED BUILDING – A non-basement building:

1. Built, in zones AE, A, AO, AH, X and D, to have the top of the bottom floor elevated above the ground level by means of pilings, columns (posts and piers) or shear walls parallel to the flow of the water; and
2. Adequately anchored so as not to impair the structural integrity of the building during a flood of up to the magnitude of one foot above the base flood. For zones AE, A, AO, AH, X and D, elevated building also includes a building elevated by means of fill or solid foundation perimeter walls with openings sufficient to facilitate the unimpeded movement of floodwaters.

ELEVATION CERTIFICATE – This refers to FEMA form 81-31, which for the purposes of this article must be properly completed by a Professional Engineer, Surveyor or Architect licensed to practice in the State of Arkansas ♣

EMERGENCY GENERATOR – An engine that converts mechanical energy into electrical energy during times of electrical power outages or failure. Emergency generators are not regulated by this ordinance ▲

ENGINEER – A registered professional engineer as required by Arkansas State Law.

ENVIRONMENTAL PROTECTION AGENCY (EPA) – The United States (U.S.) Environmental Protection Agency, the regional office thereof, any federal department, agency, or commission that may succeed to the authority of the EPA, and any duly authorized official of the EPA or such successor agency.

ENVIRONMENTALLY SENSITIVE AREA - Areas of critical environmental concern include, among other things, aquifers and aquifer recharge areas, soils poorly suited to development, floodplains, wetlands, prime agricultural and forestlands, the natural habitat of rare or endangered species, areas with unique ecosystems, or areas recommended for protection in the Arkansas Natural Areas Plan.

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EXISTING CONSTRUCTION – For the purposes of determining rates, structures for which the start of construction commenced before the effective date of the FIRM or before January 1, 1975, for FIRMs effective before that date. Existing construction may also be referred to as existing structures ♦

EXISTING STRUCTURES – A structure erected prior to the date of adoption of the appropriate code, or one for which approvals has been obtained from the Planning Board.

EXISTING MANUFACTURED HOME PARK OR SUBDIVISION – A manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed, including, at a minimum, the installation of utilities, the construction of streets and either final site grading or the pouring of concrete pads, is completed before the effective date of the floodplain management regulations adopted by the County ♦

EXISTING STRUCTURE (for floodplain management purposes) – A structure which is in place before any reconstruction, rehabilitation, addition, or other improvement takes place ♦

EXPANSION TO AN EXISTING MANUFACTURED HOME PARK OR SUBDIVISION – The preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed, including the installation of utilities, the construction of streets and either final site grading or the pouring of concrete pads. Federal Emergency Management Agency, or FEMA, is the Federal agency responsible for administering the National Flood Insurance Program ♦

#### **“F” Definitions**

FARM BUILDINGS AND STRUCTURES – Buildings and structures located on a working farm parcel, as evident by farming income and use, but that are not suitable for human occupancy.

FEMA – The acronym for the U.S. Federal Emergency Management Agency ♦

FILL – The placement of natural sand, dirt, soil, rock, concrete, cement, brick, or similar material at a specified location to bring the ground surface up to a desired elevation.

FIRE LANE – A road or other passageway developed to allow the passage of fire apparatus. A fire lane is not necessarily intended for vehicular traffic other than fire apparatus.

FIRM – The acronym for Flood Insurance Rate Map ♦

FLOOD OR FLOODING – A general and temporary condition of partial or complete inundation of normally dry land areas from:

1. The overflow of inland or tidal waters.
2. The unusual and rapid accumulation or runoff of surface waters from any source ♦

FLOOD FRINGE – The portion of the 100-year floodplain that is outside the floodway ♦

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FLOOD INSURANCE RATE MAP (FIRM) – An official map of the county, on which the Federal Emergency Management Agency has delineated both the areas of special flood hazards and the risk premium zones applicable to the county ♣

FLOOD INSURANCE STUDY – The official report provided by the Federal Emergency Management Agency. The report contains flood profiles, water surface elevation of the base flood, as well as the flood boundary-floodway map ♣

FLOOD PROTECTION SYSTEMS – Those physical structural works, for which funds have been authorized, appropriated and expended and which have been constructed specifically to modify flooding in order to reduce the extent of the areas within the county subject to a special flood hazard and the extent of the depths of associated flooding. Such a system typically includes hurricane tidal barriers, dams, reservoirs, levees or dikes. These specialized flood-modifying works are those constructed in conformance with sound engineering standards ♣

FLOODING EVENTS – General or temporary conditions of partial or complete inundation of normally dry land areas from the overflow of inland or tidal waters, or from the unusual and rapid accumulation or runoff of surface waters from any source ♣

FLOODPLAIN – (1) Any land area susceptible to inundation by floodwaters from any source. For the purposes of these regulations, floodplain specifically refers to the land area susceptible to being inundated by the base flood; (2) The 100 year floodplain defined by the Federal Flood Insurance Administration and all other areas known to be subject to seasonal or flash flooding ♣

FLOODPLAIN ADMINISTRATOR – The county official designated in this article as responsible for the administration of floodplain management regulations ♣

FLOODPLAIN MANAGEMENT – The operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works, and floodplain management regulations ♣

FLOODPLAIN MANAGEMENT REGULATIONS – Planning or zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances, such as a floodplain ordinance, grading ordinance and erosion control ordinance, and other applications of police power. The term describes such state or local regulations, in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction ♣

FLOODPROOFING – Any combination of structural and nonstructural additions, changes or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents ♣

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FLOOD PROOFING CERTIFICATE – FEMA form 81-65, which for the purposes of this article must be properly completed by a Professional Engineer or Architect licensed to practice in the State of Arkansas  
◆

FLOODWAY (regulatory floodway) – The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height  
◆

FLOOR, LOWEST – The lowest floor of the lowest enclosed area (including basement). For a typical slab-on-grade construction, the elevation of the lowest floor is the top of the first floor of the house. For a typical basement foundation construction, the elevation of the lowest floor is the top of the basement floor. For a typical crawlspace foundation construction, the elevation of the lowest floor is the top of the first floor of the house. For typical split-level constructions, the elevation of the lowest floor is the top of the first living area floor – the garage floor is not the lowest floor as long as there are no living areas in the garage and it is used solely for storage, parking vehicles and entry to the house. The elevation of the lowest floor of a manufactured home, however, is the bottom surface of the lowest floor joist.

FLOW-THROUGH OPENINGS – Openings specifically designed to allow floodwaters to flow into and out of enclosed spaces, minimizing the danger of foundation or wall collapse from lateral hydrostatic pressure  
◆

FOUNDATION – The supporting portion of a structure below the first floor construction, or below grade, including the footings.

FRONTAGE – The side of a lot abutting on a street or road and ordinarily regarded as the front of the lot. On corner lots, the frontage shall be that side on which the primary structure entry is oriented.

FRONTAGE ROAD – A minor street located alongside a major street, giving access to abutting properties while providing connection to the major street at controlled intervals; includes frontage roads and streets but not alleys.

FUNCTIONALLY DEPENDENT USE – A use that cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and shipbuilding and ship repair facilities, but does not include long-term storage or related manufacturing facilities. Highest adjacent grade means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure  
◆

### **“G” Definitions**

GEOGRAPHIC INFORMATION SYSTEM (GIS) – An integrated collection of computer software and data used to view and manage information about geographic places, analyze spatial relationships, and model spatial processes. A GIS provides a framework for gathering and organizing spatial data and related information so that it can be displayed and analyzed. Benton County uses a Web-based GIS system to

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**Key to Symbols:** ◆ Floodplain, ☁ Stormwater, ■ Telecommunications, ▲ Wind Energy

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manage county maps that include layers for roads, parcels, water features, and a number of other geographic elements.

**GRADE** – The slope of a road, street, or other public way specified in percentage terms.

**GROUNDWATER** – Any water residing below the surface of the ground or percolating into or out of the ground. This includes water from an aquifer or subsurface water source.

**GROSS FLOOR AREA** – The total area of all floors in all buildings on a parcel measured to the exterior walls of the buildings including corridors, hallways, landings, foyers, staircases, stairwells, enclosed balconies and mezzanines, and enclosed porches or verandah, but excluding parking areas, elevators and ventilating shafts, basements and any other spaces less than 1.5 meters in height.

**“H” Definitions**

**HARD SURFACE** – Surfaces made from compactible materials such as SB-2, gravel, etc.

**HAZARDOUS MATERIALS** – Material that poses an unreasonable risk to health and safety of personnel (either employees or emergency responders), the public, and/or the environment if not properly controlled during handling, storage, manufacture, processing, packaging, use, disposal, or transportation. Defined by O-90-31, see Muni-Code Chapter 30.

**HISTORIC STRUCTURE** – Any structure that is:

1. Listed individually in the National Register of Historic Places, a listing maintained by the Department of the Interior, or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
2. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
3. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or
4. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:
  - a. By an approved state program as determined by the Secretary of the Interior;
  - b. Directly by the Secretary of the Interior in states without approved programs.

**HOMEOWNERS ASSOCIATION** – An association or organization, whether incorporated or not, which operates under and pursuant to covenants or deed restrictions, through which each owner of a portion of a subdivision—be it a lot, parcel site, unit plot, condominium, or any other interest—is automatically a member as a condition of ownership and each such member is subject to a charge or assessment for a

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pro-rated share of expense of the association which may become a lien against the lot or other member interest. Also referred to as Property Owners Association or POA.

HOUSEHOLD HAZARDOUS WASTE (HHW) – Any material generated in a household (including single and multiple residences) that would be classified as hazardous ☁

HYDRODYNAMIC FORCES – The forces and stresses associated with moving water, including impacts from objects carried in the water ♠

HYDROSTATIC FLOOD FORCES – The forces and stresses associated with standing floodwaters ♠

### **“I” Definitions**

IMPROVEMENTS – Any man-made structure including but not limited to grading and street surfacing, curbs and gutters, sidewalks, crosswalks, culverts, bridges, water lines, storm sewers, sanitary sewers, utilities, and any other feature that may be a part of the development process.

INDUSTRIAL DEVELOPMENT – see examples listed in Chapter VI, Table 6-4.

INDUSTRIAL, LIGHT - a Use that involves the manufacturing production, processing, fabrication, assembly, repair, or packaging of finished products, predominantly from previously prepared or refined materials (or from raw materials that do not need to be refined) Warehousing, wholesaling and distribution of the finished products produced on site.

INDUSTRIAL, HEAVY – A Use engaged in the basic processing and manufacturing of materials or products predominantly from extracted or raw materials, or a use engaged in storage of or manufacturing process using flammable or explosive materials, or storage or manufacturing processes that potentially involve hazardous or commonly recognized offensive conditions.

INDIVIDUAL SEWAGE DISPOSAL SYSTEM – A system for disposal of sewage by means of a septic tank or mechanical treatment, designed for use apart from a public sewer to serve a single establishment or building.

INDIVIDUAL WATER SUPPLY – A supply other than an approved public water supply that serves one or more families.

### **“J” Definitions**

Reserved

### **“K” Definitions**

KEY BOX – A secure device with a lock operable only by a fire department master key, and containing building entry keys and other keys that may be required for access in an emergency.

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## “L” Definitions

LAND SURVEYOR – A licensed land surveyor as required by Arkansas State Law.

LANDSCAPED AREA – The portion of a site, including buffers and setbacks, which will be planted with vegetation (i.e., grass or live ground cover, shrubs, trees), or on which existing vegetation will be left undisturbed, under laid by a pervious surface (soil). Used as a measure of the intensity of land use.

LARGE/UTILITY SCALE (LUS) WIND TURBINE – A wind energy conversion system (WECS), consisting of a wind turbine, tower, and the associated control or conversion electronics, which has a rated capacity of more than 100 kW and which is intended to produce electricity for sale to a rate regulated or non-regulated utility or use off site. Turbines in this category are typically grouped together to form wind farms or a wind power plant, these groupings may also be referred to as a wind facility ▲

LATERAL FORCES – The horizontal hydrostatic forces associated with standing water. Water exerts an equal force in all directions, and as little as three feet of standing water can generate sufficient lateral force to collapse a foundation or wall ◆

LEVEE – A manmade structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control or divert the flow of water to provide protection from temporary flooding ◆

LEVEE SYSTEM – A flood protection system that consists of a levee and associated structures, such as closure and drainage devices, which are constructed and operated in accordance with sound engineering practices ◆

LOCAL ROAD: Minor streets used primarily to provide access to abutting properties.

LOT – Any land intended as a unit for the transfer of ownership or for development (also called parcel and tract).

LOT, BACKING – A lot having a frontage on two streets (double frontage) and the property owner is denied access to one of the streets.

LOT, CORNER – A lot with at least two adjacent sides that abut on a street or streets.

LOT, DOUBLE FRONTAGE – A lot fronting on two non-intersecting streets.

LOT LINE – A line dividing one (1) lot from another, from a street, or from any public place.

LOT LINE ADJUSTMENT – A lot line adjustment indicates small revisions between two (2) parcels to adjust for setbacks, structure encroachments, or adjacent owner agreements.

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LOT RECOMBINATION – The combination or recombination of portions of previously subdivided and recorded lots where the total number of lots is not increased and the resultant lots are equal to or exceed the standards of the County as required by this ordinance.

LOT SPLIT – A transfer or contract to transfer a part of any parcel of land where said parcel was shown as part of a platted subdivision being recorded in the office of the Ex-Officio Recorder and Circuit Clerk of Benton County. Each lot created as part of a lot split must meet all of the dimensional requirements of the approved subdivision and of this ordinance.

#### **“M” Definitions**

MAJOR MODIFICATION – Concerning telecommunications towers, major modification shall refer to:

1. A change from personal use to non-personal or commercial use.
2. A change in support structure type.
3. Any increase in height of more than 24' for towers at 250' or less in height.
4. Any increases in height by more than 10% of tower's original height if over 250'.
5. For guyed towers in excess of 500' in height, 50% of the tower's original width.
6. For monopole towers, replacement of the tower ■

MANUFACTURED HOME – A structure transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. The term "manufactured home" does not include a recreational vehicle.

MANUFACTURED HOME PARK OR SUBDIVISION – A parcel or contiguous parcels of land divided into two or more manufactured home lots for rent or sale.

MANUFACTURED HOME PARK OR SUBDIVISION, NEW – A manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed, including at a minimum the installation of utilities, the construction of streets and either final site grading or the pouring of concrete pads, is completed on or after the effective date of floodplain management regulations adopted by the county.

MEAN SEA LEVEL – This refers to, for purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929 or other datum to which base flood elevations shown on the county's flood insurance rate map are referenced ◆

MICRO WIND TURBINE – Shall mean a wind energy conversion system (WECS), consisting of a wind turbine, tower, and the associated control or conversion electronics, which has a rated capacity of 10 kW or less. Examples of items they can be used to power include small appliances in boats and campers, a few lights, or portable communication systems, such as radio equipment. Micro turbines are not subject of these regulations ▲

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MIXED USE STRUCTURES – Structures with both a business and a residential component, but where the area used for business is less than 50% of the total floor area of the structure.

MOBILE HOME PARK DEVELOPER – The person, firm or corporation seeking to establish or to expand a Mobile Home Park. The term “Developer” used in this regulation means “Mobile Home Park Developer.”

MOBILE HOME DWELLING UNITS – Transportable dwelling units suitable for single-family year round occupancy and containing the same water supply, waste disposal and electrical convenience as immobile housing and shall be inclusive of the definition of “manufactured home” contained in A.C.A. 14-54-1602 (see also MANUFACTURED HOME above)

MOBILE HOME PARK – For the purpose of this regulation, a Mobile Home Park is a parcel of land located outside the corporate limits of cities in Benton County that is originally platted under single ownership or common promotional plan and planned, developed and improved for the commercial purpose of placement of two (2) or more Mobile Homes. Excluded from this definition are single parcels of land upon which are placed three (3) or fewer Mobile Homes for use by members of a family and/or employees of a farm or business. However, all Mobile Homes not located within Mobile Home Parks, as herein defined, shall be in compliance with the water and sanitation requirements of the State Health Department and of Benton County.

MODIFICATION – A specific request for relief from a non-dimensional provision of this Ordinance, specifically a modification would generally be a reduction in scope of a provision.

MULTIFAMILY – Any parcel with three (3) or more dwelling units.

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) – The system of conveyances, including roads, streets, curbs, gutters, ditches, inlets, drains, catch basins, pipes, tunnels, culverts, channels, detention basins and ponds owned and operated by the County and designed or used for collecting or conveying stormwater, and not used for collecting or conveying sanitary sewage ☂

#### “N” Definitions

NACELLE – Refers to the body of the propeller-type wind turbine ⚓

NEIGHBORHOOD COMMERCIAL – Establishments primarily engaged in the provision of frequently or recurring needed goods for household consumption, such as prepackaged food and beverages and limited household supplies and hardware. Convenience stores shall not include fuel pumps or selling of fuel for motor vehicles. Typical uses include neighborhood markets and country stores.

NEW CONSTRUCTION – For floodplain management purposes, structures for which the start of construction commenced on or after the effective date of a floodplain management regulation adopted by the county on September 12, 1991, and includes any subsequent improvements to such structures ☂

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**NO ADVERSE IMPACT PRINCIPLE** – A principle of restricting or prohibiting land development that does harm or “adversely affects” someone else’s property or land.

**NONCONFORMITY** – Nonconformity or nonconforming use is a term used in land use laws to refer to an existing structure or use of a property which is not permitted under the current regulations either as a development or use that is not permitted generally or a development or use that has not received development approval under the existing regulations. A use might become nonconforming through the adoption of new laws, or as the result of court case decisions. Lawfully established nonconforming uses are allowed to continue, but are subject to limitations. They may be “frozen” at the level of operation that existed at the time of implementation of a zone designation that made the use nonconforming.

**NONRESIDENTIAL STRUCTURES** – Structures used only for commercial or public purposes such as businesses, schools, churches, etc.

**NO-RISE CERTIFICATES** – Formal certifications signed and stamped by a Professional Engineer licensed to practice in the State of Arkansas, demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that a proposed development will not result in any increase in flood levels within the community during the occurrence of a base flood event ♣

**NOTICE OF VIOLATION** – (1) A written notice detailing any violations of this [stormwater] program and any action expected of the violators ☁ (2) The formal noticing of any violation of the provisions of this Planning and Development Ordinance.

**NPDES** – The National Pollutant Discharge Elimination System. ☁

**NUISANCE** – Conduct within a municipality that unreasonably interferes with the use and enjoyment of lands of another, including conduct on property which disturbs the peaceful, quiet, and undisturbed use and enjoyment of nearby property, constitutes a common nuisance.

## **“O” Definitions**

**OFF-SITE NUISANCES** – Include dust, smoke, odors, noise, vibration, light, glare, heat, etc. that affects property other than that on which it originates.

**OFFICE, PROFESSIONAL-** Administrative, executive, research or similar organizations and laboratories having only limited contact with the public, provided that no merchandise or merchandising services are sold on the premises, except such as are incidental or accessory to the principle permitted use.

**OPEN SPACE** – Open space shall be defined as an area of land or water that either remains in its natural state or is used for agriculture, recreational, or cultural use, free from intensive development for residential, commercial, industrial or institutional use. Open space can be publicly or privately owned. It includes agricultural and forest land, undeveloped lakeshore or riverbank lands, undeveloped scenic lands, and public parks and preserves. It also includes water bodies themselves such as lakes and bays. In an urban setting, a vacant lot, courtyard, plaza, or a small marsh can be open space. A small park or a narrow corridor for walking or bicycling is open space, though it may be surrounded by developed areas.

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Cultural and historic resources are part of the heritage of Arkansas and are often protected along with open space.

OVERSPEED CONTROLS – Mechanisms that are used to limit the speed of blade rotation to below the design limits of the WECS. The following systems describe different methods for slowing or stopping a wind turbine in the event of malfunction, for repairs, or any other incident as needed ▲

- a. **Braking:** A method of overspeed control that utilizes a disc brake, which can be applied mechanically, electrically, or hydraulically to stop the rotor in emergencies.
- b. **Feathering:** A method of overspeed control that rotates the blade axis, or rotors, at an angle to maintain the torque at rated wind speeds.
- c. **Furling:** The method of overspeed control by which the blades are turned away from the direction of the wind.

OWNER – The person who legally owns a facility, part of a facility, or land.

#### “P” Definitions

PARAPET – A wall placed at the edge of a roof to prevent people from falling off.

PARKING, OFF STREET – An enclosed or open area not in the street, designated for vehicles.

PERCOLATION TEST OR PERC TEST – Tests that a soil engineer performs on earth to determine the feasibility of installing a leech field type sewer system on a lot. A test to determine if the soil on a proposed building lot is capable of absorbing the liquid affluent from a septic system.

PERFORMANCE BOND – An amount of money that a developer must put on deposit with the County as an insurance policy that guarantees the developer’s properly and timely completion of a project or job.

PERSONAL USE – A non-commercial use by a resident of the subject property containing a telecommunications tower or other facility referred to in Chapter 7(B). If any revenues are generated from the operation of the tower, it will not be for personal use as such term is used herein ■

PLAN, EMERGENCY ACCESS – A plan showing how emergency services is provided access and unfettered circulation on the property, location of emergency facilities such as fire hydrants, call boxes, shelters, and other elements as may be applicable.

PLAN, LANDSCAPE – A plan that contains the following elements:

- 1. Proposed landscape species
- 2. Proposed hardscape and decorative features
- 3. Buffers and screening devices

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4. Proposal for protecting existing vegetation during and after construction
5. Proposed grade changes
6. Any other information that can be reasonably required for an informed decision to be made by the approving authority.

PLAN, EXTERIOR LIGHTING – A plan showing the location, height above grade, type of illumination, type of fixture, the source lumens, and the luminous area for each source of light proposed.

PLANNED UNIT DEVELOPMENT (PUD) – A comprehensively planned land development project in which the standard requirements of Benton County Subdivision Regulations are varied to permit design flexibility, building clustering, grouping of open space, increased density, and alternatives to public facility improvements. To be approved a PUD must comply with the provisions of Benton County Subdivision Regulations as varied, and must achieve the following purposes:

1. A more efficient use of land;
2. More efficient use of public facilities;
3. More useable open space through structure grouping and other design techniques; and,
4. Preservation of appropriate natural and/or physical features.

PLANNING BOARD SERVICE OFFICER – The Planning Board Service Officer is the primary planning staff member with authority to sign off on administrative approvals and shall serve as the enforcement officer for violations of the Planning Regulations of Benton County, AR. The Planning Board Service Officer shall be the Director of the Department of Planning and Environmental Services or their designee.

PLAT, FINAL –The final plat is the final plan subject to recording that contains all of the changes to the preliminary plat, engineering and survey detail, legal provisions, and signature spaces for endorsement that is submitted to the Planning Board for their approval of the proposed subdivision.

PLAT, INFORMAL – Any division of a lot, tract, or parcel of land into three (3) or more lots or other division of land for the purpose of transferring of ownership to non-record titleholders or the development or extension of utilities, dedication of easements, or rights-of-way, where the parcels are not less than three (3) acres nor greater than four point nine-nine (4.99) acres.

PLAT, PRELIMINARY – A preliminary plat is the plan for a subdivision that contains all of the detailed design specifications and elements required for a thorough technical appraisal of the proposal and approval by the Planning Board.

POINT OF CONTACT – For applications to the Planning Board, the applicant shall designate a single point of contact who shall serve as the reference person who can speak for the project, answer technical questions, and serve as the conduit for all information concerning the application.

POTABLE WATER - Water that has been treated to drinking water standards and is safe for human consumption.

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**PRIVATE DRIVES AND DRIVEWAYS:** A travelway installed and maintained by others and not part of the County road system. They are intended to provide access to and from a residence, lot, parcel of land, apartment complex or other private development approved by the County Planning Board.

**PUBLIC FACILITIES, NECESSARY AND ADEQUATE –** Facilities determined to be capable of supporting and servicing the physical area and designated intensity of the proposed development as determined by the Planning Board based on specified levels of service.

**PUBLIC HEARING –** A meeting announced and advertised in advance that is open to the public, with the public being given an opportunity to speak or otherwise communicate their concerns, opposition to, support of, or any other position concerning a project or issue before the Planning Board.

**PUBLIC WAY –** Any public highway, or a private way that is laid out under authority of a statute, or a way dedicated to public use, or a way that is under the control of the County Judge or a body having similar powers. Interstate and state highways, as well as County streets and roads, would all be included in this definition but not the associated right-of-way.

#### **“Q” Definitions**

Reserved

#### **“R” Definitions**

**RECORDING FEE –** A charge for recording the transfer of property or development, paid to the County.

**RECREATIONAL VEHICLE –** A vehicle that is:

1. Built on a single chassis;
2. Four hundred square feet or less when measured at the largest horizontal projections;
3. Designed to be self-propelled or permanently towable by a light duty truck;
4. Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel or seasonal use.

**RELIGIOUS WORSHIP, PLACE OF –** A building or portion thereof intended for the performance of religious services.

**REPAIR –** The reconstruction or renewal of any part of an existing building for the purpose of its maintenance.

**REPLAT –** The process of changing a previously approved land development, either by alteration of a lot, parcel, or tract, or the placement of another type of development on a lot or tract different from the one previously contemplated when originally approved, or by other changes made to the original plat. There are two types of replats:

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1. Minor Replat: Consists of any lot split, recombination, or lot line adjustment that does not change the substantive extents or density of the approved subdivision and results in no more than one (1) additional lot that meets all of the dimensional requirements of the approved subdivision.
2. Substantive Replat: When a single owner or group of owners of an approved subdivision seeks to make a substantive modification to the extents or design of the subdivision. This could include but not necessarily be limited to:
  - a. Amending the subdivision by adding external lands not formerly a part of the subdivision.
  - b. Amending the subdivision by removing lands from the approved subdivision.
  - c. Seeking to convert common area, open space, or lands otherwise not specifically designated for development, into developable lots, or vice versa.
  - d. Modification to infrastructure requirements or design, amenities, landscaping, or other provision or stipulation of approval.

RESIDENCE – A dwelling which is either currently inhabited by one or more persons legally entitled to being there, or suitable for such habitation. It specifically does not include abandoned or other structures that are not suitable for human habitation.

RESIDENCE, PRIMARY – A residence occupied by the property owner or the largest residence on the property, whichever is applicable.

**RESIDENTIAL, LOW DENSITY** - comprises primarily of one dwelling unit per 5 acres with limited accessory structures.

**RESIDENTIAL, MEDIUM DENSITY** - comprises primarily of one dwelling unit per acre with limited accessory structures.

**RESIDENTIAL, HIGH DENSITY** - comprises of multifamily dwellings units as defined, condominiums, apartments, communal homes and other similar uses.

RETAINING WALL – A structure that holds back a slope and prevents erosion.

RETENTION BASIN – A facility that stores stormwater, but the storage of the stormwater would be on a more permanent basis than a DETENTION BASIN (see above). In fact, water often remains in a retention basin indefinitely, with the exception of the volume lost to evaporation and the volume absorbed into the soils. This differs greatly from a DETENTION BASIN, which typically drains after the peak of the storm flow has passed, sometimes while it is still raining. Additional uses for stormwater retention are to help recharge large underground water aquifers.

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RIGHT-OF-WAY – A strip of land occupied or intended to be occupied by a road or street, crosswalk, sidewalk, curb, gutter, stormwater facility, utilities, and other public or quasi-public improvements associated with a road cross section.

ROAD, ARTERIAL – As defined in the official Benton County Road Plan.

ROAD, COLLECTOR – As defined in the official Benton County Road Plan.

ROAD, LOCAL – As defined in the official Benton County Road Plan.

ROAD PLAN – The official plan for roads in unincorporated areas of Benton County designating the general location, characteristics, and functions of current and future roads.

### **“S” Definitions**

SANITARY SEWER – A sewer system designed for the collection of wastewater from the bathroom, kitchen and laundry drains, and is usually not designed to handle Stormwater.

SECTION 404 WETLANDS PERMIT – A permit required under Section 404 of the Clean Water Act for the discharge of dredged and fill material into any surface water of the United States. The US Army Corps of Engineers issues Section 404 permits.

SEPTIC SYSTEM – An onsite wastewater treatment system. It usually has a septic tank, which promotes the biological degradation of the waste, and a drain field, which is designed to let the left over liquid soak into the ground. Septic systems and permits are usually sized by the number of bedrooms in a house.

SEPTIC TANK WASTE – Any domestic sewage from holding tanks such as vessels, chemical toilets, campers, trailers, septic tanks and aerated tanks and shall also include decentralized sewer systems ☁

SERVICE OFFICER – The administrative officer properly designated to act on behalf of the Planning Board.

SETBACKS – An area beyond which the construction of all manmade structures is prohibited.

SEWAGE SYSTEM, CENTRAL – A sanitary sewage system designed to serve a collective such as a neighborhood, subdivision, or other group of common users. Such as system may be developed and/or maintained by a private or public entity and may not be limited in type provided that the system meets the requirements of the Department of Health.

SEWAGE SYSTEM, INDIVIDUAL – A sanitary sewage system designed to serve a single private user in the form of a septic tank or similar technology.

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SFHA – The acronym for Special Flood Hazard Area◆

SIGHT TRIANGLE – A sight triangle is intended to provide increased visibility at intersections for the safety of pedestrians and motorists at corner lots. All corner lots shall provide a sight triangle consisting of an unobstructed triangular area where the front lot line and the exterior side lot line intersect. The sight triangle shall be measured from the point of intersection of the lot lines.

SITE PLAN – The development plan for one or more lots on which is shown the existing and proposed conditions of the lot, including topography, vegetation, drainage, floodplains, wetlands and waterways, means on ingress and egress, circulation, utility services, structures and buildings, signs and lighting, berms, buffers and other screening devices, surrounding development, and any other information that reasonably may be required in order for an informed decision to be made by the Planning Board.

SKETCH PLAN – May be a free hand drawing, superimposed on a site map, or aerial photograph (also Informal or Concept Plan)

SLAB ANCHORS – Anchors where the hook of the anchor is wrapped around a horizontal rebar in the slab before the concrete is poured.

SLOPE – The incline angle given as a ratio of the rise to the run. (slope = rise/run)

SMALL WIND TURBINE – A wind energy conversion system consisting of a wind turbine, a tower, and associated control or conversion electronics, which has a rated capacity of more than 10 Kilowatts (kW) but less than 100 kW and which is intended to primarily reduce on-site consumption of utility power ▲

SOUND ATTENUATION – Sound proofing a wall or subfloor, generally with fiberglass insulation.

SPECIAL EVENT FACILITY – A facility or assembly hall available for lease by private parties or special events such as weddings. This term includes wedding chapels.

SPECIAL FLOOD HAZARD AREAS – Geographical areas identified on FEMA flood insurance rate maps as being at-risk for flooding. The maps further categorize these areas into various flood risk zones A, AE, AH, and AO. See area of special flood hazard ◆

START OF CONSTRUCTION – Includes substantial improvement and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns or any work beyond the stage of excavation, or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling, nor does it include the installation of streets and/or walkways nor does it include excavation for basement, footings, piers or foundations or the erection of temporary forms nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For

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**Key to Symbols:** ◆ Floodplain, ☁ Stormwater, ■ Telecommunications, ▲ Wind Energy

Note that symbols are associated with specific definitions that apply only to that category. For example, definitions that include the Floodplain Symbol ◆ are only applicable to floodplain provisions and not more broadly to other provisions of this Ordinance.

a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

STATE – The State of Arkansas.

STATE COORDINATING AGENCY – The agency that acts as a liaison between FEMA and a community for the purposes of floodplain management. The Arkansas Natural Resources Commission is the State Coordinating Agency for Arkansas ♣

STREETS – Streets mentioned in these regulations will always refer to subdivision streets as opposed to anything that might be considered a part of the Benton County Road Plan.

STORM DRAINAGE SYSTEM – All surfaces, structures and systems that contribute to or convey stormwater, including private drainage systems, the MS4, surface water, groundwater, waters of the State and waters of the United States ☂

STORMWATER – Runoff resulting from precipitation ☂

STORM SEWER – A sewer system designed to collect storm water and is separated from the waste water system.

STORMWATER MANAGEMENT PLAN – All regulated Small MS4's, including Benton County, that are permitted under the general permit are required to develop and implement a Storm Water Management Program (SWMP) to address each of the Six Minimum Control Measures that are contained the federal regulation and Part V.B of the ADEQ general permit. The SWMP plan must include Best Management Practices (BMPs) for each of the minimum control measures along with Measurable Goals and interim milestones for each BMP.

STORMWATER PERMIT – A permit issued by EPA that authorizes the discharge of pollutants to Waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis ☂

STORMWATER POLLUTION PREVENTION PLAN (SWP3) – A document that describes the Best Management Practices (BMPs) to be implemented at a site, to prevent or reduce the discharge of pollutants ☂

STORY – The part of a building between any floors or between the floor and roof.

STRUCTURE – For the purposes of floodplain management, structure refers to any building with two or more rigid walls and a fully secured roof on a permanent site or to any gas or liquid storage tank that is principally above ground ♣

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**STRUCTURE** – Is anything constructed or erected, the use of which requires permanent or temporary location on the ground, or attached to something having a permanent or temporary location on the ground, including but not limited to any building, dwelling, manufactured building, manufactured home, mobile home, boathouse, boat shelter, advertising sign, deck, patios, fences, retaining walls, or other improvements or any part of such structure. A structure includes any permanent or temporary appurtenance attached thereto, including but not limited to awnings and advertising signs. For the purpose of this ordinance, structure shall exclude portable animal shelters, portable storage buildings, cattle guard, traffic control signs, and usual farm fences built of wire and posts.

**SUBDIVISION** – A division of a lot, tract, or parcel of land into two (2) or more lots or other division of land for the purpose of transferring ownership to a non-record titleholder or the development or extension of utilities, dedication of easements, or rights-of-way, whether immediate or future, including all changes in street or lot lines;

**SUBDIVISION DEVELOPMENT** – Includes activities associated with the platting or division of any parcel of land into two or more lots or tracts and includes all construction activity taking place thereon.

**SUBSTANTIAL DAMAGE** – Damage of any origin where the cost to restore a structure to its original undamaged state would equal or exceed 50% of the market value of the structure before any damage occurred. In determining whether substantial damage has occurred, estimators must use standard contractor and materials costs. There are no exceptions for homeowners who make their own repairs or for discounted or free raw materials.

**SUBSTANTIAL IMPROVEMENT** – Any reconstruction, rehabilitation, addition or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before start of construction of the improvement. This includes structures that have incurred substantial damage, regardless of the actual repair work performed. The term does not, however, include:

1. Any project for improvement of a structure to correct existing violations of state or local health, sanitary or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary conditions; or
2. Any alteration of a historic structure provided that the alteration will not preclude the structure's continued designation as a historic structure.

**SUPPORT STRUCTURE** – Any existing structure onto which one or more antenna arrays are placed; they need not be towers ■

**SURFACE WATER** – Water bodies and any water temporarily residing on the surface of the ground, including oceans, lakes, reservoirs, rivers, ponds, streams, puddles, channelized flow and runoff ☁

**SURVEY** – Field work that creates (or establishes), marks, and defines the boundaries of tract of land. (Manual of Surveying Instructions 1973, US Department of the Interior, should be consulted).

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## **“T” Definitions**

**TENT** – Any structure, enclosure or shelter that is constructed of canvas or pliable material supported in any manner except by air or the contents it protects.

**TELECOMMUNICATIONS FACILITY** – Any of the following: (1) A tower or a parcel of land containing a tower, sending and receiving antennas attached to the tower, and a prefabricated or modular structure or cabinets containing electronic equipment designed to serve the site; (2) A Federal Communications Commission (FCC)-licensed facility, designed and used for the purpose of transmitting, receiving, and relaying voice and data signals from various wireless communication devices and equipment. For purposes of this ordinance, amateur radio transmission facilities and facilities used exclusively for receive-only antennas are not classified as telecommunications towers and facilities ■

**TOPOGRAPHICAL SURVEY** – A review process and record of information regarding the surface conditions of a proposed [development] site. The resulting drawing normally uses contour lines to convey the surface height or depth relative to a given level.

**TOPOGRAPHY** – The relief features or surface configurations of an area; e.g., hills, valleys, slopes, lakes, rivers, etc. usually measured in feet and mapped as contours.

**TOTAL EXTENDED HEIGHT** – The height above grade to a tower blade tip at its highest point of travel ▲

**TOWER, ARCHITECTURALLY DESIGNED** – A telecommunications tower which is designed and constructed in such a manner that the tower appears to be an integral part or element of another permitted structure on the site, such as a church tower, bell tower, or flag pole (also known as STEALTH TOWER) ■

**TOWER, TELECOMMUNICATION** – Any structure that is designed and constructed primarily for the purpose of supporting one or more antenna arrays. This shall include but not necessarily be limited to self-supporting lattice towers, monopole towers, towers supported by guy wires, and towers associated with a building or other permanent structure. The fact that one or more antenna arrays are placed on any structure that was not primarily intended for such purpose does not convert the structure into a tower. A telecommunications tower shall be considered part of a telecommunications facility (see also TELECOMMUNICATIONS FACILITY) ■

**TOWER HEIGHT** – The height above grade of the fixed portion of a tower, and any fixed appurtenance attached to the tower ▲■

**TOWER, LATTICE** – A guyed or self-supporting three (3) or four (4) sided, open, steel frame structure used to support telecommunications equipment

**TOWER, MONOPOLE** – A telecommunication tower consisting of a single pole, constructed without guy wires and ground anchors ■

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**Key to Symbols:** ◆ Floodplain, ☁ Stormwater, ■ Telecommunications, ▲ Wind Energy

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TOWER, WIND ENERGY – The monopole, freestanding, or guyed structure that supports a wind generator. Towers are made from tubular steel, concrete, or steel lattice. The vertical component of a wind energy conversion system that elevates and supports the wind turbine generator and attached blades above the ground up out of the turbulent wind ▲

TOWNHOUSE – A single-family dwelling unit constructed in a group of three or more attached units in which each unit extends from the foundation to roof and with open space on at least two sides.

TRACT – Real estate within Benton County lying outside municipal boundaries, which is not a part of any subdivision, and is described by a metes and bounds description.

TRACT SPLIT – A division of a tract or parcel of land into two (2) or more lots or parcels or other divisions for the purpose of transferring ownership to a non-record titleholder.

TRAILERS – Travel trailers, motor homes, pick-up campers, fifth wheel campers, camping trailers with folding or collapsing features; such trailers may be self-contained (operate for periods of time independently of sewer, water, gas and electrical connections and may or may not contain toilet, lavatory or shower). This regulation’s coverage of trailers which might occupy such parks shall be limited to compliance with siting and utilities requirements of this regulation as well as requirements and regulations referenced in §7.1(C)2 of these regulations.

TURBINE – The parts of a wind system including the blades and nacelle ▲

#### “U” Definitions

USE, TEMPORARY – Uses or activities that are carried out primarily out-of-doors for a limited and fixed period of time including flea markets, farmers markets, fireworks displays, large scale rallies, seasonal sales, swap meets and other outdoor sales, racing meets, circuses, certain agritourism activities, carnivals, concerts, parades, spiritual revivals, and outdoor gatherings such as Burning Man or the like (also Special Event, Special Activity).

UTILITIES – Includes water, sewage, electrical, and natural gas.

UTILITY AGENCY – Private utility companies, engaged in the construction or maintenance of utility distribution lines and services, including water, sanitary sewer, storm sewer, electric, gas, telephone, television and communication services.

UTILITY EASEMENT – The area of the earth that has electric, gas, or telephone lines. The property owner may own these areas, but the utility company has the legal right to enter the areas as necessary to repair or service the lines.

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## **“V” Definitions**

VARIANCE – Variances are relief to a dimensional provision of these regulations by the Benton County Planning Board. The criteria to grant variances shall be, without exception, and singularly because strict compliance with any provision of this ordinance would cause exceptional or undue hardship to the applicant. Additionally, extra expense, economic hardship, or additional outlay of capital funds or money shall never constitute grounds for exceptional or undue hardship.

VIOLATION – The failure of a structure or other development to be fully compliant with this ordinance. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance is presumed to be in violation until such time as that documentation is provided.

## **“W” Definitions**

WAIVER – A specific request for relief from a non-dimensional provision of this Ordinance, specifically a waiver would be the elimination of a provision.

WATER SURFACE ELEVATION – The height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, where specified, of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas ♠

WATER SYSTEM, CENTRAL – A public or private water company provides piped water to customers in a subdivision, neighborhood, or other common group as opposed to self-sufficient water systems consisting of wells or catchments such as cisterns.

WATERS OF THE STATE (or water) – Any groundwater, percolating or otherwise, lakes, bays, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, inside the territorial limits of the State, and all other bodies of surface water, natural or artificial, navigable or non-navigable, and including the beds and banks of all water courses and bodies of surface water, that are wholly or partially inside or bordering the State or inside the jurisdiction of the State ☁

WETLAND – Any area that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas ☁

WIND ENERGY CONVERSION SYSTEM (WECS) – Any machine designed for the purpose of converting wind energy into electrical energy. The WECS includes all parts of the system. A small wind energy conversion system shall be referred to as SWECS ▲

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**Key to Symbols:** ♠ Floodplain, ☁ Stormwater, ■ Telecommunications, ▲ Wind Energy

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### **“X” Definitions**

X ZONES – A special group of insurance risk zones. One type, shown as non-shaded areas on FEMA issued flood maps, indicates a zone where flooding is not expected to occur. The second type, shown as shaded areas of FEMA flood maps, indicates a flood hazard area that is expected to be affected by the 500-year flood, but not by the 100-year base flood.” ◆

### **“Y” Definitions**

Reserved

### **“Z” Definitions**

Reserved

### **§3.5 – RESERVED**

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**CHAPTER IV  
GENERAL REQUIREMENTS OF DIVISION AND DEVELOPMENT OF LAND**

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- §4.1 – APPLICABILITY AND INTENT**
  - §4.2 – LAND USE AND DEVELOPMENT PATTERN**
  - §4.3 – LOT SIZE AND BUILDING SETBACK**
  - §4.4 – NON-COMPLIANCE CLAUSE**
  - §4.5 – VARIATION PERMITTED**
  - §4.6 – GENERAL REQUIREMENTS OF DIVISION AND DEVELOPMENT OF LAND**
  - §4.7 – PERFORMANCE STANDARDS**
  - §4.8 – PUBLIC HEARINGS**
  - §4.9 – DEVELOPMENT REVIEW COMMITTEE**
  - §4.10 – ASSURANCE FOR COMPLETION AND MAINTENANCE OF IMPROVEMENTS**
  - §4.11 – RELEASE OF PERFORMANCE SECURITY**
  - §4.12 - RESERVED**
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**§4.1 - APPLICABILITY AND INTENT**

- A. Applicability – The provisions of this chapter shall apply to any division or development subject of this Ordinance.
- B. The intent of this chapter is to establish procedures, requirements, minimum standards, specifications and acceptance criteria for the division and development of land in Benton County subject to the provisions of this Ordinance.
- C. This includes but is not limited to the provision of access to lots and parcels, the provision of utilities, the subdividing of land into lots and blocks, and the parceling of land and development resulting in the need for access and utilities.

**§4.2 – LAND USE AND DEVELOPMENT PATTERN**

Benton County is predominantly rural with the following existing land uses in the County. The Existing Land-Use Map-2013, attached as Appendix A herewith provides the land use pattern and distribution in Benton County:

- A. **Agricultural:** Agricultural land use and development as defined in chapter III are allowed by right and are exempt from the provisions of this Ordinance, except otherwise noted. Exceptions include commercial, farm-related developments including but not necessarily limited to livestock auctions, feedlots and holding pens, and compost facilities used for commercial sales.
- B. **Single-Family Residential:** Subdivision of land into two or more parcels governed by the provisions of chapter V of this Ordinance. Construction of residential units requires a Building Permit only. Multifamily residential (example, apartments, condominium/co-op, institutional living) is required to comply with the provisions of chapter VI of this Ordinance.

C. **Other:** All land uses other than single family residential and agricultural is governed by the provisions of chapter VI of this Ordinance. This category encompasses land uses such as:

- Residential land Use – including duplex, double duplex, townhomes, apartments, condominium and others
- Commercial land use – including minor or major commercial, professional office, general commercial and large office, large scale agritourism activities, and Regional commercial
- Industrial land use – including light industrial or heavy use
- Institutional land use – including schools, parks, church, cemetery, hospital, prison, treatment plants, military base
- Open space – places of assembly, parks, nature trails
- Others – telecommunication towers, utilities, temporary uses, and specific land uses

#### **DEVELOPMENT PATTERN**

Patterns of proposed new development must enhance or be consistent and compatible with existing development and the environment. Proposed new land uses should generally be compatible with existing land uses or be made so with reasonable mitigation measures, if feasible.

1. Land Use Compatibility. Development patterns must be consistent and compatible with existing development in the vicinity and the environment.
2. Clustering. Commercial and industrial developments are encouraged to cluster to minimize incompatible land-use. Commercial and industrial uses should locate where preexisting commercial and industrial uses have already been established, be located along major arterials or other roads or streets that have a commercial character, or have the services to support commercial uses.
3. Right to Farm. Any industrial and commercial development(s) that could limit the viability of existing agricultural uses is/are discouraged.
4. Right to Operate. Residential development that could limit the viability of existing commercial and industrial operations is discouraged.
5. Right to Residential Viability. Conversely, commercial and industrial development shall not negatively impact existing residential development or such impacts must be mitigated as per the nuisance abatement provisions below.
6. Establishment of New Use in Area Previously Lacking. The Board shall carefully review each proposal to establish a new use in an area where such land use did not previously exist for

appropriateness and compatibility, i.e. coming to a nuisance. The Board should assess whether such proposed use may in itself reduce the value and viability of existing land uses or as a newly established use facilitate the conversion of the immediate vicinity to higher intensity uses. Any new use near an existing use must protect itself or be aware of the existing conditions.

#### **§4.3 – LOT SIZE AND BUILDING SETBACKS**

##### **A. Lot or Parcel Size**

All individual residential or non-residential lots or parcels shall be minimum One (1) acre in size.

Lots or parcels that require both a septic system and water well shall be sufficiently size to satisfy State Health Department requirements. Minimum frontage shall be 120 feet.

##### **B. Building Setbacks**

###### **1. Minimum Setback**

No structures, as defined in chapter III- Definitions, shall be constructed or other improvements undertaken within the following minimum setback lines:

- a. Arterial Roads – Sixty-five (65) feet measured from the centerline of the fronting arterial road as defined in chapter III or twenty-five (25) feet from the fronting property line, whichever is greater.
- b. Collector Roads – Fifty-five (55) feet measured from the center line of the fronting collector road or twenty-five (25) feet from the fronting property line, whichever is greater.
- c. Local Roads – Fifty (50) feet measured from the centerline of the fronting local road or twenty-five (25) feet from the fronting property line, whichever is greater.
- d. Existing subdivisions – Which have been approved by the County prior to the effective date of this Ordinance with a lesser set-back than herein required, shall be permitted to observe the set-back as shown on the recorded plat.
- e. Covenants – Any setbacks or other dimensional requirements established privately by covenant or POA shall not be enforced by the County.
- f. Side and Rear Yard Setbacks – The minimum side setbacks shall be ten (10) feet. All properties and tracts shall observe a minimum ten (10) foot setback from side and rear lot lines. The street side yard on a corner lot shall have a twenty-five (25) foot setback.

- C. **Parking and loading area setbacks** – All parking areas require a minimum five-foot landscaped setback to provide screening along the perimeter of off-street parking. Parking area may be defined by a barrier curb.

- D. **Outdoor storage** shall not be permitted in a required setback or in the front yard.

- E. All setbacks shall be maintained as vegetated open space in accordance with the provisions of this Ordinance.

**§4.4- NON-COMPLIANCE CLAUSE**

All man-made structures existing on the effective date of this Ordinance in the prohibited setback areas as defined herein shall be allowed to be continued until the structure shall be destroyed or abandoned, except any such man-made structure which is listed on a state or national register of historical places may be rebuilt or restored on the same site following destruction or abandonment.

**§4.5- VARIATION PERMITTED**

The Planning Board may vary the requirements of this article if strict enforcement would cause undue hardship due to circumstances unique to the individual property under consideration and grant such variations only when it is demonstrated that such action will be in keeping with the spirit and intent of this article.

**§4.6 – GENERAL REQUIREMENTS OF DIVISION AND DEVELOPMENT OF LAND**

**1. FIRE AND SAFETY CODES**

All development and division of land must meet or exceed the current Arkansas Fire Prevention and Safety Codes.

**2. PUBLIC AND PRIVATE SERVICES**

Applicant shall document the anticipated impact to local services such as schools, roads and streets and other public infrastructure. A service agreement form from each service provider is required to verify the availability of utilities and services for the proposed development or division of land.

Applicant is required to provide a separate service agreement from each public and private utility including water service, electricity, septic, landscape installation and maintenance including a statement indicating adequate capacity and agreement to serve the proposed development.

**3. ACCESS AND ADDRESSING**

**Access-** All parcels shall be accessed by a hard surface private or public road. Private roads will not be dedicated to the County nor maintained thereby.

All lots served by a private or public road must comply with the frontage and lot area requirements of this Ordinance.

In cases where the private road easement serves at least three (3) homes and is at least five hundred (500) feet in length (measured from the intersection of the County/Public Road ROW to the furthest existing or proposed residential structure) the following shall be applicable:

- i. The developer shall be responsible for paying the County road department for the purchase and installation of a sign indicating that the road is maintained by the property owners.
- ii. The developer shall file for public record a "Private Road Maintenance Disclosure Statement" stating the following, NOTICE: THIS ROAD IS NOT CONSTRUCTED TO THE COUNTY STANDARDS. THE MAINTENANCE OF THE ROAD IS THE RESPONSIBILITY OF THE CURRENT AND FUTURE PROPERTY OWNERS.

**Addressing** – New private road subdivisions must have their proposed private roads named according to 9-1-1 addressing prior to the final subdivision plat approval. The private road subdivision developer or applicant shall be responsible for erecting the street sign stating the name of the private road prior to final plat approval. All signs must be maintained by and replaced by the property owner. A replacement cost will be assessed if the County replaces it.

**Approved Street Names-** All proposed street names shall be verified and approved by the Benton County 911 Administration prior to final plat or plan approval by the County Planning Board.

#### 4. POSTING OF STREET ADDRESS

All improved commercial or residential buildings or properties shall be posted with a street address number assigned by E911. The street address number must meet the requirements of the Benton County Building Code, the provisions of Benton County Ordinance O-89-27 and the County 9-1-1 addressing requirements.

#### 5. EMERGENCY ACCESS

Access to all properties shall be provided to emergency service providers. Where possible, two means of emergency access shall be provided. Road improvements may be requested at the expense of the developer and subject to standards as set forth in County Ordinance 86-4 as amended. This shall include gated residential communities and non-residential properties that restrict access via gate or other security mechanism. The provision of access should be based on the type of entry system including but not restricted to the following:

- A. **Key Access:** Where access to or within a structure or an area is restricted because of secured openings or where immediate access is necessary for life-saving or fire-fighting purposes, the fire code official is authorized to require a key box to be installed in an approved location. The key box shall be of an approved type and shall contain keys to gain necessary access as required by the fire code official.
  - i. Locks: An approved lock shall be installed on gates or similar barriers when required by the fire code official.
  - ii. Key Box: Key boxes shall be located on the address side of the building to keep uniformity and shall be mounted no higher than five feet (5') above finished floor elevation.
- B. **Code Access:** Where access to or within a structure or an area is restricted because of electronically secured openings or where immediate access is necessary for life-saving or fire-

fighting purposes, the fire code official is authorized to require the applicant to utilize a Knox-style electronic switch.

- C. **Chain/Lock Access:** Where access to or within a structure or an area is restricted because of chain/lock secured openings or where immediate access is necessary for life-saving or fire-fighting purposes, the fire code official shall require a Knox-style padlock or key box at the gate to gain access.
- D. **Fire Hydrants:** If fire hydrants are required by the appropriate Fire Official, the applicant shall provide a written confirmation indicating the proper placement, flow, and pressure throughout the development. Fire hydrants shall be installed in such a manner as to provide service throughout the entire development. Flow testing may be required to ensure adequate water pressure and availability of water for firefighting purposes. Commercial and industrial development must not be incompatible with available Emergency Services in the proposed area of development.
- E. **Anticipated Impact:** Applicant shall document the anticipated impact to local emergency services.
- F. **Acceptance to Service:** Written confirmation from the appropriate Fire Chief is required indicating acceptance to service the development.
- G. **Hazard Chemical Compliance:** All proposed commercial and industrial developments must submit written confirmation of hazardous materials to be used and stored on-site. Documentation is to be forwarded to the County Office of Emergency Services.

## 6. EASEMENT

Easements of adequate width according to engineering or open space standards shall be provided for public use and utilities. Such easements shall have a minimum combined width of at least fifteen (15) feet along the front, side, and rear lot lines. Structures are prohibited to be constructed over a recorded easement and appropriate setbacks shall be maintained.

## 7. PROVISION OF WATER ON-SITE

All development shall confirm the provision of public or private source of water supply on-site. A plan view of the proposed water distribution system, showing pipe sizes and the location of valves and fire hydrants shall be shown. Private wells and waterline pipes shall be identified along with the capacity and size of the pipeline.

The water supply system shall be approved by the Arkansas Department of Health or its authorized agent and shall meet the requirements noted below, based on the availability of a public water supply:

- i. Available public water supply: When an approved public water supply is within fifteen hundred (1,500) feet of a land development, the developer shall provide a potable water system with service to each individual lot within the land development.
- ii. Private water supply: When an approved public water supply is not within fifteen hundred (1,500) feet of a land development, another water supply system proposed by the developer

must be approved by the Arkansas Department of Health in order to assure that the private water supply system will provide an adequate supply of potable water to every lot in the land development. On-site wells shall be approved by the Arkansas Department of Health.

- iii. Individual service lines and connections shall be made prior to the base and curb and gutter construction phase of the street improvement. Individual service lines and connections made prior to the base and curb and gutter phase may be installed by open trench construction provided all open cuts across the roadway portion are backfilled entirely with SB2. When individual service lines and connections are made after the pavement is completed, they shall be installed by boring only. Pavement cuts will not be allowed, except in extreme and unusual circumstances.

## 8. SANITARY SEWER SYSTEM

All development shall identify the provision of sewer system on-site. A plan view of the proposed sewers with grades and sizes, manholes, and outlets shall be shown. Other methods of sewage disposal should be indicated and detailed on the plans. All disposal system criteria must meet or exceed Arkansas State Board of Health Rules and Regulations pertaining to Onsite Wastewater systems.

The sanitary sewer system shall be approved by the Arkansas Department of Health and shall meet the requirements noted below, based on the accessibility of a public sanitary sewer system:

- i. Accessible public sanitary sewer system: When an approved public sanitary sewer system is reasonably accessible, the developer shall install a system of sanitary sewer mains and shall connect to such system, and each lot within the land development shall be provided with a connection to the public sanitary sewer system. The sanitary sewer system and connections shall be approved by the Arkansas Department of Health.
- ii. Community sanitary sewer systems: When an approved public sanitary sewer system is not reasonably accessible, the developer shall install a community sewage treatment system or plat the minimum lot size to accommodate individual sewage disposal systems. The community sewage system and/or minimum lot size and individual sewage disposal system shall meet the Arkansas Department of Health requirement for land development, and shall be approved by the Arkansas Department of Health.
- iii. Individual service lines and connections shall be made prior to the base and curb and gutter construction phase of the street improvement. Individual service lines and connections made prior to the base and curb and gutter phase may be installed by open trench construction provided all open cuts across the roadway portion are backfilled entirely with SB2. When individual service lines and connections are made after the pavement is completed, they shall be installed by boring only. Pavement cuts will not be allowed, except in extreme and unusual circumstances.
  - (a) Any land development as defined in this Ordinance that utilizes septic systems, also known as Individual Sewage Disposal Systems, must be designed so that the tank, lateral lines and alternate area are all located on one (1) lot, parcel, tract or dwelling unit.

- (b) Only one (1) septic system shall be allowed on any lot, parcel, tract or dwelling unit.
- (c) Any such septic system must be located on the lot, parcel, tract or dwelling unit to be served by said system.
- (d) Alternative field, lateral lines, location of septic tank and clean out shall be identified on the plan/plat.

## 9. WASTE WATER DISPOSAL

All development shall identify the provision of waste water disposal system on-site. No industrial or commercial development operation shall discharge any wastewater or fluids of any kind into either surface or ground-water sources. Exception may be considered in cases where the Environmental Protection Agency (EPA) or Arkansas Department of Environmental Quality (ADEQ) has issued a permit indicating that discharge is safe and/or that it has received adequate treatment prior to discharge. Evidence of such approval shall be provided.

- i. Waste Water Control. Developers shall produce a permit from the appropriate agency ensuring connection to an adequate public wastewater disposal system if reasonably available.
- ii. On-Site Sewage Disposal. Where connection to an adequate (approved) public wastewater (sanitary sewer systems) disposal system is not reasonably available, plans approved by the Arkansas Department of Health for use of an on-site wastewater treatment is required.
- iii. All facilities used for the collection , treatment, and renovation of wastewater shall be at least 100 feet from any source of domestic water supply, such as an on-site well and shall be at least 10 feet from any water service line, all property lines and any dwelling or building or structure. Such facilities shall not be located in a floodplain identified on the County's Flood Insurance Rate Maps (FIRM) panels.

## 10. ON- SITE STORMWATER MANAGEMENT

All development shall identify the provision of stormwater management facility on-site. Provisions shall be made for the safe disposal of storm water. Where initial construction does not provide for storm sewers, drainage ditches, and culverts of adequate capacity shall be installed. Facilities for storm drainage should be of adequate capacity to take care of not only surface run-off originating within the subdivision/area of development or flowing across but also consideration should be given to the consequences of total development should it occur in the upstream drainage area.

The developer shall construct storm sewers, drainage ditches, catch basins, and culverts of adequate capacity to convey not only surface run-off originating within the development or flowing across, but also consideration should be given to the consequence of total development should it occur in the upstream drainage area.

- A. All surface water drainage shall be transported to existing storm sewers, drainage facilities, or natural ditches and a drainage report certified by a registered professional engineer in Arkansas shall be provided to the satisfaction of the Planning Board.
- B. Rational Method for calculating storm run-off is to be used.
  - i. Off-Site Drainage. The developer shall provide an engineering study by a professional registered engineer of the off-site drainage and/or potential flooding problems that may be created by full development of the proposed project. The study area shall cover not less than 1000 feet outside the proposed development. The study shall be based on a 10 year storm event. Based on a specific location and existing drainage challenges, the Planning Board may require a study based on a 100 year storm event.
 

If the study identifies potential off-site flooding problems, the engineer shall submit with the drainage plan, off-site drainage plans to correct the problem(s) identified. The developer shall be responsible at his own expense for making those off-site improvements necessary to correct the drainage or flooding problems created by his development.
  - ii. On-Site Storm Detention Facility. Where off-site study indicates an increase in the peak flow discharge downstream, the developer shall construct a detention system or other acceptable means whereby controlling peak run-off rate. An on-site storm drainage detention facility for 10 year storm frequency is acceptable on all commercial and industrial development.
- C. The engineer shall provide complete documentation concerning the selection of design frequency and criteria.
- D. The developer shall install storm drainage facilities, including drains, sewers, catch basins and culverts necessary for the proper drainage of all surface water, and serve the entire drainage area.
- E. All surface water drainage shall be transported to existing storm sewers, drainage facilities, or natural ditches or streams approved by the County Road Department.
- F. The developer is responsible for correcting any drainage or flooding problems occurring on adjacent or downhill or downstream property as a result of the development.
- G. A storm water detention plan for both on and off-site drainage shall be submitted as part of the overall drainage plan. Off-site storm water facilities constructed shall be maintained by the owner of record.

**11. NOTICE OF INTENT (NOI) AND STORM WATER POLLUTION PREVENTION PLAN (SWPPP)**

All development(s) disturbing one (1) acre or more must comply with storm water requirements as prescribed by the Arkansas Department of Environmental Quality (ADEQ).

For lots of an acre or more, and if the area to be disturbed is one acre or more and the stormwater is directed into State waters, then a "Notice of Intent" (NOI) shall be filed with the Arkansas Department of Environmental Quality (ADEQ) as per state law. A copy of the submitted NOI will be required to be

received by the County prior to or at the latest at the preconstruction conference for the project before the project will be approved to begin construction. When a request is made to begin grading on a project prior to a preconstruction conference, the grading plan, erosion control plan and a copy of the submitted NOI will be required by the County for review for approval prior to grading commencing. Subject lands located within Benton County's MS4 jurisdiction shall additionally comply with the provisions of Chapter VIII of this Ordinance.

**12. SEDIMENTATION AND EROSION CONTROL**

Developers must minimize the area disturbed by construction activities at all times during construction activities and promptly re-vegetate (or mechanically stabilize) areas disturbed by construction activities. Developers shall use commonly accepted standards to limit erosion and siltation. See Appendix B– Sediment and Erosion Control Best Management Practices.

**13. LOW IMPACT DEVELOPMENT (LID)**

All development in the County are encouraged to incorporate Low Impact Development (LID) options in the design and development of projects. Low Impact Development is an ecologically based Stormwater management approach contrary to conventional “pipe-and-pond” conveyance infrastructure that channels Stormwater run-off through pipes, catchment basins, and curbs and gutters. LID remediates stormwater run-off through a network of distributed landscape network to reduce and treat stormwater runoff before it enters receiving water bodies.

LID site design begins with hydrological modeling based upon local geography, soil types, vegetation, and watershed catchment pattern. Conventional hard engineering based universal protocols for runoff evacuation favors costly peak demand design over context sensitive design. LID features include provision of porous surfaces, reduction of impervious surfaces, provision of strategically placed rain gardens and LID easements at the front of the property comprising of a network of connected landscape areas/bioswales for improving the quantity and quality of runoff in the drainage ditches. See Appendix C - LID Design alternatives.

**14. ENVIRONMENTAL COMPLIANCE**

The Planning Board reserves the right to require written confirmation from the appropriate agency(ies) confirming the developer's compliance with any and all environmental regulations including but not limited to: air pollution codes (quality), hazardous chemical(s) management and disposal, above and belowground storage tanks, compliance with historical, cultural, and archeological preservation issues, threatened/endangered species of state-wide and/or national importance, and any other concerns applicable to the issuances of a development permit.

**15. OPEN SPACE**

All areas of open space such as parks, playgrounds, recreational areas or green spaces for any purpose and any natural features to be preserved shall be designated. The following shall not be considered as useable open space.

- A. The surface area of parking lots including driveways;

- B. The area occupied by structures (excluding structures used for recreational purposes);
- C. Any lot intended for private ownership;
- D. Street surface area.

The maintenance of all private open space shall be the responsibility of the developer or of a property owners association and the method for maintenance and a maintenance fund shall be established in the PUD covenants by an escrow fund, property owners association, or other such means.

