

# Montgomery County Board of Commissioners

## Ordinance 2020-45

### **An Ordinance Adopting Text Amendment to Subdivision Control Ordinance**

**Whereas**, on October 28, 2020, the Montgomery County Plan Commission approved a favorable recommendation for text amendments to the Montgomery County Subdivision Control Ordinance (Chapter 152 of County Code), specifically an amendment which would add proposed Street Standards as Appendix A to the Subdivision Control Ordinance; and

**Whereas**, the Plan Commission certified its recommendation to the Montgomery County Board of Commissioners (the “Board”), and the Board published notice that it would consider the proposed text amendment; and

**Whereas**, the proposed text amendment would make changes to the Subdivision Control Ordinance which are necessary to establish specific standards for roads and streets so that developers can design their subdivision roads and streets to be compliant with the County’s requirements; and

**Whereas**, because this text amendment received a favorable recommendation from the Plan Commission, the Board must either adopt, reject, or amend the proposed text amendment to the Subdivision Control Ordinance; and

**Whereas**, the Commissioners, having conducted a public hearing on the proposed text amendments on November 23, 2020 and considered the recommendation of the Plan Commission, public comments and written correspondence from citizens regarding the proposed text amendments to the Subdivision Control Ordinance, now find as follows:

1. The proposed text amendments to the Subdivision Control Ordinance are consistent with the Comprehensive Plan in that they promote orderly and harmonious development and provide for the design and construction of roads and streets in subdivisions which are consistent with County standards;

2. The proposed text amendments to the Subdivision Control Ordinance pay reasonable regard to current conditions and the character of current structures and uses in each district by providing uniform standards for design and construction of roads and streets in subdivisions in the County;

3. The proposed text amendments to the Subdivision Control Ordinance pay reasonable regard to the most desirable use for which land in each district is adapted by providing for uniform standards for roads and street in subdivisions which will lead to harmonious development;

4. The proposed text amendments to the Subdivision Control Ordinance promote the conservation of property values throughout the unincorporated areas of the County by establishing uniform standards for roads and streets which will increase the value of land as it is developed; and

5. The proposed text amendments to the Subdivision Control Ordinance promote responsible development and growth by requiring development to occur with enhanced standards.

**Whereas**, the Commissioners also find that the proposed text amendments to the Subdivision Control Ordinance should be adopted and incorporated into the County Subdivision Control Ordinance; and

**Whereas**, the Auditor will record this ordinance and the text amendments to the Subdivision Control Ordinance in the Office of the Recorder and publish notice of adoption of this ordinance.

**IT IS, THEREFORE ORDAINED** that the proposed text amendments to the Subdivision Control Ordinance, which are attached as Exhibit A, are hereby adopted and hereby incorporated into the Subdivision Control Ordinance and made part of Chapter 152 of the Montgomery County Code as new Appendix A.

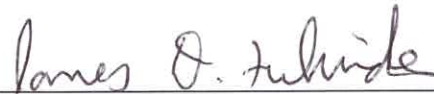
**IT IS FURTHER ORDAINED** that the Auditor will record this ordinance in the Office of the Recorder of Montgomery County and publish notice of the adoption of this ordinance.

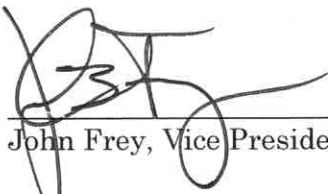
**IT IS FURTHER ORDAINED** that the text amendments to the Subdivision Control Ordinance will become effective on January 1, 2021.

**IT IS FURTHER ORDAINED** that any other provision of the County Code which is not specifically amended by this ordinance shall remain in full force and effect.

Adopted this 23rd day of November, 2020.

**Montgomery County Board of Commissioners:**

  
\_\_\_\_\_  
James D. Fulwider, President

  
\_\_\_\_\_  
John Frey, Vice President

  
\_\_\_\_\_  
Dan Guard, Member

Attest:

  
~~Jennifer Andel, Auditor~~ Mindy Byers, Chief Deputy Auditor

This ordinance was prepared by Daniel L. Taylor, Attorney-at-Law, Taylor, Chadd, Minnette, Schneider & Clutter, P.C., 105 North Washington Street, Crawfordsville, Indiana 47933. Telephone 765-361-9680.

I affirm under penalties for perjury that I have taken reasonable care to redact each social security number in this document, unless required by law.

Daniel L. Taylor

# **APPENDIX A**

## **MONTGOMERY COUNTY ROAD AND STREET DESIGN STANDARDS**

**Adopted November 23, 2020**

**Effective January 1, 2021**

# Street Design Standards and Street Improvements

## Conformance with Regulations

The arrangement, character, extent, width, grade, and location of all streets shall conform to all of the elements of these regulations. Indiana Department of Transportation Standard Specification Montgomery County Standards dated 12/06/2000 shall be used for all improvements.

