

ELKHART COUNTY ROADS
GUIDELINES AND STANDARDS
FOR
DESIGN AND PUBLIC IMPROVEMENT



_____"STREET STANDARDS"____

BY:



THE ELKHART COUNTY HIGHWAY DEPARTMENT

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IMPLEMENTATION OF NEW STANDARDS; EFFECTIVE DATE

- 1.) The "effective date" of the "Street Standards" herein set forth and defined shall be September 7, 2010. As of such date the Street Standards herein set forth shall replace and supersede any prior or "old standards," to include those effective as of September 2, 2008 heretofore in force and effect, unless a "variance," as hereinafter defined shall be granted by the Board of Commissioners of the County of Elkhart. The Street Standards herein stated shall apply to all county road design, construction, drainage improvements, curb cuts, and access within the responsibility and jurisdiction of Elkhart County, Indiana. This shall include all new or additional phases of existing subdivisions.
- 2.) Design and construction within Elkhart County are to be in accordance with appropriate industry standards, unless modified in the following Elkhart County Street Standards.

SECTION I

DEFINITIONS

AASHTO. American Association of State Highway and Transportation Officials

Acceleration / Deceleration Tapers. Additional street pavement contiguous to the existing county road, typically triangular in design, to help remove right-turning vehicles from the traveling roadway and accommodate turns to and from an access. (See Figure 2)

Access. The location at which motor vehicles shall be afforded ingress and egress to a subdivision lot or unplatted parcel off of an alley or street as permitted and authorized by these Standards or the point of intersection of an alley, private drive, or street with an arterial or collector street as permitted and authorized by these Standards.

Alley. A public or private vehicular right-of-way primarily designed to serve as secondary access to the side or rear of properties whose principal frontage is on a street. No platted residential or commercial lot, nor any unplatted residential or commercial parcel, shall have an alley as its principal means of vehicular traffic to and from such, and any lot hereafter platted, or any such unplatted parcel for which a curb cut or other access under these Standards shall be sought, must be served by another appropriate curb cut/access to an existing street, separate and apart from any secondary access to or from the alley.

Applicant. The owner of real estate or an appointed agent who makes application to the Elkhart County Highway Division.

Arterial. A primary or secondary arterial as herein defined.

Arterial, Primary. A street intended for traffic movement volume in excess of 10,000 vehicles per day; typically multi-lane streets or as designated in Appendix "C".

Arterial, Secondary. A street intended to move through-traffic to and from such major attractors as central business districts, regional shopping centers, colleges and/or universities, military installations, major industrial areas, and similar traffic generators within the county; and/or as a route for traffic between communities; a street, with a minimum average daily traffic count of five to ten thousand (5,000-10,000) vehicles or as designated in Appendix "C".

As-built Drawings. A detailed drawing/site plan certified by a licensed land surveyor or engineer setting forth, in red thereon, a plan and profile of the finished public improvements being tendered for acceptance by the Elkhart County Commissioners. The as-built drawings must reflect the COMPLETED subdivision. For "Developer Agreements" the contractor installing the improvements shall submit as-built drawings on 8 ½" x 11" papers. All as-built drawings shall be submitted in PDF format.

Block. A tract of land bounded by streets, or by a combination of streets and public parks, cemeteries, railroad rights-of-way, shorelines of waterways, or boundary lines of municipalities.

Boulevard. A street with a decorative divider or strip of land segregating traffic flowing in opposite directions.

Certified Construction Plan(s). The maps or drawings accompanying a subdivision plat and showing the specific location and design of Public Improvements to be installed for the subdivision in accordance with the requirements of these Standards as a condition of the approval of the plat. A reduced copy of the plans on 11"x17" paper shall also be submitted. The plans shall be certified by an Engineer or Surveyor licensed by the

State of Indiana. A licensed Engineer or Surveyor shall certify sanitary sewers when applicable. A licensed Engineer shall certify water plans.

All guarantees, liabilities, and warranties of the functionality of design, compliance with design minimums, as well as construction, shall reside with the designer, the developer, the agent, and ultimately the landowner. Elkhart County's review is for verification of the minimum design standards only and not the functionality of the designs.

Change of Use. For purposes of these Standards, a "Change of Use" means that a platted or unplatted residential or commercial lot or parcel is being proposed by a developer and/or private property owner for a use different than, more expansive than, more intense than, or unrelated to, the use to which such lot or parcel has theretofore been subject; Change of Use shall not apply to modest additions to single family or duplex structures, renovations or remodelings of existing buildings or structures on lots or parcels which will continue to be used essentially the same as prior to such efforts, or other modest upgrades or undertakings relative to improvements on lots which do not alter or increase the vehicular traffic coming and going from such lot or parcel. Any proposed rezoning, special use permit, or use variance under the Elkhart County Zoning Ordinance as and to a lot or parcel shall, for purposes of these Standards, be a Change of Use.

Collector. A street intended to collect and distribute traffic in a manner similar to secondary arterials, while serving lesser traffic generating areas such as community-commercial areas, primary and secondary educational plants, hospitals, major recreational areas, churches, and offices, or carrying traffic from minor streets to primary arterials; collectors include all numbered county roads with a minimum average daily traffic count of three – five thousand (3,000-5,000).

Commercial. Refers to all current, planned, or proposed use or development of real estate parcels for any purpose or use other than purely one or two family residential; shall include agricultural, industrial and commercial uses under the Elkhart County Zoning Ordinance, as well as triplexes, apartments and other residential projects besides duplexes and single family.

County Road. A street under the jurisdiction of the Elkhart County Highway Division.

Cul-de-sac. A street with only one (1) outlet and having an appropriate terminal for the safe and convenient reversal of traffic movement including public safety vehicles.

Deceleration Lane. Travel lanes contiguous to and made a part of streets designed to accommodate right vehicular turns into developed property or onto another street. (See Figure 2)

Detention Basin. An artificial flow control structure that is used to contain flood water for a limited period of time. A detention basin provides protection for areas below it by containing flood water for a short period of time. These basins are generally a part of a larger engineered flood water management system.

Developer. Party or parties responsible for the improvement of real estate to be dedicated to the public, to include corporations, limited liability individual companies, partnerships, proprietorships, entities and Individuals, and "guarantors" as herein defined, where applicable.

Developer Agreement Form. Agreement prepared for Elkhart County defining the Developer's obligations.

Dead-end Street. A Street or a portion of a street with only one (1) vehicular traffic outlet, and no permanent turnaround at the terminal end (also known as a stub street.)

Drainage Area. Immediate boundary of proposed development and entire watershed entering the site.

Drives, Commercial. Vehicular driveway, paved or unpaved, which provides access to commercial property or a

drive which serves as public access to commercial property.

Drives, Private. Vehicular streets and driveways, paved or unpaved, which are wholly within private property except where they intersect with other streets within public rights-of-way.

Easement. An authorization grant by a property owner for the use by another of any designated part of his property for a clearly specified purpose(s).

Elkhart County. Elkhart County Government, and shall include the Board of Commissioners of the County of Elkhart, the executive and legislative body for Elkhart County, and the agents and representatives thereof.

Elkhart County Highway Division. The Manager of Transportation, the County Engineer or anyone acting with their authority, for and on behalf of the Board of County Commissioners for Elkhart County, Indiana.

Farm Access. Seasonal access that provides minimal agricultural use.

Farm Tile. Any known or identifiable tile system that is not considered a 'legal drain'.

Final Acceptance. Final approval and acceptance of public improvements, by the Board of County Commissioners at the conclusion of the 3-year Maintenance Surety time period.

Flood Plain Elevation. The flood plain elevation as graphically mapped and designated on the Federal Emergency Management Agency, Flood Insurance Rate Maps (FIRM) and as the contour elevation is established by a licensed land surveyor in the State of Indiana.

Frontage. That side of a platted subdivision lot, or unplatted parcel, abutting on a street, and typically deemed and considered, for planning and zoning purposes, as being the front of such lot or parcel. For purposes of these Standards, lots and parcels shall not be eligible for curb cuts or other access onto stub streets, and hence the front yard of such shall be expected to have frontage on a street, as otherwise permitted by these Standards. Any lot or parcel with frontage on two intersecting streets will be deemed to have frontage on each.

Functional Limits. The space required for perception, braking, queuing and acceleration of vehicles on each leg of a signalized or un-signalized intersection. The length of any turn lanes and their initial tapers are included in the functional limit, as a minimum, but the limit may also be larger. The functional limit of each intersection leg (both inbound and outbound lanes) is determined by calculating the required perception, braking and storage (queuing) distances for the inbound design year traffic volume (typically 20 years in the future) per INDOT Design Manual. Functional limits at un-signalized intersections should be evaluated as if all vehicles, even those on a through street, were required to stop, and the resulting braking and queuing distances used as the limit. On all County numbered roads the minimum functional limit at all intersections is 500 feet to the nearest edge of pavement of the intersecting road.

Grade. The slope of a street, or other public way, specified in percentage (%) terms, relating to uphill or downhill fall.

Guarantor (s). A person or persons, or entity or entities, responsible for and guarantying the duties or commitments of another entity or person, to include a developer when applicable, under a Developer Agreement, Surety, Maintenance Bond, or otherwise.

Highway, Limited Access. A street providing for through traffic as to which owners, occupants, or users of adjacent or contiguous property shall have no legal right to vehicular access to or from the same, except at such points and in such manner as may be determined by Elkhart County, or other governmental authority having jurisdiction.

Intersection. Is the point of confluence of two (2) or more streets.

Initial Acceptance. Acceptance of installed public improvements by the Board of County Commissioners after Elkhart County Highway Division approval and a 3-year Maintenance Surety.

Legal Drainage System. Any storm water system accepted and regulated by the Elkhart County Drainage Board.

Lot. A tract of real estate in a recorded and platted subdivision.

MUTCD. Manual on Uniform Traffic Control Devices

Maintenance Surety. A Bond, certificate of deposit, or a letter of credit guarantying materials and workmanship for drainage and road improvements from performance failure for a three-year period after date of posting; performance failure shall include, but not necessarily be limited to, excessive and/or unconventional and/or atypical pavement cracking, development of potholes, broken or weak curbs, failed or damaged drainage structures, excessive silting of drainage storage facilities, or other defects or failures from conventional performance and construction quality as determined Elkhart County Highway Division.

Minor Street. A street intended to provide access to Arterials and/or collector streets, to include streets serving and within residential subdivisions.

Parcel. A tract of real estate of any type or character, to specifically include unplatted tracts.

Passing Lane. A travel lane in a street that allows the free flow traffic to the right of vehicles making left hand turns.

Plan Commission. The advisory planning body for Elkhart County as established by applicable Indiana law.

Platted Lot. A tract of real estate, the description of which is defined and identified by lot number or similar designation on a county plan commission approved and recorded subdivision plat in the Elkhart County recorder's office, which tract is subject to varying utilities, drainage, access, and/or usage limitation or entitlements set forth in said plat or associated recorded instruments.

Positive Outlet (Drainage). Runoff of surface water concentrated within a channel or pipe released to an open channel or stream.

Primary Access. The principal access point, and in most instances the only access point, to a subdivision lot or unplatted parcel, for vehicular traffic, from or off of a street, as shall be permitted by these Standards.

Public Improvements. Any drainage ditch and associated drainage structures, street, highway, boulevard, sidewalk, pedestrian-way, tree line, sanitary or storm sewer, water lines, off-street parking area, lot improvement, or other facility for which Elkhart County, consistent with these Standards, may ultimately assume maintenance and/or operational responsibility, or which may affect another or existing public improvement for which Elkhart County has already assumed maintenance and/or operational responsibility.

Record Drawings. Drawings or plans provided by the applicant depicting the 'in place' location elevation and type of facility installed.

Residential Street. An existing or proposed street serving and/or primarily adjacent to lots or parcels used for one or two family residential purposes, and shall specifically include new or proposed streets for platted

residential subdivisions, typically minor or collector streets.

Retention Basin. (Sometimes called a retention pond) is an area used to contain stormwater or rain runoff. A retention basin provides an area to retain water from a small surrounding drainage area that would otherwise flood or flow off the development site. These facilities are designed so that the water remains in the local area that it was deposited in. They are intended to blend into neighborhoods and to be viewed as an amenity to that community. Retention basins are more often used in wetter areas so they tend to retain water for extended periods of time and attract and support wildlife such as amphibians and birds. These basins are used to mitigate the impact of development in previously undeveloped areas.

Right-of-Way. A strip of land occupied by or dedicated to Elkhart County to be used as by a street, pedestrian-way, crosswalk, railroad, electric transmission line, oil or gas pipeline, water main, sanitary or storm sewer main, special landscaping, or any other public use. For land platting purposes, every right-of-way hereafter established and shown on a final plat is to be separate and distinct from the lots or parcels adjoining such right-of-way and shall not be included within the dimensions or areas of such lots or parcels. Right-of-way dedications by developer on a final plat must be clearly shown on such final plat, and must be formally accepted by the Board of Commissioners. No dedication of right-of-way shall be effective or binding upon the Plan Commission and/or Elkhart County until such dedication shall be accepted by the Board of Commissioners as herein set forth.

Road. A street (as herein defined); often named or labeled by a number.

Roadway Surety. A Surety pertaining to any and all improvements proposed by and/or required of a developer as part of a subdivision plat, or other public improvement proposed, which shall insure and/or guarantee that all public improvements the responsibility of such party shall be fully completed consistent with these Standards, and other zoning, development, health, or safety criteria.

Roll Test. The driving of a loaded dump truck (tandem axle min.) over a prepared gravel road base prior to the installation of the asphalt or concrete road.

Standards. "Standards" are the rules, policies, guidelines, requirements and/or criteria herein set forth pertaining to Public Improvements, access, and other matters set forth herein; such may from time to time be referred to as "Street Standards."

Street. A public right-of-way under the jurisdiction of Elkhart County legal or geographic, to include State and Federal Highways, used primarily for vehicular traffic, but also for all other right-of-way purposes set forth in the dedication or creation of the right-of-way, or arising by operation of law.

Street Standards. See "Standards" above.

Stub Street. The platting, dedication, or establishment of right-of-way either within or without a platted subdivision, which shall provide future access and the opportunity for continuation of traffic patterns to adjacent undeveloped or unplatted parcels; unless otherwise approved by the Elkhart County Highway Division or by a variance to these Standards, the length of a stub street shall not extended beyond the limits of the drive radii and not exceed 100 feet.

Sub-base. The gravel-bearing surface of a proposed street.

Sub-grade. The undisturbed bearing surface of a proposed street.

