

DECATUR COUNTY



HIGHWAYS STANDARDS MANUAL



HOWARD J. BARTH & ASSOCIATES
Consulting Engineers



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PREFACE

It is the purpose of this manual to identify and define standards for construction of new roads proposed for dedication to and maintenance by Decatur County. Also included in this manual are construction standards for new or existing private road and driveway approaches, which enter upon or already exist within right of ways owned by Decatur County or onto roads maintained by Decatur County, but not within dedicated rights of way, and for the construction and maintenance of utilities within County owned rights of ways or other roadways maintained by Decatur County but not necessarily within dedicated rights of way.

New roads constructed in accordance with these standards may be recommended for inclusion into the Decatur County road system and upon a finding of public need by the Decatur County Commissioners may be accepted for maintenance by Decatur County. Nothing in these standards shall be binding upon Decatur County in the routine maintenance, construction or re-construction of its road system. It is recognized that many roads already existing in the system cannot, for various reasons be reasonably brought up to these standards. Rather, it is the intention of this manual and it's related ordinance(s) to ensure that, in accordance with Decatur County's Comprehensive Plan, Decatur County highways continue to provide high levels of service at the lowest possible cost to the public.

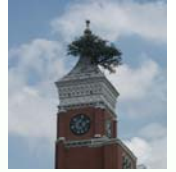
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SECTION 1: DEFINITIONS



Approach. As used in this manual, the term “approach” shall mean any vehicular entrance upon a County right-of-way, other than a “driveway”.

County. The term “County” refers in all instances to Decatur County, Indiana.

County Right-of-Way or right-of-way. As used in this manual, the term “County right-of-way” or “right-of-way” shall mean any road right-of-way owned by Decatur County or proposed for dedication to Decatur County or roads maintained by Decatur County, but not within dedicated rights of way.

Driveway. As used in this manual, the term “driveway” shall mean a vehicular entrance upon a County right-of-way or a County maintained roadway, which provides access to a four-plex or smaller multi-family dwelling or two or fewer single-family residences.

New road. As used in the manual, the term “new road” shall mean any road built for dedication as a public road within the Decatur County Road System. It shall not be deemed to include existing public roads within the Decatur County Highway System, nor road construction or reconstruction undertaken by Decatur County.

Highway. As used in this manual, the term “highway” shall refer to any public road or designated highway.

Highway Superintendent. As used in this manual, the term “Highway Superintendent” shall refer to the Decatur County Highway Superintendent.

INDOT Indiana Department of Transportation

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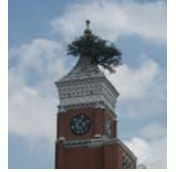


Slope. The angle of incline expressed as a percentage, which is derived by dividing the measured height from base to top, by the horizontal distance from base to top.

Project Engineer. As used in this manual, the term “project engineer” shall mean a Registered Professional Engineer, licensed in the State of Indiana and who is retained to design, construct or supervise the construction of a new road.

Road surface, roadway. As used in this manual, the terms “road surface” and “roadway” shall mean the travelway and the road shoulders on each side.

Travelway. That portion of a County right-of-way, which has been improved for the movement of vehicles, exclusive of shoulders.



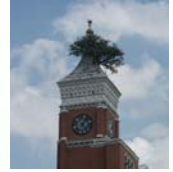
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SECTION 2: UTILITY CONSTRUCTION PERMITS AND STANDARDS



2.1 APPLICABILITY

- A. Prior to the start of construction of public or private utility projects within Decatur County rights-of-way, the applicant or utility shall obtain a permit for such use from the Decatur County Highway Department. The permit shall be applied for and granted in the name of the utility, not an individual, unless the utility is a privately owned utility. The fee for a Utility Construction Permit is set by Resolution of the Decatur County Board of Commissioners.
- B. This standard hereby adopts *Decatur County Standards for Construction* in its entirety.
- C. A Utilities permit is required whenever any trenching/boring or pole/pedestal placement is necessary within County rights-of-way or onto roads maintained by Decatur County, even if a permit has been granted for previous work in the same location. The approved permit must be on-site any time work is proceeding. Other work such as brushing that requires traffic control (signs, flaggers, etc.) requires notifying the Decatur County Highway Department 48 hours prior to commencing work. In the event of an emergency, the permittee must immediately notify Decatur County Sheriff's Office at 812-663-8125 and Decatur County Highway Department at 812-663-2682.

2.2 GENERAL

- A. Not all County maintained roads exist within a County-owned right-of-way, some are prescriptive only. The county, by issuance of the permit, makes no representation as to existence, location or width of right-of-way. It is the Grantees responsibility to determine these items. Though a permit is required on all rights-of-way and publicly maintained roads (deeded or prescriptive), the Grantee is responsible to notify any affected property owners and obtain whatever private easements are necessary. If there is a question whether the work is within the public right-of-way, a permit shall be required, or the utility shall provide evidence to the Decatur County Highway Department to verify that the work is occurring on private property.
- B. Utility installations shall be located to minimize the need for later adjustment, to accommodate future roadway improvements and to provide service access to such installation with minimum interference to roadway traffic. Utility companies shall make specific inquiries as to long-range county road improvement plans in order to minimize both utility customer and road user inconvenience should further road improvements (on existing or new alignment) require adjustment or relocating of the utility. The County reserves the right to require the Grantee to change the location or to remove any structure, structures, lines or pipes authorized by this permit at any time in

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order for the County to perform any needed work on or in the right-of-way, said change or removal to be made at the sole expense of the Grantee or their successors or assigns.

- C. If the Grantee does not complete the work to the County's specifications, the County may fix the deficiencies and bill the Grantee. The County reserves the right to refuse the issuance of a permit if previous projects have not been completed to the County's satisfaction or required conditions have not been met.