## Street Classifications

Street classifications are as follows:

1. Minor Arterial
2. Major Collector
3. Minor Collector
4. Local Roads
5. Cul-de-sac

## Design Standards

Street designs shall adhere to the following design standards:

1. AASHTO Standards -- Current AASHTO Standards shall be followed as minimum design requirements unless otherwise specified in this Ordinance.
2. Conformance with Plans -- All streets shall be planned to conform to the Comprehensive Plan and the Montgomery County Thoroughfare Plan.
3. Protection of Property -- Whenever a subdivision abuts or contains an existing or proposed major street, the Plan Commission may require frontage roads, screening of double frontage lots, a "non-access" easement along the property lines, deep lots, or such other treatment as may be necessary for adequate protection of residential properties and to afford separation of through and local traffic. In those instances, where a non-access easement is proposed along a state or federal highway, this easement shall be granted specifically to Indiana Department of Transportation.
4. Connecting Street Pattern -- In order to provide a functional County street system, the Plan Commission may require an owner to construct a street pattern that provides connections to adjoining developed and vacant undeveloped properties. The coordination of streets from one (1) subdivision to another is essential to the county in order to provide a continuation of not only vehicular access, but also for transportation and distribution lines for most utilities, such as water, sewer, gas, electricity and telephone systems.
5. Access to Vacant Land -- The Plan Commission may waive the requirement of constructing an access street to vacant land. In these cases, the owner shall be required to dedicate the necessary right-of-way, but the person who develops the adjoining vacant property will be required to construct the street. The Plan Commission shall determine at the primary hearing, the need and location of these access streets.

6. Continuation of Streets -- All streets, including those proposed to provide the continuation of streets to adjacent property, shall be constructed to the boundary lines of the subdivision and in accordance with the standards of this ordinance. If a subdivision is approved contiguous to existing right-of-way dedicated for a continuing street, but the street has not been constructed, the owner of the new subdivision must construct the entire street including the portion that is not contained within the owner's project.

7. Street to Match Plan -- A proposed street, matching the Thoroughfare Plan standards, or at a minimum classified as a local road, shall provide for the continuation of existing, planned or platted streets on adjacent property.

8. Street Parallel to Railroad or Roads -- Where a subdivision borders on or contains a railroad right-of-way, limited access highway right-of-way, arterial or collector street, the Plan Commission may require a street approximately parallel to and on each side of such right-of-way at a distance suitable for the appropriate use of the intervening land. Such distances shall also be determined with due regard for the requirements of the approach grade of any future grade separation structure.

9. Dead End Streets -- A dead end street shall not be permitted except where a street is proposed to be and should logically be extended but is not yet constructed. A temporary cul-de-sac shall be constructed for any dead-end street that exceeds three hundred (300) feet in length from the nearest intersection. Drainage details for the temporary cul-de-sac shall be specified by the applicant and approved by the Plan Commission. A dead-end street that does not require a temporary cul-de-sac shall have adequate drainage provisions as approved by the Plan Commission.

10. Stub Streets -- Where, in the opinion of the Plan Commission, street connection to adjoining property is appropriate, proposed streets shall be extended to the boundary of the development for connection to existing streets on the boundary of adjoining property or for future connection. Stub streets shall be placed at intervals of one thousand (1000) feet.

11. Temporary Cul-de-Sacs -- A temporary cul-de-sac shall have an easement radius of not less than fifty (50) feet and shall have a driving surface radius of not less than forty (40) feet. The cross section of a temporary cul-de-sac shall be at least nine (9) inches of compacted #53 aggregate over a compacted sub-base. If it is anticipated that the temporary cul-de-sac will be required for longer than three (3) years, additional two- (2) inches of asphalt intermediate shall be required. Any temporary cul-de-sac still with a stone surface at the end of the maintenance period must be paved with two (2) inches of asphalt intermediate prior to release of the maintenance guarantee.

12. Permanent Cul-de-Sacs -- Permanent cul-de-sacs shall not provide access to more than 25% of all lots in the subdivision, and no cul-de-sac shall serve more than twenty (20) lots. Cul-de-Sacs shall not be used to avoid connection with an existing street, to avoid extension of a collector or arterial street, or to avoid connection to adjoining property.

13. Access Easement -- An easement providing access to a street shall be prohibited except where it serves no more than three lots, and the Plan Commission finds that the plans for its control and maintenance is clearly defined.

14. Right-of-Way Width -- The street right-of-way width shall be in accordance with the Thoroughfare Plan right-of-way widths:

- a. Minor Arterial – 85'
- b. Major Collector – 70'
- c. Minor Collector – 60'
- d. Local Road – 50'
- e. Subdivision Road – 50'
- f. Cul-de-sac – 55' radius

15. Paving Width -- The paved width of all streets shall be adequate to serve the existing and future estimated traffic load for the development.

a. A new local road or subdivision road widths shall be in accordance with Table 5.2 Typical Roadway Standards of the Montgomery County Thoroughfare Plan. The Plan Commission shall have the authority to increase/decrease the right of way widths.

b. A cul-de-sac shall be paved to a diameter of ninety feet (90') measured at the asphalt pavement edge excluding concrete curb or stone shoulders.

c. A new local road or subdivision road shall be paved in accordance with the Montgomery County Standards dated 12/06/2000. Where a proposed street is an extension of an existing paved street that exceeds the minimum dimension set forth above, the Plan Commission shall require the owner to match the width of the existing paved street.

