

30.0400

**PRIVATE ROADS AND DRIVEWAYS  
TOWNSHIP OF GRAND HAVEN, MICHIGAN  
ord no. 262 eff. Apr. 27, 1997**

An Ordinance to provide regulations for private roads and driveways.

30.0401

**Sec. 1 TITLE**

This Ordinance shall be known and referred to as the "Grand Haven Charter Township Private Roads and Driveways Ordinance"

30.0402

**Sec. 2 DEFINITIONS**

As used in this Ordinance, the following words and phrases shall have the definitions hereinafter provided:

1. "Driveway": The route, way, ingress/egress, etc., which is used to provide vehicular access from a public or private street, road, highway, boulevard, or avenue to a structure.
2. "Lateral Crown": The slope of the horizontal cross-section of a private road or driveway, measured from the highest point of the road's or driveway's upper surface to the lowest point of the road's or driveway's upper surface.
3. "Owner(s)": The persons, firm, or corporation who has legal or equitable title to the land over which a private drive or road is laid out or constructed.
4. "Private": When used with the terms "driveway" or "road", means that the driveway or road is not generally open to the public, but rather, is intended for the use or convenience of a limited number of persons, such as those who own land that abuts to or has access by means of the road or driveway.
5. "Serve": A private road is considered to serve a premises if the private road crosses or is adjacent to and abutting the premises and therefore is able to access the premises, whether or not the premises is actually or potentially accessed by any other private road, or by any public street or road.
  - A. By adding this definition to the Ordinance, effective April 18, 2003, the Township will promote the public purpose of ensuring that private roads meet the requirements of this Ordinance even if the private roads is expanded after initial construction to serve premises which also have alternative accesses.
  - B. If any private road in existence when this definition is added to the Ordinance, no longer complies with this Ordinance because of this

definition, that private road may lawfully continue to exist as it previously did. However, the private road may not be expanded to serve any additional premises, and no building permits will be issued for any additional premises served by the private road, unless the private road is brought into compliance with this Ordinance, as amended by the addition of this definition.

- C. Notwithstanding the above portion of this subsection, a premises on a corner lot at the intersection of a private road and public road shall not be considered to be served, even if the the private road crosses or is adjacent to the premises, if both of the following criteria are met.
- 1) The front yard of the premises, or the rear yard if the premises abuts upon a lake or river, is adjacent to a public street or road. For purposes of this paragraph, "front yard" and "rear yard" shall be interpreted according to their meanings in the Grand Haven Charter Township Zoning Ordinance, as amended.
  - 2) The premises is not accessed from the private road, either at the time of construction of the private road or at some later time.  
(ord. no. 262 eff. April 27, 1997; amend. by ord. no. 375 eff. April 18, 2003)

**30.0403      Sec. 3      STANDARDS AND REQUIREMENTS FOR PRIVATE DRIVEWAYS**

All private driveways shall be subject to the following standards and requirements:

1. One Premises. A private driveway may serve only one premises.
2. Minimum Width of Clear and Passable Area. The minimum width of the clear and passable area of a private driveway shall be as follows:
  - A. Driveways for access to single-family structures. Any private driveways which provide access to a single-family structure must have a minimum clear and passable area at least sixteen and one-half feet (16.5') in width for the entire length of the driveway. "Clear and passable" shall mean that the area is free of roots, brush, shrubs, trees, obstructions, or any other debris.
  - B. Driveways for access to structures other than single-family dwelling. Any private driveway which provides access to a structure other than a single-family dwelling must have a minimum clear and passable

area at least thirty-three feet (33') in width for the entire length of the driveway. "Clear and passable" shall mean that the area is free of roots, brush, shrubs, trees, obstructions, or any other debris. Provided, however, that access to a duplex residential structure may be provided by separate driveways for each dwelling unit, each of which shall be at least sixteen and one-half feet (16.5') in width and otherwise comply with the requirements of this Ordinance.

3. Minimum Improvements. The private driveway, regardless of its length, must have the following improvements to the land on which it is situated:
  - A. Any private driveway which provides access to a single-family structure must have an aggregate base course of compacted gravel, crushed concrete, slag, or similar material which is at least six inches (6") in depth and twelve feet (12') in width for the entire length of the driveway.
  - B. Any private driveway which provides access to a structure other than a single-family dwelling must have either:
    - 1) An aggregate base course of compacted gravel, crushed concrete, slag, or similar material which is at least six inches (6") in depth and twenty feet (20') in width for the entire length of the driveway, and a bituminous paving overlay of the base course, which is at least two and one-half inches (2.5") in depth; or,
    - 2) A subbase of granular material (M.D.O.T. Class II), which is at least six inches (6") in depth and twenty feet (20') in width for the entire length of the driveway and a concrete paving overlay of the subbase of at least three and one-half inches (3.5") in depth.

Provided, however, that access to a duplex residential structure may be provided by separate driveways for each dwelling unit; each driveway must satisfy the requirements of (a) or (b) above, except that the width of the base course or subbase and of the paving overlay must be at least twelve feet (12').

- C. The driveway shall have a vertical clearance of at least thirteen feet (13') for the entire length of the driveway, except for the thirty feet (30') closest to the principal structure which is served by the driveway.
- D. The minimum width of the aggregate base course, subbase, or paved area, and an additional one foot (1') on each side thereof must be clear

and passable. "Clear and passable" shall mean that the area is free of roots, brush, shrubs, trees, obstructions, or any other debris.

E. The private driveway shall have a minimum lateral crown of 0.4 percent (0.4%) and a maximum lateral crown of seven percent (7.0%).

4. Radius of Turns: On all driveways which exceed one hundred feet (100') in length, if the driveway has any turns, the driveway must be reviewed by the Township Fire and Rescue Department to insure that the Township's equipment can readily traverse the driveway at least to a point within one hundred feet (100') of the structure served by the driveway. The Township Fire Chief shall have the discretion to deny approval of any proposed driveway which cannot be readily traversed by the equipment of the Township Fire and Rescue Department due to severity of turns or inadequate radius of the turns in the proposed driveway. The review by the Township Fire Chief shall be based on the then current standards or requirements of the Ottawa County Road Commission for public streets and roads.

**30.0404 Sec. 4 STANDARDS AND REQUIREMENTS FOR PRIVATE ROADS**

All private roads shall be subject to the following standards and requirements:

1. Maximum Number of Premises. A private road may serve no more than twenty-four (24) premises.
2. Minimum Width. The minimum width of a private road shall be as follows:
  - A. Roads which serve less than four premises. Private roads with less than four premises shall be at least sixteen and one-half feet (16.5') in width for each premises served and the width must be maintained for the entire length of the road (e. g., a private road which serves two premises must be at least thirty-three feet (33') in width over its entire length; a private road which serves three premises must be at least forty-nine and one-half feet (49.5') in width over its entire length.
  - B. Roads which serve four (4) or more premises. Private roads which serve four (4) or more premises must be at least sixty-six feet (66') in width for the entire length of the road.
  - C. Roads which potentially will serve four (4) or more premises. Notwithstanding Section 4.2.A above, private roads which serve less than four (4) premises but which potentially will serve four (4) or more premises must be at least sixty-six feet (66') in width for their

entire length. A private road shall be considered to potentially serve four (4) or more premises if the number of premises actually served by the private road, plus the number of premises which could be created on adjacent undeveloped property to which the private road could potentially be extended, equals four (4) or more. Property shall be considered undeveloped if lots without principal buildings located on them could be created in accordance with the Grand Haven Charter Township Zoning Ordinance, as amended. For purposes of this paragraph, "lots" and "principal buildings" shall be interpreted according to their meanings in the Grand Haven Charter Township Zoning Ordinance, as amended.

(ord. no. 262 eff. April 27, 1997; amend. by ord. no. 375 eff. April 18, 2003)

3. Minimum Improvements. The private road, regardless of its length, must have the following improvements to the land on which it is situated:

A. A subbase of granular material (M.D.O.T. Class II), which is at least 12 inches (12") in depth. This is required in all areas of heavy soils, frost heavy materials, or high water table.

B. An aggregate base course of compacted gravel, crushed concrete, slag, or similar material which is at least six inches (6") in depth for the entire length of the road.

