

TITLE II – TRANSPORTATION

CHAPTER 19

DRIVEWAY ENTRANCES

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19.01 PURPOSE.

Iowa Code Section 318, as amended, requires that permits be acquired from Warren County, Iowa prior to making physical alterations within County road right-of-way. It is the policy of Warren County to permit access to private land via entrances connected to its public roads subject to the regulations set forth within this Ordinance. Warren County strives to provide for motorist safety while minimizing road maintenance costs and maintaining drainage. No entrance or access shall be permitted in the secondary road right of way without the approval of the County Engineer or his/her authorized representative.

19.02 DEFINITIONS.

For use in this chapter, certain terms or words used herein shall be defined as follows:

1. “Board” shall mean the Board of Supervisors of Warren County.
2. “County” shall mean Warren County.
3. “County Engineer” or “Engineer” shall mean the County Engineer of Warren County.

For the purpose of this Ordinance, the terms “driveway” and “entrance” are the same.

19.03 PERMIT APPLICATION AND APPROVAL.

The County regulates the placement of entrances along the public roads under its jurisdiction, and each entrance must have a County permit. All entrances built prior to the effective date of this Ordinance may continue to be in use and shall be considered to have valid permits. In the event the use of the driveway changes and/or is modified, the driveway must comply with current standards.

1. PERMIT FOR ENTRANCE:

- A. A property owner desiring to install a new entrance and/or modify an existing entrance shall file the appropriate application with the Warren County Secondary Roads Department and pay the required fee. The application shall identify the road and location of said entrance. In addition, the applicant shall mark the physical location of the entrance centerline with lath supplied by the

Engineer's Office. The County Engineer, or an authorized representative, shall complete a detailed review of the proposed entrance site and application to determine if it will comply with the location requirements.

- B. If the site satisfies all criteria, the County Engineer may issue a permit and establish the culvert diameter. The County Engineer may request special items above and beyond the standard requirements listed herein if deemed appropriate. The property owner is responsible for determining the appropriate entrance geometrics, culvert length, culvert location, and installation as detailed in the "Standards for Installation of Entrances To Warren County Secondary Roads" provided at the office and upon permit approval.
- C. After construction of the entrance is completed, and, prior to application of final surfacing, the property owner and/or contractor shall notify the Engineer's Office. The Secondary Roads Department shall inspect the work and either accept or reject it. If the work is rejected, the entrance may not be placed into service until the relevant deficiencies have been corrected and re-inspected by the Department.
- D. If the proposed entrance location fails to meet one or more location and/or design requirements, the Engineer may reject the application, explaining the reasons for such action and advising what changes are necessary to obtain permit approval.
- E. Entrances shall not be permitted on a public roadway adjoining a subdivision when the lot in the subdivision has access to a private road within the subdivision. Private roads in a rural subdivision are the responsibility of the property owners within the subdivision.
- F. Joint Accesses. Joint accesses shall require mutual consent on the permit application by both property owners.
- G. Only agricultural entrances will be allowed on Area Service System Level B and Level C roads. Residential, commercial, industrial, and recreational entrances will not be allowed on Area Service System Level B and Level C roads.

2. VARIANCE PROCEDURE:

- A. If a property owner desires to build an entrance at a location that fails to meet the criteria outlined in this Ordinance, the owner may file a variance request, in writing, with the County Engineer. The request shall identify the location of the proposed entrance and describe how full compliance with the Ordinance constitutes an undue hardship.
- B. The variance request and application fee shall be provided to the Engineer. Within thirty (30) days of receipt, the Engineer shall present it to the Board of Supervisors as an agenda item at the next regular Board Meeting. After consideration of the request and any other relevant information or recommendations, the Board of Supervisors shall approve or deny the variance.

3. PERMIT TIME LIMIT:

- A. An entrance application shall become null and void if the driveway centerline is not appropriately marked per the application requirements within ten (10) days from the date of the application.
- B. An entrance permit shall become null and void if the entrance it pertains to has not been installed within one hundred eighty (180) days following the date of issue.