16. **LANDSCAPING AND BUFFERS**

- A. **Landscaping** – Benton County has developed a comprehensive set of landscaping guidelines for commercial and other non-residential development that is based on a native plan regime (see Appendix C-List of suggested native vegetation). This list has been established as a service to developers and property owners so that selected plant materials will be optimally suited to the soils and climate of Northwest Arkansas. This should minimize cost of acquisition, installation, and maintenance and reduce the need for supplemental watering and the cost associated with water use for landscaping.

All required setbacks are required to be maintained as landscaped open space. All parking areas require a minimum five-foot landscaped setback to provide screening along the perimeter of off-street parking. Landscape setbacks and other peripheral green areas are usually defined by a barrier curb. Wheel stops or breaks in the barrier curb may be provided in order to allow for drainage into peripheral green areas designed to accommodate the stormwater discharge directed to them. Setback areas that are to be used for stormwater management will need to be designed for both stormwater discharge and screen requirements. No drainage may be directed onto the public way.

Existing healthy trees shall be preserved wherever possible. If a tree is removed, mitigation trees of at least equal value as that of the removed tree shall be provided as determined by a landscape professional. New trees that are part of a new development project and infill plantings shall be at least 1.5 to 2-inch caliper.

- B. **Native Vegetation** – Which can include grasses, forbes (wild flowers), shrubs, and trees are an excellent choice for landscaping and are encouraged as they have adapted to the area to survive a wide range of conditions ranging from hot and dry to moist. Densely rooted native plants are tolerant to the native conditions and once established, require less maintenance and watering. They also trap and use nutrients such as nitrates and phosphates that otherwise would become run off and pollute nearby streams. Appendix C- Suggested list of Native Vegetation includes some of the native vegetation that may be used in a development. .
- C. **Buffering and Screening** – All parking, loading, refuse enclosure outdoor storage and other service areas shall be screened from adjoining public or private roads or residential or other sensitive land uses.

Buffering and screening requirements may include any combination of the following: landscape width, plantings, fencing and berms. To achieve the desired buffering and screening the following minimum acceptable size for plant materials is suggested:

- Deciduous Trees – Two (2”) inch caliper
- Coniferous Trees – Five (5’) feet in height
- Shrubs – Two (2’) feet in height

Shrubs required for screening must have a minimum height of five (5) feet. All trees should be wire basket, B & B, or container grown. Smaller flowering trees and ornamentals will be centered at four (4’) feet maximum. Coniferous trees will be centered at four (4’) feet to five (5’) feet depending on desired effect.

All shrubs are to be planted in continuous planting beds. Planting beds will be mulched to a minimum depth of three (3”) inches and will be maintained weed free. Plantings consisting of trees and shrubs will be a minimum of 50% coniferous plantings.

#### 17. OFF-SITE ROAD AND OTHER IMPROVEMENTS

Existing County roads: When a proposed land development causes a need for improvements to off-site roads and dedication of right-of-way, the developer shall be responsible in conformance with County standards for the following:

In all cases, for the entire length of the proposed land development, the developer shall dedicate road width as identified in a Traffic Study. For unusual alignment or terrain conditions, the Planning Board and/or County Judge may require a greater width of right-of-way. The required width of right-of-way dedication shall be determined during the Planning Board review and approval stage; in any event said right-of-way width must bear a reasonable relationship to the needs created by the proposed land development.

When the proposed development is of a size and magnitude to show cause for additional off-site road improvements that the County does not have in its annual Plan, any off-site road shall be improved by and at the expense of the developer in accordance with County standards.

The road improvement cost shall include, but not be limited to, the costs of right-of-way clearing, roadway excavation and embankment, bridges, pipe and box culverts, and all other improvements as required by the County Road Department.

#### 18. GATED COMMUNITIES

- i. A gated community or subdivision is a residential or non-residential area containing more than two (2) lots in which access to the subdivision streets is restricted by the use of a guard house or electronic arm and in which residents may gain entry by using electronic cards, identification stickers, codes, or remote control devices. This definition of gated community shall also include large scale developments, residential or otherwise.
- ii. As it is unlawful to block public roads, roads in said communities or subdivisions must be private and thus the County will not accept the roads or streets for maintenance.
- iii. As there is a possibility in the future that gates may be removed and the residents may desire that the County accept the roads and streets; said roads and streets must still be built to the specifications outlined in the Benton County Road Plan.

- iv. Emergency access provisions shall be in compliance.

#### **§4.7 – PERFORMANCE STANDARDS**

This Ordinance establishes specific performance standards to ensure compatibility of adjacent land uses. Performance standards are provided for each development type as applicable herein.

Potential off-site nuisances shall be mitigated or abated by appropriate means. The means of mitigation shall be presented in detail and submitted with the application for a permit. The default standard for compatibility is that there are no off-site impacts exceeding pre-development conditions. Some impacts may be anticipated but not mitigated at the pre-development stage. Decisions shall reflect that applicants shall be responsible for addressing post-development nuisances. Any nuisance arising from a development requires appropriate mitigation. Furthermore, the inability of a project to meet the mitigation measures will deem the development incompatible. Examples of potential nuisance may include but is not necessarily limited to the following.

- A. **Noise:** no proposed use may create levels of noise that is hazardous or disruptive to the peace and enjoyment of adjacent properties. Three specific factors determine the impact of noise: intensity, frequency, and duration.
  - 1. Intensity: measured in decibels (dB) on a logarithmic scale.
  - 2. Frequency: measured in hertz (Hz) relates to the number of cycles per second of a sound wave.
  - 3. Duration: The length of time that a specific sound lasts.

Noise abatement might include but not be limited to noise barriers, limitation of the noise external to buildings, reduction of the activity, or other means appropriate to the site or noise-generating activity.

- B. **Vibration:** Excessive vibrations can disrupt daily community activities and over a prolonged period of time they can weaken or damage structures. Benton County may determine that perceptible vibrations at the property line constitute a nuisance. If vibrations are expected to be an impact from the proposed development or use, the Board may require a Vibration Study for the project.
- C. **Electrical Interference:** No use may interfere with the normal operation of radios, televisions, or other common electronic devices. Any equipment regulated by the FCC shall comply in full with said regulations.
- D. **Light and Glare:** No proposed use should result in excessive light and/or glare (or light patterns such as pulse or strobe) spilling onto adjacent properties that disrupts quality of life including rest or sleep or creates adverse physical or psychological impacts. Mitigation might include but not be limited to buffers or screening, light shielding, reduction in ambient light level produced, using different lighting methods, or other means appropriate to the site or glare-generating activity. A photometric plan may be required indicating that no lumens cross property lines.

- E. **Heat:** No proposed use should result in excessive heat emanating onto adjacent properties. Mitigation might include but not be limited to buffers or screening, shielding, reduction in heat level produced, using different heating methods, or other means appropriate to the site or heat-generating activity.
- F. **Fire or Explosion Hazard:** Uses that may create a likelihood of fire or explosion shall be reviewed by the appropriate fire department, the County Fire Marshal, and the Emergency Management Department. The scale or type of material may require external review by expert consultant which may be at the expense of the applicant. Mitigation may include the type of fire protection equipment to be required on site such as sprinkler systems or fire extinguishers. It may also cover the types of containers that such materials may be housed based on the degree of danger each may pose.
- G. **Noxious Fumes and Odors:** No noxious fumes, bad odors, or other vapors or billow should emanate from a subject property onto an adjacent property. Mitigation might include but not be limited to buffers or screening, filters, or other means appropriate to the site or fume/odor-generating activity.
- H. **Dust and Other Particulates:** No dust, particulates, or smoky billow should emanate from a subject property onto an adjacent property. Such air pollution is generally regulated at the federal or state level and, at minimum, uses that generate air pollutants are expected to meet these standards. Additional mitigation may be required locally based on specific established land uses adjacent and proximal to the proposed generating use. Mitigation might include but not be limited to buffers or screening, smoke filters, scrubbers, or other means appropriate to the dust or smoke-generating activity.
- I. **Toxic or Hazardous Materials:** No activity shall dispose of or inappropriately store or use hazardous, toxic, or damaging chemicals or other materials. Mitigation shall be based on the specific material and the specific site including the current surrounding land uses. Review shall be, at minimum, conducted by the appropriate fire department, the County Fire Marshal, and the Emergency Management Department. The scale or type of material may require external review by expert consultant which may be at the expense of the applicant.
- J. **Water or Soil Contamination:** No activity shall dispose of or inappropriately store hazardous, toxic, or damaging chemicals or other materials that contaminates the soil, groundwater, water bodies, wells, or other forms of earth or water. Consideration should be provided to the protection of natural resources, such as, Beaver Lake, a source of drinking water to the area. Mitigation can include reducing or eliminating the material on site, changing to a non-toxic substitute, the creation of appropriate storage facilities including but not limited to berms, filters, lining, concrete pads with suitable drains and filters, and/or other means appropriate to the location or contaminating activity. In some cases, the applicant may be required to remediate existing contamination prior to securing approval.
- K. **Safety and Security:** No use shall result in the creation of an unmitigated security or safety risk resulting from a resident population, visitor population, the externalization of projectiles, debris, or other material leaving the property, or any other phenomenon that results in an increased safety or security risk to others outside of the property where the activity is taking place.

Mitigation measures may include but not be limited to prevention of any projectiles leaving the property and shall result in elimination of risk to external properties.

- L. **Wastewater:** Any parcel or tract of land subject to the uses of land listed in §4.2.C shall have suitable provisions for adequate wastewater removal. This shall include either a connection to a sewer system with adequate capacity to add the new land use or a septic system adequate to service the planned needs of the use. For any septic system, the parcel or tract must be able to perc and provide a primary and secondary septic field as per the requirements of the County Health Department.
- M. **Other Uses:** All other nuisance as applicable or specific to the proposed development may require appropriate mitigation to the satisfaction of the Planning Board.

#### **§4.8 – PUBLIC HEARINGS**

##### **A. Applicability**

A public hearing shall be required of all applications for the following development review cases:

1. Major subdivision – Preliminary subdivision plat and Final subdivision plat
2. Telecommunications facilities (as applicable)
3. Mobile home park
4. Planned Unit Development
5. Development Master Plan
6. Site plan review (as applicable)
7. Variance and/or Waivers
8. Other proposals requiring a public hearing

Public hearings may not be applicable to the following:

1. Minor subdivision
2. Lot line adjustment or lot recombination
3. Any other application subject to administrative approval as per this Ordinance.

##### **B. Procedures**

Public hearings shall adhere to the procedures established as follows:

1. Notice for Public Hearing:
  - a. Notice to Adjacent and Proximal Properties: Notice shall be sent by the applicant to all property owners within a 500 feet radius from the property line, based on current records of the Assessor's database, via certified mail with return receipt. Such notice shall be sent no less than fourteen (14) days prior to the scheduled public hearing. Planning staff may notify additional property owners as directed by the Planning Board.

- b. Notice Posted: The Planning staff shall post the notice of public hearing at the County Administration Building as well as on the County’s website calendar at least 48 hours prior to the convening of the public hearing.
  - c. Public Hearing Sign: The applicant shall install a public hearing notice sign on each street frontage of the subject property. Requirements for posting the sign shall be as follows:
    - i. Sign shall be minimum 2 feet x 4 feet (2’x4’) in dimension and shall contain the following information: location of the proposed development, site plan, meeting date and location. See Appendix E - Public Notice Sign template.
    - ii. Sign shall be posted in a location clearly visible, accessible, and readable from the adjacent right-of-way.
    - iii. Sign shall be posted at least fourteen (14) days prior to the public hearing. Administrative applications shall be posted for minimum of one (1) week upon making application.
    - iv. Signs shall remain in place until after the date of the hearing.
    - v. Each frontage of the subject property shall contain one notice sign per 300 feet of road frontage.
  - d. Courtesy Notice: The Planning staff shall also notify the media, the Quorum Court, The County Judge, and County Administrators of the agenda of the Planning Board meeting including both TAC and Public Hearing agendas.
2. Public Hearing: Once an application has been cleared by the Planning Board as ready for public hearing, staff shall move the item from the TAC to the Public Hearing portion of the agenda. The Board shall hear the item within a scheduled public hearing as per the provisions of the bylaws of the Planning Board. The public hearing shall be concluded prior to the vote of the Board. This may be conducted in one of two ways:
- a. The Board may open each application item as a separate public hearing and vote upon conclusion and closing of the public hearing after which no further public comment may be taken, or
  - b. The Board may hear each application under the public hearing portion of the agenda and close the public hearing after which the Board may vote on all of the items deliberated on during the open public hearing.

**§4.9 – DEVELOPMENT REVIEW COMMITTEE**

- A. **Generally**: Prior to undertaking any development or use of non-exempted land in unincorporated Benton County, a development approval shall be obtained in accordance with the policies of this Ordinance.

The Development Review Committee is established to provide the public with an opportunity to meet with staff members from each County agency and members of other jurisdictional agencies in order to discuss their project in detail.

**B. Development Review Committee Membership:** The DRC is composed of a chairperson and a designated representative from each of the following entities as applicable:

1. Planning
2. Road Department
3. Emergency Management
4. Fire District
5. Fire Marshal
6. Health Department
7. Utilities
8. E-911/Addressing
9. Environmental Services
10. School Department
11. And other jurisdictional agencies, such as the Sheriff's Department; ADHD, ADEQ, Water District, are notified of applications submitted to Benton County for review.

**C. Procedures:** The following procedures shall be followed for review of a development proposal by the Development Review Committee:

1. Submittal of Plans: Applicants seeking development approval shall contact the Planning Department prior to a scheduled DRC meeting along with a preliminary plan with sufficient detail to allow all agencies to review and comment in regard to all elements of the development.
2. Committee Meeting: On the scheduled date, the DRC shall meet to discuss the plan submittal. The meeting shall be conducted as follows:
  - a. Convene Meeting
  - b. Applicant Presentation
  - c. Review Agency Discussion: Each review agency shall provide a brief report and submit their memorandum to the DRC chair. Discussion may include addressing any conflicting comments or prescriptions.
  - d. Application: The applicant will submit a complete application packet to the planning Department for review.

#### **§4.10 - ASSURANCE FOR COMPLETION AND MAINTENANCE OF IMPROVEMENTS**

To ensure that the County has the assurance that the construction and installation of site improvements such as street surfacing, curbs, gutters, storm sewers and appurtenances, sanitary sewer, waterlines, street lighting, street signs and other required improvements, the owner/subdivider/developer shall provide performance surety.

**A. Approval with Financial Performance Guarantee (FPG)** – Before final approval of the Final Plat of subdivision by the Planning Board, the owner shall agree to complete the required improvements

and guarantee installation of any standard or special conditions applied by the Planning Board as shall be provided in the Letter of Decision for the subdivision and for all lots in the subdivision. The County will accept the subdivision and issue a Certificate of Final Plat approval subject to the following guarantee requirements:

- B. **Performance Surety** – The owner/developer shall furnish either a bond, executed by a surety company, cash deposit (certified or cashier’s check), escrow account, or Irrevocable Letter of Credit (form must be approved by the County Attorney) equal to the cost of construction of such improvements as shown on the plans, and based on a detailed, itemized estimate certified by a registered professional engineer in Arkansas.
- a. Amount: The owner/developer shall file a performance surety in an amount determined by the Planning Board in consultation with the appropriate County departments and other agencies (or contracted consultants at the applicants expense, as necessary), to be sufficient to cover the cost of all or any part of the improvements specified in this Ordinance and to cover the costs of inspections, record plans, street acceptance plans, and legal work, and a 20% contingency/inflation factor. Warranty principal shall be equal to the estimated cost of those components of the entire project which shall be dedicated for public or common use and shall cover workmanship and materials.

Surety bonds must be drafted so that the only requirement that must be met for the Planning Board to draw on the letter is to notify the financial institution (grantor) that:

*"We have incurred liability by reason of the failure of the applicant/developer/owner, within ninety days of the expiration of this letter, to complete the construction of their project (insert name of subdivision and plans) in accordance with the final subdivision plans and submittal, the subdivision approval decision letter, and the Benton County Subdivision Regulations. The amount drawn, which may be more than required to complete the project, will be held in a segregated bank account until the work can be bid competitively and the bid awarded and paid for or until the contract for the work is otherwise let and the work paid for. Any excess over the cost of completing the work will be returned to the grantor."*

Such bond shall be approved as to form, the surety or financial institution, and manner of execution by the County. For any surety bond:

- i. The surety must agree that any litigation stemming out of the bond will take place in Arkansas.
- ii. The bond must include the name and address of the person to be served for any legal action.
- iii. The amount shall be sufficient to cover the costs of completion of all project infrastructure including streets and roads, curb and gutter, culverts and other stormwater facilities, landscaping and buffers, required park or recreational amenities, and any other element of the approved project.

Surety bonds shall be submitted to the planning department and held by the Treasurer until such time performance warrants release.

- C. **Term** – The performance surety shall be deposited immediately upon the issuance of a decision letter, prior to recording the Plat with the County Circuit Clerk office. The bond shall be valid until the work is complete.

Alternatively, the performance bond shall be issued for a term of two years and be automatically extendable for two years from the date of execution. Before such bond is accepted it shall be approved by the County Attorney.

The performance surety, as previously described herein, shall be contingent upon the completion of such improvements, and the required (1) one year warranty on same as required in this Ordinance within a maximum period of three (3) years of the date of such surety. There shall be at least a three (3) month period between the completion date of all improvements and (1) one year warranty period and the expiration date of any bond. Said three (3) month period shall give the County the opportunity to collect the financial performance guarantee so that it will be able to complete the necessary improvements in case (a) the developer is unable to do so; and/or (b) the Planning Board denies any requests for an extension of time. The term “Warranty” shall apply to and include all workmanship and materials.

- D. **Extension of Term** – Upon written request from the applicant, the Planning Board may, at its discretion, grant an extension of time, and such agreement shall be executed and affixed to the FPG. Such an agreement for an extension shall not be effective until the surety delivers to the Planning Board a written statement that the surety agrees to the proposed alteration of the completion schedule and that such alteration shall not relieve or affect the liability of the surety company.

- E. **Failure to complete all improvements** as required by these provisions within the time allotted shall cause the Planning Board to:

- i. Draw upon the performance guarantee in order to complete said improvements; and/or
- ii. Schedule a Public Hearing in order to rescind approval of the subdivision in accordance with appropriate sections of these regulations.

F. **Inspection of Improvements**

Planning staff shall conduct periodic inspections during the installation of improvements to ensure conformity with the approved plans and specifications as required by the Planning Board.

The owner/developer shall notify planning staff at least 24 hours before each phase of the improvements is ready for inspection. The County will require improvement inspection fees in accordance with the Fee Schedule.

G. **Maintenance of Improvements**

The owner/developer shall be required to maintain all improvements, if required, until approval of said improvements. Once the required improvements have been constructed and approved in the subdivision by the County, and prior to the release of the performance surety, the subdivider shall post with the County a maintenance surety in the amount of 20% of the original performance in a form as approved by the County Attorney.

The owner/developer shall be responsible for the maintenance of the improvements installed. This maintenance shall include, but not be limited to, winter maintenance items such as snow and ice control, erosion and sediment control measures, debris, and mud tracking onto the County road system.

The owner/developer shall be responsible for all routine maintenance during the maintenance period. This shall include, but is not limited to, mud tracking, erosion and sediment control, any items relating to public safety and convenience, any items identified by the County Officials as part of the acceptance process, repair, and corrections of failures due to faulty construction or design. The subdivider shall also make repairs needed due to work done by utility companies in the installation of utilities and shall repair all failures, which occur for any other reason during the guarantee period.

Failure to comply with the above items may result in forfeiture of the maintenance guarantee and other legal action if warranted.

- i. **Maintenance Scope:** All elements associated with development approvals (hereafter referred to as approval elements) such as infrastructure, landscaping, screening and buffering, mitigation measures generally, design criteria, etc. shall be properly and functionally maintained in perpetuity or the term of the development subject to the approval.
- ii. **Maintenance Responsibility:** The responsibility for maintaining approval elements shall rest with the owner of the property. While the property or buildings and structures may be leased, the responsibility for any violation of this Ordinance, including failure to maintain approval elements, solely rests with the owner. Note that any sale of the property short of fee simple will not transfer the responsibility for a property from a current owner.
- iii. **Maintenance Standards:** Approval elements shall be properly maintained in a condition or state that is functional, not unsightly or deteriorated or degraded, meets the purpose for which it is intended, and if plant material, shall be kept in a healthy condition.
- iv. **Maintenance Guarantee:** The County shall retain 20% of the principle amount for all the improvements as a maintenance surety for a year after the release of performance guarantee to ensure maintenance of all aspects of approval, such as, landscaping, curb gutters, sidewalks, paving and others.

#### **§4.11 - RELEASE OF PERFORMANCE GUARANTEE**

1. **Procedures for Release** – The subdivider may, upon completion and installation of required improvements in a subdivision, the completion of record plans and street acceptance plans, as specified in this Ordinance and the completion of a one (1) year labor and materials warranty period make formal application, in writing, to the Planning Board for full release of any

outstanding performance guarantee, before the Planning Board releases the full interest of the County in said performance guarantee.

2. **Certificate of Completion** – The owner/ developer shall submit certificate or statement supplied by the project's registered professional engineer that that the work has been completed in compliance with these regulations. The Planning Board may obtain in writing from the Road Department or from a registered professional engineer chosen by the Planning Board, a Certificate of Completion (see Appendix F) that all work required by this Ordinance has been constructed in conformance with the approved construction plans.
  - a. The applicant shall present the Planning Board with letters from the water, electric, telephone, gas and cable TV companies (as applicable) stating that their respective underground systems have been installed to their satisfaction.
  - b. Obtain from the applicant a set of record construction plans. Approval of said plans by the Planning Board shall take place after review of the former by the Road Department.
  - c. Receive from the applicant street acceptance plan or plans and necessary documents. Said plans and documents, after approval by the Planning Board and the Road Department, shall be presented by the Planning Board to the County Judge for a formal road acceptance.
  - d. Dedication of Utilities: The applicant may be required to execute an instrument, in a form approved by the Planning Board, transferring to the County or to an approved public utility company, without cost, valid unencumbered title to all applicable sanitary sewers, water mains, and appurtenances thereto, and other utilities constructed and installed in the subdivision of approved portion thereof, and conveying to the County or to an approved public utility company without cost and free of all liens and encumbrances, perpetual rights and easements to construct, inspect, repair, renew, replace, operate and forever maintain such sanitary sewers, water mains and other utilities, with any manholes, conduits, and other appurtenances, and to do all acts incidental thereto, in, through, and under the whole of all streets in the subdivision or approved portion thereof, and if any such sewers or water mains have been constructed and installed in land not within such streets, then in, through, and under a strip of land extending fifteen (15) feet in width on each side of the centerline of all such sewers and water mains. The Planning Board may require greater than fifteen (15) feet in width on each side of the centerline where it deems necessary.
3. **Final Inspection** – The planning staff or other County department shall conduct a final inspection prior to releasing the guarantee.
4. **Release of Performance Surety** – If the Planning Board determines that all improvements as shown on the approved Final Plan and all required plans and legal documents have been completed satisfactorily, it shall release all the interest of the County in such performance guarantee and return the bond to the person who furnished the same.

5. **Failure to Complete Improvements** – If the Planning Board determines after inspection that said construction or installation has not been completed, or wherein said construction or installation fails to comply with these Regulations, the Planning Board shall send by registered mail to the applicant and to the County Clerk the details wherein said construction or installation fails to comply with its rules.
  - a. The applicant shall have thirty (30) days after receipt of such notice to correct all problems mentioned in the above. Failure of the applicant to finish all the necessary work within said thirty (30) days shall cause the Planning Board to draw upon the bond deposit of money as mentioned below.
  - b. Any such bond may be enforced by the Planning Board for the benefit of Benton County upon failure of the performance for which any bond was given to the extent of the reasonable cost to the County of completing such construction and installation.
  - c. Review and sign off from the Planning staff that any required landscaping has been installed in accordance with the approved subdivision. Additionally a statement from an arborist or certified nurseryman indicating that the plantings and post-planting care has been performed in conformance with the Decision of the Planning Board. Alternatively a three (3) year warranty period from the time of the installation of plantings or replacement of original plantings may be offered.
6. **Recording of Plan.** The applicant, shall, within ten (10) days after the final As-Built Plan has been endorsed, record said plan and whenever applicable, the Planning Board's Letter of Decision, public easements (plans and documents), restrictive covenants, master deeds, etc., at the Benton County Circuit Clerk The cost of said recording shall be borne by the applicant.

**§4.12 – RESERVED**

## CHAPTER V – SUBDIVISION REGULATIONS

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### §5.1 – APPLICABILITY AND INTENT

### §5.2 – EXEMPTIONS

### §5.3 – RULES FOR SUBDIVISION DESIGN

### §5.4 – MINOR SUBDIVISION AND FAMILY SPLIT – UP TO 5 PLATS

### §5.5 – MAJOR SUBDIVISION- MORE THAN 5 PLATS

### §5.6 – MODIFICATION TO AN APPROVED SUBDIVISION

### §5.7 – DEVELOPMENT MASTER PLAN (DMP)

### §5.8 – PLANNED UNIT DEVELOPMENT (PUD)

### §5.9 – RESERVED

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### §5.1 APPLICABILITY AND INTENT

- A. **Applicability:** Pursuant to the adoption of the Benton County Road Plan, the subdivision ordinances have been adopted in the unincorporated areas in Benton County. The regulations in this chapter shall apply to all plats of two (2) or more parcels categorized as minor or major subdivision and special subdivisions such as master development plans, planned unit developments, modifications to approved plats, and all other types and forms of commercial and industrial subdivisions.
- a. No land may be subdivided through the use of any legal description other than with reference to a plat approved by the Planning Board in accordance with this Ordinance.
  - b. The county recorder shall not accept any plat in the unincorporated area of the county not within the exercised territorial jurisdiction of a municipality for record without the approval of the County Planning Board.

"Subdivision" means

- the division or re-division of a lot, tract, or parcel of land, by any means, including by means of a plan or plat or a description by metes and bounds, into two (2) or more lots, tracts, parcels or other divisions of land, for the purpose, whether immediate or future, of lease, of the transfer of ownership or of building development;
- the division or allocation of land for the opening, widening or extension of any street or streets, or the division or allocation of land as open spaces for common use by owners, occupants or leaseholders, or as easements for the extension and maintenance of public sewer, water supply, storm drainage or other public facilities;
- The division of any parcel of land shown as a single unit on the last preceding tax roll, into two or more parcels, sites, or lots, for the purpose, whether immediate or future, of transfer of ownership, except as otherwise exempt.

- B. **Intent:** This chapter establishes standards and procedures for division of land as follows:
- a. Procedures for insuring the processing of land subdivision plans, relative to the number of lots or parcels and the extent of improvements required. The intent is to streamline the review and approval process for subdivisions that may have a low impact on public resources, facilities and services. Based on the above criteria the following types of land subdivision is reviewed:
    - i. Minor Subdivision – Division of a parcel of land involving no more than five (5) lots (inclusive of the remaining or original parcel), site, or lot that meets all the minimum requirements of this ordinance.
    - ii. Major Subdivision – Subdivision of land that does not qualify for a minor subdivision.
  - b. Minimum requirements for division of land including minimum requirements for access, lot width and setbacks for minor and major subdivision. Additional design standards shall be applicable for major subdivisions including standards for design layout of lots, streets, adequate provision for water supply, utilities and drainage, for preliminary plat and final plat.
  - c. Procedures for encouraging and promoting flexibility and ingenuity in the layout and design of subdivisions and land development, and for encouraging practices which are in accordance with contemporary and evolving principles of site planning and development including, but not limited to, Development Master Plan, Planned Unit Developments.

## **§5.2 EXEMPTIONS**

The following division of land is exempt from this ordinance:

1. Division of land in the unincorporated area in Benton County resulting in parcels of land 25 acres or more in size;
2. Division of land for agricultural purposes into parcels that do not involve any new streets or easements of access;
3. Division of land that is ordered by a court;
4. Dedication of land for public road widening or utility or access easements.
5. Lands located in the Planning Boundary shall be developed in accordance with the particular city's standards in accordance with §1.5-Planning Boundary and Review Coordination.

## **§5.3 RULES FOR SUBDIVISION DESIGN**

The design of each subdivision shall be coordinated with adopted plans or plans in effect. Each subdivision should relate harmoniously to the community and adjacent area so that the development shall proceed in an orderly, safe, and efficient manner. Subdivision in every respect should be designed to respect street and transportation corridors, traffic patterns, and drainage. All subdivisions should be

planned and platted in such fashion as to minimize the impact of the development on the existing community and to establish a traffic pattern in as safe and orderly fashion as possible. The following rules shall be followed for each subdivision:

1. **Suitability for Division/Improvement** – All lands to be subdivided shall ascertain the suitability of lands for development based on existing site topography and soil survey to ensure safe access and provision of on-site septic facilities. Any land that the Planning Board finds unsuitable for subdivision or development due to flooding, improper drainage, steep slopes, ledge or rock outcrop, adverse earth formations or topography, or other features that will reasonably be harmful or detrimental to the safety, health, or general welfare of the present or future inhabitants of the subdivision and/or its surrounding areas, shall not be subdivided or developed unless adequate methods are formulated by the developer and approved by the Planning Board, which may require the recommendation of a licensed civil engineer retained by the County, to address or mitigate the problems created by unsuitable land conditions. Such land shall be set aside for uses that do not involve any danger to public health, safety, and welfare. The applicant shall provide a written description of the existing site conditions. Development on hillside or along steep slopes shall be restricted as follows:
  - A. **Natural Site Characteristics** – All subdivisions should be designed so as to retain and exploit natural topography, horticultural development, and natural beauty whenever possible. Consideration shall be given to the protection of natural resources, such as wetlands, floodplains, existing streams, creeks or open drainage channels on-site, and sensitive biological resources. Subdivisions must demonstrate protection of said resources when applicable.
    - i. The development of hillside areas shall preserve the existing natural contours and natural features, where possible. Structures and required provisions for access and infrastructure should be designed to ensure public safety and protection of natural features. Erosion and sediment control measures shall be implemented to the satisfaction of the Planning Board. While observing minimum lot area standards of this Ordinance, cluster development may be utilized to reduce grading alterations and preserve the natural features.
    - ii. Natural tree cover should be preserved whenever possible. Landscaping strips are encouraged to provide visual and sound separation and relieve the monotony of uniform fronts. The Planning Board reserves the right to require fences, landscaping strips, tree lines, berms, and other similar installations or constructions to provide a buffer area between commercial or industrial sites in adjacent residential areas.
  - B. **Special Flood Hazard Areas** – All of the proposed platted land which is subject to inundation and identified as a Special Flood Hazard area shall be clearly designated on the plat. All lots to be platted in a flood area shall have sufficient land area above the established 100 year frequency flood elevation to meet all applicable building area restrictions. Main streets shall be outside the floodplain.
2. **Local Facilities and Utilities** – All subdivisions shall be planned, engineered, and laid out in such a manner as to promote the economical inclusion and expansion of necessary public facilities, utilities, and commercial services. Contiguous and expanding development is desired. Sites for public lands

facilities, and easements should be provided for in each subdivision according to existing law, custom, and usage.

3. **Access and Road Improvements** – All subdivisions must demonstrate legal access to a public or private road. Roads must be able to meet the County’s road standards unless an exception is granted. Existing or proposed easements must be sufficient to accommodate road improvements that are necessary to meet County road standards. Full documentation of easements or other access rights should be obtained and reviewed. Costs of improving access roads to meet standards should be estimated and considered with a consulting engineer.

All private road subdivisions shall be required to comply with sight distances when a private road intersects with a county or public road.

Any gravel private road that intersects with a paved county or public road at such an incline such that the gravel will be washed or carried out onto the county or public road must be paved for a distance up to 30 feet. A lesser amount may be required depending on the gradient or condition of the drive.

4. **Maximum Road Length Requirements** – The County fire code contains maximum lengths for roads with dead ends. When a subdivision has only one legal access route, this is considered a dead end road and length maximums apply. The applicant should consult the local fire district or a fire planning professional early in the process to determine if this affects the subdivision design.
5. **Maximum Road Grade or Street Access Grades** – All public or private access to individual lots/parcels in a subdivision shall have a grade that shall not exceed ten percent (10%) slope. A variance of up to 15% slope may be considered by the Planning Board for distances up to three hundred feet (300’) subject to appropriate improvements such as concrete surfacing, curb and gutters or retaining walls based on storm drainage requirements to the satisfaction of the Planning Board. Grades exceeding fifteen percent (15%) shall not be permitted, unless approved by the Planning Board.
  - a. All changes in grade shall be connected by a vertical curve of a reasonable radius to assure adequate sight distance.
  - b. In approaching intersections, there shall be a suitable leveling of the street grade, generally not exceeding five percent (5%), for a distance of not less than fifty feet (50’) from the nearest line of the intersecting street.
  - c. To the extent possible and practical, all minor streets and driveways should be sloped away from the major street or County road to prevent water and debris from being deposited on the major street or road.
  - d. The grade within the intersection should be as level as possible, and consistent with proper provisions for drainage.

6. **Water Availability** – Whether the subdivision will depend on a private well or a public water or water district, a reliable and clean water supply must be identified prior to approval of a project. Applicant shall consult with the local water district or a groundwater engineer as applicable.
7. **Waste Water and Sewer** – A subdivision plat must identify and have access to a viable sewer system. Private septic and waste water shall be approved by the Health Department. Note that depending on the type of soil, some portions of the county cannot support septic systems due to poor percolation rates.
8. **Drainage** – Drainage swales or existing open drainage channels shall be identified on the Plat to identify the stormwater drainage options. Low Impact Development options may be included in the subdivision design, where feasible. Rock swales may help to slow and convey stormwater runoff. Where steep grades area a concern, the swales may need to be engineered to prevent undercutting.
9. **Open Space** – Provisions for open space and useable recreation areas shall be provided by the developer whenever practicable.
10. **Permit** – All Subdivision must be consistent with the adopted goals and policies of this ordinance, Benton County Land Use Guide and all State and Federal requirements.

**§5.4 –MINOR SUBDIVISION AND FAMILY SPLIT – UP TO 5 PLATS**

**A. Introduction**

Minor subdivision is the division of land up to five (5) parcels each having a minimum parcel size of one (1) acre. The special rules and regulations regarding the minor subdivision process are intended to create a procedure allowing smaller subdivision and family splits to bypass the formal procedures set forth in the major subdivision regulations.

Note that all minor plats with 3-5 parcels also require approval from the Health Department. Applicant shall be responsible for providing a copy of the Health Department approval prior to administrative approval by Planning staff.

**Figure 5.1- Examples of Minor Subdivision Plats**



The minor subdivision process intends to give relief to tract owners wishing to develop tracts that comply with the following minimum standards of development and review criteria:

**§5.4.1 MINIMUM REQUIREMENTS FOR MINOR SUBDIVISION AND FAMILY SPLIT:**

1. Not Part of Existing Subdivision – A minor subdivision shall be deemed to occur only to a division of lands described by a metes and bounds description which is not a part of an existing County subdivision.
2. Divided Only up to five Tracts – A minor subdivision shall be deemed to occur when real estate is divided into five (5) or less tracts or parcels.
3. Restriction on division – Concurrent lot splits of the same parcel shall be prohibited to prevent a series of lot splits on the same parcel. In circumstances where a series of tract splits would result in more than two (2) parcels, it may be reviewed as a major subdivision to the satisfaction of the Planning Board.
4. The Proposed Subdivision Is Not Phased – All phased subdivisions or proposals resulting in expansion of the subdivision shall be reviewed as a major subdivision.
5. Access – Every lot shall abut or be contiguous to a public road or street or dedicated private drive, easement, or other method of access. Land locked parcels shall not be permitted. All dedicated private drive shall have a minimum width of thirty feet (30') for residential subdivision and minimum fifty feet (50') for commercial and industrial subdivisions.
6. No Improvements Required – The subdivision does not require dedications, vacations, changes in alignment of easements or rights-of-ways, or extensions of utilities.
7. Special Flood Hazard Areas – The proposed subdivision is approved by the County Health Department and the buildable area including all access and septic is outside the Special flood Hazard Area (SFHA) or complies with the Floodplain development permit requirements as outlined in Chapter X-Flood Damage prevention of this Ordinance.
8. Utility Easements – Public utility easements at least 15 feet in total width may be required along the rear, front, and sides of lots where needed for the accommodation of a public utility, drainage, sanitary structures, or any combination of the foregoing, and at least 20 feet total width where sanitary sewer or waterlines will be placed. All existing and proposed easements shall be identified.
9. Others – The minor subdivision or family split is designed for only one (1) single family dwelling on each lot or parcel with a single parcel number.
  - i. Multi-family uses or placing more than one (1) single-family dwelling unit on any one (1) lot is prohibited.

- ii. Only one (1) manufactured home or mobile home may be placed on a lot.
- iii. For family subdivision, the parent tract shall be owned by the subdivider for at least for at least one (1) year prior to filing an application for a Family Property Division.

A minor subdivision that does not meet the minimum requirements or criteria shall be reviewed as a major subdivision.

10. No waivers or variances from these regulations can be requested.

**§5.4.2** Benton County and the Benton County Planning Board reserve the right to deny, modify, or apply existing subdivision procedures to all minor or family subdivisions. Any provision in this section is subject to waivers and/or variances on approval from the Benton County Planning Board.

### **§5.4.3 REVIEW PROCEDURE**

1. Pre Consultation – Applicant shall pre-consult with planning staff to determine if the proposal is deemed a minor or major subdivision.
2. File Application – Applicant files application for minor subdivision along with four (4) copies of a minor subdivision plat, fees, and other supporting documents.
3. Administrative Approval – Minor subdivision shall be reviewed administratively by the Planning staff. The presentation of a preliminary plat or a final plat as required for a major subdivision is usually not necessary.
4. Recording – Once approved, the applicant shall record the approved minor subdivision and provide one (1) endorsed and recorded copy to the County Planning Office within 120 days. If such plan is not recorded within said time, the approval shall expire.

### **§5.4.4 MINIMUM INFORMATION TO BE INCLUDED ON A MINOR PLAT**

The following information is required on a Plat showing a minor subdivision:

1. **Size:** The plat shall be of sufficient size to clearly include and read all plan elements. No plan shall be smaller than 11" x 17," nor larger than 18" x 24".
2. **Administrative Elements:** Plans shall include a north arrow, scale, legend, title block with project name, applicant/owner information, designer information, date and version number, address and parcel number of site; and an endorsement stamp for the Planning Board which shall read: "The Planning Board, based on an approval granted to the applicant on [date] hereby endorses this plan as meeting all of the requirements of a Tract Split."
3. **Signed by a Registered Surveyor:** The survey plat of a tract split must be signed by a licensed registered Arkansas surveyor.

4. **Reference to Deed of Record:** Reference to the parent tract deed of record shall be provided on the plat.
5. **Size of Parent Tract:** When the parent tract of a proposed tract split exceeds fifteen (15) acres, the survey of the remainder of the parent parcel may be omitted from tract split plat instrument provided the following is located and shown on the plat:
  - a. An established boundary line (i.e. a section line, quarter section line, quarter-quarter section line, etc.).
  - b. An inset map that illustrates the relationship of the parent tract to the smaller tract (s).
6. **Area or Vicinity Map:** The plat must contain a small area or vicinity location map of the property to be divided sufficient to identify the general area and location of the tract split. For plans that do not provide the full extents of the parent tract, the area map shall also serve as the map that shows each lot split as part of the parent tract.
7. **Relation of Smaller/Larger Tracts Shown on Survey:** All tracts must be shown on the same survey or plat instrument. The relationship of the smaller to the larger tracts must be shown and each of the tracts must be clearly identified by separate legal description.
8. **Setbacks:** The plat must show all applicable setbacks. The plat and both tracts shown therein must additionally show a 25-foot building setback from the road right-of-way.
9. **Site Improvements:** The survey tract or plat must show all applicable site improvements including building, structures, and site elements such as property line fences, walls, well houses, proposed easements, utility easements and all other matters of record.
10. **Existing lateral Line Fields and septic information, Water Wells, and Utility Easements Shown:** The survey tract or plat must identify the location of existing lateral line fields to the extent plotable, septic tank location, clean out, alternate field where indicated by permit from Arkansas Health Department, existing water wells, well houses, existing easements, and all other utility easements. Where health department permits are not available, State acceptable methods of testing and verification may be required to confirm the viability and adequacy of septic system for current and future usage.
11. **Statement of Non-Assurance from Department of Health:** All tract splits must contain a statement that approval of the plat does not carry any assurances that the tract or tracts will qualify for a septic system permit from the Arkansas Health Department.
12. **Statement of Non-Buildability:** Plans shall include the following statement: "Approval of this plan does not in any way indicate that any of the lots on this plan are buildable according to the Planning Regulations of Benton County, Arkansas, nor an endorsement by the Planning Board of said buildability of said lots".

13. **Easements** – All easements shall be legally described and identified on the Plat.

**§5.4.5 SUPPLEMENTARY INFORMATION FOR MINOR SUBDIVISION WITH THREE-FIVE LOTS**

Lot grading and drainage plan, illustrating a plan for the handling of surface and subsurface drainage, showing proposed finished grade elevations, the type, size, location and outlet of all existing and proposed drainage systems, swales, easements, water and sanitary sewer services, and the proposed ground cover may be required by Planning staff on the basis of the characteristics of the subject property. See Appendix B – Sediment and Erosion Control Best Management Practices.

An inspection of each proposed minor subdivision may take place to verify that there is adequate drainage and outlet before lots will be approved.

**§5.5 –MAJOR SUBDIVISION – MORE THAN 5 PLATS**

All division of land that is not minor is considered a major subdivision. Major subdivision shall require review and approval of the Preliminary Plat and Final Plat by the Planning Board.

**Figure 5.2- Examples of Major Subdivision Plats**



**§5.5.1 –TECHNICAL REVIEW CRITERIA FOR DESIGN OF MAJOR SUBDIVISION**

**A. Survey Monuments** – Monumentation for the boundary corners of the subdivision shall be concrete monuments or monuments set in concrete. The concrete monuments shall be four inches (4”) in diameter for the round type and 4” x 4” for the square type. The length shall be at least twenty-four inches (24”) and when set, allow the top to be three inches (3”) above the ground. Iron rod type monuments shall be at least one-half inch (1/2”) in diameter, at least sixteen inches (16”) long, and

visible above the ground when set. Monuments shall be set at all corner points and angle points and care should be taken to reference any monuments that are in places where they are likely to be disturbed or lost themselves. Point identification shall be placed at all lot corners. "T" stubbed metal fence posts should be driven beside the concrete monuments for protection and recovery for future use.

**B. Lot or Parcel Size** – Lots within subdivisions shall meet the following criteria:

1. **Size:** All subdivision lots shall be a minimum one (1) acre in size except as may be modified by the Planning Board for unique development area, lot constraints or characteristics, or as may apply to a special development type such as a PUD, conservation subdivision, or other optional method as may be provided for in these regulations. Lots or parcels that require both a septic system and water well shall be sufficient size to satisfy State Health Department requirements.
2. **Shape:** The shape and orientation of residential lots shall conform to the design of the subdivision. The Planning Board shall judge lot shapes on the type of development and the use for which the lot is intended.
3. **Lot Depth:** Excessive depth in relations to width shall be avoided whereby a ratio of length to width shall not exceed 4:1. Where practicable, side lot lines shall be approximately at right angles to the right-of-way line of the street on which the lot faces.
4. **Double Frontage:** Double frontage or backing lots shall be prohibited except as may be varied based on hardship. Lots bordering on existing roads may sometimes be reversed and front on a subdivision street paralleling the thoroughfare at a distance appropriate to lot depth. In this case, all private driveways shall connect with such subdivision street. Access restrictions shall be denoted on the plat.
5. **Corner Lots:** Dimensions of corner lots shall be large enough to allow for the erection of buildings, observing the minimum front-yard setbacks from both streets.
6. **Dimensions:** The minimum lot dimensions including setbacks and lot width shall conform to the provisions of Table 5.1 below:

**Table 5.1 – Dimensional Requirements for Conventional Subdivisions**

<b>Dimensional Criteria</b>	<b>Requirement</b>
Lot Size, Minimum	One (1) Acre or 43,560 s.f.
Lot width, Minimum	One-Hundred twenty (120') Feet
Length: Width Ratio, Maximum	4:1
Front Yard (Building) Setback	Twenty-Five (25') Feet
Side Yard and Rear Setback	Ten (10') Feet
Street Yard Side Setback (Corner)	Twenty-Five (25') Feet

### C. Public or Private Road and Circulation

1. County Jurisdiction of Road Construction Outside Subdivisions: Any road or street outside or adjacent to a subdivision shall comply with the Benton County Road Plan. In addition, on existing roads which are adjacent to a proposed subdivision, additional right-of-way may be required.
2. Private Road or Street: Every lot shall abut or be contiguous to a public road or street or dedicated private drive, easement, or other method of access. Land locked parcels shall not be permitted. All dedicated private roads shall have a minimum width of fifty feet (50') for major residential, commercial and industrial subdivisions. In a planned unit development, private easement or other non-public access may be substituted.  
All private roads connecting the lots to the county road must be constructed to the specifications noted below. Before final plat approval, the road superintendent shall visually inspect the road to ensure that general compliance with the specifications noted below has been met:
  1. Fifty-foot road right-of-way;
  2. Fourteen-foot wide road surface with eight-inch compacted SB-2, or six-inch compacted SB-2 on a prepared subgrade;
  3. Four-foot shoulder;
  4. Four-foot ditch;
  5. Ten (10) percent maximum grade;
  6. Fifty-foot minimum cul-de-sac radius at the end;
  7. Drainage provided with adequate pipes and culverts as necessary.
  - a. A development that utilizes, in whole or in part, a private road for access shall be referred to as a "private road development" or "PRD."
  - b. The plat shall note, in a noticeable fashion, the following, "NOTICE: THIS ROAD IS NOT CONSTRUCTED TO THE COUNTY STANDARDS. THE MAINTENANCE OF THE ROAD IS THE RESPONSIBILITY OF THE CURRENT AND FUTURE PROPERTY OWNERS."
3. Road Design Generally: Streets shall be designed to efficiently connect into the existing County street and road system and shall not create excessive traffic, dangerous intersections or sight distances, or excessive paved area. Design should ideally minimize the length of streets, provide for interconnection, and avoid lengthy dead-end streets in order to maximize the efficiency and minimize the maintenance load for such streets. Collector streets are encouraged to be designed as boulevards to facilitate good design and pervious cover.

4. Alignments: Street alignment should discourage sharp curves and the resulting traffic hazards, and permit proper intersection of streets. Paralleled streets (except frontage streets) with less than 126 feet between centerlines shall be avoided.
5. Intersections: Streets shall be designed to intersect as nearly as possible at right angles provided that no street shall intersect any other at less than seventy (70°) degrees. Pavement of streets shall have a minimum corner radius of twenty-five (25') feet at the outside of the pavement or curb line. All corner radii shall be on the street plans. There shall be at least a 125-foot centerline offset between streets that do not intersect opposite one another.
6. Roadbed: The roadbed shall be appropriately designed and constructed for the intended land use based on minimum County standards for road construction.
7. Master Road Plan and Street Specifications: Roads shall be developed in accordance with the Benton County Master Road Plan, area needs, and all other relevant factors (see Appendix F).
8. Gated Access: Gated restricted access to a private subdivision shall meet requirements of the fire district for access. Entrance to gated communities shall allow for sufficient stacking of at least four (4) cars on private property so that local traffic is not backed-up.
9. Separation Features and Limited Access: Where a subdivision abuts or includes a U.S. or State highway or other major arterial, access permit from Arkansas Highway and Transportation Department (AHTD) is required in order to determine the use of a frontage street for limited access.
10. Dead-End or Stub Street: Temporary dead-end or stub streets designed to provide future connections with adjoining undeveloped areas shall provide a temporary turn-around easement and shall be designed to prevent excessive accumulation of run-off water at the dead-end.
11. Cul-De-Sac: Cul-de-sacs should not exceed six hundred feet (600') in length measured from the entrance to the center of the turn-around, and shall be provided with a turn-around having a radius of not less than thirty (30') feet at the pavement center line and not less than fifty (50') feet at the property line. Exceptions may be granted due to topographical features.
12. Sight Distance Triangle:
  - i. The intersection sight distance provisions contained in 'A Policy on Geometric Design of Highways and Streets' published by the American Association of State Highway and Transportation Officials (the AASHTO Green Book referenced in Section 4008) are adopted as the presumptive standard applicable to all intersections within the County provided, however, that the Road Department may, where consistent with public safety, specify greater or lesser intersection sight distances. Unless otherwise required by the Road Department, all intersections shall be designed, constructed and maintained in accordance with such sight distance provision. Additionally, no landscaping, fence, utility equipment, wall or other structure in excess of thirty-six (36") inches in height above the roadway shall

be constructed or maintained in the area identified as the sight triangle, nor shall any parking be allowed within the area of the sight triangle.

- ii. Streets shall not be designed with intersections on the inside of horizontal curves or at any location in general where sight distance will be inadequate for drivers to tell if they can safely enter the traffic flow or cross the street. The minimum distance from an intersection to a curve shall be the applicable minimum sight distance listed below. The Road Department Director or their designee may make exceptions for especially difficult design circumstances only if visibility easements to provide adequate sight distance are established. In lieu of visibility easements, additional street right-of-way may be dedicated. Minimum intersection design sight distance standards, as specified in the AASHTO “Green Book” shall be as follows:

**Table 5.2 – Sight Distance by Design Speed for Subdivision Streets**

<b>Design Speed (MPH)</b>	<b>Minimum Sight Distance (Feet) *</b>
25	280
30	355
35	415

\* Distance measured from an entering driver’s eye position to the position of the closest approaching vehicle’s far front corner.

- iii. Where stop control is not used, the corner sight distance for residential streets shall be a minimum of two hundred feet (200'), three hundred feet (300') [recommended].

13. Road Signage:

- i. A permanent marker, at least 1’ x 1’ (1 square foot), listing the addresses of each property as assigned by the 911 Office, shall be placed at the end of the driveway, adjacent to the public way.
- ii. A permanent marker, at least 1’ x 1’ (1 square foot), shall be placed at the intersection where the common driveway splits, indicating the addresses of each home on either side of the split.
- iii. An easement providing for shared permanent access over the driveway shall be depicted on the Site Plan, applicable to current and future owners of each lot. The easement shall include but not be limited to specific standards for maintenance and repair of the driveway and drainage system, provision for allocating financial responsibility, and a procedure for resolution of disagreements.

iv. A note of the Site Plan shall read, "The private road access is not a public road, it does not meet the standards for a County road, and the private road shall permanently remain private unless upgraded sufficiently to be a County road."

14. Traffic Impact Mitigation: Depending on the classification of the road or street the subdivision connects to, traffic signals, turn lanes and other traffic safety measures may be required to mitigate traffic impacts.

15. Private Driveway: A driveway connecting the private or public road and the primary structure(s) on the lot shall be constructed of hard surface and shall be sloped adequately to prevent Stormwater run-off onto private or public road. Erosion and sedimentation due to Stormwater run-off from driveways shall be minimized to the satisfaction of the Planning Board.

#### D. Water and Wastewater

i. Water: All subdivisions shall ensure the provision of a water supply system that is sufficient in terms of quantity, dependability, and quality to provide an adequate supply of water for the type of subdivision proposed. Where the subdivision lots will be served by private wells, water tests and analysis may be required along with approval from the Department of Health. Where public water supply is to be used, a plan view of the proposed water distribution system or water extension plan, showing pipe sizes and the location of valves and fire hydrants, the location and dimensions/capacity of water mains, laterals, and service lines, shall be required on plans.

ii. Wastewater: The developer shall make adequate provisions for the safe and sanitary disposal of wastewater using the following methods upon approval by the Department of Health:

a. Conventional In-Ground Wastewater Treatment (Septic) Systems: Septic systems can be singular or shared. All systems must receive approval from the state Health Department. The minimum size for all lots utilizing septic systems for wastewater shall be one (1) acre.

b. Sanitary Sewer Systems: Where a sanitary sewer system is proposed for the subdivision, the plans and profiles for such sewers with grades and sizes, manholes, and outlets shall be shown. Other methods of sewage disposal should be indicated and detailed if required. Connection to an existing municipal sanitary sewer system or the establishment of a small sited sewer system is encouraged.

#### E. Provision of Basic Services

All Plats shall identify the methods of providing water, existing sewage and, waste water disposal on-site.

Municipal Connections-In all cases where the water supply or sewer disposal system will be connected to lines or mains owned or operated by a city, town, or special district, construction of said facilities shall be made according to the plans, requirements, and specifications and subject to the supervision or inspection and approval of the governing body, qualified employee, or County

Sanitarian. Approval of the plans for any such water or sewer system by the above shall satisfy these regulations.

F. **Grading and Drainage**

All development shall avoid impacting or changing the natural drainage patterns on the site. This includes grading or filling natural drainage that may redirect or intensify the flow of water on and off site. The developer's engineer shall make a copy of the off-site drainage and/or flooding problems to be created by the full development of the proposed subdivision and submit a written statement concerning the effect the proposed subdivision would have on off-site drainage. If the study identifies off-site flooding problems, the engineer shall submit with the subdivision drainage plan off-site drainage plans to correct the problems identified. The developer shall be responsible at his own expense for making those off-site improvements necessary to correct the drainage or flooding problems created by his subdivision.

1. Stormwater Drainage Control Standards. All grading and drainage shall be designed and developed in conformance with the requirements of the County's current adopted Stormwater Drainage Control Standards and/or Best Management Practices (BMPs) as applicable.
2. Notice of Intent. If the site to be disturbed is greater than one (1.00) acre and the stormwater is directed into State waters, then a "Notice of Intent" (NOI) shall be filed with the Arkansas Department of Environmental Quality as per state law. A copy of the submitted NOI will be required to be received by the County prior to or at the latest at the preconstruction conference for the project before the project will be approved to begin construction. When a request is made to begin grading on a project prior to a preconstruction conference, the grading plan, erosion control plan and a copy of the submitted NOI will be required by the County for review for approval prior to grading commencing.
3. Stormwater Detention. The following provisions govern the design, ownership, maintenance, and platting of stormwater detention facilities:
  - a. Design: The design of stormwater detention facilities shall encourage the melding of optimum stormwater detention utility with aesthetics that avoid large, unsightly, and dangerous landscapes. Preferred facilities are those that blend into the natural landscape, utilize native plants, are hidden from public ways, and are not so large as to dominate the landscape. These may include various low impact development (LID) facilities such as rain gardens or drainage swales.
  - b. Ownership and Maintenance: In residential subdivisions, stormwater detention facilities in new residential subdivisions shall remain under the ownership and maintenance of the property owner during development. Stormwater detention facilities shall be deeded to the property owner's association (POA/HOA) upon filing of the final plat. Maintenance of the facilities shall be in accordance with the provisions of this Chapter. Ownership of stormwater detention facilities in new non-residential development shall be vested in the property owner. Maintenance of the facilities shall be in accordance with the provisions of this Chapter.

- c. **Platting of Detention Facilities:** All new detention facilities and associated easements and other elements of appropriate design shall be clearly shown on the final plat. Wherever possible, stormwater detention facilities shall be located on common land and assigned a separate lot number.
- G. **Legal/Organizational** – Subdivisions that include any common facilities such as roads and sidewalks, stormwater facilities, recreational or open space, community room, or any other facility or element that is for common use shall establish a mechanism for maintenance of common facilities, i.e. Property Owners Association (POA) or Homeowners Association (HOA) that meets the following minimum criteria:
- i. Methods for maintaining common areas shall be in place upon approval of final plat.
  - ii. Property owners shall maintain the common areas in perpetuity.
  - iii. Ownership and maintenance of a common/shared driveway shall be assured through mechanisms such as, deed restriction/POA/HOA, to the satisfaction of the Planning Board, which binds current and future owners of each lot to the responsibility for all maintenance of common areas, including snowplowing and reconstruction of the private roads, etc. which shall be recorded in the County’s Circuit Court Recorder’s office.
- H. **Open Space** – Provisions for open space and useable recreation areas shall be provided by the developer whenever practicable.
- I. **Landscaping and Buffers**
- i. Common areas in approved subdivisions shall be appropriately landscaped using sod or hydroseeding and include trees, shrubs, and grasses in appropriately sized areas. Landscaped or screening buffers are not required along the edges of subdivisions. However, new subdivisions located adjacent to existing non-residential uses may be required by the Planning Board to install buffers of sufficient screening capacity to mask views of such development.
  - ii. Landscaping and buffers shall adhere to the landscaping guidelines provided in Chapter IV. List of Native vegetation is noted in Appendix C of this Ordinance.
- J. **Blocks** – The length, width, and shape of blocks shall be based on the following criteria:
- i. **Residential Blocks:** Residential blocks shall be wide enough to provide two tiers of lots of minimum depth except where lots may front on open space, highways or other major thoroughfares or prevented by site constraints whereby the Planning Board may approve a single tier of lots of minimum depth.
  - ii. **Non-Residential Blocks:** For blocks in commercial, industrial, and other non-residential subdivisions, blocks should be of a width suitable for the intended purpose with due allowance for adequate off-street parking and loading facilities.

- iii. Access: Blocks shall be so designed as to allow for adequate and safe access from each lot to the public or private street servicing the lot.
- K. **Utilities** – Public, quasi-public, or private utility providers shall design for the installation of utility lines including water, sewer, electricity, telecommunications, natural gas, or other services as applicable based on the following standards:
- i. All utilities in an underground location shall be installed wherever the soils and geology make this feasible. Utility providers shall coordinate the installation of their service lines in the fewest trench locations possible and share these locations where feasible to limit street cuts for maintenance, repair, and replacement.
  - ii. Utility providers installing underground lines shall coordinate the installation of their service lines in the fewest trench locations possible and share these locations where feasible to limit street cuts for maintenance, repair, and replacement.
  - iii. Temporary overhead service lines may be established during construction. Note that all utility specifications shall comply with the applicable provider servicing the area under development and no buildings or structures shall be erected within a dedicated utility easement.
- L. **Easements and Other Encumbrances** – Easements of adequate width according to engineering or open space standards shall be provided for public uses and utilities. Such easements shall have a minimum combined width of at least fifteen (15') feet along the front, side, and rear lot lines. Applicants shall provide all description, and if necessary a depiction on the plat, all encumbrances, including existing easements and covenants. Maintenance of common areas shall be recorded with the easement along with the following criteria.
- i. Methods for maintaining common areas shall be in place upon approval of final plat.
  - ii. Property owners shall maintain the common areas in perpetuity.
  - iii. Ownership and maintenance of a common/shared driveway shall be assured through mechanisms such as, deed restriction/POA/HOA, to the satisfaction of the Planning Board, which binds current and future owners of each lot to the responsibility for all maintenance of common areas, including snowplowing and reconstruction of the private roads, etc. which shall be recorded in the County's Circuit Court Recorder's office.

## **§5.5.2 – MAJOR SUBDIVISION PLATTING PROCEDURES**

### **A. Type of Subdivision Plat**

1. **Preliminary Plat:** A preliminary plat is the plan for a subdivision that contains all of the detailed design specifications and elements required for a thorough technical appraisal of the proposal which includes but is not limited to existing site features, topography, proposed layout of roads

and lots, the types and dimensions of the streets, the size and location of sewer and water mains.

The process includes staff consultation and review of a sketch plan at a pre-application conference, project design, formal application, staff technical review, public notification, technical public hearings, approval of preliminary plat, bonding, and installation of project infrastructure.

2. **Final Plat:** The final plat is a precise drawing showing the boundaries of lots and streets as prepared by a surveyor and contains all of the changes to the preliminary plat, engineering and survey detail, legal provisions, and signature spaces for approval. Once project infrastructure is in place, the applicant consults with staff and provides written evidence in the form of a Certificate of Completion that said infrastructure has been completed as per the approved preliminary plat. Once this is received and verified, the applicant is authorized to file for a final plat approval and seek return of the surety bond. Once the final plat has been approved, the plan endorsed and recorded, the applicant is eligible to sell individual lots.

#### **B. Pre-Application Conference and Development Review Committee**

1. Before preparing and submitting the preliminary plat to the County Planning Board, it is recommended that the developer or the project engineer consult with the staff while the plat is in sketch form, to take into account the location of proposed arterial and collector streets (as per the County Road Plan), primary and secondary streets (as per the County Subdivision Regulations), parkways, parks, school sites, and other facilities or developments that are planned. The sketch plan may be a concept drawing, superimposed on a site map or an aerial photograph. During the pre-application process, the general features of the subdivision or development, its layout, facilities, and required improvements shall be determined to the extent necessary for preliminary approval of the plat, attachments, and application form. Staff shall also provide the applicant with clear instructions for making a complete application.
2. Subdivisions of five (5) lots or more shall be reviewed prior to application submittal to the Benton County Development Review Committee (DRC). Refer to the provisions of Chapter IV for DRC procedures.

#### **C. Preliminary Subdivision Plat Application Process**

1. **Completeness Review/Notice to Proceed:** Upon receipt of an application for a preliminary plat, planning staff shall review submittal packet for completeness. If the packet is determined to be complete, this shall constitute "Notice to Proceed" and plans and other packet materials shall be time stamped with the date when completeness has been determined. From the date of the Notice to Proceed, the Planning Board shall hold a public hearing within sixty (60) days or the application shall be considered approved by default unless the applicant agrees to an extension in writing.

\*\*Note that during the completeness review, staff shall confirm the location of the property in relation to municipal planning areas as noted in the letter from the municipality.

2. Technical Review and Public Hearing: Upon receipt of the preliminary plat and application for approval, planning staff shall check for conformance to the minimum requirements. When all requirements for applying have been met, a file shall be created with the plat and application materials for the purpose of initiating the technical review. Technical review shall include the following:

a. Interagency Review: Staff shall make a copy of the application materials available to other reviewing agencies for the purpose of seeking comments. These agencies shall include but not necessarily be restricted to the following:

- |                              |   |
|------------------------------|---|
| 1) Health Department         | 9) Applicable Municipality                                  |
| 2) Road Department           | 10) Fire Marshal  |
| 3) Tax Collector             | 11) School Board  |
| 4) Building Inspector        | 12) Applicable State of Arkansas Agencies (e.g. ADEQ, AHTA) |
| 5) Environmental Services    | 13) Applicable Federal Agencies (e.g. FAA, EPA, ACOE)       |
| 6) Applicable Water District | 14) Army Corps of Engineers                                 |
| 7) Applicable Fire District  |   |
| 8) Applicable Utilities      |   |

b. Staff Technical Review: Staff shall review the plan and application materials for adherence to the provisions of these regulations and prepare a staff report that documents how the submittal meets the requirements, and provides comments and recommendations for consideration by the Planning Board.