(ord. no 262 eff. April 27, 1997; amend. by ord. no. 301 eff. November 20, 1998)

C. 1) The minimum width of both the subbase and the aggregate base course shall be at least twenty feet (20') for the entire length of the road, if the private road serves seven or fewer premises and is located in the AG Agricultural District, RP Rural Preserve District, RR Rural Residential District, LDR Low Density Residential District, R-1 Single Family District or R-2 Single Family District.

2) The minimum width of both the subbase and the aggregate base course shall be at least twenty-three feet (23') for the entire length of the road, if the private road serves eight (8) or more premises and is located in the RP Rural Preserve District, RR Rural Residential District, LDR Low Density Residential District, R-1 Single Family District or R-2 Single Family District.

3) The minimum width of both the subbase and the aggregate base course shall be at least thirty feet (30') for the entire

length of the road, if the private road is located in a Commercial, Industrial or high density residential use. A high density residential use shall be considered to be any residential use in a zoning district other than AG Agricultural District, RP Rural Preserve District, RR Rural Residential District, LDR Low Density Residential District, R-1 Single Family District or R-2 Single Family District.  
(ord. no 262 eff. April 27, 1997; amend. by ord. no. 384 eff. Nov. 15, 2003)

- D. The road shall have a vertical clearance of at least thirteen feet (13') for the entire length of the road.
- E. The minimum width of the aggregate base course and an additional two feet (2') on each side thereof must be clear and passable. "Clear and passable" shall mean that the area is free of roots, brush, shrubs, trees, obstructions, or any other debris.
- F. The private road shall have a minimum lateral crown of 0.4 percent (0.4%) and a maximum lateral crown of seven percent (7.0%).
- G. Bituminous paving overlay of the base course is required when the private road serves four (4) to seven (7) premises or a wireless telecommunication tower or antenna. The bituminous paving must be at least two and one half inches (2.5") in depth and the bituminous mixture or content must also meet or exceed the then current standards of the Ottawa County Road Commission, except that each of the two (2) lane widths must only be a minimum of nine and one half feet (9.5') wide per lane, for a total of nineteen feet (19'), and may exclude the requirements for curb, gutter and storm sewer installation.  
(ord. no 262 eff. April 27, 1997; amend. by ord. no. 384 eff. Nov. 15, 2003)
- H. Bituminous paving overlay of the base course is required when the private road serves eight (8) or more premises or for a commercial, industrial, or a high-density residential use. A high density residential use shall be considered to be any residential use in a zoning district other than AG Agricultural District, RP Rural Preserve District, RR Rural Residential District, LDR Low Density Residential District, R-1 Single Family District or R-2 Single Family District. The bituminous paving must be at least two and one half inches (2.5") in depth and the bituminous mixture or content must also meet or exceed the then current standards of the Ottawa County Road Commission, except that each of the two (2) lane widths for roadways in an RP Rural Preserve District, RR Rural Residential District, LDR

Low Density Residential District, R-1 Single Family District or R-2 Single Family District must only be a minimum of nine and one half feet (9.5') wide per lane, for a total of nineteen feet (19'), with curb and gutters that need only be a minimum of one and one half feet (1.5') wide.

(ord. no 262 eff. April 27, 1997; amend. by ord. no. 384 eff. Nov. 15, 2003)

- I. The owner(s) of the property over which the private road shall be constructed must record an easement for ingress and egress purposes directly to and from a public street or road for the benefit of the owners and users of the premises which are served by the private road. The easement shall also provide for the construction, maintenance, and repair (as well as reconstruction) of the road and utilities. In addition, a public easement shall be required for municipal water and sanitary sewers. The easement shall benefit the premises which front on or abut to the private road. Additionally, the owner(s) of the property over which the private road is to be constructed shall grant an easement to or for each utility company or municipality which provides utility or emergency services to any premises which is accessed by the private road; the form and location of the easement for utilities or emergency services must be reviewed and approved by the utility company or municipality prior to recording of the easement.
- J. The owner(s) of the property over which the private road shall be constructed must record a document describing the private road and provisions of maintenance with the Ottawa County Register of Deeds and shall also provide a copy of this document to any purchaser of property served by the private road. The maintenance provisions shall apportion the maintenance responsibilities among the appropriate property owners.
- K. Incorporated herein by reference and attached hereto are nine (9) drawings or depictions of typical plans and specifications for roads, turnarounds, intersections, approaches, storm sewer and underdrain details, catch basins, and manholes. These drawings or depictions are identified as "Detail No. 2" through and including "Detail No. 11" (Detail No. 10 is omitted and reserved for future use). Each of these details is incorporated herein by reference, including all notations thereon, and the construction of all private roads shall conform to the specifications of those details.  
(amend. by ord. no. 451 eff. Apr. 27, 2008)

4. Radius of Turns: If the private road has any turns, it must be reviewed by the Township Fire Rescue Department to ensure that the Township's equipment can readily traverse the road. The Township Fire Chief shall have the discretion to deny approval of any proposed road which cannot be readily traversed by the equipment of the Township Fire and Rescue Department due to severity of turns or inadequate radius of the turns in the proposed private road. The Township Fire Chief shall have the discretion to deny approval of any proposed road which cannot be readily traversed by the equipment of the Township Fire and Rescue Department due to severity of turns or inadequate radius of the turns in the proposed driveway. The Township Fire Chief shall maintain information as recommended minimum radii of turns, and shall provide copies of that information to applicant's for approval of a private road upon request. The review by the Township Fire Chief shall be based on the current standards or requirements of the Ottawa County Road Commission for public streets and roads.
5. Cul-de-sacs. Any private road which dead ends shall have a cul-de-sac which is designed and constructed in accordance with the current standards and specifications of the Ottawa County Road Commission for plat development and street construction.
6. Municipal Water and Sewer:
  - A. Municipal Water. If the private road is to serve four (4) or more households, or for a commercial or industrial use, or for a high density residential use, the owner(s) shall provide water for use on each lot or parcel accessed by the private road by means of connection to a municipally owned and operated water supply system if there is a municipal water supply main to which connection can be made within two thousand, seven hundred feet (2,700') of the private road's intersection with a public road. A high density residential use shall be considered to be any residential use in a zoning district other than R-1, R-2, or RR, except for a duplex residential use.
  - B. Municipal Sewer. The Township may require the owner(s) to provide for disposal of sanitary waste for all structures that are accessed by the private road by means of connection to municipal waste water collection system if there is a trunkline sewer with sufficient capacity to which connection can be made within two thousand, seven hundred feet (2,700') of the private road's intersection with a public road. Connection to a municipal waste water collection system may be required in any of the following circumstances:
    - 1) If the private road provides access to four (4) or more households. For the purposes of this sub-section, the term

"household" shall include all places of residence.

- 2) If the property which is proposed for access by the private road is not approved for on-site septic disposal systems by the appropriate governmental authority.
  - 3) Any multiple-family residential development, except duplex residential developments which result in a density of two (2) households or less per acre. For the purposes of this subsection, density shall be computed based on the total area the adjoining land accessed by the private road and the adjoining land within one thousand three hundred twenty feet (1,320') of the private road.
  - 4) Any private road which provides access to land that is to be developed or used for commercial or industrial uses.
  - 5) If reasonably necessary in the judgment of the Township to prevent further degradation of groundwater, natural watercourses or natural water systems, or environmentally sensitive areas.
7. Engineering Report. Whenever a private road is constructed or reconstructed or extended and is subject to the terms of this Section of this Ordinance, no occupancy permit for any building or any additional building accessed by the private road shall be issued until the owner's engineer has certified to the Township with sealed documentation that the private road has been constructed or reconstructed or extended in compliance with all of the applicable requirements of this Ordinance, specifically including without limitation the requirements of this Ordinance for the subbase, the aggregate base course, and the overlay of the base course.  
(ord. no 262 eff. April 27, 1997; amend. by ord. no. 384 eff. Nov. 15, 2003)
8. Minimum Distance Requirements. A private road shall comply with the following minimum distance requirements.
- A. A private road shall be separated from private driveways, other private roads, and public roads by the minimum distance which would be required by the Ottawa County Road Commission if the private road were a public road.
  - B. Private road entrances shall be aligned with public or private road entrances on the opposite side of the street, or they shall be offset, centerline to centerline, at least one hundred fifty (150) feet where the average daily traffic count is less than one thousand (1,000), three

hundred (300) feet where the average daily traffic count is between one thousand (1,000) and three thousand (3,000), and six hundred sixty (660) feet where the average daily traffic is greater than three thousand (3,000).