16. Minimize Through Traffic -- Proposed local, subdivision, or cul-de-sac streets shall be designed to minimize through traffic movement, which is to be limited to collector streets.

17. Acceptable Limits -- Acceptable limits for visibility, curvature, and maximum grade depend on topography, functional classification, anticipated traffic volumes, number and nature of access points, etc. Road design specifications shall be based on AASHTO guidelines and sound engineering judgment. The County Engineer must approve the design speeds selected for each project.

18. Street Grade -- A proposed street shall be adjusted to the contour of the land so as to provide usable lots grades & driveway slopes and a reasonable street grade. The maximum allowable street grade shall not exceed five (5) percent. The minimum allowable street grade shall not be less than five-tenths (0.5) percent.

19. Intersection Sight Distance -- The values for intersection sight distance shall be used at all intersections, both for new and existing intersections. No new features such as signs, embankments, walls, or landscaping, shall be constructed which reduces the sight distance below the intersection sight distance.



20. Decision Sight Distance -- Where unusual or complex situations exist, decision sight distance (per AASHTO Standards) may be required by the County Engineer to provide an added margin of safety.

21. Reverse Curves -- A reverse curve on a major street shall have a straight tangent between elements of said reverse curve of not less than one hundred (100) feet.

22. Additional Requirements -- The sections above deal with minimum requirements. Individual projects, particularly commercial and industrial subdivisions, may warrant additional requirements dictated by sound engineering design. Such additional requirements must be specified by the Plan Commission as a condition of approval.

23. Safety Concerns -- The Plan Commission may deny the proposed location of an access road from a proposed development onto an existing or proposed county road, due to safety concerns.

24. Improvements Required -- If, in the sole opinion of the Plan Commission, the proposed access road presents a potential hazard to the motoring public, the applicant may be required to make improvements to an existing or proposed county road as a condition of allowing access. These improvements may include, but are not limited to deceleration or acceleration lanes, passing blisters or other improvements.

a. Criteria -- Improvements shall be required based on the following criteria:

- I. Sight distance;
- II. Number of lots;
- III. Proposed use;
- IV. Street classification;
- V. Traffic generation;
- VI. Existing or proposed conditions; and
- VII. Sound engineering design.

b. Intersections -- As a minimum requirement, at an intersection of a subdivision street, commercial or industrial drive with an existing street or road, the developer shall install deceleration, acceleration, and passing lanes along the existing roadway in accordance with the geometry delineated in the Indiana Department of Transportation Driveway Permit Manual Version 1.1 dated August 2018.

c. Construction -- All roadwork involving the construction of passing blisters and/or accel/decal lanes shall require a one-inch (1") overlay of bituminous surface which shall extend across the full width of the existing roadway as well as the new features. Limits of this work shall be the extreme ends of the tapers and/or blister. Butt joints shall be milled at the ends of the work to ensure a smooth transition. The pavement section shall be installed in accordance with the Montgomery County Standards.

25. Number of Access Roads -- The minimum number of access roads required into a subdivision will be based upon the number of lots. For residential subdivision access with 50 or less lots one public entrance shall be required. For residential subdivision access with 51 or greater lots two public entrance shall be required. These are minimum recommendations, and the Plan Commission may require additional access. All access points required by the

number of lots in that phase must be provided for in that phase, or in a previous phase, and not delayed to a future phase.

26. Cul-de-Sac Length -- A cul-de-sac street shall not exceed six hundred feet in length measured from the centerline of the nearest intersection to the center of the cul-de-sac.

27. Half Streets -- Dedication of new half streets shall be prohibited. Where a dedicated or platted half street is adjacent to a tract being subdivided, the other half of said half-street shall be platted and constructed.

28. Additional Right-of-Way for Existing Streets -- The applicant shall dedicate additional right-of-way width as required to meet these regulations when the subdivision adjoins or includes an existing street that does not conform to the minimum right-of-way dimension as established by the Comprehensive Plan and the Montgomery County Thoroughfare Plan.

29. Blocks -- Block lengths in residential areas shall be two lots deep and shall not exceed eight hundred (800) feet in length, nor be less than three hundred (300) feet in length, with length measured centerline of street to centerline of street. Pedestrian ways shall be required through the middle of blocks that are more than eight hundred (800) feet long, or at other appropriate locations, as deemed necessary by the Plan Commission. In determining whether pedestrian ways are required, the Plan Commission shall consider methods of maintaining such ways, and the usefulness in providing access to any common open space, water areas, recreational areas, schools, churches, and other surrounding uses.