Surety. A performance surety, certificate of deposit or a letter of credit, or other surety satisfactory to Elkhart County Highway Division, covering materials and workmanship which shall be posted by a developer or other property owner, for the benefit of Elkhart County, to promise and guarantee the proper design, construction,

and/or implementation of proposed Public Improvements; any surety shall name "the Board of Commissioners of Elkhart County, Indiana" as beneficiary thereof, and shall persist and be totally enforceable for a minimum of one year, unless specifically agreed to the contrary by Elkhart County; such surety shall not be subordinate to any other claims or entitlements of any other person or party superior to that of Elkhart County.

Thoroughfare Plan. A transportation system setting forth certain goals, priorities, and criteria pertaining to streets within Elkhart County designed to be consistent with and promote appropriate land usage and development in Elkhart County, all as contemplated by IC 36-7-4-506.

Traffic Impact Study (TIS). A study, analysis, and information document which shall evaluate a proposed access or new street connection to an existing street under the jurisdiction of Elkhart County. When determined needed by the TIVE, the TIS shall be provided by a property owner or developer through a qualified engineer or surveyor experienced in highway construction and design. It shall be conducted in accordance with the *INDOT Applicant's Guide to Traffic Impact Studies (1993)* and the *ITE Manual of Transportation Studies*, or as approved by Elkhart County. Before conducting the TIS, a Memorandum of Understanding, as required in the *INDOT Applicant's Guide to Traffic Impact Studies (1993)*, must be submitted to and approved by Elkhart County. Upon completion of the TIS, the developer is required to design for a minimum Level of Service (LOS), as defined in the current *Highway Capacity Manual*, of "B" at newly created intersections due to a proposed access point onto an existing county road. At existing streets/intersections the developer is required to maintain a minimum LOS of "C" where the intersection is currently operating at a LOS of "C" or higher. At streets/intersections currently operating at a LOS lower than "C", the developer is required to maintain the existing LOS. All required mitigation measures to maintain these Levels of Service must be recommended to, agreed upon, and approved by Elkhart County before construction of the proposed development.

Traffic Impact Vehicular Estimate (TIVE). A collection of data supplied to Elkhart County by the applicant, used to determine the traffic impacts and/or mitigation measures required to maintain the highest Level of Service possible throughout streets/intersections, under the jurisdiction of Elkhart County, within the study area of a proposed development. This data shall include (but is not limited to): the type of land use, the total acreage, the location of proposed access points, the trip generation from the development (as determined by the *ITE Trip Generation Manual* or other means approved by Elkhart County Highway), the total number of vehicles entering/exiting at proposed access points, and the a.m. and p.m. peak hour of traffic flow for all roads within the study area for the horizon year of the proposed development. All information shall be supplied in the standard TIVE form available on Elkhart County Highway's website (or by request). The TIVE will be evaluated by Elkhart County Highway Engineering to decide whether a TIS will be required for the development.

Under Developer's Control. Refers to land as to which a developer or property owner must provide documentation to the satisfaction of Elkhart County Highway Division confirming the right and ability of such developer or owner to obtain and purchase all land the subject of a proposal, subdivision, or Public Improvement.

SECTION II

GENERAL GUIDELINES

1) Right of Way

- a. Primary Arterials (4 lane streets) by County Design (150' min.)
Secondary Arterials by County Design (100' min.)
Collectors..... by County Design (80' min.)
Boulevard Minor 54 feet
Minors with Sidewalks 50 feet
Minors..... 40 feet
Cul-de-sacs 50 foot radius
- b. The dedication of right-of-way for the purpose of acceptance by Elkhart County must follow the procedures prescribed in County Ordinance No. 36-7-4-700 for Major Subdivisions and these Standards.
- c. Additional right-of-way may be dedicated to or acquired by Elkhart County by acceptance of a deed of dedication to the Board of Commissioners, by eminent domain procedures, or by other undertakings acceptable to Elkhart County Highway Division, without following the aforescribed Major Subdivision procedures and/or these Standards, in such instances where such dedication, eminent domain, or other acquisition shall increase the right-of-way width of an existing, accepted, and maintained street of Elkhart County.

2) Access.

- a. No direct, contiguous access to an arterial from a subdivided or platted lot **created after July 1, 2005** of any type shall be permitted.
- b. All proposed collectors, cul-de-sacs, or minor streets which provide access to an arterial shall be designed consistent with the requirements of Elkhart County Highway as identified by the TIVE or TIS.
- c. Under no circumstances shall any parcel have more than one access to an arterial via a private drive; and, no such singular access via private drive shall be allowed onto an arterial if such parcel has access onto a collector, cul-de-sac, or minor street which itself has access to an arterial.
- d. Only one (1) access is allowed per parcel or lot. Multiple accesses from one (1) parcel or lot would require a variance.
- e. Any proposed access via a collector, minor street, cul-de-sac, commercial or residential drive onto an existing county road will be permitted only if adequate intersection sight distances in

each direction from the proposed access are demonstrated (per Chapter 9 of current *AASHTO Manual on Geometric Design of Roads and Streets*). In the event adequate intersection sight distances are not present the developer/applicant must create the required distances or access will be denied.

- f. Speed tables for access alignment with adjacent locations, being street entrances or commercial drives, should comply with the following chart:

<u>Posted Speed Limit (mph)</u>	<u>Minimum Access Spacing Offset Required for Either Side of Road</u>	
	<u>Commercial Drives (required)</u>	<u>Residential Drives (desirable)</u>
25	200	100
30	200	100
35	450	300
40	450	300
45	600	450
50	600	450
55	600	600

- 3) **Vacation of Public Streets.** Vacation of any public road/street right-of-way in Elkhart County may be accomplished only by the procedures adopted in Appendix A (Section XIII hereof).
- 4) **Sidewalks and street lights.** Sidewalks and street lighting improvements proposed by the developer or required by the Plan Commission may be installed within the right of way. If installed within the right of way, such sidewalk or street lighting improvements shall meet the requirements outlined in Figure 15. Elkhart County shall not be liable and will be held harmless for any and all claims arising from the construction, maintenance, repair, utility bills, or damage to such improvements. The developer or successor(s), homeowner’s association, or adjoining property owner(s) shall be wholly responsible and liable for the maintenance and repair of sidewalks and street lighting improvements. The developer shall provide details of such improvements as a part of the construction plan approval process to the Engineering Department.
- 5) **Passing Lanes; Deceleration Lanes.** Where passing lanes and acceleration / deceleration lanes are required additional right-of-way may be required. It is the responsibility of the developer to obtain this right-of-way and have it included on the secondary plat.
- 6) **Additional Right-of-Way.** When a proposed change of use is adjacent to existing County right-of-way, which existing right-of-way does not meet the right-of-way width requirements otherwise set forth by these Standards, additional right-of-way shall be dedicated along the frontage of the property by the owner and/or developer to and for the benefit of Elkhart County; such right-of-way as newly established and required must equal one half the required widths from centerline (see Section II “1a”).

SECTION III

PAVEMENT CONSTRUCTION STANDARDS

All streets, except as herein provided, shall be constructed with curb and gutter. All such streets shall be located, and established with the requisite widths and other infrastructure improvements, to accommodate current and protected traffic volumes. All such streets shall be designed and constructed to afford satisfactory access to and from the same by police, fire, maintenance, snow removal, and related public service endeavors and personnel and vehicles associated therewith. The location and general design of all streets shall be part of a functioning, consistent, and convenient roadway system for Elkhart County. To further such generalized criteria, the following detailed standards with regard to "pavement" and related matters have been established.

1) Contractor Qualifications

- a. Paving contractors (asphalt and concrete) shall be State qualified and have a Certificate of Qualification in accordance with State requirements.

2) Street Widths

- a. Primary Arterials– by County Design (12' lanes min.)
- b. Secondary Arterials – by County Design (12' lanes min.)
- c. Collectors - by County Design (12' lanes min.)
- d. Minors - 28 feet back of curb to back of curb

3) Road Standards

- a. All streets must be a minimum of 24 feet wide, consisting of two 12 foot lanes.
- b. All streets designed without curb must have a shoulder constructed of No. 53 gravel measuring a minimum of two (2) feet wide and six (6) inches deep.
- c. Crown in pavement shall be 2%.
- d. Streets changing direction shall be connected by a horizontal curve having a minimum centerline radius designed to meet the requirements of Chapter 3, *AASHTO Manual on Geometric Design of Roads and Streets*. Two streets connecting at 90° will be allowed only if a paved half cul-de-sac with curb and gutter is provided with a forty (40) foot radius, (Shown as "Eyebrow", Fig. 12).
- e. Profile grade of street not less than 0.40% and not more than 6%.

4) Intersection Standards

- a. Back of curb radius at intersection *with existing county road shall be 35 feet minimum on Residential Streets.
- b. Back of curb radius at intersection *with existing county road should be 50 feet minimum on Commercial Streets.

* An intersection contains travel ways from either three (3) or four (4) directions only.

- c. An asphalt surface overlay will be required on the full width of the existing street from the extreme outer most taper points.

- d. Streets shall be laid out so as to intersect as nearly as possible at right angles and radially along curves. A proposed intersection of two (2) new streets at an angle of less than 75° shall not be acceptable. A newly proposed street should be approximately at right angles to an existing street it will intersect for at least one hundred fifty (150) feet from the intersection. Not more than two (2) streets shall intersect at any one point.
- e. The functional limits of an intersection shall be protected from access as defined in Section 1.
- f. Proposed new intersections along one side of an existing street shall, wherever practicable, coincide with any existing intersection on the opposite side of such street. Street jogs with centerline offsets shall comply with the speed table for alignment with drives in Section II Item 4 except where the intersected street has separated, dual lanes, without a median break.
- g. All intersecting street right-of-way lines must be designed with a radius. The radius point for the right-of-way line and the back of curb will be one in the same. (Fig. 12)
- h. Boulevard entrances are permitted provided they are constructed in accordance with Fig. 3. The maintenance of the improvements within the resulting island areas is the responsibility of the developer and / or homeowners association or other successor to the developer.

5) Cul-de-sac Layout

- a. Terminus diameter on cul-de-sac is determined by maintaining the same dimension between the back of curb and the dedicated right-of-way, in effect providing the equivalent width between the pavement and right-of-way as is provided for along the street.
- b. When a stub street is over 100 feet in length, a temporary cul-de-sac shall be required.

6) All paved streets shall consist of one of the following:

<u>Material</u>	<u>Cul-de-sacs & Minor Streets</u> (see 6b)	<u>Collector Streets</u> (see 6b)
Concrete	8 "	10"
Compacted Sub Base	See Section "6a" below	See Section "6a" below
Asphalt Surface	1 ½"	1 ½"
Asphalt Intermediate	2"	3"
Asphalt Base	3"	3"
Compacted Sub Base	See Section "7n" below	See Section "7n" below
	<u>Secondary Arterial</u> (see 6c)	<u>Primary Arterial</u> (see 6d)
Concrete	10 "	12"
Compacted Sub Base	See Section "6a" below	See Section "6a" below
Asphalt Surface	1 ½ "	1 ½"
Asphalt Intermediate	3"	4"
Asphalt Base	4"	5"
Compacted Sub Base	See Section "7n" below	See Section "7n" below

Note: Gravel Mixes are not to be used by developers and are not permitted by these standards.

Elkhart County reserves the right to require either asphalt or concrete when a like material is already present.

- a. Concrete streets shall be plain (no reinforcement) and contain six (6) bags of cement per cubic yard and have limestone aggregate and conform to specifications of Fig. 7 and Fig. 8. All curbs are to be poured integrally with the street. The concrete is to be placed on compacted base that is two (2) feet wider than the back to back of curb requirements. Compaction of the base shall be at least 98% Modified Proctor density.
- b. Asphalt minor streets and collectors shall consist of the surface course, which is to consist of "MV" surface. The intermediate course is to be "LV". The base course is to be "LV". The asphalt base is to be placed on the compacted sub base, which is two (2) feet wider than the back to back of curb requirements. Compaction of the base shall be at least 98% Modified Proctor density.
- c. Asphalt secondary arterial uses shall consist of the surface course, which is to be type "HV" surface. The intermediate course is to be "MV". The base course is to be "LV". The asphalt base is to be placed on the compacted sub base, which is two (2) feet wider than the back to back of curb requirements. Compaction of the base shall be at least 98% Modified Proctor density.
- d. Asphalt primary arterial uses shall consist of the surface course, which is to be type "HV" surface. The intermediate is to be "MV". The base course is to be "MV". The asphalt base is to be placed on the compacted sub base, which is two (2) feet wider than the back to back of curb requirements. Compaction of the base shall be at least 98% Modified Proctor density.

7) Asphalt Specifications

a. Description

All paving and installations specifications are to be in accordance with current INDOT Specifications unless otherwise specified or modified herein.

These specifications include general requirements that are applicable to all types of bituminous pavements of the plant mix type. This work shall consist of one or more courses of bituminous mixture constructed on the prepared foundation in accordance with these specifications and the specific requirements of the type under contract and in reasonably close conformance with the lines, grades, thickness, and typical cross sections shown on the plans or as directed.

b. Job Mix Formula Requirements

A job mix formula for the bituminous mixture for the project shall conform to the following sections and provide the following. No mixture shall be produced until the Contractor has signed the job mix formula. Submit all job mix formula to the Elkhart County Highway Department prior to the commencement of work. The job mix formula shall specify:

- a. Project or Contract for which the mix design is being used
- b. Type of bituminous mixture

- c. Type, gradation, and ledges of aggregates
- d. Percent manufactured fine aggregate, when required
- e. Type and grade of bitumen
- f. Percent of bitumen based on the total weight of mixture, exclusive of water or solvents

c. Composition of Mixtures

The bituminous plant mix shall be composed of a mixture of aggregate, filler if required, other materials when specified, and bituminous material. The several aggregate fractions shall be sized and combined in such proportions that the resulting bituminous mixture is in accordance with the job mix formula and the composition limits. The aggregate in the mixture shall be well graded from coarse to fine and shall meet the gradation requirements shown in the composition limits established in Tables 3, 4, and 5 in this section. Tolerances have been built into Tables 1 – 5, therefore the mix designs must fall WITHIN these limits.

- d. The Bituminous pavement mixtures produced are designated as LV, MV, or HV. The crushed particle requirements for each of these mixtures are set out in Table 1 below.

Table 1: Minimum Percent of Crushed Particles

Number of Lanes	Base				Intermediate				Surface			
	GRAVEL	LV	MV	HV	GRAVEL	LV	MV	HV	GRAVEL	LV	MV	HV
2	15	40	70	95	15	55	70	95	20	70	100	100
4	N/A	70	95	95	N/A	70	95	95	N/A	70	100	100
>4	N/A	95	95	95	N/A	95	95	95	N/A	100	100	100

e. Roll Pattern

A roll pattern shall be established for each mix. The density of the mix shall be 94% (+/- 3%). The contractor shall submit written documentation to Elkhart County certifying the established roll pattern(s).