(ord. no 262 eff. April 27, 1997; amend. by ord. no. 431 eff. Oct. 28, 2006)

9. Access from Private Road. The Township desires to promote access from private roads rather than primary or heavily traveled section-line roads. Lots with access to both a private road and a primary or section-line road may not create a new access from the primary or section-line road.  
(ord. no 262 eff. April 27, 1997; amend. by ord. no. 431 eff. Oct. 28, 2006)
10. Screening Requirements. If a private road is constructed within a right-of-way or easement which is not in its entirety at least fifty feet (50') removed from the boundary of any adjoining parcel, the private road shall be paved according to the requirements of Section 4.C.7 above to control dust, and it shall be screened from the adjoining parcel. The screening shall consist of at least two staggered rows of evergreen trees, at least six feet (6') in height and planted eight feet (8') to ten feet (10') apart from the next tree (*measured from tree center to tree center*). The screening shall be constructed outside the minimum width of the easement described in Section 4.B above, in an additional easement area subject to property maintenance language in the private road maintenance agreement.  
(ord. no 262 eff. April 27, 1997; amend. by ord. no. 431 eff. Oct. 28, 2006)
11. Special Assessment Agreement. An applicant for approval of a private road in the Township shall sign a special assessment agreement. The agreement must be signed by all the owners of record of all the property to be served by the private road at the time of the application. The agreement shall provide that if the private road is not maintained in accordance with this Ordinance, the Township shall have the option but not the obligation to establish a special assessment district to fund the required improvements. The agreement shall provide that all of the signatories and their successors shall be deemed in favor of the special assessment district, and all their property shall be included within the special assessment district. The agreement shall be drafted by the Township attorney, and it shall be recorded with the Ottawa County Register of Deeds.  
(ord. no 262 eff. April 27, 1997; amend. by ord. no. 431 eff. Oct. 28, 2006)

**30.0405 Sec. 5 MISCELLANEOUS PROVISIONS**

For the purposes of this Ordinance, the following definitions or rules shall apply:

1. The length of a private drive shall be measured along the centerline of the

driveway from the edge of the public or private road that is nearest to the property served by the driveway to the nearest side of the primary structure served by the driveway.

2. The length of a private road shall be measured along the centerline of the road from the nearest edge of the public road that the private road touches to the end of the private road.
3. Access to property by means of more than one (1) private road is not permitted unless specifically approved by the Township Board, based on the advice and recommendation of the Township's Public Works Department and Fire and Rescue Department.
4. All private roads are to be registered with the Township's Fire and Rescue Department. The name of a private road shall be established only with the approval of the Township's Fire and Rescue Department in order to avoid confusion or duplication of names. A copy of the easement required by Section Four (C) (9), above, shall be provided to the Township.
5. All private drives which exceed one hundred feet (100') in length and all private roads are subject to periodic inspection by the Township's Fire and Rescue Department in order to ensure that the road is being properly maintained. If the Fire Chief determines that a private road is not being properly maintained in accordance with the requirements of this Ordinance, the Fire Chief shall give notice of the deficiency to the record owners of all parcels which are served by the private road.
6. As used in this Ordinance, the terms "maintenance" and "repair" include, but are not limited to, the following: snow removal, tree trimming, tree removal, and reconstruction of a private driveway or road.
7. This Ordinance shall apply to all driveways and roads which are constructed after the effective date of this Ordinance, and to all driveways and roads lawfully existing at the time of the effective date of this Ordinance if such existing driveway or road is improved, extended, or expanded to serve a greater number of parcels.
8. The Township Superintendent, the Township Fire Chief, and the Township Zoning Administrator/Building Inspector are authorized to enforce the provisions of this Ordinance.

**30.0406      Sec. 6            COMPLIANCE**

1. The owner(s) of the land over which the private road which serves four (4) or more premises is to be constructed shall provide the Township with

construction plans, which shall be prepared by or under the supervision of a professional engineer licensed pursuant of Act 299 of the Michigan Public Acts of 1980, as amended. The plans shall contain the name and address of the professional engineer and shall bear that professional engineer's original signature, seal and date. The Building Department, the Fire Chief, and the Public Services Director will review any plans. If the private street meets the requirements of this Ordinance, a copy of plans for the private street shall be signed by the Township Superintendent and notice of the approval shall be forwarded to the owner(s) of the land over which the private road which serves four (4) or more premises is to be constructed.

2. The Building Department and the Fire Chief will review any plans for a private driveway that exceeds one hundred feet (100') in length, if the driveway has any turns, or a private road serving four or more premises to ensure compliance with this Ordinance. The site plan must depict the proposed layout of the private road; i.e., how the proposed private road will be constructed on the land, indicating any turns in the road, and the width of the road, and any infrastructure required by this Ordinance.
3. The Building Department and Fire Chief will review the site plan to determine whether it complies with this Ordinance. If the site plan for the private road or private drive meets the requirements of this Ordinance, a copy of the site plan shall be signed by the Township Superintendent and notice of approval shall be forwarded to the owner(s).
4. Construction of all improvements for a private road which serves four (4) or more premises shall be completed within twelve (12) months of approval by the Township Superintendent. After completion of all improvements, a professional engineer licensed pursuant to Act 299 of the Michigan Public Acts of 1980, as amended shall complete a certificate, which shall contain the name and address of the professional engineer and shall bear that professional engineer's original signature, seal and date, and shall certify the following:
  - A. The engineer has personally directed the supervision and inspection of the construction.
  - B. All improvements to date have been installed in accordance with the approved construction plans and the current standards of this Ordinance.
  - C. The construction materials meet the aforementioned specifications.
5. Construction of all improvements for a private road which serves less than four (4) premises or a private drive that exceeds one hundred feet (100') in length shall be completed within twelve (12) months of approval by the Township Superintendent. After completion of all improvements, the

Fire/Rescue Department shall inspect the construction to ensure that it complies with this Ordinance. Occupancy permits for structures to be served by the private road or private drive shall only be issued if the Fire Chief notifies the Building Department that the private road or private drive has been constructed in compliance with the requirements of this Ordinance.

6. No building permits shall be issued for any construction of any residential structure on parcels being served by a private road or public road unless or until the public or private road serving said parcel complies with the road standards provided for in this Ordinance.

(ord. no 262 eff. April 27, 1997; amend. by ord. no. 336 eff. November 4, 2000)

**30.0407      Sec. 7            EXCEPTIONS**

The Township Board of Trustees shall have discretion to grant exceptions to the requirements of this Ordinance when the strict application of the literal terms of this Ordinance would impose an undue hardship, or when the strict application of the literal terms of this Ordinance results in practical difficulties. However, it is the general purpose of this Ordinance to protect the public health, safety, and welfare, and it is therefore anticipated that such exceptions should be rarely granted.

**30.0408      Sec. 8            VIOLATIONS A CIVIL INFRACTION**

Any person, firm, or corporation which violates the provisions of this Ordinance shall be responsible for a municipal civil infraction. The sanction for a violation of this Ordinance shall be a civil fine of not less than fifty dollars (\$50.00), plus costs and other sanctions. Increased civil fines may be imposed for repeated violations of this Ordinance by a person, firm or corporation. A "repeat violation" of this Ordinance is a second or subsequent violation of this Ordinance committed by a person, firm, or corporation within six (6) months of a prior violation of this Ordinance, and for which the person, firm, or corporation admits responsibility or is determined to be responsible. The sanction for a violation of this Ordinance which is a first repeat violation shall be a civil fine of not less than two hundred fifty dollars (\$250.00), plus costs and other sanctions. The sanction for a violation of this Ordinance which is a second or subsequent repeat violation shall be a civil fine of not less than five hundred dollars (\$500.00), plus costs and other sanctions.

**30.0409      Sec. 9            REPEAL**

All Ordinances and resolutions in conflict herewith in whole or in part are hereby repealed to the extent of such conflict.