30. Cul-de-Sac Islands -- No fence, wall, sign, hedge, tree or shrub planting, or other similar item which obstructs sight lines and elevations between two (2) and eight (8) feet above the street shall be placed within any cul-de-sac island.

31. Traffic Calming -- It is a goal of Montgomery County to create residential streets that are safe and contribute to the quality of life within the neighborhoods. This Ordinance encourages street design that accomplishes this goal by the use of street hierarchy, geometric standards, and good engineering practices. When utilized appropriately, responsible street design does not need extraneous or additional "traffic calming" features. However, if deemed necessary, such traffic calming features will be designed and located according to standard recommended practices and must be approved by the County Engineer.

32. Maximum Ponding Depth -- Maximum ponding depth shall be six (6) inches at the crown of the roadway for a 100-year storm event.

33. Horizontal centerline curve radius shall meet or exceed 1990 AASHTO Standards and shall correspond to the following design speeds:

- a. Subdivision Roads shall have a design speed of 30 mph and require a 150-foot minimum centerline radius.
- b. Local Roads, Minor and Major Collectors shall have a design speed of 40 mph and require a 300-foot minimum centerline radius.
- c. Primary Arterials and Secondary Arterials shall have a design speed of 50 mph and require a 675-foot minimum centerline radius.
- d. Tangent distance between reverse curves shall be 100 feet.

34. Subdivision – the curb/gutter and sidewalk requirements are based upon total number of lots in a subdivision and not based upon each section (phased development). The overall size of the development is required to be shown on the preliminary plat.

## **Intersections**

1. Curb Radii -- Street curbs shall be rounded by radii of sufficient length to permit the smooth flow of traffic, but in no case shall the curb radii be less than twenty-five (25) feet for Local Roads, or forty (40) feet for a Minor Arterial, and Major/Minor Collectors or roads in a commercial or industrial development or roads which intersect with State Roads or State Highways.

1. Street with No Curbs -- Where a proposed street with curbs intersects an existing street without curbs, the curb radius shall be designed so there is a minimum of twelve (12) feet separation between the curb and edge of the existing street pavement. Termination of curb shall be a smooth taper terminating to meet a proposed grade.

2. Separation Between Right-of-Way and Curb -- Street right-of-way at intersections shall be designed to provide a minimum of ten (10) feet separation between the street right-of-way and curb.

3. Angle -- Intersections shall be as nearly at right angles as is possible, and no intersection shall be at an angle of less than seventy-five (75) degrees.

5. Multiple Street Intersections -- Intersection of more than two (2) streets at one point shall not be permitted.

6. Roundabouts -- Roundabout or traffic circles and appropriate signage shall be approved by the County Engineer. Design of roundabouts shall follow guidelines set forth by the Federal Highway Administration.

7. Radii Follow Greater Functional Classification -- When a street of lesser functional classification intersects with a street of greater functional classification the radii arcs at the intersection will comply with the standards for the street of greater functional classification.

8. Straight Street -- There shall be at least one hundred (100) feet of straight street before entering an intersection, unless otherwise approved by the County Engineer.

9. Driveway Separations -- Driveway locations shall conform to the following minimum requirements for separation:

- a. Minor Arterial – 300' Residential Driveway, 600' Non-Residential Driveway
- b. Major Collector – 200' Residential Driveway, 200' Non-Residential Driveway
- c. Minor Collector – 200' Residential Driveway, 200' Non-Residential Driveway
- d. Local Road – 100' Residential Driveway, 100' Non-Residential Driveway
- e. Subdivision Road – 75', with maximum of one per lot

10. Street Separations -- Street intersections shall not be closer than three hundred (300) feet center line to center line for residential and local streets and six hundred (600) feet center

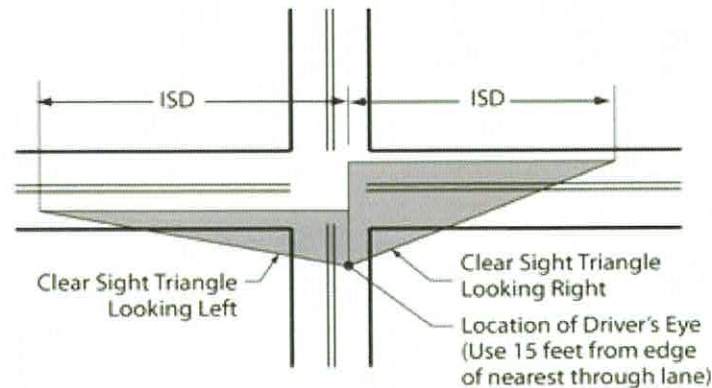
line to center line for collector and arterial streets and must be denoted on the construction plans. This provision does not apply to a frontage road.

11. Pavement Thickness -- When a street of lesser functional classification intersects with a street of greater functional classification, whether new or existing, the pavement thickness of all improvements within the right-of-way of the intersection shall comply with the street requiring the greatest thickness.