- f. The percent of aggregates passing sieves specified in the composition of mixtures in Tables 4, 5, and 6 is a percentage of the total weight of aggregates. The percent of bitumen specified in the composition of mixtures above is a percentage of the total weight of mixture exclusive of water or solvent. The amount of moisture remaining in mixtures at the time of discharge from the mixer shall be as specified in the composition of mixtures above based on the weight of the test sample after drying.

g. Surface

Surface mixes shall be: #9 or #11 – Specified as LV, MV, HV or GRAVEL

The mix design for the surface course must fall WITHIN the limits outlined below in Table 2.

Table 2: Composition Limits for Surface Mixtures

Sieve Size	SURFACE MIXTURES	
	#9 - 2"	#11 - 1" to 2"
1 in. (25.0 mm)		
3/4 in. (19.0 mm)	100	
1/2 in. (12.5 mm)	90.0 - 100.0	100
3/8 in. (9.5 mm)	< 90.0	90.0-100.0
No. 4		<90.0
No. 8	48.0 (+/- 6.0)	57.0 (+/- 6.0)
No. 16		
No. 30		
No. 50		
No. 100		
No. 200	2.0-6.0	2.0-6.0
Percent of Bitumen	5.7 (+/- 0.5)_	6.1 (+/- 0.5)_
Percent of Moisture, Max.	0.3	0.3

*The fineness modulus shall be greater than 2.80. A mix design shall be submitted. However, there will be no stability and flow requirements, and the air voids shall be 4%.

Surface shall be put down with a machine with auto grade control and slope control. A 2% crown shall be maintained through out the entire length of the project (where possible), with the exception being at the point where new pavement is matching the existing. Contractor is to insure smooth transition between new asphalt and existing road.

No surface paving shall be performed unless the temperature is 60⁰ F for 1" or less and 45° and rising for greater than 1".

- h. Intermediate mix shall be: #8 or #9 LV, MV, HV, or GRAVEL

The mix design for the Intermediate course must fall WITHIN the limits outlined below in Table 3.

Table 3: Composition Limits for Intermediate Mixtures

Sieve Size	INTERMEDIATE MIXTURES	
	#8 - 2 ¼"-2 ¾"	#9 - 2"-2 ¼"
1 in. (25.0 mm)	100	
3/4 in. (19.0 mm)	90.0 - 99.0	100
1/2 in. (12.5 mm)	< 90.0	90.0-100.0
3/8 in. (9.5 mm)		<90.0
No. 4		
No. 8	29.0 (+/- 6.0)	33.0 (+/- 6.0)
No. 16		
No. 30		
No. 50		
No. 100		
No. 200	2.0-8.0	2.0-10.0
Percent of Bitumen	4.8 (+/- 0.5)_	4.9 (+/- 0.5)_
Percent of Moisture, Max.	0.3	0.3

Intermediate will be put down with a machine with ski (auto grade control) and slope control. A 2% crown shall be maintained throughout the entire length of the project, with the exception being at the point where new pavement is matching the existing or unless otherwise specified. Contractor is to insure smooth transition between new asphalt and existing road.

No intermediate course paving shall be performed unless temperature is 45° F and rising.

- i. Base mix shall be: #5 LV, MV, HV or GRAVEL Mix.

The mix design for the base course must fall WITHIN the limits outlined below in Table 4.

Table 4: Composition Limits for Base Mixtures

Sieve Size	BASE MIXTURES
	#5 > 2 3/4"
1.5in. (37.5 mm)	100
1 in. (25.0 mm)	90.0 - 99.0
3/4 in. (19.0 mm)	< 90.0
1/2 in. (12.5 mm)	
3/8 in. (9.5 mm)	
No. 4	
No. 8	23.0 (+/- 6.0)
No. 16	
No. 30	
No. 50	
No. 100	
No. 200	1.0-7.0
Percent of Bitumen	4.5 (+/- 0.5)
Percent of Moisture, Max.	0.3

Base mixture shall be used for the bottom layer of full depth bituminous pavement and may be used in the construction of shoulders, medians, or other areas not subject to traffic.

Base shall be put down with a machine with auto grade control and slope control. A 2% crown shall be maintained through out the entire length of the project, with the exception being at the point where new pavement is matching the existing or unless specified otherwise. Contractor is to insure smooth transition between new asphalt and existing road.

No base course paving shall be performed unless temperature is 32° F and rising.

- j. PG Intermediate Grade: Asphalt intermediate grades are listed in the following table.

Mixture	0% RAP	Up To 15% RAP	>15 to 25% RAP
Surface	64-22	64-22	58-28
Intermediate	64-22	64-22	58-28
Base	64-22	64-22	58-28

k. RAP – Recycled Materials

Recycled materials may consist of reclaimed asphalt pavement, RAP, or asphalt roofing shingles, ARS, or a blend of both. RAP shall be the product of cold milling or crushing of an existing HMA pavement. The RAP shall be processed so that 100% will pass the 2" (50 mm) sieve when entering the HMA plant. ARS shall consist of waste from a shingle manufacturing facility. No tear-off materials from roofs will be allowed. ARS shall be stockpiled separately from other materials. The coarse aggregate in the recycled materials shall pass the maximum size sieve for the mixture being produced.

Recycled materials may be used as a substitute for a portion of the new materials required to produce HMA mixtures. When only RAP is used in the mixture, the RAP shall not exceed 25% by mass (weight) of the total mixture. When only ARS is used in the mixture, the ARS shall not exceed 5.0% by mass (weight) of the total mixture. For substitution or use, 1.0% of ARS is considered equal to 5.0% RAP. The percentages of recycled materials shall be as specified on the Job Mix Formula.

l. Prime and Tack

Prime and Tack coats shall be per the current INDOT specifications.

m. Manufacturing/Industrial Zoned Areas

Streets, when adjacent zoning is manufacturing/industrial, may be constructed without curb and gutter, but shall include side swales. The criteria listed below must be followed.

1. The finished paved width of the street is equal to the back of curb width as required.
2. The right-of-way width must be a minimum of sixty (60) feet or as required for the proposed drainage swale.
3. A two (2) foot wide, six (6) inch deep crushed limestone shoulder must be constructed on each side of the street for its entire length.
4. Side swales shall be a minimum of eighteen (18) inches deep, with a less than twenty-four (24) inch bottom width and side slopes at a maximum of 3:1. Side swale profiles may be at 0% grade.

n. Sub-Base Requirements

1. A minimum of thirty-two (32) feet in width and six (6) inches in depth of sub-grade treatment is required. Sub-grade treatment shall provide a 'suitable material' compacted to 98% modified proctor density. The sub-grade shall be six (6) inches of limestone, slag, or crushed native stone, base or eight (8) inches of State certified No. 53 gravel is required on all roads. The existing soils may be substituted and used as required compacted sub-base subject to the approval of the Elkhart County Highway Division. If it is determined the existing soils are acceptable for meeting AASHTO approved bearing and drainage properties for a road's foundation then a letter stating the suitability of the existing soil shall

be submitted by a soil scientist and shall be provided to Elkhart County Highway Division, and approval may be granted. Please note these are minimum requirements. The soil types will determine the actual thickness of the base by test results and other acceptable engineering data submitted with the proposed "Road Plans".

2. Under drains will be required when extremely high water table and/or clay soils are present. This requirement may be waived if a report from a soil scientist indicates not necessary.
- 8) Acceleration / deceleration tapers (Fig. 2) are required when one of the following conditions are met:
 - a. All new platted subdivisions.
 - b. All commercial developments.
 - 9) Deceleration lanes (Fig. 2) are required on all arterials when one of the following conditions is met.
 - a. The number of site generated trips identified in the Traffic Impact Vehicular Estimate (TIVE) plus the existing ADT totals three thousand five hundred (3,500) or more;
 - b. Or as identified by an approved Traffic Impact Study;
 - c. See Section VIII for four (4) lane road requirements.
 - 10) Passing Lanes (Fig. 2) will be required when:
 - a. The number of site generated trips identified in the Traffic Impact Vehicular Estimate (TIVE) plus the existing ADT totals three thousand (3,000) or more for residential and one thousand (1,000) or more for commercial; or
 - b. There are twenty (20) or more left turning vehicles during the design hour as determined by Elkhart County Highway from TIVE information supplied; or
 - c. As identified by an approved Traffic Impact Study; or
 - d. See Section VIII for four (4) lane road requirements.
 - 11) Curb and Gutter Construction Standards:

Curbs and gutters shall be required for all streets hereafter constructed or reconstructed by developers or private property owners, unless a specific exception to such curb and gutter standard shall be set forth herein. The curb and gutter shall be of the construction type shown in Fig. 7 and shall be constructed according to the following specifications:

 - a. The base for the curb and gutter shall be the same as the street.
 - b. The minimum specifications shall be as shown for the type of cross Section in Fig. 7
 - c. All concrete used in the curb and gutter shall be the same as the concrete streets and have a

textured (broom) finish.

- d. All curbs shall have expansion joints constructed at the beginning and end of all curb returns, at all castings and at 100' intervals along straight of ways and at twenty (20) foot intervals along radii. Sawed joints shall be located at regular intervals of 10 feet.
- 12) Materials, Mixtures, and Workmanship: All material, mixtures and workmanship shall conform to the current Indiana Department of Transportation Specifications except those modified by these Standards, or other criteria established by Elkhart County Highway Division.
 - 13) Placements Within Right-of-Way: No structure of any type or character shall be permitted within the dedicated right-of-way of Elkhart County. In certain instances Subdivision signage and or landscaping maybe permitted if approved by Elkhart County Highway.
 - 14) Construction Plans for Platted Subdivisions: The certified construction plans shall be approved by the Elkhart County Highway Division prior to secondary plat approval. Commencement of construction shall be within twenty-four (24) months of the date of construction plan approval. The construction plan review fee is \$20.00 per lot per subdivision section payable by the developer. Checks are to be made payable to the Elkhart County Treasurer. Upon receipt of the plans and fee, Elkhart County review comments will typically be complete within two weeks (three weeks maximum). Additional Right-of-way required shall be included on the secondary plat. All street construction plans shall be stamped and signed and provide, at a minimum, the following information:
 - a. Developers Name, Address, Phone Number, Fax Number and Email Address
 - b. Site Location Map
 - c. Existing Planimetrics and Contours of the proposed site and any existing County Roads topography five hundred (500) feet each direction from the proposed entrance. All plans submitted for Commercial Driveway Access along a numbered county road complete topography of the street being accessed for a minimum of five hundred (500) feet each direction.
 - d. TIVE and/or TIS, per standards herein stated.
 - e. Drainage Utilities and Geometric Improvements shall be designed along the property frontage. Improvements required in this 500' area shall be designed and completed by the developer.
 - f. A plan of the development showing the existing soils in the path of the proposed street, with problem soils highlighted
 - g. The depth to the seasonal high water table shall also be clearly labeled for each soil type.
 - h. Proposed Design Elevations and Profiles of Streets and Storm Sewer Systems
 - i. Proposed Drainage Facilities with Design Elevations and Design Computation Sheets as provided in these standards.
 - j. Details of all detention or retention basins with indications if designed as wet or dry.
 - k. USGS Contour Map or contour topography outlining of the affected watershed area
 - l. Applicable Details
 - m. Contours shall be shown relative to U.S.G.S. datum with the 100 – year flood data mapped on the plans (assumed datum may be used when a flood plain boundary is not present.
 - n. A minimum of two (2) permanently established benchmarks shown and described with the appropriate elevation.
 - o. A copy of the final plat set to approximate state plane coordinates on a computer disc that is AutoCAD 2004 (or more current). The final plat when inserted into the Elkhart County GIS system should closely approximate the true location of the plat; or an additional \$100.00 Plan Review fee, payable to the Elkhart County Treasurer. Include one (1) set of plans on 11"x17"

- paper along with two (2) sets of 24"x36" paper
- p. Submit checklist with checked completed items

15) Street Markings and Identification:

- a. It shall be the responsibility of the developer to provide the funds (\$200.00 each) for the purchase of street identification and regulatory signs from the Elkhart County Highway Division.
- b. The Elkhart County Highway Division will install, upon initial acceptance, and maintain the street identification and regulatory sign or signs but will have the right to delay the installation if no dwellings are constructed to save vandalism and other future maintenance costs.
- c. Under no circumstances will Elkhart County allow other designs, styles, shapes, or size of street signs. Such signs must be kept uniform for police, fire and emergency calls for all residents on the County Highway system.
- d. Signs placed within the right-of-way should comply with requirements set forth in the MUTCD Manual.

16) Pavement Markings: All streets being constructed must have all pavement markings installed at the County Road entrance, (Fig 16). All markings shall be painted and all paint shall comply with the current Indiana Department of Transportation Standard Specifications, Section 909.05 or successor standards thereto.

SECTION IV

DRAINAGE STANDARDS

1) General Requirements

- a. Drainage calculations for proposed developments shall account for both the on and offsite contributing watershed. Offsite contributing watershed can either be stored on site or allowed to pass through and release in an acceptable manner as approved by Elkhart County Highway.
- b. All developments require retention and/or detention basins to control storm water runoff.
- c. All basins that are planned to be dry shall be constructed twelve (12) inches above the seasonal high water table.
- d. All basins shall be constructed with side slopes not to exceed 3:1 horizontal to vertical and shall be seeded.
- e. All basins shall have a minimum of 1.5 feet of freeboard above the maximum calculated storage elevation.
- f. Invert elevations of outfall pipes, into the basin, must be a minimum of twelve (12) inches above the bottom of the pond storage. Outlet pipe locations must be clearly visible or marked when basin is at capacity.
- g. Soil borings will be required, indicating type of soil and depth to water table, at the proposed basin location.

h. Detention Basin Requirements

- 1) All detention basin designs shall use a one hundred (100) year storm event calculated for the peak storage rate within a twenty-four (24) hour period using Tables IV-2, IV-3. The maximum allowable release rate for detention basins shall not exceed the downstream channel capacity or the ten (10) year undeveloped rate determined using the rational formula with $C = 0.20$ and I as shown in Table IV-2.
- 2) Dry basins shall be designed in such a manner that the basin is dry within an approved pre-specified time, typically within forty-eight (48) hours of a one hundred (100) year storm event. All wet basins (ponds) shall be designed to resume the designed water elevation within forty-eight (48) hours of a one hundred (100) year storm event.
- 3) Outletted water from detention basins shall be channelized into swales, ditches, or storm sewer systems designed for the calculated maximum outflow, and that convey the released water to an approved outlet. Soil infiltration rates shall not be used as an outlet rate.
- 4) All runoff entering a "Legal Drainage System" shall be subject to approval by the Elkhart County Drainage Board. Approved permit shall be included with the construction plan submittal.
- 5) Point source drainage release (direct discharge) to adjoining property is prohibited unless an offsite easement feature is available, authorized, and approved.

i. Retention Basin Requirements

- 1) For drainage areas less than 200 acres, all retention basin volumes shall be determined using

rational formula $Q \text{ (ft}^3\text{/s)} = CIA$, where C is determined from Table IV-1 and I is determined from Table IV-2. All retention basin designs shall use a one hundred (100) year storm event calculated for the peak storage rate within a twenty-four (24) hour period using Tables IV-3. For areas larger than 200 acres, Elkhart County must approve the recommended method of computation.