**30.0410      Sec. 10      SEVERABILITY**

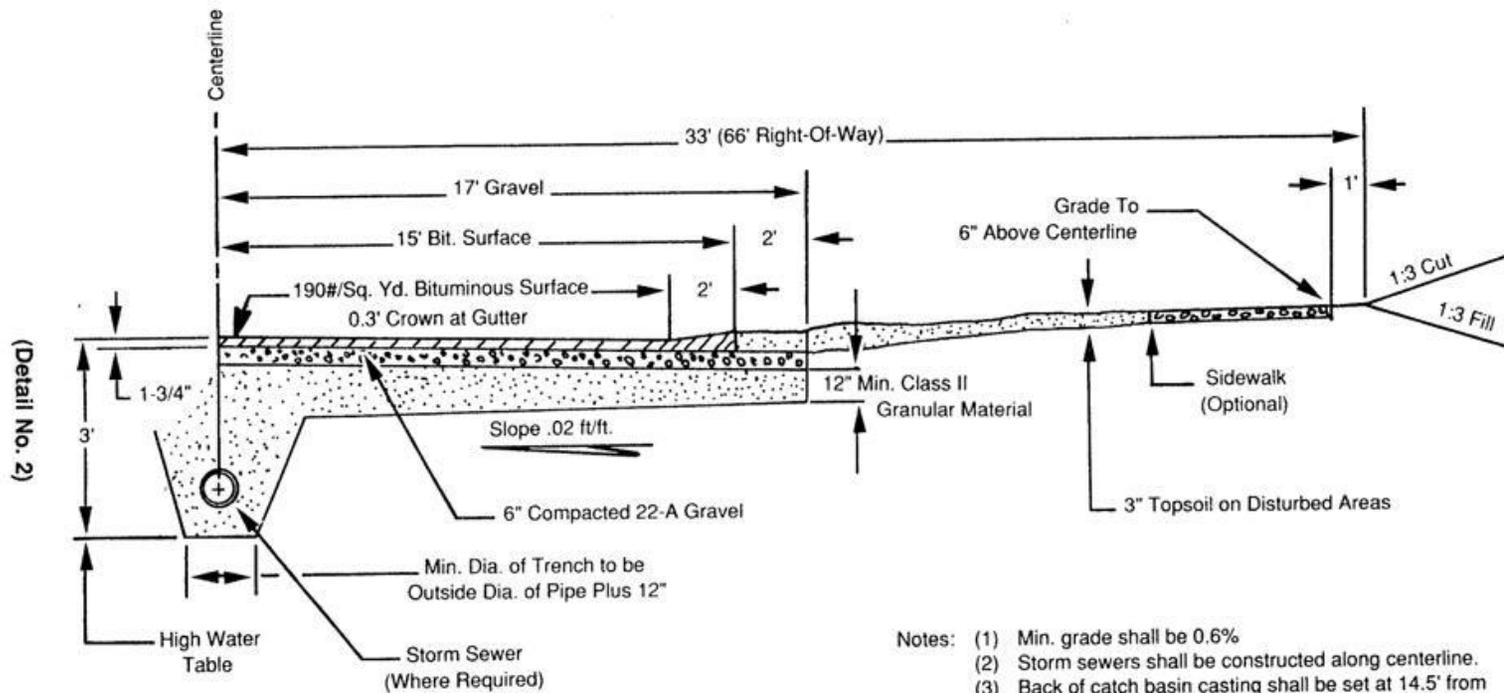
The various parts, sections and clauses of this Ordinance are hereby declared to be severable. If any part, sentence, paragraph, section or clause is adjudged unconstitutional or invalid by a court of competent jurisdiction, the remainder of the Ordinance shall not be affected thereby.

**30.0411      Sec. 11      EFFECTIVE DATE**

This Ordinance shall take effect thirty (30) days after the publication in the manner provided by law.

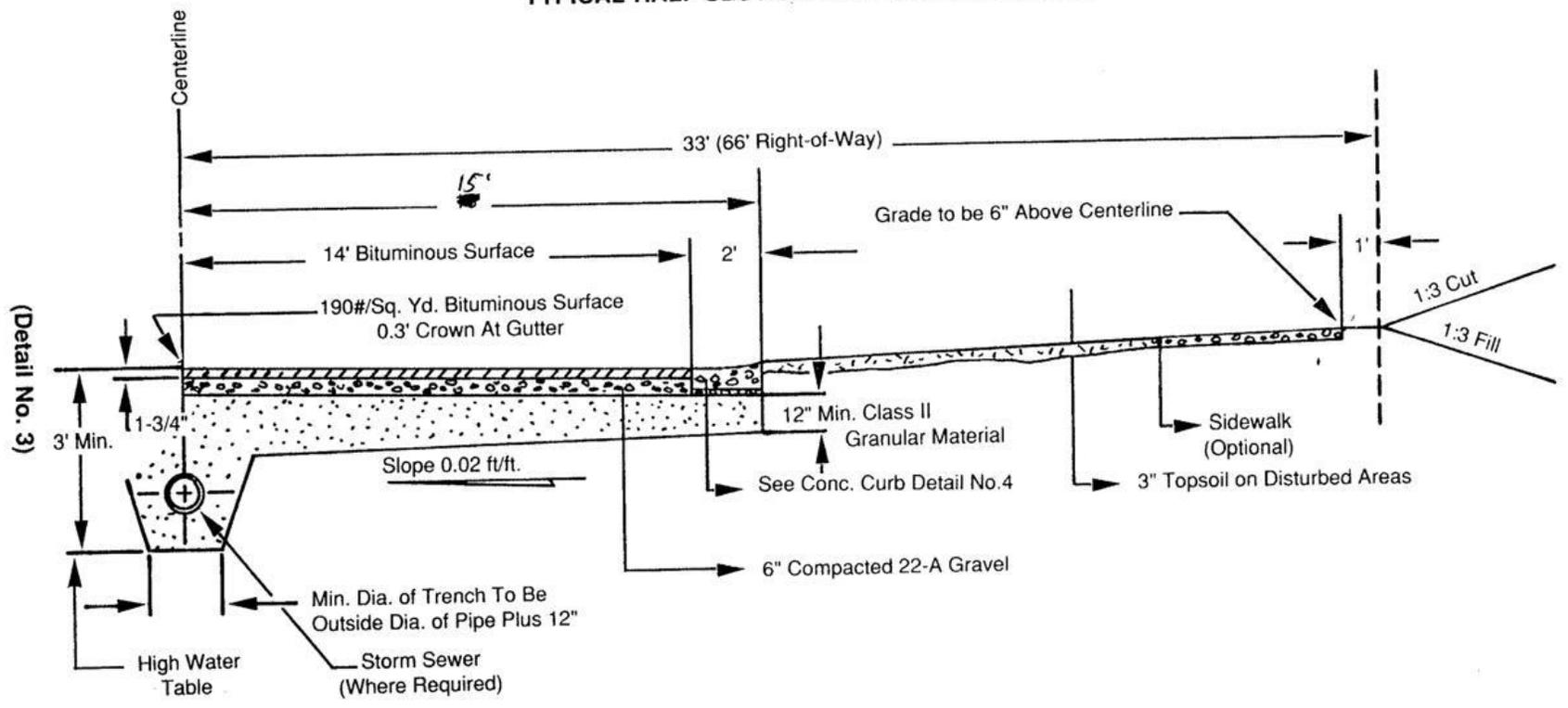
(ord. no. 262 eff. April 27, 1997; amend. by ord. no. 319 eff. September 24, 1999; amend. by ord. no. 336 eff. November 4, 2000; amend. by ord. no. 384 eff. Nov. 15, 2003; amend. by ord. no. 431 eff. Oct. 23, 2006)