## Sight Distance at Intersections

1. Insufficient sight distance can be a contributing factor in intersection traffic crashes. Intersection sight distance is typically defined as the distance a motorist can see approaching vehicles before their line of sight is blocked by an obstruction near the intersection. The driver of a vehicle approaching or departing from a stopped position at an intersection should have an unobstructed view of the intersection, including any traffic control devices, and sufficient lengths along the intersecting roadway to permit the driver to anticipate and avoid potential collisions. Examples of obstructions include crops, hedges, trees, parked vehicles, utility poles, or buildings. In addition, the horizontal and vertical alignment of the roadway approaching the intersection can reduce the sight triangle of vehicles navigating the intersection.
2. It is important for approaching motorists on the major road to see side street vehicles approaching the Stop sign, and for minor road motorists to see approaching major road vehicles before entering the intersection. Poor sight distance can lead to rear-end crashes on the approaches and to angle crashes within the intersection because motorists may be unable to see and react to traffic control devices or approaching vehicles.
3. The area needed for provision of this unobstructed view is called the Clear Sight Triangle (see Figure 3).

**Figure 3. Sight Distance Triangles for 4-Leg Stop-controlled Intersections<sup>9</sup>**



4. The Intersection Sight Distance (ISD) is measured along the major road beginning at a point that coincides with the location of the minor road vehicle. Table 3 provides the recommended values for ISD, based on the following assumptions:
  - Stop control of the minor road approaches;
  - Using driver eye and object heights associated with passenger cars;
  - Both minor and major roads are considered at level grade;
  - Considers a left-turn from the minor road as the worst-case scenario (i.e., requiring the most sight distance); and

- The major road is an undivided, two-way, two-lane roadway with no turn lanes.
5. If conditions at the intersection being evaluated differ from these assumptions, an experienced traffic engineer or highway designer should be consulted to determine whether different ISD values should be used.

**Table 3. Sight Distance at Intersections**

Speed (mph) *	Stopping Sight Distance (ft.)	Design Intersection Sight Distance (ft.)
25	155	280
30	200	335
35	250	390
40	305	445
45	360	500
50	425	555
55	495	610
60	570	665
65	645	720

Source: *A Policy on Geometric Design of Highway and Streets*, 5th Edition, American Association of State Highway and Transportation Officials (AASHTO), 2004.

6. Stopping Sight Distance (SSD) provides sufficient distance for drivers to anticipate and avoid collisions. However, in some cases this may require a major road vehicle to stop or slow to accommodate the maneuver by a minor road vehicle. To enhance traffic operations, sight distances that exceed the recommended SSD (as shown in Table 3) are desirable.
- a. Intersection Visibility -- No fence, wall, sign, hedge, tree or shrub planting or other similar item which obstructs sight lines at an elevation between two (2) and eight (8) feet above the street, shall be placed or permitted to remain on any corner lot within the triangular area formed by the street right-of-way lines and a line connecting points twenty-five (25) feet from the intersection of residential or local road lines, and fifty (50) feet from the intersection of arterial or collector road lines, or in the case of a rounded property corner, from the intersection of the street right-of-way lines extended.
- b. Median Visibility -- No fence, wall, sign, hedge, tree or shrub planting, or other similar item which obstructs sight lines and elevations between two (2) and eight (8) feet above the street shall be placed within any median area within one hundred (100) feet of an intersection. No walls, rocks, or boulders larger than two (2) feet in any dimension shall be placed in the median.
- c. Stop Sign Visibility -- No trees shall be planted in any portion of a public street right-of-way within one hundred fifty (150) feet of a stop sign.

## Street Improvements

1. Plan and Profile -- In general, a street shall be completed to the grade shown on the plan and profile sheet. A plan and profile sheet for each street shall be provided by the owner and prepared by a registered professional engineer or registered land surveyor.
2. Street Construction Standards -- The minimum requirements for street construction shall be in accordance with the latest edition of "Standard Specifications" of the Indiana Department of Transportation, in effect at the time of approval. (Hereinafter referred to as the Standard Specifications).
  - a. Subgrade -- The subgrade shall be prepared in compliance with the Standard Specifications.
  - b. Subbase -- The subbase, where required, shall be #53 crushed aggregate (or equal), as determined by the County Engineer, and shall be prepared in compliance with the Standard Specifications. If the subgrade is modified in accordance with the Standard Specifications, there shall be no reduction of the required aggregate thickness.
  - b. Street Surface -- The street surface shall be of Portland cement concrete or hot asphaltic concrete. Portland cement concrete materials and construction shall be in compliance with Section 500 of the Standard Specifications and these regulations. The Montgomery County Engineer has determined that any part of the subgrade or subbase is frozen when its temperature reaches 32° Fahrenheit. Hot asphaltic concrete materials and construction shall be in compliance with Section 400 of the Standard Specifications and these regulations.
3. Backfill -- All utility excavations under the pavement or within five (5) feet of the edge of the pavement be backfilled with Structure Backfill or Flowable Mortar as specified in the Standard Specifications. Installation shall conform to the Standard Specifications. Any deviation from these provisions must be approved by the County Engineer's Office prior to construction.
4. Subsurface Drains -- Subsurface drains shall be installed at a depth of two (2) feet below and behind the back of curb in line with and parallel to the inside face of the curb or along the junction where the face of the concrete curb meets material for the travel surface. The subsurface drains shall be a minimum of six- (6) inch diameter perforated polyethylene pipe. Four (4) inch laterals shall be provided for each lot, extended to the right-of-way line and capped. The ends shall be marked by permanently marking (stamping) the lateral in the curb and extending a board or other suitable material to the surface and dimensioned on the record drawings. No direct surface water, or garage floor drains will be allowed to connect to the subsurface drain.
4. Aggregate Base -- Stone aggregate base shall be placed under the curb and extended to the aggregate placed for the subsurface drain. This aggregate base