19.04 LOCATION REGULATIONS.

To assure safe driving conditions, entrances may be approved at any location where available sight distance equals or exceeds the desirable sight distance specified in this Section. Driveways and roads may not be approved unless they meet the minimum sight distance requirements. All driveways or field entrances shall meet the following specifications for sight distance and construction standards.

1. SITE DISTANCE REQUIREMENTS:

- A. Site distance is the length of the roadway ahead that is visible to the driver. Site distance lengths are the sum of the distance traversed by the vehicle for driver reaction time and time needed to stop the vehicle from the instant brake application begins. Sight distances are measured based on an estimated height of the driver's eye (i.e. line of sight) at three and one half (3.5) feet.

- B. The County reserves the right to make exceptions in extraordinary circumstances to the sight distance requirements at the discretion of the County Engineer where the exercise of sound and reasonable engineering judgment indicates that literal enforcement of the Ordinance is not practical or in the best interests of the public. Public safety will not be compromised in such circumstances.
- C. The following tables are the typical minimum site distance requirements:

1) Unpaved Roads:

Speed (mph)	Sight Distance
25	155 feet
30	200 feet
35	250 feet
40	305 feet
45	360 feet
50	425 feet
55	500 feet

2) Paved Roads:

Speed (mph)	Sight Distance
25	200 feet
30	250 feet
35	305 feet
40	360 feet
45	425 feet
50	500 feet
55	600 feet

- 2. Number. Any agricultural entrance requests that exceed four (4) in one-quarter mile or any residential and commercial entrance requests that exceed two (2) per parcel are not readily approvable by the Engineer’s Office.
- 3. Property Lines. No entrance shall extend across an adjoining property line or the extension of the same property line, unless there is joint access or the property owner(s) submit proof of an existing access easement,.
- 4. Entrances Prohibited Adjacent to Public Road Intersections. An entrance from a road must be offset at least three hundred (300) feet from intersecting roads. The offset distance shall be measured from center of entrance to center of intersection.

5. Offset from Other Entrances. Other than joint accesses, driveways located on the same side of the road on separate parcels, including entrances located in major subdivisions, shall have the following minimum separation between entrances measured from the entrance centerlines:

Federal Functional Classification	Minimum Separation
Local Road	200 feet
Minor Collector	300 feet
Major Collector	600 feet
Minor Arterial	800 feet

6. Agricultural and Residential Entrance Offsets. Any agricultural entrance request that exceeds four (4) in one quarter mile or any residential entrance request that exceeds two per parcel are not readily approvable by the Engineer’s Office. When a second entrance is requested within two hundred (200) feet, measured from centerline to centerline, it is not readily approvable by the Engineer’s Office.

7. Offset from Public Road Drainage Structures. Entrance toe of foreslopes (i.e. far edge of the entrance) must be located at least one hundred (100) feet from the ends of bridges, fifty (50) feet from the ends of cross road culverts having a diameter or span over forty-eight (48) inches, and twenty-five (25) feet from cross road culverts having a diameter or span less than or equal to forty-eight (48) inches. Storm water flows from entrances shall not cause damage to existing cross road culverts and structures, and entrances shall not obstruct the flow of drainage into cross road culverts and structures.

8. Right of County to Require Relocation or Modification. The County is responsible for the relocation or modification of entrances to facilitate reconstruction for projects in the Five Year Secondary Roads Construction Program. The County may require an entrance be relocated or modified, at no cost to the county, for the following reasons:
 - A. To improve road safety.
 - B. To Convert an existing field entrance to a driveway with address.
 - C. To eliminate road maintenance issues caused by the entrance.
 - D. To facilitate entrance maintenance and repairs.

19.05 DESIGN AND CONSTRUCTION.

Entrances shall be designed and constructed by the property owner to minimize adverse effects on road maintenance and allow proper stormwater drainage. See Appendix A for supplemental information to this Section.