- 2) Wet basins shall have two (2) times the required calculated design capacity.

j. Street Storm Sewer Requirements

- 1) All storm water piping shall be designed for the ten (10) year storm event.
 - 2) All drainage facilities shall be designed such that the new streets do not pond or hold water in the travel lanes. Storm water shall not encroach into the street more than four (4) feet from edge of travel lane.
 - 3) All inlets, whether into an open or closed channel, shall be provided so that surface water is not carried for a distance in the gutter greater than four hundred (400) feet and must fall on lot lines or within thirty (30) feet of a lot line. No flow shall be allowed beyond the point where the curb capacity and allowable encroachment is exceeded in the calculations of the design storm.
 - 4) Surface water from the street shall exit the street through curbed inlets (no curb turnouts shall be allowed). The inlets, catch basins and manholes shall be built in accordance with the standards shown in Fig. 10 and Fig. 11.
 - 5) The maximum water elevation in the pond is to be designed to be no higher than one (1) foot below the lowest street casting elevation.
- k. A developer shall obtain easements for all privately owned drainage systems, (farm tiles or other facility) until such system reaches a "Legal Drainage System" or other suitable outlet to be determined by Elkhart County Highway Division. Consideration shall be given when development is adjacent to a functional non-regulated open channel drainage system.
- l. All farm tiles shall be reconstructed and/or routed through the proposed development.
- m. Culverts shall be sized by the owner and/or applicant and approved by the Elkhart County Highway Division according to amount of storm water flow (twelve (12) inch diameter minimum). All culverts should have adequate cover to prevent crushing from traffic loads, six (6) inch minimum between bottom of concrete/asphalt and tops of the culvert pipe.
- n. All culverts shall extend at least five (5) feet beyond either edge of the back of curb or the culvert shall be perforated and include a 90° elbow on the ends with a riser inlet or yard grate in order to accommodate finished grades (see Fig. 6)
- o. Riprap is required at all exposed storm water pipe outlets and/or inlets.
- p. All drainage ways, swales, and ditches shall be constructed with side slopes not to exceed 3:1 and shall be seeded. Centerline ditch profiles exceeding 3% in grade must contain an approved erosion control lining (ex. Concrete, rip rap, etc.) Drainage systems affecting a public right-of-way shall be approved in writing and inspected for compliance by Elkhart County Highway Division.
- q. Surface water, sump pump, geothermal heat pumps and septic system perimeter drains should be directed to privately owned, enclosed drainage systems that outlet to an acceptable legal drain or open ditch system.

- r. Road side swales, whether existing or constructed, are provided to allow storage areas for surface runoff from the road's surface (typically paved). The swales also provide a means of keeping the road's sub-grade dry. Elkhart County Highway Division prohibits the filling or unauthorized altering of any roadside swale. These swales typically have no 'open' outlet and will have standing water from time to time. The desired depth for these swales shall be eighteen (18) inches, but may vary depending on design and topographic restrictions.
- s. Alteration of established drainage facilities by the initial developer or any subsequent property owner, creating a problem in the original drainage plan, is not the responsibility of Elkhart County.
- t. Drainage system designs are the responsibility of the designer and developer. Elkhart County only approves the developer's drainage plan concept.
- u. In the case that any of these design standards cannot be met, a developer may apply for a variance.

TABLE IV - I

Rural Runoff Coefficients
(Schwab et al., 1966)

<u>Soil Texture</u>				
	<u>Vegetation & Topography</u>	<u>Sandy Loam</u>	<u>Clay Loam</u>	<u>Tight Clay</u>
Woodland				
	Flat 0-5% slope	0.10	0.30	0.40
	Rolling 5-10 % slope	0.25	0.35	0.50
	Hilly 10-30% slope	0.30	0.50	0.60
Pasture				
	Flat	0.10	0.30	0.40
	Rolling	0.16	0.36	0.55
	Hilly	0.22	0.42	0.60
Cultivated				
	Flat	0.30	0.50	0.60
	Rolling	0.40	0.60	0.70
	Hilly	0.52	0.72	0.82

**Values Used to Determine a Composite Runoff Coefficient for an Urban Area
(ASCE, 1992)**

<u>Character of Surface</u>	<u>Runoff Coefficients</u>
Pavement	0.95
Asphalt and Concrete	
Brick	0.95
Roofs	0.95
Lawns, sandy soil	
Flat, 2 percent	0.05 to 0.10
Average, 2 to 7 percent	0.10 to 0.15
Steep, 7 percent	0.15 to 0.20
Lawns, heavy soil	
Flat, 2 percent	0.13 to 0.17
Average, 2 to 7 percent	0.18 to 0.22
Steep, 7 percent	0.25 to 0.35
Water Impoundment	1.00

Runoff Coefficients

<u>Description of Area</u>	<u>Runoff Coefficients</u>
Developed Conditions	
Residential	0.50
Commercial / Industrial	0.70
Undeveloped Conditions	0.20

TABLE IV - 2

Rainfall Intensity Values

(Using regional coefficients for the Intensity-Duration-Frequency Equation, HERPICC)

	Return Period 10 Years	Return Period 100 Years
Storm Duration (Tc)	Intensity (i) inches/hour	Intensity (i) inches/hour
0.25 hrs.	4.32	6.47
0.50 "	2.64	3.96
0.75 "	1.81	2.71
1 "	1.33	1.98
2 "	1.01	1.55
3 "	0.74	1.14
4 "	0.60	0.92
5 "	0.50	0.77
6 "	0.43	0.67
7 "	0.38	0.59
8 "	0.34	0.53
9 "	0.31	0.48
10 "	0.29	0.44
15 "	0.21	0.32
20 "	0.16	0.25
24 hrs.	0.14	0.22

TABLE IV - 3 Computation Sheet for Storm Water Storage Calculations

Coefficient of Friction (developed) (C) _____
 Watershed Acreage (A) _____

Storm Duration (Tc)	Intensity (i) inches/hour	Inflow Rate (CiA)= Q	Outflow Rate O	Storage Rate Q - O	Required Storage In Acre Feet $\frac{(Q-O) T_c}{12}$
0.25 hrs.					
0.50 "					
0.75 "					
1 "					
2 "					
3 "					
4 "					
5 "					
6 "					
7 "					
8 "					
9 "					
10 "					
15 "					
20 "					
24 hrs.					

SECTION V

INSPECTION AND TESTING

- 1) All public improvements permitted, proposed, dedicated, or intended for dedication to County governed by these standards shall be inspected during the course of construction by the governing authorities of the County; proper notification shall be given in order to provide time for inspection to be made prior to finalizing the planned improvements. Failure to secure such inspections may result in a reject of improvements, additional surety, or other remedies deemed appropriate by Highway Division.
- 2) The Elkhart County Highway Division is to be provided with nuclear density gauge tests on the sub-base and sub-grade every four hundred (400) feet at random locations along the course of the proposed road centerline. Each compacted lift shall be tested. Approved acceptable results must be on file with the Elkhart County Highway Division prior to Initial Acceptance. The Sub base is to be compacted to at least 98% Standard Proctor density. If test results are not within the acceptable limits, a six (6) year maintenance bond will be required instead of the normal three (3) year bond.
- 3) The developer, at his expense, prior to paving in order to determine the required sub-base materials stability and compaction will perform a "ROLL TEST". The "ROLL TEST" may be done on the sub-base or sub-grade. Rutting greater than one (1) inch or adverse pumping of the sub-base or sub-grade will be unacceptable. Paving shall not commence until an approved and acceptable Roll Test can be performed. Paving must commence within forty-eight (48) hours of an approved "Roll Test" or a new "Roll Test" will be required. If an approved and acceptable "ROLL TEST" is not performed, the maintenance bond term will be lengthened to six (6) years and/or building permits within the development will be stopped. If corrective action is not undertaken and/or successful within the maintenance bond period, the subject street may not be accepted by Elkhart County. Twenty-four (24) hour notice is required (**in writing**) prior to a "ROLL TEST".
- 4) Certified test results, from a State of Indiana Certified Laboratory, of asphalt plate samples shall be supplied to Elkhart County. The satisfactory results must be on file with Elkhart County prior to initial acceptance. Unsatisfactory results will result in the subject street maintenance bond being increased to six (6) years or the subject street may not be accepted into the County Highway System. Plate samples shall be taken at each street location where asphalt is being placed. Elkhart County may require additional sample be taken when on site at random locations. Core samples may be required periodically prior to initial acceptance in order to identify actual asphalt thicknesses. The expense for all testing is the responsibility of the developer. Unsatisfactory results will result in corrective action being taken or extending the maintenance period beyond six (6) years. While minor deviations may be allowed from time to time, continued repetitive offenses by an asphalt company will be evaluated periodically and possibly be found that the company may no longer perform work for Elkhart County or work that is to be accepted by Elkhart County. Additional bonding periods may be considered as mediation for these offenses.
- 5) As-built Drawings shall be provided to the Elkhart County Highway Division at the completion of the planned public improvement (prior to initial acceptance). As-built drawings shall be **depicted in red**, submitted in PDF format, and contain the following information:

For Initial Acceptance and prior to Final Acceptance:

- a. Road centerline elevations at all intersections, P.C.'s, P.T.'s, Inlet grates, at all low points, high

- points and one hundred (100) foot intervals in between.
- b. Size, material and location of all storm sewer pipes and inlets installed.
 - c. Invert elevations of all storm sewer pipes.
 - d. Top and bottom elevations of all detention and retention basins installed shall be shown by contours at two (2) foot intervals.
 - e. An actual cubic feet of storage provided shall be written on the plan.
 - f. Detailed sizes and elevations of all primary entrances onto streets, especially at all numbered County roads.
 - g. Detailed drainage features along the frontage of the development up to five hundred (500) feet each direction from the Numbered County Road access.
 - h. Any required overlay and/or striping at entrance.
 - i. Any improvements required by the Elkhart County Plan Commissioner of Subdivision Control Ordinance.
 - j. Any deviations from the Engineer's design needs to be outlined and certified in the form of a cover letter.
 - k. Each sheet must be certified.

For Final Acceptance:

- a. Top and bottom elevations of all detention and retention basins installed shall be shown by contours at two (2) foot intervals.
- b. An actual cubic feet of storage provided shall be written on the plan.

SECTION VI

SURETIES

- 1) Where there is higher risk to county infrastructure, or the permitted work is much greater or complex than normal permitted work, the Elkhart County Highway Division reserves the right to increase the Surety requirement after reviewing the plans or application for permit and before approving the permit. The minimum Surety amounts are as follows:

Individual Residential Driveway Performance Surety---- \$ 500.00 per location or lien on property

Yearly Residential Contractor Performance Surety----- \$ 5,000.00 per year or as needed

Road Cuts----- \$ 5,000.00 per location

Road Borings----- \$ 5,000.00 per location

Utility Permits (Perpendicular Crossings)----- \$ 5,000.00 per location

Utility Permits (Running Parallel with the R/W)----- \$ 10,000 per ½ mile
(fraction of a mile will be rounded up)

Annual Utility Surety for Utility Permits ----- \$ 25,000

To include road cuts, road borings, and special uses

Any projects considered Major by the County will be subject to an individual surety

Annual Surety for Commercial Driveways ----- \$ 25,000

Commercial Driveway----- \$ 5,000.00 per location

Special use permit----- \$ 5,000.00 minimum per use

Dedicated residential street ----- \$ 65.00 per lineal foot
(Good for 2 years)

Dedicated commercial street ----- \$80.00 per lineal foot
(Good for 2 years)

- 2) The Street Surety for both Residential and Commercial developments is to include an amount for construction of Acceleration/Deceleration lanes and /or Passing Lanes when required. This additional amount will be determined by the respective rate per line foot listed above applied to the lineal footage of Acceleration/Deceleration lane and/or Passing Lane pavement to be constructed. The Surety shall be submitted to Elkhart County Highway Division prior to secondary approval. This Surety will be returned to the developer upon initial acceptance.
- 3) A Maintenance Surety in the amount of \$7.00 per lineal foot for road construction, or a minimum amount of \$5,000 and \$3.50 per lineal foot of road, or a minimum of \$2,000 for drainage shall be the responsibility of the developer to furnish whether personally or through other willing contributors, to the Board of County Commissioners prior to initial acceptance of the proposed dedications or release of the Roadway Surety. The Surety is to be effective for a period of three (3) years commencing within three (3) months of the date of acceptance.

- 4) All sureties must accompany a properly executed permit or Subdivision Construction and Maintenance Agreement form whichever is applicable.
- 5) Individual residential driveway performance sureties can be a Bond, Letter of Credit, Certificate of Deposit or Personal promise to pay the surety amount upon default as reflected in the permit application forms (which shall authorize Elkhart County Highway Division to file a real estate lien on default for the surety amount plus cost of collection and enforcement). The Surety shall be submitted to Elkhart County Highway Division at the time the permit is applied for.
- 6) All Contractors installing residential and/or commercial drives in Elkhart County will be required to post yearly performance sureties in the form of a Bond, Letter of Credit or Certificate of Deposit made in favor of the Elkhart County Board of Commissioners and held by Elkhart County Highway Division. The Surety shall be good for one (1) calendar year (January – December) and will cover all construction activities associated with the installation of driveways onto a public road. The Surety must be renewed each year for the contractor to continue to obtain driveway permits or if there are unfinished driveways from the prior calendar year.
- 7) Work Permit Sureties can be a Bond, Letter of Credit or Certificate of Deposit or Company Check made in favor of the Elkhart County Board of Commissioners and held by Elkhart County Highway Division. The Surety shall be good for one (1) calendar year from the date listed on the surety and cover all construction activities associated with the activity indicated on the Work Permit(s). An individual Surety will be released upon proper completion of the activity indicated on the Permit. The length of a permit, when the surety posted is a company check, will be six (6) months.
- 8) Major utility companies will be required to provide an annual utility surety.