2.3 DESIGN DRAWINGS

- A. Prior to the start of construction, the applicant or utility shall submit design drawings showing the location of any poles, lines, piping, culverts or any structure or facility located or to be located within the County right-of-way. Work shall not begin until the design drawings have been approved in writing. The drawings shall indicate these locations with respect to the road surface, shoulders and ditches, the right-of-way line, bridges, culverts, drainage structures, driveways, road intersections and any other road improvement structure within the right-of-way. The drawings must be approved by the Decatur County Highway before a permit is issued. The drawings shall at a minimum contain the following:
1. Project name and number
 2. North Arrow
 3. Scale
 4. Distance of installation from shoulder of road (minimum 10' unless specifically approved due to site characteristics)
 5. Distance or installation from right-of-way (maximum of 5' unless specifically approved due to site characteristics)
 6. Depth of installation (from bottom of ditch or flow line of structure)
 7. Section drawings of any road crossings or joint trenches (road crossings shall be approximately 90 °)
 8. Compaction requirements (in accordance with latest edition of INDOT Standard Specifications)
 9. Location of all valves, hydrants, services, pedestals, poles, etc.
 10. Above ground markings and locator tape or wire
 11. Traffic control plan or signs
- B. Record drawings showing accurate locations of all elements of the project are to be submitted to the Decatur County Highway Department within 45 days of completion of the project and will be maintained in the road files.
- C. All construction shall proceed in compliance with the standards set forth in this section, the latest edition of the *INDOT Standard Specifications*, the terms of the construction permit and the approved design drawings submitted. Depending on the complexity of the project, the Decatur County Highway Department may, at its discretion, require that design drawings bear the stamp of a professional engineer licensed in the State of Indiana.



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2.4 STANDARDS FOR UTILITY PLACEMENT AND CONSTRUCTION

- A. Utility lines shall be installed under the road surface using techniques which do not require a cut through the road surface, such as tunneling, burrowing or driven pipe. It is County policy that unless site characteristics prohibit, all utility crossings on roads with a hard surface shall be accomplished in a manner that will not disturb the surfacing.
- B. Utility line crossings of a road should be as near a right angle (normal) to the road centerline as practicable.
- C. Longitudinal installation should be located as near as practicable to the right-of-way line and on uniform line and grade. With exception to utility line crossings, no utilities shall be installed under the roadway.
- D. Spoils shall be cast away from the roadway whenever practicable. The roadway must be swept or otherwise cleaned at the end of each working day. All trenches left open at the end of the day shall have barricades in accordance with the latest edition of the MUTCD (*Manual on Uniform Traffic Control Devices*). A maximum of 50 feet of open trench will be allowed at the end of the working day.
- E. If, in the determination of the Decatur County Highway Department or the project engineer, weather conditions prohibit proper installation, work shall be stopped.
- F. Where utility cables, water lines, and sewer lines cross a road or right-of-way such cables and lines shall be encased in a conduit or secondary encasement extending two (2) feet beyond the ditch line or to the edge of any fill within the right-of-way.

2.5 ABOVE GROUND UTILITIES

- A. Power poles and other above ground utility objects should be placed outside of the defined clear zone areas. They shall utilize a breakaway design to the greatest extent possible. Installation of power poles and other above ground utility objects will not be permitted in sidewalks, or pedestrian/bicycle pathways.
- B. Location of poles shall be compatible with driveways, intersections and other roadway features (i.e., they shall not interfere with sight distance, roadway signing, traffic signals, culverts etc.) Where possible, utilities shall share facilities so that a minimum number of poles are needed.
- C. Whenever practicable, relocation of poles or obstacles shall be made away from the existing roadway. Costs of relocating poles or obstacles to achieve these standards are the responsibility of the developer whose project necessitates compliance with these Standards. This is not intended to prevent the developer from making financial arrangements with an appropriate utility or other owner of the obstacle to accomplish removal of the pole or obstacle.



**SECTION 2
CONTINUED**



2.6 RESTORATION REQUIREMENTS

- A. Existing drainage ditches, culverts, etc., shall be kept clean at all times and temporary diversion of any drainage system will not be permitted without the consent of the Decatur County Highway Department. Any drainage culvert, catch basin, manhole, or other drainage structures disturbed by excavation shall be replaced with new material or repaired to the satisfaction of the Decatur County Highway Department. Temporary erosion/sedimentation control measures shall be employed to protect adjacent property and storm drain facilities in accordance with Rule 5 and Decatur County Erosion Control Standards.
- B. Any disturbance of the travel surface, shoulders, ditches drainage or traffic control devices shall be repaired and restored to its prior condition or better. If trenches or pavement settling should occur within two (2) years of the installation of the utility, repairs shall be made by the applicant or utility as directed by the Decatur County Highway Department and at no cost to the County. If the applicant fails to make the necessary repairs, the County may initiate the repair and bill the applicant or utility to make the necessary repairs. No new construction permits within county rights-of-way will be issued to the applicant or utility until such claim has been settled.
- C. Upon completion of construction of the lines and facilities, all rubbish and debris shall be immediately removed and the roadway and the roadside shall be left neat and presentable to the satisfaction of the County.
- D. All areas within the County right-of-way which have been disturbed or denuded of vegetation shall be reseeded in accordance to *INDOT Standard Specifications* as soon as possible after utility construction is completed in accordance with Rule 5 and to the satisfaction of the Decatur County Highway Department.

2.7 PUBLIC SAFETY

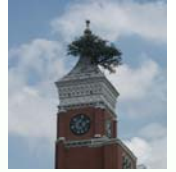
- A. No construction work shall be started on utility placement until the Decatur County Highway Department has given notice to the applicant or utility to proceed. The Decatur County Sheriff's Office shall be notified by the applicant or utility of the date(s) and time(s) of full or partial road closures associated with the utility placement to allow for any rerouting of emergency vehicles that may be necessary. The applicant or utility shall publish a notice of any full road closures in a locally distributed newspaper at least two (2) weeks in advance of the closure, stating the date and location of the closure, and the estimated duration of the closure. The applicant or utility shall also post sign on the road where a full closure is to occur at least two (2) weeks prior to the closure notifying the traveling public of the dates, times and duration of the closures. Alternative forms of public notification may be considered on local access dead end roads. These alternatives shall be approved by the Decatur County Highway Department at least two (2) weeks prior to the closure.