1. **Need for Culvert.** Unless an entrance is located at a point where the road ditch drains away from the entrance in both directions or towards private property, the entrance shall have a culvert. Culverts shall be set as far from the road foreslope as possible and match the flowline of the existing ditch.
2. **Culvert Size and Length.** The Engineer shall determine the required diameter for each culvert; however, no culvert may be less than eighteen (18) inches in diameter. The applicant shall determine the required length for each culvert based on the entrance width, road type, grade, ditch depth, side slopes, and traffic volume.
3. **Allowable Pipe Materials:**
 - A. **Corrugated Metal Pipe.** Corrugated metal pipe shall be new, riveted, annular corrugated, galvanized or aluminized steel pipe that complies with Iowa Department of Transportation (D.O.T.) Specification 4141. Spiral pipe is not an acceptable material for entrance culverts. Pipe wall thickness or gage shall be determined according to the depth of cover tables contained in the Iowa D.O.T. Standard Road Plan DR-104. 2 $\frac{2}{3}$ " by $\frac{1}{2}$ " corrugations may be used for pipe diameters up to thirty-six (36) inches. Forty-two (42) inch through one hundred twenty (120) inch diameter pipe shall have 3" by 1" corrugations. A professional engineer licensed in the State of Iowa shall design pipes larger than one hundred twenty (120) inches. When required, new culvert pipe diameter shall match existing pipe diameter. The installer shall properly join existing and new culverts using only manufacturer recommended jointing methods.
 - B. **Reinforced Concrete Pipe.** Reinforced concrete pipe shall be new and comply with Iowa D.O.T Specification 4145. The pipe wall thickness or class shall be determined according to the depth of cover tables contained in the Iowa D.O.T. Standard Road Plan DR-104. A professional engineer licensed in the State of Iowa shall design pipes larger than hundred eight (108) inches. When required, new culvert pipe diameter shall match existing pipe diameter. The installer shall properly join existing and new culverts using only manufacturer recommended jointing methods.
4. **Drop Outlets.** A standard, straight-line grade culvert is permissible unless the total drop from inlet to outlet exceeds six (6) feet. For drops that exceed six (6) feet, the County may require the culvert be built with nearly level inlet and outlet sections connected by a steeper section. The county may require the use of erosion stone and/or revetment to reduce scour in these cases.

5. Entrance Bridges. The county may require the property owner to install an entrance bridge in lieu of an earth-fill entrance. The property owner shall be responsible for the design, construction, and inspection costs of the bridge. The bridge shall be constructed pursuant to County standards and approved by the Engineer prior to construction. The property owner is responsible for all necessary county, state, and federal permits. Once the bridge is constructed and approved by the Engineer, the bridge becomes the property of the County.
6. Alignment. Entrances should intersect public roadways at a ninety (90) degree angle and must not intersect at an angle less than seventy-five (75) degrees.
7. Slope Requirements. The entrance shall slope away from the edge of roadway to the flowline of the ditch at a slope of four (4) percent to prevent surface water from draining onto the public roadway. From the flowline of the ditch, the entrance shall slope towards the property at a maximum eight (8) percent slope within the public right of way. Entrances located on gravel roads shall have minimum side slopes of three (3) horizontal to one (1) vertical. Entrances located on paved roads shall have minimum side slopes of six (6) horizontal to one (1) vertical with culvert pipes and eight (8) horizontal to one (1) vertical for dry fill installations. The entrance shall be shaped with a crown or constant slope and must not allow water from the property to drain onto the roadway. Entrances are to be constructed with proper sloping to ensure positive drainage to the roadway ditch. Retaining walls shall not be erected within the public right of way.
8. Entrances Sloping to Roadway. In extenuating circumstances, where storm runoff must follow a driveway towards a public road, the County may require that side-ditches be excavated along the driveway to intercept the water and carry it down into the road ditch. Such side-ditches shall be at least eighteen (18) inches deep, have a flat bottom two (2) feet wide, and may be required, as a condition of permit approval, to extend up to twenty (20) feet inside the private land.
9. Width. The following table outlines top width requirements based on land use:

Land Use	Widths (min. / max.)
Residential	16' / 24'
Shared Residential	22' / 24'
Commercial/Industrial	24' / 45'
Agricultural	20' / 45'

10. Width Transition at Roadway. Entrances shall widen at the roadway edge of roadway with 1:1 flares for ten (10) feet or minimum ten (10) feet radiuses installed.