SECTION VII

WORK PERMITS

1) Street Right-of-Ways:

All work planned within street right-of-way, including work performed or initiated by another government agency, requires a permit in the form of a "Road Impact Agreement" to be developed and established by the Elkhart County Highway Division. Plans will not be reviewed until after receipt of permit application and payment of the permit fee. Upon receipt of the plans, application, and fee, Elkhart County review comments will typically be complete within two weeks (three weeks maximum). Such a permit shall be obtained from the Elkhart County Highway Division Engineering Section and shall be good for ninety (90) days unless specified otherwise on the permit. Any permit older than ninety (90) days will be revoked unless written extension has been granted by Elkhart County Highway. The fee for obtaining a permit after or during the work being performed is **\$500.00**. **The permit fee for permits obtained prior to commencement of the subject work is \$75.00 payable to Elkhart County Treasurer.** Government agencies are exempt from such fee if the permit is applied for prior to the commencement of work.

Applicant is to provide the following information:

- Contractors Name and Contact Person if applicable
- Site Location
- Site Description
- Directions
- Type of Construction Material to be used
- The proposed method of installation

- a. Detailed plans outlining right-of-way or road restoration as required by these standards
- b. The following are requirements for the various types of "Work Permits".

Road Cuts: Only as approved by Elkhart County Highway

Road Borings: May be granted when Road Cuts are not allowed

Utilities: Designated for use by utilities working within the right-of-way.

NOTE: All utilities installed within the public right-of-way shall at all times be subject to the provisions of Section XI hereof, and in particular, to the notice of removal or relocation standards set forth therein.

- 1. All Utilities installed within the public right-of-way must meet the industry standards.
- 2. Elkhart County will be held harmless for any damage caused by improper installation and / or utility depths less than thirty six (36) inches.
- 3. ½ mile maximum length per permit per utility running under ground and parallel with the County Road right-of-way.
- 4. Pole lines being realigned (more than four (4) poles) will require a permit for each one (1) mile or less.
- 5. Single utility poles replaced at the same location will not require a permit.

6. No permit is required for utilities being constructed within a new development. Once a subdivision has been initially accepted by Elkhart County, permits will be required within that subdivision. A list of initially accepted subdivisions is available on our website (elkcohw.org) or you may call 574-534-9394.
7. Utilities installing services to property adjacent to the R/W where work within said R/W is less than fifty (50) feet and more than five (5) feet from the edge of the asphalt, no permit is required.
8. The Utility shall notify Elkhart County Highway not less than one (1) day nor more than three (3) days prior to the start of field work.
9. All Utility work is subject to Indiana Code.

Special use: Designated for any other use, not covered above.

- c. Record drawings indicating the depth alignment and location of all improvements constructed or a statement verifying the project was completed as the plans submitted within the public right-of-way shall be submitted prior to the release of the permit.
- d. All work performed within the public right-of-way must be fully restored to a condition as good or better than the site conditions prior to the work being performed.
- e. All excavation made into, under, across, or within two (2) feet of the finished edges of pavements, or cuts across or into a county road may be allowed to use conventional means of compaction (98% standard proctor density) and replacement of sub-grade material (to be determined by Elkhart County). When an asphalt cut is necessary and has received prior approval, the contractor shall comply with the repair of the road way as outlined in Fig. 4. The final surface shall be placed in such a manner that it is level and uniform and notification shall be given to all affected departments and media by the contractor. The length of time the closing is to take place will be determined by the Elkhart County Highway Division. When work is not in progress, all equipment shall be out of the road way and open to traffic. All signage required to close the road shall meet standards set forth in the Indiana MUTCD manual.
- f. All utility improvements must be confirmed in writing that the work within the right-of-way has been completed and performed as shown on the submitted plans with any modification indicated and/or included on the as-built drawings. Failure to comply with this final inspection request procedure within the one (1) year time frame will result in the revoking of the permit. Elkhart County prohibits the attachment of any line cable or other foreign object to bridge structures whether used by utilities or other entities. Driveway and drainage culverts shall not be used as a conduit to convey cables, utilities or other foreign objects from one location to another. NOTE: Revoked permits that have had the work started or partially completed will require reapplication.
- g. Extended road closures and extended lane restrictions (more than eight (8) hours) is prohibited. Under certain circumstances Elkhart County Highway may grant closure for more than eight hours. The specific date and time must be indicated on the permit with notifications to the appropriate entities (see Fig. 17). This shall be accomplished prior to the commencement of work. The contractor is responsible for all maintenance of traffic, roadside signage, and all other aspects of the work zone. Elkhart County Highway is not responsible for the contractor's work zone. If proper procedures are not followed, the permit may be revoked.

2) Driveways

- a. Residential Driveway Permits – Any entrance (access) onto a street must first have a Driveway Permit. This permit is obtained from Elkhart County. Plans will not be reviewed until after

receipt of permit application and payment of permit fee. **The permit fee prior to commencement of the work is \$45.00 payable to Elkhart County Treasurer.** Upon receipt of the plans, application, and fee, Elkhart County review comments will typically be complete within two weeks (three weeks maximum). **The fee for obtaining a permit after or during the work being performed is \$500.00.** Applicant must adhere to the following:

Applicant is to provide the following information:

- Builders Name
- Site Location
- Site Description
- Directions
- Building Permit Number, if applicable
- Location of the Proposed Drive on the Site
- Type of Construction Material to be used

Applicant will construct and/or maintain swale along entire property frontage

Applicant shall comply with access requirements in Section II

- b. Commercial Driveway Permits – Any entrance onto a street must first have a Driveway Permit. This permit is obtained from the Elkhart County Highway Division. Plans will not be reviewed until after receipt of permit application and payment of permit fee. **The permit fee is \$75.00 payable to Elkhart County Treasurer.** Upon receipt of the plans, application, and fee, Elkhart County review comments will typically be complete within two weeks (three weeks maximum). **The fee for obtaining a permit after or during the work being performed is \$500.00.** Applicant must adhere to all the information required for commercial drives along with a Performance Surety (see Section VI Surety).
 1. Plans must be submitted to Elkhart County Highway Division for all Commercial Driveway Access along a county road. If the sight distances provided by the applicant are questionable, Elkhart County Highway may require the applicant provide complete topography of the street being accessed for a minimum of five hundred (500) feet each direction. Drainage, Utilities and Geometric Improvements shall be designed along the property frontage and shall comply with results based on the TIVE and/or TIS.
 2. Commercial construction must conform to these Standards and the minimum requirements outlined on Fig. 6.
 3. Commercial construction shall be required to provide TIVE. Elkhart County Highway Division, at its discretion, may require a TIS depending on the proposed project size and scope.
 4. All access onto a street from a commercial property shall be paved from the right-of-way to the edge of the traveled way within the right-of-way of the street.
- c. Residential, Commercial, and Industrial construction shall establish and maintain drainage facilities at all points where the owner's property has frontage adjacent to a street. This will typically involve the construction of the roadside swale. (see drainage standards)
- d. Farm access points do not require a permit; however, all farm access points shall accommodate proper roadside drainage.

- e. Change of Use. Any proposed Public Improvement and/or development demonstrating a change of use shall cause these Standards to become binding upon, and replace and supersede, any existing access or private drive, or other Public Improvements serving the parcel or proposed development at issue. A permit shall be required at this time.
- f. These standards shall apply to all access locations on State or Federal Highways within Elkhart County.
- g. All driveways require culverts, unless construction is within a curb and gutter subdivision, or prior approval is obtained from Elkhart County Highway Division. To obtain approval for not installing a culvert the following procedures shall be followed:
 - 1. Applicant shall request in writing a variance from the standard requesting to be waived.
 - 2. Applicant to locate the proposed DRIVEWAY at the site with a green flag or other appropriately provided marker, for location purposes only, provided by Elkhart County Highway Division.
 - 3. Within seventy-two (72) hours, the Elkhart County Highway Division will review the culvert variance request and determine if the culvert for drainage can be waived.
- h. All contractors installing residential and / or commercial drives in Elkhart County must have on file at the Elkhart County Highway Division a valid "Performance Surety" (see Section VI Surety).
- i. Completion of all driveway permits of any type or character is required within twelve (12) months after the issuance of a permit. When construction is completed, the applicant must notify the Elkhart County Highway Division by calling 574-534-9394. The Elkhart County Highway Division will then schedule a final inspection and, if all matters have been properly addressed, shall cause the ultimate release of the Performance Surety. If the work performed fails to comply with the permit, the applicant will be notified in writing that they have forty-five days (45) to correct any deficiencies and obtain a reinspection of the project, or the Roadway Surety will be cashed and the corrective work necessary will be completed by Elkhart County Highway Division. Upon written request a new permit may be obtained for the purpose of extending the permit up to an additional twelve (12) months.
- j. Any driveways or cuts of a temporary nature for construction or other limited time purposes shall be subject to the permit process herein stated applicable to the type of driveway at issue, though the Elkhart County Highway Division shall be authorized to establish and control the length of time that any such Temporary Construction Drives shall be allowed.
- k. Construction of sidewalks, where applicable, will be inspected and approved along with the Driveway Permit process.
- l. Proposed drives shall comply with access requirements for arterials and as near as possible with said requirements for collectors.
- m. Driveway permits revoked will require reapplication. Permits may be revoked for, but not limited to, the following reasons:
 - 1. Construction begun but not completed in the time frame indicated on the permit.

2. Construction does not meet the requirements set forth in the permit and repairs have not been completed within the forty-five (45) day time frame
 3. Failure to complete any of the proposed improvements outlined on the approved plan submitted with the permit.
- n. All residential subdivision drives shall comply with all the above procedures. The construction of the proposed drive shall comply with the applicable Fig. 5.
- o. Types of commercial drives and their specific requirements are as follows:
1. Commercial Drive on Arterial roads require:
 - a. One drive entrance per legal parcel, outside functional limits of an intersection
 - b. Figure #6
 - c. Adequate drainage typically includes culvert and establish swale on entire frontage
 - d. Traffic Impact Vehicular Estimate (TIVE)
 - e. Traffic Impact Study (TIS) if necessary and at Elkhart County Highway's discretion
 - f. All requirements from Section II and Section III
 - g. Mill/Resurface from taper to taper entire width of roadway
 - h. Alignment with nearby commercial drives and/or roads (required)
 - i. TOPO
 - j. Clear vegetation/trees in ROW
 - k. Sight Distance calculations
 - l. Site plans showing above
 - m. Copy of Rule 5 Permit, if required
 2. Commercial Drive on Collector roads require:
 - a. One drive entrance per legal parcel, outside functional limits of an intersection
 - b. Figure #6
 - c. Adequate drainage typically includes culvert and establish swale on entire frontage
 - d. Traffic Impact Vehicular Estimate (TIVE)
 - e. Traffic Impact Study (TIS) if necessary and at Elkhart County Highway's discretion
 - f. Mill/Resurface from taper to taper entire width of roadway
 - g. Alignment with nearby commercial drives and/or roads (desired)
 - h. TOPO
 - i. Clear vegetation/trees in ROW
 - j. Sight Distance documented (desired)
 - k. Site plans showing above
 - l. Copy of Rule 5 Permit, if required
 3. Commercial Drive (Agricultural) on Collector roads i.e., Duck Barns, Cell Towers:
 - a. One drive entrance per legal parcel, outside functional limits of an intersection
 - b. Figure #6, excluding tapers
 - c. Adequate drainage, typically includes culvert, and establish swale on entire frontage
 - d. Traffic Impact Vehicular Estimate (TIVE)
 - e. Alignment with nearby commercial drives and/or roads (desired)

- f. TOPO
 - g. Clear vegetation/trees in ROW
 - h. Sight Distance documented (desired)
 - i. Site plans showing above
 - j. Copy of Rule 5 Permit, if required
4. Commercial Drive on a Minor road or within a Commercial Subdivision (with or without curb and gutter):
- a. One drive entrance per legal parcel, outside functional limits of an intersection
 - b. Figure #6, excluding tapers
 - i. 35 foot radii allowed when no truck traffic is present
 - c. Adequate drainage and establish swale on entire frontage
 - d. Traffic Impact Vehicular Estimate (TIVE)*
 - e. Traffic Impact Study (TIS) if necessary and at Elkhart County Highway's discretion*
 - f. Copy of Rule 5 Permit, if required

* If a TIVE or TIS has previously been approved for a Commercial Subdivision, commercial driveways within that subdivision (constructed before the full build-out year specified in the original document) will only be required to submit minimal TIVE information, justifying that the amount of traffic in the approved TIVE or TIS is consistent with that of the proposed development. If the TIVE is inconsistent with the previously approved document, an individual TIVE or TIS for the drive in question may be requested.

3.) Mailboxes.

- a. Construction of mailboxes along numbered county roads shall meet the design requirements of Figure 5. Mailboxes shall be approved at the time of the driveway inspection.

b. Location of Mailboxes:

1. On numbered county roads with no paved shoulder, the front or closest edge of a mailbox must be a minimum of three (3) feet off of the edge of the traveled and/or paved portion of the public right-of-way. Provided, however, that Elkhart County Highway Division may approve the placement of mailboxes less than said three (3) feet distance if limited conditions are at hand and safe traffic flow can be preserved.
2. On subdivision streets and on numbered county roads with a paved shoulder, that face (closest portion) of the mailbox shall be located a minimum of twelve (12) inches off of the edge of the paved shoulder.
3. On streets with raised curbs, the face (closest portion) of the mailbox shall be located at least six (6) inches from the back of the curb.
4. If a mailbox is located at or near intersecting streets, it shall be located a minimum of ninety (90) feet from the centerline of the two intersecting streets.
5. Unless expressly permitted by the Elkhart County Highway Division, no mailbox shall be placed in front of a guard rail, and hence be closer to the traveled portion of a street than the guard rail.

c. Mailbox Structures:

1. Mailboxes should be of light sheet metal or plastic construction conforming to the requirements of the U.S. Postal Service; accompanying or related or adjacent newspaper delivery boxes shall be of comparable construction and be of no greater size than necessary or suitable for the receipt of a newspaper, and must otherwise comply with the mailbox standards herein set forth.
2. No more than two (2) mailboxes may be mounted on a support structure unless the support structure and mailbox arrangement have been demonstrated by the property owner or owners to be acceptable for traffic and highway safety under AASHTO certified crash tests.
3. Mailbox supports shall not be set in concrete unless the support design has been demonstrated by AASHTO certified crash tests when so installed.
4. A single four (4) inches x four (4) inches square wooden post, four (4) inch in diameter wooden post or a metal post with a strength no greater than a two (2) inch diameter standard strength steel pipe will be acceptable as a mailbox support. The support may be embedded no more than twenty-four (24) inches into the ground will be acceptable as a mailbox support. A metal post shall not be fitted with an anchor plate, but it may have an anti-twist device that extends no more than ten (10) inches below the ground surface.
5. The post to box attachment details shall be in conformance with the current Indiana Department of Transportation standards or current standards of AASHTO's "A Guide for Erecting Mailboxes on Highways".
6. Copies of the attachment details are on file and available in the office of the Elkhart County Highway Division.
7. Mailbox support designs not described in this regulation will be acceptable if shown to be safe by AASHTO certified crash tests and approved by the Elkhart County Highway Division.

d. Responsibility of Mailboxes:

Any person, property owner, applicant, or developer placing a mailbox within the public right-of-way of a street or road, under the jurisdiction of Elkhart County, does so at his/her/its own risk and such party, and any successor in ownership to such mailbox, shall indemnify and hold Elkhart County, and its agents, officials, and employees, free and harmless from any and all, claims and liabilities arising from such placement, whether placed by these standards or otherwise.