SECTION 2
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- B. If, in the opinion of the Decatur County Highway Department, weather conditions deteriorate to the point where the traveled roadways are unsafe for the public or detrimental to the restoration of the roadway, excavation shall cease immediately and cleanup shall be promptly accomplished.
- C. During construction, work barricades, lights and other traffic control devices shall be erected and maintained as may be necessary to conform to the ***Manual on Uniform Traffic Control Devices*** and in accordance with the approved traffic control plan.
- D. Equipment parking and materials storage shall be as far from the road surface as feasible in a location approved by the Decatur County Highway Department. Equipment or materials left overnight within thirty (30) feet of the road surface shall be marked and/ or protected, so as not to constitute a hazard to the traveling public. This section shall not be construed to authorize trespassing upon private lands adjacent to County roads or rights-of-way for the purpose of construction, equipment parking or materials storage.



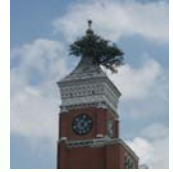
2.8 PRECONSTRUCTION CONFERENCE

- A. Prior to the start of construction, the applicant and/or utility and contractor shall attend and preconstruction conference to be conducted by the Decatur County Highway Department.

**SECTION 2
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**SECTION 3:
APPROACH PERMITS AND STANDARDS
(DRIVEWAYS AND ROAD APPROACHES)**



3.1 APPLICABILITY

- A. A permit shall be required for construction of all new approaches to County Roads, and for existing approaches thereto which are altered in any way. The permits are to be issued by the Highway Superintendent of Decatur County. Applications shall be accompanied by a drawing showing the design and location of the approach and any culverts, traffic control devices or other structures associated with the approach construction. A vicinity map shall accompany the application showing the location of the County right-of-way, and the travel way for a distance of five hundred (500) feet in each direction from the new access. Other intersections, approaches and driveways shall be shown upon the vicinity map. From the date of receipt of a complete permit application, an initial inspection will be made by Decatur County Highway within 15 business days. Construction shall not begin until the permit has been issued.
- B. This Standard hereby adopts all requirements and instructions on the approach permit.
- C. It is the applicant's responsibility to contact all utilities and "IUPPS" prior to the start of construction.
- D. For the purposes of this Section, the term "approach" shall be used to mean all entrances and intersections for three or more residences or any commercial or industrial access including temporary roads. The term "driveway" shall be used to mean an entrance for two or less residences.
- E. The standards within this section shall be applicable to that portion of new entrances located within a County right-of-way, or entering upon a County maintained road.
- F. Any changes in the type of road surface or use shall require a permit.

3.2 GENERAL

- A. Access to State Highways is regulated by the Indiana Department of Transportation (INDOT). The property owner is responsible to coordinate with INDOT for satisfactory completion of any requirements.
- B. Decatur County reserves the right to restrict access onto County roads. In new subdivisions, the developer may be required to provide joint access to lots with frontage of less than 300 feet. Corner lots will be required to access on the roadway with the lowest classification and as close as practicable to the property line most distant from the intersection. All construction of accesses shall conform with the standards within this Section and with the terms of the permit issued.

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- C. Accesses shall be designed so that backing maneuvers from or onto a public road will not occur.
- D. The County may require a traffic impact study for subdivisions, multi family residences, commercial or industrial accesses. The costs of the study shall be the responsibility of the applicant.

3.3 STANDARDS

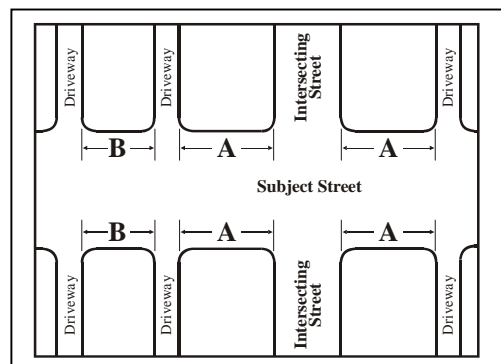
That portion of any new access within a County right-of-way or entering onto county maintained roadways shall comply with the following standards:

- A. The location, design and configuration of the access shall conform to the specifications and dimensions shown in **Figure 3.3.1**.

ITEM A			
Type of Intersection	Arterial	Collector	Local
Signalized	230'	175'	50'
Non-Signalized	115'	75'	50'

ITEM B			
Speed Limit	Arterial	Collector	Local
< 40 MPH	275'	185'	N/A
≥ 40 MPH	275'	230'	N/A

Distances shall be measured from edge of pavement



**SECTION 3
CONTINUED**

Figure 3.3.1 Entrance onto County Highway Right-Of-Way

- B. No new access on collectors or arterial roads shall be located within three hundred and thirty (300) feet of an existing access, or the intersection or two public road rights-of-way. On local roads, no new access should be located within one hundred fifty (150) feet from any existing access or the intersection of two public road rights-of-way.
- C. New accesses shall intersect the roadway at an angle of between seventy-five (75) and ninety (90) degrees, and as close to ninety (90) degrees as possible.
- D. Proper precautions shall be taken to provide and maintain adequate drainage of County roads. Any interference to drainage to the County road caused by applicant or his agents will be corrected by Decatur County at the expense of the applicant or permittee. Culverts under new accesses and located within a County right-of-way shall have a minimum diameter of twelve (12) inches and shall be of materials approved by the Decatur County Highway Department. Culverts shall be located and sized so as to form a continuation of the existing roadside drainage system and shall extend beyond the toe of any fill placed in association with the access. An engineering hydraulics





study may be required to size the culvert at the discretion of the Decatur County Highway Department. The cost of the study shall be at the expense of the applicant.