11. Fill Material. Fill material shall consist of earth capable of supporting vegetation and must be suitable for compaction. Rubble (i.e. field stone, broken concrete, etc.), contaminated soils, as defined by the Iowa Department of Natural Resources, and debris shall not be used as fill material.
12. Surfacing Materials. The following surfacing materials shall be used on entrances:
 - A. All residential and commercial/industrial accesses shall be surfaced with a minimum four (4) inch depth of $\frac{3}{4}$ " to $1\frac{1}{8}$ " crushed rock. Concrete paved entrances must be a minimum 6" depth for residential and 8" depth for commercial/industrial. Asphalt paved entrances must be a minimum of 8" depth for residential and 12" depth for commercial/industrial. At the discretion of the County Engineer, additional requirements may apply depending on the proposed land use.
 - B. Concrete paved entrances at full depth concrete paved roadways must be connected with a 1" expansion joint. Concrete and asphalt entrances shall abut full depth asphalt paving.
 - C. Paved entrances at the edge of gravel roadways must be offset fifteen (15) feet from the edge of roadway with crushed rock. Seal coat or micro-paving surfaces shall terminate at least five (5) feet back from edge of shoulder on paved roads and fifteen (15) feet from the edge of roadway on gravel roads.
 - D. Field entrances shall be earth with vegetation established during the next seeding window or be surfaced with a minimum four (4) inch depth of $1\frac{1}{8}$ " crushed rock.
13. Access Widening. In addition to the above requirements, when required, new culvert pipe diameter shall match existing pipe diameter. Only manufacturer recommended jointing methods shall be allowed for connections between existing and new culvert pipe.
14. Access Removal. When existing accesses are removed the immediate area shall be left in a condition that blends into the surrounding area. Drainage shall be maintained.
15. Utilities. The applicant is responsible for determining the location of utilities and protecting them. Any utility relocations or damage caused by construction is the responsibility of the applicant.

16. Final Inspection. After completing an entrance, the property owner and/or contractor shall notify the Engineer's Office, which shall inspect the work and either accept or reject it. If the work is rejected, the entrance may not be placed into service until the relevant deficiencies have been corrected and re-inspected by the Engineer.

19.06 REPAIRS AND MAINTENANCE

After construction, the entrance, including the culvert, becomes the property of the owner, except as outlined in Section 19.5(5) above. Maintenance to the entrance is the responsibility of the property owner and consists of the following:

1. Entrance Repairs. The property owner shall replace deteriorated culverts, rebuild washed out entrances, relay undermined pipes, etc. These repairs may be required at the discretion of the Engineer.
2. Entrance Maintenance. The property owner shall perform entrance maintenance, such as filling small gullies, reshaping side ditches, restoring proper crown and profile, and other minor non-culvert related maintenance, as determined by the Engineer. The County will notify the property owner of noncompliance with this Ordinance. The property owner is responsible for diverting any drainage that goes onto the County road.
3. Surfacing. Per Section 19.5(12) above, property owners are responsible for adequate surfacing materials.
4. Property Owner Activities. Property owners may perform maintenance and/or apply surfacing on their entrances with or without County approved contractors. Property owners shall not change the size of an entrance, relocate it, nor fill in the County road ditches. Property owners may regrade road backslopes and perform landscaping within the public right-of-way if he or she first secures approval from the Engineer and reseeds all disturbed areas. Obstruction will not be allowed in the County right-of-way as defined in Iowa Code Chapter 318, as amended.
5. Abandoned Entrances. When an entrance has ceased to be used, the Engineer may contact the property owner and request permission to remove it. If the property owner agrees, the entrance will be removed at County expense.