SECTION VIII

PRIMARY ARTERIAL REQUIREMENTS

1) General.

Arterials of four lanes or greater have been constructed within Elkhart County in order to provide the motoring public of Elkhart County an effective and efficient means of travel. Access to these streets should be strictly monitored and limited. Left turns shall not be allowed unless at a planned and controlled intersection.

Unless specifically outlined herein all design and construction shall conform to the Indiana Department of Transportation Standard Specifications for Road Construction and Driveways pertaining to any new or proposed private drive or other street that would access onto a primary arterial.

The following are general design considerations for these streets:

- a. The configuration of proposed drives shall meet minimum commercial drive standards.
- b. Requests for access should be accompanied by a Traffic Impact Vehicular Estimate (TIVE).
- c. Once the TIVE has been evaluated depending on the project size and scope, a Traffic Impact Study may be required utilizing information provided by Elkhart County Highway Division.
- d. Approved recommendations as defined in TIS shall be implemented.

SECTION IX

STREET ACCEPTANCE INTO THE COUNTY HIGHWAY SYSTEM PROCESS

- 1) No street or related improvement shall be accepted into the Elkhart County roadway system until the developer/builder thereof has complied with the terms and conditions of these "street standards", and any and all other legal requirements arising from the Elkhart County Zoning Ordinance, Subdivision Ordinance, or Indiana Statutes. Items to be provided for application of primary plat are as follows:
 - a. Complete contours of site and contributing offsite watershed
 - b. Above mentioned area in acres
 - c. Site soil map
 - d. Drainage calculations with preliminary drainage plan (see drainage standards)
 - e. Existing county roads noting speed limits and proposed development access locations
 - f. Depict differences in vegetative types i.e. Forest, pasture areas, etc.
 - g. Show any known farm tiles
 - h. Indicate sight distances on existing county roads at proposed access locations
 - i. Provide 'TIVE' information
- 2) At a minimum, to secure acceptance of a street into the County highway system, the developer must have performed or completed the following:
 - a. Executed the agreement prepared for Elkhart County defining the Developer's obligations ("Subdivision Construction and Maintenance Agreement").
 - b. Required Roadway Surety must be on file with the Elkhart County Highway Division Engineering Section.
 - c. The right-of-way for the street at issue must have been properly dedicated to the Board of Commissioners of the County of Elkhart, with appropriate right-of-way width.
 - d. If a subdivision is involved, the developer/builder must have secured both primary and secondary approval of the plat for the subdivision, which would include compliance with these standards.
 - e. The approved street plans must be on file with the Elkhart County Highway Division Engineering Section.
 - f. The Developer shall file all necessary documents to verify compliance with 327 IAC 15-5-2 and the Greater Elkhart County MS 4 or with Rule 5.

- g. The final plat, as approved by the Plan Commission (to include, if applicable, acceptance of the right-of-way for the roadway by the Board of Commissioners of Elkhart County), must be properly recorded of record in the Elkhart County Recorder and Auditor's offices.

NOTE: Subject to other legal, health, septic system, or other criteria not herein applicable (as opposed to these standards), after 1. through 6. have been performed or completed, lots may be sold and building permits issued.

- h. All Developments that have been determined as or under an "in lieu of annexation" agreement with a municipality may be built to the respective municipality's standards, subject to the terms of any relinquishments of zoning or development control by Elkhart County.
- i. The naming of the street in question must have been properly completed, and the necessary street signs paid for and a copy of the properly recorded plat provided to the Elkhart County Highway Division Engineering Section.
- j. All inspections and testing required by the "Street Standards" must have been undertaken and completed with satisfactory results.
- k. All As-built drawings shall be completed and on file at the Elkhart County Highway Division Engineering Section prior to initial acceptance. All As-built drawings shall be submitted in PDF format.
- l. The developer shall complete all drainage devices or systems contemplated by the "Street Standards" and/or the plat of a subdivision and/or the approved street plans and/or applicable Indiana law. In the event the Street Surety maturity date is eminent Elkhart County may cash the surety and apply the proceeds toward the unfinished items required for Initial acceptance, or subject to approval by the Elkhart County Highway Division the developer may seek a renewal of the Street Surety from Elkhart County Highway Division and post a "New" Surety.
- m. The maintenance Surety required by these "Street Standards" must be appropriate and on file with Elkhart County Highway Division for The Board of Commissioners of the County of Elkhart.
- n. All pavement and paving required or contemplated by the "Street Standards" and/or plat of the subdivision in questions, to include, where applicable, acceleration/deceleration lanes or passing lanes, must be completed, and approved as, part of the initial inspection by the Elkhart County Highway Division.
- o. A written request by a builder/developer for an inspection by the Elkhart County Highway Division for initial acceptance of street improvements into the county highway system, for purposes of snow plowing, maintenance, and related purposes, must contain a certification, under oath, that each of the requirements herein stated has been completed.
- p. A letter containing all items necessary for initial acceptance will be provided by the Highway Division to the developer, after the above stated inspection. These items include the amount for the maintenance surety and the amounts to be paid for street signage. All items on the letter must be satisfactorily completed prior to initial acceptance. The drainage maintenance surety shall be released after the Rule 5 Notice of Termination is completed. In the event the developer has satisfactorily met all of the street standards required by Elkhart County Highway and the Notice of Termination has not been issued for the drainage component of the development, the

Highway Department may release the road portion of surety, if provided separately from drainage surety. The drainage surety will be forwarded to the MS4 Field Investigator/Planning Department for custody.

NOTE:The above items must be completed within two (2) years of the effective date of the Performance Surety otherwise Elkhart County may commence with any items found incomplete on the Initial Acceptance Letter (prior to the two (2) years), to pursue completion of the development, to include cashing of the posted surety and halting the issuance of building permits for the builder/developer/subdivision. Once the above items have been satisfactorily completed the Elkhart County Highway Division may present the Elkhart County Board of Commissioners with a request for initial acceptance to include any new or additional obligations or surety to be imposed on the builder/developer. A second section or phase of a development may not be granted secondary approval prior to the initial acceptance of the first section or phase. Street improvements may not be accepted from November 1st to April 1st each year.

- q. Prior to the maturity date indicated on the Maintenance Surety Elkhart County Highway Division Engineering Section will perform a final inspection of the street(s) and send the developer a punch list of items that need to be addressed prior to the final acceptance.

NOTE:Once all punch list items have been satisfactorily completed Elkhart County Highway Division will present the Elkhart County Board of Commissioners with a request for final acceptance. This final acceptance will be the completion of the Developers obligations for the dedicated street(s).

- r. The developer will be required to provide an updated as-built for the retention/detention basin areas prior to final acceptance. All as-built drawings shall be submitted in PDF format.

SECTION X

VARIANCE PROCEDURES

Consistent with the Ordinance approving these Street Standards, variances from the Street Standards, to include variances with regard to Right-of-way, development criteria, and drainage matters, shall only be granted pursuant to the following procedures. All variances are initially assumed to be "minor", and should be applied for in that fashion. Upon submittal and staff review, a variance may be increased to "major" depending on the nature of the request.

- 1) Minor Variances. Variances in Right-of-way, development criteria, or drainage standards, otherwise set forth within these Street Standards, requested by Developer in writing, and determined by Elkhart County Highway Division to be "minor" in nature, shall be considered for approval by Elkhart County Highway Division. A \$75.00 filing fee will be charged.

Elkhart County Highway Division, in its sole discretion, shall determine whether a variance request is a "minor" or "major" request, and any failure or refusal by Elkhart County Highway Division to consider a variance request a "minor" variance, shall mean that such variance request shall automatically be treated as a "major" variance request, and be subject to the standards set forth in Paragraph B below. Generally stated, a "minor" variance shall be one of limited scope or dimension, or of modest import or impact, relative to the Street Standards herein recited, or specific portions thereof as to which the Developer seeks not to totally comply. All provisions hereto the contrary notwithstanding, no variance request pertaining to "Surety" of any type or character may be considered as a "minor" variance, all such variance requests pertaining to "Surety" being considered a "major" variance request.

- 2) Major Variance. Any variance request to the Street Standards determined by Elkhart County Highway Division to be a "major" variance shall be subject to the following:
 - a. The Developer of the improvement in question shall, in writing, request from Elkhart County Highway Division a deviation from a particular part of the Street Standards, setting forth the reason(s) for a deviation within such written request. A \$200.00 filing fee will be charged.
 - b. Upon the receipt of such variance request and a determination that such is a "major" variance, such request shall be set for consideration by the Board of Commissioners of the County of Elkhart at a regular, public meeting thereof.
 - c. Developer shall notify all persons owning land within three hundred (300) feet of any of the boundaries of the property impacted by the variance request, such notice to state the date, time and place of a hearing before the Board of Commissioners relative to the variance proposal. Such notice shall be submitted to such property owners by certified mail, return receipt requested. The Developer shall be responsible for supplying Elkhart County Highway Division with a list of all such landowners and the addresses for the same, which list and addresses shall be certified by the Elkhart County Auditor's Office.
 - d. All additional costs associated with the fulfillment of the processes outlined above are to be provided by the individual(s) making the request.
 - e. The Developer shall appear before the County Commissioners to explain the major variance

request, and the reasons supporting or justifying the same; prior thereto, the Commissioners shall hold a public hearing after notice to afford an opportunity to nearby or affected property owners to speak relative to the variance request. Such variance request may, at the discretion of the County Commissioners, be approved in total; approved in part; denied; tabled or set for reconsideration at a subsequent time; or otherwise addressed as the County Commissioners deem appropriate, and consistent with the goals and philosophies of the Street Standards. Any major variance request, granted in whole or in part, shall not be effective until voted upon and approved by the County Commissioners, with such vote properly entered in the minutes of the public meeting of the County Commissioners, and any conditions or commitments of the Developer reflected in such minutes or otherwise documented as the County Commissioners shall specify.

SECTION XI

UTILITY INSTALLATION; RELOCATION; NOTICE AND TIMING STANDARDS

1) Utility Installations

- a. All utility installations within the public rights-of-way under the jurisdiction of Elkhart County are placed at the choice, risk and responsibility of the applicable utility, consistent with these Street Standards. The allowance of any such utility installation, prior to or after the effective of these Street Standards, or any amendments or additions thereto, by Elkhart County, does not alter, diminish, or otherwise impact the inherent right of Elkhart County to demand that any and all such utility installations within the right-of-way be removed and/or relocated, at the expense of the utility owning or operating the same, upon written demand by Elkhart County and/or Elkhart County Highway Division as part of the undertaking of a public infrastructure or roadway improvement by Elkhart County, or for other determination by Elkhart County, at its sole discretion, as the benefit and/or necessity of such removal and/or relocation.

2) Removal and/or Relocation

Upon determination by Elkhart County and/or Elkhart County Highway Division that a utility installation should be removed and/or relocated, the owning and/or operating utility shall receive written notice to such effect. Such utility installation shall thereafter be removed and/or relocated, consistent with the terms and conditions of such notice, within ninety (90) days after the date of the issuance of such notice. Such notice shall be submitted to such utility at its last known business mailing address for dealing with Elkhart County and/or Elkhart County Highway Division on utility installations of such type or character. Subject to the variance standards herein set forth, which may be perceived by the applicable utility owner or operator, failure of the utility owner or operator to remove and/or relocation such utility installation within such ninety (90) day period shall subject such utility owner and/or operator to each of the following:

- a. A fine of a user fee of Fifty Dollars (\$50) per day, for each day of such use of such installation contrary to the terms and conditions of such notice;
- b. A claim by Elkhart County for money damages for all extra costs in undertaking the planned infrastructure improvement or alteration by Elkhart County giving rise to the notice of removal or relocation, to include, but not to be limited to, damages based upon delay in the public works project being undertaken, additional costs incurred by Elkhart County in undertaking the public works project, extra sums owed to and/or legitimately claimed by contractors precluded from doing work within the public right-of-way due to untimely action by the utility owner or operator, and any and all other economic or monetary losses or damages occasioned to Elkhart County, its agents, representatives, and/or contractors, by such failure by such utility;
- c. All other rights and remedies available at law or in equity to Elkhart County based upon noncompliance with these Street Standards by such utility, to include injunctive relief, and the remedy of specific performance;
- d. Removal, relocation, and/or destruction of such utility installations by Elkhart County and/or its agents and contractors in their timely undertaking of the public works project giving rise to

the notice; and

- e. Payment of all attorney fees and costs of collection or enforcement incurred by Elkhart County, in effecting the removal and/or relocation of such utility installations by the owner or operator thereof from and after breach of the terms and conditions of these Street Standards by such utility owner or operator relative to such removal or relocation.

3) Variances

A utility aggrieved by the time frame of notice of relocation or removal may pursue a variance under Section X of these Street Standards through Elkhart County for good cause shown; provided, however, that the seeking or filing for any such variance must be undertaken and completed within forty-five (45) days after the date of any such notice, or the right to seek or pursue a variance from the relocation or removal notice shall be deemed untimely and barred.