shall be continuous and shall match the bottom of pavement (top of subgrade) or be four (4) inches thick whichever is more.

5. Soil Conditions in Streets -- Wet spots or other unusual soil conditions may develop in streets. These streets must comply with any or all of the following requirements:

- a. Underdrains -- Four (4) inch Polyethylene lateral underdrains which extend under the subbase and connect directly to the subsurface drains shall be placed at regular intervals through the wet areas;

- b. Additional Aggregate -- Compacted aggregate (#53 stone) shall be added to the street cross section to a thickness as determined by the County Engineer. This shall be in addition to the minimum base requirement;

- c. Excavation and Backfill -- Soft spots may be over excavated and backfilled with compacted aggregate as approved by the County Engineer;

- c. Geogrid may be used with the written approval of the County Engineer

- d. Soil Modification -- Soil Modification (such as Lime Stabilization) in accordance with the Standard Specifications may be used.

- I. Preconstruction Notification -- If soil modification is planned to be used, this must be stated in the preconstruction conference.

- II. Subbase Depth -- No reduction in subbase depth will be permitted.

- III. Application rates -- Application rates shall be determined according to the Standard Specifications and industry standards, based on testing of the in-place subgrade. Test results and proposed application rates must be provided to and approved by the County Engineer prior to use.

### **Joints for Rigid Pavement**

Rigid pavement shall be jointed in order to control cracking. Joints for rigid pavement shall be constructed in accordance with the type and dimensions and at the locations required by Standard Specifications, these regulations, or as directed by the County Engineer's Office.

1. Spacing -- Spacing of weakened plane, transverse, or contraction joints shall not exceed twenty (20) feet. Closer spacing to average fifteen (15) feet is encouraged. A transverse contraction joint may either be formed or sawed dummy groove, ribbon or pre-molded strip type, and shall be one fourth (1/4) the thickness of the pavement.

2. Sawing -- When a transverse joint is to be formed by sawing, care must be taken to saw the grooves soon after placing the concrete to prevent the formation of cracks due to contraction of the slab.

3. Catch Basins and Manholes -- One of the above-named joints shall be placed at every catch basin and manhole in the line of pavement. The location of manholes in the pavement shall determine the exact location of the joints.

4. Full Pavement Width -- All joints shall extend throughout the curb to the full width of pavement.
5. Transverse Expansion Joint -- a transverse expansion joint shall be placed at the intersections, tangent points of sharp curves, and wherever else shown on the plans.
6. Longitudinal Joint -- Whenever the width between forms of the pavement under construction is greater than ten (10) feet, a longitudinal joint shall be constructed so as to divide the pavement into strips not to exceed ten (10) feet each. This may be accomplished by sawing or by installing a slot or groove as herein described for a contraction joint.
7. Curing Compound -- White membrane curing compound AASHTO Number 2-M-14B must be properly applied to give complete coverage immediately after finishing, around all inlets and manholes and every fifty (50) lineal feet of pavement, as well as where concrete adjoins asphalt.

### **Curb and Gutters**

1. Curbs -- A two (2) foot concrete curb and gutter shall be required for subdivisions consisting of twenty-six (26) lots or more for, single family, two family and multifamily residential subdivision streets. Streets in commercial or industrial (non-residential) subdivisions shall have the option of using two (2) foot concrete curb and gutter or concrete chair back curbs.
2. Construction -- Materials, concrete specifications and construction procedure shall comply with the Montgomery County Standard Details. Cold weather construction shall be in accordance with the Indiana Department of Transportation Standard Specifications.
3. Valley Gutters -- Valley gutters, which connect gutter drains across street intersections, are strictly prohibited.
4. Frozen Material -- The Montgomery County Engineer has determined that a material is considered frozen when any part of its temperature reaches 32° Fahrenheit.
5. Height of Asphalt -- The maximum height of the asphalt shall meet or exceed the gutter line of the curb.
6. Details -- It is the intent and purpose of this section to encourage streets and rights-of-way to be dedicated to the county for ownership and maintenance whenever possible. It is a long- range benefit to the entire county for streets and rights-of-way to be maintained publicly rather than privately. There may be, however, a situation in which a privately owned and maintained street is a more reasonable alternative.
  1. Standards -- In any development in which a private street is allowed, the street shall conform to County standards.