3. Preliminary Plat Approval:

a. Technical Review: The Planning Board shall conduct a formal technical assessment of the preliminary plat application. Once all revisions are made and additional information requested by the Board has been provided so that the plat and supporting documents contain all of the information required for preliminary approval, the Board shall refer the item to the public hearing agenda where they shall consider the preliminary plat for approval within a duly noticed public hearing.

b. Procedures for Public Hearing: The Planning Board shall follow the procedures for a public hearing as provided in §4.8.

c. Planning Board Decision: The Planning Board decision on the application may be denial, approval, or approval with conditions. As part of any approval, the developer shall provide the County with surety for project infrastructure as per the provisions of §5.6 below. In the event of denial, the Board shall note all deficiencies by item on the plat and may note other reasons for denial. One copy of the approved or denied plat, with conditions noted thereon, shall be returned to the applicant, signed, and dated by the Board. Approval of the plat shall be deemed to be approval of the planning requirements of these regulations only, and the County Court or other official having jurisdiction may modify improvement details in accord with their adopted rules as may be necessary for the protection of the public interest and

well-being. The grounds for not approving any proposal or planned physical development, or the regulations violated by the plat or application, shall also be stated in the record of the meeting and kept open for public inspection according to statute.

4. **Project Infrastructure:** Upon preliminary approval, the developer may proceed to install all the improvements and for this purpose may secure from the appropriate authorities the necessary permits. Once project infrastructure has been installed and a Certificate of Completion submitted to the Board, the applicant is eligible for and may proceed to final plat application.
5. **Completion of Improvements-** The improvements required by the Planning Board shall be completed within two (2) years from and after the date of approval of the preliminary plat unless good cause is shown for granting an extension. Construction of improvements shall be inspected by the engineer at the at the developer's expense. "As built" plans of the improvements shall be filed with the Planning Board within sixty (60) days of completion. Certificate of completion will be made by the proper officials to the Benton County Planning Board for release of construction bond in accordance with §4.11. Evidence of completion of required improvements or satisfactory construction bond shall be submitted with the application for the final approval of the plat prior to filing for record.

#### **D. Final Subdivision Plat Application Process**

1. **Eligibility for Final Approval:** Upon approval of the preliminary plat and the receipt of a Certificate of Completion by the Planning Board, the developer shall file a final plat of the subdivision with the Planning Board. Final plat approval may be granted by the Planning Board when the plat contains the information required for final application and complies with the conditions, if any, of preliminary approval. Upon receipt of the final plat and application for approval, the case manager shall check for conformance to the requirements for a final plat. When all requirements for the application have been met and the Planning Board votes in the affirmative, a stamped certificate will be affixed to the plat for Planning Board endorsement, and copies will be furnished to members of the Board as required.
2. **Submit Application Packet:** Applicant shall submit an application packet for a final subdivision plat that includes the following:
  - a. A plat of the proposed subdivision that that is in conformance with the requirements.
  - b. Completed application.
  - c. Application fee (non-refundable).
  - d. Other applicable documents or information.
3. **Completeness Review/Notice to Proceed:** Upon receipt of an application for a final plat, planning staff shall follow procedures consistent with the Preliminary Plat.
4. **Technical Review and Public Hearing:** Same as required for a Preliminary Plat

Interagency Review: Same as required for a Preliminary Plat

Staff Technical Review: Same as required for a Preliminary Plat

5. Final Plat Approval:

Technical Review: Same as required for a Preliminary Plat

- a. Procedures for Public Hearing: The Planning Board shall follow the procedures for a public hearing as provided in §4.8.
  - b. Planning Board Decision: The Planning Board decision on the application may be denial, approval, or approval with conditions. As part of the approval, the developer shall provide the County with surety for project infrastructure as per the provisions of §5.6 below. Approval of the plat shall be deemed to be approval of the planning requirements of these regulations only, and the County Court or other official having jurisdiction may modify improvement details in accord with their adopted rules as may be necessary for the protection of the public interest and well-being. In the event of denial, the Board shall note all deficiencies by item on the plat and may note other reasons for denial. One copy of the approved or denied plat, with conditions noted thereon, shall be returned to the applicant, signed, and dated by the Board. The grounds for not approving any proposal or planned physical development, or the regulations violated by the plat or application, shall also be stated in the record of the meeting and kept open for public inspection according to statute.
- E. **Pre-Construction Conference:** Prior to construction, the developer and the contractor must meet with the Road Department Director and the Planning Director or designee to review the subdivision approval and associated conditions. The applicant must provide evidence that all required documents have been recorded. Subsequent to said recording and prior to any building permit being issued, the applicant shall file within seven (7) days one (1) print of the Final Plat with the Building Official. Further, in accordance with the statute, where approval of covenant is noted thereon, the Building Official shall issue no permit for the construction of a building on any lot within the subdivision, except upon receipt from the Planning Board of a copy of the Certificate of Performance releasing the lot in question.
- F. **Completion of Construction:** The improvements required by the Planning Board shall be completed within two (2) years from and after the date of approval of the preliminary plan unless good cause is shown for granting an extension. Construction of improvements shall be inspected by the engineer at the developer's expense. "As built" plans of the improvements shall be filed with the Planning Board within sixty (60) days of completion. Certificate of completion will be made by the proper officials to the Benton County Planning Board for release of construction bond. Evidence of completion of required improvements or satisfactory construction bond shall be submitted with the application for the final approval of the plat prior to filing for record.

- G. **Extensions:** If either the Board or the applicant seeks an extension for any reason, the applicant must submit a signed and dated Request for Extension form to the Planning Board. This Request for Extension form shall provide a date specific on which the extension shall expire.
- H. **Recording Plats:** The County Recorder shall not accept any plat in the unincorporated area of the county that is not within the exercised territorial jurisdiction of a municipality for record without the approval of the County Planning Board.

### **§5.5.3 MINIMUM INFORMATION TO BE INCLUDED ON A MAJOR PLAT**

Preliminary and final plats for subdivisions shall be prepared by a professional engineer who is currently licensed in the State of Arkansas. All subdivisions, land developments, and mobile home parks shall be designed in such fashion as to allow a contiguous system of improved hard surface roadways conforming to the minimum standards of development set forth in this ordinance. Gravel roads, to the extent allowed, shall be constructed to existing county standards which shall be specified from time to time by the Benton County Road Department.

1. **SUBDIVISION NAME** – The proposed name of the subdivision shall not duplicate or closely approximate the name of any other subdivision in the County except for extensions of or additions to existing subdivisions. The name shall not imply that the property is an addition to any municipality unless the property is in fact within the corporate limits or limits of subdivision control at the date of filing for record. Name of the subdivision and the name or number of the larger subdivision or tract of which it is a part should be included. 911 will verify acceptance and non-redundancy and also tract subdivision names. Confusingly similar names which would hinder fire and police protection will be disallowed.
2. **ABUTTING PROPERTY** – The name of an adjacent subdivision, and the name and addresses of record owners as shown by the County Assessor’s office adjacent parcels of unplatted land shall be shown in the appropriate location upon the plat.
3. **AREA MAP** – An area map shall accompany or appear on the plat. The scale should be of sufficient size to show location of proposed subdivision by Township, Range, and Section. Existing roads, district, or special corporate lines, adjacent features (such as lakes) and abutting subdivisions should be identified on the area map so as to show how the proposed subdivision will fit into the surrounding area.
4. **NORTH-POINT, NAME, ETC.** – Include on the plat a north-point arrow, title, and date. Top or left of sheet should be north.
5. **SCALE** – The plat shall be prepared with a scale of sufficient magnitude to clearly show all the dimensions, lettering, and all other pertinent data and shall appear on the plat in both written and graphic form.
6. **SHEET SIZE** – The sheet size for recording shall be a maximum of 18" x 24". This may be a reduction from a larger sheet size, if desired.

7. **BOUNDARY LINES** – All external boundary lines with length and bearing of courses shall be shown. These boundaries shall be determined by accepted surveying practices. The legal description of the property being subdivided shall appear on the plat.
8. **SURVEY CONNECTIONS** – Where practical, survey lines should be tied to the State Plane Coordinate System. Where not practicable, bearings and distances should be tied to the nearest established street bounds, patent or other established survey lines or other official monuments, which monuments shall be located or accurately described on the plat. Any patent or other established survey or corporation lines shall be accurately located on the plat and their names shall be accurately lettered on it.
9. **TOPOGRAPHY** – Contours, normally with intervals of five feet, referenced to USGS datum or as may be otherwise required shall be shown. Topography of the development shall be shown on the preliminary plat. Pre and post construction contour intervals will be shown for assessment and determination of proper drainage requirements. The intervals will be as follows:
  - a. Land with less than five percent (5%) overall slope, the contour interval shall not be greater than five feet (5’).
  - b. Land with more than five percent (5%) slope, the contour interval shall not be greater than two feet (2’).
10. **EXISTING STREETS AND OTHER FEATURES** – The plats shall show the location, widths, and names of all existing or platted streets or other public ways within or adjacent to the tract and other important features such as existing permanent buildings, water courses, railroad lines, municipal corporation lines, oil and gas lines or wells, including abandoned gas or oil wells and dry holes.
11. **NEW STREETS AND THEIR NAMES** – The plat shall show the layout, names, and width of proposed streets, alleys, and easements. Names shall be established to the satisfaction of the Board and shall not duplicate or closely approximate any existing street names in adjoining subdivisions except extensions of prior streets. Include street and alley locations, length and bearing, name, width, and angles of intersection.
12. **LOTS AND BLOCK NUMBERS** – Lots shall be numbered in numerical order. In tracts containing more than one (1) block, the blocks shall be likewise numbered in numerical order. In the case of a re-subdivision of lots in any block, such re-subdivided lots shall be designed by their original number prefixed with the term most accurately describing such division, such as W1/2 of 3, N 40’ of 5, etc., or they shall be designated numerically, beginning with the number following the highest lot number in the block.
13. **LOT LINES** – Lot lines shall show bearings and distances. Bearings shall be shown in degrees and minutes and seconds. Distances should be shown at least in feet and hundredths of feet.
14. **CURVING LINES** – When a street is on a circular curve the radius and arc length shall be shown. But when a curve radius of 200 feet or less is used, it is sufficient to show the length and bearing of the main chord, the radius, and the central angle subtended.

15. **EXISTING UTILITIES** – Existing overhead and underground power and Communication lines, sewers, water mains, gas mains, culverts, and other underground structures, within the tract and immediately adjoining it, with pipe sizes and grades, shall be shown on the plat or on a separate attachment.
16. **UTILITY SERVICE** – Proposed main locations will be designated on the preliminary plat and the necessary easements provided.
17. **BUILDING SETBACK LINES** – All building set back lines shall be designated on the plat.
18. **EASEMENTS** – Within the subdivision all public and private easements and rights-of-way, with the limitation of the easement rights, shall be stated on the plat.
19. **SOIL ANALYSIS** – The developer shall indicate by appropriate attachment the types of soils found in the plat area from available USDA Soil Conservation Service data or other authoritative source.
20. **FLOOD AREA** – All of the proposed platted land which is subject to inundation shall be clearly designated on the plat. All lots to be platted in a flood area shall have sufficient land area above the established 100 year frequency flood elevation to meet all applicable building area restrictions.
21. **STORM DRAINAGE** – Provisions shall be made for the disposal of storm water. Where initial construction does not provide for storm sewers, drainage ditches, and culverts of adequate capacity shall be put in. Facilities for storm drainage should be of adequate capacity to take care of not only surface run-off originating within the subdivision or flowing across, but also consideration should be given to the consequences of total development should it occur in the upstream drainage area.
22. **OFF SITE DRAINAGE** – The developer’s engineer shall make a copy of the off-site drainage and/or flooding problems to be created by the full development of the proposed subdivision and submit a written statement concerning the effect the proposed subdivision would have on off-site drainage. If the study identifies off-site flooding problems, the engineer shall submit with the subdivision drainage plan off-site drainage plans to correct the problems identified. The developer shall be responsible at his own expense for making those off-site improvements necessary to correct the drainage or flooding problems created by his subdivision.
23. **WATER COURSES** – In case the subdivision is traversed by a water course, channel, stream, or creek, its present and proposed location shall be shown.
24. **CONSTRUCTION PLANS** – A general statement describing proposed improvements and drainage systems shall be a part of the preliminary plat. The Planning Board will require submission of all street construction plans prior to the approval of the preliminary plat and may request, if needed, additional utility construction plans. Construction plans and other engineering data, prepared and certified by a registered professional engineer shall be submitted to and approved by the respective office, department, or agency having jurisdiction over such improvement prior to the approval of the final plat. “As built” plans of the improvements shall be filed within sixty (60) days after their completion and before streets are accepted for County Maintenance.

25. **EVIDENCE OF COMPLETION OF REQUIRED IMPROVEMENTS OR PERFORMANCE BOND TO BE SUBMITTED AS SEPARATE INSTRUMENT** – Upon preliminary approval, the developer may proceed to install all required improvements and for this purpose may secure from the appropriate authorities the necessary permits. If the final plat approval is desired before completion of improvements, the developer shall post with Benton County, Arkansas a corporate surety bond in favor of the county, or deposit a cashier’s check, or other negotiable securities or a certificate of deposit (CD) properly assigned to the county, in an escrow account or other acceptable bond. Such bond shall be in an amount sufficient to cover the cost of installation of all incomplete required improvements as estimated by the engineer, the contractor’s bid, or the official having jurisdiction, with the exception of utilities that would be extended at no cost to the developer. The bond is to assure the satisfactory construction and performance of said improvements at the time and terms fixed by the Planning Board and in accordance with the regulations. The above bond will be required only for the portion for which the developer desires a final plat before completing the required improvements. Evidence of completion or satisfactory construction bond will be submitted with the application for final approval of the plat.
26. **OPEN SPACE** – All areas of open space for any purpose and any natural features to be preserved shall be designated.
27. **PROPERTY OFFERED FOR DEDICATION** – The accurate dimensional outline of all property which is offered for dedication for public use, and of all property that may be reserved by covenant in the deeds for the common use of the property owners in the subdivision, with the purpose indicated thereon, shall be shown on the plat. All lands dedicated to public use (other than streets) shall be marked “Dedicated to the Public.”
28. **MAINTENANCE AND OPERATION PROVISIONS** – The responsible entity for the maintenance and operation of any building, park, equipment, pool, plantings, lawn, or other legal interests in the proposed subdivision shall be shown on separate articles of incorporation, contracts, restrictions, or other methods. The means of securing payment for maintenance and operation expenses and the method of terminating such provisions shall be stated in the creating documents, if any.
29. **PROPOSED PLAT RESTRICTIONS** – An outline of all proposed plat restrictions shall be submitted along with the preliminary plat. Private restrictions or evidence of recording shall be shown on the final plat. If there are no restrictions, the plat shall so state.
30. **ENGINEER’S CERTIFICATE** – Include, as a separate attachment, a certificate by the engineer that all improvements “as built” conform to all applicable engineering requirements and specifications.
31. **LAND SURVEYOR’S CERTIFICATE TO APPEAR ON PLAT** – Include a certificate by a registered land surveyor to the effect that he has fully complied with the requirements of this regulation and the subdivision laws of the State of Arkansas governing surveying, dividing, and mapping of the land; that the plat is a correct representation of all the exterior boundaries of the land surveyed and the subdivision of it; that the plat represents a survey made by him; and that all monuments indicated thereon actually exist and their location, size, and material are correctly shown.
32. **OWNER’S CERTIFICATE TO APPEAR ON PLAT** – This certificate should contain the substance of the following example: “As owner, I hereby certify that I have caused the land described to be surveyed,

divided, platted, dedicated, and access rights reserved as represented on this plat (and attachments).”

33. **CERTIFICATION THAT TAXES ARE NOT DELINQUENT** – Include, as a separate attachment, a certificate from the County Tax Collector that there are no delinquent taxes or special assessments currently due or payable on any of the land in the plat including property dedicated for public use.
34. **PUBLIC UTILITIES COORDINATION(S) AND APPROVAL(S)** – Include as a separate statement, from each utility to serve the subdivision, that the plat does not violate any regulations of the utility and that service can be provided to the platted area.
35. **STATE HIGHWAY DEPARTMENT APPROVAL** – Include, if appropriate, a separate statement from the State Highway Department that the plat is coordinated with state and federal highways, existing and planned.
36. **STATE HEALTH DEPARTMENT APPROVAL** – Include a separate statement from the State Health Department that water and sewer improvements planned meet all applicable public health regulations.
37. **COUNTY COURT’S CERTIFICATE TO APPEAR ON PLAT** – Upon approval of the final plat by the Planning Board, the County Judge will affix and approve by signing the following stamped certificate: “Lands dedicated for easements, rights-of-way, and other public uses area accepted for the public by the County of Benton. This certificate is not an acceptance of the responsibility to maintain roads which are constructed in rights-of-way.”
38. **PLANNING BOARD CERTIFICATE TO APPEAR ON PLAT** – After the Planning Board has confirmed that the final plat meets all of the applicable requirements as outlined in preceding paragraphs of this section, it will affix and approve the signing of the following stamped certificate: “This plat has been reviewed by the Benton County Planning Board in accordance with Benton County Subdivision Regulations and meets all applicable requirements of those regulations.”

#### **§5.6 –MODIFICATION TO AN APPROVED SUBDIVISION OR REPLAT**

A replat is a process that is used to move, erase, or add new interior property lines within a recorded Plat or approved subdivision. Modification or replatting of land may include changes to the number or configuration of current lots within a subdivision. Lot line adjustments, such as buying a portion of a neighbor's lot, require a replat as well. A replat affecting no more than two lots can be approved administratively by planning staff and can be submitted as a Minor Boundary Adjustment replat.

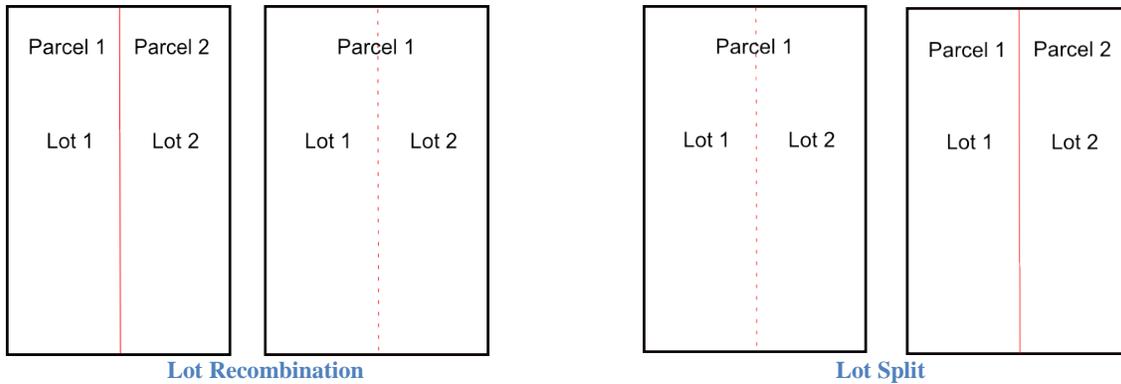
Creation of new plats or replats affecting five or more lots requires approval of the Planning Board.

#### **A. MINOR BOUNDARY ADJUSTMENT–LOT SPLIT OR COMBINATION – UP TO FIVE PLATS ONLY**

The process of splitting a single lot in an approved subdivision constitutes a Lot Split. Similarly, combining two (2) lots in the approved subdivision results in a lot combination.

1. Any lot split within an approved platted subdivision involving up to five plats shall be considered a minor replat.
2. Lot combination shall be administratively approved except if the combination conflicts with a specific provision of the subdivision plat approval or the approved covenants.

**Figure 5.3 – Examples of Minor Boundary adjustment**

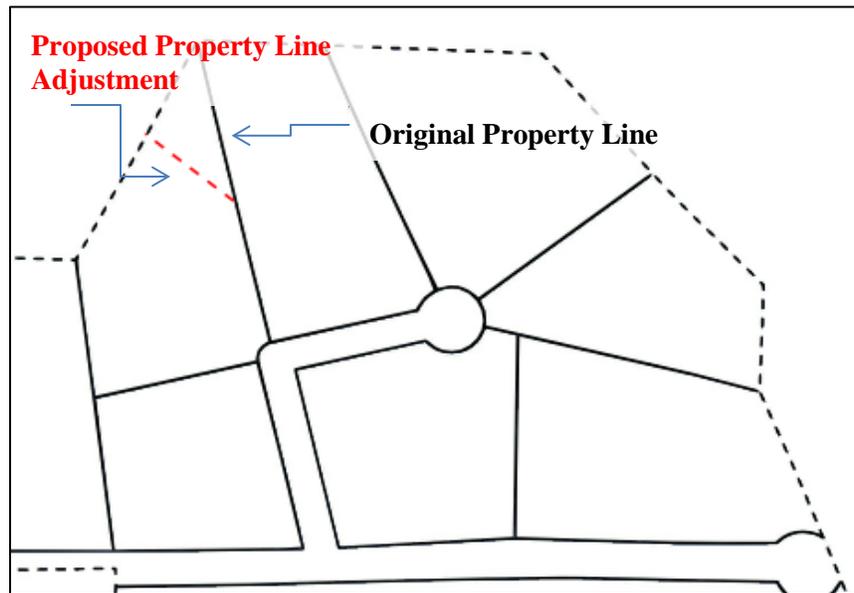


## B. PROPERTY LINE ADJUSTMENT

The process of adjusting the property line either within an approved subdivision or for tract land, which does not create any additional lot.

1. Criteria for Administrative Approval: Minor revisions to lot lines to facilitate the meeting of setbacks, to eliminate the encroachment of structures, and to enable *de minimis* land transfers between adjacent lot owners may be approved administratively as long as:
  - a. The resulting lots meet all of the requirements of these regulations for setbacks, minimum lot size, or any other dimensional attribute as may be applicable. No subdivision covenant restricts such adjustment.
  - b. Such adjustment shall not involve the relocation or alteration of streets, easements for public passage, or other public areas; and no easements or utility rights-of-way shall be relocated or altered without the express consent of all persons holding any interests herein.
  - c. Such adjustment shall not result in any new violation of the area or other dimensional requirements of this Ordinance, provided however, that any existing violation of minimum yard requirements or any existing non-conformity in any non-conforming lot (as so defined in this Ordinance) shall be permitted to continue so long as such yard violation or non-conformity is not enlarged, expanded, or extended.

**Figure 5.4 Property Line Adjustment**



2. Review Process: The administrative review process for Minor Boundary Adjustments shall be as follows:
  - a. Applicant shall file a complete application packet including a stamped survey, an application, and a fee.
  - b. Staff shall review the plans and conduct the necessary background research and analysis.
  - c. Staff shall, within thirty (30) days, render a decision as per the lot line adjustment request by means of a decision letter.
3. Any property line adjustment not meeting the criteria in Sections 1 and 2 above must be heard by the Planning Board as a replat.

**C. MAJOR REPLAT – MORE THAN FIVE PLATS**

A Major replat shall generally follow the same procedure as a preliminary and final plat based upon the specific criteria sought to be modified. The Planning Board shall determine whether the final or preliminary procedures shall be followed. Generally, major replats shall require the signature of all property owners within the approved subdivision on the plan and application. However, depending on the nature and scale of the major replat, a duly notarized letter of authorization to proceed from each property owner for which the replat directly impacts may be required. Alternatively:

- a. A single applicant may be granted power of attorney by each owner.
- b. A POA or HOA may serve as the applicant if covenants so allow.

#### **D. VACATION OF PLATS**

No vacation of a plat or any parts thereof shall be valid or impart notice until and after the consent of all the owners of such platted area is presented to the Board and the approval of the Board, and the County Court has been shown thereon. This includes request to vacate public rights-of-way, easements, platted lots, subdivisions and other specific platted and dedicated items of a subdivision plat.

All partial vacations or alterations of a final, approved, filed plat shall require the approval of the Board and the filing of a corrected plat as per the substantive replat process above. Alteration of an approved final plat without Board approval shall constitute a violation of this Ordinance.

#### **§5.7 – Development Master Plan (DMP)**

A development master plan (DMP) is intended for those projects where phasing is anticipated and that the developer intends to establish a significant development project where streets interconnect, services or facilities may be shared, covenants and deed restrictions help in common, and a POA or HOA will serve the entire development. The DMP process is intended to coordinate the procedures and ensure that phasing is conducted in such a manner as to provide project consistency and coordination regardless of the timing of development and interruptions that may occur. It is also intended to ensure that facilities, services, and amenities are provided consistently and appropriate to the often larger scale of development.

##### **A. When Required**

A development master plan may be required before accepting the initial plat which is a portion of a larger tract intended for development. The scale and mapping area for the DMP shall be set by the Planning Board.

##### **B. DMP as Method Of Waiver For New Community Developments**

The DMP shall serve as the method, by which the County Planning Board may waive the requirements for a developer of new type communities, provided that:

1. The developer uses both professional planning and engineering services.
2. The developer submits a DMP of his entire development and the Planning Board approves the DMP.
3. The developer agrees to meet the standards established by the Benton County Planning Board during said DMP approval. If after a period of two (2) years from approval date platting and development has not commenced or, if during the life of the development there should occur a two (2) year period in which platting or development does not occur, the DMP approval will lapse unless an extension is granted. If no development has started it will be necessary to resubmit the entire DMP for approval. If approval lapses then that portion undeveloped must be resubmitted for approval. Any additions to a DMP will be required to be submitted under the regulations in force at the time of the submission of the additions.
4. The developer establishes a property owners association or a suburban improvement district.

**C. Preparation: The DMP Shall Include:**

1. Land holding capacity in terms of living units and population and designation as to high and low density.
2. Primary street pattern throughout the entire development designating road classification and right-of-way width.
3. General location and size of all proposed facilities; including recreational, community, and commercial.
4. Areas to be offered for purchase by or dedicated to public agencies.
5. Proposed route of access from development area to nearest public highway capable of carrying proposed traffic load.
6. Schematic plan for storm drainage, sewage disposal, and water supply.

**D. Submission and Review**

The developer shall submit sufficient copies of the DMP to the Planning staff for review of compliance and for distribution to appropriate agencies. The Planning Board will review the developer's progress and compliance every two (2) years after approval of the DMP and each two (2) years thereafter until substantial completion.

**§5.8 – Planned Unit Development (PUD)**

**A. Description**

A Planned Unit Development (PUD) is a comprehensively planned land development project in which the standard requirements of Benton County Subdivision Regulations are varied to permit design flexibility, building clustering, grouping of open space, increased density, and alternatives to public facility improvements. To be approved a PUD must establish a baseline development plan grounded on the provisions of Benton County Subdivision Regulations and Commercial site plan review. Following this step, the developer must provide an alternative PUD plan varied from the baseline, and should achieve the following purposes.

1. More Efficient Use of Land: The alternative PUD development must make more efficient use of buildable land by the use of clustering, zero lot line development, or other alternative development techniques that gain the added efficiency;
2. More Efficient Siting and Use of Public Facilities: The PUD alternative should, through a more efficient development pattern, achieve greater efficiencies in utility and other public facility siting. For example, if the development is clustered on one portion of the site, the road system is necessarily less extensive, more efficient, and less costly to the developer and to the public;
3. Principled Design: The County promotes the reasonable mixing of uses, projects with a community-oriented design, and designs using regionally appropriate features and amenities;

4. Open Space: The PUD development shall provide more useable open space through structure grouping, plazas, green roofs, and other innovative design techniques and allow for preservation of unique natural resources; and,
5. Preservation: Preservation of appropriate cultural or natural features. This can include but not be limited to cultural features such as historic building, sites, and landscapes or natural features such as balds, forest coves, rivers and streams, ponds, or rock outcrop.

Note that PUD development provides the developer with two (2) important benefits:

1. Accelerated project review and approval, and
2. Bonuses and incentives including greater density and more dimensional flexibility

As such, a PUD shall not be considered as-of-right development but as a special permit to be granted by the Planning Board provided the majority of the primary PUD purposes have been satisfactorily met.

#### **B. PUD Design and Development Standards**

1. Site: The site utilized for a PUD development shall be not less than ten (10) acres.
2. Ownership and Management: The PUD project site shall be under one ownership and management entity. No lots within the development may be sold prior to the installation of the required common improvements and infrastructure.
3. Access and Circulation: Streets and the rights-of-way for traffic will be provided so that traffic generated in the PUD will not adversely affect surrounding subdivisions and areas. Limited access to State Highways or County Roads must be used to minimize points of intersection and relieve congestion adequately to reduce hazards at intersections. However, PUD developments should provide more than one point of entry and exit to ensure access to emergency vehicles and to allow safe exit and evacuation as needed. Traffic calming mechanisms such as the following shall be encouraged to increase traffic and pedestrian safety:
  - a. Basic Traffic Calming Elements: high-visibility crosswalks, curb markings, stop signs, gateway treatments, truck restrictions, high-visibility signs, signed turn restrictions, residential permit parking, and minor bulbouts.
  - b. Level I Traffic Calming Elements: road bumps, raised crosswalks, minor traffic circles, major traffic circles, mid-block chokers, medians, major bulbouts, and chicanes.
  - c. Level II Traffic Calming Elements: diverters, extended medians.
4. Off Street Parking: Parking for PUD developments shall be provided as follows:
  - a. Single-Family Residential: A minimum of two (2) parking spaces per living unit shall be provided.

- b. Multi-Family Residential: A minimum of one and one-half (1.5) spaces per unit.
- c. Non-Residential Uses: Shall be provided as per the parking table 6.3 in Chapter VI.

Note however that reductions in required parking may be sought using shared parking plans and through other means to ensure adequate vehicular parking and/or alternative means to circulate within the development.

- 5. Uses: It is the intent of the Planned Unit Development option to provide maximum flexibility with regard to the mixture of land uses. Within a Planned Unit Development project, any land use may be permitted if such use or uses can be shown to provide an orderly relation and function to other uses in the development and to existing land uses, as well as with due regard to the land use guide of Benton County. The permitted use or uses of property located in the Planned Unit Development shall be determined at the time the development plan is approved, and development within the district shall be limited to those uses specifically requested as part of the application and approved by the Planning Board. Any addition of uses, change of plans, or increase in size or density shall require a separate application for amendment to the original approved Planned Unit Development and shall follow the same process as any other development application.
- 6. Open Space: Each PUD shall provide sufficient land or building area within the PUD as useable private or public open space. Active open space is defined as an area intended for rigorous activity such as tennis, baseball, badminton, and other games requiring physical exertion. Passive open space is defined as an area intended for tranquil activities such as walking, sitting, observing, and the less active games like shuffleboard and croquet. The maintenance of all private open space shall be the responsibility of the developer or of a property owners association (POA) and the method for maintenance and a maintenance fund shall be established in the PUD covenants.
- 7. Community Design: The following design principles and guidelines shall be considered for all PUD developments:
  - a. Dimensions: Development of PUD projects may seek variance from the dimensional requirements of standard subdivisions including setbacks, minimum lot sizes, road width, or other criteria through request for modification included in the narrative of their formal application. Such requests should include the justification for the request including why the modification improves the design and why a modification will not result in any negative effects.
  - b. Variety: Design interest and variety shall be sought, by means of using traditional principles of urban design for street design and changes in and mixtures of building types, heights, facades, setbacks, planting, or size of open space, the design should be harmonious as a whole and not simply from street-to-street.
  - c. Mixed Uses: The County promotes the creative and appropriate mixing of uses to create activity synergies such as the ability to walk or bike to work, school, or shopping.

- d. Community-Oriented Design: Developments that provide community resources such as shallow building setbacks or build-to lines, front porches, sidewalks, pocket parks, and other similar community amenities shall be rated higher.
- e. Regionally Appropriate Design: Developments that incorporate regionally appropriate features such as native natural stone in buildings and landscapes plus incorporate native plants in landscaping plans shall rate higher.
- f. Preservation: Preservation of appropriate cultural or natural features. This can include but not be limited to cultural features such as historic buildings, sites, and landscapes or natural features such as balds, forest coves, rivers and streams, ponds, or rock outcrop.

### C. Review Procedure

1. Concept Plan: Whenever a developer intends to develop a PUD under the Benton County Subdivision Regulations, he may submit a concept plan prior to initiating the preliminary plat. The purpose of the concept plan is to allow the developer, the County Planning Board, and the general public (if appropriate) to discuss the proposed development in the concept stage. In the case of a PUD, a concept plan shall be required and heard as a discussion item on the Planning Board agenda. The concept plan shall include as a minimum the following information:
  - a. Total area to be included in the PUD;
  - b. Topography (USGS twenty foot intervals is sufficient);
  - c. Public facilities intended to be provided;
  - d. Areas with potential flood problems, wetlands, or any other features presenting development difficulty;
  - e. Unique physical features;
  - f. Nature of surrounding development;
  - g. Nature of proposed development;
  - h. Nature and extent of tree cover;
  - i. Tentative street layout to include access roads;
  - j. Any additional information deemed necessary by the Planning Board.
2. Preliminary PUD Plan: A preliminary PUD plan shall be submitted following the same procedures and requirements outlined in these Subdivision Regulations. In addition to the requirements of the Subdivision Regulations, the following information shall be submitted:
  - a. An estimate of the number of units for sale or lease;
  - b. Identification and size (acre or square feet) of all open space and proof that the developer has the capacity to maintain the open space until assumed by the property owners associations;
  - c. Identification and location of all recreational facilities and nonresidential structures proposed in the PUD;
  - d. All information relating to the establishment, operation, and perpetuation of the PUD;
  - e. Proposed protective covenants;

- f. Location and description of natural features to remain;
  - g. Written request for any desired variances from the current Subdivision Regulations.
3. Final PUD Plan: A final PUD plan shall be submitted following the procedures and requirements outlined in Subdivision Regulations. In addition, if there are any changes in the items which were submitted in the preliminary plan they must be resubmitted with the final plan.

**D. Project Timeline**

It is the intent of this Ordinance to facilitate development under the PUD alternative. As such, the County has provided an accelerated development review process using a Special Project Review Team (SPRT) that shall meet weekly to assess the technical aspects of the project. In this case, a PUD subdivision may result in a rendered decision within four (4) weeks of a submitted application. Conventional subdivisions may take between six and eight weeks to complete their process.

**§5.9 – RESERVED**

## **Chapter VI –SITE PLAN REVIEW**

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### **§6.1 – APPLICABILITY AND EXEMPTION**

### **§6.2 – DEVELOPMENT REQUIRING SITE PLAN REVIEW**

### **§6.3 – CUMULATIVE IMPROVEMENTS**

### **§6.4 – AMENDMENTS TO APPROVED PLANS**

### **§6.5 – SITE PLAN DESIGN STANDARDS**

### **§6.6 – LAND USES AND SPECIAL REVIEW CRITERIA**

### **§6.7 – LAND USE COMPATIBILITY**

### **§6.8 – SITE PLAN REVIEW PROCEDURES**

### **§6.9 – RESERVED**

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### **§6.1 – APPLICABILITY AND EXEMPTION**

All development in the unincorporated areas of the County requires site plan review to ensure orderly development and availability of on-site utilities and infrastructure. Developments requiring site plan review shall require development site plan to be approved in accordance with this Ordinance prior to the issuance of a Building Permit.

Filing an application constitutes one form of permission for the County Planning staff, members of the Planning Board, County Road Department, Environmental Officer, and/or any other authorized agent acting for the County, to enter the development, if necessary, for survey and examination in order to enforce compliance with this Ordinance.

1. The term "development" shall include but will not be limited to the construction of a new improvement, construction of an addition to an existing improvement; and,
2. Shall include commercial land alteration by way of excavating, quarrying, mining, or similar activities; examples include but are not limited to dirt pits, gravel pits, quarries, asphalt plants, concrete and cement plants, and any other commercial operation that would generate heavy traffic such that affected roads would require improvements or increased maintenance or present a danger to the public safety on said roads but in no event shall include a farm or other agricultural facility, nor shall it include a single family residence.

#### **Development Exempted from site plan review:**

1. One and two family dwellings as defined in the current edition of the International Residential Code and associated accessory uses and structures.
2. Agricultural uses as defined in chapter III including but not limited to structures and or buildings used for agricultural purposes such as, barns, pole sheds, and calf sheds.

3. Exempt Home and Rural family occupations and Temporary uses as defined in Chapter VII-Special Development Regulations including Agricultural Tourism activities that do not meet the threshold for site plan review.
4. Interior renovations to accommodate an existing or proposed land use to an existing building(s) that does not change the existing building envelope, nor require additional parking or create an environmental nuisance.
5. Changes to the existing building façade including changes to the parapet, addition of canopy, carports, dormer windows, mechanical equipment, changes to the existing roofline.
6. Change in use of an existing structure provided the change in use does not increase the number of parking or loading spaces on-site or create any nuisance and or negative environmental impact to the nearby properties.
7. Installation and replacement of underground utilities located in public right-of-way and approved utility easements or corridors.
8. Public utility pump stations, utility boxes, and utility vaults.
9. Detached structures with a gross floor area less than 250 square feet or any other building or structure that does not require a building permit nor create an environmental nuisance.
10. Installation of fences, retaining walls, sidewalk, driveway and other impervious surfaces resulting in less than 10% additional impervious surface on-site.

## **§6.2 - DEVELOPMENT REQUIRING SITE PLAN REVIEW**

Generally, the following types of development activities require site plan review which includes but is not limited to the following:

1. New single detached building(s) with a gross floor area of 250 sq. ft. or more accommodating land use other than exempt as per the categories described in §4.3, Land Use.
2. Addition to an existing building that would result in an increase in the gross floor area on-site.
3. Change of use of existing building(s) on-site that will require additional parking, loading or utilities or create potential nuisance and or negative environmental impact to nearby properties, traffic or safety considerations.
4. Location of five or more recreational vehicles or loading spaces on site.
5. Creation of a parking area with five or more parking spaces.

6. Creation of an outdoor material storage area, automobile salvage yard, junkyard, automobile graveyard as defined by Benton County Ordinance No. O-2004-33.
7. Outdoor sales areas including boat sales and service, auto and RV sales, marine repair services.
8. Any other land use or operation that would generate heavy traffic, including but not limited to dirt pits, gravel pits, quarries, asphalt plants, concrete and cement plants.
9. Any development or improvement within or abutting an environmentally sensitive area, Special Flood Hazard Area (SFHA), MS4 boundary may also require site plan approval.
10. Any existing use of land that has a history or potential for environmental concerns including but not limited to drainage issues, erosion, noise, vibration, glare, fumes, electromagnetic interference, odors, or air and water pollution or any environmental concerns due to the development activity on-site.
11. Home and Rural family occupations and Agritourism operations that meet the site plan review criteria.
12. All adult oriented business, retail liquor establishments and sports shooting ranges & sports facilities.

Site Plan review may require additional analysis due to the scale, scope, or anticipated impact of the project or use. For example, this may include trip generation, water usage or wastewater generation, anticipated nuisances, and other criteria. Projects of regional impact are high impact projects whose influence may extend to a regional scope.

### **§6.3 – CUMULATIVE IMPROVEMENTS**

While a single building or site addition may not have significant impacts to surrounding properties, the cumulative effect of multiple additions over time may create a substantive or noticeable impact and create nuisances that one isolated addition might not have. Review thresholds for projects developing in phases or cumulatively shall be as follows:

- A. **Developments or Uses Passing a Threshold:** Any project by nature of cumulative development passes a threshold level of review shall be required to be reviewed under the requirements of the higher threshold even though the development proposed triggering the threshold crossing may only be minor in scope.
- B. **Phasing:** Projects proposing to phase the development shall be reviewed at a scale appropriate to the full proposed build-out of the development.

### **§6.4 – AMENDMENTS TO APPROVED SITE PLANS**

Any changes to a site plan that has received prior approval from the Planning Board shall be reviewed as Amendments to an approved site plan. Based on the scale and nature of the proposed changes, it may be reviewed as a Minor Amendment or a Major Amendment.

A. Minor Amendments Include the following:

1. Small scale building addition that would result in an increase in the gross floor area of the existing building(s) to no more than 10 percent (10%) of the existing without changing the orientation or location of the approved building on-site or increasing the parking/ loading requirements on-site.
2. Changes to the approved landscaping on-site which may be limited to a change in the plant material such that the alternative selection is in keeping with the approved intended function of the said landscaping for screening or buffering.

B. Major Amendments:

Approved site plan changes that do not meet the criteria for a minor amendment.

**Table 6.1 – Site Plan Amendment Thresholds**

	Site Plan
Minor Amendments	Administrative
Major Amendments	Public Hearing

**§6.5 – SITE PLAN DESIGN STANDARDS**

All development shall comply with the relevant provisions of chapter IV including land Use and development pattern, lot size and required setbacks, general requirements of development of land, and Performance Standards. In addition to the General requirements of division and development of land outlined in chapter IV, the following site plan design standards shall apply that includes design of safe and efficient vehicular access, adequate provision of parking and loading facilities on-site, provisions for compliance with the American with Disabilities Act (2010 ADA Standards), provision of adequate landscaping and screening on-site, and provision of utilities and services as outlined in this Section.

**1. Vehicular Access Requirements**

All development shall be accessed by a vehicular access that is located on the subject lands in accordance with the following standards:

- a. Where properties have frontage on more than one street, the access will be granted only on the street with the lower functional classification unless a traffic study approved by the Planning Board demonstrates that direct access to the arterial would promote improved traffic operations and/or safety.

- b. In order to promote safe traffic flow and minimize traffic conflicts, access driveways shall be adequately spaced and appropriately located to prevent blind corner along an existing road curvature or in close proximity to an existing access. In certain situation, the Planning Board may require a traffic study from the applicant to determine appropriate location and spacing to accommodate full-access movements and to alleviate potential traffic conflict concerns.
- c. Shared driveways may be permitted when fewer accesses onto a road or street would be favorable. A recorded shared access easement shall be required detailing the maintenance and operation agreement for the shared access to the satisfaction of the Planning Board.
- d. All access driveway shall be so arranged to prevent a vehicle to back out onto any County or public road.
- e. Development requiring larger vehicles such as trucks and semis to enter their property should provide truck turning templates on the site plan to verify sufficient width and safe maneuvering on-site.
- f. Access driveways shall be of sufficient length to allow vehicles to enter the center and not be impacted from on-site conflicts. An example of this type of conflict is when a vehicle is stopped in the entry driveway waiting for a vehicle to vacate a parking space on a drive aisle perpendicular to the driveway. Proposed development with greater than the peak-hour traffic demand may require adequately designed driveway on-site.
- g. Access driveway shall have the apron paved in accord with the standards as presented in the Benton County Road Plan.
- h. Property owner may be required to develop and submit a dust abatement plan to prevent dust on-site to the satisfaction of the Planning Board. The plan may include but is not limited to application of water or a dust palliative as needed.
- i. Property owner shall maintain and clean the approaches as set out above on a regular basis and shall be responsible for removal of any foreign objects on a County or public road which have been deposited on said road as a result of activity generated by said development.
- j. Sight Triangles. On all driveways, no landscaping, fencing, or signs above 30 inches in height are to be located on private property within a 12-foot sight triangle as measured from the right-of-way. Where building design precludes providing this sight distance, signage should be used to warn other users of approaching vehicles to the satisfaction of the County Road Department. Fences and perimeter landscaping should not obscure the sight triangles at driveway entrances to the public way.

## 2. Fire and Emergency Access Lane

Emergency access lanes are required for most large commercial and industrial land uses, and other facilities such as hospitals, schools, and large apartment buildings. Requirements for emergency access lanes are established by the Benton County Fire Marshal. When such lanes are provided, the developer is responsible for the installation and maintenance of the necessary signs and markings to delineate the lanes and prevent parking in them. Signs, at spacing not more than 50 feet, indicating, “No Parking, Fire Lane”, are required.

### 3. Parking Area Design and Circulation

Parking is an important element in site design, and it is required that adequate parking facilities are constructed as part of any new development. To prevent large expanses of asphalt separating businesses from abutting public roads, developers are encouraged to break parking areas up into modules separated by landscaping and other features.

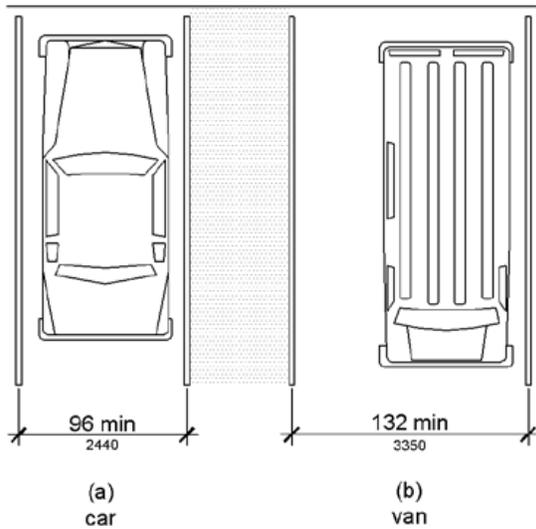
- a. Number of Spaces. The number of required parking spaces will be determined in accordance with Table 6.3. The table indicates minimum parking requirements related to the type of Land use. Where parking spaces are based on the square footage of a building, the applicant shall provide a calculation based on gross floor area.
  - i. Where fractional spaces result, the parking spaces required shall be construed to be the next highest whole number.
  - ii. In the case of mixed uses, uses with different parking requirement occupying the same building or premises, the parking spaces required shall equal the sum of the requirement of the various uses computed separately.
  - iii. Joint Use of Parking Facilities: Whenever possible, the parking needs of two or more properties may be consolidated rather than providing independent facilities. Planned Unit Developments such as shopping centers, office and apartment developments, and similar uses should particularly consider joint parking facilities.
- b. Provision of Accessible Spaces On-Site. The type and number of ADA-compliant parking spaces shall be subject to applicable state law. See table 6.1 for accessible space requirements.

The number, locations, dimensions, and signing of accessible parking stalls shall be in accordance with the current ADA Standards for Accessible Design. Accessibility for persons with disabilities in parking lots and buildings shall be as required by the current ADA standards. The following table shall be used to determine the minimum number of accessible parking spaces to be provided on-site.

**Table 6.1 – Number of required accessible spaces**

Total Parking in Lot	Required Minimum Number of Accessible Spaces
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1000	2 percent of total
1001 and over	20 plus 1 space for each 100 spaces over 1000

**Fig. 6.1 Typical size of accessible parking spaces**



Accessible parking spaces shall be at least 96 in (2440 mm) wide. Two accessible parking spaces may share a common access aisle as shown in figure 6.1. The length of the accessible parking space shall be consistent with Figure 6.2. Parking access aisles shall be part of an accessible route to the building or facility entrance and shall ADA requirements. Parked vehicle overhangs shall not reduce the clear width

of an accessible route. Parking spaces and access aisles shall be level with surface slopes not exceeding 1:50 (2%) in all directions.

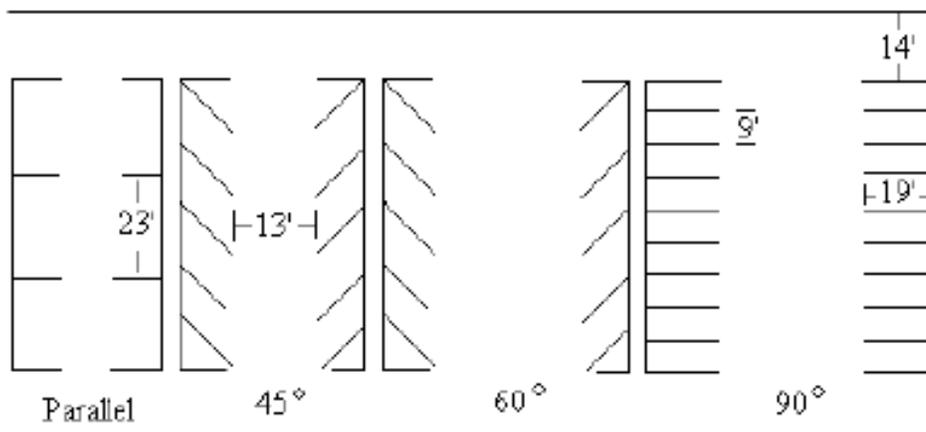
One in every eight accessible spaces, but not less than one, shall be served by an access aisle 96 in (2440 mm) wide minimum and shall be designated "van accessible" with adequate vertical clearance at such spaces in compliance with ADA standards.

- c. Parking space Dimensions and Layout: The standard stall width shall be a minimum of nine feet in width and minimum nineteen feet in length. Parking area dimensions are detailed in Table 6.2. Parking layout may be designed with varying angles as shown in Figure 6.1-Off Street parking Layouts. Parking at right angle is encouraged, however, where there is a desire to provide additional on-street parking, diagonal parking may be used with a one-way traffic flow.

**Table 6.2 Off-Street Parking Dimensions**

Criteria	45 Degrees	60 Degrees	90 Degrees	Parallel
Minimum Width of Parking Space	12'	10'	9'	9'
Minimum Length of Parking Space	19'	19'	19'	19'
Minimum Width of Driveway Aisle	13'	17'6"	25'	12'
Minimum Width of Access Driveway	17'	14'	14'	14'

**Figure 6.2 – Off Street Parking Layouts**



- d. **Traffic Circulation:** All internal site circulation shall be contained within the site. Use of public streets for internal circulation shall not be permitted. Parking areas accommodating over ten (10) vehicles should have continuous (as opposed to dead-end) circulation patterns.

Parking area serving a specific land use shall be located on the same parcel. Detached or satellite parking facilities may be used only if the satellite location is under the same ownership and within reasonable proximity. On site loading/ unloading spaces shall be located to avoid undue interference with public right of ways and where possible away from residential or sensitive land uses due to the possibility of noise and light intrusion, except where it is located within a completely enclosed building.

#### **4. Parking area Surfacing and Grading**

Parking area surfaces shall be a hard surface and mud free with adequate drainage. In certain situations, asphalt or concrete surfacing may be required by the Planning Board. The maximum desirable grade in any direction is 5 percent. Parking spaces in commercial, industrial, institutional, and public parking lots should be maintained in such a manner that no dust will be produced by continued use. Parking spaces shall be clearly marked with painted lines or dividers and the perimeter shall be defined with concrete bumper curbs, wood ties or other similar features to delineate the limit of the parking areas and to protect the landscape areas.

#### **5. Loading Spaces**

Loading spaces or docks should be designed in a manner where they can be accessed from a public road without backing or maneuvering on public road. All loading spaces must be located off the public way, and be of sufficient length. Locating loading docks that require a backing maneuver to or from an arterial and/or collector street should be avoided. Similarly, loading docks shall be located as far away from the residential use as possible to prevent noise and lighting nuisance and shall be adequately screened. In situations where loading areas are located in proximity to residential or sensitive land uses, noise abatement measures such as noise attenuation walls designed and constructed to Industry standards may be required. Loading space sizes shall be minimum 10 feet by 25 feet. Loading spaces shall be required on-sites based on the proposed activity/land use.

#### **6. Exterior Lighting**

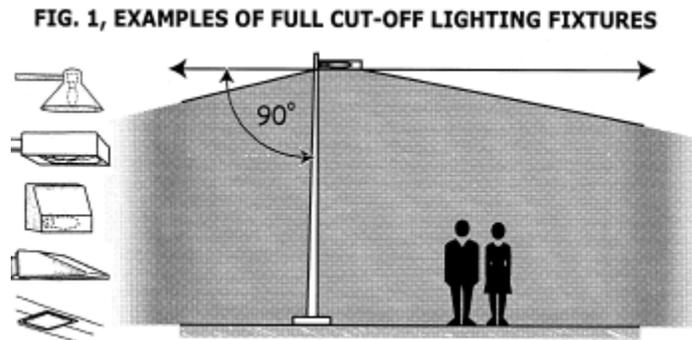
Exterior lighting should be used to enhance safety and security on the site, to provide adequate lighting for nighttime activities and to highlight special site features. The use of outdoor lighting is often necessary for adequate nighttime safety and utility, but common lighting practices can also interfere with other legitimate public concerns. Principle among these concerns is:

1. The degradation of the nighttime visual environment by production of unsightly and dangerous glare;
2. Lighting practices that produce excessive glare and brightness;
3. Unnecessary waste of energy and resources in the production of too much light or wasted light;

4. Interference in the use or enjoyment of property that is not intended to be illuminated at night by light trespass, and the loss of the scenic view of the night sky due to increased urban sky-glow.

All exterior light fixtures are required to be identified on the site plan along with the intensity and type of light fixture. Full cut off light fixtures are required.

**Figure 6.3 – Example of Full Cut off Lighting**



The term full cut-off is used to describe luminaires that have no direct up-light (no light emitted above horizontal). However, in addition to that limitation, the Illuminating Engineering Society of North America (IESNA) definition also requires luminaires to comply with the glare requirement limiting intensity of light from the luminaire in the region between 80° and 90°.

The term fully shielded is used for luminaires that emit no direct up-light, but have no limitation on the intensity in the region between 80° and 90°.

Parking areas should have safe access to public streets and be adequately lighted for night use. The lighting is required to be full cut off lighting and shall be directed away from nearby residential or other sensitive land uses.

Recreational vehicle or storage parking areas should have security fencing and lighting.

## **7. Landscaping and Buffers**

This shall be consistent with §4.6. In addition the following criteria apply:

### **Screening/Buffering Requirements**

A screen or buffer is a natural or man-made feature which separates land uses. Screening, buffering, and landscaping requirements address visual, light, and sound impacts. Screens and buffers can enhance community appearance, reduce land use conflicts by separating incompatible land uses, improve the appearance of parking areas and public rights-of-way, minimize soil erosion, and reduce stormwater runoff.

Screening requirements focus more on the visual impacts of the use, and buffering focuses more on light and sounds, although the two are interrelated. Screens could be fences, walls, trees, or shrubs placed to help blend the use into the surroundings or block it completely. Buffers could be strips of land or water, hills or berms, a clump of trees, or other landscaped features. Berms are mounds of landscaped earth and are especially useful along roadways to reduce the glare of headlights and noise from traffic. Small, landscaped berms are also used to enhance the appearance of commercial corridors.

Landscaping requirements address size, spacing, quality, composition, installation, and maintenance. Berm standards address slope, landscaping, and width of the crown. Fencing and screening standards address height, setbacks, materials, traffic safety, and emergency access. Fencing and screening are typically required for outdoor storage, mechanical equipment, roof-mounted equipment, utility substations, side and rear lot lines of nonresidential uses, and swimming pools.

Walls made of brick or stone can be attractive and effective buffers but they are also the most expensive. Therefore, appropriate selection of choice between landscaped buffers, fences, and solid walls where screening is required.

It is suggested that where trees or shrubs are used for screening or buffering the following guideline may apply:

- Deciduous Trees – Two (2") inch caliper
- Coniferous Trees – Five (5') feet in height
- Shrubs – Two (2') feet in height

Shrubs required for screening must have a minimum height of five (5") inches. All trees should be wire basket, B & B, or container grown. Deciduous trees planted in a row will be centered at ten (10') feet maximum. Smaller flowering trees and ornamentals will be centered at four (4') feet maximum. Coniferous trees will be centered at four (4') feet to five (5') feet depending on desired effect.

All shrubs are to be planted in continuous planting beds. Planting beds will be mulched to a minimum depth of three (3") inches and will be maintained weed free. Plantings consisting of trees and shrubs will be a minimum of 50% coniferous plantings.

All landscaped berms shall have a maximum slope of 3:1 for maintenance and landscape purposes.

Responsibility for maintenance and upkeep of natural (vegetative) and constructed buffers and screens shall be the sole responsibility of the property owner of record. Natural buffers must be maintained in healthy condition throughout the duration of the incompatible use. Any required planting materials that expire shall be replaced by equivalent plants in good health.

## **8. On-site Infrastructure and Utilities**

All on-site infrastructure and utilities shall be identified on the site plan, including location of water pipelines, private wells, septic tank, lateral fields, overhead transmission lines traversing the property, easements, propane tanks, and all other infrastructure elements.

**Table 6.3 – On-Site Parking Performance Standards**

<b>Proposed Land Use</b>	<b>Minimum Parking Requirements</b>
<b>RESIDENTIAL</b>	
Duplex	1.5 spaces per unit or 3 spaces per duplex
Multi-family residence	2 spaces for the first two units and 1.5 spaces per unit for subsequent units
Congregate elderly housing	0.6 spaces per unit
Hotel, Motels or inn	1 space per guest bedroom
Bed and Breakfast	1 spaces per guest bedroom plus 1 space for the owner
<b>INSTITUTIONAL</b>	
Nursing or rest homes, similar resident care Facilities	1 space per 2 employees + 1 space per physician + 1 space per 2 beds or rooms
Day care centers	1 space for every 2 employees plus 1 additional space for every 10 children served.
Schools (public or private)	1 spaces per teacher/staff + 1 space for every 10 secondary students; Note that facility must provide adequate off-street bus loading and unloading areas.
Libraries and museums	1 space per 2 employees + 3 spaces per 1000 s.f. of Gross Floor Area (GFA)
Hospital	1 space per 2 employees + 1 space per doctor + 1 space per 2 beds
Church or other house of worship	Greater of 1 per 5 seats or 1.75 per 1000 s.f. of Gross Floor Area (GFA).
<b>COMMERCIAL</b>	
Shopping centers	5 spaces per 1000 s.f. of Gross Floor Area (GFA)
Sport arenas, theaters, auditoriums	1 space for every 4 seats and/or 30 sq. ft. of assembly area without fixed seating.
Motor vehicle repair	1 space per employee plus 3 spaces per bay
Full service restaurants, bars, entertainment, clubs, and similar uses; bowling alleys	1 space for every 5 fixed seats and/or 100 sq. ft. of floor area used for assembly dancing recreations,

Proposed Land Use	Minimum Parking Requirements
	etc. whichever is greater + 1 space for every 2 employees on the largest shift + 5 spaces per lane for bowling alleys (Note that no use in this category shall provide less than 10 spaces).
Restaurant, or fast food	5.5 spaces per 1000 s.f. Gross Floor Area (GFA) or 1 space per 4 seats whichever is greater
Drive through facilities, such as, financial institutions with drive up teller or ATM, pharmacy	Vehicle stacking requirement of 4 vehicles per window/kiosk
Drive through facilities, such as, restaurants, fast food and or coffee shops with no indoor seating	Vehicle stacking requirement of 6 vehicle per window
Banks, similar financial institutions; real estate, insurance; business and professional offices, auto sales and service centers	3 spaces for every 1000 sq. ft. of Gross Floor Area (GFA)
Medical offices	1 space per 2 employees + 3 spaces for every 1000 sq. ft. Gross Floor Area (GFA)
Major appliance, furniture stores, general merchandise "discount" stores	2 spaces for every 1000 sq. ft.; adequate loading areas
Other commercial or retail uses	5 spaces for every 1000 sq. ft.; Note that adequate loading areas shall be provided
Outdoor sales areas (boats, autos, RV's implements, mobile homes), Boat sales and service	1 space for every 1000 sq. ft. up to 10 spaces; an additional space for each additional 5000 sq. ft.; one space per employee on largest shift; Site must provide adequate loading areas.
Marine repair services, no boat sales	1 space per employee plus 3 per bay or work area
Indoor rack boat storage	1 space per employee plus 2 for visitors, maintenance, or security
Retail gasoline stations	Vehicle stacking requirement of 2 vehicle per gasoline pump
Wholesale gasoline stations	Vehicle stacking requirement of 4 vehicle per gasoline pump
<b>INDUSTRIAL</b>	
Manufacturing, processing and wholesale facilities (and similar uses or establishments)	1 space for every employee/shift + 1 space for each company owned vehicle + Designated visitor parking spaces + (or) 2 spaces per 1000 s.f. of Gross Floor Area (GFA), whichever is greater. Site must have adequate loading areas and holding areas for vehicles loading or unloading.

Proposed Land Use	Minimum Parking Requirements
Warehouse or storage facilities	1 space for every employee/shift + 1 space for each company owned vehicle + (or) 5 spaces per 2,000 s.f. of Gross Floor Area (GFA), up to 50,000 sq. ft., after which, in addition, 1 space per 10,000 sq.ft. whichever is greater. Site must have adequate loading areas and holding areas for vehicles loading or unloading.
<b>OTHER</b>	
Mixed uses	Parking requirements shall be the sum total of the requirements of the individual uses, but shared reduced parking requirements may be allowed between uses with a shared parking plan. <u>Example:</u> A building containing 2000 s.f. of retail uses on ground floor (2000/200=10) + 2000 s.f. of office uses on 2 <sup>nd</sup> floor (2000/.333=6) + 2 units of residential use on 3 <sup>rd</sup> floor (2 spaces each=4) would require 20 parking spaces unless reduced through a shared parking plan.
<p><b>Note 1:</b> The square footage used to determine parking space requirements will be the gross square footage devoted to a user’s principal function. Service and support spaces, like restrooms, boiler rooms, and closets will not be included.</p> <p><b>Note 2:</b> Stacking space shall have the same dimensional requirement as a parking space. Further, stacking lanes shall not interfere with parking spaces, parking aisles, internal site circulation, or points of ingress and egress and shall not stack into any Public Road.</p> <p>In case joint parking facility is proposed, 50% of the required spaces may be shared with adjoining business, institutions and agencies that do not have a time conflict in parking demand.</p>	

## §6.6 LAND USES AND SPECIAL REVIEW CRITERIA

An exhaustive list of land uses is provided in the table below along with special review criteria for certain uses that warrant additional design considerations ranging from setbacks, provision of adequate screening and buffering as well as licensing.

**Table 6.4 – List of Uses and Use Specific Criteria**

Use Group and Category	Special Criteria
<b>Exempt Uses</b>	
Single-family residential uses, low density (1)	Exempt from the provisions of this chapter.
Single-family residential uses, medium density (2)	Exempt from the provisions of this Chapter.