SECTION XII

COMPLIANCE; PUBLIC INQUIRIES

- 1) Failures of Performance; Compliance; Collection.
 - a. The Elkhart County Highway Division shall administrate the standards herein set forth pertaining to street construction and all other Public Improvements, and shall be entitled to make recommendations to the Board of Commissioners to impose further additional obligations upon developers based upon the circumstances of any proposal. Failure of any person, party, or entity to follow and comply with any of the Standards herein set forth, shall entitle Elkhart County to pursue all rights and remedies available at law or in equity, to include, but not necessarily to be limited to, the following:
 1. To insure compliance of these Standards by equitable or injunctive relief, with no duty on the part of Elkhart County to post bond.
 2. To undertake and complete compliance with these Standards for any tendered or proposed Public Improvement, and to collect from the party failing to comply with these Standards all sums so expended by Elkhart County in ensuring compliance.
 3. To cash, collect on, or otherwise take, use, and/or apply to any Public Improvement, any Surety pledged toward the compliance with these Standards by any person, party, or entity.
 4. To collect back from any such breaching or non-complying party all costs of collection incurred by Elkhart County, the same to include reasonable attorney fees.
 5. To pursue all other rights and remedies available at law or in equity.
- 2) Utilities within the right of way have ninety (90) days to relocate for public improvement projects. Utilities remaining active after ninety (90) days are subject to fine.
- 3) No utility installation shall be permitted to attach to any Elkhart County Bridge unless a formal agreement between the utility and the County Commissioners shall be entered into, and then only on such terms, and with such protections for the bridge, costs or responsibilities of the utility, and fees for usage as the Commissioners in their sole discretion shall establish.
- 4) Elkhart County Highway limits responsibility to all county roads, as well as road related drainage which lies within the public right-of-way or any drainage facility, located outside of the public right-of-way, which affects the county road. If in any event, a drainage facility located outside of the public right-of-way is adversely affecting the county road, Elkhart County may pursue remedies to that facility.
- 5) Information. Any questions or inquiries pertaining to these Standards should initially be addressed to the Elkhart County Highway Division. Its office hours are 7:00 a.m. to 4:00 p.m. Monday through Friday, except for legal holidays. Its direct telephone number is 574-534-9394. Its address for business purposes is 610 Steury Avenue, Goshen, Indiana 46528.

SECTION XIII

APPENDIX

A. PROCEDURES FOR VACATION
OF
PUBLIC ROAD / RIGHT-OF-WAY
IN
ELKHART COUNTY

B. STANDARD DRAWINGS
FIGURES 1 THRU 18

C. THOROUGHFARE PLAN

**PROCEDURES RE: VACATION OF PLATTED ALLEY OR STREET IN
UNINCORPORATED AREAS OF ELKHART COUNTY, INDIANA**
(As of January 1, 1991)

1. Any person who owns or is interested in a parcel of real estate located totally or partly within the unincorporated areas of Elkhart County, Indiana, and who wants to vacate all or part of a public way (street, road, alley, etc.) contiguous to his or her real estate, may file a written petition with the Elkhart County Department of Planning and Development, 4230 Elkhart Road, Goshen, Indiana 46526, requesting the vacation sought.

2. The petition must:

- (a) state the circumstances of the case (i.e. the facts surrounding the request and the reasons for the request);
- (b) specifically describe the public way to be vacated; such description must be a “legal” description usable on a deed or other formal real estate document;
- (c) give the full and formal names and legal mailing address of all owners of land that abuts the public way to be vacated; the best way of securing such names (which must include all persons with an ownership interest in each parcel) is to visit the Elkhart County Auditor’s office and review the tax index and transfer records;
- (d) contain a map or line drawing showing the public way to be vacated and its relationship to abutting parcels; such map must have been prepared by and certified to by a registered Indiana land surveyor;
- (e) be accompanied by One Hundred Dollars (\$100.00) in cash or check payable to the Treasurer of Elkhart County to cover the processing and notice expenses, including legal publications;
- (f) be accompanied by proposed ordinance in proper form with appropriate legal description and drawing included.

3. When a petition has been received by the Department of Planning and Development, it will be referred to the Technical Committee of the Elkhart County Plan Commission and to the Elkhart County Plan Commission for a public hearing thereon, and for a recommendation from the Plan commission, pursuant to I.C. 36-7-4-1 et seq. Additionally,

when a proper petition has been received, the County Commissioners will hold a hearing thereon. Pursuant to I.C. 36-7-3-12 the County Commissioners hearing is to take place within thirty (30) days after the petition is received, though due to notice and mailing requirements, scheduling difficulties, and the required hearing before the Plan Commission, the Commissioner's hearing date is most likely to be at the next regular meeting of the Board of Commissioners of Elkhart County taking place after the required Plan Commission hearing. Both the Plan Commission hearing and the hearing before the County Commissioners shall be subject to the Indiana Open Door Law, known as the Sunshine Law, and thus public participation at the hearings is contemplated.

4. Prior to the Plan Commission hearing and prior to the hearing before the Board of Commissioners of Elkhart County, the Department of Planning and Development must publish in two (2) newspaper of general circulation in Elkhart County, Indiana (to choose among The Goshen News, The (Elkhart)Truth, The Wakarusa Tribune, and The Middlebury Independent) a formal legal notice setting forth the time, place, and date of each of the hearings before the Plan Commission and the Board of Commissioners of Elkhart County with regard to the vacation petition. Such notice(s) must be published one (1) time at least ten (10) days prior to each of the two (2) hearings. The Department of Planning and Development will prepare and have published such notice as part of the One Hundred Dollars (\$100.00) filing fee.

Additionally, the Clerk of the County Commissioners, or the designate of the County Commissioners, must be statute give notice of the hearing before the County Commissioners (only) by certified mail, return receipt requested, to each owner of land that abuts the public way proposed to be vacated. To avoid confusion, the County Commissioners intend to use the same notice form intended for publication in meeting the mailing requirements; thus the adjoining or abutting landowners will also be notified of the Plan Commission hearing in addition to being notified of the County Commissioners hearing.

The petitioner(s) is responsible, as set forth in paragraph 2 above, for giving the full and formal names and legal mailing addresses of all affected landowners. The County Commissioners and/or the Department of Planning and Development staff will mail out the required certified mail notice, but the accuracy of such mailing is dependent upon the accuracy of the information supplied the County officials. Since the cost of processing and providing postage for such mailing is part of the One Hundred Dollars (\$100.00) filing fee above stated.

5. At the Technical Committee meeting the petition as filed, together with its legal description, line drawing, and proposed Ordinance, will be carefully reviewed. Any defects, shortcomings, or inconsistencies in the petition, or its accompanying records or documents, may cause the petition to be referred back to the petitioner(s) for correction or improvement and returned to Technical Committee for additional review, which could obviously cause a delay in the ultimate hearing of the petition before the County Plan Commission or Board of Commissioners. At the hearing that does take place before the County Plan Commission, the petitioner and all persons in favor of the petition will be heard. All persons opposed will also be heard. At the conclusion of the Plan Commission hearing a recommendation will be forwarded to the Elkhart County Commissioners for use at their hearing.

6. At the hearing before the County Commissioners the petitioner(s) and all people in favor of the petition will be heard. All persons opposed will also be heard. The recommendation and report of the County Plan Commission will also be considered. A remonstrance or objection to the petition, whether oral or written, may be raised or filed by any person aggrieved by the proposed vacation, but only on one or more of the following grounds:

(a) The vacation would hinder the growth or orderly development of the Elkhart County neighborhood in which it is located or to which it is contiguous.

(b) The vacation would make access to the lands of the aggrieved person by means of public way difficult or inconvenient.

(c) The vacation would hinder the public's access to a church, school, or other public building or place.

(d) The vacation would hinder the use of the public way by the neighborhood in which it is located or to which it is contiguous.

7. The Elkhart County Commissioners may act favorably upon the petition, may deny the same, or may refer the hearing back to the County Plan Commission for review, or may continue the hearing to another time. If the County Commissioners vote to grant the petition, in whole or in part, an ordinance setting forth the action of the County Commissioners must be prepared by the petitioner which sets forth such action, and legally describes the public way that has been vacated. Such ordinance, upon adoption, will then be filed with the Elkhart County Auditor and Elkhart County Recorder for tax and recording purposes. Generally, the width of the vacated way will be divided equally, and one-half (1/2) of such width shall thereafter be owned by the owners of the parcels on the respective sides of the vacated way. Such division will be controlled by I.C. 36-7-3-14; under that statute the persons involved with the petition may, by agreement, have the ownership of the land being freed by the vacation divided in a different fashion.

8. If the County Commissioners deny the petition, no petition seeking the same vacation may be initiated before the County Commissioners for a period of two (2) years.

9. A party aggrieved by the granting of a vacation petition may file an appeal of the County Commissioners' decision in the Circuit or Superior Courts of Elkhart County. Such an appeal must be filed within thirty (30) days of the adoption of the ordinance.

10. Vacation proceedings cannot deprive a public utility of the use of all or part of the public way to be vacated if, at the time the proceedings are instituted, the utility is occupying and using all or part of that public way for the location and operation of its facilities. The utility may waive its right to preserve its use by filing its written consent as part of the vacation proceedings.

11. Should a vacation petition be granted by the Board of County Commissioners the legal title to be real estate affected thereby will obviously be changed. Since it is in the interest of successful petitioners that the “chain of title” to the real estate being newly acquired be legally sufficient, it is likewise important that proper procedures be followed in the vacation proceedings, to include issuance and publication of notices, use of formal legal descriptions, and preparation of appropriate documents to include the vacation ordinance itself. It is the position of the Elkhart County Commissioners that the petitioner(s) shall be responsible for the observance of the necessary legal procedures, and for insuring that the necessary documents are properly prepared and presented to the Commissioners for review and signature.

**NOTICE OF PUBLIC HEARING WITH REGARD TO PETITION TO VACATE
PUBLIC WAY IN UNINCORPORATED AREA OF ELKHART COUNTY, INDIANA**

A Petition has been filed with the Board of Commissioners of Elkhart County, Indiana seeking to have vacated a certain public way within the unincorporated area of Elkhart County, Indiana, which public way is more particularly described as follows:

(Type in or attach legal description of public way to be vacated)

A public hearing has been scheduled before the Elkhart County Plan Commission with regard to such Petition on the ____ day of _____, 20__, at _____ o'clock __.M. at 4230 Elkhart Road, Goshen, Indiana 46526. The Elkhart County Plan Commission will then formulate a recommendation with regard to such Petition and forward it to the Board of Commissioners of Elkhart County. The Board of Commissioners of Elkhart County shall then conduct a public hearing with regard to such Petition, which hearing before the County Commissioners has been scheduled for the ___day of _____, 20__ at _____o'clock __.M. at Room 104, County Administrative Building, 117 North Second Street, Goshen, Indiana 46526. All parties interested in, or affected by, said proposed vacation of said public way may attend either or both of said public hearings, and may speak in favor of said Petition, or remonstrate against the same, as provided by law.

BOARD OF COMMISSIONERS OF ELKHART
COUNTY, INDIANA

By _____
Elkhart County Auditor

**PETITION FOR VACATION OF PUBLIC WAY WITHIN
UNINCORPORATED AREA OF ELKHART COUNTY, INDIANA**

TO: Board of Commissioners of Elkhart County, Indiana

The undersigned hereby petition and request that the Board of Commissioners of Elkhart County, Indiana vacate the following described public way within the unincorporated portion of Elkhart County, Indiana, to-wit:

Said public way is a (street) (alley) which runs in a (north-south) (east-west) direction between the following public ways within Elkhart County, Indiana, to-wit: _____

_____.

The undersigned Petitioners request that said public way be vacated for the following reasons:

Attached hereto and labeled Exhibit A is a list of the full and formal names and legal mailing addresses of all the owners of land that abuts the public way to be vacated. The undersigned certify said list to be true and accurate, and to include the names of all parties claiming an ownership in all parcels of land abutting the public way in question.

Attached hereto as Exhibit B is a map or line drawing of the public way to be vacated, which shows its relationship to the various parcels of real estate owned by the persons listed in Exhibit A.

Respectfully submitted,

NAMES ADDRESSES

_____ of _____

_____ of _____

_____ of _____

_____ of _____

_____ of _____

_____ of _____

**ORDINANCE VACATING PUBLIC WAY IN
UNINCORPORATED AREA OF ELKHART COUNTY, INDIANA**

A Petition having heretofore been filed with the Board of Commissioners of Elkhart County, Indiana on the ___ day of _____, 20___, requesting the vacation of a certain public way within the unincorporated area of Elkhart County, Indiana, and more particularly described therein, said Petition being in the words and figures following, to-wit: (H.I.); and the public hearing before the Elkhart County Plan Commission and before the Board of Commissioners of Elkhart County having been scheduled as to said Petition, with the Elkhart County Plan Commission hearing having been held on the ___ day of _____, 20___, and the hearing before the Board of Commissioners of Elkhart County having been held on the ___ day of _____, 20___; and formal legal notice, by certified mail, return receipt requested, having been mailed to each owner of land that abuts the public way to be vacated, and formal legal publication notice as to said hearings having been published in the _____ on the ___ day of _____, 20___, and in the _____ on the ___ day of _____, 20___, advising all necessary parties of the time, place, and date of said hearings, said legal notice having been so mailed, and having been so published, being in the words and figures following, to-wit: (H.I.); and the Board of Commissioners of Elkhart County, Indiana, pursuant to applicable Indiana law, having received a recommendation from the Elkhart County Plan Commission, and having conducted the public hearing on said Petition on the date set forth in said Notice, and being duly advised in the premises, now finds as follows:

1. That Petition heretofore filed is in proper order, and that proper legal notices of the two (2) public hearings conducted with regard to said Petition have been mailed and published.

2. The vacation of the public way in question would not hinder the growth or orderly development of Elkhart County, Indiana, or the neighborhood in which it is located or to which it is contiguous.

3. The vacation of the public way in question will not make access to the lands of any property owners within Elkhart County, Indiana by means of public way difficult or inconvenient.

4. The vacation of the public way in question will not hinder the public's access to a church, school, or other public building or place.

5. The vacation of the public way in question will not hinder the use of a public way by the neighborhood in which it is located or to which it is contiguous.

NOW, THEREFORE, Be it Ordered, Adjudged and Decreed by the Board of Commissioners of Elkhart County, Indiana as follows:

1. That said Petition is hereby, in all respects, approved and confirmed, and the request therein made to vacate a public way is hereby granted.

2. That the following described public way situate in the unincorporated area of Elkhart County, Indiana is hereby vacated, said public way being described as follows:

3. That title in fee simple to the above vacated property shall be transferred to (a) the adjoining property owners, extending the boundaries of the adjoining parcels of real estate, by parallel lines, to be centerline of the public way herein vacated, or (b) _____

4. That these proceedings shall not deprive any public utility of the use of all or part of the public way herein granted if at the time these proceedings are instituted the utility is occupying or using all or part of that public way for the location and operation of its facilities.

Dated this ____ day of _____, 20__.