- E. Reasonable effort shall be made to ensure all new approaches slope downward from the roadway. On a new driveway approach, the slope of the driveway from the shoulder of the County road shall be no greater than four percent (4%) negative grade and no less than two percent (2%) negative grade for a minimum distance of 15 feet from the County road shoulder. On a new road approach, the slope of the roadway from the County road shall be no greater than four percent (4%) negative and two percent (2%) negative grade for a minimum distance of 50 feet from the existing edge of the County road pavement. The approach shall be designed as to prevent surface water runoff from reaching the County roadway.
- F. The minimum sight distance for new approaches entering arterial, collector or local access roads shall be the minimum as stated in **Table 3.3.1**. Permittee shall be required to perform necessary brush removal to maintain sight distance.

Table 3.3.1 Minimum Sight Distance Requirements

Operating Speed	25	30	35	40	45	50	55	60	65
Residential	175	210	245	281	315	350	385	420	455
Commercial	250	300	350	400	450	500	550	600	650

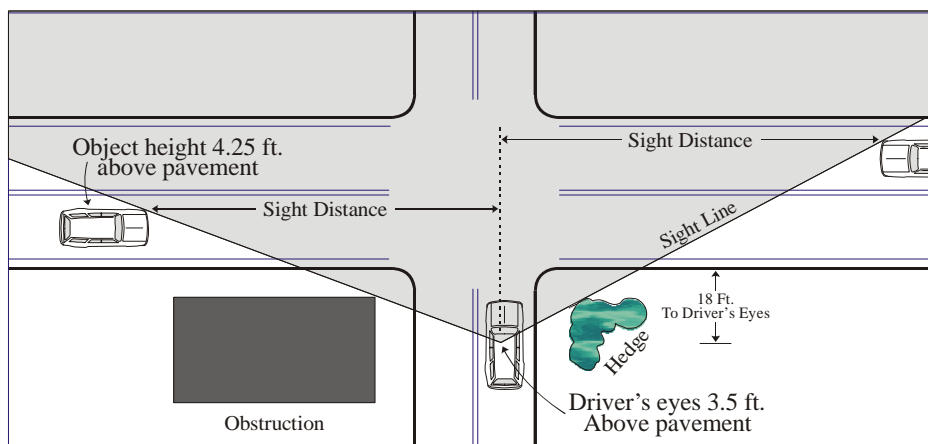


Figure 3.3.1 Sight Triangle

- G. In addition to the design and location of new access points with adequate sight distance, an adequate sight triangle shall also be maintained. Sight triangles are areas clear of visual obstruction to allow for the safe egress of vehicles from an access point, including an intersecting street onto a roadway. Sight triangles shall conform to the distances detailed in **Figure 3.3.1**.

**SECTION 3
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- H. During construction of approaches, such barricades, signs, and other traffic control devices shall be erected and maintained in conformance with the latest edition of the *Manual on Uniform Traffic Control Devices* and in accordance with the approved traffic control plan.
- I. The provisions of this Manual shall not affect accesses or approaches in existence at the time of adoption of this Manual, but any alteration of such accesses shall conform fully with the provisions established herein. The provisions established herein shall likewise not necessarily preclude establishing a new access or approach to any lot or parcel lawfully created prior to the date of adoption of this manual. Such new approaches will be examined by the Decatur County Highway Department on a case-by-case basis, and variances from the strict standards herein may be granted when doing so does not create hazard.

3.4 RESTORATION REQUIREMENTS

- A. Existing drainage ditches, culverts, etc., shall be kept clean at all times and temporary diversion of any drainage system will not be permitted without the consent of the Decatur County Highway Department. Any drainage culvert, catch basin, manhole or other drainage structures disturbed by excavation shall be replaced with new material or repaired to the satisfaction of the Decatur County Highway Department. Temporary erosion/sedimentation control measures shall be employed to protect adjacent property and storm drain facilities in accordance with Rule 5 and *Decatur County Erosion Control Standards*.
- B. Any disturbance of the travel surface, shoulders, ditches drainage or traffic control devices shall be repaired and restored to its prior condition or better. If surface or pavement settling should occur within one (1) year of the installation of the approach, repairs shall be made by the applicant as directed by the Decatur County Highway Department and at no cost to the county. If the applicant fails to make the necessary repairs, the County may initiate the repair and bill the applicant. No new permits within County rights-of-way will be issued to the applicant until such claim has been settled.
- C. Upon completion of construction of the approach, all rubbish and debris shall be immediately removed and the roadway and the roadside shall be left neat and presentable to the satisfaction of the County.
- D. All areas within the County right-of-way which have been disturbed or denuded of vegetation shall be reseeded, in accordance to *INDOT Standards Specifications*, as soon as possible after construction is completed to the satisfaction of Rule 5 and the Decatur County Highway Department.

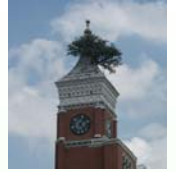
3.5 PENALTY

- A. Any person who violates any of the provisions of the Ordinance and this Highway Standards Manual, in addition to any civil action available above in this ordinance and this manual, shall be guilty of a misdemeanor and shall be punishable by imprisonment in a county jail not exceeding six months, or by a fine not exceeding \$500.00, or by both fine and imprisonment.