**RESIDENTIAL  
TYPICAL HALF-SECTION WITH BITUMINOUS CURB**



**Detail No. 2**

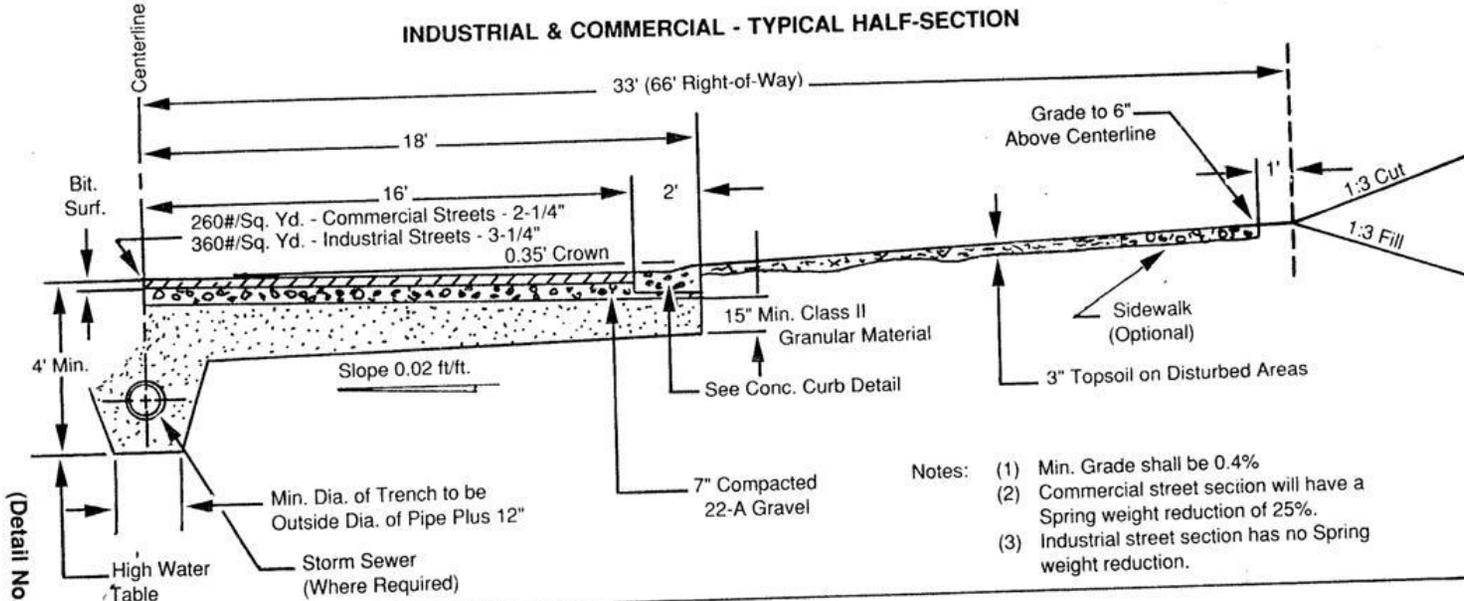
**RESIDENTIAL  
TYPICAL HALF-SECTION WITH CONCRETE CURB**



(Detail No. 3)

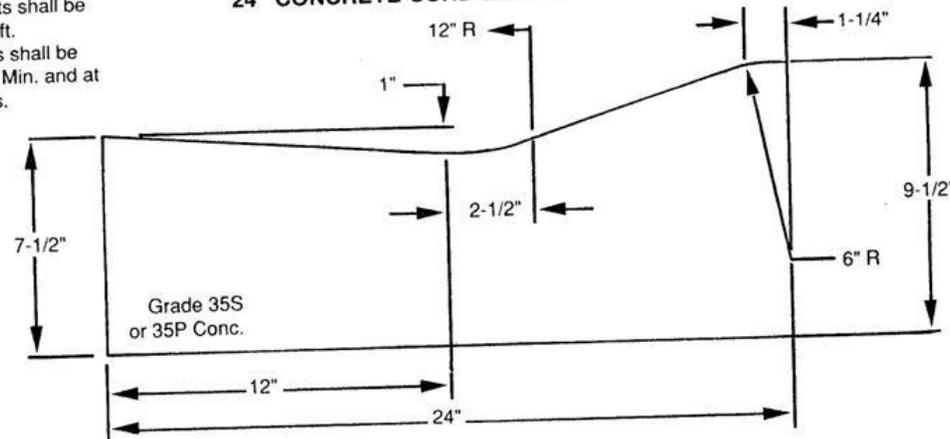
**Detail No. 3**

- Notes:
- (1) Min. Grade shall be 0.4%.
  - (2) Storm Sewer shall be constructed along centerline.
  - (3) This Street Section will have a spring weight reduction of 35%.



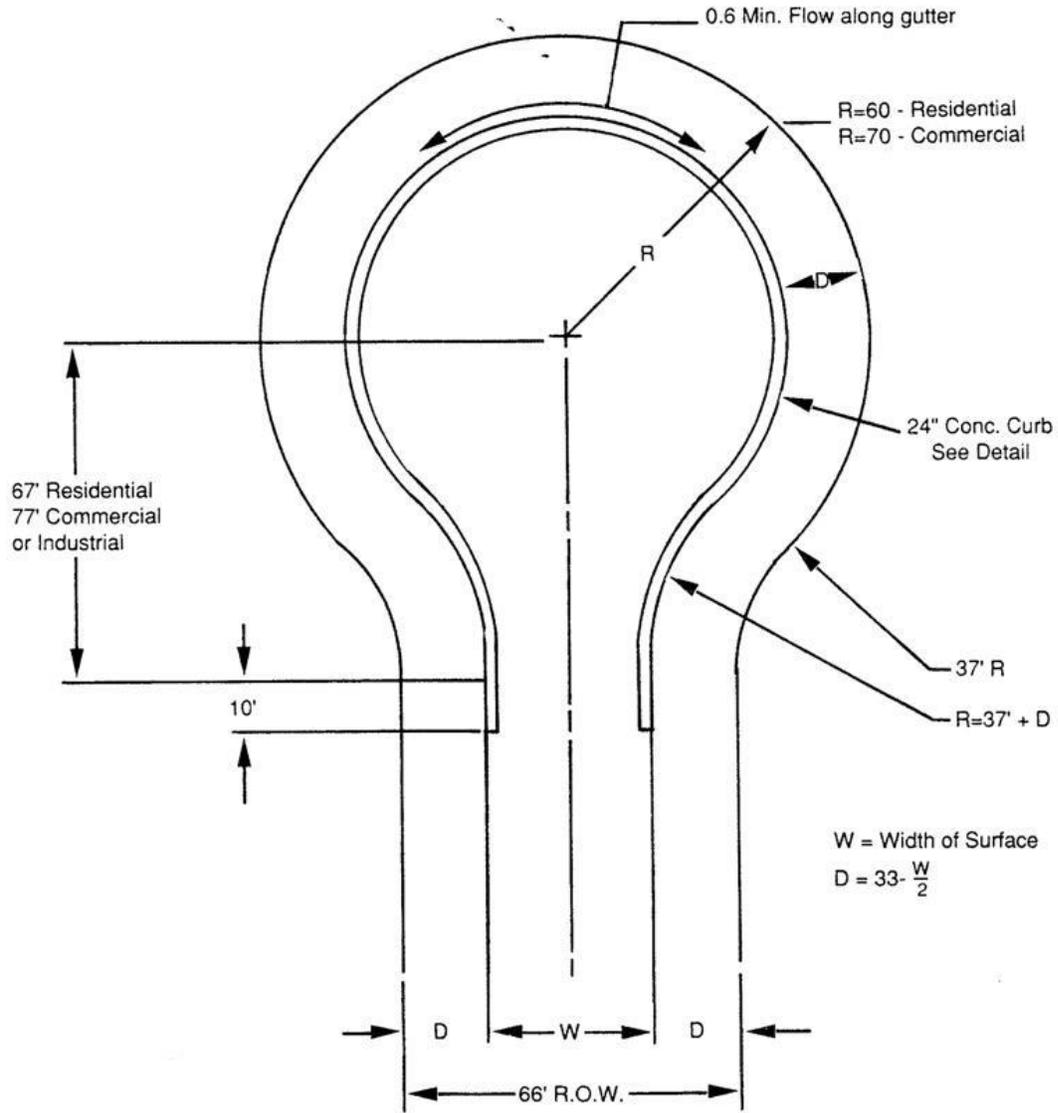
- Notes:
- (1) Contraction Joints shall be placed every 10 ft.
  - (2) Expansion Joints shall be placed at 350 ft. Min. and at all Radius Points.