19.07 COSTS AND FEES.

The property owner shall be responsible for all installation and maintenance costs (i.e. equipment, material, labor, etc.) associated with the driveway entrance. The property owner or applicant shall also pay the required fee upon submission of the appropriate application form. The Engineer shall take no action until the property owner or applicant pays the required fee in full.

1. Work by County Approved Contractor. The property owner may hire, at his or her expense, a private contractor to install an entrance. The Engineer shall approve such contractors before the contractor engages in any work.
 - A. Contractor Requirements. Prior to performing any entrance work, a contractor shall obtain authorization from the Engineer's Office. To obtain authorization, contractors must:
 - 1) Have or be able to obtain adequate equipment for excavating, hauling, and compacting fill material
 - 2) Have personnel with grading/excavating experience
 - 3) Have adequate traffic control work zone signs in conformance with the current edition of the "Manual on Uniform Traffic Control Devices" and current Iowa D.O.T. Standard Road Plans.
 - 4) Comply with the agreements detailed in the "Application to Perform Work Within County Highway Right-Of-Way" for Warren County
 - 5) Provide the County Engineer with proof of Liability Insurance with coverage equal to or greater than the requirements in the Iowa D.O.T. Standard Specifications for Highway and Bridge Construction, Section 1107.02 – Insurance, and list Warren County as "also insured" on the Insurance Certificate.
 - 6) Receive a copy of this Ordinance
 - B. Developers and other parties may act as their own contractor if they meet the criteria in this Section. The County may rescind approval of any contractor who ceases to fulfill the criteria or build entrances that do not comply with this Ordinance.
2. The applicant, property owner, and/or contractor assume all liability for any damage to a public road caused by construction of the entrance.
3. Fee Schedule. The entrance application fee is as follows:

New Driveway with Address	\$100.00
Field Entrance	\$50.00
Field Entrance Converting to Driveway with Address	\$50.00
Widen Existing Entrance	\$25.00

19.08 ADMINISTRATION AND ENFORCEMENT.

The County Engineer or his/her designated representative shall implement and administer the terms and requirements of this Ordinance.

1. Entrance. Any access constructed or widened without a permit is a violation of Section 319.14 of the Code of Iowa. If an entrance is constructed or altered without the approval of the Engineer, or if the work is not completed in conformity with an approved permit, the Engineer shall notify the property owner thereof by certified mail of the violation. Furthermore, the Engineer shall notify the property owner of the need to restore the area to the standards that existed immediately prior to construction or alteration and/or advise the property owner of the changes necessary for the entrance to conform to this Ordinance. If after twenty (20) days the property owner has not made the necessary changes, the Engineer may make the necessary changes and immediately send a statement of the cost to the property owner. If the cost is not paid within thirty (30) days of sending the statement, the Engineer may institute proceedings to collect the cost. The Engineer may refuse to grant any new entrance permits to a property owner responsible for a non-complying entrance until the property owner corrects the problem and pays all outstanding invoices.
2. Contractors. The Engineer may bar a contractor from performing entrance work if the contractor fails to meet all the requirements of Section 19.7(1)(A) above, or if the contractor has performed entrance work that violates the requirements of this Ordinance. The Engineer may reinstate a contractor who voluntarily corrects any violation.
3. Legal Enforcement. Any person who fails to comply with this Chapter shall be deemed guilty of committing a county infraction as defined in Chapter 2 – County Infractions of the Warren County Code of Ordinances.

19.09 REPEALER.

All ordinances, resolutions or parts of ordinances and resolutions in conflict with the provisions of this ordinance are hereby repealed.

19.10 SEVERABILITY CLAUSE.

If any section, provision, or part of this chapter shall be adjudged invalid or unconstitutional, such adjudication shall not affect the validity of the chapter as a whole or any section, provision or part thereof not adjudged invalid or unconstitutional.