SECTION 3
CONTINUED



- B. A separate violation shall be deemed to have occurred for each construction, placement, installation, enlargement or extension, or structure subject to the parameters of this manual.
- C. If an access onto a county road is created or altered in violation of this manual, such access will be posted with a warning notice of violation. A letter will be mailed to the landowner at the time of posting giving the landowner ten (10) days from the date of posting to secure an approved application or to correct the encroachment. Failure to do so authorizes Decatur County to remove the access five days after the notice is complete, to correct any harm caused there from, to take such further action as authorized pursuant to Indiana Code Section 40-2319, and/or to proceed criminally against the landowner. Decatur County shall also be entitled to a lien against the real property for any expense it incurs as a result of the failure of the landowner to comply with this manual.



**SECTION 3
CONTINUED**



SECTION 4: STANDARDS FOR NEW ROAD CONSTRUCTION



4.1 GENERAL REQUIREMENTS

These standards are based upon the American Association of State Highway and Transportation Officials, (AASHTO) *Policy on Geometric Design of Highways and Streets*, current edition. Design criteria set forth by AASHTO shall serve as guidelines for the design of all new roads proposed for dedication to Decatur County.

4.2 ROADWAY CLASSIFICATION

All of Decatur County's roadways are functionally classified in accordance with Federal Highway Administration rules. These classifications determine, among other things, construction design parameters and other required geometry including minimum right of way widths. Road classification also plays a role in maintenance priorities and eligibility for Federal Highway funding. A map showing current classifications of Decatur County roads is on file at the Decatur County Highway Department office.

4.3 RIGHT OF WAY REQUIREMENTS

All new roads proposed for dedication to Decatur County shall have a minimum right of way based on the classification of the roadway. Following are the classifications along with their respective minimum right-of-way widths.

Table 4.3.1 Roadway Classification Right-Of-Way

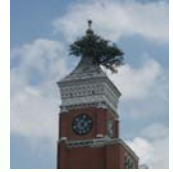
Roadway Classifications	
Roadway Classifications (all measurements in feet)	Right-of-Way Width
Arterial	80
Major Collector	60
Minor Collector	60
Local Access Road	50*
* In most cases, new roads proposed for dedication will be classified as local roads.	

Additional right-of way width may be required to accommodate extreme cut or fill sections. Cul-de-sacs shall have a minimum radius of 70 feet of dedicated right-of-way.

All intersections of right-of-way lines at roadway intersections and at cul-de-sac bulbs shall have a minimum radius of twenty-five (25) feet.



Table 4.3.2 Cul-de-sac Design Standards



Cul-de-sac Design Standards

Design Standard (all measurements in feet)	Residential Street		Non-Residential Street	
	Urban	Rural	Urban	Rural
Right-of-Way Radius	60	60	60	60
Pavement Radius	50	50	50	50
Curb Requirement	Vertical/Rolled		Vertical/Rolled	
Pavement/Sidewalk Separation	2 ft min*		2 ft min*	
Sidewalk Width	4 feet - 1 and 2 family 5 feet - multi-family		6 feet - commercial 4 feet - industrial	
Maximum Grade	7%	7%	5%	5%
Minimum Grade	0.6%	0.6%	0.6%	0.6%

* excluding the "turn-around" portion of the cul-de-sac.

**SECTION 4
CONTINUED**





4.4 DESIGN CRITERIA

The following specific design criteria, *Table 4.4.1*, shall apply to all roads proposed for dedication to Decatur County.

Table 4.4.1 Street Geometric Design Standards

<i>Street Geometric Design Standards</i>			
Design Parameter	Arterial	Collector	Local Access
Vertical Grades	Maximum 6.0%	Maximum 11%	Maximum 12%
Horizontal Curvature *	Minimum Radius 300 ft.	Minimum Radius 250 ft.	Minimum Radius 150 ft.
Design Speed	35-55 mph	35-45 mph	25-35 mph
Super Elevations	0.06 ft. per foot	0.06 ft. per foot	Not Required
Minimum Runoff Length **	150 ft.	120 ft.	N/A
Angles of Intersection	75-90 degrees	75-90 degrees	75-90 degrees
Width of Roadway	50 ft.	48 ft.	40 ft.
Width of Travelway	28 ft.	28 ft.	24 ft.
<p>* Radius measured to centerline of roadway</p> <p>** From full super elevation to full crown section</p> <p>Minimum stopping sight distance (driver eye level at 3.5 feet above road surface, object at 6" above road surface) shall be 250 ft. All vertical curves shall be designed to meet this criteria.</p> <p>Radius of roadway edge at intersections shall be 25 ft.</p> <p>Downgrade and upgrade approaches to existing County road or highway shall not exceed 2% for the last 25 feet of the approach, unless otherwise pre-approved.</p> <p>Cut and fill slopes shall not exceed 2:1 (unless otherwise approved by the County)</p> <p>Subgrade shall be established at 2-4% crown before placement of sub-base or base materials.</p>			