#### 24" CONCRETE CURB DETAIL



**Detail No. 4**

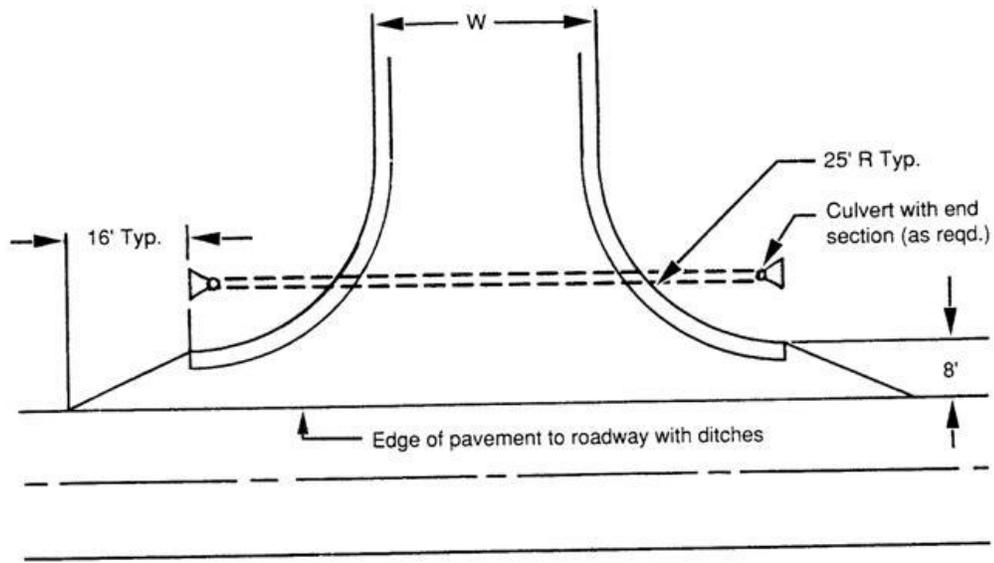
TYPICAL TURNAROUND



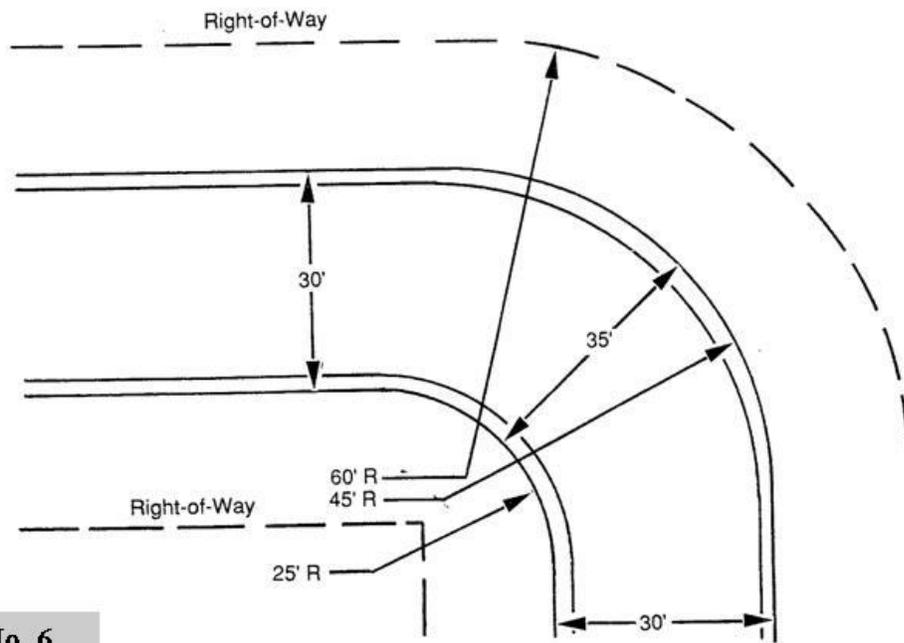
Detail No. 5

(Detail No. 5)

TYPICAL INTERSECTION OF LOCAL STREETS  
WITH UNLIKE SECTIONS



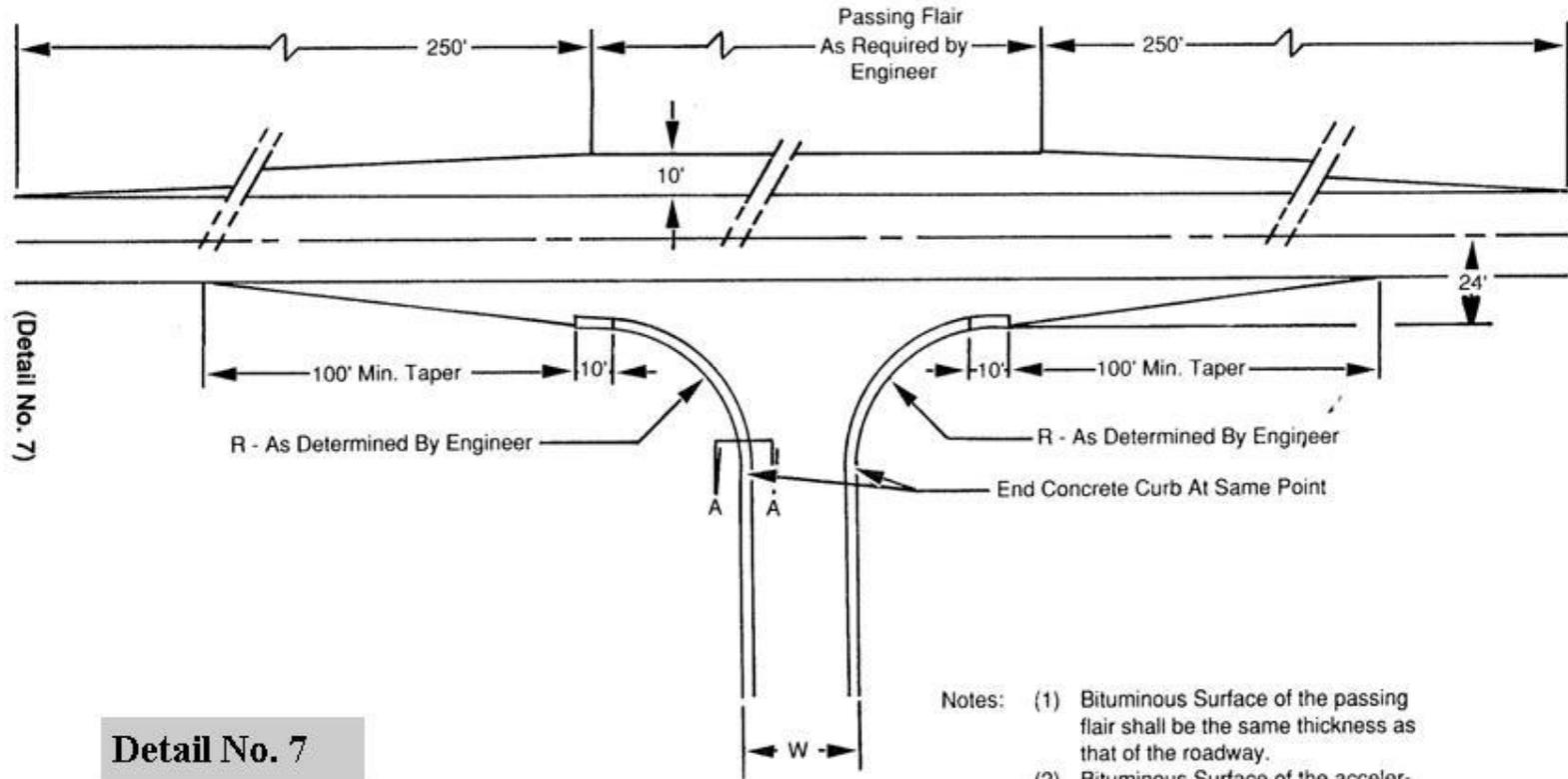
TYPICAL 90° CORNER



Detail No. 6

(Detail No. 6)