2. Required Covenants -- The covenants of the secondary plat shall contain the following statement: "The streets and ingress/egress easements shown hereon are to be privately owned and maintained by the home-owner's or commercial association pursuant to the articles of incorporation of said association.

## **Sidewalks, Pathways and Pedestrian Ways**

### 1. Location

a. Major Plats: Sidewalks are not required in subdivisions of one to twenty-five (1-25) lots. Subdivisions that consist of twenty-six to forty (26-40) lots shall require sidewalks on one side of road or street. Subdivisions consisting of forty-one (41) lots or more require sidewalks along both sides of all streets and along the development side of all existing county roads.

b. Minor Plats: Sidewalks are not required along the development side of all existing county roads, For minor subdivisions, sidewalks must be installed when sidewalks become contiguous or adjacent on surrounding property.

2. Sidewalk Plan -- A plan for a sidewalk system shall be prepared that will provide every lot within a subdivision, or portion thereof, with reasonable access to a sidewalk connecting with all of the community facilities, commercial enterprises and other residential subdivisions located near or adjacent to the subdivision, and in a manner that will provide safe and convenient pedestrian circulation throughout the neighborhood or area in which the subdivision is located and which will avoid pedestrian and vehicular traffic conflict.

3. Sidewalk Construction -- Sidewalk materials and construction requirements shall conform to the Standard Specifications, and shall meet the following requirements:

a. Material -- Be constructed only of 4,000 psi concrete unless otherwise expressly approved by the Plan Commission;

b. Depth -- Have a minimum depth of four (4) inches, or have a minimum depth of six (6) inches when built in an area of proposed vehicular crossing;

c. Slope -- Have a cross slope of no steeper than one-quarter (1/4) inch per foot toward the street;

d. In Right-of-Way -- Be located at least one (1) foot inside the right-of-way line, unless located within an easement outside of the right-of-way.

e. Consistency, Slump, and Mixture -- Have consistency, slump, and mixture specifications as established by the Standard Specifications;

f. Joints -- Be jointed every four (4) feet, with expansion joints every forty (40) feet to prevent cracking and heaving;

g. Compliance with ADA -- Have curb ramps installed at all intersections and at all other locations where required for compliance with the Americans with Disabilities Act (ADA).

4. Minimum Width -- Sidewalks, pathways and pedestrian ways shall have a minimum width as follows:

a. One or Two Family -- In One- or Two-Family Developments, along collector, local, or residential interior streets, minimum width shall be five (5) feet;

b. Multifamily -- In Multifamily Developments, minimum width shall be five (5) feet;

c. Perimeter -- For a perimeter subdivision sidewalk located along a County road, minimum width shall be six (6) feet;

- d. Commercial or Industrial -- For Commercial or Industrial, minimum width shall be as approved by the Plan Commission;
- e. Pedestrian ways -- For Pedestrian ways that connect two streets or connect directly to a park, school or other public or semi-public use, minimum width shall be six (6) feet.

5. Easement Required -- In order to facilitate pedestrian access from the street to schools, parks, playgrounds, or other nearby streets, the Plan Commission may require a perpetual unobstructed easement at least fifteen (15) feet in width. This easement shall be indicated on both the primary and secondary plats. The construction details shall be shown on the construction plans and must be specifically approved by the Plan Commission.

6. Vertical Drop -- There shall be no vertical drop in excess of twelve (12) inches within five (5) feet of the outside edge of the sidewalk, or an approved barrier must be installed in accordance with the Standard Specifications.

7. Installation -- Sidewalks shall be installed by the lot owners:

- a. Prior to the issuance of the Certificate of Occupancy by the Planning and Building Department; or
- b. Prior to the end of the designated maintenance period. The lot owner must complete the installation of all remaining sidewalks and pedestrian ways located interior to the subdivision, even if the lots are not yet developed.
- c. The lot owner is responsible for maintenance of the sidewalk including clearing during winter events. If the County Engineer or Building Administrator determine the condition of the sidewalk warrants replacement the lot owner will be responsible for the cost of the replacement.

## **Easements**

No permanent encroachments shall be allowed within any of the following easements:

1. Access Easements -- Access easements providing legal access to land shall be at least fifty (50) feet in width and shall have the capability of providing suitable locations for future public streets meeting the standards set forth in this ordinance. No more than three lots shall receive access from a private access easement.

2. Drainage and Utility Easements -- Drainage and utility easements shall be at least fifteen (15) feet in width on each side of any public street that has a right-of-way width of less than fifty (50) feet.