**SECTION 4
CONTINUED**

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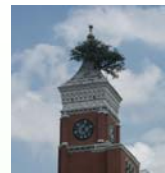
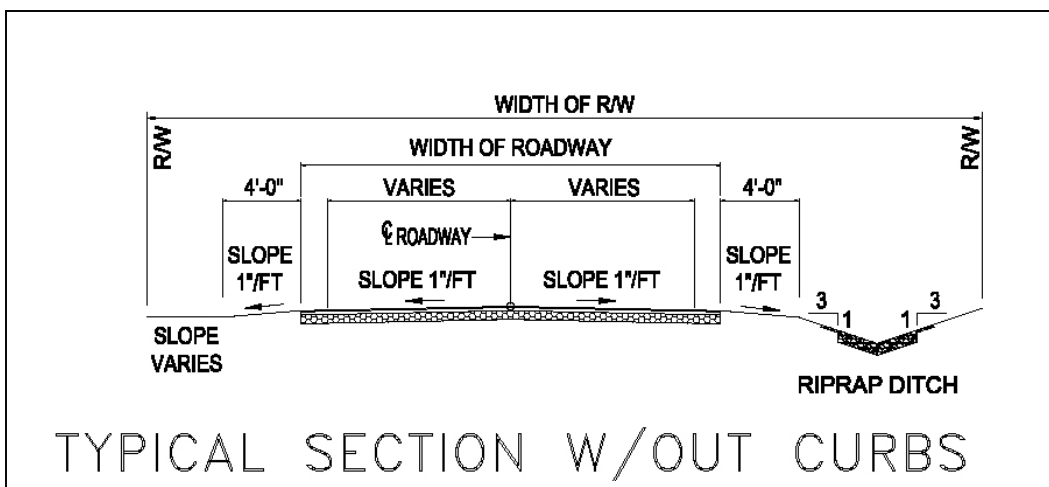
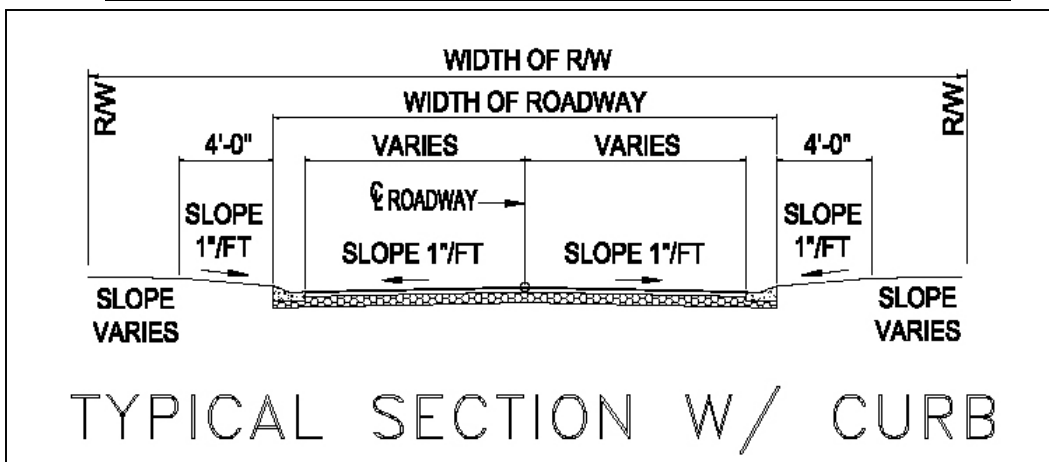


Table 4.4.2 Road Structure Schedule

Road Structure Schedule

Class of Roadway	Arterial	Collector	Local Access
Sub-base (Compacted Aggregate)*	12"	12"	8"
Asphalt Base	4"	4"	4"
Asphalt Surfacing	2"	2"	2"
Roadway Width (Min)	32'	32'	28'
Right of Way Width (Min)	80'	60'	50'

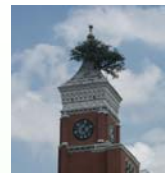
* Compacted Depth (add minimum 25% for compaction)



SECTION 4
CONTINUED

Figure 4.4.1 Typical Road Sections





4.5 TRAFFICE STUDIES

Traffic studies may be required by the Plan Commission in order to assess the impact of a development proposal on the existing and/or planned street system. The primary responsibility for assessing the traffic impacts associates with a proposed development will rest with the developer, while the Plan Commission serves in a review capacity.

The traffic study will be the responsibility of the applicant and must be prepared by a consulting engineering firm with adequate experience in Transportation Engineering and Planning. Upon submission of a draft traffic study, the Plan Commission will review the study data sources, methods and findings. Comments will be provided in a written form. The applicant/developer will then have an opportunity to incorporate necessary revisions prior to submitting a final report. All studies must be approved by the Plan Commission before acceptance.

The applicant should be notified at the pre-application stage whether a traffic study will be required provided adequate information is available to the Plan Commission. If the proposed development appears to generate significant impact on the infrastructure, the applicant will be informed that a traffic study is required.

Transportation consultants are required to discuss with the Plan Commission prior to starting the study. Topics for possible discussion at such meetings will include trip generation, directional distribution of traffic, trip assignment, definition of the study area, intersections requiring critical lane analysis, methods for projecting build-out volume, and needs analysis of pedestrian/bicycle facilities. Specific requirements will vary dependent upon the specific site location being reviewed. No traffic study will be accepted unless the traffic study requirements of this regulation are met, and the applicant has a pre-application meeting with the Plan Commission.

Traffic Study Format

In order to provide consistency and to facilitate Staff review of the traffic studies, the format that is described in *Table 4.5.1* shall be followed by transportation consultants in the preparation of such studies. The analysis shall be presented in a logical sequence with footnotes where appropriate. A detailed description of the content of a study is detailed in *Transportation Impact Analyses for Site Development*, published by the Institute of Transportation Engineers. The outline in *Table 4.5.1* was taken from that document, and indicates the information that shall be included in a transportation study.

SECTION 4
CONTINUED





Table 4.5.1 Traffic Study Format

- I. Introduction and Summary**
 - A. Purpose of Report and Study Objectives
 - B. Executive Summary
 - 1. Site location and study area
 - 2. Development description
 - 3. Principal findings
 - 4. Conclusions
 - 5. Recommendations
 - C. Qualifications and experience of firm or individual who prepared the study.