19.11 WHEN EFFECTIVE.

The ordinance shall be in effect after its final passage, approval and publication as provided by law.

* * * * *

Appendix A

Entrance Installation Standards

Warren County Secondary Roads

The Warren County Code of Ordinances, Chapter 19 – Driveway Entrances, outlines the procedure and requirements to obtain an entrance permit.

Per Iowa Code Section 318, no entrance shall be permitted in the secondary road right of way without the approval of the county engineer or his authorized representative.

The applicant must mark the location of the requested entrance with lath supplied by the engineer's office.

Sight distance will be checked by engineering staff. A new entrance must have a minimum sight distance of 500 feet each direction on unpaved roads and 600 feet each direction on paved roads. The approval of a driveway location does not indicate that it is safe for a school bus, garbage truck, or other vehicles to stop in the traveled portion of the road. Existing farm entrances being converted to residential entrances must adhere to current standards, otherwise the entrance will need to be relocated.

Warren County will determine if the entrance will be dry fill or require a culvert. If a culvert is necessary, Warren County will determine the minimum diameter size for the culvert. All culverts must be new corrugated metal pipe or reinforced concrete pipe and the diameter Warren County specifies. Use the formula on the entrance details provided to calculate minimum pipe length required for the entrance.

Entrance foreslopes shall meet the following requirements:

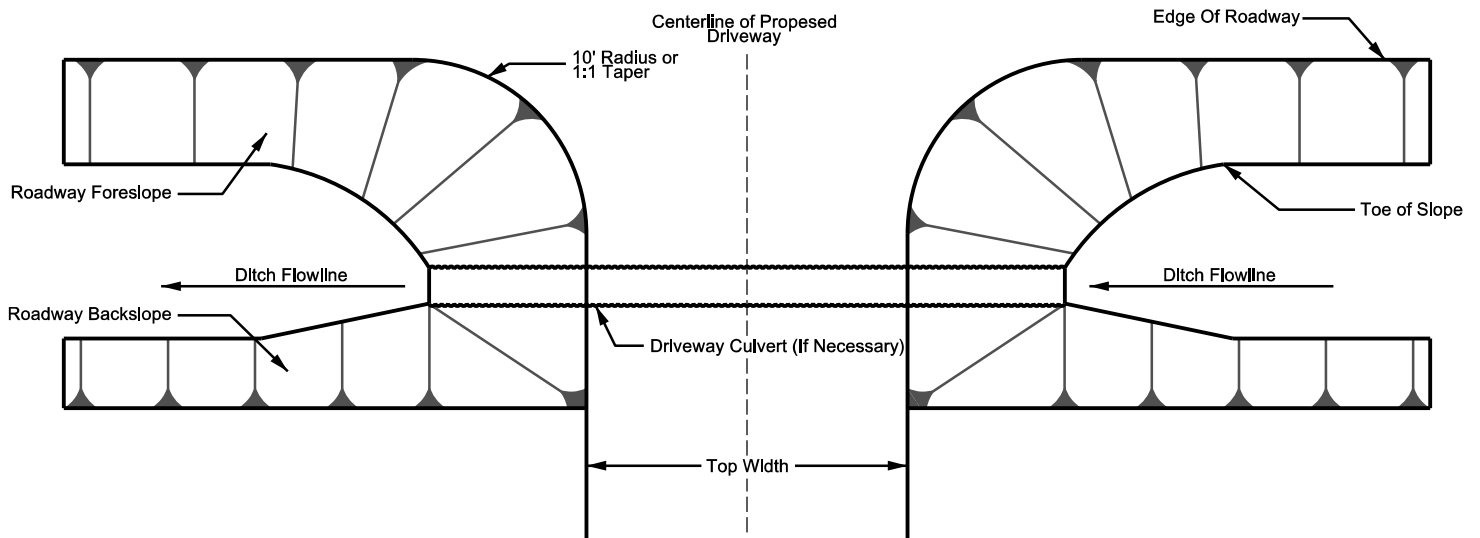
- 6:1 foreslopes on paved roads with pipe
- 8:1 foreslopes on paved roads with dry fill
- 3:1 foreslopes on gravel roads