**TYPICAL SECTION - CURB AND GUTTER APPROACH  
TO PRIMARY OR MAJOR LOCAL ROAD  
WITHOUT CURB AND GUTTER**



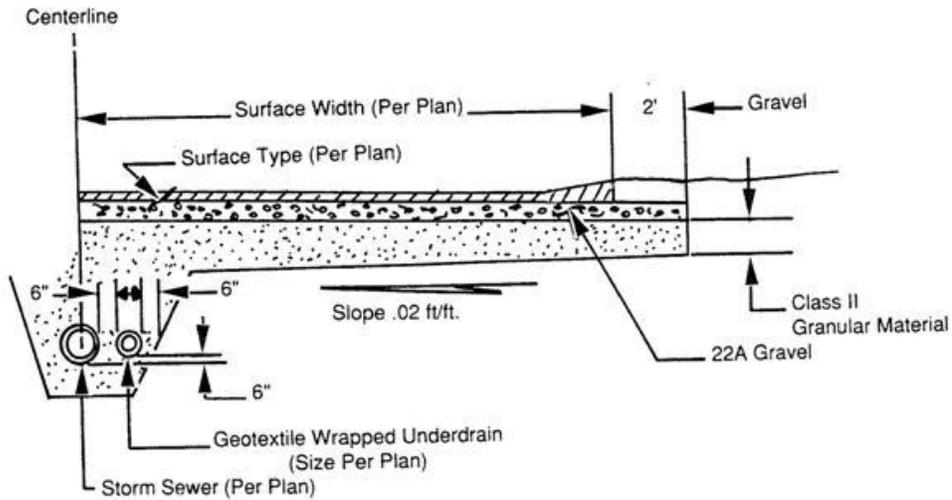
**Detail No. 7**

Section A - A Concrete Curb Detail  
See Page 16 Detail No. 4

- Notes:
- (1) Bituminous Surface of the passing flair shall be the same thickness as that of the roadway.
  - (2) Bituminous Surface of the acceleration lanes shall be the same thickness as that of the new street.

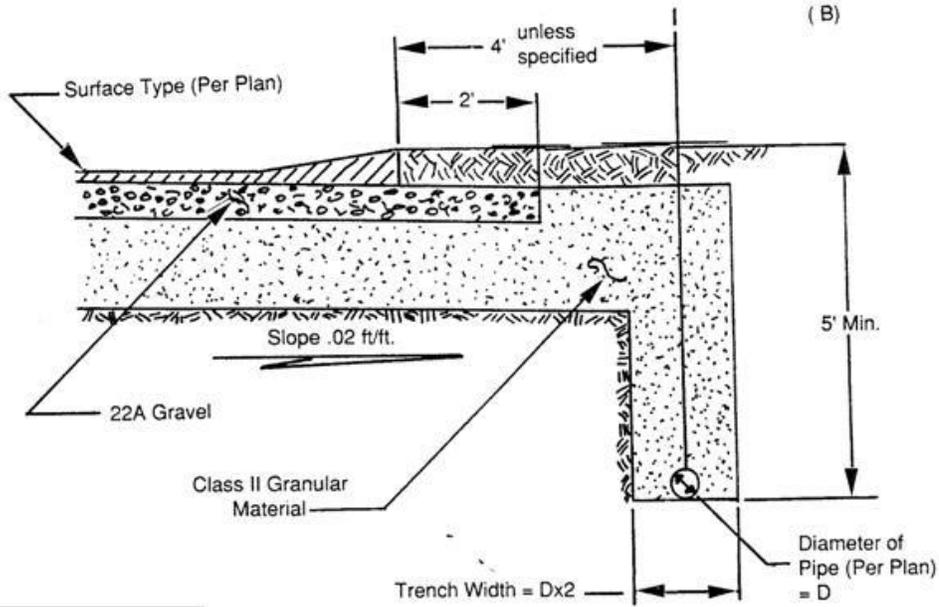
**TYPICAL HALF-SECTION WITH  
STORM SEWER AND ROADBED UNDERDRAIN**

(A)



**TYPICAL QUARTER SECTION WITH SUBBASE  
UNDERDRAIN**

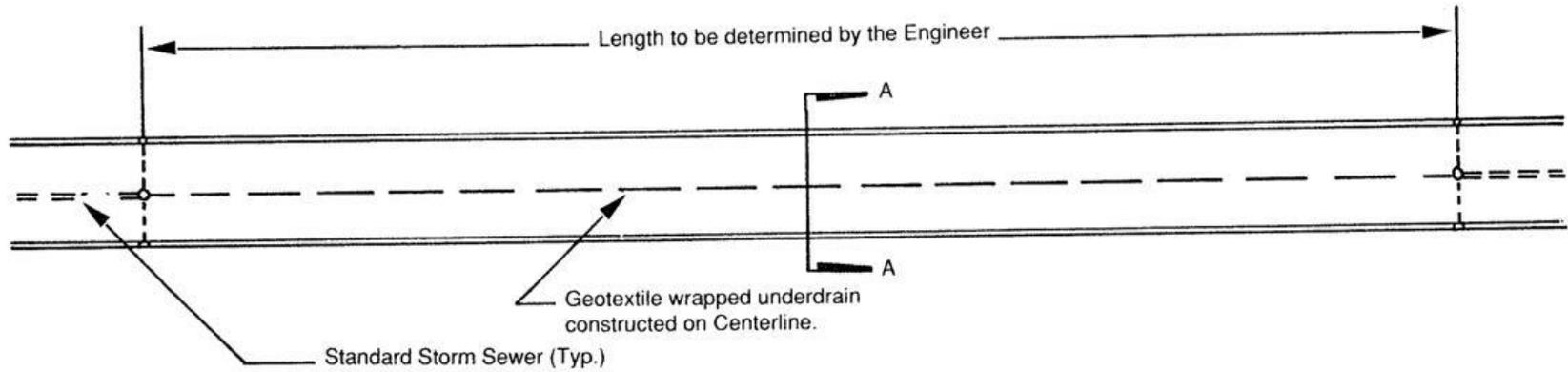
(B)



**Detail No. 8**

(Detail No. 8)

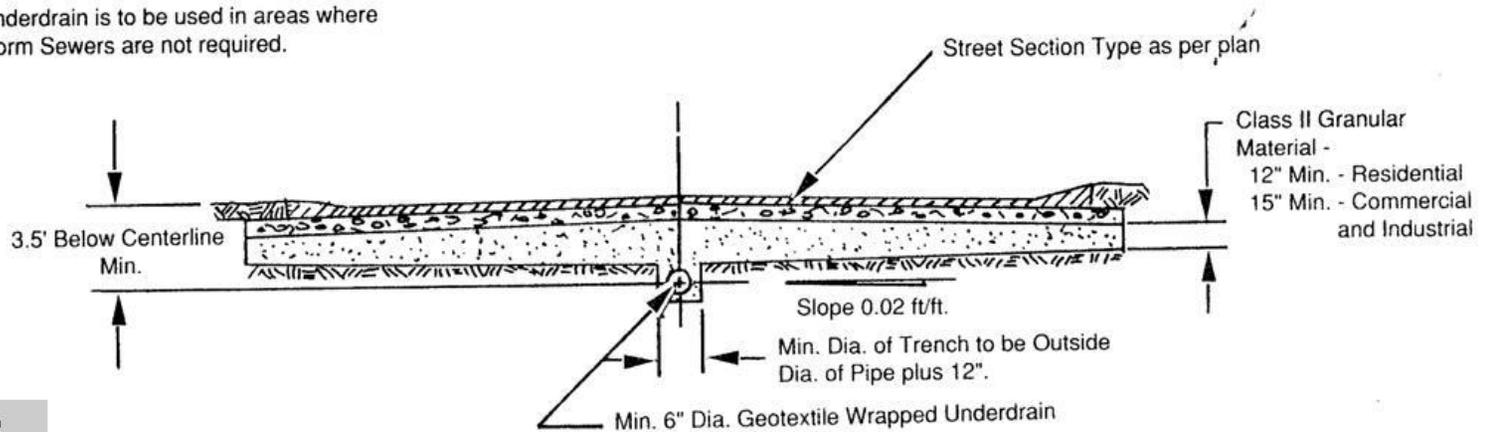
**TYPICAL UNDERDRAIN IN UNSUITABLE SOIL AREAS**



(Detail No. 9)

Note: Underdrain is to be used in areas where Storm Sewers are not required.