- II. Proposed Development (site and nearby)**
 - A. Off-site development
 - B. Description of on-site development
 - 1. Land use and intensity
 - 2. Location
 - 3. Site Plan
 - 4. Zoning
 - 5. Phasing and timing

- III. Area Conditions**
 - A. Study Area
 - 1. Area of influence
 - 2. Area of significant traffic impact
 - B. Study Area Land Uses
 - 1. Existing land uses
 - 2. Existing zoning
 - 3. Anticipated future development
 - C. Site Accessibility
 - 1. Area roadway system
 - a. Existing
 - b. Future
 - 2. Traffic volumes and conditions
 - 3. Transit service and Pedestrian/Bicycle facilities
 - 4. Existing relevant transportation system management programs
 - 5. Other as applicable

- IV. Projected Traffic**
 - A. Site Traffic (each horizon year)
 - 1. Trip generation
 - 2. Trip distribution
 - 3. Modal split
 - 4. Trip assignment

**SECTION 4
CONTINUED**





- B. Through Traffic (each horizon year)
 - 1. Method of projections
 - 2. Trip generation
 - 3. Trip distribution
 - 4. Modal split
 - 5. Trip Assignment
- C. Total Traffic (each horizon year)

V. Traffic Analysis

- A. Site Access
- B. Capacity and level of service
- C. Critical Lane Analysis
- D. Traffic Signals
- E. Traffic Safety
- F. Vehicle - Bicycle - Pedestrian Circulation and Parking

VI. Improvement Analysis

- A. Improvements to accommodate base traffic
- B. Additional improvements to accommodate site traffic
- C. Alternative improvements
- D. Status of improvements already funded programmed or planned
- E. Evaluation

VII. Findings

- A. Site accessibility
- B. Traffic Impacts
- C. Need for any improvements
- D. Compliance with applicable local codes

VIII. Recommendations

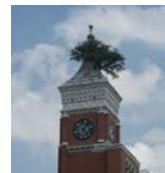
- A. Site access/circulation plan
- B. Roadway improvements
 - 1. on-site
 - 2. off-site
 - 3. phasing, if appropriate
- C. Transportation System Management Action
 - 1. off-site
 - 2. on-site operational
 - 3. on-site
- D. Other

IX. Conclusions

The executive summary should be a one or two-page synopsis that concisely summarizes the study purpose, conclusions, and recommendations. Throughout the study, assumptions must be

**SECTION 4
CONTINUED**





detailed and described. The study should also specify which transportation improvements will be the responsibility of the developer to complete.

4.6 DRAINAGE

Culverts under new roads shall be or of such size as is necessary to carry the discharge as determined by the Decatur County Drainage Ordinance. Culverts under roadways shall have a minimum of 12” of cover and extend to the toe of any fill slopes.

Culverts under approach roads or driveways shall have a minimum diameter of 12 inches and a minimum length of 30 feet.

All culverts installed in new roads or approaches shall be constructed of corrugated galvanized steel, corrugated aluminum alloy, smooth wall polyethylene or reinforced concrete pipe meeting the requirements of INDOT Standard Drawings Section 715.

Culverts or other drainage structures larger than 36 inches in diameter may require Engineered plans.

All necessary drainage easements for accommodating drainage structures shall be shown and recorded on the plans or the plat as a part of those plans or plat. Drainage easements necessary for draining storm water across private property shall be shown on the plans or plat and recorded with the County.

Bridge structures built for dedication to Decatur County shall be designed by a professional engineer registered in the State of Indiana, in accordance with *AASHTO LRFD Bridge Design Specifications*, latest edition.

The design vehicle for bridge design shall be a minimum HS-20 truck.

4.7 SIGNAGE

All required signs and markings shall be installed by the applicant prior to acceptance of the roadway by Decatur County unless approved otherwise by Decatur county.

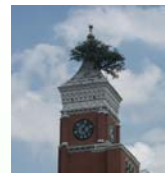
All permanent and construction signage shall be in conformance with the *Manual on Uniform Traffic Control Devices, (MUTCD)*, latest edition.

4.8 GUARDRAIL OR BARRIER

Decatur County reserves the right to determine the need for guardrail or other barrier structure under each separate circumstance. The type of guardrail to be installed shall be approved by Decatur County Highway Department based on specifications prepared, at the applicant’s expense, by a Professional Engineer licensed in the State of Indiana, and be installed by the applicant prior to acceptance of the roadway by the County.

**SECTION 4
CONTINUED**





4.9 CLEARING AND GRUBBING

Clearing and grubbing shall consist of the removal and disposal of all organic and other deleterious material from the public right of way. All material removed under clearing shall be disposed of out of the public right of way limits.

4.10 SUBGRADE

The subgrade shall consist of the natural materials remaining after all topsoil and duff (organic material) have been removed and only good construction material (mineral soil) is remaining.

Unstable subgrade conditions shall be remedied by additional measures as required by the Decatur County Highway Superintendent and may include the following: 1) chemical stabilization, over excavation and removal of unstable material, and 3) placement of additional subbase material.

The prepared subgrade shall be crowned 2-4% and compacted by mechanical means in accordance with *INDOT Standards Specifications Section 200 - EARTHWORK*.

Observation of the subgrade by the Decatur County Highway Department is necessary prior to the placing of base materials. The County must have at least 24 hours notice prior to the need for observation. Notice shall be given so that observation can be made during the County's normal working hours and work week.

All construction of the subgrade shall be controlled by slope stakes or grade stakes placed by the project engineer or a licensed surveyor unless this requirement is waived in advance by the County.

4.11 COMPACTED AGGREGATE BASE

Compacted aggregate base shall be in accordance with *INDOT Standards Specifications Section 300 - AGGREGATE PAVEMENT AND BASES*.

Observation of the subgrade by the Decatur County Highway Department is necessary prior to the placing of base materials. The County must have at least 24 hours notice prior to the need for observation. Notice shall be given so that observation can be made during the County's normal working hours and work week.

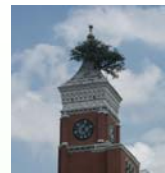
All culvert crossings shall be in place before the placement of base material.

4.12 ASPHALT BASE AND SURFACE MATERIALS

Hot Mix Asphalt (HMA) base, intermediate and surface mixtures shall be in accordance with *INDOT Standard Specifications Section 400 - ASPHALT PAVEMENTS*.