3. Utility Easements -- Utility easements shall be allocated in areas of suitable size and location. Such easements shall provide reasonable continuity from block to block and shall be at least fifteen (15) feet in width. The Plan Commission may require larger easements when it deems such additional width necessary for carrying out the purposes of this section.

4. Drainage Easements -- Drainage easements shall be provided where the Plan Commission deems them necessary to provide proper drainage for the subdivision. Such easements shall be at least fifteen (15) feet in width and may be coincident with utility easements. Where a regulated drain traverses a subdivision, the easement for the drain shall be in accordance with the Montgomery County Surveyor and the Montgomery County Drainage Board.

5. Maintenance Easements -- Maintenance easements for dams or adjoining property may be required where the Plan Commission deems them appropriate.

6. Farm Tile Easements -- Farm tile easements for protection and maintenance shall be at least thirty (30) feet in width, and shall be provided where there are farm tiles that are to remain on property proposed for subdivision. The Plan Commission may require larger easements when it deems such additional width necessary for carrying out the purposes of this section.

### **Street Identification Signs and Regulatory Signs**

1. Installation -- The owner shall install street identification signs at each street intersection within and on the perimeter of the subdivision. The developer shall install all appropriate regulatory signs as required by the County Engineer's office.

2. Street Identification Signs -- Street identification signs shall comply with the current issue of Indiana Manual of Uniform Traffic Control Devices regarding size, material, reflectivity and location. Street identification signs for public roads shall be white letters on a green background. Street identification signs for private roads shall be white letters on a blue background. Size of letters and sign dimensions shall comply with Montgomery County Highway Department requirements.

3. Regulatory Signs -- Regulatory signs shall comply with the current issue of Indiana Manual of Uniform Traffic Control Devices regarding size, material, reflectivity and location. The developer shall place regulatory signs in accordance with the current issue of the Indiana Manual of Uniform Traffic Control Devices and as directed by the Montgomery County Highway Department.

4. Locations -- Sign locations must be shown on the construction plans.

### **Roadside Ditches**

1. When Required -- Roadside ditches are required for all existing or proposed roads that will not have curbs and gutters.

2. Shoulder Width and Slopes -- Roadside ditches shall be located so as to provide a shoulder width as shown in the Montgomery County Standards and sound engineering design. Drainage side slopes shall be 3:1. In no case shall the shoulder width be less than four (4) feet. The Plan Commissioner may require a wider shoulder and drainage ditch.

3. Culvert Cover -- Roadside ditches are to be constructed to provide a minimum of twelve inches (12") of cover over the driveway culvert pipe, or as recommended by the manufacturer, whichever is greater.
4. Driveway Pipe Size -- The minimum size of a driveway pipe shall be twenty-four feet (24') of twelve-inch (12") culvert pipe. The Montgomery County Highway Department may require a larger pipe diameter and/or length.

### **Bridges and Similar Drainage Structures**

1. Design and Construction Standards -- All bridges and similar drainage structures shall be designed and constructed in accordance with AASHTO Standard Specifications for Highway Bridges, Current Edition and the Standard Specifications.
2. Rails -- All bridges shall be designed to incorporate a crash-tested barrier rail per Indiana Department of Transportation (INDOT) specifications and adequate lengths of a crash-tested approach rail. The length of approach rail shall meet INDOT Rehabilitation, Restoration, and/or Resurfacing (3R or RRR) requirements or better, and be approved by the County Engineer.
3. Approval -- Structure size and type and final design plans must be approved by the Montgomery County Engineer. The County Engineer may require additional right of way for future maintenance of the structure.
4. Testing and Inspection -- Material certifications and testing must be done during construction in accordance with INDOT Specifications, and copies provided to the County Engineer. On-site construction inspection shall be provided by the owner in accordance with County procedures for locally funded bridges, with the County Engineer copied on all inspectors' reports and correspondence. Also, the County Engineer must participate in the final inspection. A separate Maintenance Bond for three (3) year must be provided to the County Engineer. All construction within an existing county road right-of-way and any crossings of the travel surface will require a permit from the County Engineer prior to construction. Whenever any construction activities occur within a public road right-of-way, traffic control devices shall be placed in accordance with INDOT standards and the Manual on Uniform Traffic Control Devices, Part VI. The devices shall be installed prior to any construction and shall be maintained during the entire time that the special conditions exist. They shall be removed immediately thereafter.

### **Construction Within Road Right-of-Way**

All right-of-way repairs on the pavement or within five (5) feet of the edge of the pavement shall be backfilled with Structure Backfill or Flowable Mortar as specified in the Standard Specifications. Installation shall conform to Section 715 of the Standard Specifications. Any deviation from these provisions must be approved by the County Engineer's Office prior to repair.

### **Right-of-Way Repairs**

All right-of-way repairs on the pavement or within five (5) feet of the edge of the pavement shall be backfilled with Structure Backfill or Flowable Mortar as specified in the Standard Specifications. Installation shall conform to Section 715 of the Standard Specifications. Any deviation from these provisions must be approved by the County Engineer's Office prior to repair.