Use Group and Category	Special Criteria
Agricultural Uses (0)	Exempt from these regulations except for certain agricultural commercial activities and certain agri-tourism uses.
<b>Commercial Uses</b>	
General offices and office buildings to be used for the administrative functions of companies, corporations, non-profit, social, or philanthropic organization or societies (7)	
Professional offices, such as accountants, architects, brokers, engineers, dentists, insurance, lawyers, physicians, osteopaths, chiropractors, planners, real estate, etc. (4)	
Financial institutions including banks, savings and loan institutions, credit union offices (6, 7)	
Printing, publishing, and engraving firms, including newspaper publishing (9)	
Hospitals, Medical and Emergency Clinics (5)	
Appliance and other repair shops; general service and repair establishments (6, 7)	
Radio and television studios, photographic studios (7)	
Automotive and truck service stations, and related development including: repair and service facilities, tire sales and service, paint and body shops, upholstery shops, muffler service and repair, car and truck washes, new and used car and truck sales, etc. (9)	
Child and adult care facilities (5)	Childcare and adult care facilities shall provide appropriate licensing and accreditation letters.
Hospitals or Veterinary clinics for animals (7)	Kennels, outdoor runs, and animal crematoria require sufficient screening, buffers, and noise reduction. Crematoria also require approval from ADEQ Air Quality division.
Alcoholic beverages generally (7, 9)	Uses which sell any product defined and/or described in the Rules and Regulations of the Alcoholic Beverage Control Division of the State of Arkansas Department of Finance and Administration shall adhere to said rules and regulations and shall provide to the Planning Board any permit or license required by the ABC as applicable.
Mortuaries, Funeral Homes (8)	Crematoria require 50 foot setbacks from all property lines plus sufficient buffers and screening from adjacent uses
Speedways, racetracks, drag tracks and other motor sport facilities (9)	Requires minimum 200-foot setbacks from property lines plus sufficient screening, buffers, and noise reduction.
Shopping centers, retail stores and shops, including the following: antique shop, appliance store, art school, gallery, museum, artist materials, supply studio, auto supply, baby shop, bakery goods, barber, beauty shop, book and stationery store, camera, candy, catering establishment, cleaning, pressing, laundry collection agency, clothing, gift shop, dry goods, dairy products or ice cream store, delicatessen, department store, florist, furniture store, grocery store or supermarket, hardware store, jewelry or notion, lodge hall, meat market, medical facility, messenger or telegraph service, musical instrument sales, newspaper or magazine sales, optical sales and service, package liquor store, paint and decorating	

Use Group and Category	Special Criteria
shop, pharmacy, radio and television sales and service, restaurant, self-service laundry or dry cleaning, sewing machine sales, sporting goods sales, shoe store or repair shop, tailor shop, toy store, variety store (6, 7, 9)	
Auditorium, theater, stadia and open-air theaters (8)	Outdoor venues require minimum 200 foot setbacks from property lines plus sufficient screening, buffers, and noise reduction.
Amusement and recreation including bowling alleys, amusement arcades, mini-golf, and go-cart tracks (7, 9)	Outdoor venues require minimum 100 foot setbacks from property lines plus sufficient screening, buffers, and noise reduction.
Taverns, bars, night clubs, adult entertainment and other membership clubs (7, 9)	<p>7. Facilities serving alcoholic beverages shall meet the requirements of the Alcoholic Beverage Control Laws and Rules and Regulations of the State of Arkansas. Refer to §7.8 of this Ordinance.</p> <p>8. Facilities using an amplified sound system shall not exceed reasonable noise levels external to the building and may be restricted regarding the time of day that such amplified noise may be permitted.</p>
Restaurants, drive through establishments, etc. (7, 8)	
Hotels, motels, or motor hotels (7)	
Airports and air transportation (8, 9, 10)	Require minimum 300 foot setbacks from property lines plus sufficient screening, buffers, and noise reduction mitigation measures.
Cold-storage units, food storage lockers, mini-storage units, transportation and associated uses (8, 9)	
Farm machinery sales and services, including storage yard, parking lots operated as a business; plumbing and heating shops; trailer and mobile home sales area (9)	
Special events facilities (8)	<p>Review based on scale. Larger facilities will have a greater impact and may be reviewed as a Level III site plan.</p> <p>At minimum require limits on hours of operation, potential noise reduction, provision of overflow parking, ingress-egress, and location criteria.</p>
Retail sale of alcoholic liquor (7, 9)	All retail establishments selling must adhere to the Arkansas Rules and Regulations of the Department of Finance and Administration, Alcoholic Beverage Control (ABC) Division, as may be amended from time to time. Applicants proposing to develop or otherwise establish a liquor retail facility shall provide the Planning Board with their license approved by ABC. Refer to §7.8 of this Ordinance.
Livestock auctions, feedlots and	Require minimum 200 foot setbacks from property lines plus

Use Group and Category	Special Criteria
holding pens, and compost facilities used for commercial sales (7)	sufficient screening, buffers, and noise reduction.
<b>Industrial Uses</b>	
Chemicals, Petroleum, Coal, and Allied Products: Manufacturing, processing, or warehousing of: cosmetics and toiletries, ice (including dry ice), ink, insecticides, fungicides, disinfectants, and related industrial and household chemical compounds, pharmaceutical, products, soap, washing or cleaning powder or soda, thermo-plastics, adhesives, bleaching products, bluing, calcimine, candle, dyestuff, essential oils, exterminating agents and poisons, soap products, acids and derivatives, acetylene, alcohol (industrial), ammonia, caustic soda, cellulose and cellulose chlorine, coke oven products (including fuel gas), creosote, coal, tar, asphalt, wood and bones, fertilizer (organic or non-organic), fish oils and meal, fuel briquettes, glue, hydrogen and oxygen, nylon, petroleum, gasoline, lubricating oils, plastic materials and synthetic resins, potash, proxynin, rayon; rendering and storage of dead animals, storage and transfer of offal, garbage, or waste product (solid waste transfer stations), resource recovery facilities, dyeing and cleaning works (11)	Submit a hazardous materials handling and disposal plan that includes the types and amounts of materials to be used, detailed narrative of how each material will be used, what precautions will be taken, and how the used materials will be disposed of. Applicant shall note on the plan the area(s) within the building(s) and site where materials will be used and/or stored.
Food and Beverage: Bakery products, wholesale (manufacturing permitted), beverage, blending, bottling, candy, chewing gum, chocolate and cocoa products, coffee/tea/spices processing and packaging, condensed and evaporated milk processing, creamery and dairy operations, dairy products, flour/feed/grain packaging and storage, fruit and vegetable processing (including canning, preserving, drying, and freezing), gelatin products, glucose and dextrin, meat products, poultry packaging and slaughtering, yeast, breweries, fish/oysters and other seafood processing, sugar refining, cider and vinegar, distilleries (alcoholic) breweries and alcohol spirits (non-industrial), fat rendering, slaughtering of animals, starch manufacturing (8, 11)	Facilities that engage in noxious or foul activities that could be a nuisance such as animal slaughtering or fat rendering should be established in an industrial location and shall not be located within 500 feet of any residential use.
Metals and Metal Products: Manufacturing, warehousing, storage, and distribution of agricultural or farm implements, aluminum, bicycles, boats, bolts, nuts, screws, washers and rivets, culvert, firearms, foundry products, heating/ ventilation /cooking	Submit a hazardous materials handling and disposal plan that includes the types and amounts of materials to be used, detailed narrative of how each material will be used, what precautions will be taken, and how the

Use Group and Category	Special Criteria
/refrigeration supplies and appliances, iron fabrication, machinery, nails /brads /tacks /spikes /staples, needles and pins, plating, plumbing supplies, scale and vault, sheet metal products, silverware and plated ware, stove and range, tinsmith shop, tool/die/gauge and machine shops, tools and hardware products, vitreous enameled products, boiler manufacture, galvanizing and plating (hot dip), lead oxide, locomotive and railroad car building, motor testing, ore dumps and elevators, structural iron and steel fabrication, wire rope and cable, aircraft and aircraft parts, automobile, truck trailer, mobile home and bicycle assembly, blast furnace, blooming mill, metal and metal ores, reduction, refining, smelting and alloying, scrape metal reduction, steel works and rolling mill (8, 11)	used materials will be disposed of. Applicant shall note on the plan the area(s) within the building(s) and site where materials will be used and/or stored.
Textiles, Fibers, and Bedding: Bedding (mattress, pillow, and quilt), carpet, rug, and mat, hat, bodies of fur and wool felt manufacture, hosiery mill, knitting, weaving, printing, finishing of textiles and fibers into fabric goods, rubber and synthetic treated fabrics, yarn thread and cordage, bleachery cotton wadding or linter, hair and felt products, jute, hemp and sisal products, linoleum and other hard surface floor covering, oilcloth, oil-treated products, and artificial leather, shoddy, wool (pulling or scouring) (8, 11)	Submit a hazardous materials handling and disposal plan that includes the types and amounts of materials to be used, detailed narrative of how each material will be used, what precautions will be taken, and how the used materials will be disposed of. Applicant shall note on the plan the area(s) within the building(s) and site where materials will be used and/or stored.
Wood and Paper Products: Basket and hamper (wood, reed, rattan, etc.), box and crate, cooperage works, furniture, pencils, planning and millwork, pulp goods (pressed or molded including paper mache products), shipping container (corrugated boards, fiber, or wire bound), trailer, carriage and wagon, wood products, excelsior, paper and paperboard, sawmill, wall board, match manufacture, wood preserving treatment, wood pulp and fiber, reduction and processing (8, 11)	Submit a hazardous materials handling and disposal plan that includes the types and amounts of materials to be used, detailed narrative of how each material will be used, what precautions will be taken, and how the used materials will be disposed of. Applicant shall note on the plan the area(s) within the building(s) and site where materials will be used and/or stored.
Extraction Uses (21): Surface mining operations including: strip and open-cut mining, and quarrying (11)	
Junkyard Uses: Junk, scrap, or salvage yards, including junkyards, automotive salvage yards, and automotive graveyards (11)	
Other Unclassified Uses: Manufacturing, storage, sales, and distribution of construction materials (cement, lime in bags or containers, sand gravel, shell, lumber and the like), bus garage and repair shop, button, carbon paper and inked ribbons, tobacco products, cleaning and dyeing of garments, hats and rugs, coal and coke, fir finishing, industrial vocational training	Submit a hazardous materials handling and disposal plan that includes the types and amounts of materials to be used, detailed narrative of how each material will be used, what precautions will be taken, and how the used materials will be disposed of. Applicant shall note on the plan the area(s) within the

Use Group and Category	Special Criteria
<p>school (including internal combustion engines), laboratories, research, experimental including combustion-type motor testing, laundries (commercial only), wholesale market, motion picture production, printing, publishing, and engraving, produce, railroad switching, tire treading and vulcanizing, truck or transfer terminal, other wholesale houses and distributors, oils/vegetables/animal processing and storage, paint/lacquer/shellac and varnish, roofing materials, building paper and felt, bag cleaning, cotton seed, oil refining, leather goods, tanning operations, hair/hides/raw fur/curing, dressing, dyeing and storage, rubber processing, rubber tire and tube, batteries (8, 11)</p>	<p>building(s) and site where materials will be used and/or stored.</p>
<p>Clay, Stone, and Glass Products: Abrasive wheels, stones, paper, cloth, and related products, brick, firebrick, and clay products, concrete products, central mixing and proportioning plants, glass products, monument and architectural stone, pottery and porcelain products, refractories, sand-lime products, stone products, wall board and plaster, building, installation and composition flooring (8, 11)</p>	<p>Submit a hazardous materials handling and disposal plan that includes the types and amounts of materials to be used, detailed narrative of how each material will be used, what precautions will be taken, and how the used materials will be disposed of. Applicant shall note on the plan the area(s) within the building(s) and site where materials will be used and/or stored.</p>
<p>Waste management and remediation services (11)</p>	
<p><b>Other Typical Uses Subject to Site Plan Review</b></p>	
<p>Apartments, townhouses, condominiums (3)</p>	
<p>Mobile home parks, trailer parks, RV parks, and campgrounds (2)</p>	
<p>Utility uses including power generation, natural gas distribution and storage, water supply and irrigation systems, sewage treatment facilities, steam and air conditioning supply, and telecommunications (10)</p>	
<p>The non-production or non-process use of commercial amounts of hazardous chemicals or substances</p>	

## §6.7 LAND USE COMPATIBILITY

Basic compatibility for the purpose of conducting an appropriate level of site plan review is determined using the following steps:

- A. Using Table 6-6 below, determine the land use category or categories that the proposed development best fits. The number(s) in parentheses identify the subject land use category for the purpose of the review. Determine the adjoining land uses and their respective land use number code.
- B. Using the “A” column (Subject Property) in Table 6-2 below, locate the use row for the land use type. Then using the “B” columns, find the corresponding land use category for each of the land uses adjacent to the subject property. The cell(s) where the row in Column “A” intersects with the appropriate “B” column(s) is the “basic compatibility” for the proposed project.

**Table 6.5 – Land Use Compatibility Matrix**

<b>A. Subject Property ↓</b>	<b>B. Adjacent Property ↓</b>	Agricultural (0)	Low Density Residential (1)	Medium Density Residential (2)	High Density Residential (3)	Professional Office (4)	Government/Educational/Institutional (5)	Neighborhood Commercial (6)	General Commercial (7)	Regional Commercial/Light Industrial (8)	Heavy Commercial (9)	Utilities (10)	Heavy Industrial (11)
Agricultural (0)		☑											
Low or Med. Density Residential (1/2)		☑	☑										
High Density Residential (3)		☑	B	B	☑								
Professional Office (4)		☑	A	A	A	☑							
Government/Educational/Institutional (5)		☑	B/C	B/C	A	☑	☑						
Neighborhood Commercial (6)		A	B	A/B	A	☑	☑	☑					
General Commercial (7)		B	B/C	B	B	A	☑	☑	☑				
Regional Commercial/Light Industrial (8)		B	C	C	B/C	A	A	A	☑	☑			
Heavy Commercial (9)		C	☒	☒	C	B	A/B	A	☑	☑	☑		
Utilities (10)		B/C	☒	☒	B	A	☑	☑	☑	☑	☑	☑	
Heavy Industrial (11)		☒	☒	☒	☒	C	C	C	☑	☑	☑	☑	☑

C. The “basic compatibility” score will be one of the following:

1. Fully compatible or GREEN: This means that for site plan review, mitigation will either be unnecessary or incidental.
2. Questionably compatible or YELLOW: This means that compatibility can be achieved but some mitigation will be required. There are three levels of questionable compatibility as per Table 6-2 below including:
  - a. Minor (A)
  - b. Moderate (B)
  - c. Major (C)

Based on the category A, B, or C, the applicant can determine a set of standards for setback and buffers.

3. Incompatible or RED: This means that the uses are generally regarded as incompatible. Unless unique circumstances or extraordinary mitigation measures are proposed, the application should not be supported.

D. Based on these standards, applicable review criteria listed in Table 6.6 below, and applicable performance standards listed in chapter IV, the applicant should have a set of criteria upon which to develop a site plan with appropriate mitigation measures to ensure optimum compatibility.

**Table 6.6- Compatibility Levels and Criteria**

<b>Compatibility Level</b>	<b>Setbacks</b>	<b>Buffer Requirements</b>	<b>Additional Mitigation</b>
<b>Level 1 – Fully Compatible:</b> When a proposed use is identical to pre-existing land uses or totally compatible it is assumed to be fully compatible. Development should be designed consistent with good planning practice and to ensure the maintenance of compatibility.	Standard	None	None
<b>Level 2 – Questionable Compatibility:</b> When a proposed use may have potential conflicts, either minor or significant, with existing adjacent uses, such conflicts may need to be remedied or minimized through project redesign. Traffic and other external effects should be directed away from lower-intensity uses. Landscaping, buffering, and screening should be employed to minimize negative effects. Other mitigation measures may be necessary to ensure basic compatibility. There are three degrees of questionable compatibility:	<b>A-Minor</b> Add 0’-10’  <b>B-Moderate</b> Add 10’-15’  <b>C-Significant</b> Add 15’-20’	<b>A-Minor</b> 10’-15’ Depth 2 tier plantings  <b>B-Moderate</b> 15’-25’ Depth 2-3 tier plantings  <b>C-Significant</b> 25’-40’ depth May require	Based on specific use. See Table of Uses for specific examples and refer to performance criteria in §4.8

<p><b>A-Minor:</b> May require minimal setbacks, screening, or buffering plus other measures based on specific use such as restrictions on hours of operation.</p> <p><b>B-Moderate:</b> May require deeper setbacks and/or more concentrated screening and buffering plus other measures based on specific use such as restrictions on hours of operation.</p> <p><b>C-Significant:</b> May require substantial setbacks and/or may also require the most intensive screening and buffering plus other measures based on specific use such as restrictions on hours of operation.</p>		wall/fence and 3 tier plantings	
<p><b>Level 3 – Incompatible/Deleterious:</b> When a proposed use is incompatible with adjacent land uses, the project should not be supported unless extraordinary measures can be taken to offset the impacts. Incompatibility may trigger a fundamental shift in predominant land uses in a previously stable area.</p>	Greater than 20’	40’ or greater; May require wall/fence and 3 tier plantings	Based on specific use. Mitigation, if feasible or practicable, will likely be significant.

## §6.8 - SITE PLAN REVIEW PROCEDURES

### A. Administrative Review Process

1. Pre Consultation and Development Review Committee (DRC) Meeting : Prior to submission, applicants are encouraged to pre-consult with Planning staff and attend the DRC meeting to review the documents/ drawings required for the submission and applicable design guidelines.
2. Preparation of Application Packet: It is highly recommended that in order to make a complete and substantive application for review, the applicant should pay close attention to the following steps:
  - a. Conduct a compatibility analysis as described in §6.7 of this Ordinance.
  - b. Consult with staff if any criteria, measure, or provision is unclear or ambiguous.
3. File Application: For site plans that may be reviewed and approved administratively (minor site plans [C1]), applicants shall provide two (2) copies of a complete application packet for review. The applicant shall notice the review by posting a sign on the property for the period under which the application is being reviewed as per the requirements of §4.8 of this Ordinance.
4. Plan Review: Once application packet has been determined complete and fee is paid, the Planning staff will undertake a technical review of the plan and other information. This may

include a site visit and other research in order to conduct a thorough review of the proposal.

Decision: Staff shall, within fifteen (15) working days, make a decision regarding the application and shall provide the applicant with a Letter of Decision within this time frame. The staff may request an extension in writing from the applicant to this time frame in order to conduct additional research. If no extension is granted, the application shall be adjudicated with the information available.

## B. Planning Board Review Process

1. Pre Consultation and Development Review Committee
  - a. Prior to submission, applicants are encouraged to pre-consult with planning staff to review the documents/ drawings required for the submission and applicable design guidelines.
  - b. All site plan projects shall be reviewed prior to application submittal to the Benton County Development Review Committee (DRC). Refer to the provisions of §4.9 of this Ordinance for DRC procedures.
2. Preparation of Application Packet: It is highly recommended that in order to make a complete and substantive application for review, the applicant should pay close attention to the following steps:
  - a. Conduct a compatibility analysis as described in §6.7 of this Ordinance.
  - b. Consult with staff if any criteria, measure, or provision is unclear or ambiguous.
3. File Application: submit required number of paper copies of the site plan at 18"x24" and an electronic copy (.pdf file) of the proposed application shall be submitted to the Benton County Planning Office.
4. Fees: Applicant shall submit required fees.
5. Subdivision: When the tract is to be subdivided the developer shall further abide by the preliminary platting and final platting requirements as set forth in Chapter V of this Ordinance.
6. Notice: The Planning staff and the applicant shall give notice for public hearing agenda as provided in §4.8 of this Ordinance.
7. Planning Board Review: Site plans shall be reviewed by the Planning Board at regular meetings including a technical Advisory Committee and a separate public hearing. The action of the Board shall take place within sixty (60) days from and after the date the application is received by the Case Manager for the plan approval, unless the applicant agrees in writing to an extension of time. The Planning Board will vote to approve, to approve with conditions, or to reject the plan.

8. Public Comment: Public comments concerning a specified proposed development can be made at regularly scheduled Planning Board meeting(s).
9. Plan Acceptance or Rejection: The Planning Board will approve site plans only where there is full compliance with the provision of this Ordinance or where any deviation from the Ordinance is explicitly waived or modified by the Board after a formal request by the applicant. The developer shall receive written notice in the form of a Letter of Decision of the approval or denial of the application for an approved site plan. One (1) copy of the approved or rejected plan, with conditions noted thereon, shall be returned to the developer/owner address on the application, approved by signature and dated by the Chair of the Planning Board. In the event of rejection, the Planning Board shall note all deficiencies/conditions by item on the plan and Letter of Decision. Site plans that have been denied by the Planning Board reapply for approval as a new application. The revised plan, addressing the changes required by the Board, shall be reviewed as a new plan.
10. Reasons for Rejection: The Planning Board may deny the application because of noncompliance with items addressed in these regulations, incompatible development, protecting the public safety and health, or any violation of an existing state and/or county law, regulation, or ordinance.
11. Recording Approved Site Plan: The approved site plan shall be recorded with the County Recorder's office within 30 days of approval by the County Planning Board otherwise the approval is null and void.

**§6.9 – RESERVED**

**CHAPTER VII  
SPECIAL DEVELOPMENT REGULATIONS**

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- §7.1 – MOBILE HOME PARKS**
  - §7.2 – TELECOMMUNICATION FACILITIES**
  - §7.3 – WIND ENERGY FACILITIES**
  - §7.4 – SIGNS**
  - §7.5 – TEMPORARY USES**
  - §7.6 – HOME AND RURAL FAMILY OCCUPATIONS**
  - §7.7 – ADULT ORIENTED BUSINESS**
  - §7.8 – RETAIL LIQUOR ESTABLISHMENTS**
  - §7.9 – SPORT SHOOTING RANGES AND SPORTS FACILITIES**
  - §7.10 – RESERVED**
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**§7.1 – MOBILE HOME PARKS**

**General Provisions**

This section shall be referred to as “Benton County Mobile Home Park Subdivision Regulations” and any reference to regulations in this Ordinance shall be interpreted to mean regulations embodied in this chapter.

1. Purpose and Objectives: These regulations provide the minimum requirements and standards for establishing or enlarging Mobile Home Parks. These requirements and standards along with recommended additional considerations are intended to:
  - a. Assist mobile home park developers in planning.
  - b. Assure adequate public streets, parking spaces and rights-of-way for firefighting, utilities, and other services.
  - c. Promote compliance with Arkansas State Board of Health “Rules and Regulations pertaining to Mobile Home and Recreation Vehicle Parks” and with other sanitation requirements described herein.
  - d. Protect the respective interest of developers, mobile home park occupants, adjacent property owners, and county taxpayers.
  - e. Promote harmonious development with the existing and future growth of the area.
  - f. Specify information to be included on plats filed for record.
  - g. Identify improvements to be installed at developer expense.
  - h. Assist in providing accurate public records.
2. Legal Authority: These regulations are declared to be necessary to minimize governmental expenditures and operating costs and to promote the health, safety, comfort, convenience, prosperity and welfare of the people.
  - a. Statutory Provisions: These regulations are adopted pursuant to the authority granted by Act 422 of 1977, the County Planning Board Act. Benton County has complied with the County Planning Board Act by adopting an official Highway Plan as part of the County Plan

for the recommended development for all or part of the unincorporated territory of Benton County. The Benton County Mobile Home Park regulations, as initially adopted by the Benton County Quorum Court on November 1, 1977, shall be administered by the Benton County Planning Board in the manner set out by Ordinance No. 77-23 and as may be modified by this chapter.

- b. Jurisdiction: These regulations shall apply to all land in the unincorporated territory; provided that, prior to any County Planning Board approval action with respect to territory for which any municipality vested under Arkansas Statutes, subdivision of land aspects of compliance with this regulation will be coordinated with that municipality.
  - c. Compliance: In accordance with the purpose and objectives listed in Chapter 1 §1.4, the requirements hereinafter set forth must be complied with before the establishment of a New Mobile Home Park or before enlarging on an existing Mobile Home Park.
3. Definitions: Please refer to Chapter III for definitions. Additional terms which pertain to mobile homes and travel trailer park design and operation, are defined in Arkansas State Board of Health publication, "Rules and Regulations Pertaining to Mobile Home and Travel Trailer Parks." Pertinent terms in these referenced regulations apply unless such terms have been modified by definitions in this Ordinance.

**A. Pre-Platting Procedures and Plat Requirements**

- 1. Pre-Platting Procedures: Whenever a developer intends to develop or expand a Mobile Home Park within the meaning of these regulations, and before he prepares a plat, s/he may request a pre-platting conference with the Benton County Planning Board for the purpose of presenting a sketch plan and for reviewing the planning requirements in effect. Such pre-platting conference may be of assistance to the developer through improvement of design and prevention of unnecessary expense in plat preparation.
  - a. Sketch Plan: The sketch plan may be a free hand drawing, superimposed on a site map or aerial photograph, which locates the following:
    - 1) Topography
    - 2) Water courses and flood plains
    - 3) Tree cover
    - 4) Adjoining development
    - 5) Existing sanitary and storm sewers and drainage, if any
    - 6) Existing and proposed streets
    - 7) Proposed Mobile Home and facilities layout
    - 8) Any additional information the Developer feels may be pertinent
  - b. Conference: Before preparing and submitting the Mobile Home Park Plat application to the County Planning Board, the Developer or his engineer may consult with the members and staff while the plat is in sketch form to take into account access streets, parks, school sites and other facilities or developments that are existing or planned.

## 2. Format For Sale or Transfer of Ownership

- a. Application: If a sale or transfer of ownership of mobile homes sites or parts of the parcel is contemplated, a full preliminary plat and final plat application, as specified by the Benton County Subdivision Regulations (or by the municipality exercising extra-territorial subdivision jurisdiction), is required. In all other cases, a letter to the County Planning Board requesting approval of the accompanying plat and supporting information is appropriate.
- b. Accompanying Plat For Review: The sheet size and scale for plats for review shall be flexible; however, a drawing or reproduction at a scale of two-hundred (200') feet to the inch shall be submitted and shall, at minimum, show the boundary bearings and distances.
- c. Sheet Size: The sheet size for recording shall be a minimum of 18" x 24". This may be a reproduction from a larger sheet size if desired.
- d. Submittal Packet: The application, plan, and all accompanying supplementary materials shall be submitted electronically via .pdf and .dwg.

## 3. Handling of Mobile Home Park Plat Subdivision Applications When Sale or Transfer of Ownership Not Contemplated: The developer shall have prepared by a registered land surveyor, a plat of the proposed park or park expansion and shall file with the Planning Board an application for approval of said plat at least two (2) weeks prior to the meeting at which action is desired.

- a. Review Procedures: Upon receipt of the application and plat for mobile home park approval, the staff shall check for conformance with this article. When all application requirements have been met, copies of the plat shall be forwarded to the Planning Board for consideration. The Board shall consult with County officials, utilities, planners, and other authorities as deemed appropriate.
- b. Notice To Cities And Towns: Upon receipt of an application and plat for mobile home park approval, the planning staff shall notify in writing the mayor and city planner (if applicable) of any city where the proposed park lies within the city's planning area boundary. The notice will briefly describe the proposed application and include a copy of the plat and supporting information, and indicate when it will be considered for action.
- c. Approval or Rejection: Upon receipt of the staff recommendation, as well as recommendations of any city, official, subcommittee or other authorities consulted, the Planning Board shall vote to approve or reject the mobile home park plat; provided A.C.A. 14-17-208(i) shall, if applicable, be complied with. If the plat is rejected, the board shall note all deficiencies by item upon the plat. One copy of the approved or rejected plat, with condition noted thereon, shall be returned to the developer. The developer may submit a revised plat. When changes are required by the board, all public and private agencies, which in the discretion of the planning board are affected, shall be advised. The grounds for not approving any proposed or planned physical development, or the regulations violated by the

application or plat shall also be stated in the record of the meeting and kept open for public inspection.

- d. Approval By Lapse Of Sixty (60) Days: The action of the Board shall take place within sixty (60) days from and after the date of application, unless the developer agrees in writing to an extension of time; otherwise, said plat shall be deemed to have the approval of the Planning Board. In lieu of written approval evidence, filing for record may be accomplished with a certificate from said Planning Board as to the date of application and the failure to take action thereon within the allotted time.
- e. Recording: A plat, prepared by a Registered Land Surveyor, of a parcel specified for use as a mobile home park or of an expansion to an existing park, shall be presented for public recording only after compliance with either of subsection c. or d. above, as appropriate.

#### 4. Plat Details And Attachments

- a. Area Map: An area map shall accompany or appear on the plat. The scale should be large enough to show the location in Section, Township and Range with respect to existing roads, adjacent communities or features (such as lakes or streams).
- b. Name, Scale, North Point, And Date: Include on the Plat, the name of the mobile home park. The plat scale to be shown in both words and graph form. Include a north point arrow and the date.
- c. Boundary Lines: All external boundary lines with length and bearing of courses should be shown. These boundary lines shall be determined by accepted surveying practices.
- d. Topography: Contours, with intervals of five to ten feet depending on terrain, referenced to USGS datum, shall be shown.
- e. Abutting Property: The name of the adjacent subdivision and the name of the adjacent property owners of record on both platted and unplatted land shall be shown in the appropriate location upon the plat. Notations of uses of adjacent land shall be shown (i.e., residential, agricultural, or commercial).
- f. Soil Analysis: The type of soils found in the proposed park area is available from USDA Soil Conservation Service, Soil Survey of Benton County issued January of 1977, shall be shown.
- g. Existing Streets: The location and width of presently existing streets bounding or within the proposed park shall be shown. Names of such streets and roads shall be shown.
- h. New Streets, Walkways, And Parking Space: Including the proposed location of new streets, walkways, and parking spaces on the plat. Length, bearing, name, width, and angles of intersection of streets shall also be shown. Streets shall have grades of 10% or less and be constructed of a hard dustless surface not less than twenty (20) feet in width. They shall connect to accessing streets in an approved and safe manner. Streets shall be 34 feet wide (including shoulders) to provide adequate room for parking. Streets shall be sloped and

properly drained into catch basins connected to storm sewer systems (where available). Hard surface walkways shall be provided between home sites and common use areas and service facilities. Adequate illuminations shall be provided for internal streets and walkways. At least two (2) off-street parking spaces should be provided for each home site. Benton County Subdivision Regulations should be consulted for additional street design and construction requirements. These must be followed for all streets, which may be dedicated to and accepted by the county for maintenance. Unless otherwise agreed, streets within a mobile home park will be maintained by the developer, owner(s), or occupants of the park. Normally, streets bordering and providing access to a mobile home park may be dedicated and will be accepted by the county subject to compliance with county design, construction and inspection requirements.

- i. Existing Utilities: Existing overhead and underground power and communication lines, sewers, water mains, gas mains, culverts and other underground structures within the home park and immediately adjoining it, with pipe sizes and grades, shall be shown on the plat or a separate attachment.
- j. Utility Service: Easements for utility service will be shown on the plat. Include on the plat, or in supporting attachments, specific plans for the following:
  - 1) Water Supply - Where an approved public water supply is reasonably available, the developer should connect with such water supply and make it available to each mobile home site. Certification by the State or County Health Office approving the water supply must be included with each application.
  - 2) Sewage and Sanitation - Where a public sanitary sewer is reasonably accessible, the developer shall connect with such sanitary sewer and provide lines to each mobile home site. A description of the sewage and sanitation system planned for the park and a certificate from State or County Health Office approving the plan must be furnished. (The County Health Office should be contacted early for information about the design and other requirements of the State Health Department Regulations.)
  - 3) City Connections – Where the water supply or sanitation system is connected to lines or mains of a city, town, or special district, design and construction of such facilities shall be according to the requirements and specifications and subject to the supervision and approval of that city, town, or special district.
  - 4) Heating and Cooling Service - Specify the heating, cooling and power services planned. Include a statement from the appropriate utilities services that the service will be provided and that the easements specified on the plat application are adequate.
- k. Community Facilities and Open Spaces: Planned community facilities, play areas and other man-made common use features should be correctly positioned on the plat. State Health Regulations should be consulted for minimum common health facilities required. Natural features, water courses, or open space to be preserved should be designated on the plat.

- l. Flood Area: While not encouraged, any mobile home park area proposed to be located within the 100-year floodplain as identified on Flood Insurance Rate Maps for Benton County, published by the Federal Emergency Management Agency, shall be clearly designated on the plat. A Floodplain Development Permit will be required and a drainage study may also be required by the Planning Board as conditions of approval.
- m. Buffer Areas: Buffer areas may be planted vegetation, existing natural vegetation, fencing, or other means concealing properties to a height of seven (7) feet. Normally buffer areas will be required between mobile home parks and adjacent properties and along public street sides. Mobile homes should not be sited closer than thirty (30) feet to established buffers.
- n. Siting of Mobile Homes: Single mobile home units shall be allotted at least 3000 square feet of land area; double units at least 4500 square feet of land area. Lot dimensions will be of sufficient size so that mobile homes placed upon the lots will have outside walls or attachments thereto not closer than twenty-five (25') feet from an interior street, nor thirty (30') feet from an exterior street, nor fifteen (15') feet from any other mobile home. Where existing exterior streets may have substandard right-of-way, the Board may require a greater setback from such streets. Lot site numbers shall be posted on each site adjacent to the walkway facing the street. Planned siting of all mobile homes shall be included in the plat and lot site numbers given to each planned location.
- o. Mobile Home Site Ownership Plans: Attach a statement confirming that the property owner shall not sell or otherwise convey title to the sites which the mobile homes will occupy except in full compliance with Benton County Subdivision Regulations is required as indicated in Chapter V. If sales or conveyance of sites is contemplated at a future time after Mobile Home Park is approved, the Developer is required to obtain approval from the Benton County Planning Board for any additional requirements of subdivision regulation before executing such sale or conveyance.
- p. Construction Plans: Construction Plans and other engineering data pertaining to roads, drainage, water and sanitation systems shall be prepared and certified by a registered professional engineer and should accompany the application. Any approval by the Planning Board of the application will be conditional upon the final approval certification and acceptance of such improvements by the agencies having jurisdiction unless bond is provided as outlined in Chapter IV § 4.10. An engineer's certificate will be required on the plat to be recorded, that all completed required improvements conform to all applicable engineering requirements and specifications unless bonding is elected in which case "as built" plans will contain this certification.
- q. Owner's Certificate to Appear on Plat: Included on the plat shall be owner's certificate which should contain the substance of the following example: "As owner, I hereby certify that I have caused the land described for this mobile home park to be surveyed, platted, dedicated and access rights reserved as represented on this plat (and attachments)."

## B. Administration and Enforcement

The County Planning Board shall have responsibility for interpretation and administration. The Board shall protect the public interest by thoroughly examining and coordinating each application without undue delay to the developer.

1. Bonding: With reference to Chapter IV, § 4.10, if the Developer selects performance security/bonding for any or all of the required improvements, the developer will be required to post an acceptable surety or cash bond for the total cost of such improvements as estimated by the engineer, by the contractor's bid, or by the officials having jurisdiction. Utilities that would be extended at no cost to the developers are excluded from the bonding requirement. The bond shall continue until certifying approval of completion has been accepted from the officials having jurisdiction or fourteen (14) days after notifications of completion, whichever is sooner. In event certification is withheld during the fourteen (14) day period after notification, bonding may be continued for reasons and in the amount specified in the withholding document. Properly certified "as built" plans of improvements shall be filed with the Planning Board within sixty (60) days of completion.
2. Compliance with Other Regulations: Other regulations and guidelines of the United States, State of Arkansas and Benton County pertain to the planning, design and operation of mobile home and trailer parks. These regulations and guidelines should be consulted both to help and improve the planning and design of such parks and to learn specific requirements which should be considered as part of a mobile home park application. The approval of a mobile home park application by the Benton County Planning Board does not relieve the developer, owner or operator from complying with the operating, licensing, permit or other requirements of such regulations. Consult the following additional information:
  - a. Benton County Subdivision Regulations (see Chapter V).
  - b. Subdivision regulations of a city, if a proposed park is outside the city, but within the city's planning jurisdiction and the city can legally exercise their authority over subdivision review.
  - c. "Rules and Regulations Pertaining to Mobile Home and Travel Trailer Parks," (Arkansas State Board of Health, Little Rock).
  - d. "Arkansas Sewage Disposal Regulation," (Arkansas State Health Department).
  - e. "Environmental Health Guide for Mobile Home Parks," (United States Department of Health, Education and Welfare (HEW)).
  - f. State standards for installation set forth under A.C.A. 20-25-106 and the design of the manufacturer.
  - g. Chapter X of this Ordinance pertaining to flood damage prevention.

3. Fees:
  - a. Plat Application – See Fee Ordinance.
  - b. Public Hearing - Applications for a mobile home park shall be heard as a public hearing before the Planning Board.
  - c. Inspection - The Board may establish fees for inspections and investigations of mobile home parks.
4. Enforcement: The answering of complaints and the enforcement of this section shall be according to the provisions of Chapter 2, §2.1 of this Ordinance.
5. Inventory of Existing Mobile Home Parks: In order to enforce this regulation, as it pertains to new parks and extensions of existing parks, it shall be required that all owners or operators of existing mobile home parks outside the corporate city limits of cities within Benton County advise the Benton County Planning Board within 180 days after the effective date of this regulation of the following:
  - a. Location and name of park.
  - b. Boundaries of the park.
  - c. Number of mobile home sites in the park.
  - d. Type of water and sewer system.
  - e. The number of mobile home sites the water and sewer system presently serves.
6. Penalties: The answering of complaints and the enforcement of this section shall be according to the provisions of Chapter 2, §2.6 of this Ordinance.

## **§7.2 – TELECOMMUNICATION FACILITIES**

### **A. Purpose and Authority**

The purpose of this section is to promote the efficient and effective provision of communication services in compliance with the Telecommunications Act of 1996 (as amended) while responding to the significant concerns of the citizens of Benton County. The intent of these regulations is to protect the general safety and welfare of the citizens of Benton County by providing for rules governing the location, construction, repair and maintenance of antenna arrays and communication towers in the unincorporated areas of the County. Except as otherwise provided herein, no telecommunications facility may be constructed, erected, moved, enlarged, or substantially altered except in accordance with the provisions of this section.

## **B. Superceding Laws**

All laws, rules, or regulations enacted by the Federal Communications Commission (FCC) or other federal entity shall supersede any of the provisions herein if a conflict exists.

## **C. Definitions Referenced**

The definitions of certain terms referenced in this Section are set forth in Chapter III- "Definitions", of this Ordinance.

## **D. General Applicability**

The administrative review procedures of subsection F. below shall apply to the placement, reasonable modification, and regular maintenance of antenna arrays. The remainder of these regulations shall apply to the construction and major modification of towers, whether or not they are designed to provide cellular, personal communications service and/or specialized mobile radio service, or any other purpose, except as provided herein. These regulations shall also apply to all outbuildings, sites, and facilities built in connection with any tower governed by this section.

Any major modifications to a tower or facility must be approved in the same way that a new tower would have to be approved. If a tower is damaged or for other reasons is to be replaced, the repair or replacement is subject to these regulations only if the repair or replacement amounts to a major modification as defined herein. These regulations do not cover incorporated areas within Benton County, unless specifically approved and/or adopted by a municipality.

## **E. Exemptions**

The regulations adopted herein shall not apply to the following facilities:

1. Towers for personal use such as for amateur radio, citizens band radio, AM or FM radio, or broadcast television service which, including the height of all attached antenna arrays, do not extend more than eighty (80') feet from the ground. However, all such towers are required to seek a building permit.
2. Placement of antenna arrays which cannot be used for emergency services or 911 calls on existing support structures so long as the placement does not increase the total height of the original support structure by more than twenty-four (24') feet, and does not significantly increase the lighting or noise levels of the structure. However, any arrays proposed to be affixed to an existing support structure previously approved under the scope of these regulations must receive a building permit and submit an engineering report that verifies the structural integrity of the additional weight and bulk.
3. Temporary structures designed to be used for not more than fourteen (14) days in connection with a special event or for any reasonable period of time immediately following an emergency, including without limitation those towers that are identified as "C.O.W.s" or "Cellular on Wheels."

## F. Administrative Approvals for Minor Facilities

Certain projects falling within the scope of this Ordinance are subject only to administrative review, and may be administratively approved in the manner described herein. Projects that are subject only to administrative review shall include the following:

1. Projects Subject to Administrative Review.
  - a. Placement of antenna arrays which might be used for emergency services or 911 calls on existing support structures which do not increase the total height of the original support structure by more than twenty-four (24') feet, and which will not significantly increase the lighting or noise levels of the structure. Outbuildings and facilities built in connection with such antenna arrays are subject to the same administrative review. Note that such arrays proposed to be affixed to an existing support structure previously approved under the scope of these regulations must receive a building permit and submit an engineering report that verifies the structural integrity of the additional weight and bulk.
  - b. The co-location of all other antenna arrays on existing towers, buildings, water towers, or other built structures. Antenna arrays may not be placed on trees or any other living organism. Note that arrays proposed to be affixed to an existing support structure previously approved under the scope of these regulations must receive a building permit and submit an engineering report that verifies the structural integrity of the additional weight and bulk.
  - c. The replacement of existing antenna arrays with new antenna array equipment that is similar in size, color, and structure.
  - d. The modification of an existing support structure so that it is more architecturally integrated into the surrounding environment. The effort to make a support structure and/or antenna array less visible shall not constitute a major modification.
2. Administrative Review Application Submittal. A project involving placement of an antenna array on an existing support structure, which is subject to administrative review pursuant to the terms of this section, shall be submitted to the staff of the Benton County Planning Office, and shall contain the following:
  - a. A completed application
  - b. An engineered site plan depicting the proposed location of the antenna array. The site plan shall include:
    - 1) A plan for the entire parcel identifying the location of the tower
    - 2) A detail showing a dimensioned layout of the tower including the easement on which it is located.

- 3) Construction detail of the new equipment to be installed. Planning staff will accept a product information sheet in place of a detailed drawing if specific enough.
  - 4) Meet all of the requirements for a standard site plan as per Chapter VI of this ordinance.
  - c. A cover letter that includes a complete written description of all new equipment being erected on an existing tower.
  - d. A notarized owner's affidavit for both the property and the owner/operator of the easement and tower structure subject of the application.
  - e. Engineering report or statement verifying that the addition of an antenna array will not compromise the load capacity of the existing tower.
  - f. Review fee
3. Procedures for Administrative Review of Telecommunication Facilities. The following procedures shall be followed for applications for administrative review of telecommunications facilities:
- a. Application: Submit application materials as per Section B. above.
  - b. Staff Review: If the application submittal is complete and the proposed improvement complies with the terms of this section, the staff shall review and approve the application without the necessity for review by the full Planning Board. Approval may be with or without conditions as applicable.
  - c. Variance from Regulations: Administrative review shall not be applicable if any variance from these regulations is requested. Such items shall be scheduled for the Planning Board.
  - d. Decision: The staff shall make a decision on any administrative review application within fifteen (15) business days after date stamping unless the applicant approves an extension of time.

**G. Planning Board Review for Major Telecommunication Facilities**

- 1. Projects Subject to Planning Board Review. If a telecommunications facility may not be approved administratively, pursuant to Subsection F, then a Planning Board approval pursuant to the requirements and process below shall be required before placement of such facilities.
- 2. Planning Board Review Application Submittal. A project which is subject to Planning Board review pursuant to the terms of this section shall be submitted to the Staff of the Benton County Planning Office. A complete application submittal shall consist of the following:
  - a. A completed application

- b. An engineered site plan set of at least 11" x 17" depicting the proposed location of the antenna array. The site plan shall include:
    - 1) A plan for the entire parcel identifying the location of the tower.
    - 2) A detail showing a dimensioned layout of the tower including the easement on which it is located.
    - 3) Construction detail of the facility and associated structures and equipment to be installed including, a cross section of the tower structure, detail on guy wire and anchorage and foundation, lighting, fencing and security, elevation of tower and buildings.
    - 4) Meet all of the requirements for a standard site plan as per Chapter VI of this Ordinance.
  - c. Written Narrative: A written report is to be submitted including information describing the tower and associated structures and equipment including tower height and design, engineering specifications detailing construction of the tower, base and guy wire anchorage. Information describing the proposed painting and lighting schemes, the tower's capacity, including the number and type of antennas that it can accommodate as part of a co-location determination (see Subsection H below).
  - d. Owner Affidavit: A notarized owner's affidavit for both the property and the owner/operator of the easement and tower structure subject of the application.
  - e. Engineering Report: Engineering report or statement verifying that the addition of an antenna array will not compromise the load capacity of the existing tower.
3. Procedures for Planning Board Review of Telecommunications Facilities. The following procedures shall be followed on applications for Planning Board review of telecommunications facilities. The Planning Board shall conduct a public hearing on each such application:
- a. Application: Submit application materials as per Section B. above.
  - b. Staff Review: If the application submittal is complete, the staff shall conduct a technical review of the application and prepare a report for the Planning Board.
  - c. Notification: Property owners within 500 feet the proposed telecommunications facility shall be notified of the public hearing in which the Planning Board shall consider action on the application as per the notification requirements for public hearing in Chapter IV, §4.8.
  - d. Decision: The Planning Board, within a duly noticed public hearing, shall make a decision on telecommunications facilities within sixty (60) days after date stamping of complete application unless the applicant approves an extension of time. The Planning Board shall approve, approve with conditions, or deny any such application.

4. Review Criteria for Planning Board Approval. The following factors will be considered in granting approval of a telecommunications facility in addition to the factors listed above and factors set out in the Ordinance to determine whether to grant approval. The Planning Board may waive or reduce the burden upon the applicant for one or more of the following criteria if it is determined that the goals of this Ordinance would still be served thereby.
  - a. Height of the proposed tower;
  - b. Proximity of the tower to residential structures and property boundaries;
  - c. Nature of uses on adjacent and nearby properties;
  - d. Surrounding topography;
  - e. Surrounding tree coverage and foliage;
  - f. Design of the tower, with particular attention paid to design characteristics that have the effect of reducing or eliminating visual obtrusiveness;
  - g. Availability of suitable existing towers and other structures as discussed in Subsection E below.
  
5. Review of Other Options. No new tower shall be constructed unless the applicant demonstrates to the reasonable satisfaction of the Planning Board that other existing towers or structures do not provide a more suitable and/or feasible location for the applicant's proposed antenna. Evidence submitted may consist of a written statement (in affidavit form) citing one or more the following conditions:
  - a. No tower or suitable structures exists within the geographic area, which meets the applicant's engineering requirements.
  - b. Existing towers or suitable structures are not of sufficient height to meet the applicant's engineering requirements.
  - c. Existing towers or suitable structures do not have sufficient structural strength to support applicant's proposed antenna and related equipment.
  - d. The fees, cost, and/or contractual provisions required by the owner of an existing suitable site for co-location of the applicant's antenna is unreasonable.
  - e. Other significant limiting factors make existing towers or structures unsuitable for colocation of the proposed antenna.

## H. General Criteria for Telecommunications Facilities

### 1. Preference for Co-Location.

- a. All applicants seeking permission to construct one or more towers in Benton County shall cooperate in co-location of antenna arrays on their towers where feasible. This requirement shall not be deemed to require applicants to incur unreasonable expense to construct their towers in order to facilitate co-location. All applicants seeking permission to construct a new tower primarily dedicated for cellular or PCS communication purposes shall design and construct said tower so as to accommodate co-location of at least one additional cellular or PCS provider in addition to the applicant. The plan shall depict and note that the tower shall provide co-location for one (1) additional cellular or PCS provider.
- b. All applicants seeking permission to construct a tower in order to serve one or more specific purposes must demonstrate in the application process that they had made a reasonable and good faith effort to co-locate their antenna arrays on existing towers or support structures. This paragraph does not apply to applicants who desire to construct a tower for the primary purpose of attracting other persons to co-locate on the tower.
- c. In complying with the requirements herein, applicants shall submit a report of all co-location possibilities within a two (2) mile radius of the proposed site. Such report shall include the following:
  - 1) Why each tower is suitable or unsuitable for technological reasons.
  - 2) Why each tower is suitable or unsuitable for safety reasons.
  - 3) An explanation of why the owner(s) of a given communication tower structure could not be contacted.
  - 4) An explanation of any interference or transmission problems that might occur from co-locating on a given communication tower structure.
  - 5) A statement of the applicant's foreseeable future needs and then an explanation of why a given communication tower structure would not satisfy the reasonable foreseeable future needs of the applicant.

With regard to the supplemental information that may be required by the staff of the Planning Department, the applicant may delete any and all references to confidential pricing information in any correspondence required to be submitted.

2. Setback from Road. All towers shall be set back from the nearest edge of all roads, as recognized by the County 911 Administration Office with a specific name or number, by at least fifty (50) feet plus the height of the tower. The edge of the road shall be defined as the edge of pavement or the edge of the unpaved surface at the time of the application. Due to topographic or other natural features the Planning Board may grant a variance for the additional fifty (50) feet. Wherever possible, towers must follow the full setback requirements.

3. Setback from Residences. Towers subject to this section will be located so that there will be no occupiable residences within a distance of height of the tower plus fifty (50) feet.
4. Mitigation of Visual Impact. In minimizing any aesthetic problems with a proposed tower or antenna array, applicants agree to take the following steps:
  - a. Signage at the site is limited to non-illuminated warning and equipment identification signs.
  - b. Unless specifically required by law or a regulatory authority or because there is no technologically feasible alternative, no tower shall be equipped with strobe lights that operate at night.
5. Precautions Against Excessive Noise. Equipment used in connection with a tower or antenna array shall not generate noise that can be heard beyond the site. This prohibition does not apply to air conditioning units no noisier than ordinary residential units or generators used in emergency situations where the regular power supply for a facility is temporarily interrupted; provided that any permanently installed generator shall be equipped with a functional residential muffler.
6. Precautions Against Trespassers. The base of every tower must be surrounded with a fence at least six (6') feet in height and topped with either barbed wire or razor wire. The gate for such fence shall be kept locked except when authorized personnel are working on or around the tower. The fence must be posted with signs warning against trespass and providing a number to call in case of an emergency. With the exception of towers constructed in such a way that it is not reasonably practicable to do so, any ladder or other apparatus designed to aid in the climbing of a tower shall be constructed so that the bottom twelve (12') feet of such ladder or apparatus is not readily accessible except when it is in use by construction, maintenance, repair or other authorized personnel.
7. Tower Illumination. If required, the tower lighting must conform to the FCC regulations for both day (strobe) and night (blinking red) lighting at the appropriate locations on the tower.

#### I. **Maintenance of Towers and Facilities**

By making an application hereunder, the applicant agrees to regularly maintain and keep in a reasonably safe and functional manner all towers, antenna arrays, fences and outbuildings owned by applicant which are located in the County. The applicant further agrees to conduct inspections of all such facilities not less frequently than every twelve (12) months. The applicant agrees that said inspections shall be conducted by one or more designated persons holding a combination of education and experience so that they are reasonably capable of identifying functional problems with the facilities. The staff of the Planning Department may request in writing from the applicant documentation regarding such inspections and maintenance activities at any such facilities. Such requests by staff for documentation shall not be made more than two (2) times per year on any given tower. The applicant agrees to provide the documentation within thirty (30) days after the mailing of any such request from the staff. Said documentation shall be in the form of a sworn statement and shall include but not limited to the

following items, unless the staff specifically indicates that one or more of the following items need not be provided:

1. The estimated date on which the tower was originally constructed and the date of all modifications thereto.
2. Verification of safe and appropriate grounding and electrical connections as per the version of the National Electrical Code in effect at the last modification or addition to the electrical system.
3. Structural design certification by the tower manufacturer regarding the facility's capability to withstand a combination of ½ inch accumulation of ice and 70 mile per hour winds.
4. A statement that all antenna arrays on such tower have been attached and maintained in accordance with the specifications of the manufacturer, if any.
5. For a guyed tower, a statement that all guy wires are being properly maintained so that structural integrity of the tower is not compromised.
6. For any lattice tower, a statement that all welds and other joints are being properly maintained so that they do not show signs of wear which would make the tower unsafe.
7. For lighted towers, verification of payment of the most recent applicable electric bill or other evidence that the facility remains functional and the safety signals are in working order.
8. For unlit towers, a statement by the owner verifying the continued use or need for the structure.
9. For structures which are painted for cosmetic reasons, proof that the tower has been painted within the last five (5) years, or proof satisfactory to the staff that the exterior does not currently need painting.

If any such information is not submitted within thirty (30) days after the first notice, the staff shall send a second written notice requesting the documentation within fifteen (15) days from the date of the second mailing. If the staff does not receive the requested information by the end of normal business on the 15<sup>th</sup> day from the date on which the second notice was mailed, the staff shall place the issue of whether the tower has been abandoned on the agenda at the next regularly scheduled Planning Board meeting. At that meeting, the Planning Board shall determine whether the subject tower has been abandoned. If the owner/operator fails to respond or appear before the Board, or fails to present evidence regarding the above described items, the Planning Board shall make a determination of abandonment and forward said finding to the Quorum Court for action.

The Quorum Court, in its regular course of business, shall consider the determination of abandonment forwarded by the Planning Board, along with any subsequent submittals by the owner/operator of the tower. The owner/operator may request and be given a reasonable time, not to exceed three (3) months, to implement a plan to restore the facility to safe operations. The Quorum Court may adopt such plan or any substitute plan deemed by the Court to be reasonable. If at any time, the Court finds that the tower in question has been abandoned, the Court shall request that the County Judge or their

designee to have the tower removed at the owner's expense within (90) days of said decision. Failure to timely remove these facilities shall constitute a nuisance under these regulations subjecting the owner and/or lessors to a fine not exceeding \$250.00. Each day of delinquency shall constitute a new violation. Upon removal the tower owners shall re-vegetate the telecommunication facility site to blend with existing surrounding vegetation at their expense. Any salvage value derived from the removed structures shall be applied to the costs of removal, if not paid by the owner.

**J. Regulatory Compliance**

1. All towers must meet or exceed current Federal standards and regulations of the FAA, the FCC, and any other agency of the Federal or state government with the authority to regulate telecommunications facilities and the construction and specifications thereof. If such standards and regulations are changed, then the facility owners governed by this section shall bring such facilities into compliance with such revised standards and regulations within six (6) months of the effective date of such standards and regulations, unless a more stringent compliance schedule is mandated by the controlling Federal or state agency. Failure to timely bring the facilities into compliance with such revised standards and regulations shall constitute grounds for removal of the non-compliant facility at the owner's expense and/or grounds to terminate or not renew owner's approval.
2. The applicant, by requesting approval of any telecommunications facility in Benton County, certifies and agrees that no such facility under the Applicant's control will emit electro-magnetic radiation (EMR) in excess of federal safety and health guidelines as adopted by any authorized federal regulatory agency.

**K. Fees**

Refer to the Fee Ordinance.

**L. Burden of Proof**

Applicant must prove that any application under this section satisfies all of the applicable requirements of this section.

**M. Opportunity for Public Response**

Except as expressly provided herein, all landowners of record owning land within 0.5 miles of the base of the tower and all landowners of record owning property adjacent to the parcel of land on which any proposed tower or major modification subject to this section is to be placed, must be notified in writing and given a chance to voice opposition or support for a proposed tower or antenna array at a public meeting. For purposes of this provision, a landowner shall be considered to own property which is "adjacent" to the parcel of land on which the tower is to be constructed if it shares a common boundary with the parcel in question, or if it would share a common boundary except for the existence of a public road. In addition to the foregoing notice requirements, any time a variance from any of the requirements in these regulations is sought, all persons owning land within the height of the tower plus fifty (50) feet from the base of the tower must be notified of the requested variance, and be given an opportunity to respond to the request.

**§7.3 – WIND ENERGY FACILITIES**

**A. Applicability**

This section shall govern the siting, erection, maintenance, and demolition of wind generating facilities including small wind turbines and large/utility scale wind turbines. Both Horizontal Axis Wind Turbines (HAWT) and Vertical Axis Wind Turbines (VAWT) are permitted in Benton County as per this Ordinance. Note that micro-scale wind turbines are not subject to the approval provisions of these regulations but shall be defined and referred to below.

**B. Conflict**

If there is a conflict between provisions in this section, the more stringent shall apply. If there is a conflict between a provision in this section and that of another section in this Ordinance, the provision of this section shall apply.

**C. Classification of Wind Energy Facilities**

The following types of wind generation facilities (as detailed in table 7.1 below) are permitted to be developed in Benton County subject to the provisions of this section:

1. Micro scale wind turbines
2. Small wind turbines (administrative review as per subsection F. below)
3. Large/utility scale wind turbines (public hearing review as per subsection G. below)

**Table 7.1 – Types of Wind Generation Facilities**

Facility Type	Aggregate Capacity	Turbine Height	Maximum Number of Turbines	Review Threshold
Micro Scale	10Kw or	See note <sup>1</sup>	1/lot	No Planning Review/Bldg.
Small Scale	10 to 100	NA	1/lot or per 5	Administrative Approval
Large/Utility Scale	Over 100	NA	1/lot or per 5	Planning Board Approval

<sup>1</sup> Micro wind turbine facilities shall be no higher than that which complies with the setback requirements noted in Section F.3.a. below or 80’ in height, whichever is lower.

**D. Exemptions**

1. Micro-Scale Turbines: which are to be located on existing single structures, residential or otherwise, and are solely for the purpose of limited application individual-scale power generation, are exempted from review provided they are set back at least the distance from all property lines equal to or greater than the sum of the pole height plus the height of one blade. They also must meet all local building codes and are limited to one (1) per building lot as an exempted use.
2. Roof-Mounted Wind Turbines: Provided that the maximum height shall be equal to or less than

half the height of the building being utilized for support, roof mounted wind turbines are exempt from these regulations but shall meet all building code requirements.

3. Agricultural Use: Traditional wind generating facilities used strictly for agricultural use on agriculturally designated land shall be exempt from these regulations.

#### **E. Modifications**

Any physical modification to an existing wind energy facility that materially alters the location or increases the area of development on the site or that increases the turbine height or the level of sound emissions of any wind turbine shall require a plan modification under this section. Like-kind replacements and routine maintenance and repairs shall not require an approved plan modification.

#### **F. Administrative Review**

The Small Wind Energy Conversion System (SWECS) shall not be considered an accessory use and shall comply with all requirements under this section. Small wind energy conversion systems not meeting the technical requirements of this section may be approved by the Planning Board following a duly noticed and published public hearing.

1. Administrative Review Process: Applicants seeking administrative approval of SWECS shall adhere to the following process:
  - a. Conduct a pre-application discussion with planning staff (recommended)
  - b. Submit application packet with the requirements listed in Subsection 2. below
  - c. Staff may waive any submission requirement if they receive a specific request in writing for a waiver from the applicant and issue a written finding that, due to special circumstances of the application, adherence to that requirement is not necessary to determine compliance with the standards of this section.
  - d. Administrative reviews shall be completed within thirty (30) days whereby the staff reviewer shall provide the applicant with a decision of approved, approved with conditions, or denied. In each case, the staff reviewer shall generate an official decision letter outlining the reasons for the decision.
  - e. Upon receipt of administrative approval, the applicant may file for a building permit for the facility.
  - f. Appeals: Appeals of administrative decisions shall be directed to the Planning Board.
2. Administrative Review Requirements: The following items shall be submitted in support of an application for administrative approval of a SWECS:
  - a. Application: A completed application form.

- b. Application Fee: Refer to the Fee Ordinance.
  - c. Cover Letter: including a project description and detailed narrative describing the scope, scale, and location of the proposed project.
  - d. Site Plan: utilizing a standard engineering scale not to exceed 1:100, indicating the placement of the wind turbine(s) and distances from the proposed turbine location and the nearest built structure, any above ground utilities, the nearest trees, and all property lines. A fall zone shall be indicated on the plan to approximate the area around the base of the turbine that would likely receive the tower and turbine if it were to fall.
  - e. Turbine Information: specific information on the type, model, size, height, rotor material, rated power output, performance, safety, and noise characteristics of each wind turbine being proposed, tower and electrical transmission equipment shall be provided in the form of a report that includes contact information for questions.
  - f. Engineered Turbine Specifications: Drawings of the wind turbine structure, including the tower, base, and footings and/or foundation as provided by the manufacturer: In addition, an engineering analysis of the tower showing compliance with the International Building Code certified by a licensed professional engineer.
  - g. Electrical Components: Building permit applications for small wind energy systems shall be accompanied by a line drawing of the electrical components in sufficient detail to allow for a determination that the manner of installation conforms to the adopted National Electrical Code (NEC). All building permits require installations to be designed and sealed by an engineer licensed in the State of Arkansas, designs shall include structural analysis.
  - h. Additional Information: may include:
    - 1) Soil Studies: For standard soil conditions (not including gravel, sand, or muck), foundations developed by the wind turbine manufacturer shall be acceptable for turbine installations of 20kW or less and will not require project-specific soils studies or an engineer's wet stamp.
    - 2) Utility Notification: No building permit for a grid-connected SWECS shall be issued until a copy of the utility company's approval for interconnection of a customer-owned (SWECS) generator has been provided.
    - 3) Other Data: The Planning Board may require additional information from the applicant based on unique circumstances of the parcel or area in which the SWECS is proposed to be located.
3. SWECS Technical Requirements:
- a. Setbacks: The base of the tower shall be set back from all property lines, structures, public

right-of-ways, and public utility lines a distance equal to the total extended height (pole height [p] + height of one blade [b]). To demonstrate compliance with this provision, the site plan shall provide a clearly depicted series of radii drawn around each tower showing:

- 1) A perimeter equal to one and one-half (1.5) times the tower height
- 2) Two hundred and fifty (250) foot perimeter
- 3) Five hundred (500) foot perimeter

Site plan shall also show ownership and land uses within the above mentioned perimeters.

- b. Number: Only one (1) SWECS wind turbine structure shall be allowed per lot (or alternatively per five [5] acres).
- c. Location: All small wind turbines shall be located in the rear yard only. Exceptions to this standard may only be considered as a variance.
- d. Off-Grid: Off-grid systems, facilities that use alternative energy systems exclusively for all power needs, and are not connected to a public power source or "grid" for any purpose, are permitted but must meet minimum standards for electrical components that provide residential electrical service due to public health and safety concerns. Such systems must be approved for all electrical components by the County Chief Building Inspector.
- e. Minimum Blade Clearance: The blade tip clearance for small wind turbines shall, at its lowest point, have a ground clearance of not less than thirty (30') feet.
- f. Color/Finish: Wind turbines, exclusive of the towers, shall be painted a non-reflective, non-obtrusive color such as the manufacturer's default color option or a color that conforms to the environment and architecture of the community in which it is sited. Towers shall maintain galvanized steel, brushed aluminum or white finish, unless FAA standards require otherwise.
- g. Sound: Sound produced by the turbine under normal operating conditions, as measured at the property line, shall not meet or exceed the definition of nuisance noise as defined in Chapter IV, §4.7 of this Ordinance. Sound levels, however, may be exceeded during short-term events such as utility outages, severe wind storms, or other causes outside the control of the property owner.
- h. Wind Turbine Equipment: Small wind turbines shall be approved by any small wind certification program recognized by the American Wind Energy Association (AWEA).
- i. Maintenance of Wind Turbine and Related Facilities: By making an application hereunder, the applicant agrees to regularly maintain and keep in a good and safe operating condition all towers, wind turbines, fences, outbuildings, and other related equipment or structures owned by the applicant which are located in the County. The owner of a wind turbine shall complete or cause to be completed all necessary maintenance and improvements to the structure if it is determined to be inoperable or hazardous to neighboring properties. The applicant further agrees to conduct inspections of all such facilities not less frequently than

every twelve (12) months. The applicant agrees that said inspections shall be conducted by one or more designated persons holding a combination of education and experience so that they are reasonably capable of identifying functional problems with the facilities. The staff of the Planning Office may request in writing from the applicant the appropriate documentation regarding such inspections and maintenance activities at any such facilities. Such requests by staff for documentation shall not be made more than three (3) times per year on any given facility. The applicant agrees to provide the documentation within thirty (30) days after the mailing of any such request from the staff. Said documentation shall be in the form of a sworn statement and shall include but need not be limited to the following items, unless the Staff specifically indicates that one or more of the following items need not be provided:

- 1) The estimated date on which the tower was originally constructed and the date of all modifications thereto.
- 2) Verification of safe and appropriate grounding and electrical connections as per the version of the National Electrical Code in effect at the last modification or addition to the electrical system.
- 3) Structural design certification by the tower manufacturer regarding the facility's capability to withstand a combination of 1/2" accumulation of ice and 70 mile per hour winds.
- 4) A statement that all antenna arrays on such tower have been attached and maintained in accordance with the specifications of the manufacturer, if any.
- 5) For a guyed tower, a statement that all guy wires are being properly maintained so that structural integrity of the tower is not compromised.
- 6) For any lattice tower, a statement that all welds and other joints are being properly maintained so that they do not show signs of wear which would make the tower unsafe.
- 7) For lighted towers, verification of payment of the most recent applicable electric bill or other evidence that the facility remains functional and the safety signals are in working order.
- 8) For unlit towers, a statement by the owner verifying the continued use or need for the structure.
- 9) For structures which are painted for cosmetic reasons, proof that the tower has been painted within the last five (5) years, or proof satisfactory to the Staff that the exterior does not currently need painting.