**SECTION 4
CONTINUED**





4.13 ACCEPTANCE

Prior to acceptance into the Decatur County Road System, new roads shall be maintained by the applicant for a period of one year. At the end of one year the Decatur County Highway Department will review the roadway. Any section requiring repair or replacement will be made by applicant prior to acceptance into Decatur County Road Systems.

4.14 REQUIRED SUBMITTALS - SPECIFICATIONS FOR DRAWINGS

The project engineer shall prepare Highway and Right-of-Way drawings, and each sheet of the drawings shall bear the seal of such engineer. A licensed surveyor may prepare the right-of-way drawings, and each sheet of the drawings shall bear the seal of such surveyor.

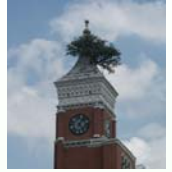
Two (2) copies of the design drawings shall be submitted to the Decatur County Highway Department for review. All drawings shall include the following when applicable.

1. The first sheet of the plans shall include a project title, vicinity map, and index of plan sheets. Plans shall be 24"x36" sheets.
2. Road alignments with 50' stationing, reading from left to right, and stationing at point of curve, tangent, and intersections, with appropriate ties to existing road surveys and stationing, section corners, quarter corners, and the horizontal control established by the Engineer. Stations shall increase from west to east and from south to north.

**SECTION 4
CONTINUED**



REQUIRED INSPECTION & INFORMATION CHECKLIST



Check off when completed & submit to
Decatur County Highway Department

PROJECT NAME:

ASSIGNED PLANNING DEPARTMENT NUMBER:

ASSIGNED PUBLIC WORKS PERMIT NUMBER:

**SECTION 4
CONTINUED**

For all public roads:

- Provide road plans showing: location of road in relation to the ROW, plan and profile views, proposed travelway width, proposed roadway width, and proposed drainage
- Verify subgrade preparation
- Verify compacted aggregate base.
- Verify the section depth
- Submit Asphalt Mix Design

CERTIFICATION OF COMPLETION/ACCEPTANCE:

- I CERTIFY THE PROJECT IS COMPLETED IN GENERAL ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.

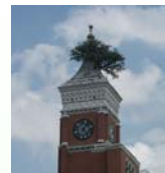
Project Engineer Signature

Date:

Seal

Project Engineer Name PRINTED





SECTION 5:

MAILBOXES AND NEWSPAPER DELIVERY BOXES

5.1 APPLICABILITY

All mailboxes and newspapers delivery boxes located within County rights-of-way shall conform to the standards set forth in this section.

5.2 STANDARDS

No mailbox or newspaper delivery box (hereafter referred to as mailbox) will be allowed within the County right-of-way if it interferes with the traveling public or the function, maintenance, or operation of the roadway system. The location and construction of mailboxes shall conform to the rules and regulation of the U.S. Postal Service and standards established in A Guide for Erecting Mailboxes on Highways, published by the American Association of State Highway and Transportation Officials, or the latest version.

5.3 LOCATION

- A. The roadside face of the box shall be offset the following distances:
- Paved road - the width of the shoulder plus one foot.
 - Gravel road - two feet from the edge of the traveled portion on the roadway.
 - Curbed street - one foot from the face of the curb
- B. Where a mailbox is located at an intersection road it shall be placed a minimum of 100 feet beyond the center of the intersecting road in the direction of the delivery route. This distance should be increased to 200 feet when the average daily traffic on the intersecting road exceeds 400 vehicles per day.
- C. Where a mailbox is installed in the vicinity of an existing guardrail, whenever practical, it shall be placed behind the guardrail.
- D. Mailbox turnouts are encouraged on all new road construction and on reconstruction.

5.4 REMOVAL AND LIABILITY

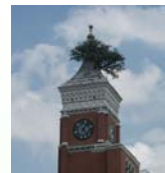
The owner, upon notification by the Decatur County Highway Department shall remove any new mailbox installation that is in violation of Section 5. Decatur County shall not be liable for damage to any mailbox that does not meet the requirements of Section 5, nor is it liable for any damage due to an installation being damaged by snow during snow removal or other emergency operations guardrail, whenever practical, it shall be placed behind the guardrail.

SECTION 5

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PREPARED BY:
HOWARD J. BARTH & ASSOCIATES



Decatur County Highway Department

_____, Superintendent
781 East Base Road
Greensburg, IN 47240

_____, Assistant Superintendent
781 East Base Road
Greensburg, IN 47240

Telephone 812-6632682
FAX 812-6626289

DATE:

TO: Decatur County Area Plan Director

I have visited the proposed driveway site at the property of _____

_____.

Located at _____.

in _____ Township, and this proposed site *will / will not* be in compliance with current driveway requirements.

If you have any questions, or require additional information, please contact me
At the Decatur County Highway Department Office.

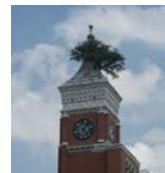
Thank you,

Decatur County Highway Superintendent

SECTION 6

Figure 6.1





Decatur County Highway Department

, Superintendent
781 East Base Road
Greensburg, IN 47240

, Assistant Superintendent
781 East Base Road
Greensburg, IN 47240

Telephone 812-6632682
FAX 812-6626289

ROAD CUT PERMIT

I intend to cut County Road No. _____. Location of this road cut
is _____

I understand there is a fee of \$35.00 per cut and that this needs to be paid
before permit will be issued.

**Road cut shall be made by saw cutting pavement and not by excavation
equipment.**

I also understand that I will be responsible for maintaining a safe traffic flow,
And it is my responsibility to notify all emergency personnel of conditions
And work being done at the site.

It is also the responsibility of the applicant to backfill the cut and resurface
the roadway in accordance with Decatur County Construction Standards.

Signed: _____
Applicant

Date: _____

PERMIT (APPROVED) (DENIED)

Highway Superintendent

Date: _____

Figure 6.2