Granular surfacing or paving is the responsibility of the property owner. All paved entrances on gravel roads must be offset at least 15 feet from the edge of the road. Paved entrances abutting county paved roads must adhere to SUDAS Figure 7030.101 with a 1" expansion or "E" joint, and private lanes must follow Iowa DOT Standard Road Plan EW-501. (details available upon request)

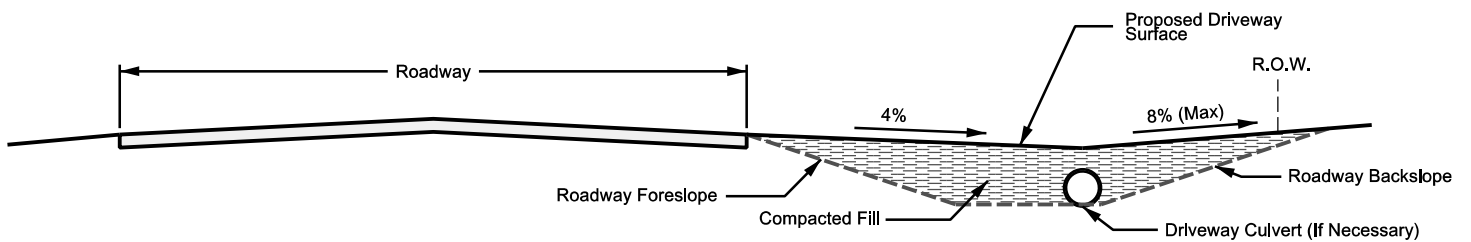
See the back of this sheet for the entrance details. You must notify the Warren County Engineer's office once the entrance is installed for final inspection.

(See Entrance Details on Back)

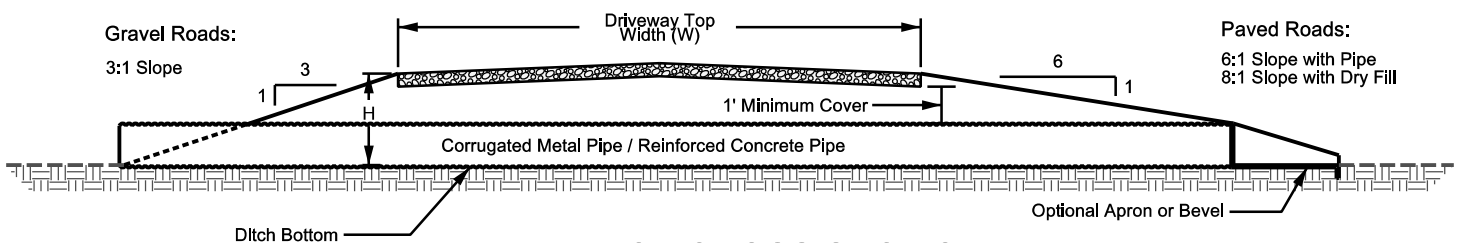
ENTRANCE DETAILS



ENTRANCE PLAN VIEW



ROADWAY CROSS SECTION



ENTRANCE CROSS SECTION

Pipe Length = $H \times R \times 2 + W$

H = Distance from driveway top to ditch bottom
 R = Horizontal factor of slope requirement (R:1 slope)
 W = Driveway top width

Example:

H = 5 feet from top of proposed driveway to bottom of ditch
 R = 3:1 slope requirement for gravel roads = 3
 W = Driveway top width = 20 feet

Minimum Pipe Length = $5 \times 3 \times 2 + 20 = 50$ feet

PIPE LENGTH CALCULATION



WARREN COUNTY
 SECONDARY ROADS DEPARTMENT
 ENGINEERING OFFICE