If any such information is not submitted within thirty (30) days after the first notice, the Staff shall send a second written notice requesting the documentation within fifteen (15) days from the date of the second mailing. If the Staff does not receive the requested information by the end of normal business on the 15<sup>th</sup> day from the date on which the second notice was mailed, the Staff shall place the issue of whether the tower has been abandoned on the agenda at the next regularly scheduled County Planning Board meeting.

At that meeting, the Planning Board shall determine whether the subject tower has been abandoned. If the owner/ operator fails to respond or appear before the Board, or fails to present evidence regarding the above described items, the Planning Board shall make a determination of abandonment and forward said finding to the Quorum Court for action.

The Quorum Court, at its next regularly scheduled meeting, shall consider the determination of abandonment forwarded by the Planning Board, along with any subsequent submittals by the owner/operator of the tower. The owner/operator may submit a remedial action plan which may call for the owner/operator to be given a reasonable time, not to exceed three months, to implement a plan to restore the facility to safe operations. The Quorum Court may adopt such plan or any substitute plan deemed by the Court to be reasonable. If at any time, the Court finds that the tower in question has been abandoned, the Court shall instruct the County Judge to have the tower removed at the owner's expense. Any salvage value derived from the removed structures shall be applied to the costs of removal, if not paid by the owner.

Compliance with FAA Regulations: No SWECS shall be constructed, altered, or maintained so as to project above any of the imaginary airspace surfaces described in FAR Part 77 of the FAA guidance on airspace protection.

- j. Compliance with National Electric Code: Building permit applications for SWECS shall be accompanied by a line drawing of the electrical components, as supplied by the manufacturer, in sufficient detail to allow for a determination that the manner of installation conforms to the National Electrical Code.
- k. Electrical Wires: All electrical wires associated with a SWECS shall be located underground.
- l. Self-Supporting Structures: All tower structures shall be of monopole construction unless attached to a structurally reinforced roof where such support is not warranted. No lattice structures or towers requiring a guy wire supports shall be permitted.
- m. Safety Shutdown: Each wind turbine shall be equipped with both manual and automatic overspeed controls to limit the rotational speed of the blade within the design limits of the rotor. Manual electrical and/or overspeed shutdown disconnect switches shall be provided and clearly labeled on the wind turbine structure. No wind turbine shall be permitted that lacks an automatic braking, furling, or feathering system to prevent uncontrolled rotation, overspeeding and excessive pressure on the tower structure, rotor blades, and turbine components.
- n. Abandonment: If a wind turbine is determined to be inoperable the current property owner shall be notified that they must, within six (6) months of receiving the notice, restore their system to operating condition or the property owner shall, at his/her expense, remove the wind turbine and tower for safety reasons. If the owner(s) fails to restore their system to operating condition within the six-month period, the tower then would be defined as a public nuisance and be addressed under the provisions of County Ordinance O-07-28.
- o. Signage: All signs, other than the manufacturer's or installer's identification, appropriate warning signs, or owner identification on a wind generator, tower, building, or other structure associated with a small wind energy system visible from any public road shall be prohibited.
- p. Lighting: No illumination of the turbine or tower shall be allowed unless required by the

FAA.

- q. Access: With the exception of facilities constructed in such a way that it is not reasonably practicable to do so, any ladder or other apparatus designed to aid in the climbing of a WECS shall be constructed so that the bottom twelve (12) feet of such ladder or apparatus in not readily accessible except when it is in use by construction, maintenance, repair or other authorized personnel.

## **G. Planning Board Public Hearing Review**

Applications for Large/Utility Scale (LUS) wind turbines shall be submitted to the Planning Board for technical review and public hearing. The process and plan requirements for LUS wind turbines are provided below.

1. Planning Board Approval Process: Applicants seeking Planning Board approval of LUS wind turbines shall adhere to the following process:
  - a. Conduct a pre-application discussion with planning staff (recommended)
  - b. Technical reviews for Planning Board approval shall be conducted procedurally as a site plan review application. Please refer to Chapter IV for a detailed description of application process and requirements. In addition to the basic requirements of Chapter IV, applicants for LUS Wind Turbine projects must also provide the information listed in Subsection below.
  - c. Approved LUS facilities shall be required to file an annual report with the Planning Board which provides the following information:
    - 1) Current ownership and management information
    - 2) Current relationships with electrical utilities
    - 3) Up-to-date maintenance report on each tower
2. Planning Board Review Requirements: The following items shall be submitted in support of an application for (a) large/utility scale wind turbine(s):
  - a. Large Scale Industrial/Commercial Development Application: All plan submission requirements of Chapter VI, Site Plan Review for Major/Regional Impact Commercial/Industrial Site Plan Review, including but not limited to:
    - 1) Completed application
    - 2) Application fee
    - 3) Site plan
    - 4) Cover letter with project narrative
    - 5) Description/history/experience of company
  - b. Site Plan Detail: The site plan shall also include:

- 1) Full property dimensions for each parcel that is included as part of the project
  - 2) Location and ground elevation of each turbine (WECS)
  - 3) Setbacks as per subsection 3.a. below
  - 4) All proposed facilities and structures on the site including roads or driveways, electrical lines and other transmission infrastructure, and other above ground utilities, substations, storage or maintenance buildings, fencing, or any other related or unrelated appurtenance, structure, or site improvement.
  - 5) The distance from the proposed turbine (WECS) location(s) and any built structure in each of the setback zones.
- c. Turbine Information: specific information on the type, model, size, height, rotor material, rated power output, performance, safety, and noise characteristics of each wind turbine being proposed, tower, and electrical transmission equipment. Elevation drawings of each turbine showing total height, turbine dimensions, tower and turbine colors and markings, ladders and climbing pegs, distance between ground and lowest point of any blade, and access doors. One drawing may be provided if units are to be identical.
- d. Engineered Turbine Specifications: Drawings of the wind turbine structure, including the tower, base, and footings and/or foundation as provided by the manufacturer: In addition, an engineering analysis of the tower showing compliance with the International Building Code certified by a licensed professional engineer.
- e. Electrical Components: Building permit applications for WECS shall be accompanied by a line drawing of the electrical components in sufficient detail to allow for a determination that the manner of installation conforms to the adopted National Electrical Code (NEC). All building permits require installations to be designed and sealed by an engineer licensed in the State of Arkansas, designs shall include structural analysis.
- f. Noise Study: prepared by a qualified professional, shall demonstrate that except for short-term events such as utility outages and severe windstorms, the large/utility scale wind turbine shall not produce noise in excess of 55 dBA at the property lines. The noise study shall include:
- 1) A description and map of the project's noise producing features, including the range of noise levels expected, and the basis for such expectations.
  - 2) A description and map of the noise sensitive environment, including any sensitive noise receptors (e.g. residences, hospitals, libraries, schools, places of worship, parks, areas with outdoor workers and other facilities where quiet is important or where noise could be a nuisance) within one-thousand-feet (1,000').
  - 3) A survey and report prepared by a qualified engineer that analyzes the pre-existing ambient noise (including seasonal variation) and the affected sensitive receptors located within one-thousand-feet (1,000').
  - 4) A description and map of the cumulative noise impacts.

- 5) A description of the project's proposed noise control features and specific measures proposed to mitigate noise impacts for sensitive receptors as identified above to a level of insignificance.
- g. Soil Study: A geotechnical report shall be furnished along with the certification which shall, at a minimum, include the following:
  - 1) Soils engineering and engineering geologic characteristics of the site based on on-site sampling and testing.
  - 2) Foundation design criteria for all proposed structures.
  - 3) Slope stability analysis.
  - 4) Grading criteria for ground preparation, cuts and fills, and soil compaction.
- h. Shadow/Flicker: A shadow/flicker model shall demonstrate that shadow/flicker shall not fall on, or in any existing residential structure without written permission from the homeowner. The shadow/flicker model shall:
  - 1) Map and describe within a one-thousand (1000') feet radius of the proposed wind energy system the topography, existing residences and location of their windows, locations of other structures, wind speeds and directions, existing vegetation and roadways. The model shall represent the most probable scenarios of wind constancy, sunshine constancy, and wind directions and speed;
  - 2) Calculate the locations of shadow/flicker caused by the proposed project and the expected durations of the shadow/flicker at these locations, calculate the total number of hours per year of shadow/flicker at all locations;
  - 3) Identify problem areas where shadow/flicker will interfere with existing or future residences and roadways and describe proposed mitigation measures, including, but not limited to, a change in siting of the wind energy conversion system, a change in the operation of the wind energy conversion system, or grading or landscaping mitigation measures.
- i. Use of MET (Meteorological) Towers: Met Towers may be utilized for large or utility scale wind turbines only as approved by the Planning Board. The location, height, and length of time such structures are to be erected shall be provided as part of the application.
- j. Impact on Wildlife: A study shall be provided by a professional that demonstrates that the development and operation of the wind turbine(s) in question shall not have an adverse impact on endangered or threatened avian or bat species and their critical habitats.
- k. Additional Information: The Planning Board may require additional technical studies deemed necessary to fully evaluate the application. Should the services of an outside consultant be needed to evaluate any such technical studies, the cost of such services shall

be borne by the applicant.

3. Large/Utility Scale (LUS) Wind Turbine Technical Requirements

- a. Setbacks: The base of the tower shall be set back [s] from all property lines, structures, public right-of-ways, and public utility lines a distance equal to the total extended height (pole height [p] + height of one blade [b] = [s]). To demonstrate compliance with this provision, the site plan shall provide a clearly depicted series of radii drawn around each tower showing:
- 1) An area with a radius of one and one-half (1.5) times the tower height
  - 2) An area with a radius of Five hundred (500') foot
  - 3) An area with a radius of One thousand (1000') foot

Site plan shall also show ownership and land uses within the above mentioned perimeters.

- b. Number: Only one (1) Large/Utility Scale wind turbine structure shall be allowed per lot (or alternatively per five [5] acres).
- c. Location: LUS wind turbines may be located on any portion of a lot provided that setback requirements are met.
- d. Utility Notification: No building permit for a LUS shall be issued until a copy of the utility company's approval of the facility has been provided to the Building Division.
- e. Minimum Blade Clearance: The blade tip clearance for large/utility scale wind turbines shall, at its lowest point, have a ground clearance of not less than thirty (30') feet.
- f. Color/Finish: Wind turbines, exclusive of the towers, shall be painted a non-reflective, non-obtrusive color such as the manufacturer's default color option or a color that conforms to the environment and architecture of the community in which it is sited. Towers shall maintain galvanized steel, brushed aluminum or white finish, unless FAA standards require otherwise.
- g. Sound: Sound produced by the turbine under normal operating conditions, as measured at the property line, shall not exceed the definition of nuisance noise. Sound levels, however, may be exceeded during short-term events such as utility outages, severe wind storms, or other causes outside the control of the property owner.
- h. Wind Turbine Equipment: WECS shall be approved by relevant certification program recognized by the American Wind Energy Association (AWEA) and meet the standard for LUS WECS as recommended in AWEA's Recommended Practice for Compliance of Large Land-based Wind Turbine Support Structures.
- i. Wind Turbine Maintenance: All wind turbines shall be maintained in good operating condition throughout the life of the facility. The owner of a wind turbine shall complete all necessary maintenance and improvements to the structure if it is determined to be

inoperable or hazardous to neighboring properties. Poorly maintained or inoperable facilities shall be notified by the Planning Board that they have six (6) months in which to either restore the facility to good operating condition or remove it from the site.

- j. Requirement for Engineered Drawings: Building permit applications for LUS wind energy systems shall be accompanied by standard drawings of the wind turbine structure and stamped engineered drawings of the tower, base, footings, and/or foundation as provided by the manufacturer. Wet stamps shall not be required.
- k. Soil and Geological Studies: Large/Utility Scale wind generation facilities shall require a project-specific soils and geological study confirming that the proposed installation shall be appropriate for the soil and geology of the site.
- l. Compliance with FAA Regulations: No LUS wind generation facility shall be constructed, altered, or maintained so as to project above any of the imaginary airspace surfaces described in FAR Part 77 of the FAA guidance on airspace protection.
- m. Compliance with National Electric Code: Building permit applications for LUS wind generation facility shall be accompanied by a line drawing of the electrical components, as supplied by the manufacturer, in sufficient detail to allow for a determination that the manner of installation conforms to the National Electrical Code.
- n. Utility Notification: In the event that a Large/Utility Scale wind generation facility is not owned and/or operated by an electric utility company, the applicant shall provide evidence the utility company has been informed of the customer's intent to install such a facility.
- o. Electrical Components: Site plans shall detail the location of all above-ground utility lines on the site and all related transformers, power lines, points of interconnection with transmission lines, and other ancillary facilities and structures.
- p. Self-Supporting Structures: All tower structures shall be of monopole construction unless attached to a structurally reinforced roof where such support is not warranted. No lattice structures or towers requiring a guy wire supports shall be permitted.
- q. Safety Shutdown: Each wind turbine shall be equipped with both manual and automatic overspeed controls to limit the rotational speed of the blade within the design limits of the rotor. Manual electrical and/or overspeed shutdown disconnect switches shall be provided and clearly labeled on the wind turbine structure. No wind turbine shall be permitted that lacks an automatic braking, furling, or feathering system to prevent uncontrolled rotation, overspeeding and excessive pressure on the tower structure, rotor blades, and turbine components.
- r. Abandonment: If a wind turbine is determined to be inoperable the current property owner shall be notified that they must, within six (6) months of receiving the notice, restore their system to operating condition or the property owner shall, at his/her expense, remove the wind turbine and tower for safety reasons. If the owner(s) fails to restore their system to operating condition within the six-month period, the tower then could be defined as a

public nuisance and be addressed under the provisions of County Ordinance O-07-28.

- s. Signage: All signs, other than the manufacturer's or installer's identification, appropriate warning signs, or owner identification on a wind generator, tower, building, or other structure associated with a small wind energy system visible from any public road shall be prohibited.
- t. Lighting: No illumination of the turbine or tower shall be allowed unless required by the FAA. If lighting is to be provided, a lighting plan showing all FAA-required lighting and including a copy of the determination by the FAA to establish required markings and/or lights for the structure(s) shall be provided.
- u. Access: With the exception of facilities constructed in such a way that it is not reasonably practicable to do so, any ladder or other apparatus designed to aid in the climbing of a WECS shall be constructed so that the bottom twelve (12') feet of such ladder or apparatus in not readily accessible except when it is in use by construction, maintenance, repair or other authorized personnel.

#### **§7.4 – SIGNS**

##### **A. Signs Generally**

Benton County does not regulate the content, design, location, or other criteria related to commercial or private signage except as provided below.

##### **B. Commercial, Industrial, or Other Non-Residential Signs**

Signs erected for the purpose of conducting business and not of a strictly residential or agricultural nature shall meet the following requirements:

1. Such signs shall not be located within or extent over the public right-of-way.
2. Such signs shall not be situated within a required parking space, drive aisle, site triangle (as per the definition in Chapter III, "S" Definitions), or otherwise interfere with ingress/egress or circulation within a site.
3. Such signs shall not be placed within any easement identified for a public or quasi-public purpose such as a drainage easement, utility easement, or access easement.

#### **§7.5 – TEMPORARY USES**

Temporary uses are commercial or public activities that are of a temporary or intermittent scale or duration and are required to be removed following the expiration of a permit. Such uses do not require site plan review approval.

Temporary uses include special events, parades, carnivals, seasonal businesses including Christmas Tree sale, firework stands, pumpkin patch, mazes, public health and safety activities such as emergency clinics and temporary inoculation centers etc.

A. **Purpose and Scope:** A Temporary Use Permit (TUP) is intended to allow for the short-term placement of activities and any associated structure or improvement that are commercial in nature. Temporary uses are classified as exempt, minor and major based on the nature and impact of the temporary activity.

It is the intent of this regulation:

1. To serve and protect the health, safety and welfare of the general public;
2. To establish equitable standards for temporary uses

B. **Exemptions:** The following uses shall be exempted from the provisions of this Section if they meet all of the following criteria:

1. The use and/or structure shall not exceed 30 days in a calendar year.
2. The use and structure shall be located on private property and shall demonstrate provision of adequate off street parking to serve the use. The temporary use shall not displace the required off-street parking spaces or loading areas of the principal use on-site.
3. The temporary structure shall not exceed 120 square feet in size and shall not accommodate explosives or flammable material.
4. The use and/or structure shall not involve the sale or display of any toxic or hazardous or flammable materials on-site. Examples of exempt temporary uses include but is not limited to the following:
  - Religious or nonprofit events conducted entirely on a lot occupied by their primary facility.
  - Special events and activities conducted on public property, such as school sites and public parks, and public events on private property, such as, public health and safety activities such as emergency clinics and temporary inoculation centers.
  - Residential garage and rummage sales.
  - Revivals or family gatherings.
  - Agritourism activities as defined in Chapter III of this Ordinance.

C. Exempt fireworks stands and commercial fireworks display- The fireworks stands and commercial fireworks displays that meet the following criteria shall be EXEMPT from Planning Board Review:

- Have obtained State Fireworks Permit from the State Fire Marshal;

- Have obtained a temporary 911 address from Benton County 911 Administration;
- Have obtained a temporary electrical permit from Benton County Building Official, if required;
- Have contacted Benton County Fire Marshal for scheduling an inspection and comply with the Fireworks Inspection checklist;

D. **Temporary Use Requiring a Permit:** All temporary uses that do not meet the exemption criteria require review and approval by the Planning Board. Examples of temporary uses requiring review may include but not be limited to:

- outdoor sales or display of merchandise sold on the premises of an established business such as sidewalk sales or other temporary commercial promotions provided that such activities use public right-of-way or other area dedicated to a specific site plan purpose such as required parking or required loading. Such activities may include non-mobile or mobile vendor stands such as for seasonal sale of agricultural produce, seasonal garden center, sports paraphernalia, agricultural tourism activities etc.
- Off-site religious events in a tent or other temporary structures
- Real estate offices and model homes within approved development projects
- Contractors' construction yards, trailers, coaches or mobile homes as a Temporary residence during construction of a dwelling
- Explosive materials storage, temporary
- Fairs, festivals, events, and concerts
- Special amusement operations
- Tents and canopies
- Outdoor temporary swap meets or auctions
- Outdoor vending anticipated to have a greater impact such as fireworks stands, large farmers markets, or vehicle/boat events.
- Commercial fireworks displays are considered a temporary use and are required to obtain a Temporary Permit.

Applications for TUP must be submitted a minimum of fifteen (15) days prior to the event date. A Temporary Use Permit Application Packet can be downloaded or picked up at the Planning Department during counter hours. Submittals shall require the following information:

1. Completed application and fee
2. Cover letter describing the temporary use including scale and duration

3. Site plan (informal)
4. Supplemental materials and/or approvals based on proposed activity. Note that some uses may be required to obtain permissions from public health and safety agencies such as the Sheriff's Office, Health Department, and Fire Department.

#### **E. Temporary Use Review Procedures**

The Planning Board shall hear applications for a Temporary Use Permits as per the following provisions:

1. Procedures. The Board shall hear a request for a Temporary Use Permit (TUP) in public hearing session. There shall be no separate technical advisory session for a TUP.
2. Findings. The Board may approve, or conditionally approve a Temporary Use Permit application, only when the following findings can be made:
  - a. The proposed temporary use is compatible with the nature, character, and use of the surrounding area.
  - b. The temporary use will not adversely affect the adjacent uses, buildings or structures.
  - c. The nature of the proposed use not detrimental to the health, safety, or welfare of the community or constitutes a nuisance.
  - d. All such uses that involve lights and noises shall not be allowed any closer than 500 feet to a dwelling unit.
  - e. The site shall have access drives so located as to minimize traffic hazards.
  - f. The applicant shall show that adequate measures will be taken to prevent odor, dust, noise, lights, and traffic from becoming a nuisance to uses on other adjacent properties.
  - g. Provision for temporary parking facilities, including vehicular ingress and egress.
  - h. Regulation of nuisance factors such as, but not limited to, prevention of glare or direct illumination on adjacent properties, noise, vibration, smoke, dust, din, odors, gases and heat.
  - i. Regulation of temporary structures and facilities, including placement, height and size, location of equipment and open spaces, including buffer areas and other yards.
  - j. Provision for sanitary and medical facilities.
  - k. Provision for solid, hazardous and toxic waste collection and disposal.
  - l. Provision for security and safety measures.
  - m. Location of signs related to location in proximity to public right-of-way.
  - n. Regulation of operating hours and days, including limitation of the duration of the temporary use.

- o. Provision for a fixed period not to exceed ninety (90) days for a temporary use not occupying a structure, including promotional activities, or one (1) year for all other uses or structures, or for a shorter period of time as determined by the Board.
  - p. The Planning Board may, as applicable, request the submission of a performance bond or other surety devices, to ensure that any temporary facilities or structures used will be removed from the site within a reasonable time following the event and that the property will be restored to its former condition.
  - q. A requirement that the approval of the requested Temporary Use Permit is contingent upon compliance with applicable provisions of this Ordinance.
  - r. Any other conditions which will ensure the operation of the proposed temporary use in an orderly and efficient manner and in accordance with the intent and purpose of this section.
  - s. All TUPs to require a temporary 911 address from the 911 office and require temporary address signage at roadway.
  - t. The applicant shall obtain all related permits and approvals, such as, fire prevention, health and sanitation, police, animal regulations, and business licenses for each temporary use.
  - u. All tents, canopies and other membrane structure shall comply with the Arkansas Fire Code requirements and standards.
  - v. All hazardous materials storage shall comply with Arkansas Fire Code requirements and standards.
3. Revocation. A temporary use permit may be revoked or modified by the Director based on a non-compliance with the provisions of this Ordinance and any conditions of approval.
  4. Display of Permit. Temporary Use Permits shall be prominently displayed at the activity area visible to the general public and to the typical user or customer of the permitted use.
  5. Expiration and Renewal of permit. The terms of the permit shall be determined according to the type of activity. Permits may be permanent renewable or temporary for a specified duration only.
  6. Inspection: Inspection shall be requested from the permit applicant. The inspection must be requested at least 24 hours in advance. At the time of the inspection, all fire extinguishers, exit signs, lighting, and any other equipment will need to be installed. All fire extinguishers shall be fully charged and tagged by an authorized State of Arkansas fire extinguishing company and placed at accessible locations near the exits. No extinguisher is to be obstructed in anyway which will prevent it from being easy accessed in the event of a fire. Fire Extinguisher number and type will need to comply with item #3 of the Interior Requirements. Exits are to be provided in accordance with item #2 with exit signs being provided in accordance with item #3 of the Structure Requirements.

## **§7.6 – HOME AND RURAL FAMILY OCCUPATION**

**Home and Rural Family Occupation:** Any use conducted entirely within a dwelling or an accessory building which is clearly incidental and secondary to the use of the dwelling and which does not change the residential character of the building and the surrounding area is classified as a Home Occupation. These regulations do not supersede the existing covenants in a subdivision.

In rural areas of the County with lot sizes of 2 acres or more, an accessory use that allows the operation of a business on the same property as one's residence is also classified as Home and Rural Family Occupation. This includes commercial/ farm related activities conducted in accessory building(s) which are incidental to the prime use of the property for a dwelling or a farm and does not change the rural and or agricultural character of the area.

**A. Exempt Home and Rural Family Occupations – Allowed by right**

Home and Rural Family Occupations that meet all of the following criteria are exempt from review:

- Operate entirely within the dwelling or an accessory building with no more than twenty-five (25%) percent of the gross floor area of the home and or any accessory building utilized in the day to day operations of the home based business.
- Home and Rural Family Occupations shall be operated and conducted primarily by the resident owner of the property.
- Phone order, fax and or internet sales or sale of items that is clearly incidental to the farm activities or residential use of the site by the property owner.
- Any commercial activity that shall be incidental to residential or farm activities and shall not meet the threshold for site plan review.
- Any use that does not require a building code or septic upgrades (i.e. from residential standards to commercial standards) to accommodate the home and rural family occupation.
- The home and rural family occupation does not display merchandise or have outside storage of equipment or materials visible from a public road or adjacent residence. If located outside the building such use shall be adequately setback and appropriately screened from adjacent properties.
- The home and rural family occupation does not alter the external appearance of the dwelling unit or accessory structure and maintains the rural residential character.
- The home and rural family occupation does not create noise, vibration, glare, fumes, electromagnetic interference, odors, or air and water pollution or any environmental concerns outside the dwelling unit or accessory building on site.
- The home and rural family occupation does not involve the storage of hazardous materials, other than substances of a type and quantity customarily associated with a home or hobby. Further, the use of buildings or structures for the home occupation shall not involve the

manufacturing, processing, generation or storage of materials that constitute a high fire, explosion or health hazard as defined by the International Building Code.

- When located in a subdivision, the home occupation has no more than one non-illuminated business sign on the premises, not more than two square feet in area. In rural areas with lot sizes of 1 acre or more, one non-illuminated sign of nine square feet in area and six feet tall may be allowed.
- The home and rural family occupation shall not warrant delivery or parking needs that have the potential to adversely affect traffic for adjacent and surrounding properties. Further, parking areas for residents, employees or customers and or loading areas shall be located on site, adequately setback and appropriately screened from adjacent properties. In subdivisions, parking of non-motorized vehicles, such as, boats, trailers, or flatbeds shall not be allowed unless adequately screened.

Examples of exempt home based occupations include, however, is not limited to, child care of no more than five children; incidental sales, i.e. independent consultants such as Mary Kay, Tupperware, Pampered Chef etc.; home office, i.e. general contractor; accountant, insurance agent; beauty salon (one chair); apparel alterations; repair shop.

In rural areas with lot sizes of 2 acres or more this may include but is not limited to, small repair or welding shop; cabinet making; horticultural specialists; septic tank repair services and other farm related commercial service, such as, sale of agricultural and or horticultural products, such as, selling honey, eggs, seasonal vegetables and fruits; welding or repair shops; selling fire wood; raising and breeding specialty/farm animals for seasonal sale on the property not to exceed 4 times a year on weekends only; resale of farm equipment on-site, estate sales and others that do not create any environmental or traffic problems for the surrounding area.

Examples of non-exempt home occupation include, however, is not limited to, bed and breakfast; kennels; towing services; auto wreckers; junkyards; restaurants, medical clinic, dentist office, commercial sales or leasing of vehicles, any use that requires a building code or septic upgrades (i.e. from residential standards to commercial standards) to accommodate the home occupation, commercial child care facilities, flea markets, animal auctions, and others that meet the threshold for site plan review.

### **§7.7 – ADULT ORIENTED BUSINESSES**

The purpose of this section is to establish requirements governing the location of adult-oriented businesses in order to protect the public health, safety, and welfare and to prevent criminal activity consistent with A.C.A §14-1-301.

Based on evidence of the adverse secondary effects of adult-oriented businesses and on findings discussed in cases, including *City of Los Angeles v. Alameda Books, Inc.*, 535 U.S. 425 (2002), *Erie v. PAPS A.M.*, 529 U.S. 277 (2000), *City of Renton v. Playtime Theatres, Inc.*, 475 U.S. 41 (1986), and *Young v. American Mini Theatres*, 427 U.S. 50 (1976), the General Assembly finds that:

1. Adult-oriented businesses, as a category of commercial land uses, are associated with a wide variety of adverse secondary effects, including a negative impact on surrounding properties, personal and property crime, illicit drug use and trafficking, lewdness, prostitution, potential spread of disease, and sexual assault;
2. Adult-oriented businesses should be separated from schools, playgrounds, places of worship, and other places frequented by children to minimize the impact of the secondary effects of the adult-oriented businesses on schools, playgrounds, places of worship, and other places frequented by children.

A. **DEFINITIONS-** As used in this section:

"Adult arcade" means any place where the public is permitted or invited and where a still or motion picture machine, projector, or other image-producing device is:

- a) Coin-operated or slug-operated or electronically, electrically, or mechanically controlled; and
- b) Maintained to show an image or images involving a specific sexual activity or a specific anatomical area to a person in a booth or viewing room.

"Adult bookstore or video store" means a commercial establishment that offers for sale or rent any of the following as one (1) of its principal business purposes:

- a) A book, magazine, periodical or other printed matter, photograph, film, motion picture, videocassette, reproduction, slide, or other visual representation that depicts or describes a specific sexual activity; or
- b) An instrument, a device, or paraphernalia that is designed for use in connection with a specific sexual activity.

"Adult cabaret" means any nightclub, bar, restaurant, or other similar commercial establishment that regularly features a:

- a) Person who appears in a state of nudity or who is seminude;
- b) Live performance that is characterized by the exposure of a specific anatomical area or a specific sexual activity; or
- c) Film, motion picture, videocassette, slide, or other photographic reproduction that is characterized by the depiction or description of a specific sexual activity or a specific anatomical area.

"Adult live entertainment establishment" means an establishment that features either a:

- a) Person who appears in a state of nudity; or
- b) Live performance that is characterized by the exposure of a specific anatomical area or a specific sexual activity.

"Adult motion picture theater" means a commercial establishment in which for any form of consideration a film, motion picture, videocassette, slide, or other similar photographic reproduction

characterized by the depiction or description of a specific sexual activity or a specific anatomical area is predominantly shown.

"Adult-oriented business" means an adult arcade, an adult bookstore or video store, an adult cabaret, an adult live entertainment establishment, an adult motion picture theater, an adult theater, a massage establishment that offers adult services, an escort agency, or a nude model studio.

"Adult theater" means a theater, a concert hall, an auditorium, or a similar commercial establishment that predominantly features a person who appears in a state of nudity or who engages in a live performance that is characterized by the exposure of a specific anatomical area or a specific sexual activity.

"Child care facility" means a facility that is licensed by the Division of Child Care and Early Childhood Education of the Department of Human Services to provide care or supervision for minor children.

"Escort" means a person who:

- a) For consideration agrees or offers to act as a date for another person; or
- b) Agrees or offers to privately model lingerie or to privately perform a striptease for another person.

"Escort agency" means a person or business association that furnishes, offers to furnish, or advertises the furnishing of an escort as one (1) of its primary business purposes for any fee, tip, or other consideration.

"Local unit of government" means a city of the first class, a city of the second class, an incorporated town, or a county.

"Massage establishment that offers adult services" means an establishment that offers massage services characterized by an emphasis on a specific sexual activity or a specific anatomical area.

"Nude", "nudity", or "state of nudity" means any of the following:

- a) The appearance of a human anus, human genitals, or a female breast below a point immediately above the top of the areola; or
- b) A state of dress that fails to opaquely cover a human anus, human genitals, or a female breast below a point immediately above the top of the areola.

(a) "Nude model studio" means a place where a person who appears in a state of nudity or who displays a specific anatomical area is observed, sketched, drawn, painted, sculptured, photographed, or otherwise depicted by another person for money or other consideration.

(b) "Nude model studio" does not include a proprietary school that is licensed by this state, a college, community college, or university that is supported entirely or in part by taxation, a private college or university that maintains and operates educational programs in which credits are transferable to a college, community college, or university that is supported entirely or in part by taxation, or a structure containing an establishment to which the following apply:

- (i) A sign is not visible from the exterior of the structure and no other advertising appears indicating that a nude person is available for viewing;
- (ii) A person must enroll at least three (3) days in advance of a class in order to participate; and
- (iii) No more than one (1) nude or seminude model is on the premises at a time.

"Park" means any area primarily intended for recreational use that is dedicated or designated by any federal, state, or local unit of government, local agency or entity, or any private individual, business, or group including any land leased, reserved, or held open to the public for use as a park.

"Place of worship" means a structure where persons regularly assemble for worship, ceremonies, rituals, and education relating to a particular form of religious belief and which a reasonable person would conclude is a place of worship by reason of design, signs, or architectural features.

"Playground" means any:

- i. Public park or outdoor recreational area with play equipment installed and designed to be used by children; and
- ii. Outdoor recreational area with play equipment installed that is owned and operated by a charitable organization or a business.

"Public library" means:

- a. A city library established under § 13-2-501 et seq.;
- b. A county library established under § 13-2-401 et seq.;
- c. A joint city-county library established under § 13-2-401 et seq. or § 13-2-501 et seq.; and
- d. Any other library system established under § 13-2-401 et seq., § 13-2-501 et seq., or § 13-2-901 et seq.

"Recreational area or facility" means an area or facility open to the public for recreational purposes.

"Residence" means a permanent dwelling place.

"School" means a public or private elementary, secondary, charter, or postsecondary school.

"Seminude" means a state of dress for which clothing covers no more than the genitals, the pubic

region, and a female breast below a point immediately above the top of the areola, as well as portions of the body that are covered by supporting straps or devices.

"Specific anatomical area" means any of the following:

- (a) A human anus, genitals, pubic region, or a female breast below a point immediately above the top of the areola that is less than completely and opaquely covered; or
- (b) Male genitals in a discernibly turgid state if less than completely and opaquely covered.

"Specific sexual activity" means any of the following:

- (a) A sex act, actual or simulated, including an act of human masturbation, sexual intercourse, oral copulation, or sodomy; or
- (b) Fondling or other erotic touching of a human genital, a pubic region, a buttock, an anus, or a female breast.

"Walking trail" means a pedestrian trail or path primarily used for walking but also for cycling or other activities.

#### **B. Location of adult-oriented businesses**

(a) An adult-oriented business shall not be located within one thousand feet (1,000') of a child care facility, park, place of worship, playground, public library, recreational area or facility, residence, school, or walking trail.

(b) For the purposes of this section, the measurement required in subsection (a) of this section shall be made in a straight line in all directions, without regard to intervening structures or objects, from the nearest point on the property line of a parcel containing an adult-oriented business to the nearest point on the property line of a parcel containing a child care facility, park, place of worship, playground, public library, recreational area or facility, residence, school, or walking trail.

(c) An adult-oriented business lawfully operating in conformity with this section is not in violation of this section if a child care facility, park, place of worship, playground, public library, recreational area or facility, residence, school, or walking trail subsequently locates within one thousand feet (1,000') of the adult-oriented business.

#### **C. Civil action.** If there is reason to believe that a violation of this section is being committed:

- (1) The county attorney shall maintain an action to abate and prevent the violation and to enjoin perpetually any person who is committing the violation and the owner, lessee, or agent of the building or place in or where the violation is occurring from directly or indirectly committing or permitting the violation; or

- (2) A citizen of this state who resides in the County, may in the citizen's own name maintain an action to abate and prevent the violation and to enjoin perpetually any person who is committing the violation and the owner, lessee, or agent of the building or place in or where the violation is occurring from directly or indirectly committing or permitting the violation.

D. **Penalties – See Chapter II, §2.6**

**§ 7.8 RETAIL LIQUOR ESTABLISHMENTS**

- A. Applicability - these regulations apply to all retail liquor establishments that have been granted a retail liquor sale permit by the Alcoholic Beverage Control Board of Arkansas.

Applicants for and holders of permits and other persons shall conform to the regulations set forth in A.C.A. Title 3 (A.C.A. §3-1-101 et seq.), rules and regulations of Arkansas Department of Finance and Administration and to the provisions of this ordinance.

- B. Definitions. As used in this ordinance, unless the context otherwise requires:

**“Alcoholic Beverages”** means all intoxicating liquors of any sort other than beer and wine.

**“Block”** means the area on both sides of that portion of a street lying between intersecting streets and extending back, on both sides, halfway to the next parallel street.

**“Dispensary”** means any store which, under the provisions of this act and having paid all taxes required by the state, sells at retail, in unbroken packages, for consumption off the premises, any intoxicating alcoholic liquor as defined by this act.

**“Malt”** means liquor brewed from the fermented juices of grain and containing more than five percent (5%) of alcohol by weight; or Beer containing not more than five percent (5%) of alcohol by weight and all other malt beverages containing not more than five percent (5%) of alcohol by weight are not defined as malt liquors and are excepted from each and every provision of this act.

**“Manufacturer”** means any person engaged in the business of distilling, brewing, making, blending, rectifying, or producing for sale in wholesale quantities alcoholic liquors of any kind including whiskey, brandy, cordials, liquors, ales, beers, or other liquids containing alcohol, except wines.

**“Person”** means any and all corporations, partnerships, associations, or individuals.

**“Spirituous”** means liquor distilled from the fermented juices of grain, fruits, or vegetables and containing more than twenty-one percent (21%) of alcohol by weight, or any other liquids containing more than twenty-one percent (21%) of alcohol by weight.

**“Vinous”** means the fermented juices of fruits, except native wine, containing more than five percent (5%) and not more than twenty-one percent (21%) of alcohol by weight.

**Bar, Lounge or Tavern** means an establishment, the primary activity of which is the sale and consumption on the premises of beer, wine or other liquors, and where food service is secondary to the sale of liquors. Includes microbreweries where patrons are served beer products on the premises for on-site consumption.

**“Controlled Beverages”** means all beverages of any kind subject to regulation under any alcoholic beverage control law of the State of Arkansas.

**“Club”** means a private club. See Private Club.

**“Light Wine”** means the fermented juices of grapes, berries, or fruits and any other mixture containing the fermented juices of grapes, berries, or fruits, having an alcoholic content of between one-half of one percent (0.5%) and five percent (5%) alcohol by weight.

**“Native Beverage”** means brandy manufactured in the State of Arkansas from the juices of grapes, berries and other fruits or vegetables grown in the State of Arkansas. (Amended 8-15-07).

**“On Premises Wine Restaurant or Café”** means a place of business serving food to the public prepared for consumption on the premises and an established eating place. The principal business at such restaurant or café shall be the serving of food for consumption on the premises. A drive-in food service establishment shall not be considered a café or a restaurant for purposes of this Section. (Amended 8-20-97).

**“Permit”** means any authorization issued pursuant to any alcoholic beverage control law of the State of Arkansas whether described by law or regulation as a permit, license or otherwise.

**“Permittee”** means the person to whom the permit to do business is issued.

**“Person”** means any natural person, partnership, association, corporation, syndicate, or company.

**“Premises”** means any place, building, or structure, which is shown on a floor plan or site plan submitted to and approved by the Alcoholic Beverage Control Division for the sale or consumption of alcoholic beverages. (Amended 8-19-93)

**Retail liquor** establishment is any establishment permitted by the Alcoholic Beverage Control Board of Arkansas to sell for offsite consumption spirituous, vinous, or malt liquor.

**“Private Club”** means a non-profit corporation organized and existing under the laws of the State of Arkansas, no part of the net revenues of which shall inure directly or indirectly to the benefit of any of its members or any other individual, except for the payment of bona fide expenses of the club’s operation, having not less than 100 members, conducted for some common recreational, social, patriotic, political, national, benevolent, athletic, community hospitality, professional association, entertainment, or other non-profit objective or purpose other than the consumption of alcoholic beverages, which shall have been in existence for a period of not less than one (1) year before

application for permit, and owning or leasing a building or space therein for the reasonable comfort and accommodation of its members and their families and guests and, in dry areas, restricting the use of the club facilities to such persons. (Amended 8-17-05)

All other words used in this ordinance shall be defined according to the statutes in such case made and provided, if any, and otherwise shall be defined according to the custom and usage of the people of Arkansas.

### **C. Location of retail Liquor businesses**

**Separation requirement-** All retail liquor establishment shall not be located within one thousand feet (1,000'), measured wall to wall as straight line in all directions, without regard to intervening structures or objects, from the nearest wall of a building containing the alcohol sale establishment to the nearest wall of the following buildings/ structures:

1. place of worship, and
2. school

**Hours of sale-** it shall be unlawful for the owner, operator or any employee of an alcohol sale establishment as defined herewith, to serve or permit the consumption of any controlled beverages at any time prohibited by State and County law.

**Exterior Sign-** All alcohol sales establishments shall comply with the rules and regulations outlined in the Arkansas Department of Finance and Administration and the exterior advertising shall be limited to a non-illuminated sign.

### **D. Violations**

Violation of the state laws adopted by this section shall subject the offender, upon conviction, to the penalties prescribed by state law. It shall be unlawful for any person to engage in the business of manufacturing, transporting, storing, handling, receiving, distributing, selling, or dispensing, either at wholesale or retail, any controlled beverage, within Benton County without the appropriate permit issued by the Division of Alcoholic Beverage Control of the State of Arkansas.

In addition penalties consistent with Chapter II, §2.6 and Benton County Code of Ordinance, Section 1-9 shall apply.

## **§7.9 SPORT SHOOTING RANGES AND SPORTS FACILITIES**

The purpose of this ordinance is to regulate the location and construction of shooting range or sports facilities. Such recreational and training complexes, due to their potential safety concerns require construction and design standards.

### **A. Exceptions**

- I. A sport shooting range or sports facility that is not in violation of a state law or an ordinance of a local unit of government prior to the enactment of this ordinance may continue to operate even

if, at or after the time of enactment of this ordinance, the operation is not in compliance with this ordinance.

- II. A sport shooting range or sports facility that is in existence on August 12, 2005, may undertake the following within its existing geographic boundaries:
  - a. Repairing, remodeling, or reinforcing any building or improvement as may be necessary in the interest of public safety or to secure the continued use of the building or improvement;
  - b. Reconstructing, repairing, rebuilding, or resuming the use of a facility or building damaged by fire, collapse, explosion, act of nature, or act of war occurring after August 12, 2005. The reconstruction, repair, or rebuilding shall be completed within one (1) year following the date of the damage or settlement of any property damage claim. If reconstruction, repair, or rebuilding is not completed within one (1) year, the reconstruction, repair, or rebuilding may be terminated;
  - c. Expanding or enhancing its membership or opportunities for public participation; or
  - d. Reasonably expanding or increasing facilities or activities.

B. **Definitions.** As used in this section:

**Ambient Noise:** The totality of noise in a given place and time. It is usually a composite of sounds from varying sources at varying distances.

**Baffle:** A shielding structure or series of partitions which reduces noise by lengthening the path of sound transmission between source and receiver.

**Decibel (db):** In layman's terms, the unit used to measure the relative loudness or level of a sound. The range of human hearing is from about 0 decibels to about 140 decibels.

**Firearm:** A weapon, including pistols, rifles, and shotguns, capable of firing a projectile using an explosive charge as a propellant.

**Firing line:** A line parallel to a target from which firearms or arrows are discharged.

**Impulsive Sound:** Noise with an abrupt onset, high intensity, short duration typically less than one second and often rapid changing spectral composition.

**Inverse Square law:** The law describing the situation in which the mean square sound pressure changes in inverse proportion to the square of the distance from the source. Under this condition the sound pressure level decreases six decibels for each doubling of the distance from the source.

**L(eq) energy equivalent sound level (Leq):** is a measure which describes with a single number the sound level of a fluctuating noise environment over a time period. It is a sound level based on the arithmetic average energy content of the sound.

**L(dn):** is the Leq(energy averaged sound level) over a 24-hour period. It is adjusted to include a 10db penalty for noise occurring during the nighttime hours (10pm to 7am). Weight is given to nighttime noise in this way to account for the lower tolerance of people to noise at night.

**Noise:** Any unwanted sound, and by extension, any unwanted disturbance within the frequency band.

**Noise level reduction:** The amount of noise level reduction achieved through the incorporation of noise attenuation in the design and construction of the structure.

**Person:** Any individual, corporation, association, club, firm, or partnership.

**Reflection:** the throwing back of an image, of the original sound, by the surface.

**Refraction:** the bending of a sound wave from its original path, either because of passing from one medium to another or because (in air) of a temperature or wind gradient.

**Safety fan:** An area on a shooting range facility designed to contain all projectiles fired from a shooting range.

**Sound Level:** the weighted sound pressure level obtained by use of a sound level meter having standard frequency- filter for attenuating part of the sound spectrum.

**Sound Level meter:** An instrument comprising of a microphone, an amplifier, an output meter and frequency-weighted networks. Sound level meters are used for the measurement of noise and sound levels in a specific manner.

**Shielding:** attenuating the sound by placing walls, buildings or other barriers between the sound source and the receiver.

**Shooting range facility:** A public or private facility, including individual shooting ranges, safety fans or shotfall zones, structures, parking areas, and other associated improvements, designed for the purpose of providing a place for the discharge of various types of firearms or the practice of archery. Does not include incidental target practice areas on private property.

**Shooting station:** A fixed point from which firearms or arrows are discharged.

**Shotfall zone:** An area within which the shot or pellets contained in a shotgun shell typically fall.

**Sport shooting range** means an area designed and operated for the use of rifles, shotguns, pistols, silhouettes, skeet, trap, black powder, or any other similar sport shooting. It includes an area designed and improved to encompass shooting stations or firing lines, target areas, berms and baffles, and other related components.

**Sports facility** means a baseball field, basketball court, gymnasium, golf course, soccer field, swimming pool, tennis court, or other facility for recreational sports. Sports facility does not include a facility for go-carts, motorcycles, motor vehicles, or other motorized conveyances.

**Structure:** A walled and roofed building that is principally above ground; a manufactured or mobile home; a storage tank for gases or liquids; or any other permanent, manmade facilities.

#### **§7.9.1 – Location of Shooting ranges and sports facilities**

**Distance from occupied dwelling.** All shooting stations shall be located at least one-half (1/2) Mile (two thousand six hundred and forty feet) from any existing, occupied dwelling.

**Setbacks.** all shooting stations on a range facility shall be located a minimum of two hundred (200) feet from any property line.

#### **§7.9.2 – Operational Requirements for outdoor shooting ranges**

*Hours of operation.* Shooting ranges shall be allowed to operate between sunrise and sunset, except that the hours may be extended after sunset for purposes of subdued-lighting certification of law enforcement officers, or may be extended for other purposes only when a permit allowing such activity is issued in advance by the Sheriff's Department.

On Sundays, shooting shall not commence before 12:30 p.m. Hours may be adjusted by the Planning Board.

#### **§7.9.3 – Construction and Design Standards**

Construction and design of a shooting range and sports facility shall be based on proven engineering practices. The type of shooting range, i.e. indoor or outdoor facility and the intended use of the facility for training or competitive activities and use by members only or open to the public will have an impact on the design of the facility including the size and the required safety measures.

The applicant shall demonstrate that the construction and design standards comply with the Department of Energy, USEPA or other similar accredited guidelines. To operate an outdoor range that is environmentally protective requires implementing an integrated lead management program with appropriate BMPs.

##### **§7.9.3.1- Environmental Assessment**

An environmental assessment of the site shall be submitted that is certified by a registered professional engineer in Arkansas confirming that the proposed sports shooting range and sports facility does not have any adverse environmental impact on the environment and that the project will not negatively impact land and water features, wetland areas, plant and animal life in the area. The environmental assessment shall also require a sound study to identify the ambient sound level, which exists in the area without the range and how the sounds of gunfire will affect the neighboring communities and how the proposed gun range will fit into the surrounding area.

If the environmental assessment is performed incorrectly or identifies any significant adverse impacts on the environment, a complete Environmental impact statement (EIS) may be required.

##### **§7.9.3.2-Site Selection**

The applicant shall submit a written description of the process of site selection and its suitability for the type of shooting activity on-site. The land area selected for the proposed development shall be large enough to accommodate the facilities required for the ranges, and shall not exceed a three percent grade differential at the location of the ranges and shall exhibit the highest margin of safety. Residential areas within ½ a mile radius shall be identified on the Vicinity map. Detailed information on sections or contours, grading cur and fills, interior details of walls, floors, footing, berms, and roofs are required to be provided.

### **§7.9.3.3-Design Specification**

Design specifications for a shooting range must be based on factors governing the safety of:

- A. personnel who use the facility
- B. property surrounding the facility
- C. inhabitants of the immediate area

Design specifications shall include detail drawings and written requirements for a specific use. For example, target butts for high power rifle ranges require specifications on concrete retaining walls, target carriers, underground electrical and phone lines.

Indoor ranges must be housed in a building furnished with electricity and built of impenetrable walls, floor and ceiling. All federal, state or local statutes and regulations must be complied with. Specifications on building materials require an independent set of plans, detailing such specific requirements as grade of concrete used in walls, floors or walkways, steel reinforcing ceiling materials, treated lumber, doors, joist, roof pitch, roofing materials, dimensions, backstop steel etc.

The applicant shall provide a written description noting all the relevant design features and specifications incorporated in the shooting range design. Supplemental documents/drawings may be required based on the type of proposed activity on-site.

### **§7.9.3.4-Projectile Containment**

Projectile containment will vary in size and design based upon terrain features, range structures, and the chosen shooting activity. Range enhancements may be used for bullet containment to the confined of a specific property boundary, such as, backstops, side berms and sidewalls, baffles, target placement, mountains or rolling hills, sloping floor of the range.

**§7.9.3.4.1-Backstop**- The backstop provides a primary impact area for the bullets after being fired at the targets, keeping them from leaving the range under normal conditions. In accordance with the acceptable Industry Standards, including the Department of Energy, USEPA and other accredited guidelines, the backstop embankment shall be compacted to 95 percent minimum laboratory dry density. The range side (side facing the shooter) slope must be as steep as possible but not less than 45 degrees or a ratio of 1-to-1. However, depending on solid conditions a 1.5 to 1 slope may be all that is obtainable. Under these circumstances depending on what is located in the down range area, additional range features such as bullet catchers may be required to be installed.

A natural hill that has the required height and slope may be used as a backstop. A horizontal bullet catcher at the top of the backstop may be required in some cases.

**§7.9.3.4.2-Side berms and Walls-** protective barriers may include earthen berms, precast panels, wooden cribs, poured concrete walls or panels. Their use depends on the available space, the type of range and relative cost.

**§7.9.3.4.3- Safety Baffles-** are structures used to restrict bullets to a smaller area than would be possible without them. The basic concept is based on a 'A blue sky gap', meaning that baffles are set up so that the shooter, regardless of shooting position, cannot see any blue sky down range. These fixtures may be overhead, on the ground, on top of the backstop, in the roof of a firing line of cover, in the form of an elongated box or as a completely enclosed tunnel. The principle behind the design is to equip a range with baffles so that a bullet can leave its confines but will fall to earth within a smaller, more predictable area.

#### **§7.9.3.5-Landscaping**

Adequate landscaping and other design measures may be used to separate different use areas, such as range facilities from the office areas and surrounding sensitive land uses. Native landscaping shall be selected to inhibit erosion, aesthetic appeal, and natural landscape of the site. In situation where berms are proposed on-site, these berms should be seeded with native grasses during required to reduce the noise transmission from such facilities.

#### **§7.9.3.6-Sound Abatement**

As a general guide, the following categories consistent with accepted industry standards based on field and text book work is suggested:

- A. Unacceptable: if the sound level exceeds 90 dBA for 1 hour out of 24 or exceeds 85 dBA for 8 hours out of 24 and the receiver is less than ¼ mile from the sound source.
- B. Discretionary: Normally acceptable, if the level exceeds 80 dBA for 8 hours out of 24 or if there are "loud" impulsive sounds (referring to sonic booms, artillery, etc.) on site and the distance from the property boundary and the receiver is one mile or more.
- C. Discretionary: Normally acceptable, if the level does not exceed 75 dBA for 6 hours out of 24 and the distance from the property boundary and the receiver is over 2 mile.
- D. Acceptable: if the sound levels at the receiver do not exceed 65 dBA for more than 8 hours out of 24 or activities do not extend into the nighttime hours of 10pm through 7am.

In certain instances, the applicant may be required to provide noise measurements in accordance with Department of Energy, USEPA or similar accredited guidelines. Suitable noise attenuation measure and design features may be used to significantly reduce sound levels, such as, blocking line of sight, propagation paths, or the direct path from the firearms to the receiver, bending of sound waves, and reflection of sound waves. The most common type of sound abatement used on shooting ranges is barriers, berms or walls.

- Firing line covers- may vary in height from 7-15 feet. Wood and shingles is desirable. To achieve higher acoustical benefits, insulation may be added to the walls and ceiling of the firing line cover.

- Barrier, berm, or wall- to eliminate the direct source-to-receiver, construct a barrier from the back wall forward 10-20 feet beyond the firing line, or long enough to block the line of sight from the other end of the firing line to the concerned receiver. These barrier walls should be coupled to the firing line cover, if possible.
- Landscaping is another option for sound control. Based on studies by Cook and Haverbeke (Tree and Shrubs for noise abatement: Nebraska Agricultural Experimental Station Research Bulletin/#246, July 1971, CN: DNAL 100-N27-(3), 65-100 foot wide stands of dense trees and shrubs are needed to reduce noise. For optimum results, the trees should be close to the source as opposed to the receiver. Trees with uniform vertical foliage, should be planted as close as possible to form a continuous, dense barrier. Sparsely planted trees offer little resistance. Evergreens or deciduous varieties which maintain their leaves are recommended.

### **§7.9.3.7-Lead and Arsenic Management**

In accordance with the Resource Conservation & Recovery Act (RCRA), indoor and outdoor ranges shall provide written information on the following:

- a. procedures for recycling of lead shots or bullets
- b. procedures for shipment and disposal of lead-contaminated soil, if applicable- this is required if the soil fails the Toxicity Characteristic Leaching Procedure (TCLP) test. Such sites shall comply with RCRA regulations requiring that all generators of facilities that produce hazardous waste obtain an EPA ID# and manifest prior to disposal of hazardous waste products.
- c. significant contamination of the environment that could cause an imminent and substantial endangerment to health or the environment
- d. transportation of the used filters from indoor ranges to the disposal/recycling point

In summary, lead management involves a four step approach:

Step 1- Control and contain lead bullets and bullets fragments

Step 2- Prevent migration of lead to the subsurface and surrounding surface water bodies

Step 3-Remove the lead from the range and recycle

Step 4-Documenting activities and keeping records

An effective lead management program requires implementing and evaluating BMPs from each step identified above.

### **§7.10 – RESERVED**

**CHAPTER VIII  
STORMWATER POLLUTION PREVENTION, GRADING, AND EROSION CONTROL**

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**§8.1 – GENERAL PROVISIONS**

**§8.2 – PROHIBITIONS AND REQUIREMENTS**

**§8.3 – STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES**

**§8.4 – ENFORCEMENT**

**§8.5 – FEES**

**§8.6 –RESERVED**

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**§8.1 – GENERAL PROVISIONS**

**A. Purposes:** The purpose and objectives of this Chapter are as follows:

1. To maintain and improve the quality of water impacted by the storm drainage system within the designated urbanized areas in the County.
2. To prevent the discharge of contaminated stormwater runoff and illicit discharges from industrial, commercial, residential, and construction sites into the storm drainage system within the designated areas in the County.
3. To promote public awareness of the hazards involved in the improper discharge of trash, yard waste, lawn chemicals, pet waste, wastewater, oil, petroleum products, cleaning products, paint products, hazardous waste, sediment and other pollutants into the storm drainage system.
4. To encourage recycling of used motor oil and safe disposal of other hazardous consumer products.
5. To facilitate compliance with state and federal standards by owners of construction sites within the designated areas in the County.
6. To enable the County to comply with all federal and state laws and regulations applicable to the National Pollutant Discharge Elimination System (NPDES) permitting requirements for stormwater discharges.
7. To implement Best Management Practices (BMP) for Erosion Control and Sediment Control measures on Construction sites in the County.

**B. Administration**

Except as otherwise provided herein or by the County Judge, and appropriate staff shall administer, implement, and enforce the provisions of this program.

### C. Abbreviations

The following abbreviations, when and if used herein, shall have the designated meanings:

1. ADEQ - Arkansas Department of Environmental Quality
2. BMP - Best Management Practices
3. CFR - Code of Federal Regulations
4. EPA - U.S. Environmental Protection Agency
5. HHW - Household Hazardous Waste
6. MS4 - Municipal Separate Storm Sewer System
7. NPDES - National Pollutant Discharge Elimination System
8. SWP3 - Stormwater Pollution Prevention Plan

### D. Definitions

Unless a provision explicitly states otherwise, the terms and phrases, when and if used herein, shall have the meanings in accordance with the Chapter IV of this Ordinance as follows:

**Best Management Practices (BMPs)** here refers to management practices and methods to control pollutants in stormwater. BMPs are of two types: "source controls" (nonstructural) and "treatment controls" (structural). Source controls are practices that prevent pollution by reducing potential pollutants at their source, before they come into contact with stormwater. Treatment controls remove pollutants from stormwater. The selection, application and maintenance of BMPs must be sufficient to prevent or reduce the likelihood of pollutants entering the storm drainage system. Specific BMPs shall be imposed by the County and are discussed further in Appendix A.

**County** means the Benton County, Arkansas.

**Clearing** means the act of cutting, removing from the ground, burning, damaging or destroying trees, stumps, hedge, brush, roots, logs, or scalping existing vegetation

**Commercial** means pertaining to any business, trade, industry, or other activity engaged in for profit.

**Construction Site** means any location where construction activity occurs.

**Construction Spoil** means material of any nature which is removed or displaced during the construction or grading process.

**Contaminated** means containing harmful quantities of pollutants.

**Contractor** means any person or firm performing or managing construction work at a construction site, including any construction manager, general contractor or subcontractor. Also includes, but is not limited to, earthwork, paving, building, plumbing, mechanical, electrical or landscaping contractors, and material suppliers delivering materials to the site.

**Discharge** means any addition or release of any pollutant, stormwater or any other substance whatsoever into storm drainage system.

**Discharger** means any person who causes, allows, permits, or is otherwise responsible for, a discharge, including, without limitation, any owner of a construction site or industrial facility.

**Domestic Sewage** means sewage originating primarily from kitchen, bathroom and laundry sources, including waste from food preparation, dishwashing, garbage grinding, toilets, baths, showers and sinks.

**Earthwork** means the disturbance of soils on a site associated with clearing, grading, or excavation activities.

**Environmental Protection Agency (EPA)** means the United States Environmental Protection Agency, the regional office thereof, any federal department, agency, or commission that may succeed to the authority of the EPA, and any duly authorized official of the EPA or such successor agency.

**Facility** means any building, structure, installation, process, or activity from which there is or may be a discharge of a pollutant.

**Fertilizer** means a substance or compound that contains an essential plant nutrient element in a form available to plants and is used primarily for its essential plant nutrient element content in promoting or stimulating growth of a plant or improving the quality of a crop, or a mixture of two or more fertilizers.

**Fire Protection Water** means any water, and any substances or materials contained therein, used by any person to control or extinguish a fire, or to inspect or test fire equipment.

**Garbage** means putrescible animal and vegetable waste materials from the handling, preparation, cooking, or consumption of food, including waste materials from markets, storage facilities, and the handling and sale of produce and other food products.

**Groundwater** means any water residing below the surface of the ground or percolating into or out of the ground.

**Harmful Quantity** means the amount of any substance that the Environmental Affairs Officer determines will cause an adverse impact to storm drainage system or will contribute to the failure of the County to meet the water quality based requirements of the NPDES permit for discharges from the MS4.

**Hazardous Substance** means any substance listed in Table 302.4 of 40 CFR Part 302.

**Hazardous Waste** means any substance identified or listed as a hazardous waste by the EPA pursuant to 40 CFR Part 261.

**Household Hazardous Waste (HHW)** means any material generated in a household (including single and multiple residences) that would be classified as hazardous.

**Illegal Discharge** see illicit discharge below.

**Illicit Discharge** means any discharge to the storm drainage system that is prohibited under this program.

**Illicit Connection** means any drain or conveyance, whether on the surface or subsurface, which allows an illicit discharge to enter the storm drainage system.

**Industrial Waste** (or commercial waste) means any wastes produced as a byproduct of any industrial, institutional or commercial process or operation, other than domestic sewage.

**Land Alteration** means the process of grading, clearing, filling, excavating, quarrying, tunneling, trenching, construction or similar activities.

**Mechanical Fluid** means any fluid used in the operation and maintenance of machinery, vehicles and any other equipment, including lubricants, antifreeze, petroleum products, oil and fuel.

**Mobile Commercial Cosmetic Cleaning (or mobile washing)** means power washing, steam cleaning, and any other method of mobile cosmetic cleaning, of vehicles and/or exterior surfaces, engaged in for commercial purposes or related to a commercial activity.

**Municipal Separate Storm Sewer System (MS4)** means the system of conveyances, including roads, streets, curbs, gutters, ditches, inlets, drains, catch basins, pipes, tunnels, culverts, channels, detention basins and ponds owned and operated by the County and designed or used for collecting or conveying stormwater, and not used for collecting or conveying sanitary sewage.

**NPDES** means the National Pollutant Discharge Elimination System.

**NPDES Permit** means a permit issued by EPA that authorizes the discharge of pollutants to Waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

**Notice of Violation** means a written notice detailing any violations of this program and any action expected of the violators.

**Oil** means any kind of oil in any form, including, but not limited to: petroleum, fuel oil, crude oil, synthetic oil, motor oil, cooking oil, grease, sludge, oil refuse, and oil mixed with waste.

**Open Drainage Channel** means a ditch or depression, natural or constructed that may intercept and/ or carry stormwater runoff.

**Owner** means the person who owns a facility, part of a facility, or land.

**Person** means any individual, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, estate, governmental entity, or any other legal entity; or their legal representatives, agents, or assigns, including all federal, state, and local governmental entities.

**Pesticide** means a substance or mixture of substances intended to prevent, destroy, repel, or migrate any pest.

**Pet Waste (or Animal Waste)** means excrement and other waste from domestic animals.

**Petroleum Product** means a product that is obtained from distilling and processing crude oil and that is capable of being used as a fuel or lubricant in a motor vehicle or aircraft, including motor oil, motor gasoline, gasohol, other alcohol blended fuels, aviation gasoline, kerosene, distillate fuel oil, and #1 and #2 diesel.

**Pollutant** means any substance attributable to water pollution, including but not limited to rubbish, garbage, solid waste, litter, debris, yard waste, pesticides, herbicides, fertilizers, pet waste, animal waste, domestic sewage, industrial waste, sanitary sewage, wastewater, septic tank waste, mechanical fluid, oil, motor oil, used oil, grease, petroleum products, antifreeze, surfactants, solvents, detergents, cleaning agents, paint, heavy metals, toxins, household hazardous waste, small quantity generator waste, hazardous substances, hazardous waste, soil and sediment.

**Pollution** means the alteration of the physical, thermal, chemical, or biological quality of, or the contamination of, any water that renders the water harmful, detrimental, or injurious to humans, animal life, plant life, property, or public health, safety, or welfare, or impairs the usefulness or the public enjoyment of the water for any lawful or reasonable purpose.

**Potable Water** means water that has been treated to drinking water standards and is safe for human consumption.

**Private Drainage System** means all privately or other publicly owned ground, surfaces, structures or systems, that contribute to or convey stormwater, including but not limited to, roofs, gutters, downspouts, lawns, driveways, pavement, roads, streets, curbs, gutters, ditches, inlets, drains, catch basins, pipes, tunnels, culverts, channels, detention basins, ponds, draws, swales, streams and any ground surface.

**Public Improvement Plans** means engineering drawings subject to approval by the Environmental Affairs Officer and/ or the County Engineer for the construction of public improvements.

**Qualified Person** means a person who possesses the required certification, license, or appropriate competence, skills, and ability as demonstrated by sufficient education, training, and/or experience to perform a specific activity in a timely and complete manner consistent with the regulatory requirements, and generally accepted industry standards for such activity.