**Detail No. 9**



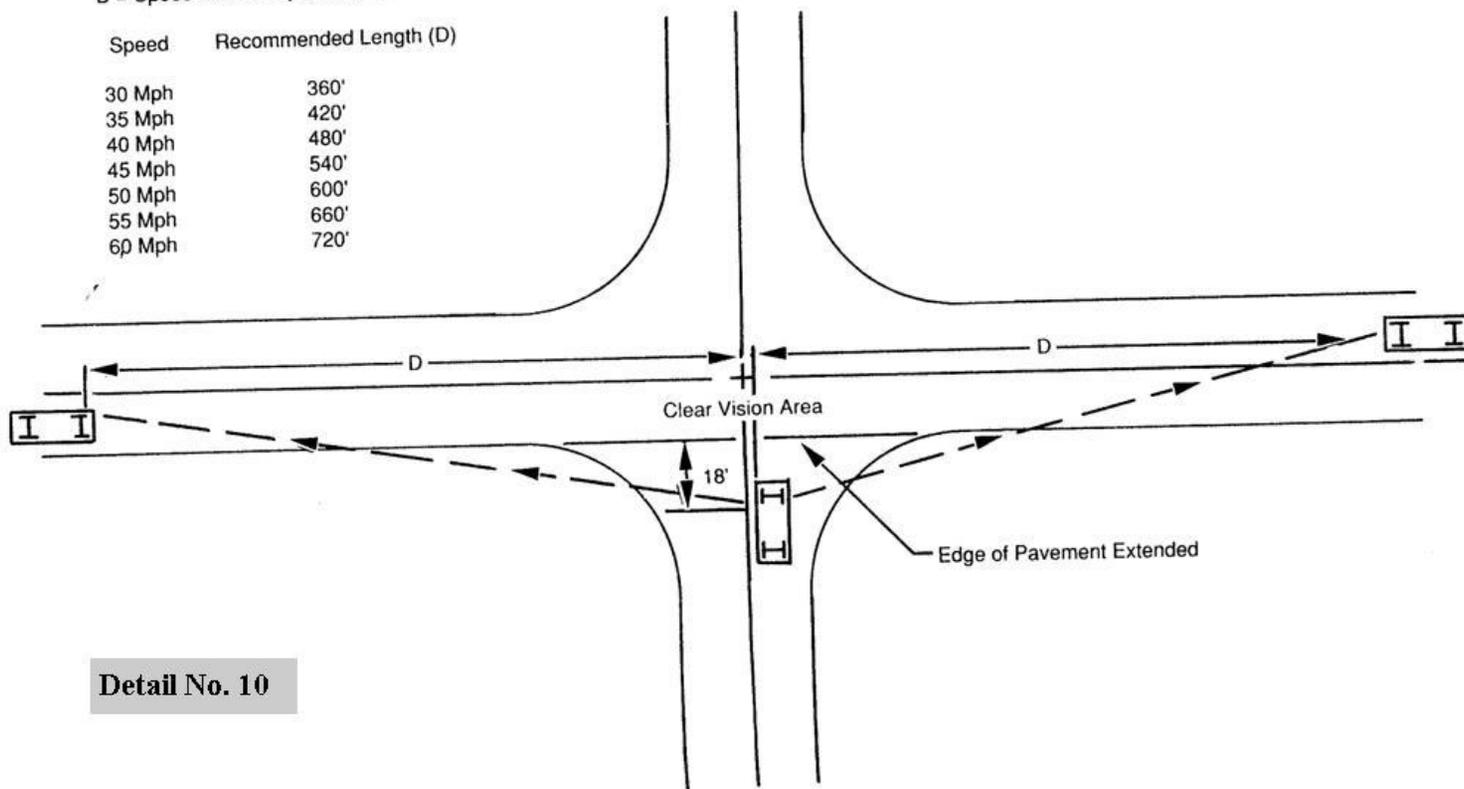
SECTION A-A TYPICAL CROSS-SECTION

## RECOMMENDED DRIVEWAY AND INTERSECTION SIGHT DISTANCE

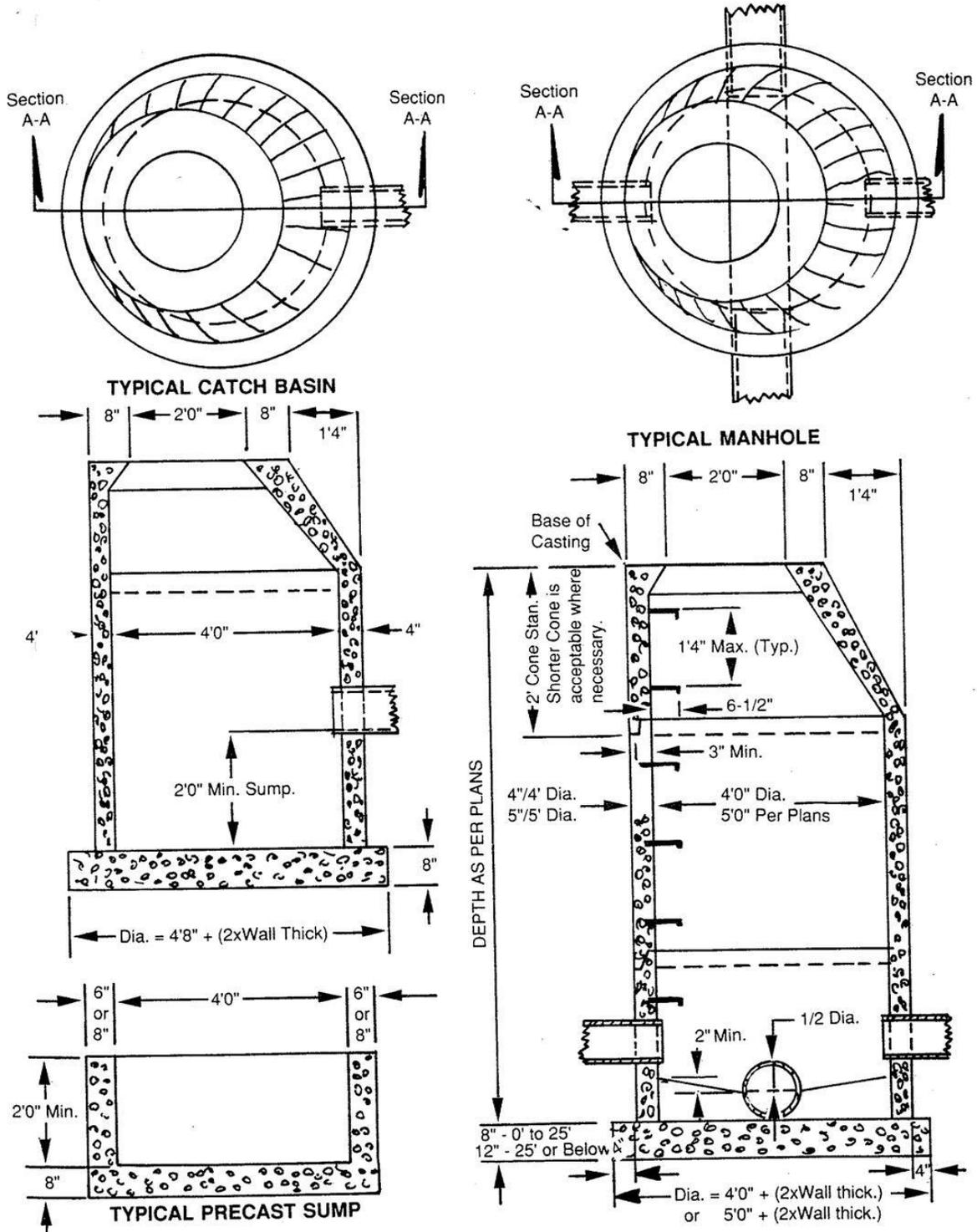
$D = \text{Speed Limit or Operating Speed} \times 12$

Speed	Recommended Length (D)
30 Mph	360'
35 Mph	420'
40 Mph	480'
45 Mph	540'
50 Mph	600'
55 Mph	660'
60 Mph	720'

Detail No. 10



**Detail No. 10**



Detail No. 11

(Detail No. 11)