**Release** means to dump, spill, leak, pump, pour, emit, empty, inject, leach, dispose or otherwise introduce into the storm drainage system.

**Rubbish** means non-putrescible solid waste, excluding ashes, that consist of: (A) combustible waste materials, including paper, rags, cartons, wood, excelsior, furniture, rubber, plastics, yard trimmings, leaves, and similar materials; and (B) noncombustible waste materials, including glass, crockery, tin cans,

aluminum cans, metal furniture, and similar materials that do not burn at ordinary incinerator temperatures (1600 to 1800 degrees Fahrenheit).

**Sediment** means soil (or mud) that has been disturbed or eroded and transported naturally by water, wind or gravity, or mechanically by any person.

**Septic Tank Waste** means any domestic sewage from holding tanks such as vessels, chemical toilets, campers, trailers, septic tanks and aerated tanks and shall also include decentralized sewer systems.

**Shall** means mandatory; **may** means discretionary.

**Site** means the land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the facility or activity.

**Solid Waste** means any garbage, rubbish, refuse and other discarded material, including solid, liquid, semisolid, or contained gaseous material, resulting from industrial, municipal, commercial, construction, mining or agricultural operations, and residential, community and institutional activities.

**State** means The State of Arkansas.

**Storm Drainage System** means all surfaces, structures and systems that contribute to or convey stormwater, including private drainage systems, the MS4, surface water, groundwater, waters of the State and waters of the United States.

**Stormwater** means runoff resulting from precipitation.

**Stormwater Pollution Prevention Plan (SWP3)** means a document that describes the Best Management Practices to be implemented at a site, to prevent or reduce the discharge of pollutants.

**Subdivision Development** includes activities associated with the platting or division of any parcel of land into two or more lots or tracts and includes all construction activity taking place thereon.

**Surface Water** means water bodies and any water temporarily residing on the surface of the ground, including oceans, lakes, reservoirs, rivers, ponds, streams, puddles, channelized flow and runoff.

**Uncontaminated** means not containing harmful quantities of pollutants.

**Used Oil (or Used Motor Oil)** means any oil that as a result of use, storage, or handling, has become unsuitable for its original purpose because of impurities or the loss of original properties.

**Utility Agency** means private utility companies, engaged in the construction or maintenance of utility distribution lines and services, including water, sanitary sewer, storm sewer, electric, gas, telephone, television and communication services.

**Wastewater** means any water or other liquid, other than uncontaminated stormwater, discharged from a facility.

**Waters of the State (or water)** means any groundwater, percolating or otherwise, lakes, bays, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, inside the territorial limits of the State, and all other bodies of surface water, natural or artificial, navigable or non-navigable, and including the beds and banks of all water courses and bodies of surface water, that are wholly or partially inside or bordering the State or inside the jurisdiction of the State.

**Water Quality Standard** means the designation of a body or segment of surface water in the State for desirable uses and the narrative and numerical criteria deemed by State or Federal regulatory standards to be necessary to protect those uses.

**Waters of the United States** means all waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and the flow of the tide; all interstate waters, including interstate wetlands; all other waters the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce; all impoundments of waters otherwise defined as waters of the United States under this definition; all tributaries of waters identified in this definition; all wetlands adjacent to waters identified in this definition; and any waters within the federal definition of "waters of the United States" at 40 CFR Section 122.2; but not including any waste treatment systems, treatment ponds, or lagoons designed to meet the requirements of the Federal Clean Water Act.

**Wetland** means any area that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

**Yard Waste** means leaves, grass clippings, tree limbs, brush, soil, rocks or debris that result from landscaping, gardening, yard maintenance or land clearing operations.

## **§8.2 – PROHIBITIONS, EXEMPTIONS, AND REQUIREMENTS**

### **A. Prohibitions**

1. No person shall release or cause to be released into the storm drainage system any discharge that is not composed entirely of uncontaminated stormwater, except as allowed herein. Common stormwater contaminants include lawn and landscaping chemicals including pesticides and herbicides, fertilizers, pet waste, wastewater, oil, petroleum products, cleaning products, paint products, and hazardous wastes ]. Also, persons shall seek to prevent stormwater system obstructions such as trash, vegetative yard waste, soils and sediments, and other materials that could clog or obstruct storm drains and other stormwater facilities.
2. Any discharge is prohibited if the discharge in question has been determined by the appropriate staffer to be a source of pollutants to the storm drainage system.

3. The construction, use, maintenance or continued existences of illicit connections to the storm drain system are prohibited. This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.
4. No person shall connect a line conveying sanitary sewage, domestic sewage or industrial waste, to the storm drainage system, or allow such a connection to continue.
5. No person shall destroy or interfere with BMPs implemented pursuant to this Ordinance.

## **B. Exemptions**

The following non-stormwater discharges are deemed acceptable and not a violation:

1. A discharge authorized by an NPDES permit;
2. Uncontaminated waterline flushing and other infrequent discharges from potable water sources;
3. Infrequent uncontaminated discharge from landscape irrigation or lawn watering;
4. Discharge from the occasional non-commercial washing of vehicles;
5. Uncontaminated discharge from foundation, footing or crawl space drains, sump pumps and air conditioning condensation drains;
6. Uncontaminated groundwater, including rising groundwater, groundwater infiltration into storm drains, pumped groundwater and springs;
7. Diverted stream flows and natural riparian habitat or wetland flows; or a
8. A discharge or flow of fire protection water that does not contain oil or hazardous substances or materials.

## **C. Requirements Applicable to Certain Dischargers**

1. Private Drainage System Maintenance. The owner of any private drainage system shall maintain the system to prevent or reduce the discharge of pollutants. This maintenance shall include, but is not limited to, sediment removal, bank erosion repairs, maintenance of vegetative cover, and removal of debris from pipes and structures.
2. Minimization of Irrigation Runoff. A discharge of irrigation water that is of sufficient quantity to cause a concentrated flow in the storm drainage system is prohibited. Irrigation systems shall be managed to reduce the discharge of water from a site.

3. Cleaning of Paved Surfaces Required. The owner of any paved parking lot or paved private drive shall clean the pavement as required to prevent the buildup and discharge of pollutants. The visible buildup of mechanical fluid, waste materials, sediment or debris is a violation of this program. Paved surfaces shall be cleaned by dry sweeping, wet vacuum sweeping, collection and treatment of wash water or other methods in compliance with this Ordinance.
4. Maintenance of Equipment. Any leak or spill related to equipment maintenance in an outdoor, uncovered area shall be contained to prevent the potential release of pollutants. Vehicles, machinery and equipment must be maintained to reduce leaking fluids.
5. Materials Storage. In addition to any other requirements of the County, materials shall be stored to prevent the potential release of pollutants. The uncovered, outdoor storage of unsealed containers of hazardous substances is prohibited.
6. Pet Waste. Pet waste should be monitored so as to prevent discharge to a storm drainage system.

Pesticides, Herbicides, and Fertilizers. Pesticides, herbicides, and fertilizers shall only be applied in accordance with manufacturer recommendations and applicable laws. It is recommended that non-toxic natural alternatives be considered when available.

7. Prohibition on Use of Pesticides and Fungicides Banned from Manufacture. Use of any pesticide, herbicide or fungicide, the manufacture of which has been either voluntarily discontinued or prohibited by the Environmental Protection Agency, or any Federal, or State regulation is prohibited.
8. Open Drainage Channel Maintenance. Every person owning or occupying property through which an open drainage channel passes shall keep and maintain that part of the drainage channel within the property free of trash, debris, excessive vegetation, and other obstacles that would pollute, contaminate, or retard the flow of water through the drainage channel. In addition, the owner or occupant shall maintain existing privately owned structures adjacent to a drainage channel, so that such structures will not become a hazard to the use, function, or physical integrity of the drainage channel.

#### **D. Release Reporting and Cleanup**

Any person responsible for a known or suspected release of materials which are resulting in or may result in illegal discharges to the storm drainage system shall take all necessary steps to ensure the discovery, containment, abatement and cleanup of such release. In the event of such a release of a hazardous material, said person shall comply with all state, federal, and local laws requiring reporting, cleanup, containment, and any other appropriate remedial action in response to the release. In the event of such a release of non-hazardous materials, said person shall notify the appropriate staffer no later than 4:00 p.m. of the next business day.

## **E. Authorization to Adopt and Impose Best Management Practices**

The Environmental Affairs Officer may adopt and impose requirements identifying Best Management Practices for any activity, operation, or facility, which may cause a discharge of pollutants to the storm drainage system. Where specific BMPs are required, every person undertaking such activity or operation, or owning or operating such facility shall implement and maintain these BMPs at their own expense.

## **§8.3 – STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES**

### **A. General Requirements for Construction Sites.**

1. The owner of a site of construction activity shall be responsible for compliance with the requirements of this program. All sites, in accordance with State law, must post appropriate notices, and keep such logs and records as required by ADEQ.
2. Waste Disposal. Wastes, pollutants, and potential stormwater obstructions on any construction site shall be controlled through the use of Best Management Practices. Waste or recycling containers shall be provided and maintained by the owner or contractor on construction sites where there is the potential for release of waste. Uncontained waste that may blow, wash or otherwise be released from the site is prohibited.
3. Ready-mixed concrete, or any materials resulting from the cleaning of vehicles or equipment containing or used in transporting or applying ready-mixed concrete, shall be contained on construction sites for proper disposal. Release of these materials is prohibited.
4. Erosion and Sediment Control. Best Management Practices shall be implemented to prevent the release of sediment from construction sites. Disturbed areas shall be minimized, disturbed soil shall be managed and construction site entrances shall be managed to prevent sediment tracking. Excessive sediment tracked onto public streets shall be removed immediately.
5. Upon completion of permitted construction activity on any site, the property owner and subsequent property owners will be responsible for continued compliance with the requirements of this program, in the course of maintenance, reconstruction or any other construction activity on the site.
6. All SWP3s filed with the appropriate staffer shall be accompanied by a certification by a qualified person that said SWP3 complies with this program; the rules and regulations of ADEQ; and any regulations promulgated hereto.

### **B. Construction Sites Requiring a SWP3**

This provision applies to all construction sites where construction on a site will disturb soil or remove vegetation on one (1) or more acres of land during the life of the construction project; this shall include

a single lot in a subdivision regardless of size. A Stormwater Pollution Prevention Plan (SWP3) for the project must be provided and implemented by the construction site owner as follows:

1. The area disturbed shall be assumed to include the entire property area unless all applicable plans specifically exclude certain areas from disturbance.
2. The SWP3 must be provided by the owner and filed with the appropriate staffer. For sites subject to review by the Planning Board such will not be approved for construction until a duly certified SWP3 has been filed with the appropriate staffer .
3. The Environmental Affairs Officer may require revisions to the SWP3. Construction activity, including any soil disturbance or removal of vegetation, shall not commence on the site until a duly certified SWP3 has been filed with the appropriate staffer .
4. The owner and/or the developer bears the responsibility for implementation of the SWP3 and notification of all contractors and utility agencies on the site.

### **C. Subdivision Developments Requiring a SWP3**

Where construction of a subdivision development will disturb soil or remove vegetation on one (1) or more acres of land during the life of the development project, an approved Stormwater Pollution Prevention Plan (SWP3) for the project must be provided and implemented by the subdivision owner and/or the developer as follows:

1. The area disturbed shall be assumed to include the entire platted area.
2. An SWP3 must be provided by the subdivision owner and/or the developer.
3. An SWP3 must be provided for all phases of development, including sanitary sewer construction, storm drainage system construction, waterline, street and sidewalk construction, general grading and the construction of individual homes. The subdivision owner and/or the developer will not be required to provide an SWP3 for the activities of utility agencies within the subdivision.
4. The subdivision owner and/or the developer shall provide a copy of the SWP3 to all utility agencies prior to their working within the subdivision.
5. The subdivision owner and/or the developer bears the responsibility for implementation of the approved SWP3 for all construction activity within the development, excluding construction managed by utility agencies.
6. The subsequent owner of an individual lot bears the responsibility for continued implementation of the approved SWP3 for all construction activity within or related to the individual lot, excluding construction managed by utility agencies.

#### **D. Stormwater Pollution Prevention Plans**

Preparation and implementation of Stormwater Pollution Prevention Plans for construction activity shall comply with the following:

1. Preparation:

- a. The SWP3 shall be prepared under the direction of a qualified person.
- b. The SWP3 shall provide the name, address and phone number of the project owner for purposes of correspondence and enforcement.
- c. The SWP3 shall identify existing natural resources such as streams, forest cover and other established vegetative cover.
- d. The SWP3 shall specify and provide detail for all BMPs necessary to meet the requirements of this program, including any applicable BMPs that have been adopted and imposed by the appropriate staffer.
- e. The SWP3 shall specify when each BMP will be installed, and for how long it will be maintained within the construction sequence. Multiple plans may be required for major phases of construction such as rough grading, building construction and final grading.
- f. The SWP3 shall delineate all anticipated disturbed areas and specify the vegetative cover that must be established in those areas to achieve final stabilization.

2. Implementation:

- a. BMPs shall be installed and maintained by qualified persons. The owner and/or the developer or their representative shall maintain a copy of the SWP3 on site, before commencement of construction, shall produce upon the appropriate staffer's request a copy of the SWP3 on site and shall be prepared to respond to all maintenance requirements of specific BMPs.
- b. The owner and/or the developer or their representative shall inspect all BMPs at least once every seven days, or at least twice per month and within 24 hours after a rainfall of one half of an inch or more as measured at the site.
- c. Based on inspections performed by qualified person/the owner and/or the developer or inspection by the appropriate staffer, modifications to the SWP3 will be necessary if at any time the specified BMPs do not meet the objectives of this program. All modifications shall be initiated within twenty-four (24) hours of discovery, and completed within seven (7) days of discovery, except in circumstances necessitating more timely attention, and shall be recorded on the owner and/or the developer's copy of the SWP3.

#### **E. Requirements for Utility Construction**

1. Utility agencies shall be responsible for compliance with the requirements of this program and all applicable state requirements for the preparation of a SWP3.
2. Utility agencies shall develop and implement Best Management Practices (BMPs) to prevent the discharge of pollutants on any site of utility construction within the designated areas in the County. In addition, the appropriate staffer may adopt and impose BMPs on utility construction activity.
3. Utility agencies shall implement BMPs to prevent the release of sediment from utility construction sites. Disturbed areas shall be minimized, disturbed soil shall be managed and construction site entrances shall be managed to prevent sediment tracking. Excessive sediment tracked onto public streets shall be removed immediately.
4. Prior to entering a construction site or subdivision development, utility agencies shall have obtained from the owner and/or the developer a copy of any SWP3s for the project. Any disturbance to BMPs resulting from utility construction shall be repaired immediately by the utility company in compliance with the SWP3.

#### **F. Grading Plans**

1. General Requirements. Persons engaged in land alteration activities regulated by this program shall take measures to protect neighboring public and private properties from damage by such activities. The requirements of this program, however, are not intended to prevent the reasonable use of properties.
  - a. The responsible party shall be liable for all fines levied or remedial action required under this program. Each violation shall be considered a separate offense.
  - b. Any person who engages in land alteration activities regulated herein without a grading plan, shall be required to restore the land, to the maximum extent practicable to its original condition.
  - c. There shall be on the project site at all times an agent who is a competent superintendent capable of reading and thoroughly understanding plans, specifications and requirements. The job superintendent shall have full authority to issue orders or direction to employees working on site, without delay and to promptly supply such materials, labor, equipment, tools, and incidentals as may be required to complete the work in a proper manner. If no superintendent is on site, the appropriate staffer may issue the notice of violation and stop work order to the person conducting the violation.

2. Grading Plan Required.

- a. Any person proposing to engage in clearing, filling, cutting, quarrying, construction, or similar activities on any piece of disturbed land of 1 acre or larger, including a single lot in a subdivision regardless of size, shall file a grading and drainage plan with the appropriate staffer. Said plan shall include a certification by a qualified person that such complies with this program, the rules and regulations of ADEQ, and any regulations promulgated hereto. To the extent regulated in this program, no land shall be altered or cleared unless a plan has been filed. The appropriate staffer may require revisions to the plan. Grading plans are not applicable to dirt pits, gravel pits, or quarries which are governed by State laws; however, a SWP3 is still required.

Clearing and grading for streets and drainage improvements may be done on residential subdivisions provided the preliminary plat and construction plans have been approved by the Planning Board and the appropriate staffer and complies with this program or any regulations promulgated hereto. In those cases where filling or cutting in areas with no trees is to be done, the area is to be graded suitable for mowing and shall be re-vegetated.

- b. A grading plan is required for land alteration activities specified in this program. However, all construction work shall include appropriate drainage and erosion control measures to protect neighboring properties. All land alteration in properties within the designated floodplain requires a grading plan without exception. Applicable federal regulations shall be complied with in all FEMA designated floodplain areas.
  - c. Stockpiling of construction spoil material at particular locations for a limited time period is permitted, not to exceed six (6) months. Grading and replanting of grassed areas is required upon removal of the stockpile. Stockpiling is not permitted within FEMA regulatory floodplain or other flood prone areas.
3. Exemptions. A grading plan shall not be required for emergency work or repairs to protect health, safety and welfare of the public.
4. Contents of grading and drainage plans. The grading and drainage plan shall identify the following:
- a. Acreage of the proposed project.
  - b. Land areas to be disturbed.
  - c. Stages of grading showing the limits of sections to be graded and indicating the approximate order of development.
  - d. The height and slope of cuts and fills. Cross sections shall be required every one hundred (100) feet on property where the depth of excavation or fills exceeds five (5) feet, showing original and final grades and will include visual aids to show how the final development, including planting and landscaping will look. A grading plan showing existing and proposed contours with a maximum 2-foot contour interval for slopes less than 10% and a maximum

5-foot contour interval for slopes greater than 10% can be shown as an alternate to cross-sections every 50 feet.

- e. Provisions for collecting and discharging surface water.
- f. Erosion and sediment control measures, including structural and vegetative measures.
- g. Seal, Certificate of Authority and signature of a registered engineer qualified under Arkansas state regulations to certify that the grading and drainage plan complies with this program the regulations of ADEQ and any regulations promulgated hereto.
- h. A vicinity drawing showing location of property lines, location and names of all existing or platted streets or other public ways within or immediately adjacent to the tract on topographic mapping or approved equal.
- i. Location of all known existing sewers, water mains, culverts and underground utilities within the tract and immediately adjacent thereto; location of existing permanent buildings on or immediately adjacent to the site if right of entry can be obtained to locate same. Identification of rights-of-way or easements affecting the property. A plan of the site at a minimum scale of one (1) inch equals one hundred (100) feet or less, i.e. 1" = 50' or 1" = 30', etc. Such other information as may be required by the appropriate staffer , including but not limited to:
  - 1) Address and telephone number of owner, permit applicant and the designated agent responsible for maintenance of erosion and sediment control measures.
  - 2) The approximate location and width of existing and proposed streets.
  - 3) The locations and dimensions of all proposed or existing lots.
  - 4) The locations and dimensions of all parcels of land proposed to be set aside for parks, playgrounds, natural condition perimeters, public use, or for the use of property owners in proposed development.
  - 5) Existing and proposed topography at a maximum of two-foot contour intervals.
  - 6) An approximate timing schedule, indicating the anticipated starting and completion dates of the development: a timing schedule for the sequence of grading and application of erosion and sediment control measures.
  - 7) Acreage of the proposed project.
  - 8) If there are any visible surface indications that unusual materials or soils that would cause street or lot instability, such as non-vertical tree growth, old slides, seepage, or depressions in the soil exists, they should be noted and accompanied by the engineer's recommendation for correcting such problem areas.
  - 9) If there are any surface indications that local material is not suitable for fills, those areas to be filled with outside material and should be identified and the type and source of the fill noted.

- 10) Specification of measures to control runoff, erosion and sedimentation during the process of construction, noting those areas where control of runoff will be required during construction and indicating what will be used, such as straw bales, sediment basins, silt dams, brush check dams, lateral hillside ditches, catch basins, etc.
  - 11) Measures to protect neighboring built-up areas and city property during process of construction, noting work to be performed, such as cleaning existing ditches, storm culverts and catch basins or raising existing curbs in neighboring areas.
  - 12) Provisions to stabilize soils and slopes after completion of streets, sewers and other improvements, noting on the grading plan when and where ground cover will be planted, also noting any other means to be used such as placement of stone embankments and riprap or construction of retaining walls.
  - 13) All fill areas shall be compacted to 95% standard proctor density unless otherwise approved in writing by the appropriate staffer . Landscaped areas receiving no traffic may be compacted to 90% as approved by the appropriate staffer. The grading and drainage plan shall include areas of tree protection, erosion and sediment control provisions meeting standards established in the BMPs and/ or promulgated by the appropriate staffer.
- j. The appropriate staffer may allow minor modifications of the plan to alleviate particular problems during the process of construction. In reviewing request for modifications, the appropriate staffer may require from the applicant's engineer appropriate reports and data sufficient to make a decision on the request.
  - k. Groups of trees and individual trees that are not to be removed and required undisturbed buffer areas shall be protected during construction by protective fencing and shall not be used for material storage or for any other purpose. The fencing shall be placed and maintained by the owner until all exterior construction except landscaping has been completed. Individual trees to be preserved outside the protected area shall be fenced at the critical root zone and shall be flagged with bright orange vinyl tape wrapped around the main trunk at a height of four (4) feet or more such that the tape is clearly visible to workers on foot or operating equipment. Major changes to grading plans shall only be permitted by the appropriate staffer upon consultation with other interested departments and agencies. Examples of major changes are those that substantially increase the height of cuts, the area of clearing or grading, or impact on neighboring properties. More than twenty percent (20%) increase in height, area or impact will normally be considered a major change. Examples of increased impact include reductions in buffer area, increased runoff onto adjacent properties and increased site area that is visible from adjacent properties or public streets.
5. Grading and drainage plan requirements. Preparation of grading and drainage plans shall follow in Appendix A attached hereto and other regulations as may be promulgated by the proper County authority.

6. Grading plans shall also conform to the Phase II Stormwater Regulations as established by United States Environmental Protection Agency regulations, as published in the July 6, 1998 Federal Register and/or the latest revisions thereto.
7. A copy of all documents filed with the ADEQ shall also be filed with the appropriate staffer.

#### **§8.4 – ENFORCEMENT**

##### **A. Enforcement Personnel Authorized.**

The following personnel employed by the County shall have the power to issue Notices of Violations (NOVs) and implement other enforcement actions under this program:

1. Appropriate Planning staff, Environmental Affairs Officers (EAO), or the County Engineer
2. The Benton County Sheriff shall have the authority to issue any misdemeanor citations.

##### **B. Right of Entry and Sampling**

1. Whenever appropriate staffer has cause to believe that there exists, or potentially exists, in or upon any premises any condition which constitutes a violation of this program, he shall have the right to enter the premises at any reasonable time to determine if the discharger is complying with all requirements of this program. In the event that the owner or occupant refuses entry after a request to enter has been made, the appropriate staffer is hereby empowered to seek assistance from a court of competent jurisdiction in obtaining such entry.
2. The appropriate staffer shall have the right to set up on the property of any discharger to the storm drainage system such devices that are necessary to conduct sampling of discharges.

##### **C. Enforcement Procedures**

1. Issuance of Notice of Violation. If site deficiencies are noted, the owner and/or the developer or authorized agent shall be given a notice of violation. The notice of violation shall be specific as to the noted violation, corrective measures to be taken, and time frame allowed to complete the work.
2. Compliance Review. At the end of the time period specified above, a follow-up site inspection shall take place to determine whether compliance has been achieved. Depending on that determination, the following actions may occur:
  - a. Site Violations Corrected: If all previous site violations have been corrected, the site reviewer shall issue an inspection report stating that fact.
  - b. Previous Violations Not Corrected: If previously noted violations have not been satisfactorily corrected, then the further actions may be initiated as outlined in the following section.

3. Submissions from the General Public. Members of the General Public may submit information pertaining to this Ordinance to the appropriate staffer. The appropriate staffer will consider such submissions as they pertain to the implementation and enforcement of this program and will provide written or verbal response to the person submitting the information.
4. Referrals from other agencies will be handled in the following manner:
  - a. Cases will be referred directly to the appropriate staffer. At this point the appropriate staffer will determine if enforcement actions are warranted and if proper documentation has been obtained. If the appropriate staffer determines that action is required, the enforcement process will be set into motion.
  - b. Cases received by the appropriate staffer will be handled on a first come, first served basis. All enforcement actions will be initiated by a site inspection to verify site conditions that caused the case to be referred. If conditions have been corrected or do not exist as stated in the referral, such shall be documented. If conditions exist as stated in the referral, enforcement actions will proceed.

#### **D. Enforcement Options for Failure to Comply**

The appropriate staffer may issue a stop work order to any persons violating any provision of this program by ordering that all site work stop except that necessary to comply with any administrative order.

#### **E. Action without Prior Notice**

Any person who violates a prohibition or fails to meet a requirement of this program will be subject, without prior notice, to one or more of the enforcement actions, when attempts to contact the person have failed and the enforcement actions are necessary to stop an actual or threatened discharge which presents or may present imminent danger to the environment, or to the health or welfare of persons, or to the storm drainage system.

#### **F. Enforcement Actions**

**Performance Bonds.** Where necessary for the reasonable implementation of this program, the appropriate staffer may, by written notice, order any owner and/or developer of a construction site or subdivision development to file a satisfactory bond, payable to Benton County, in a sum not to exceed a value determined by the appropriate staffer to be necessary to achieve consistent compliance with this program. This person may protest the amount of the performance bond to the County Judge. The written protest must be received by the County Judge's Office within 15 days of the date of the notification. A hearing on the matter will be scheduled before the County Judge, appeals from any ruling by the County Judge shall be directed to the Benton County Circuit Court.

## **G. Criminal Penalties**

If any violation is also considered a violation of State law then such may be punishable as set out in A.C.A. 8-4-105.

## **H. Other Appealable Actions**

Any other action by the appropriate staffer may be protested or appealed to the County Judge as stated in (F) above.

## **I. Other Legal Action**

Notwithstanding any other remedies or procedures available to the County, if any person discharges into the storm drainage system in a manner that is contrary to the provisions of this program, the County Judge may commence an action for appropriate legal and equitable relief including damages costs, and attorney fees in any court of competent jurisdiction. The County Judge may seek a preliminary or permanent injunction or both which restrains or compels the activities on the part of the violator.

## **J. Applicability**

This Ordinance is effective for the unincorporated urbanized area portions of Benton County (a.k.a. the MS4 areas).

## **§8.5 – STORMWATER PERMIT PROCEDURE**

The owner of a site of construction activity shall be responsible for obtaining the Stormwater Permit

- A. File Application:** Applicant shall provide a completed application form along with a full set of drawings, showing the full extent of the proposed work. The following additional documents may be required:
1. Submittal of completed Stormwater Pollution Prevention Plan (SWP3) incorporating the Best Management Practices (BMPs)
  2. Submittal of Grading plans (if applicable)
  3. Submittal of Erosion Control Plans
- B. Fee:** See Fee Ordinance.
- C. Plan Review:** Once the application packet has been determined complete and fee is paid, the Planning staff will undertake a technical review of the plan and other information. This may include a site visit and other research in order to conduct a thorough review of the proposal.
- D. Decision:** Staff shall, within fifteen (15) working days, make a decision regarding the application. The staff may request an extension in writing from the applicant to this time frame in order to

conduct additional research. Upon a complete review, staff shall issue the Stormwater Permit identifying the permit number and date.

- E. Pre-Construction Conference:** Prior to construction, the developer and the contractor must meet with the Planning staff to review a short presentation on Best Management Practices for erosion and sediment control as well as undertake a short quiz in the Planning office to demonstrate their knowledge of the BMPs .

**§8.6 –RESERVED**

**CHAPTER IX  
BENTON COUNTY BUILDING CODE ADMINISTRATION**

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**§9.1 – INTERNATIONAL BUILDING AND FIRE PREVENTION CODES**

**§9.2 – LOCAL BUILDING CODE PROVISIONS**

**§9.3 – RESERVED**

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**§9.1 – INTERNATIONAL BUILDING AND FIRE PREVENTION CODES**

Benton County adopts, by reference through Ordinance 2005-35, the International Building Code (IBC), as prepared by the International Code Council, and any revisions or amendments thereto by the State of Arkansas as the building code for the unincorporated areas of Benton County, Arkansas. Therefore, the IBC as amended by the State of Arkansas shall serve as the official building code of the unincorporated County except as provided in §9.2 below.

**§9.2 – LOCAL BUILDING CODE PROVISIONS**

The following provisions are intended to supplement the version of the IBC adopted by Benton County, AR for applicability to unincorporated areas based on distinctive needs identified by the County.

**A. Condemnation**

1. Introduction: The Building Official of Benton County may find that through a condition deemed hazardous, unsafe, unsightly, and/or generally a public nuisance, a building or structure may be ultimately condemned by the County for action which may include a demolition order to mitigate such condition.
2. Purpose: Buildings that are deemed hazardous or unsafe may post a threat to the public health or safety via collapse or other condition that may affect intended or unintended visitors to the building or structure including but not limited to inspectors, utility representatives, or children. Buildings or structures in an unsightly condition can have a negative impact on the assessed value and marketability of adjacent or nearby properties as well as the value and perception of the broader community or neighborhood. The purpose of this section is to render safer and well-maintained the property and community at large.
3. Maintenance of Buildings and Structures: Buildings and structures in unincorporated Benton County shall be maintained in a safe, secure, and well-maintained and attractive state. Conditions deficient from this state may include:
  - a. Breach of building shell through walls, windows, doors, or roof.
  - b. Deteriorated chimney or foundation wall.
  - c. Unstable frame, porch posts, or other structural member.
  - d. Exposed electrical wiring.

4. Steps to Condemnation:

- a. Based on a complaint or other means of identifying a building or structure that is dilapidated, deteriorated, or in otherwise degraded condition, the Building Official or designee may find the property in violation of section 3 above.
- b. The Building Official or designee may assess a verbal warning or proceed with a formal Notice of Violation (NOV) to correct identified deficiencies as noted.
- c. Should the deficiencies not be corrected within a timely manner, the Building Official or designee may proceed to seek demolition of the building or structure through the Court via citation.

**B. Demolition**

1. Order of Demolition: If the Court finds in favor of the County in seeking the demolition of a building or structure, an Order of Demolition (OD) shall be issued. Such order shall provide a process in which the property owner must arrange for the safe and timely demolition of the building or structure and removal of the demolition debris to a designated facility.
2. Stay of Demolition: A property owner may request one (1) stay of demolition of up to three (3) months based on specific rationale including potential for historic designation.

**C. Exemption- Agricultural Buildings**

Agricultural buildings, as defined in Chapter 4 of this Ordinance, are exempt from the building permit process, inspections and fees.

**D. Penalty**

A violation of this ordinance shall be a misdemeanor and punishable by a fine not exceeding \$500.00 or double such sum for each repetition thereof. If the violation is, in its nature, continuous in respect to time, the penalty for allowing the continuance thereof is a fine not to exceed \$250.00 for each day that the same is unlawfully continued.

**§9.3– RESERVED**

**CHAPTER X  
FLOOD DAMAGE PREVENTION**

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- §10.1 – IN GENERAL**
  - §10.2 – FLOOD DAMAGE PREVENTION**
  - §10.3 – ADMINISTRATION**
  - §10.4 – FLOOD DAMAGE PREVENTION**
  - §10.5 – STANDARDS FOR SUBDIVISION PROPOSALS**
  - §10.6 – STANDARDS FOR AREAS OF SHALLOW FLOODING (AO/AH ZONES)**
  - §10.7 – FLOODWAYS**
  - §10.8 – PENALTIES FOR NON-COMPLIANCE**
  - §10.9 – EMERGENCY CLAUSE**
  - §10.10 – RESERVED**
- 

**§10.1 – IN GENERAL**

After the receipt of an address assignment, the planning office shall determine whether the site is located in a designated floodplain, and the applicability of stormwater regulations. Notifications to affected parties of the necessity to comply with county floodplain regulations, and that state and/or county stormwater regulations may be applicable, shall be made promptly after receipt of address assignment notification.

**§10.2 – FLOOD DAMAGE PREVENTION**

**A. Definitions Referenced**

The definitions of certain terms referenced in this Section are set forth in Chapter III, “Definitions”, of the Planning and Development Ordinance of Benton County.

**B. Findings of Fact**

1. The flood hazard areas of the county are subject to periodic inundation which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services and extraordinary public expenditures for flood protection and relief, all of which adversely affect the public health, safety and general welfare.
2. These flood losses are created by the cumulative effect of obstructions in floodplains which cause an increase in flood heights and velocities and by the occupancy of flood hazard areas by uses vulnerable to floods and hazardous to other lands because they are inadequately elevated, flood proofed or otherwise protected from flood damage.

**C. Statement of Purpose**

It is the purpose of this article to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

1. Protect human life and health;
2. Minimize the expenditure of public money for costly flood control projects;
3. Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
4. Minimize prolonged business interruptions;
5. Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in floodplains;
6. Help maintain a stable tax base by providing for the sound use and development of flood prone areas in such a manner as to minimize future flood blight areas; and
7. Ensure that potential buyers are notified that property is in a flood area.

**D. Applicability**

This article shall apply to all areas of special flood hazard within the jurisdiction of the County.

**E. Basis For Establishing Areas of Special Flood Hazard**

The areas of special flood hazard identified by the Federal Emergency Management Agency in a scientific and engineering report entitled, "The Flood Insurance Study for Benton County, Arkansas and Incorporated Areas" dated June 5, 2012 with accompanying flood insurance rate maps (FIRM), dated June 5, 2012 for the following maps are adopted by reference and declared to be part of this Ordinance.

- |                |                 |
|----------------|-----------------|
| 1. 05007C0095K | 7. 05007C0260K  |
| 2. 05007C0115K | 8. 05007C0265K  |
| 3. 05007C0220K | 9. 05007C0270K  |
| 4. 05007C0235K | 10. 05007C0280K |
| 5. 05007C0255K | 11. 05007C0290K |
| 6. 05007C0245K |                 |

The areas of special flood hazard identified by the FEMA for the remainder of FIRM maps dated September 28, 2007 and listed in the FIRM Map Index, Map Number 05007CIND0B, shall continue in use for flood hazard identification.

**F. Warning and Disclaimer of Liability**

The degree of flood protection required by this article is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. On rare occasions greater floods can and will occur and flood heights may be increased by manmade or natural causes. This article does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This article shall not create liability on the part of the county or any official or

employee thereof for any flood damages that result from reliance on this article or any administrative decision lawfully made under this article.

#### **G. Severability**

If any court of competent jurisdiction finds that any section, clause, sentence, or phrase of this Ordinance is invalid or unconstitutional, that finding in no way affects the validity of the remaining portions of this Ordinance.

#### **H. Compliance**

“No structure or land shall be located, altered or have its use changed without full compliance with the terms of this Ordinance and other applicable regulations.”

#### **I. Interpretation**

In the interpretation and application of this Ordinance, all provisions shall be:

1. Considered as minimum requirements;
2. Liberally construed in favor of the county; and
3. Deemed neither to limit nor repeal any other powers granted under state statutes.

#### **J. Abrogation and Greater Restrictions**

This Ordinance does not repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. Whenever there is a conflict or overlap between this Ordinance and another ordinance, easement, covenant, or deed restriction, the instrument with the more stringent restrictions applies.”

### **§10.3 – ADMINISTRATION**

#### **A. Development Permit**

A Floodplain Development Permit is required for all structural development, placement of manufactured structures, clearing, grading, mining, drilling, dredging, placement of fill, excavating, watercourse alteration, drainage improvements, roadway or bridge construction, individual water or sewer installations or any other development in a Special Flood Hazard Area to ensure conformance with the provisions of this Ordinance.

The permitted site shall be posted with a notice, provided by the floodplain administrator, evidencing the issuance of a development permit. Said notice shall be visible from a point of vehicular access to the property, and remain posted until the development is completed.

#### **B. Permit Procedures**

1. Application for a floodplain development permit under this Ordinance shall be presented to the floodplain administrator on forms furnished by him/her and may include but not be limited to plans in duplicate drawn to scale showing the location, dimensions and elevation of proposed

landscape alterations, existing and proposed structures, including the placement of manufactured homes, and the location of such in relation to areas of special flood hazard. Additionally, the following information is required:

- a. Elevation, in relation to mean sea level, of the lowest floor, including basement, of all new and substantially improved structures.
  - b. Elevation in relation to mean sea level to which any nonresidential structure shall be flood-proofed.
  - c. A certificate from a registered professional engineer or architect that the nonresidential flood-proofed structure shall meet the flood-proofing criteria of section 10.4(B).
  - d. Description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development.
  - e. A record of all such information in accordance with section 10.3(D).
2. Approval or denial of a development permit by the floodplain administrator shall be based on all of the sections of this article and the following relevant factors:
- a. The danger to life and property due to flooding or erosion damage.
  - b. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner.
  - c. The danger that materials may be swept onto other lands to the injury of others.
  - d. The compatibility of the proposed use with existing and anticipated development.
  - e. The safety of access to the property in times of flood for ordinary and emergency vehicles.
  - f. The costs of providing governmental services during and after flood conditions, including maintenance and repair of streets and bridges, and public utilities and facilities such as sewer, gas, electrical and water systems.
  - g. The expected heights, velocity, duration, rate of rise and sediment transport of the floodwaters expected at the site.
  - h. The necessity to the facility of a waterfront location, where applicable.
  - i. The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use.
  - j. The relationship of the proposed use to the comprehensive plan for that area.

### **C. Designation of Floodplain Administrator**

The County Judge, or his designee, is appointed as the floodplain administrator to administer and implement the provisions of this article and other appropriate sections of 44 CFR (National Flood Insurance Program Regulations) pertaining to floodplain management.

### **D. Duties and Responsibilities of the Floodplain Administrator**

Duties and responsibilities of the floodplain administrator shall include but are not limited to the following:

1. Maintain and hold open for public inspection all records pertaining to this article.
2. Shall review permit applications to determine whether a proposed building site, including the placement of manufactured homes, will be reasonably safe from flooding.

3. Review, approve or deny all applications for development permits required by this article.
4. Review permits for proposed development to ensure that all necessary permits have been obtained from those federal, state or local governmental agencies (including section 404 of the Federal Water Pollution Control Act amendments of 1972, 33 USC 1334) from which prior approval is required.
5. Where interpretation is needed as to the exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions), make the necessary interpretation.
6. Notify, in riverine situations, adjacent communities and the Arkansas Natural Resource Commission prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency. Ensure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained.
7. When base flood elevation data have not been provided in accordance with section 10.2 (E) the floodplain administrator shall obtain, review and reasonably utilize any base flood elevation data and floodway data available from a federal, state or other source, in order to administer sections 10.4 (B) -10.7 (inclusive).
8. When a regulatory floodway has not been designated, require that no new construction, substantial improvements or other development, including fill, shall be permitted within zones AE on the county's FIRM, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one (1) foot at any point within the county.
9. Obtain accreditation each year as required by A.C.A. §14-268-106 through the State Coordinating Agency, which is the Arkansas Natural Resources Commission.
10. Evaluate proposed projects for conformance with No Adverse Impact principles." part (b) "Under 44 CFR 65.12 of the National Flood Insurance Program (NFIP) regulations, the county may approve certain development in zones AE or AH on the county's FIRM which increases the water surface elevation of the base flood by more than one (1) foot, provided the County first applies for a conditional letter of map revision through FEMA."

**E. Variance Procedures:**

1. Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or the state inventory of historic places, without regard to the procedures set forth in this article.
2. Variances may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, provided the relevant factors in section 38-52(b) have been fully considered. As the lot size increases beyond the one-half acre, the technical justification required for issuing the variance increases.
3. Upon consideration of the factors noted in subsections (a) through (f) of this section and the intent of this article, the appeal board may attach such conditions to the granting of variances as it deems necessary to further the purpose and objectives of this article.
4. Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
5. Variances may be issued for the repair or rehabilitation of historic structures upon a determination that the proposed repair or rehabilitation will not preclude the structure's

continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.

6. Prerequisites for granting variances shall be as follows:
  - a. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
  - b. Variances shall only be issued upon:
    - a. Showing a good and sufficient cause;
    - b. A determination that failure to grant the variance would result in exceptional hardship to the applicant; and
    - c. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public or conflict with existing local laws or ordinances.
  - c. Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with the lowest floor elevation below the base flood elevation and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.
7. Variances may be issued for new construction and substantial improvements and for other development necessary for the conduct of a functionally dependent use provided that: (1) The criteria outlined in subsections (a) through (i) of this section are met; and (2) The structure or other development is protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.

#### **F. Appeals**

1. All appeals shall be reviewed by the Board of Appeals in accordance with §2.2 of this Ordinance. The Board of Appeals shall hear and render judgment on an appeal only when it is alleged there is an error in any requirement, decision or determination made by the floodplain administrator in the enforcement or administration of this regulation.
2. The Board of Appeals may attach such conditions to the granting of variances as it deems necessary to further the purpose and objective of these regulations.
3. Any person aggrieved by any decision of the Board of Appeals may appeal such decision as per the provisions of §2.4 of this Ordinance
4. The floodplain administrator shall maintain a record of all actions involving an appeal and shall report variances to the Federal Emergency Management Agency upon request.

### **§10.4 – FLOOD DAMAGE PREVENTION**

#### **A. Methods of Reducing Flood Losses:**

In order to accomplish its purposes, this article uses the following methods:

1. Restrict or prohibit uses that are dangerous to health, safety or property in times of flood or that cause excessive increases in flood heights or velocities.
2. Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction.
3. Control the alteration of natural floodplains, stream channels and natural protective barriers, which are involved in the accommodation of floodwaters.
4. Control filling, grading, dredging and other development which may increase flood damage.
5. Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands.

**B. General Standards:**

In all areas of special flood hazards the following are required for all new construction and substantial improvements:

1. All new construction or substantial improvements shall be designed or modified and adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.
2. All new construction or substantial improvements shall be constructed by methods and practices that minimize flood damage.
3. All new construction or substantial improvements shall be constructed with materials resistant to flood damage.
4. All new construction or substantial improvements shall be constructed with electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities that are designed and located to prevent water from entering or accumulating within the components during conditions of flooding.
5. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.
6. New and replacement sanitary sewer systems shall be designed to minimize or eliminate infiltration of floodwaters into the system and discharge from the systems into floodwaters.
7. Onsite waste disposal systems shall be located to avoid impairment to or contamination from them during flooding.
8. For the purposes of this article, all mixed-use structures are subject to the more stringent requirements of residential structures.

9. A substantial improvement or substantial damage to an existing structure triggers a requirement to bring the entire structure into full compliance with the provisions of this article. The existing structure, as well as any reconstruction, rehabilitation, addition, or other improvement, must meet the standards of new construction in this article.
10. Any improvement to an existing structure that is less than a substantial improvement requires the improvement, but not the existing structure, to be in full compliance with the provisions of this article.
11. Construction of basement foundations in any Special Flood Hazard Area is prohibited.
12. The placement of a manufactured home in the floodway is prohibited.
13. All critical facilities constructed or substantially improved in Special Flood Hazard Areas (SFHA) must be constructed or modified to exceed 500-year flood protection standards or located outside the SFHA.

### **C. Specific Standards.**

In all areas of special flood hazards (Zones A and AE), except areas of shallow flooding, (Zones AO and AH) the following are required:

1. Residential Construction. New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated to or above an elevation one foot above the base flood elevation. This elevation must be documented on an Elevation Certificate properly completed by a registered professional engineer, architect, or land surveyor, who shall submit a certification to the floodplain administrator that the standard of this subsection, as proposed in section 10.3 is satisfied.
2. Non-Residential Construction. New construction and substantial improvements of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated to or above an elevation one (1) foot above the base flood level or, together with attendant utility and sanitary facilities, be designed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. A registered professional engineer or architect shall develop or review structural design, specifications and plans for the construction and shall certify that the design and methods of construction are in accordance with accepted standards of practice as outlined in this subsection. A record of such certification, which includes the specific elevation in relation to mean sea level to which such structures are flood-proofed, shall be maintained by the floodplain administrator.
3. Enclosures. New construction and substantial improvements, with fully enclosed areas (such as garages and crawl spaces) below the lowest floor that are usable solely for parking of vehicles, building access or storage in an area other than a basement and which are below the base flood elevation and subject to flooding, shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting

this requirement must either be certified by a registered professional engineer or architect or meet or exceed the following minimum criteria:

- a. A minimum of two openings having a total net area of not less than one (1) square inch for every square foot of enclosed area subject to flooding shall be provided.
- b. The bottoms of all openings shall be no higher than one (1) foot above grade.
- c. Openings may be equipped with screens, louvers, valves or other coverings or devices, provided that they permit the automatic entry and exit of floodwaters.

4. Manufactured Homes.

- a. All manufactured homes placed within zone A on a county's FIRM shall be installed using methods and practices which minimize flood damage. For the purposes of this subsection, manufactured homes must be elevated one foot or more above the base flood elevation and anchored to resist flotation, collapse, or lateral movement. Methods of anchoring may include but are not limited to use of over-the-top or frame ties to ground anchors. This is in addition to all applicable state and local anchoring requirements for resisting wind forces. Screw augers or expanding anchors will not satisfy the requirement of this provision.
- b. Manufactured homes that are placed or substantially improved within zones AH and AE on the county's FIRM on sites:
  - 1) outside of a manufactured home park or subdivision
  - 2) in a new manufactured home park or subdivision
  - 3) in an expansion to an existing manufactured home park or subdivision, or
  - 4) in an existing manufactured home park or subdivision on which a manufactured home has incurred substantial damage as a result of a flood shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated to or above an elevation one foot above the base flood elevation and shall be securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement.
- c. Manufactured homes placed or substantially improved on sites in an existing manufactured home park or subdivision within zones AH and AE on the county's FIRM that are not subject to this subsection shall be elevated so that either:
  - 1) The lowest floor of the manufactured home is at or above an elevation one foot above the base flood elevation; or
  - 2) The manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade and securely anchored to an adequately anchored foundation system to resist

flotation, collapse, and lateral movement.

5. Recreational Vehicles. All recreational vehicles placed on sites within zones AH and AE on the county's FIRM shall either:
  - a. Be on the site for fewer than 180 consecutive days
  - b. Be fully licensed and ready for highway use, or
  - c. Meet the permit requirements of section 10.3 (B) and the elevation and anchoring requirements for manufactured homes in Section 11.4 (C) . A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices and has no permanently attached additions. In Zone A, the applicant or the applicant's agent must determine a base flood elevation prior to construction. The BFE will be based on a source or method approved by the local floodplain administrator.

#### **§10.5 – STANDARDS FOR SUBDIVISION PROPOSALS**

- A. All residential subdivision, commercial business park proposals, including the placement of manufactured home parks and subdivisions, shall be consistent with sections 10.2 and section 10.4.
- B. All proposals for the development of residential subdivision, commercial business park proposals, including the placement of manufactured home parks and subdivisions, shall meet the development permit requirements of sections 10.3 (A) and (B).
- C. Base flood elevation data shall be generated for subdivision proposals, site plan proposals, and other proposed developments, including the placement of manufactured home parks and subdivisions if not otherwise provided pursuant to section 10.2(E) or 10.3(D)(8) using accepted engineering methods.
- D. All residential subdivision, commercial business park proposals, including the placement of manufactured home parks and subdivisions, shall have adequate drainage provided to reduce exposure to flood hazards.

All residential subdivision, commercial business park proposals, including the placement of manufactured home parks and subdivisions, shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize or eliminate flood damage.

#### **§10.6 – STANDARDS FOR AREAS OF SHALLOW FLOODING (AO/AH ZONES)**

Located within the areas of special flood hazard established in section 10.2 (E ) are areas designated as shallow flooding. These areas have special flood hazards associated with base flood depths of one (1) to three (3) feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow; therefore, the following apply:

- A. All new construction and substantial improvements of residential structures shall have the lowest floor, including basement, elevated above the highest adjacent grade at least as high as one foot above the depth number specified in feet on the community's FIRM (at least two feet if no depth number is specified).
- B. All new construction and substantial improvements of nonresidential structures shall:
  - 1. Have the lowest floor, including basement, elevated above the highest adjacent grade at least as high as one foot above the depth number specified in feet on the community's FIRM (at least two feet if no depth number is specified); or
  - 2. Together with attendant utility and sanitary facilities, be designed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.
- C. A registered professional engineer or architect shall submit an Elevation certification to the floodplain administrator that the standards of this section are satisfied.
- D. Within zones AH or AO adequate drainage paths around structures on slopes shall be required to guide floodwaters around and away from proposed structures.

**§10.7 – FLOODWAYS**

Located within areas of special flood hazard established in section 10.2 (E ) are areas designated as floodways. These are characterized by high risk areas of stream channel and adjacent floodplain. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles and erosion potential, the following shall apply:

- A. Encroachments are prohibited, including fill, new construction, substantial improvements, and other development within the adopted regulatory floodway, unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels within the county during the occurrence of the base flood discharge.  
A No-Rise Certificate, signed and stamped by a Professional Engineer licensed to practice in the State of Arkansas, is required to be submitted to demonstrate through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed development would not result in any increase in flood levels within the community during the occurrence of a base flood event. No Manufactured Home may be placed in a regulatory floodway, regardless of elevation height, anchoring methods, or No-Rise Certification.
- B. If subsection A above is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction sections of this division.
- C. Under the provisions of 44 CFR 65.12 of the National Flood Insurance regulations, the county may permit encroachments within the adopted regulatory floodway that would result in an increase in

base flood elevations, provided that the county first applies for a conditional FIRM and floodway revision through FEMA.

**§10.8 – PENALTIES FOR NONCOMPLIANCE**

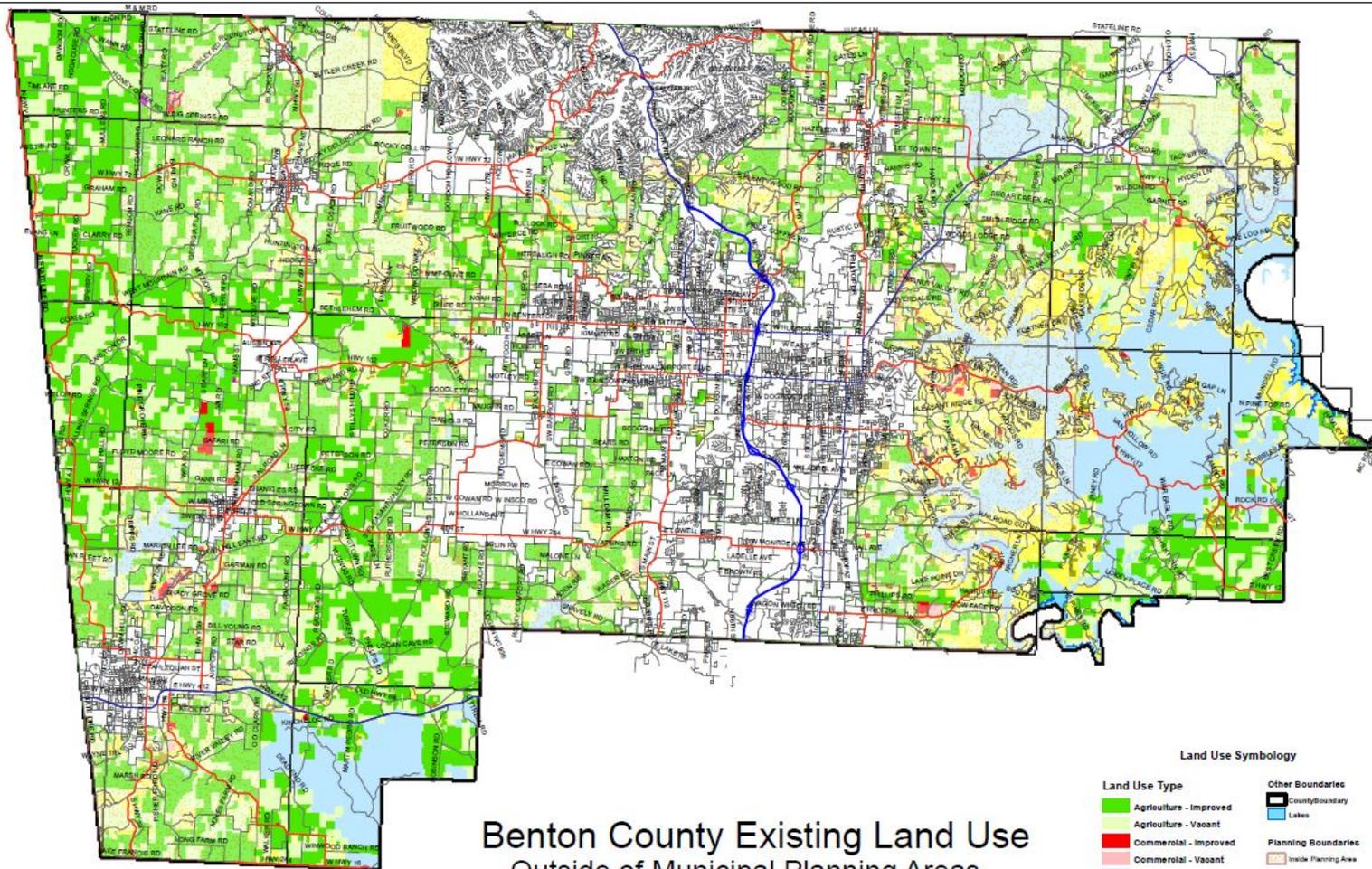
No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this article and other applicable regulations. Violations of the provisions of this article by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions) shall constitute a misdemeanor. Any person, firm, or corporation who violates this article or fails to comply with any of its requirements shall, upon conviction thereof, be fined not more than \$500.00, for each violation, and in addition shall pay all costs and expenses involved in the case. If an act prohibited or rendered unlawful is, in its nature, continuous in respect to time, the fine or penalty for allowing the continuance thereof, in violation of this article, shall not exceed \$250.00 for each day that it may be unlawfully continued. Nothing herein contained shall prevent the county from taking such other lawful action as is necessary to prevent or remedy any violation.

**§10.9 – EMERGENCY CLAUSE**

It is hereby found and declared by Benton County that severe flooding has occurred in the past within its jurisdiction and will certainly occur within the future; that flooding is likely to result in infliction of serious personal injury or death, and is likely to result in substantial injury or destruction of property within its jurisdiction; in order to effectively comply with minimum standards for coverage under the National Flood Insurance Program; and in order to effectively remedy the situation described herein, it is necessary that this ordinance become effective immediately. Therefore, an emergency is hereby declared to exist, and this ordinance, being necessary for the immediate preservation of the public peace, health and safety, shall be in full force and effect from and after its passage and approval.

**§10.10 – RESERVED**

# APPENDIX A – BENTON COUNTY EXISTING LAND USE MAP (2013)

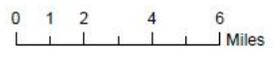


Benton County Existing Land Use  
Outside of Municipal Planning Areas

**Land Use Symbology**

<b>Land Use Type</b>	<b>Other Boundaries</b>
<span style="color: green;">■</span> Agriculture - Improved	<span style="border: 1px solid black;">□</span> County Boundary
<span style="color: lightgreen;">■</span> Agriculture - Vacant	<span style="background-color: lightblue;">□</span> Lakes
<span style="color: red;">■</span> Commercial - Improved	<span style="border: 1px dashed black;">□</span> Planning Boundaries
<span style="color: pink;">■</span> Commercial - Vacant	<span style="border: 1px dotted black;">□</span> Inside Planning Area
<span style="color: lightblue;">■</span> Public	<b>Roads</b>
<span style="color: purple;">■</span> Industrial - Improved	<span style="border-bottom: 1px solid blue;">—</span> Interstate
<span style="color: magenta;">■</span> Industrial - Vacant	<span style="border-bottom: 1px solid black;">—</span> US Numbered
<span style="color: olive;">■</span> Manufactured Home	<span style="border-bottom: 1px solid red;">—</span> State Highway
<span style="color: yellow;">■</span> Residential - Improved	<span style="border-bottom: 1px solid gray;">—</span> Other Roads
<span style="color: lightyellow;">■</span> Residential - Vacant	

A map was created by the Benton County GIS Department. The data is a graphical representation. This map has been prepared from the best available source. No guarantee is made for any responsibility for actions taken based on this map and Benton County is not liable for any loss, incident, consequence or special damage of any kind, along with no warranty, use of this map is for general information only. Benton County is in no way responsible for or liable for any representation or use of this map. Distribution of this map is intended for informational purposes and should not be considered a substitute for engineering, legal and other site specific uses.



## APPENDIX B- LID DESIGN ALTERNATIVES

### Example: Community Design – Single Family Homes



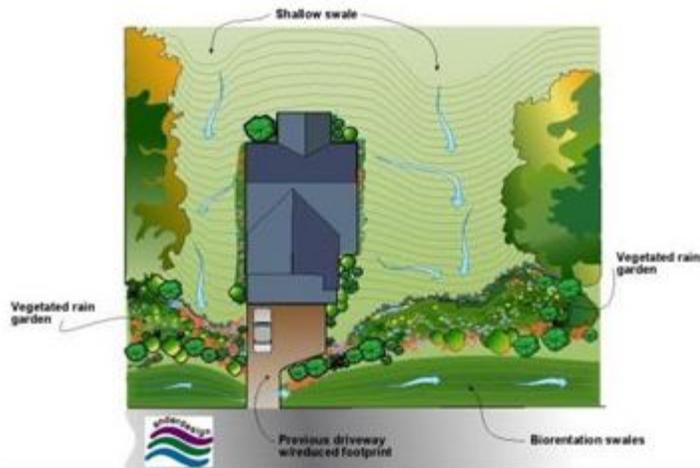
Conventional Subdivision Design: Roads and lots are placed on the land with no regard to the existing hydrologic patterns or forested areas. Stormwater will be managed through conventional methods.



Low Impact Subdivision Design: Roads, Lots, and open space are designed around the existing forested areas and drainage patterns.

## APPENDIX B- LID DESIGN ALTERNATIVES

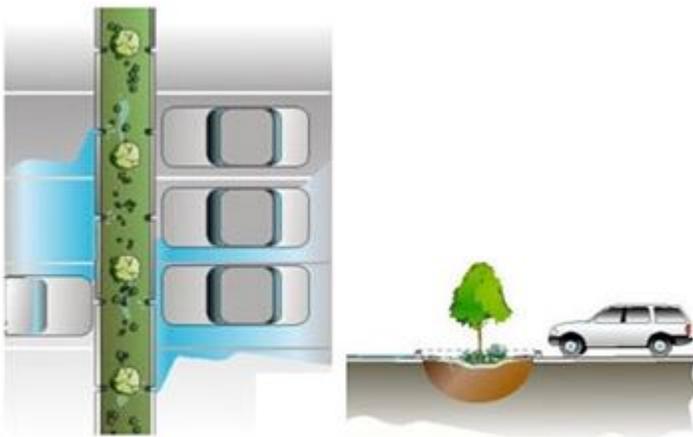
### Example: Low Impact Lot Design



Individual lots are designed to manage stormwater through the use of rain gardens, swales, bioretention cells, pervious driveways, and conservation areas.

Fig. 17: LID lot design  
Images courtesy Pierce County, Washington and AHBL, Inc.

### Example: Rain Garden

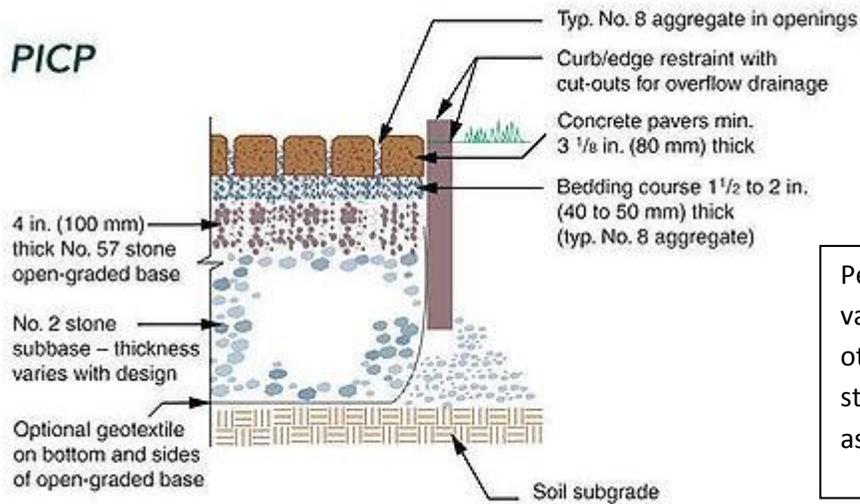


Rain gardens are designed as natural treatment systems in the form of recessed landscaped areas. They contain specialized soil mixtures, an aggregate base, an underdrain, and site-appropriate plant materials that tolerate all weather conditions.

Fig. 19: Bioretention cell schematic  
Courtesy Pierce County, Washington and AHBL, Inc.

## APPENDIX B- LID DESIGN ALTERNATIVES

### Example: Permeable Surfaces



Permeable surfaces consist of a variety of pavement, pavers, and other devices that provide stormwater infiltrations while serving as a structural surface.

### Example: Curb Alternatives



Curbing can be designed to direct stormwater runoff into existing bio retention areas.

## APPENDIX C - LIST OF SUGGESTED NATIVE VEGETATION

### WILDFLOWERS (FORBES)

Common Name	Botanical Name	Planting Zone	Height	Bloom Time	Bloom Color
Sweet Flag	<i>Acorus calamus</i>	Ponding to middle	2'	May-Jul	Green
Yellow Giant Hyssop	<i>Agastache nepetoides</i>	Ponding to high	6'	Jul-Oct	Cream
Arkansas Blue Star	<i>Amsonia</i>	Middle to berm	4'	April-May	Blue
New England Aster	<i>Aster novae-angliae</i>	Ponding to middle	6'	Aug- Oct	Purple
Wild columbine	<i>Aquilegia canadensis</i>	Middle to berm	8-24"	May-Jun	Red & yellow
Swamp milkweed	<i>Asclepias incarnata</i>	Ponding to middle	2-4'	Jul-Sep	Pink-red
Butterfly milkweed	<i>Asclepias tuberosa</i>	High	1.5-3'	Jul-Aug	Orange
Sti Aster	<i>Aster linariifolius</i>	High to berm	1'	Aug-Oct	Purple
Purple Poppy Mallow	<i>Callirhoe involucrata</i>	High to berm	6"	Jun-Aug	Purple
Wild Hyacinth	<i>Camassia scilloides</i>	Ponding to high	2'	May-Jun	White
Tickseed	<i>Coreopsis verticillata</i>	Middle to berm	18"	Summer	Yellow
Swamp Loosestrife	<i>Decodon verticillatus</i>	Ponding	2'	June-Sept	Pink
Wild Blue Larkspur	<i>Delphinium carolinianum</i>	Middle to high	4'	May-Jun	Blue
Midland Shooting Star	<i>Dodecatheon meadia</i>	Ponding to high	1'	Apr-Jun	Pink
Narrow-leaved Coneflower	<i>Echinacea angustifolia</i>	High	2'	Jun-Jul	Pink
Purple Coneflower	<i>Echinacea purpurea</i>	Ponding to high	4'	Jul-Sep	Purple
Robin's Plantain	<i>Erigeron pulchellus</i>	High to berm	1'	May-Jun	White
Rattlesnake Master	<i>Eryngium yuccifolium</i>	Ponding to high	4'	Jul-Sep	White
Joe Pye weed	<i>Eupatorium fistulosum</i>	Ponding to middle	To 6'	Summer	Pink-Purple
Boneset	<i>Eupatorium perfoliatum</i>	Ponding	4'	Jul-Sep	White-Pink
Rose Mallow	<i>Hibiscus militaris (laevis)</i>	Ponding	5'	Jul-Sep	Pink
Dwarf Crested Iris	<i>Iris cristata</i>	Ponding to high	8"	May	Purple
Prairie Blazing Star	<i>Liatri pycnostachya</i>	Middle to berm	3-4'	July-Oct	Purple
Cardinal flower	<i>Lobelia cardinalis</i>	Ponding	4'	Jul-Sep	Scarlet
Great blue lobelia	<i>Lobelia siphilitica</i>	Middle to high	3-4'	Aug-Sep	Blue
Fringed Loosestrife	<i>Lysimachia ciliata</i>	Ponding to middle	2'	Jun-Aug	Yellow
Virginia bluebell	<i>Mertensia virginica</i>	Ponding to middle	2'	Apr-May	Blue
Wild Bergamot	<i>Monarda fistulosa</i>	Ponding to high	4'	Jul-Sep	Purple
Wood Betony	<i>Pedicularis canadensis</i>	Ponding to berm	1'	Apr-May	Yellow
Foxglove Beardtongue	<i>Penstemon digitalis</i>	Ponding to middle	2-3'	Jun-Jul	White
Wild Blue Phlox	<i>Phlox divaricata</i>	Ponding to berm	1'	Apr-Jun	Blue
Garden Phlox	<i>Phlox paniculata</i>	Ponding to middle	4'	Jul-Sep	Pink
Obedient Plant	<i>Physostegia virginiana</i>	Ponding to middle	4'	Aug-Sep	Pink
Yellow Coneflower	<i>Ratibida pinnata</i>	Ponding to middle	3-6'	Summer	Yellow
Black-eyed Susan	<i>Rudbeckia hirta</i>	Middle to berm	2'	Jul-Sep	Yellow
Thin-leaved Coneflower	<i>Rudbeckia triloba</i>	Middle to high	3'	Aug-Sep	Yellow
Blue Sage	<i>Salvia azurea</i>	Middle to high	3'	Aug-Sep	Blue
Mad-dog Skullcap	<i>Scutellaria lateriflora</i>	Ponding	2'	Jul-Sep	Blue
Starry Campion	<i>Silene stellata</i>	Ponding to high	3'	Jul-Oct	White
Sti Goldenrod	<i>Solidago rigida</i>	Ponding to high	4'	Aug-Oct	Yellow
Ohio Spiderwort	<i>Tradescantia ohiensis</i>	Ponding to berm	3'	May-Jul	Blue
Spiderwort	<i>Tradescantia virginica</i>	Middle	3'	Apr-Jul	Purplish blue
Blue Vervain	<i>Verbena hastata</i>	Ponding	5'	Jul-Sep	Blue
Ironweed	<i>Vernonia sp.</i>	Ponding to middle	5'	Aug-Oct	Purple

## APPENDIX C - LIST OF SUGGESTED NATIVE VEGETATION

### FERNS

Common Name	Botanical Name	Planting Zone	Height	Bloom Time	Bloom Color
Lady Fern	Athyrium filix-femina	Ponding to middle	1'		
Sensitive Fern	Onoclea sensibilis	Ponding	1'		

### TREES

Common Name	Botanical Name	Planting Zone	Height	Bloom Time	Bloom Color
Allegheny Serviceberry	Amelanchier laevis	Ponding to berm	25'	Apr-May	White
River Birch	Betula nigra	Ponding to middle	50'		
Redbud	Cercis canadensis	Middle to berm	15'	April-May	Pink

### GRASSES & SEDGES

Common Name	Botanical Name	Planting Zone	Height	Bloom Time	Bloom Color
Little Bluestem	Andropogon scoparius	Middle to berm	3'		
Side-oats Grama	Bouteloua curtipendula	Middle to berm	2'		
Common Bur Sedge	Carex grayi	Ponding to middle	3'		
Common Fox Sedge	Carex stipata	Ponding to middle	3'		
Common Tussock Sedge	Carex stricta	Ponding	3'		
Common Cattail Sedge	Carex typhina	Ponding	1'		
Common Rush	Juncus effusus	Ponding to middle	2'		
Switchgrass	Panicum virgatum	Ponding to middle	3'		
Indian Grass	Sorghastrum nutans	Middle to berm	6'		
Prairie Dropseed	Sporobolus heterolepis	Middle to berm	3'		

### SHRUBS

Common Name	Botanical Name	Planting Zone	Height	Bloom Time	Bloom Color
False Indigo	Amorpha fruticosa	Ponding to high	12'	Jun-Aug	Purple
New Jersey Tea	Ceanothus americanus	Middle to berm	3'	Jun-Aug	White
Buttonbush	Cephalanthus occidentalis	Ponding	15'	Jun-Aug	White
Red Osier Dogwood	Cornus stolonifera	Ponding to middle	10'	Jun-Sep	White
Ozark Witch Hazel	Hammamelis vernalis	Middle to berm	10'	Jan-April	Yellow
Inkberry	Illex glabra	Middle to berm	3-4'	Evergreen	Green
Winterberry Holly	Illex verticillata	Ponding to berm	6-8'	May-Jun	White
Yaupon	Ilex vomitoria	Middle to berm	15'	Evergreen	
Prairie Ninebark	Physocarpus opulifolius	Ponding to high	8'	Jul	White
Arrowwood Viburnum	Viburnum dentatum	Ponding to high	16'	Jun-Aug	White
Blackhaw	Viburnum prunifolium	Ponding to high	16'	May-Jun	Cream
American Cranberry Bush	Viburnum trilobum	Ponding to middle	12'	May-Jun	White

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### Introduction

#### Effects of Urbanization

Urban development alters the hydrology of watersheds and streams by disrupting the natural water cycle. Impacts include:

- Runoff volumes increase up to 50 percent over pre-developed volumes.
- Peak runoff discharges increase two to five times pre-developed discharges.
- Runoff velocities increase.
- Time of concentrations decrease.
- Frequency of bankfull and near bankfull events increase.
- Flooding increases.
- Dry weather flows (baseflow) decrease.

These changes in the hydrology of the area translate into the changes shown in the typical hydrograph presented in Figure 1.

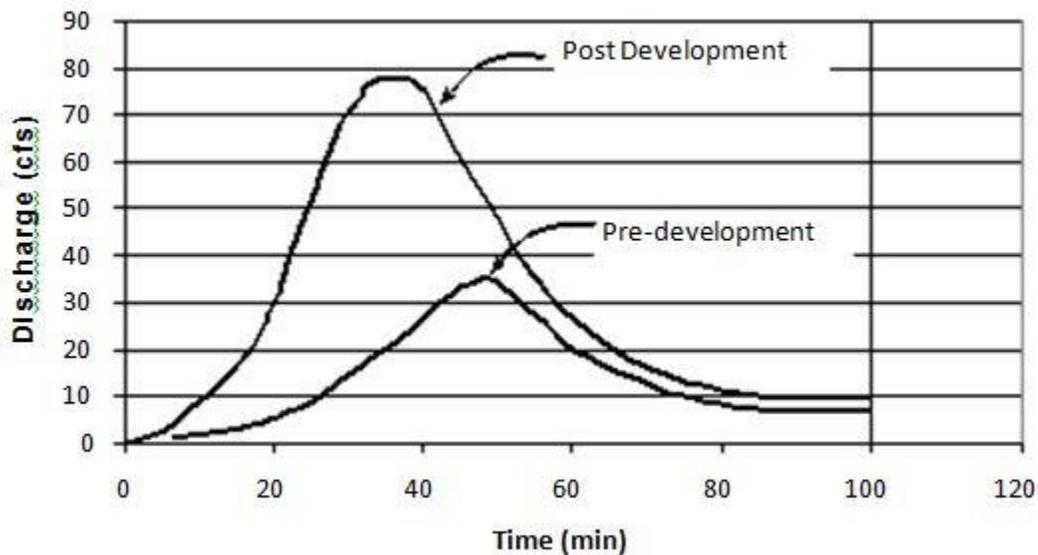


Figure 1. Effect of development on stormwater discharge rates.

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### Sources of Pollutants

Urbanization increases the amount of sediment, nutrients, microbes, organic matter, toxic pollutants, and trash in stormwater flows.

Sediment in water (suspended solids, dissolved solids, and/or turbidity) is the cause of:

- Filling of lakes and reservoirs
- Stream turbidity
- Habitat changes
- Recreation/aesthetic loss
- Transport of other contaminants

Nutrients in water (nitrate, nitrite, ammonia, organic nitrogen, phosphate, and total phosphorus) are the cause of:

- Algae blooms
- Eutrophication
- Ammonia Toxicity to aquatic life
- Nitrate Toxicity

Microbes in water (Total and Fecal Coliform, Fecal Streptococci, Viruses, E.Coli, Enterococcus) can be the cause of:

- Gastrointestinal diseases
- Ear/Intestinal infections
- Shellfish bed closure

Organic Matter (vegetation, septic tank overflows, pet waste) in water is the cause of:

- Dissolved oxygen depletion
- Odors
- Fish kills

Toxic Pollutants (heavy metals such as cadmium, copper, lead, zinc, organics, hydrocarbons, pesticides/herbicides) can be the cause of:

- Human & aquatic toxicity
- Bioaccumulation in the food chain
- Thermal Pollution Dissolved oxygen depletion
- Habitat changes

Trash and debris cause:

- Recreation loss
- Aesthetic loss

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### CONSTRUCTION BMPs

#### An Ounce of Prevention is Worth a Pound of Cure

Construction BMPs fall into two categories, erosion control and sediment control. Erosion control is the protection of the soil surface from the impact of rain drops and the resulting detachment of soil particles. Sediment control is the practices that capture soil particles that have been detached and transported down slope. It is far more efficient and cost effective to prevent erosion than to capture sediment.

#### Design Methodology and BMP Selection Criteria

Construction BMPs are typically designed for erosion control, sediment control, or control of wastes (hazardous, solid, etc.). For the best results, BMPs should be used in series with one or more BMPs. The operator of the construction site should concentrate efforts on erosion control; but, provide sediment control backup BMPs. A listing of construction erosion and sediment control BMPs and the benefits each provides is Shown in Table 1. Further information on each BMP is presented in the following sections of this chapter.

Table 1. Construction BMP characteristics chart

Construction BMP	Quantity		Quality			
	Flow attenuation	Runoff volume reduction	Erosion Control	Sediment control	Nutrient loading (N,P)	Organic loading
Minimize Clearing & Compaction	○	●	●	●	○	○
Construction Sequencing	○	●	●	●	○	○
Construction Entrance	○	○	○	●	○	○
Interceptor Swale & Dike	○	○	●	●	○	○
Slope Drain	○	○	●	●	○	○
Energy Dissipation - Riprap Apron	○	○	●	○	○	○
Soil Roughening	●	●	●	●	○	○
Chemical Stabilization	●	●	●	●	●	●
Mulch	○	○	●	○	○	○
Erosion Control Mats	○	○	●	○	○	○
Vegetation	●	●	●	●	●	●
Embedded Silt Fence	●	●	○	●	○	○
Inlet Protection	○	○	○	●	○	○
Sediment Trap	●	●	○	●	●	●
Check Dams	●	○	○	●	○	○

● - Primary benefit      ○ - Secondary benefit      ○ - Little or no benefit

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### CONSTRUCTION PLANNING

#### Minimize Clearing and Compaction

##### Description

Clearing of natural vegetation and vehicular traffic on the site will expose and compact soils causing erosion and greater amounts of runoff.

*Minimization of Clearing and Compaction* will decrease the amount of soil exposed to erosion and will decrease the amount runoff from due to compacted soil.

##### Applicability

Existing vegetation can often be incorporated into the design and construction of a development lessening the amount of bare soil exposed to rain and wind. Compacted soil does not allow for adequate infiltration of precipitation, therefore increasing runoff quantities and flowrates. Increased flowrates increase erosion and sediment transport.

##### Design Criteria

Landscaping and clearing requirements vary from project to project. Vehicular traffic within the construction site should be limited and confined to areas that are protected with adequate sediment control practices.

##### Limitations

Some native plants and grasses are not considered appropriate for developed sites; so, non-native grasses and plants would need to be planted.

##### Maintenance Requirements

Maintenance of protective fencing as needed.

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### CONSTRUCTION SEQUENCING

#### **Description**

Exposing soil before required for construction can expose the soil to erosion for an extended period.

*Construction Sequencing* coordinates land disturbing activities with construction requirements to minimize the amount of soil exposed to erosion at any time.

#### **Applicability**

Only land needed for building activities and vehicular traffic should be cleared. Projects on larger sites and on projects that land disturbing activities can be phased are best suited for construction sequencing.

#### **Design Criteria**

Areas of the site to be preserved should be clearly marked on the plans and delineated on the site. The timing of clearing and access to different areas of the site should be indicated in the contract documents.

#### **Limitations**

Sometimes, smaller projects do not lend themselves to sequencing of land disturbing activities.

#### **Maintenance Requirements**

Maintenance of protective fencing as needed.

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### RUNOFF AND RUN-ON CONTROL BMPs

#### Construction Entrances

##### Description

Mud and sediment carried off-site on the tires of equipment and vehicles will be deposited on the neighboring streets. This sediment will end up in the local streams if not swept up.

*Construction Entrances* are systems that clean vehicles of mud, sediment, and aggregate prior to leaving the site.

##### Applicability

Any entrance/exit of a construction site.

##### Design Criteria

A six inch layer of washed gravel or round stone (greater than 1 inch) can be used to stabilize construction site entrances. The stabilized entrance should be at least 50 feet long. The entrance should be as long as the longest vehicle that will enter the site. If larger volumes of traffic are expected, a two-lane entrance is appropriate.

Other methods of removing mud from vehicles are wheel wash facilities (dunk or mechanical) and rubble strips (cattle guard, logs, etc.).

A dunk wheel wash is a water filled, stabilized (1 inch or greater gravel or stone) pit. The water depth should be at least two feet deep and the pit should be at least 20 foot long. The pit should be two vehicle lengths from the construction site exit and the entrance and exit to the pit should be stabilized.

##### Limitations

In order to avoid puncturing tires, stabilized entrances should not be constructed with sharp edge stones.

##### Maintenance Requirements

Stabilized entrances require periodic cleaning or addition of stone as the voids in the stones fill with mud and sediment.

Wheel wash facilities and rubble strips will need to be cleaned as the pits fill in order to provide more room to store new mud and sediment.

The street in front of the entrance should be cleaned as required to remove sediment that has been tracked off site.

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### INTERCEPTOR SWALE & DIKE

#### Description

Water running onto the site will increase erosion and be a nuisance to construction activities. Additionally, runoff from the construction site can have excessive amounts of sediment that can end up in local streams.

*Interceptor Swales and Dikes* are diversion systems used to divert runoff around a site or to direct runoff from a site to a pond in order to settle out sediment prior to discharge from the site.

#### Applicability

Any area that is subject to runoff from uphill drainage areas.

#### Design Criteria

The swale (channel) and dike should be situated to capture runoff uphill of the work area with a vegetative buffer uphill of the swale to remove sediment before it enters the swale. The stabilized swale and ditch should be in-place prior to all other earth work on the project. The channel should be designed to handle the 10-year storm, with the bottom and sides protected for the anticipated water velocity. Typically, the ditch will be two foot wide at the bottom and six foot wide at the top. Maximum water velocity in the swale should not exceed five feet per second. Side slopes should be no steeper than 1:3 (vertical:horizontal). Energy dissipation should be provided at the exit from the swale as needed.

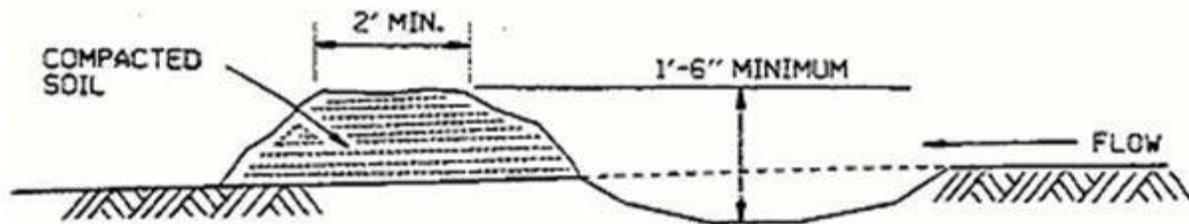


Figure 2. Swale configuration detail (Source: AHTD, 2001)

#### Limitations

Excessive flowrates can cause scour in the swale; therefore requiring a sediment control pond at the end of the swale.

In the event that the dike over flows during larger storm events, the site can be damaged and excessive erosion and sediment transport can occur.

#### Maintenance Requirements

The swale should be cleared of debris and excessive vegetation as required.

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### **SLOPE DRAIN**

#### **Description**

Gullying and excessive erosion will take place on slopes subjected to concentrated flows of runoff.

*Slope Drains* are conduits (open or closed) used to direct water down a slope while protecting the slope from erosion.

#### **Applicability**

Slopes with the potential for intended or unintended concentrated flows

#### **Design Criteria**

Slope drains (rundowns, pipe slope drains, etc.) should be placed where runoff from uphill drainage areas will concentrate. Slope drains should be sized to handle a 10 year storm from an area no greater than five acres. Minimum size for a pipe slope drain is 12 inch diameter. Slope rundowns (stone or riprap lined channels) should be constructed with the middle sufficiently lower than the sides to ensure flow stays in the rundown. Slope drains operate best when used in conjunction with interceptor swales and dikes on the top of the slope. Appropriate energy protection should be placed at the outlet of the pipe.

#### **Limitations**

For larger storms, the slope drain may not operate properly and can cause excessive gullying and slope erosion as well as damage to the construction site. Slope drains that are improperly designed or constructed such that the flow does not stay in the drain will cause excessive erosion.

#### **Maintenance Requirements**

Slope drains should be inspected weekly and kept clear of trash, debris, and vegetation.

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### ENERGY DISSIPATION - RIPRAP APRONS

#### Description

Water exiting a channel, swale, pipe, or culvert (any water carrying conduit) typically is in a concentrated stream with a relatively high velocity. This high energy stream of water erodes unprotected soil.

*Energy Dissipation* is a structural BMP placed at the exit of a water carrying conduit to slow the velocity and decrease the turbulence of the water. Permanent energy dissipation controls can be used during the construction phase of the project, and should be designed according to methods described in the Residential and Commercial BMPs section of this manual.

#### Applicability

All channels or pipes carrying runoff at velocities that will erode the soil in the discharge area.

#### Design Criteria

Determine the required median size (d50) of riprap using graph in Figure 3 below. Enter the graph on the X-axis with the discharge in cubic feet per second, move vertically to intersect either the appropriate depth of flow (d) line or the velocity of flow (v) line, then read to the horizontally to Y-axis on the right side to determine the required median diameter of riprap (d50).

Determine the minimum required apron length using the graph in Figure 3. Enter the graph on the X-axis with the discharge in cubic feet per second, move vertically to the second set of lines to intersect the appropriate depth of flow (d), then read horizontally to the left to determine the minimum required length of apron (La) in feet.

#### Limitations

Riprap aprons are best suited for applications where the Froude Number at the conduit exit is less than 2.5.

Some Communities do not allow riprap as a permanent control method of energy dissipation.

#### Maintenance Requirements

The apron should be inspected after large storms to ensure that the riprap is in place. riprap should be replaced when it is dislodged or missing.

APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

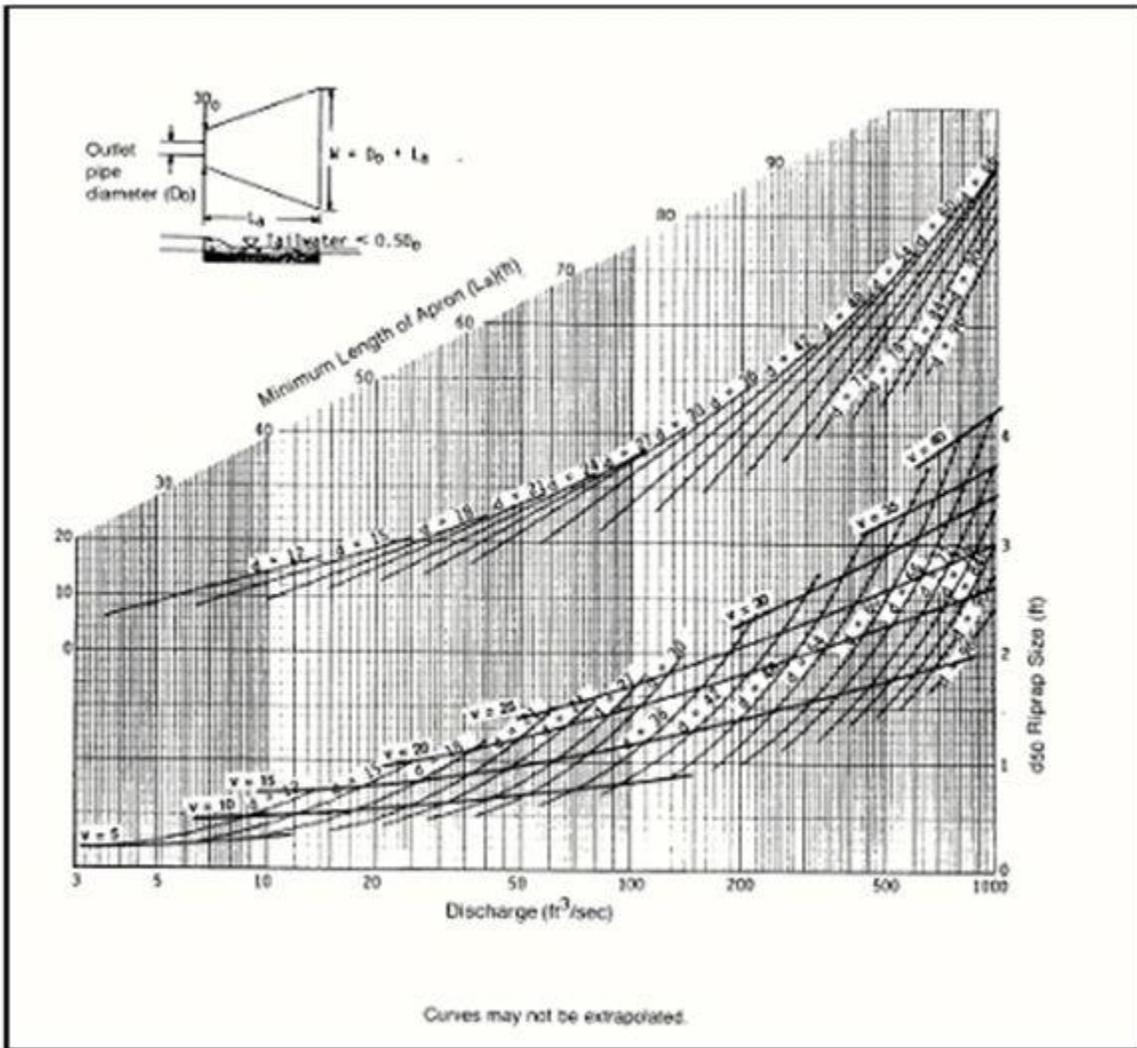


Figure 3. Riprap apron sizing. (SCS, 1975)

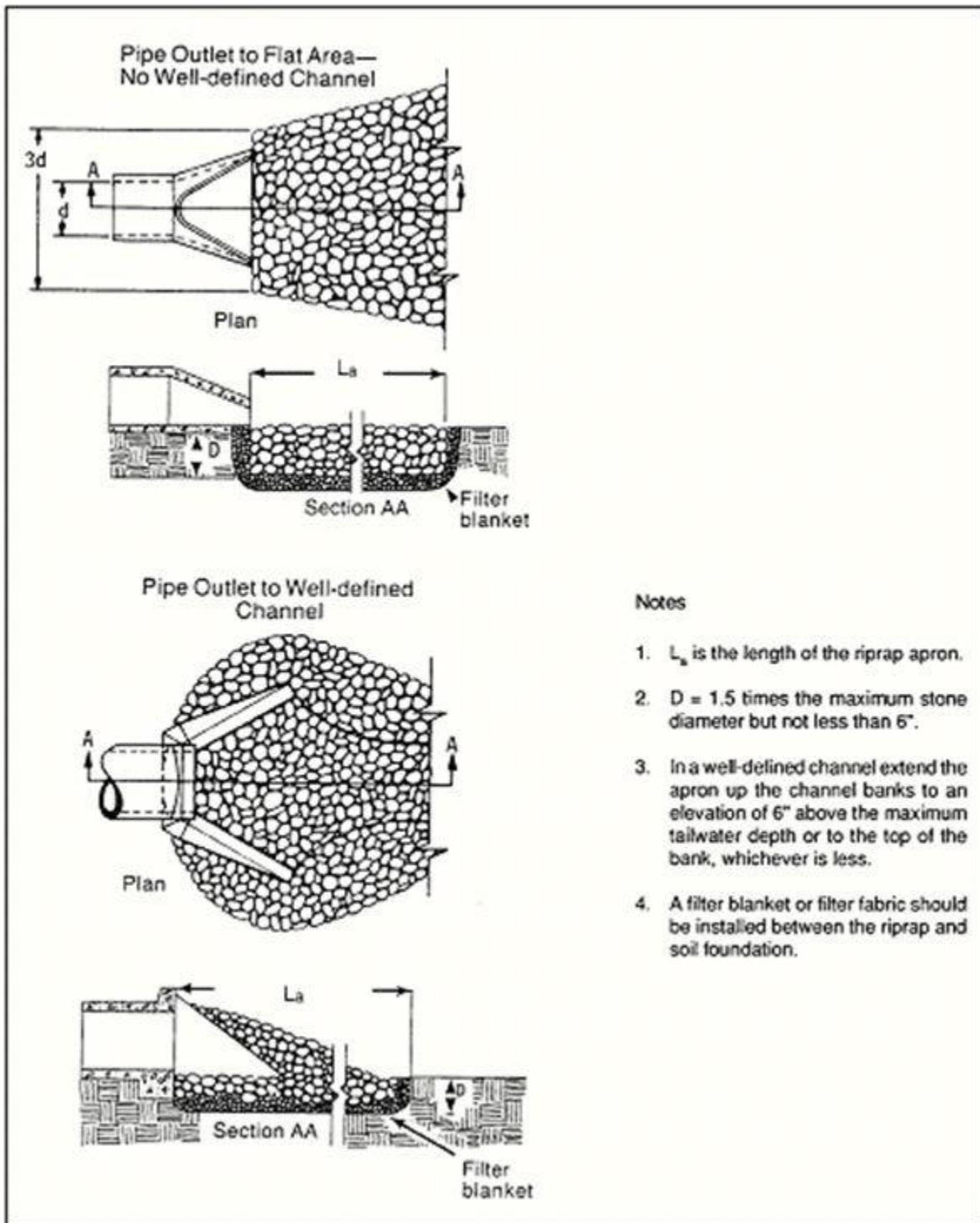


Figure 4. Riprap apron detail. (Source: MESCG, 1996)

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### EROSION CONTROL BMPs

#### Soil Roughening

##### Description

Water flowing down a bare slope will erode soil and transport soil to the bottom of the slope.

*Soil Roughening* is the practice of increasing the roughness of exposed soil by making grooves, tracks, or terraces (stair-steps) which run perpendicular to the flow path (parallel to slope) slowing flow and trapping sediment.

##### Applications

Soil roughening can be used on a wide variety of slopes and in conjunction with seeding and mulching.

##### Design Criteria

Tracking with lugged tracked equipment is appropriate on sandy material so as to not excessively compact the soil.

Grooving can be accomplished using a plow with the furrows three inches deep and less than 15 inches apart.

Terraced (stair-stepping) slopes should have the vertical cuts no more than two feet deep and the horizontal steps should be wider than the depth of the vertical cut. The horizontal step should slope backward to the vertical cut upslope on the hill.

The slope should be seeded immediately after roughening and mulch or chemical stabilization should be utilized where appropriate.

##### Limitations

Soil roughening should not be used on rocky soils or soils that are high in clay content. Tracking may cause excessive compaction which can lead to greater erosion

##### Maintenance Requirements

Roughened slopes should be inspected after ½ inch and greater storms and problem areas noted. After a rain event, slopes may need reconstruction, re-roughening, reseeding, and remulching.

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### CHEMICAL STABILIZATION

#### Description

Erosion is caused by rainfall impact detaching soil particles and runoff carrying the particles downslope. *Chemical Stabilization* is the practice of spraying chemicals (tackifiers, soil binders) on the soil to hold the soil particles in place and protect against erosion.

#### Applicability

Areas that have been cleared of vegetation or do not have a protective cover on the soil. If temporary seeding cannot be used or would not be effective due to the time of year, steepness of slope, or other reasons, chemical stabilizers can be applied to protect against erosion. Chemical stabilization can be used in conjunction with seeding and mulching.

#### Design Criteria

The type of chemical used (asphalt emulsion, polyacrylamides (PAM), vinyl, or rubber), the application rate, and application method should meet the manufactures recommendations.

#### Limitations

Improper application methods or rates can result in over application which can diminish infiltration and cause additional runoff.

#### Maintenance Requirements

Chemically stabilized areas should be inspected regularly and after ½ inch or greater rainfalls and stabilizer reapplied as required.

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### MULCHING

#### **Description**

Erosion is caused by rainfall impact detaching soil particles and runoff carrying the particles downslope. Mulch can be applied to the area to hold the soil particles in place and protect against erosion.

*Mulching* is the practice of applying a layer of organic material (hay, straw, wood fiber, paper fiber, etc.) to protect the soil from impact of precipitation.

#### **Applicability**

Areas that have been cleared of vegetation or do not have a protective cover on the soil. Mulches are typically used to protect areas that have been seeded. Mulching can be used in conjunction with chemical stabilization.

#### **Design Criteria**

Straw mulch should be evenly applied at a rate of 2 tons of dry straw per acre. The mulch should be crimped into the soil immediately after application. Mulch should not be applied in areas with concentrated flows or on steep slopes.

Mulch is typically applied using a mulch blower; but, can be applied by hand in small or hard to reach areas.

#### **Limitations**

Wind and concentrated water flows can blow or wash mulch from the application area.

#### **Maintenance Requirements**

Mulched areas should be inspected regularly and after ½ inch or greater rainfalls and mulch reapplied as required.

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### EROSION CONTROL MATS

#### **Description**

Erosion is caused by rainfall impact detaching soil particles and runoff carrying the particles downslope. *Erosion Control Mats* can be applied to the area to hold the soil particles in place and protect against erosion.

Erosion control mats are manufactured blankets of netting with organic filler or geosynthetic material used to protect the soil from impact of precipitation.

#### **Applicability**

Areas that have been cleared of vegetation or do not have a protective cover on the soil. Erosion control mats are typically used to protect short steep slopes or in areas of concentrated water flows.

#### **Design Criteria**

There are many different types of erosion control mats and each is made for different situations (slope, duration of protection, amount of protection, soil, degradability of mat, etc.); therefore, the type of erosion control mat used and the installation methods should meet the manufactures recommendations.

#### **Limitations**

If not properly installed (anchored to the ground and overlapped on the edges), erosion control mats can be washed downslope.

#### **Maintenance Requirements**

Areas with erosion control mats should be inspected regularly and after ½ inch or greater rainfalls and problem areas corrected as required.

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### VEGETATION

#### Description

Erosion is caused by rainfall impact detaching soil particles and runoff carrying the particles downslope. *Vegetation* (seeded or sodded) can hold the soil particles in place and protect against erosion.

#### Applicability

Any area of a construction site that the natural vegetation has been removed. Seeding or sodding can be used as a temporary or a final erosion control measure. A substantial savings can be realized by completing the earth work for an area and implementing final vegetative stabilization.

#### Design Criteria

The type temporary vegetation appropriate for a site is dependent upon the time of year. Prior to application of seed, grading of the site should be complete including all erosion and sediment control practices. If the soils have become compacted, they should be loosened to a depth of at least six inches. If the pH of the soil is less than 6, lime should be added to the top six inches of soil. Fertilizer (10-10-10) should also be incorporated into the top six inches of soil at a rate of 100 lb/acre. Soil roughening techniques should be used for slopes greater than 3:1 (33%). The seed bed should be loose, without large clods, and uniform before seeding. Typical broadcast rates for temporary vegetation are given in Table 2.

Table 2. Temporary seeding planting materials, application dates, planting rates, and characteristics. (Adapted from MAACD, 1998)

Species	Planting Dates		Rate (lb/acre)	Plant Characteristics
			80	
Oats	2/1 - 5/30	8/1 - 9/30		not cold tolerant
Rye/Wheat	1/1 - 5/31	7/15 - 11/15	90 / 120	cold tolerant
Millet/Sudan grass	5/1 - 8/15	-	45 / 60	warm season
Annual Ryegrass	1/1 - 5/31	7/15 - 9/30	75	not heat tolerant
Annual Lespedeza plus Tall Fescue	5/1 - 8/15	-	15 / 45	warm season

#### Limitations

Vegetation is not appropriate for heavily trafficked areas (vehicular and pedestrian) and is not appropriate for rocky, gravelly, or coarse grained soils. For these types of soils, apply six inches of clean topsoil before seeding.

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### **Maintenance Requirements**

Vegetated areas should be protected from runoff from adjacent areas and traffic (vehicular and pedestrian). Until established, the vegetation will require fertilization and water.

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### SEDIMENT CONTROL BMPs

#### Embedded Silt Fence

##### Description

Water flowing in sheet or shallow flow will carry sediment down a slope and off-site.

*Embedded Silt Fence* (ESF) is a barrier made of geotextile fabric placed along a contour to capture water, slow the flowrate, trap sediment, and allow water to filter through the fabric.

##### Applications

Small drainage areas with sheet flow or shallow flow.

##### Design Criteria

Embedded silt fence (ESF) should be placed on a contour and designed to hold runoff from the 10 year storm from an area of 100 sq. ft. for each foot of fence. The maximum depth of retained water on the upstream side of the fence should be two feet. The maximum slope length above the fence should be no more than 100 feet. The maximum slope above the fence is 1:1.

The fabric shall be buried in a trench that is at least eight inch deep and eight inches wide as shown below. The fabric shall be place on the upstream side of the posts.

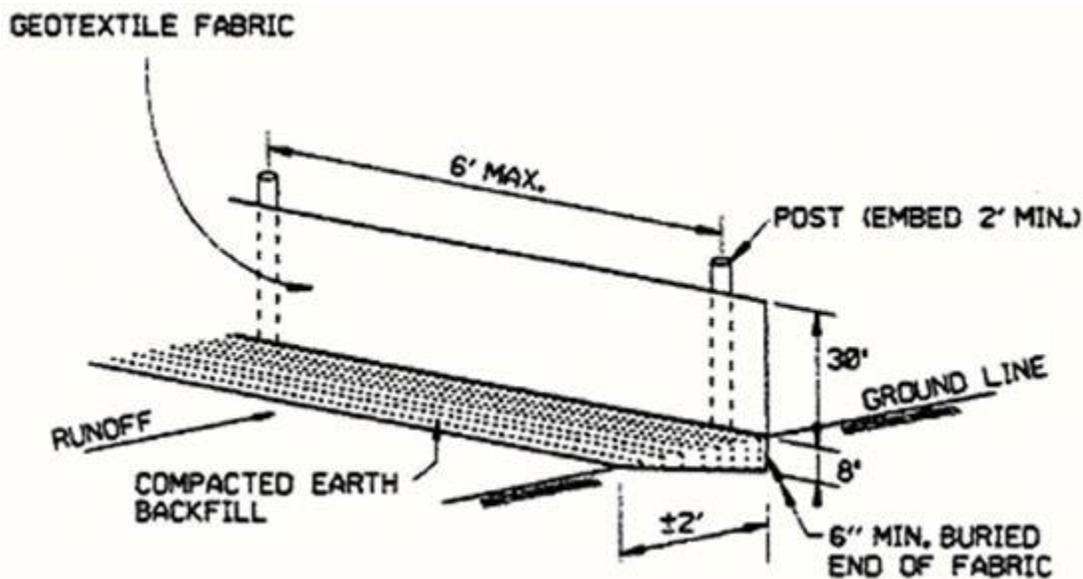


Figure 5. Embedded Silt Fence (Source: AHTD, 2001)

##### Limitations

Silt fence must be embedded or it will not function properly and should not be installed in rocky soil where it cannot be properly embedded.

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

Silt fence is not designed to hold back concentrated flow and therefore should not be placed across channels, gullies, or streams.

Silt fence should not be run down slopes as it will concentrate flow causing gully erosion and causing downstream BMPs to fail.

Silt fence should not be placed at the top of slopes as it will not provide any sediment control but will increase costs.

### **Maintenance Requirements**

ESF should be inspected weekly and after ½ inch or greater rainfalls for proper installation, defective fencing, erosion on the ends, and excessive sediment buildup behind the fence (half the fence height).

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### INTEL PROTECTION

#### Description

Runoff from a construction site often carries sediment into the stormwater sewer system, which discharges into local streams. Besides the problems caused by sediment, other pollutants (e.g. oil, grease, and nutrients) are often attached to the sediment.

*Inlet Protection* is the practice of placing gravel, sand bags, or silt fence around an inlet to allow runoff to pond and sediment to settle out prior to entering the stormwater sewer system.

#### Applications

Any storm drain inlet that could receive runoff from the construction site.

#### Design Criteria

For inlets that are not in paved areas, a detention pond should be excavated around the inlet that is at least one foot deep (below the inlet crest) and that has a detention volume of at least 35 yd. per disturbed acre of watershed. The pond should start at the toe of the dam material; so, if gravel or sandbags are to be used the pond will be at least three feet from the inlet, whereas if silt fence is used, the pond can start at the edge of the inlet. The side slopes of the detention pond should be no greater than 2:1.

If silt fence is used as the dam material, the post should be driven at the edge of the inlet and should be no greater than three feet apart. The fence should be installed according to the detail in Figure 6.

For inlets in paved areas, either gravel or sandbags should be used as the dam material. If gravel is to be used as the dam material, the gravel should be at least 1" in diameter. The dam should be no higher than one foot high and the side should have no greater than a 2:1 (horizontal:vertical) slope. If sandbags are used as the dam material, the bags shall be no heavier than 50 lbs. and shall be stacked no higher than three bag diameters high, with the bags layered in a pyramid formation.

#### Limitations

Inlet protection control measures are not capable of handling large quantities of sediment and can require maintenance during rain events in order to protect nearby facilities and to eliminate flooding. Ponding can cause flooding problems for surrounding facilities.

#### Maintenance Requirements

Inlet protection measures should be inspected during storm events to ensure surrounding facilities are not flooded.

Inlet protection measures should be inspected bi-weekly and after ½ inch or greater rainfalls for proper installation, defective fencing, erosion, and excessive sediment buildup. Repair and replacement

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

of defective measures must be initiated within 24 hours of discovery and completed in no less than 7 days from discovery.

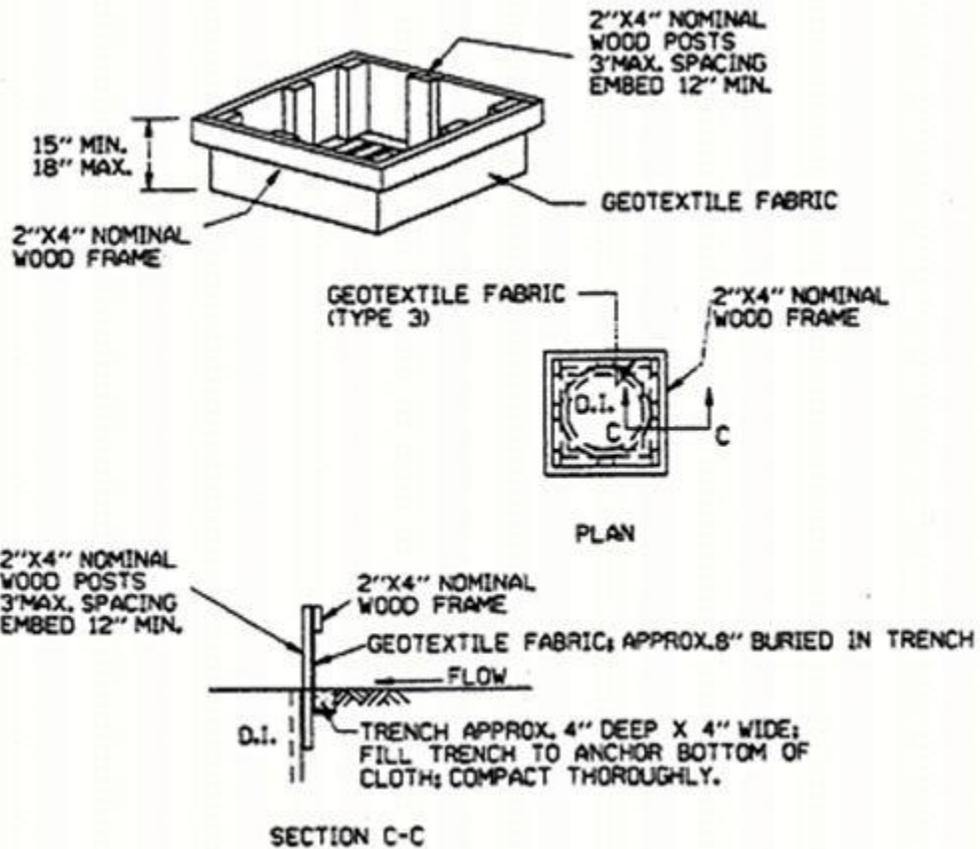


Figure 6. Silt fence inlet protection detail. (Source: AHTD, 2001)

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### SEDIMENT TRAPS

#### Description

Water carrying sediment off-site can cause damage to neighboring property and local streams.

*Sediment Traps* provide an area for sediment to settle out of the runoff prior to discharge from the site.

#### Applications

Sediment traps are well suited for sites that will be required to have a permanent stormwater control basin; but, should be used for any concentrated flow (culvert, pipe, swale, etc.) that could have sediment in the runoff leaving the site.

#### Design Criteria

The removal efficiency of sediment traps is a function of the total surface area of the pond, the shape of the pond, the influent flow rate, and the type of soil in the runoff. The maximum drainage area for a sediment trap shall be 3 acres, for larger areas a sediment basin shall be used.

Trap minimum bottom area and spillway width are given in Table 3. The berm or levee will curving upstream to hold the water, the berm will have 3:1 side slopes (maximum) and have a maximum depth of three feet. The outlet spillway shall be made of six inches of stone (6 inch diameter minimum) and be placed on a geotextile fabric.

Table 3. Minimum sediment trap dimensions

Drainage Area (acres)	Trap	
	Water Bottom Area (sq ft)	Width Overflow Spillway (ft)
1 or less	250	6
1 to 2	675	12
2 to 3	1500	18

#### Limitations

Sediment traps do not have sufficient surface area to allow for settling of very small particles (e.g. clay, silt). Sediment traps are not appropriate for runoff from areas greater than three acres.

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### Maintenance Requirements

Sediment traps should be inspected bi-weekly and after ½ inch or greater rainfalls for proper installation, erosion, and excessive sediment buildup. Repair or replacement of defective measures must be initiated within 24 hours of discovery, and completed in no less than 7 days from discovery.

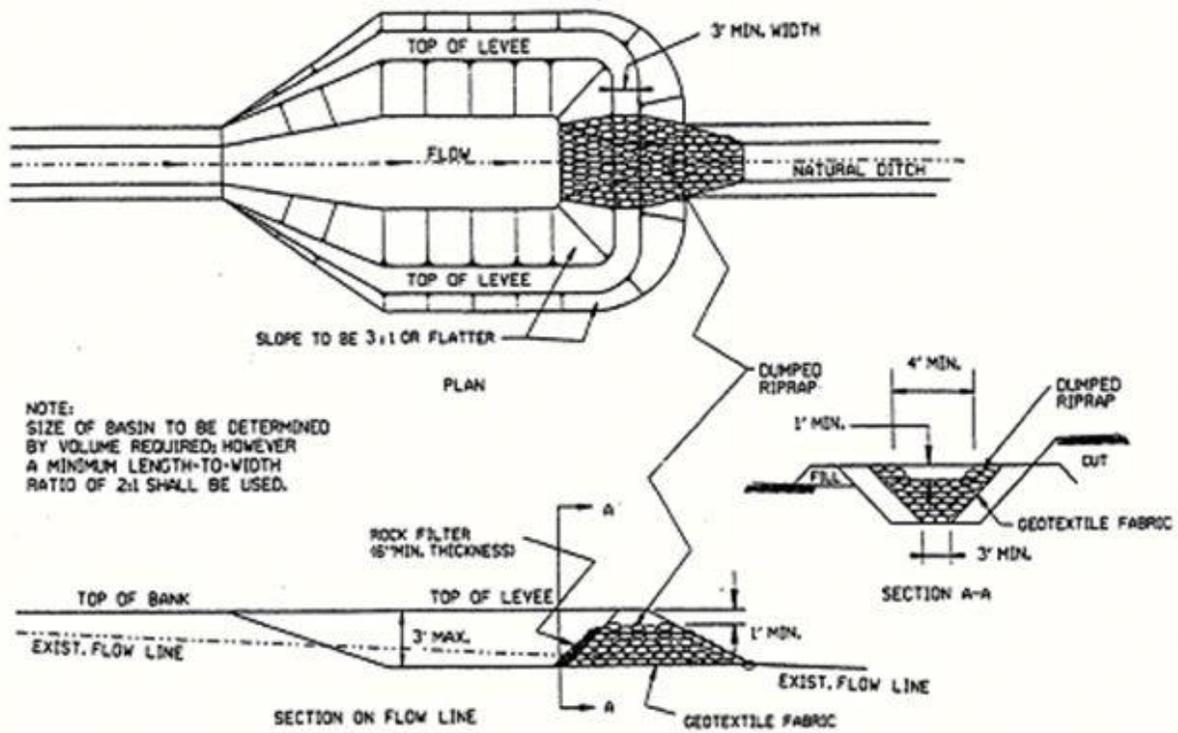


Figure 7. Sediment trap detail (Adapted from: AHTD, 2001)

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### CHECK DAMS

#### Description

Excessive velocity of water in swales or channels causes erosion and transports the sediment downstream to local streams.

*Check Dams* (ditch checks) slow water in channels and provide an area for sediment to settle out of the water before it flows over the dam.

#### Applications

Any unlined channel or any channel that the vegetative protection has not developed. Steeper slopes are more subject to erosion than flatter slopes.

#### Design Criteria

Place ditch checks such that the top of the downstream check is at the same elevation as the bottom of the next upstream check.

Checks must be constructed such that the top elevation of the center of the check is at least six inches below the bottom elevation of both ends of the check. The dam must be excavated into the channel no less than six inches as shown in Figures 8, 9, and 10.

#### Limitations

If improperly constructed, water will flow around or through the check dam and erode the banks of the channel. Large flows (less frequent storms) can washout the check dams, erode the banks at the end of the check dams, or cause excessive scour at the outfall of the check dam.

#### Maintenance Requirements

Check dams should be inspected bi-weekly and after ½ inch or greater rainfalls for proper installation, erosion, and excessive sediment buildup. Repair or replacement of defective measures must be initiated within 24 hours of discovery, and completed in no less than 7 days from discovery.

APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

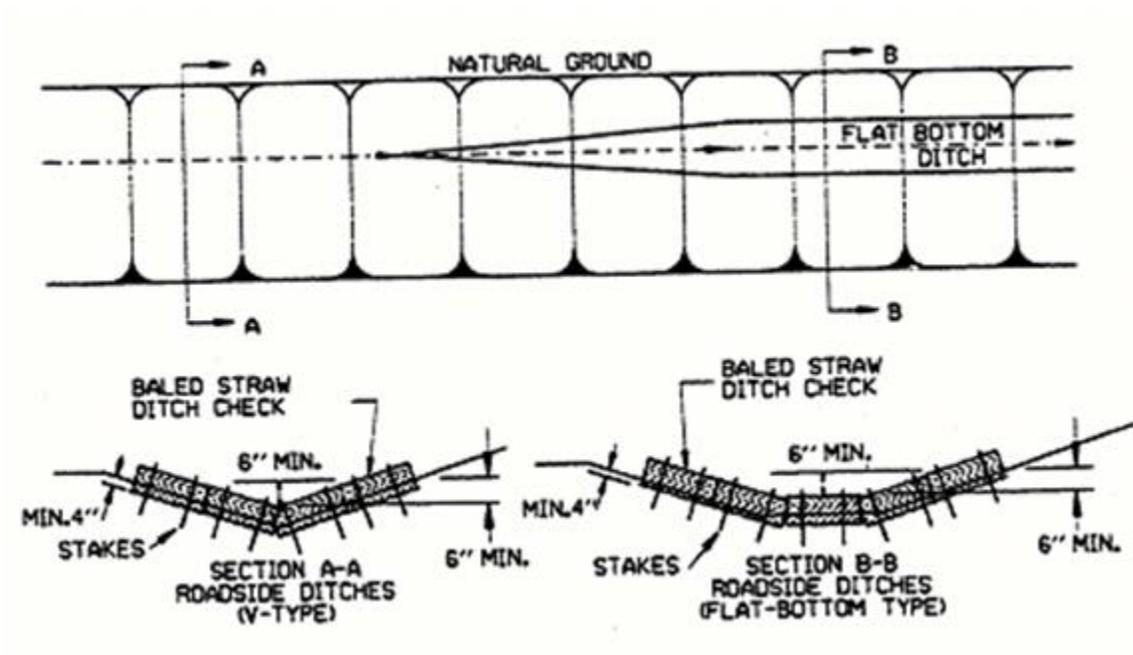


Figure 8. Baled straw check dam detail. (Source: AHTD, 2001)

APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

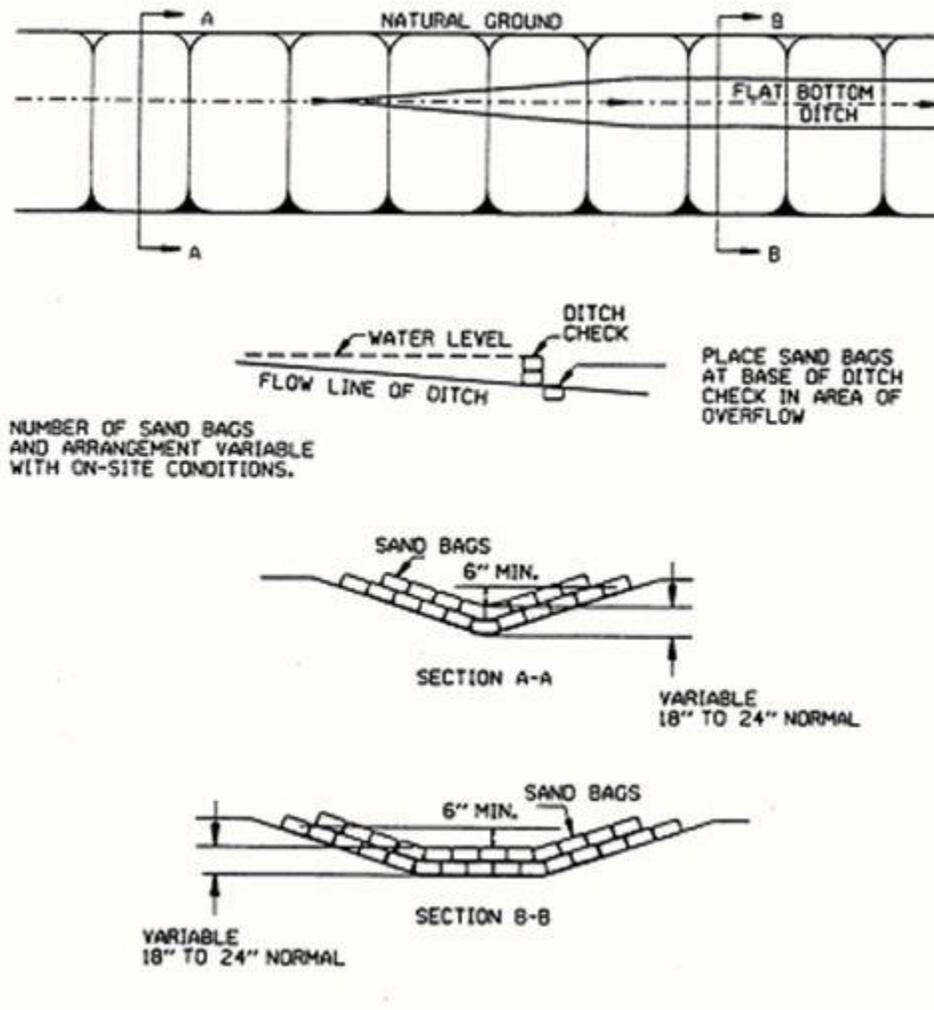


Figure 9. Sand bag check dam detail. (Source: AHTD, 2001)

APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

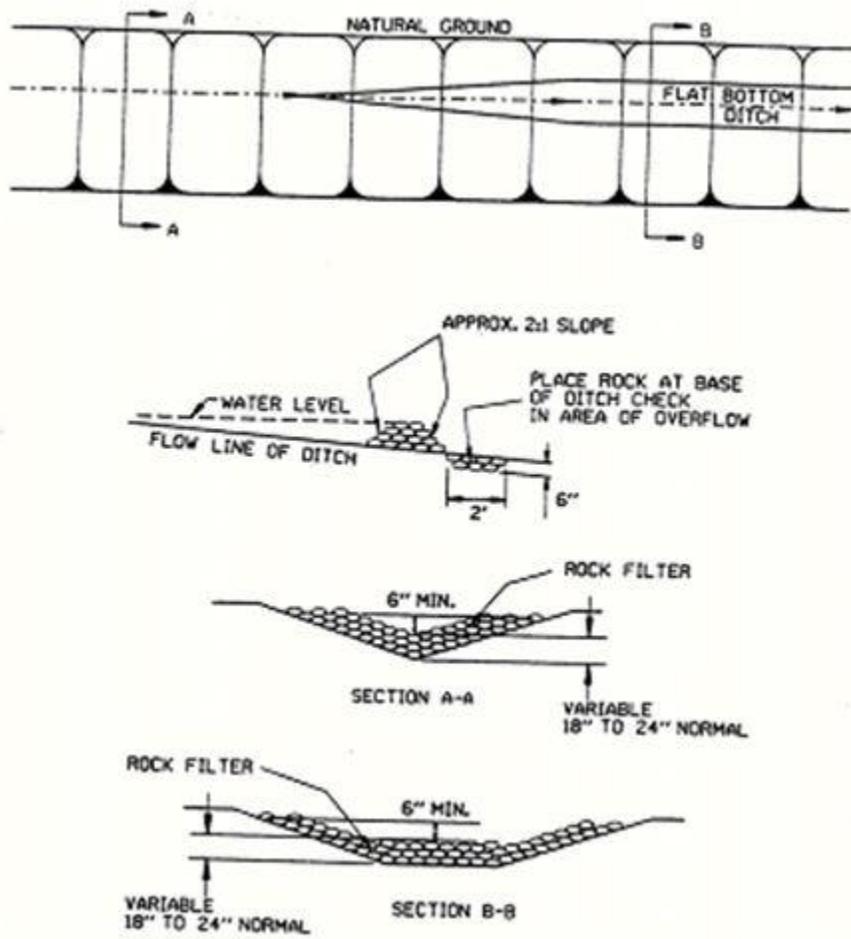


Figure 10. Rock check dam detail. (Source: AHTD, 2001)

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### **SOLID WASTE MANAGEMENT**

#### **Description**

Solid wastes that are improperly disposed of, can be blown or washed from construction sites causing others to pick up the wastes from their property. Solid Waste Management refers to the proper handling and disposal of all construction wastes.

#### **Applications**

All construction sites.

#### **Criteria**

Trash and waste construction materials should be picked up daily and properly disposed of.

#### **Limitations**

None

#### **Maintenance Requirements**

Daily pickup of trash and construction waste materials.

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### HAZARDOUS WASTE MANAGEMENT

#### Description

Hazardous wastes can be washed or accidentally dumped into the storm water system causing serious pollution of local streams.

*Hazardous Waste Management* is the proper handling, storage, use, and disposal of material listed as hazardous by EPA and/or ADEQ.

#### Applications

All materials listed as hazardous by EPA and/or ADEQ.

#### Criteria

Guidelines published by EPA and OSHA for the types of materials to be used on the construction site should be incorporated into the SWPPP.

The types of materials that are generally considered hazardous are:

- Fuels (diesel, gas, etc.)
- Oils and greases (lubricating, cutting, etc.)
- Petroleum based materials (asphalt, emulsions, solvents)
- Paints (including wood preservatives, stains, and lead based)
- Solvents (paint thinners, cleaners, etc.)
- Pesticides, herbicides, insecticides

Proper management of hazardous materials entails:

- Replace hazardous materials with non-hazardous materials
- Minimize the use of hazardous materials
- Reuse and recycle hazardous materials
- Proper use of hazardous materials
- Proper storage and handling of hazardous materials
- Proper disposal of hazardous materials.

Employees must be trained in the use, storage, and disposal of hazardous wastes. Hazardous materials should be stored so only authorized personnel can use the material.

The following methods should be followed for spill prevention and clean-up:

- The manufacturers recommended methods for spill clean-up should be clearly posted and personnel should be trained in the location of clean-up supplies and clean-up procedures.
- Clean-up supplies should be kept in a secure on site.
- Personnel should wear proper protective clothing when cleaning up the spill.
- Spills should be cleaned up immediately and the waste properly disposed of.
- Licensed hazardous waste haulers must be used to transport hazardous wastes to approved treatment and disposal sites.

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### CONCRETE WASTE MANAGEMENT

#### **Description**

Concrete waste from washout of ready mix trucks, concrete pumps, and other concrete equipment causes chemical and changes in runoff by increasing sediment and changing the pH.

*Concrete Waste Management* is the practice of capturing all concrete wastes.

#### **Applications**

All construction sites with concrete work.

#### **Design Criteria**

Provide a minimum of six cubic feet of containment volume for every 10 cubic yards of concrete to be poured.

#### **Limitations**

Improperly sized washout area can overflow and washout will not be contained.

#### **Maintenance Requirements**

The washout pit should be cleaned weekly and the waste material properly disposed of.

# APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

## RESIDENTIAL AND COMMERCIAL BMPs

### Introduction

Historically, stormwater management policies were developed to mitigate the impact of land development in terms of the quantity of water released; therefore, systems were sized to reduce the post-development peak discharge rates to the pre-development rates. But, storm water systems sized to reduce peak discharge are not effective at removal of pollutants; therefore, the design of storm water systems must now incorporate methods for improving water quality. The table below gives an overview of the capabilities of the BMPs discussed in this manual.

Post development BMP characteristics chart

Construction BMP	Quantity		Quality				
	Flow attenuation	Runoff volume reduction	Sediment control	Nutrient loading (N,P)	Organic loading	Metals loading	Bacteria loading
Dry Basin	●	○	●	○	○	●	○
Wet Basin	●	○	●	●	●	●	●
Grass Filter Strip	●	○	●	○	●	●	○
Inlet Floatables Interceptor	○	○	○	○	○	○	○
Oil-Sediment Separator	○	○	●	●	●	●	●
Infiltration Trench	●	●	●	●	●	●	●
Porous Pavement	●	●	○	○	○	○	○
Underground Detention Vault	●	○	●	○	○	○	○

● - Primary benefit

○ - Secondary benefit

○ - Little or no benefit

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### DRY BASIN

#### Description

Increased flowrates due to development cause increased erosion and increased stream bank erosion. In addition, runoff leaving as developed site it will carry sediment and attached pollutants.

A *Dry Basin* is a surface storage structure designed to provide water quantity control through decrease and attenuation runoff peaks and by providing an area for sedimentation to remove sediment and attached pollutants.

#### Application

Dry basins are applicable for large drainage areas and should be used in conjunction with a water quality control structure. In addition, the basin can be used for recreational and other open space opportunities between storm runoff events.

#### Design Criteria

The maximum contributing drainage area to be served by a dry basin is 75 acres. Dry basins should be sized to temporarily store the volume of runoff required to reduce the post-development peak flow of the 5-year, 10-year, 25-year, and 50-year storm events to the pre-development rates, and control the 100-year storm if required. The basin should be an elongated and irregular shape with a length to width ratio of 2:1; but, 3:1 is preferred. Routing calculations must be used to demonstrate that the storage volume is adequate. A detail of a dry basin is shown below.

Embankments shall be less than eight feet in height and shall have side slopes no steeper than 3:1 (horizontal to vertical). Geotechnical slope stability analysis is recommended for embankments greater than four feet in height.

The bottom area of storage facilities should be graded toward the outlet to prevent standing water conditions. A low flow or pilot channel across the facility bottom from the inlet to the outlet is recommended to convey low flows and prevent standing water conditions. Adequate maintenance access must be provided for all basins.

Inlet inflow channels are to be stabilized with flared riprap aprons, or the equivalent. A sediment forebay sized to 0.1 inches per impervious acre of contributing drainage should be provided.

Seepage control or anti-seep collars should be provided for all outlet pipes. Riprap, plunge pools or pads, or other energy dissipators are to be placed at the end of the outlet to prevent scouring and erosion. If the basin discharges to a channel with dry weather flow, care should be taken to minimize tree clearing along the downstream channel, and to reestablish a forested riparian zone in the shortest possible distance.

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

An emergency spillway is to be included in the stormwater pond design to safely pass the extreme flood flow. The spillway prevents pond water levels from overtopping the embankment and causing structural damage. The emergency spillway must be designed and located so that downstream structures will not be impacted by spillway discharges.

A minimum of 1 foot of freeboard must be provided, measured from the top of the water surface elevation for the extreme flood, to the lowest point of the dam embankment not counting the emergency spillway.

In the event that further reduced peak flowrates are required to protect the downstream channel, a dry extended detention basin can be utilized. Dry extended detention basins should be equipped with a low flow orifice capable of releasing the channel protection volume over 24 hours must. The channel protection orifice should have a minimum diameter of 3 inches and should be adequately protected from clogging by an acceptable external trash rack. A detail of a dry extended detention basin is shown below.

### **Limitations**

Dry basins are only moderately effective at removing suspended pollutants (sediment and attached pollutants, nutrients and metals) and are ineffective at removing dissolved pollutants. During some periods of the year, dry ponds can be a breeding site for mosquitos.

### **Maintenance**

Dry ponds require inspection and maintenance as shown below:

- Bi-weekly or as needed, mow and tend to grass around pond.
- Monthly or more frequently if required, remove trash and debris from pond, outlet structure, and surrounding area.
- Annually, inspect embankments, outlets, and spillways for damage and maintain as required.
- Annually, inspect for sediment buildup and remove buildup as required.
- Annually, remove any invasive vegetation.

APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

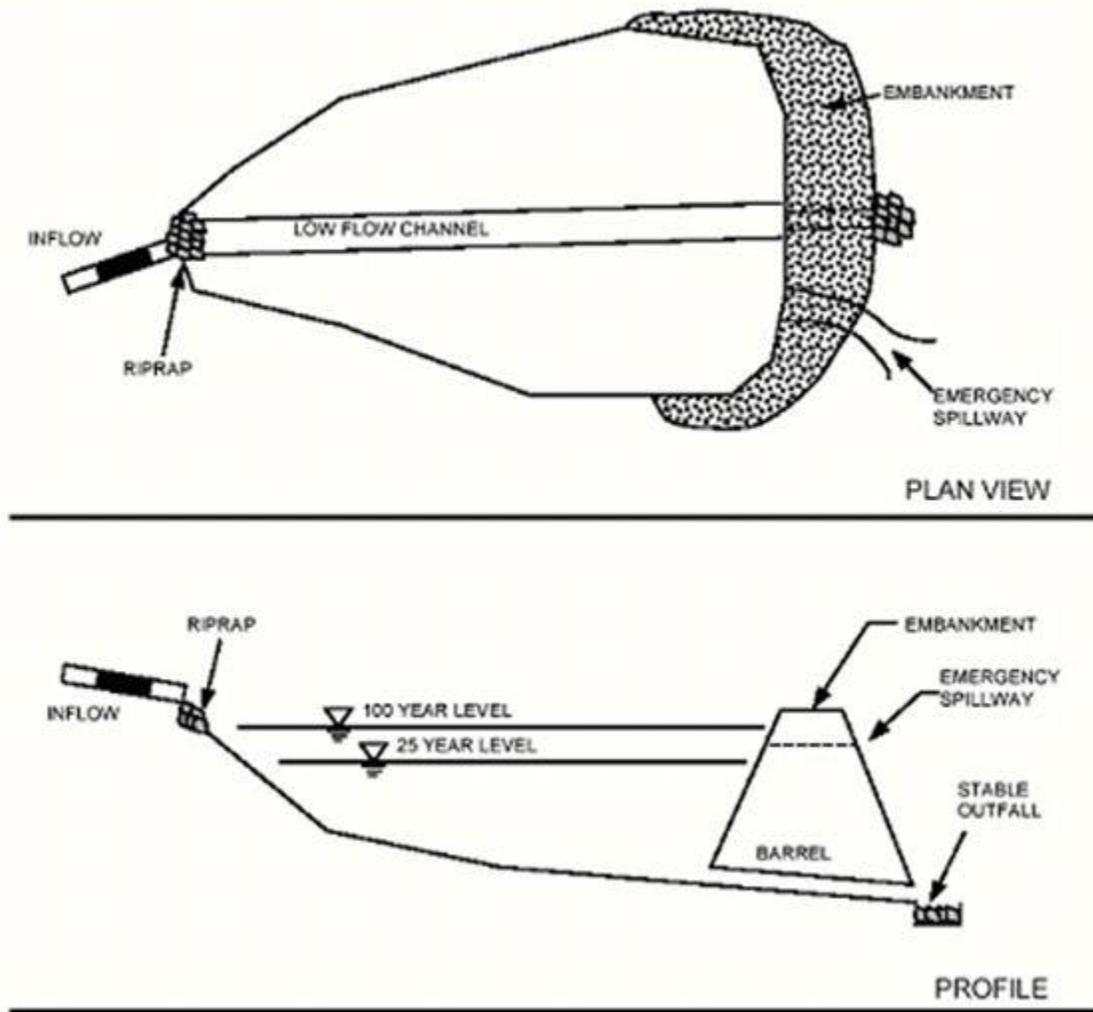


Figure 11. Dry detention basin detail. (Source: GSWMM, 2001)

APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

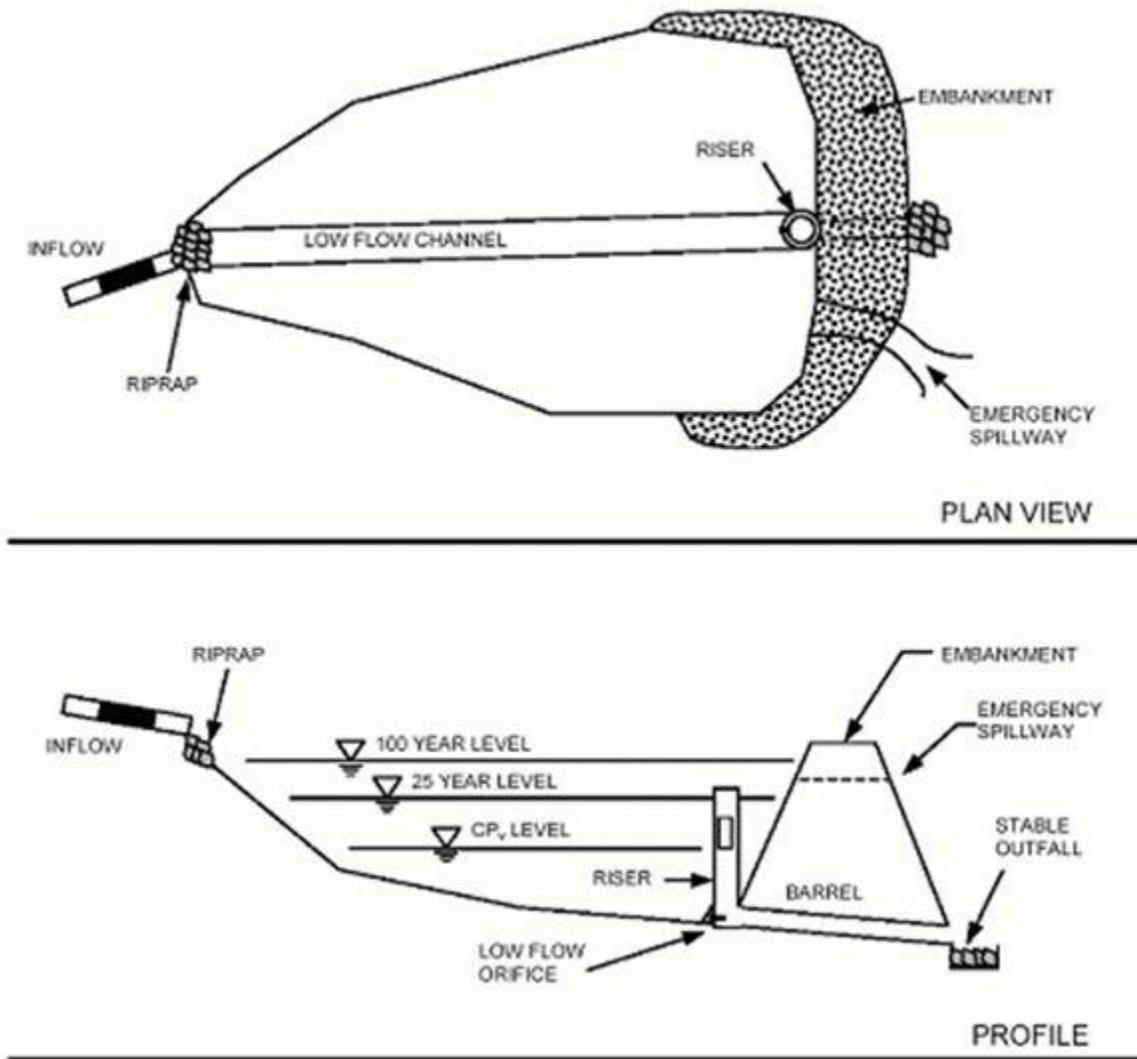


Figure 12. Extended dry detention basin detail. (Source: GSWMM, 2001)

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### WET BASIN

#### Description

Increased flow rates due to development cause increased erosion and increased stream bank erosion. In addition, runoff leaving as developed site it will carry sediment and attached pollutants.

*Wet Ponds* (retention ponds, wet extended detention ponds) are constructed to provide a permanent pool of water during the wet season or year-round. The pond provides for peak discharge attenuation and pollutant removal. Pollutants are removed from stormwater by settling and biological uptake.

#### Applicability

Wet ponds can be designed to enhance the landscaping and provide an attractive addition to a development. To maintain a permanent pool, wet ponds typically require about a minimum drainage area of 25 acres. Maintenance needs, dissolved oxygen requirements, and safety concerns should be addressed during design.

#### Design Criteria

The maximum contributing drainage area to be served by a wet basin is 75 acres and the minimum is 25 acres. The active pool of the wet basins should be sized to temporarily store the volume of runoff required to reduce the post-development peak flow of the 5-year, 10-year, 25-year, and 50-year storm events to the pre-development rates, and control the 100-year storm if required. The basin should an elongated and irregular shape with a length to width ratio of 2:1; but, 3:1 is preferred. Routing calculations must be used to demonstrate that the storage volume is adequate. A detail of a wet basin is shown in Figure 13 and a typical cross section of a wet basin is shown in Figure 14. The designer must conduct a water balance to ensure that sufficient inflow is available to maintain the permanent pool. The permanent pool should be at least four feet deep is discourage growth of aquatic plants.

Embankments shall be less than eight feet in height and shall have side slopes no steeper than 3:1 (horizontal to vertical). Geotechnical slope stability analysis is recommended for embankments greater than four feet in height. Adequate maintenance access must be provided for all basins.

Inlet inflow channels are to be stabilized with flared riprap aprons, or the equivalent. A sediment forebay sized to 0.1 inches per impervious acre of contributing drainage should be provided.

Seepage control or anti-seep collars should be provided for all outlet pipes. Riprap, plunge pools or pads, or other energy dissipators are to be placed at the end of the outlet to prevent

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

scouring and erosion. If the basin discharges to a channel with dry weather flow, care should be taken to minimize tree clearing along the downstream channel, and to reestablish a forested riparian zone in the shortest possible distance.

An emergency spillway is to be included in the stormwater pond design to safely pass the extreme flood flow. The spillway prevents pond water levels from overtopping the embankment and causing structural damage. The emergency spillway must be designed and located so that downstream structures will not be impacted by spillway discharges.

A minimum of 1 foot of freeboard must be provided, measured from the top of the water surface elevation for the extreme flood, to the lowest point of the dam embankment not counting the emergency spillway.

### **Limitations**

Depending on the location, wet ponds can require maintenance to remove trash and overgrowth. In developments with excess nutrients (nitrogen and phosphorus in particular) due to over fertilization, wet ponds can require mechanisms (fountains, bubblers) to input oxygen. In some developments a permanent pool of water can be viewed as a safety concern.

### **Inspection and Maintenance**

Wet Ponds should be inspected and maintained according to the following schedule:

- Bi-weekly or as needed, mow and tend to grass around pond.
- Monthly or more frequently if required, remove trash and debris from pond, outlet structure, and surrounding area.
- Annually, inspect embankments, outlets, and spillways for damage and maintain as required.
- Annually, inspect for sediment buildup in forebay and wet pool, remove buildup if required.
- Annually, harvest wetland vegetation (if used) and remove any invasive vegetation.

APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

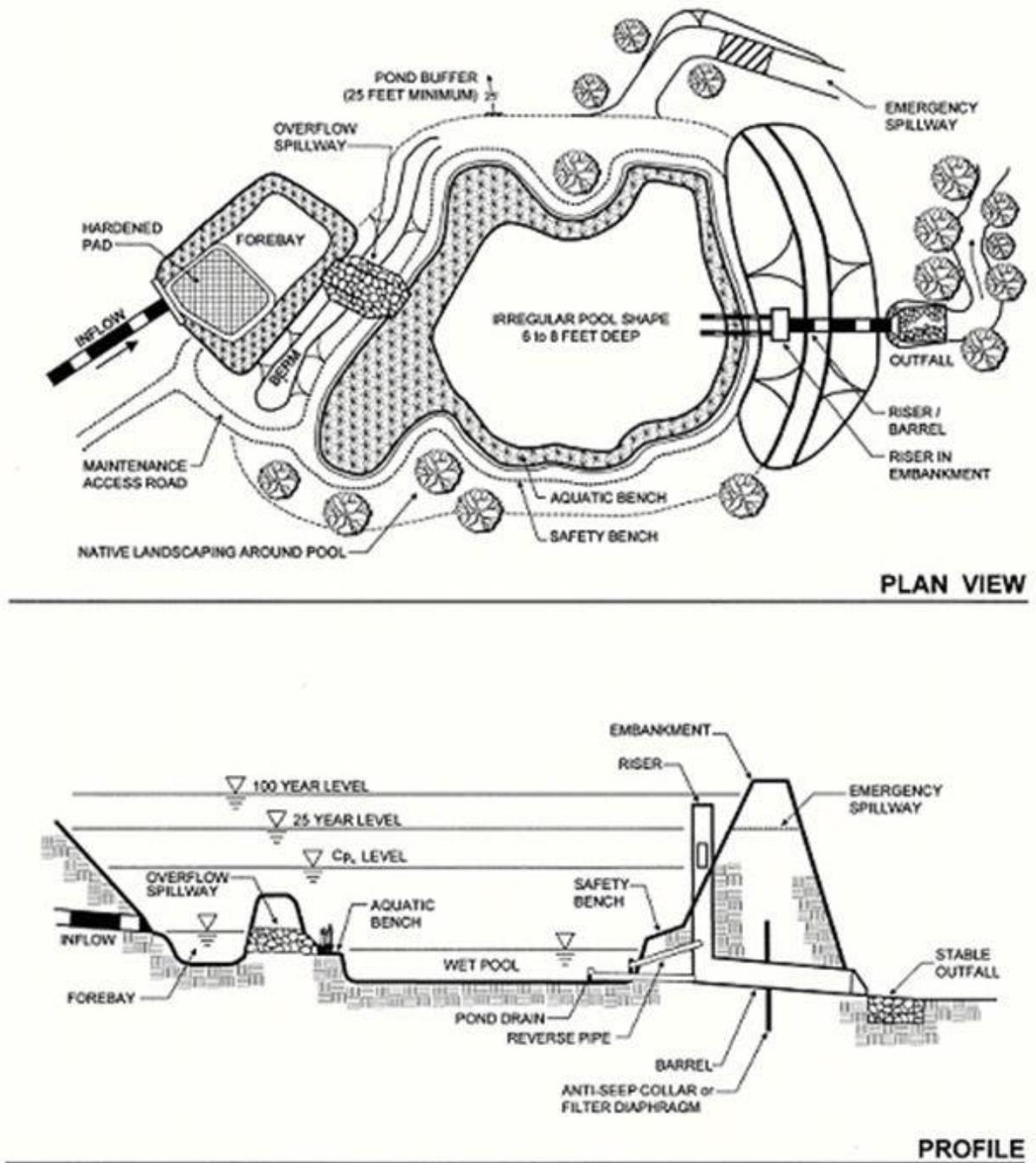


Figure 13. Wet pond detail. (Source: Center of Watershed Protection)

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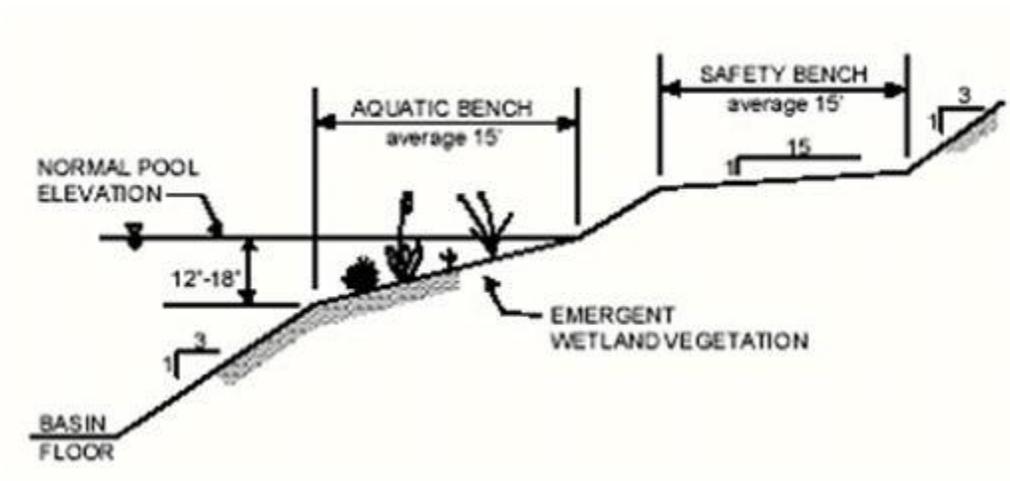


Figure 14. Cross section of a wet basin.

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### VEGETATED SWALES AND STRIPS

#### Description

*Vegetated Swales and Strips* (grass lined swales, biofilters, grassed channels) combine a channel, storage, and vegetation. The channel is used to move stormwater from one place to another; but, the channel is designed to provide some stormwater storage. The swale is designed to allow ponding (backwater) in the channel to enhance infiltration and pollutant removal. The vegetation provides increased pollutant (sediment, nutrients, metals) removal.

#### Selection Criteria

Swales are best suited for sites with long narrow areas available for stormwater handling and storage. Swales are also well suited for areas that generate highly contaminated runoff such as filling stations.

Generally swales are appropriate for drainage areas of five acres or less and should be constructed on flat slopes (1 to 2 percent). The bottom of the swale should be two feet above the seasonally high water table.

#### Design and Sizing

Swales function best if the stormwater moves through the channel slowly and they are designed to maximize the channel surface area wetted by the flow.

A swale should be designed such that a 1 inch storm will take 10 minutes to travel down the swale and should be designed as shown in the detail below.

Swales should be designed as trapezoidal or parabolic channels with longitudinal slopes of 1 to 2 percent and side slopes no greater than 4:1 (25 percent). The channel bottom should be 2 to 8 feet wide.

The swale should have dense vegetative cover that should be able to withstand the velocities induced by larger storms (25-year storm).

#### Limitations

Pollutant removal capabilities are substantially decreased for swales in highly impermeable soils, for swales constructed on steep slopes, and for swales handling runoff from too large of drainage areas.

#### Inspection and Maintenance

Swales should be inspected and maintained as indicated below.

- Bi-weekly or as needed, keep grass at a height of 3 to 4 inches.
- Monthly or more frequently if required, remove trash and debris, outlet structure, and surrounding area.
- Annually, inspect embankments and outlets for damage and maintain as required.
- Annually, inspect for sediment buildup and remove buildup when required.

APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

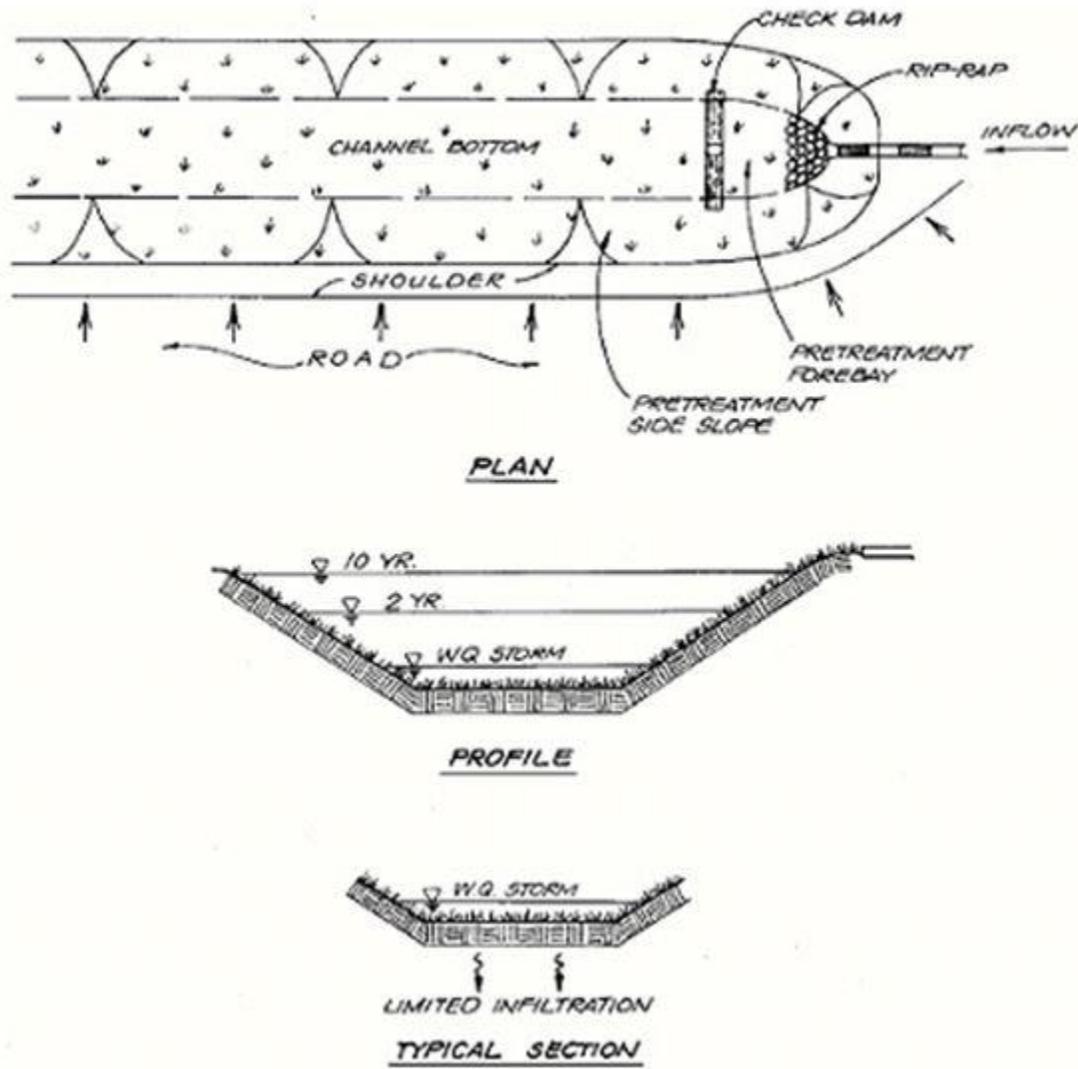


Figure 15. Grass swale detail. (Source: GSWMM, 2001)

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### GRASS FILTER STRIP

#### Description

Runoff flowing in sheet flow and carrying sediment and associated pollutants will end up in the local streams causing the streams to be polluted.

*Grass Filter Strips* remove sediment from runoff in sheet flow.

#### Application

Areas adjacent to low or medium density residential or commercial areas on gentle slopes (less than 15%) with a width of strip running along the contour.

#### Design Criteria

Grass filter strips should be placed adjacent to low or medium density residential or commercial areas with a width equal to the width of the runoff area. The filter strip should have a dense mat of vegetation to bind the soil and should have a moderate slope (5% or less). The length of the strip should meet the minimum standards shown in Table 4. Filter strips should be layout according to the detail in Figure 16. A stone drop made from pea gravel should be built at the head of the filter to pre-treat the runoff and to act as a level spreader. The stone drop should be at least one foot wide and one foot deep.

Table 4. Minimum length of filter strips (Source: MAACD, 1995)

Slope of strip (%)	Length of Grassed Filter Strip (ft)	Length of Forested Filter Strip (ft)
0	10	25
2	12	29
4	14	33
6	16	37
8	18	41
10	20	45
15	25	55

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

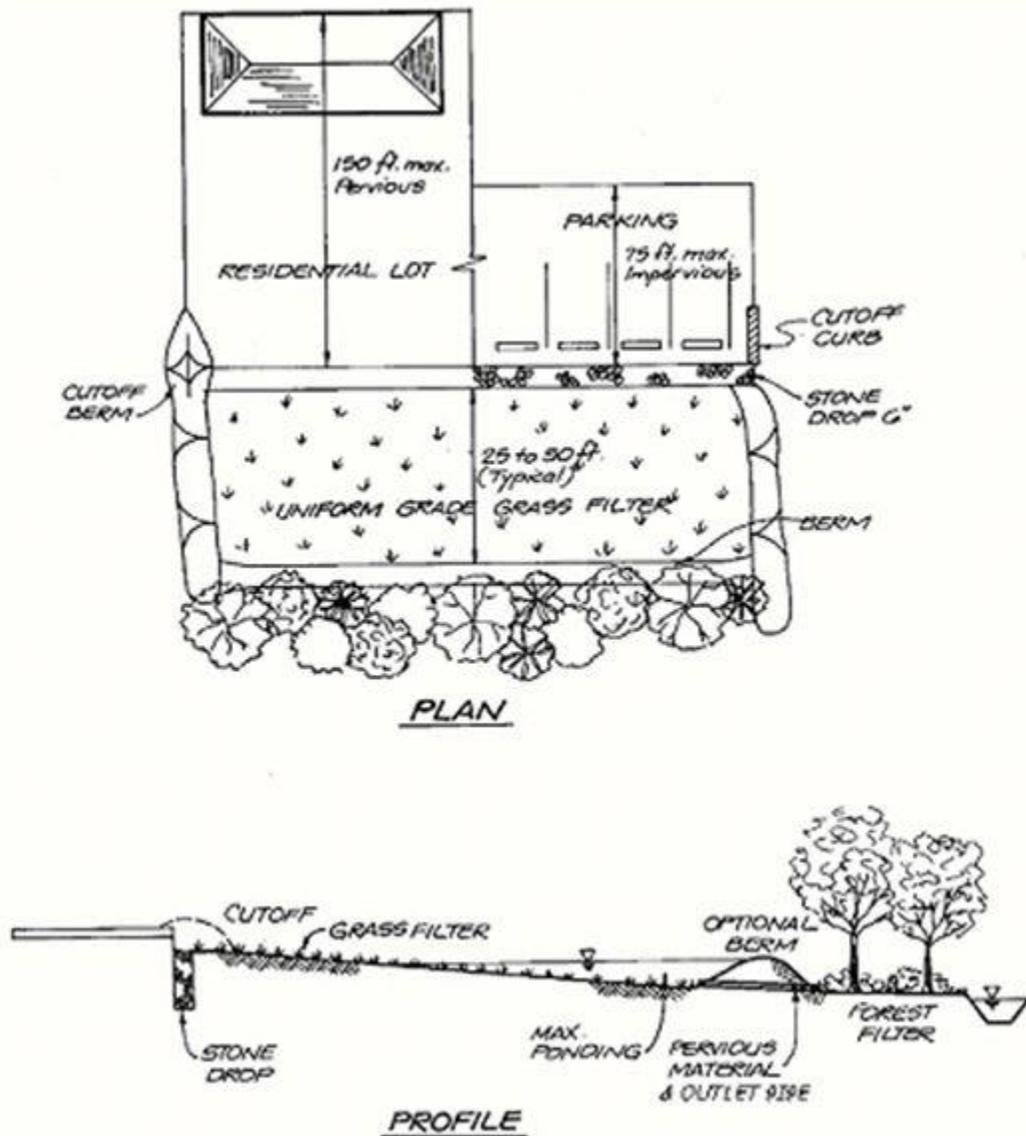


Figure 16. Filter strip detail. (Source: GSWMM, 2001)

### Limitations

If not planned properly, the land requirements of filter strips can be a problem in some developments.

If the filter strip does not have a uniform grade, runoff will concentrate and could cause erosion in the filter strip.

### Inspection and Maintenance

Filter strips should be inspected periodically to ensure that the filter strip is working properly and that no erosion is taking place. The strip should be mowed to height of 4 to 6 inches as required.

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### INLET FLOATABLE INTERCEPTORS

#### **Description**

Trash, debris, and lawn wastes are picked up by storm water and carried to local streams causing unsightly conditions and pollution of the stream.

*Inlet Floatable Interceptors* are placed in curb or drop inlets to screen the floatables out of the runoff.

#### **Applicability**

Curb inlets and drop inlets that are subject to excess trash and debris.

#### **Design and Sizing**

Inlet floatable interceptors are manufactured BMPs that fit into curb inlets or drop inlets. The inserts should be purchased, installed, and maintained according to the manufacturer's recommendations.

#### **Limitations**

Inlet floatable interceptors are very high maintenance BMPs. Debris that is collected from one storm can dry between storms and be re-suspended during the next storm. Increased public education on proper disposal of trash might provide better results.

#### **Inspection and Maintenance**

Inlet floatable interceptors should be inspected at least weekly and after every ½" or greater rain and any accumulated debris removed.

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### OIL-SEDIMENT SEPARATORS

#### Description

Runoff from filling stations, vehicle service areas, and truck parking lots typically have large concentrations of hydrocarbons (oil, grease, fuel) and other vehicle fluids.

*Oil-Sediment Separators* are used in these hot spots to remove the hydrocarbons from the storm water prior to discharge to the storm water system.

#### Applicability

Any high use area that has the potential for large amounts of sediment and/or hydrocarbons in the runoff.

#### Design and Sizing

Individual oil-sediment separators are appropriate for drainage areas of one acre or less and should be sized to provide a detention volume of 400 cubic feet/acre of drainage area. The detention volume is the volume of water behind the last overflow weir as shown in the detail below. The minimum depth of water in the detention volume should be three feet. Sediment will be removed in the first chamber and oil and floating debris will be trapped in the first and second chambers; therefore, adequate volume must be provided for storage of these pollutants based upon the runoff source and the prescribed maintenance schedule.

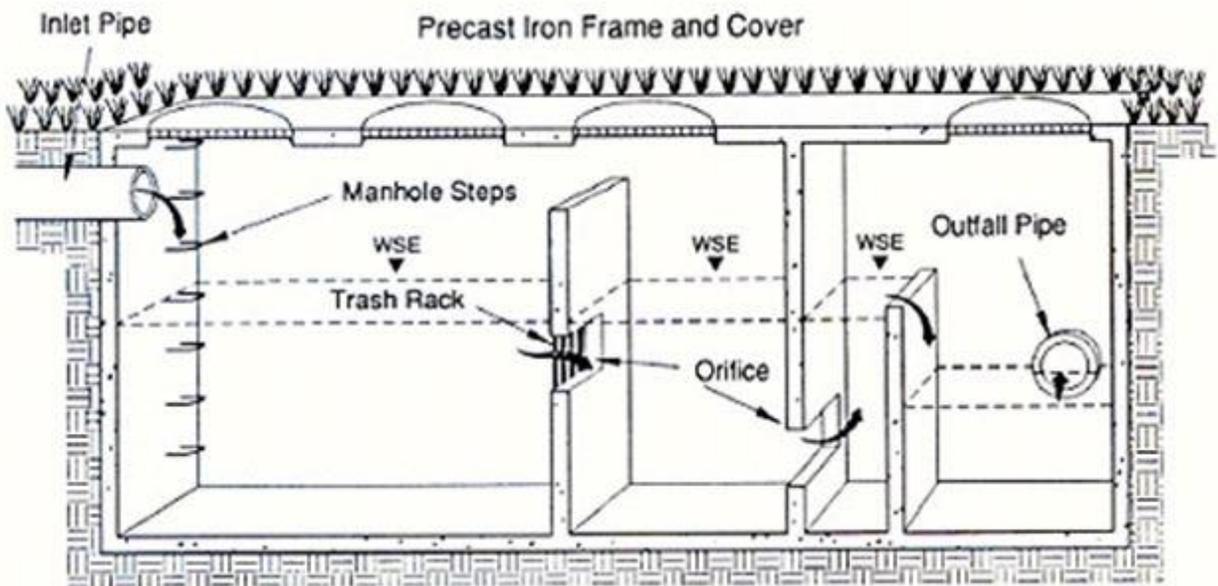


Figure 17. Oil-sediment separator vault detail. (Source GSVMM, 2001)

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### **Limitations**

If oil and sediment are not removed regularly, oil-sediment separators will not function properly

### **Inspection and Maintenance**

The separator should be inspected monthly for buildup of sediment, oil, and floatables and removed as required.

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### INFILTRATION TRENCH

#### Description

Pollutants and sediment in runoff from developed areas cause pollution in local streams.

*Infiltration Trenches* are structural BMPs that take the first flush of rainfall and provide for decreased peak runoff flowrates and removal of pollutants from

#### Applicability

Infiltration trenches are appropriate BMPs for residential and light commercial areas. The runoff should not have large amounts of sediment.

#### Design Criteria

Infiltration trenches can be used for drainage areas of five acres or less and should only be constructed in areas with soils that have an infiltration rate of 0.5 inches per hour or greater. Infiltration trenches should be only be placed in areas that the bottom of the trench will be a minimum of three feet above the season high water table. The trench should be designed such that the voids in the trench will hold  $\frac{1}{2}$  inch of rainfall from the drainage area. The trench should only be filled with uniform aggregate of 2 inch or 3 inch diameter. The trench should have a grass filter strip on the upstream side to remove sediment and prolong the useful life of the trench. An observation well must be provided to allow inspection of the trench and determine if the trench is draining properly. The detail below is a typical layout of an infiltration trench.

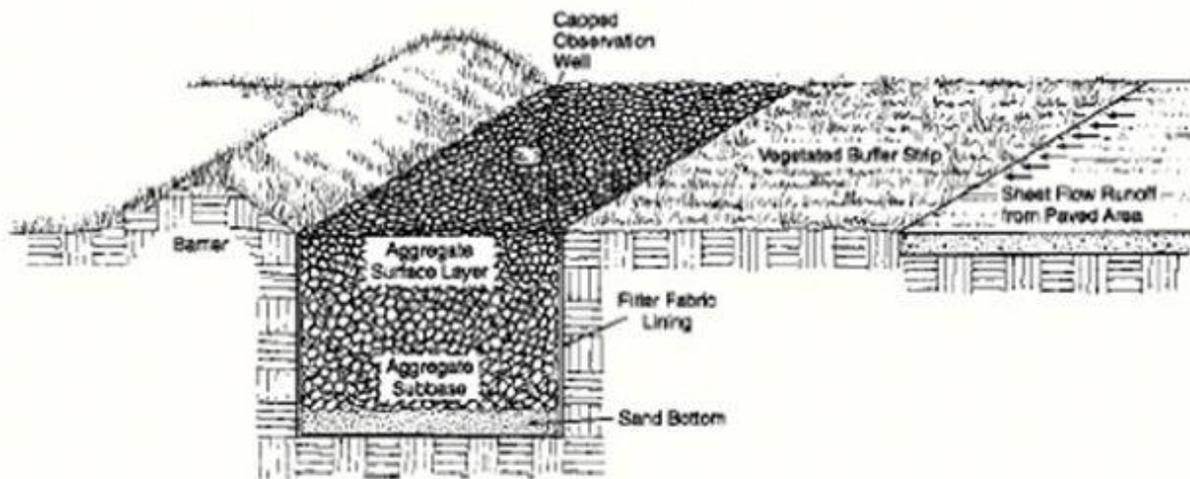


Figure 18. Infiltration trench detail. (Source: GSWMM, 2001)

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### **Limitations**

Runoff with excessive sediment will plug the pore space in the trench and decrease the useful life of the trench; therefore, infiltration trenches should only be used for runoff that will not carry large amounts of sediment.

### **Inspection and Maintenance**

The trench and drainage area should be inspected monthly and after any rainfall event to ensure that both are free of debris and sediment build up. The observation well should be checked four times a year to determine if the captured water is draining within three days after the rainfall stops. If the trench is not working properly, the rock media and filter fabric must be removed, the trench walls must be scarified to expose new soil, and the filter fabric and trench rock media replaced.

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### POROUS PAVEMENT

#### Description

Runoff from paved areas often carries pollutants from vehicles (e.g. oil, brake fluid, antifreeze) that are carried to the local streams. Excessive runoff from parking lots causes erosion and stream bank erosion.

Porous pavement is a stormwater management practice that allows runoff to infiltrate into and through the pavement, which decreases the amount of the runoff from the pavement and for treatment of the pollutants.

#### Applicability

Porous pavement is best suited for low traffic or overflow parking lots on soils with adequate infiltration capacity.

#### Design Criteria

Porous pavement should only be used in low traffic or overflow parking lots that will not receive large amounts of sediment from vehicles. The pavement structure should be constructed according to the detail in Figure 19 and must be placed on soils with a minimum infiltration capacity of one inch per hour. The stone reservoir should have a capacity of holding one inch of rainfall in the voids of the stones. The pavement should be placed at least three feet above the seasonal high water table.

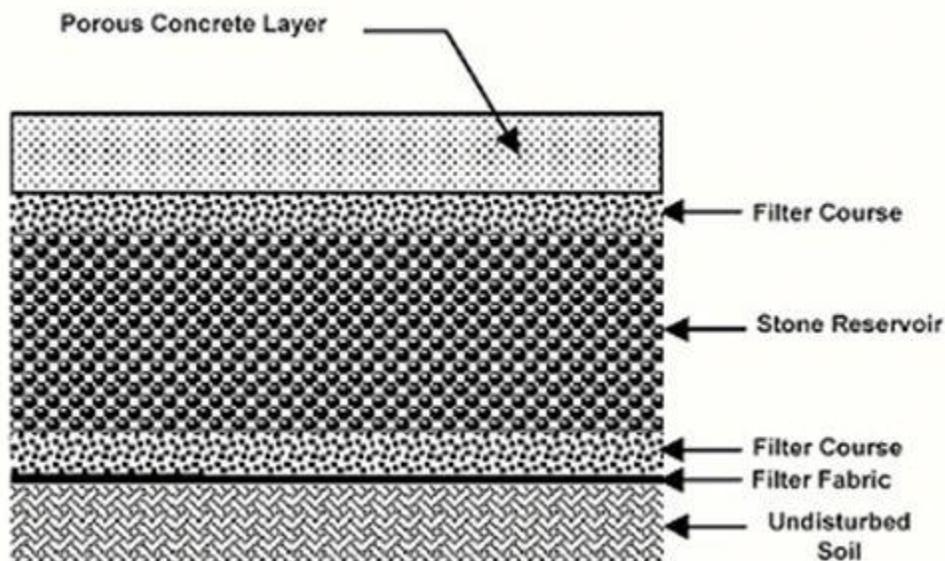


Figure 19. Porous pavement detail. (Source: GSWMM, 2001)

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### **Limitations**

Failure of porous pavement is typically do to excessive sediment build up on the pavement surface from either too much sediment being tracked onto the pavement or from inadequate cleaning of the pavement.

Porous pavement should not be used in areas that require sanding during icy conditions.

### **Inspection and Maintenance**

The pavement should be inspected and vacuum swept monthly or more frequently as required to keep the pavement clean. Sediment buildup should be removed after ever storm. The pavement should not be resurfaced with non-porous pavement.

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### UNDERGROUND DETENTION VAULT

#### Description

In high density development areas, dry basins and wet basins may take too much land space that is needed for development.

*Underground Detention Vaults* provide are a structural BMP that provides for peak flow attenuation and reduction without taking up valuable surface area.

#### Application

Ultra-urban or high density developments where land space is not available for surface detention basins.

#### Design Criteria

Underground detention systems are sized to temporarily store the volume of runoff required to reduce the post-development peak flow of the 25-year storm event to the pre-development rate. Due to the storage volume required, underground detention vaults and tanks are typically not used to control the 100-year storm except for very small drainage areas (<1 acre). Routing calculations must be used to demonstrate that the storage volume is adequate.

Underground detention tanks and vaults must meet structural requirements for overburden support and traffic loading if appropriate. The minimum pipe diameter for underground detention tanks is 36 inches. Underground detention vaults must be constructed with a minimum of 3,000 psi structural reinforced concrete and all construction joints must be provided with water stops. Cast-in-place wall sections must be designed as retaining walls. The maximum depth from finished grade to the vault invert should be 20 feet. Underground vaults should be designed according to the detail shown below.

Adequate maintenance access must be provided for all underground detention systems. Access must be provided over the inlet pipe and outflow structure. Access openings can consist of a standard frame, grate and solid cover, or a removable panel. Vaults with widths of 10 feet or less should have removable lids.

A separate sediment sump or vault chamber sized to 0.1 inches per impervious acre of contributing drainage should be provided at the inlet for underground detention systems.

Outlet orifices or weirs should be designed to match the pre-development flowrates of the frequencies of storms as required by local regulations.

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

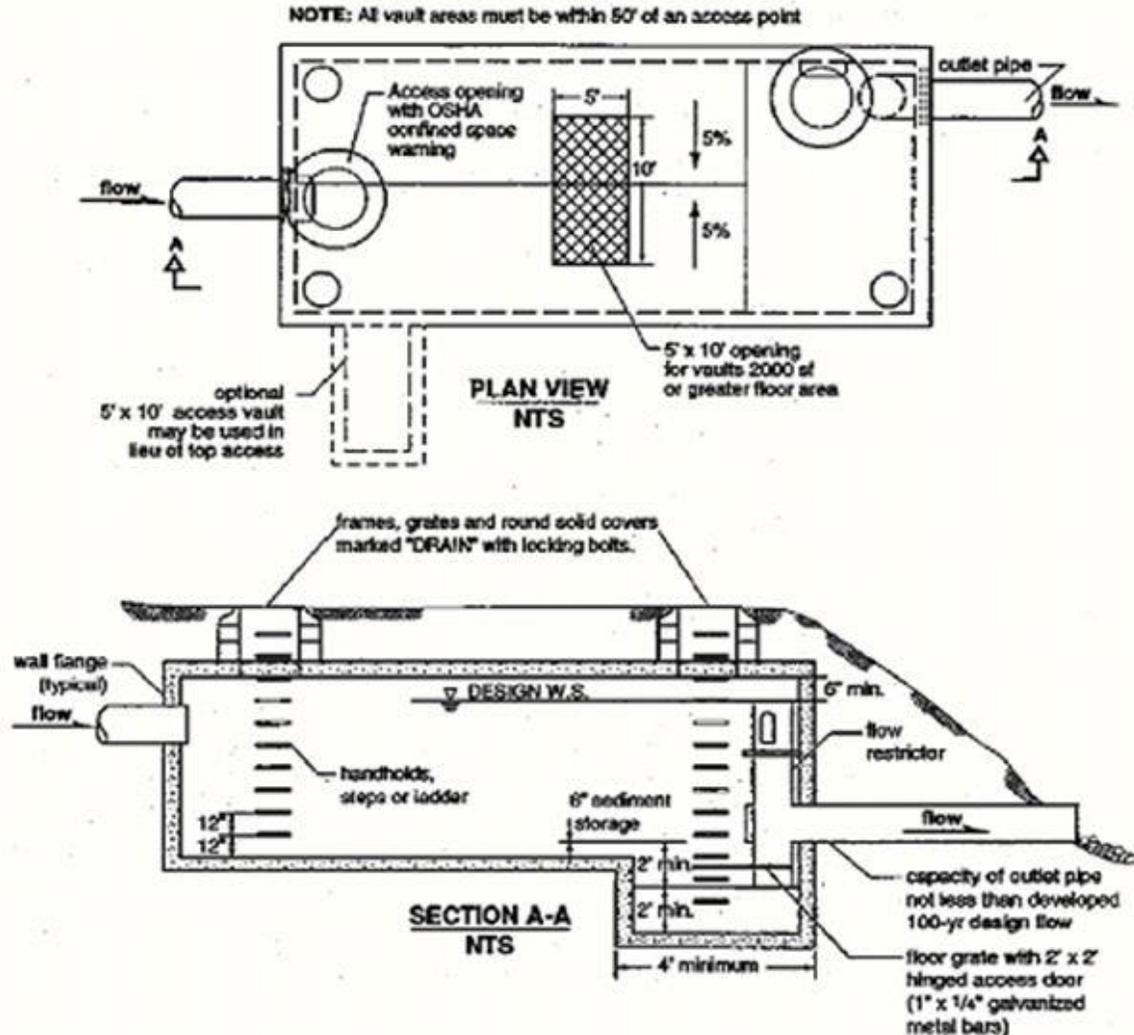


Figure 20. Underground detention vault detail. (Source: WDE, 2000)

### Limitations

Underground detention vaults are not typically designed to remove pollutants. Extra construction costs and maintenance costs make utilization of underground detention vaults prohibitively expensive except where land costs make them affordable. Runoff should go through a pollutant removal BMP prior to the underground vault.

### Inspection and Maintenance

The inlet to the vault should be inspected and trash or sediment removed. Quarterly the vault or tank should be inspected for buildup of sediment and trash, which should be removed as required.

## APPENDIX D – STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

### SEDIMENT CONTROL BMPs

#### Embedded Silt Fence

##### Description

Water flowing in sheet or shallow flow will carry sediment down a slope and off-site.

*Embedded Silt Fence* (ESF) is a barrier made of geotextile fabric placed along a contour to capture water, slow the flowrate, trap sediment, and allow water to filter through the fabric.

##### Applications

Small drainage areas with sheet flow or shallow flow.

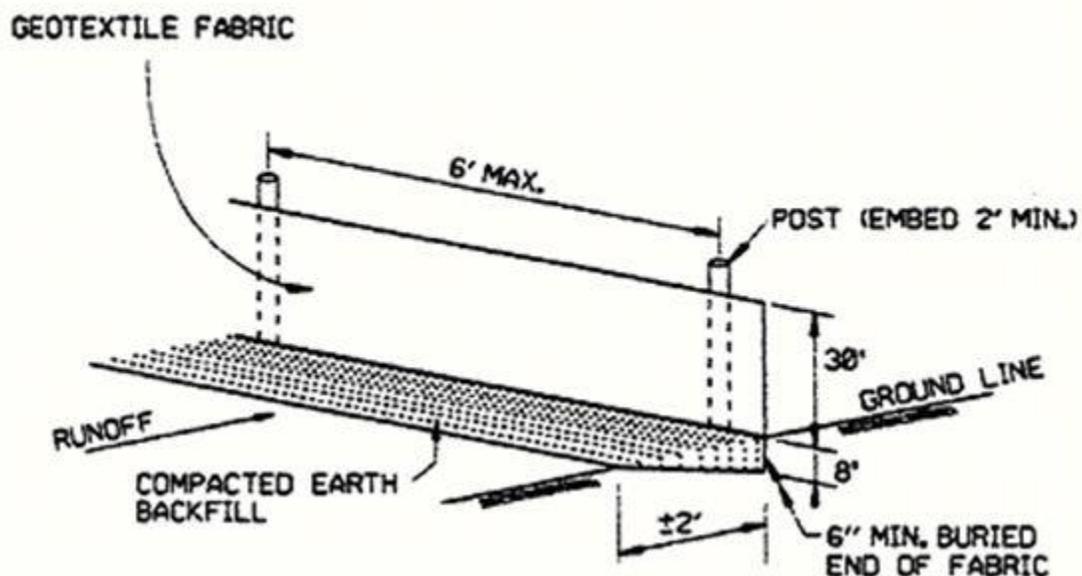
##### Design Criteria

Embedded silt fences should be placed on a contour and designed to hold runoff from the 10-year storm from an area of 100 sq. ft. for each foot of fence. The maximum depth of retained water on the upstream side of the fence should be two feet. The maximum slope length above the fence should be no more than 100 feet. The maximum slope above the fence is 1:1.

The fabric shall be buried in a trench that is at least eight inch deep and eight inches wide as shown below. The fabric shall be place on the upstream side of the posts.

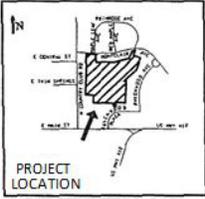
Post shall be made of metal (T-post) or wood (2"x2") and placed no more than six feet apart.

Figure 21. Embedded silt fence



**APPENDIX E – PUBLIC NOTICE SIGN TEMPLATE**

4'

<b>Name of Subdivision Proposal</b>	
Public Hearing Date: Month/Day/Year	
 <p>PROJECT LOCATION VICINITY MAP</p>	<b>Owner/Developer</b> Description of Project Example: 40 Lots of Single Family Dwellings
Benton County-	Dept. (479) 271-1003

2'

## APPENDIX F - SIGHT DISTANCE BY DESIGN SPEED FOR SUBDIVISION STREETS

	<b>Primary Street TYPE 1</b> (Residential Collector)	<b>Secondary Residential Street TYPE 2</b> (Urban)	<b>Secondary Residential Street TYPE 3</b> (Local/Suburban)	<b>Secondary Residential Street TYPE 4</b> (Local/Rural)	<b>Secondary Residential Private TYPE 5</b>	<b>Commercial Subdivision TYPE 6</b>
Residential Densities <sup>1</sup>	NA	>1.0 d.u./acre	0.5-1.0 d.u./acre	< 0.5 d.u./acre	< 0.33 d.u./acre	NA
Status/Sign	Public ROW Green	Public Easement Blue	Public Easement Blue	Public Easement Blue	Private ROW White	Public Easement Blue
Maintenance	County Full	County Limited	County Limited	County Limited	Private	County Limited
Typical ADT	1500<400	400<0	400<0	400<0	100<0	400<0
Right-of-Way (ft.)	50	40	40	36	33	60
Width of Pavement (ft.)	22	28	20	18	12-16 <sup>2</sup>	32
Lane Width (ft.)	11	9	10	9	8	11
Traffic Lanes	2	2	2	2	2	2
Surface Type <sup>3</sup>	CC/AC	CC/AC	CC/AC	DCS	DCS/G	CC/AC
Crown (in.)	6	5	5	4	4	5
Curb and Gutter	No	Yes	Yes	No	No	Yes
Shoulder Width (ft.)	4	---	---	2	2	
Shoulder Type	Improved Gravel or Crushed Stone	---	---	Improved Gravel or Crushed Stone	Improved Gravel or Crushed Stone	---
Design Speed (mph)	25-35	20	20	20	15	25-35
Min. Sight Distance Crest Vertical Curve (ft.)	300	200	200	200	110	300
Grade (min./max.) <sup>4</sup>	0.5/10	0.5/10	0.5/10	0.5/10	0.5/10	0.5/6
On-Street Parking	No	Yes	No	No	No	Yes
Roadside Width	5.5 to 12	5.5-10	5.5 to 10	5.5	5.5	12

<sup>1</sup> Street type based on residential design density where dwelling units per acre (d.u./acre) determine said density

<sup>2</sup> Based on terrain.

<sup>3</sup> The surface type shall be chosen by the County Judge. Street construction specifications shall be in accordance with the County Road Plan as amended. Note that CC refers to cement concrete, AC refers to asphaltic concrete, and DCS means double chip and seal

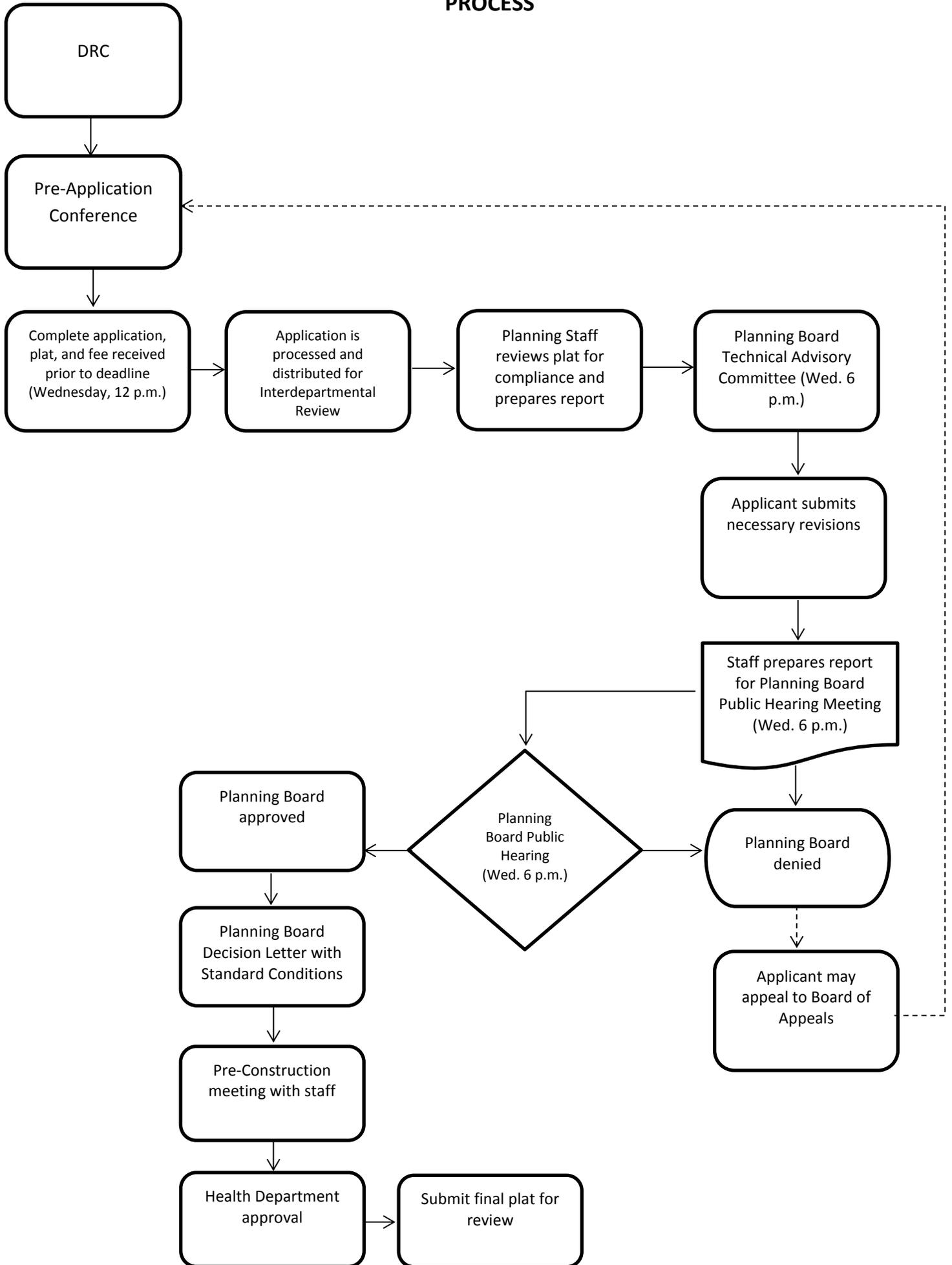
<sup>4</sup> Up to a 15% grade may be allowed by variance for distances up to 300' with possible CC surfacing and curbs and gutters

## APPENDIX F - SIGHT DISTANCE BY DESIGN SPEED FOR SUBDIVISION STREETS

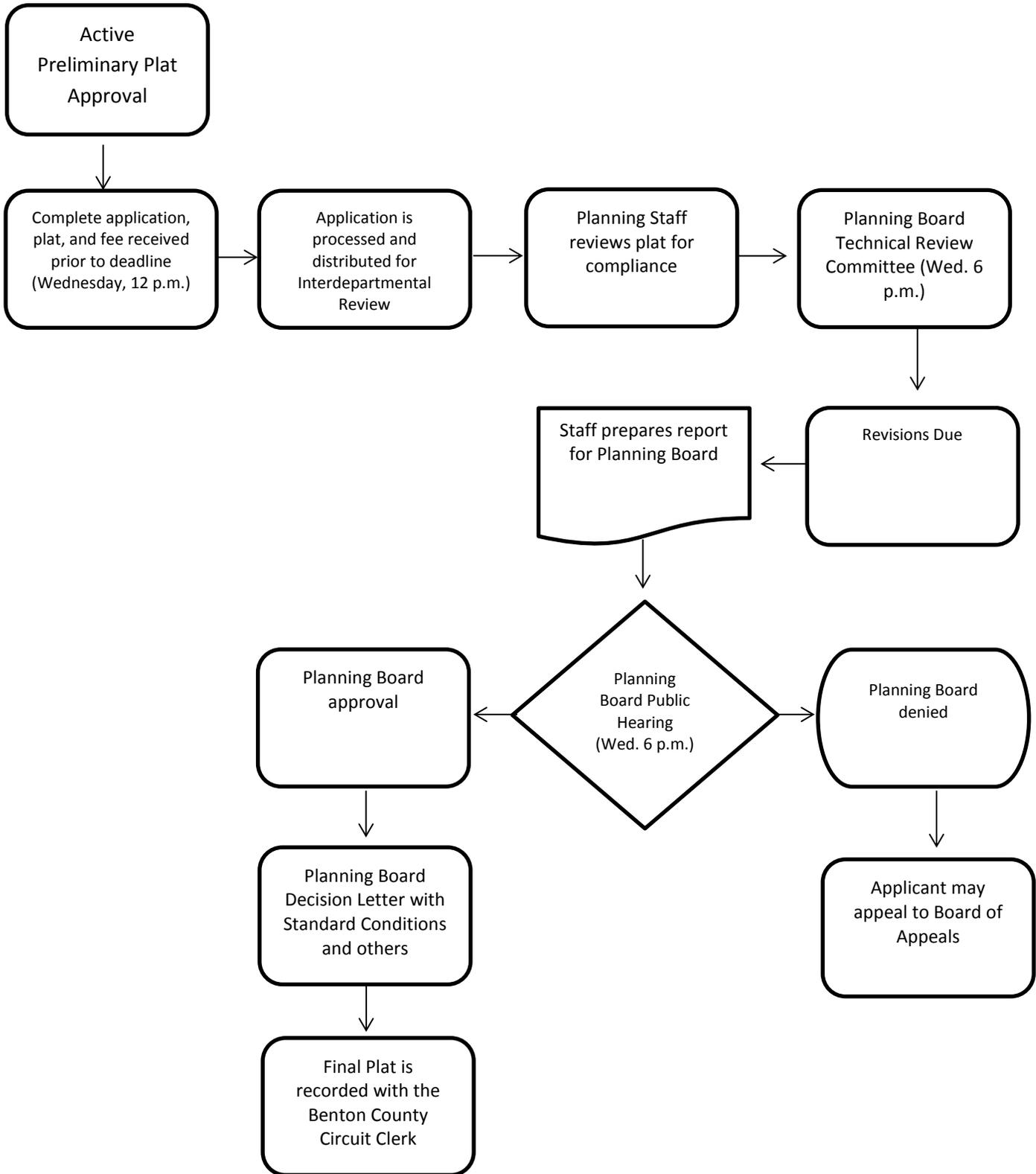
	<b>Primary Street TYPE 1</b> (Residential Collector)	<b>Secondary Residential Street TYPE 2</b> (Urban)	<b>Secondary Residential Street TYPE 3</b> (Local/Suburban)	<b>Secondary Residential Street TYPE 4</b> (Local/Rural)	<b>Secondary Residential Private TYPE 5</b>	<b>Commercial Subdivision TYPE 6</b>
(ft.) <sup>5</sup>						
Tree Lawn/Planting Strip	0-6	0-6	0/6	0-6	None	0/6
Sidewalk (No. and widths)	2 x 5'	2 x 5'	1 x 5'	No	No	1 x 5'
Street Lighting	At intersections and pedestrian scale lighting at driveways	At intersections and pedestrian scale lighting at driveways	At intersections and pedestrian scale lighting at driveways	At intersections	At intersections	At intersections and pedestrian scale lighting at driveways
Traffic Control	Stop Signs 4-Way Yield	4-Way Yield	4-Way Yield	4-Way Yield	4-Way Yield	4-Way Yield
Curb Radii (ft.)	15-25	15-25	15-25	15-25	15	15-25

<sup>5</sup> Includes pedestrian or bicycle facilities, drainage swale, planting strip

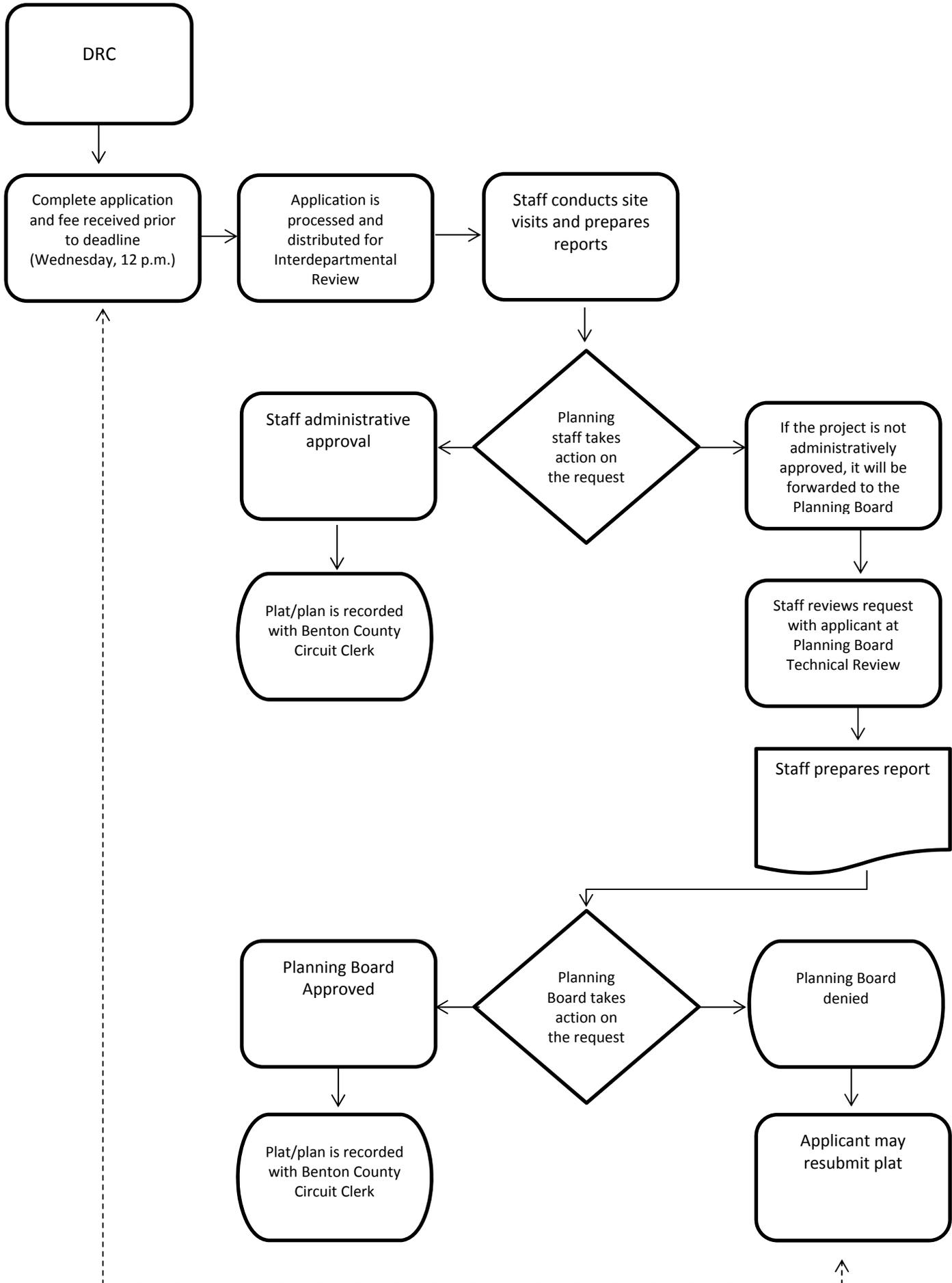
# APPENDIX G - PRELIMINARY PLAT REVISION & APPROVAL PROCESS



# APPENDIX H - FINAL PLAT REVISION & APPROVAL PROCESS



# APPENDIX I - ADMINISTRATIVE APPROVAL PROCESS



## APPENDIX J – SITE PLAN REVIEW & APPROVAL PROCESS