BOARD OF COMMISSIONERS OF THE
COUNTY OF ELKHART, INDIANA

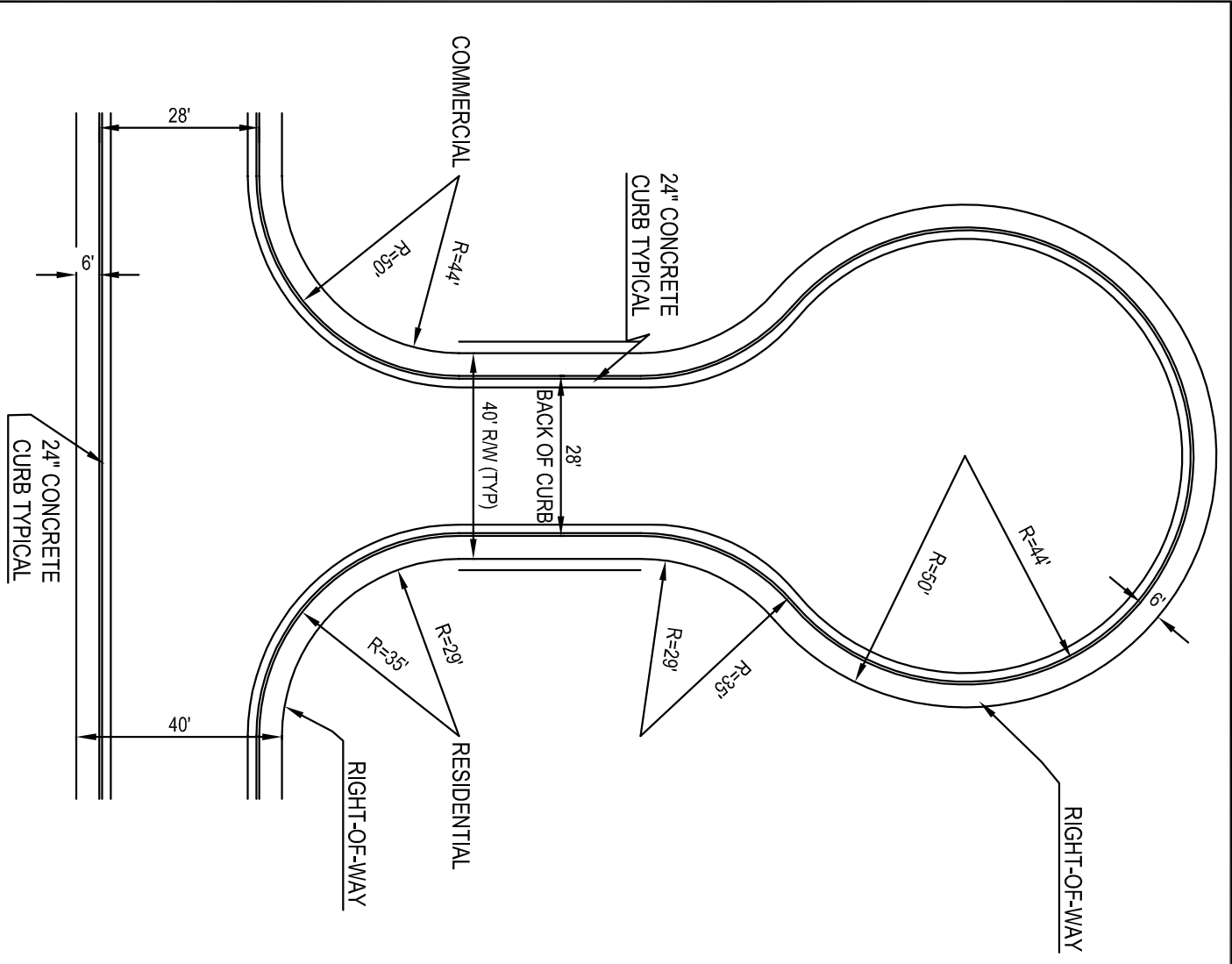
By _____

By _____

By _____

Attest:

Auditor, Elkhart County, Indiana



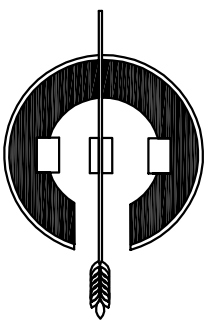
NOTE:
 PAVEMENT WIDTH MAY BE INCREASED AT ENTRANCES ON COLLECTOR STREETS TO 38 FEET.

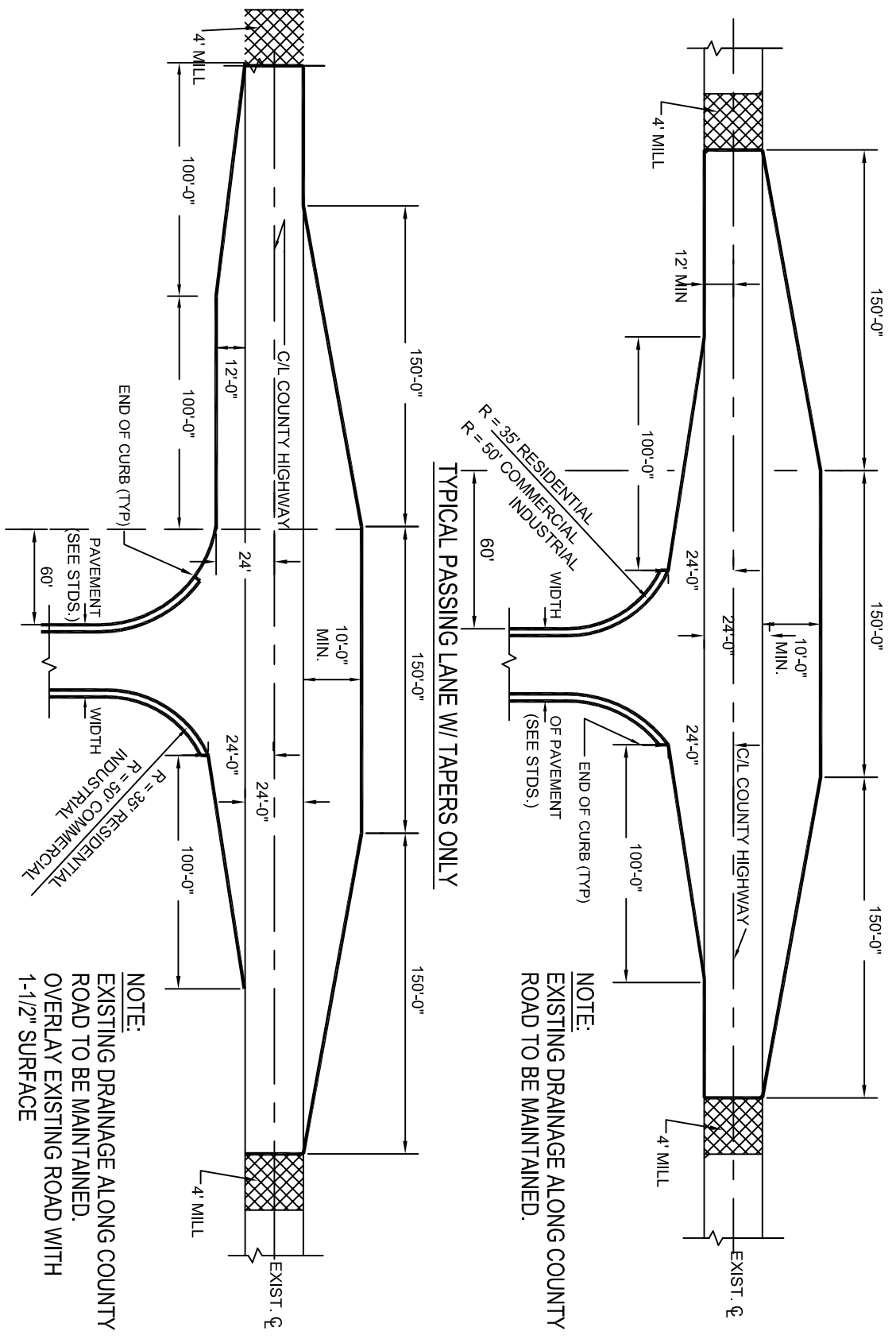
A TEMPORARY CUL-DE-SAC SHALL HAVE THE SAME CONFIGURATION WITH 3" OF No. 53 GRAVEL AND 3" OF #8 OR #9 LIMESTONE GRADED SMOOTH.

CUL-DE-SAC TO BE PAVED SOLID WITH NO ISLANDS.

TYPICAL PLAN

FIG. 1





NOTE:
EXISTING DRAINAGE ALONG COUNTY ROAD TO BE MAINTAINED.

NOTE:
EXISTING DRAINAGE ALONG COUNTY ROAD TO BE MAINTAINED.
OVERLAY EXISTING ROAD WITH 1-1/2" SURFACE

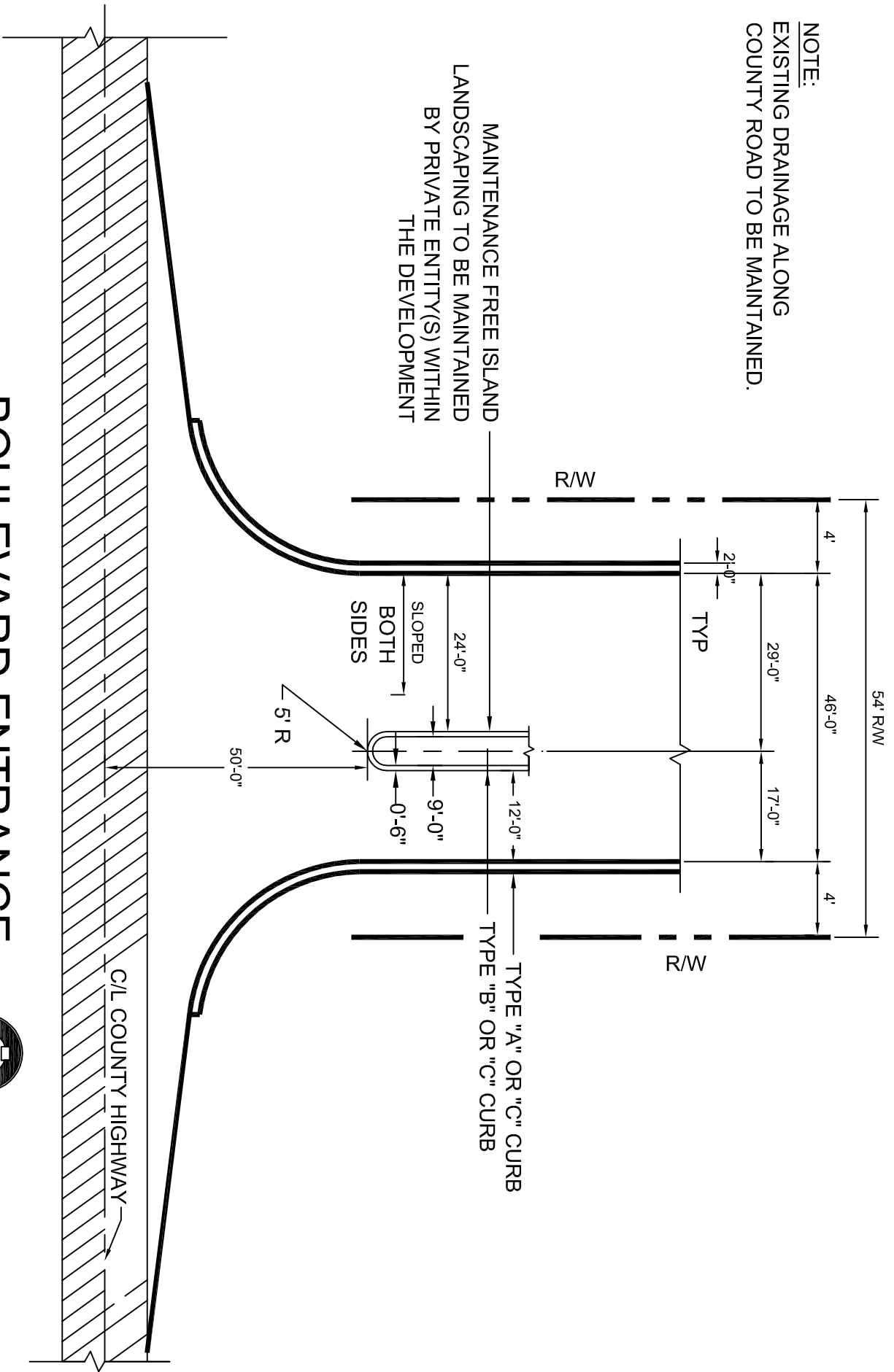
ACCELERATION-DECELERATION TAPERS & PASSING LANES

FIG.2



NOTE:
 EXISTING DRAINAGE ALONG
 COUNTY ROAD TO BE MAINTAINED.

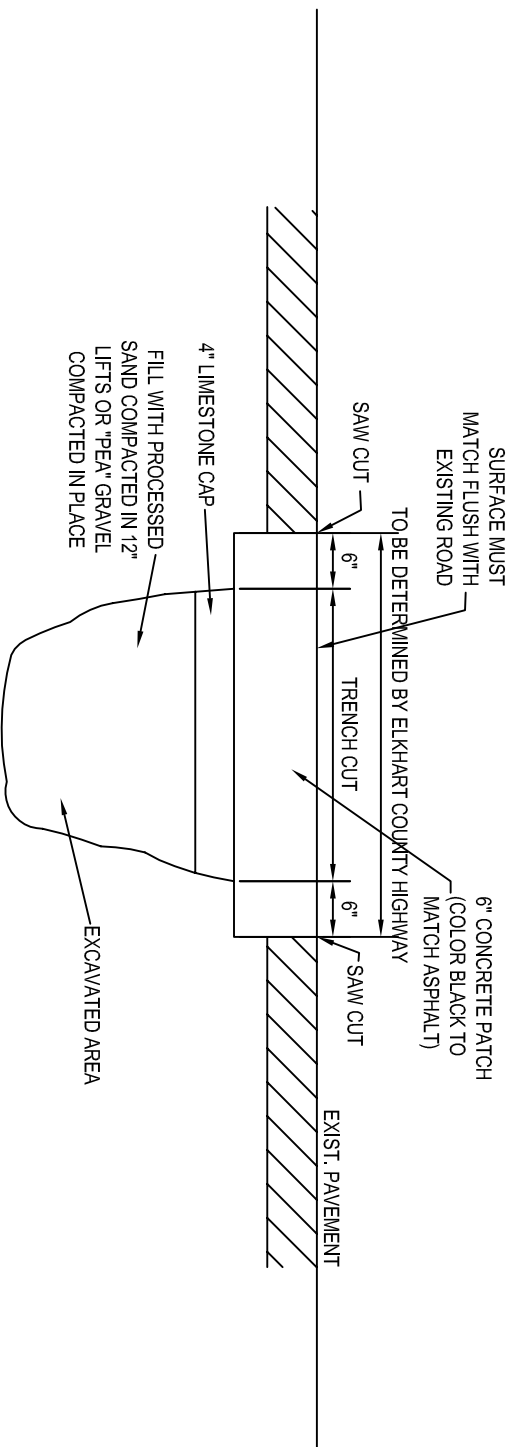
MAINTENANCE FREE ISLAND
 LANDSCAPING TO BE MAINTAINED
 BY PRIVATE ENTITY(S) WITHIN
 THE DEVELOPMENT



BOULEVARD ENTRANCE

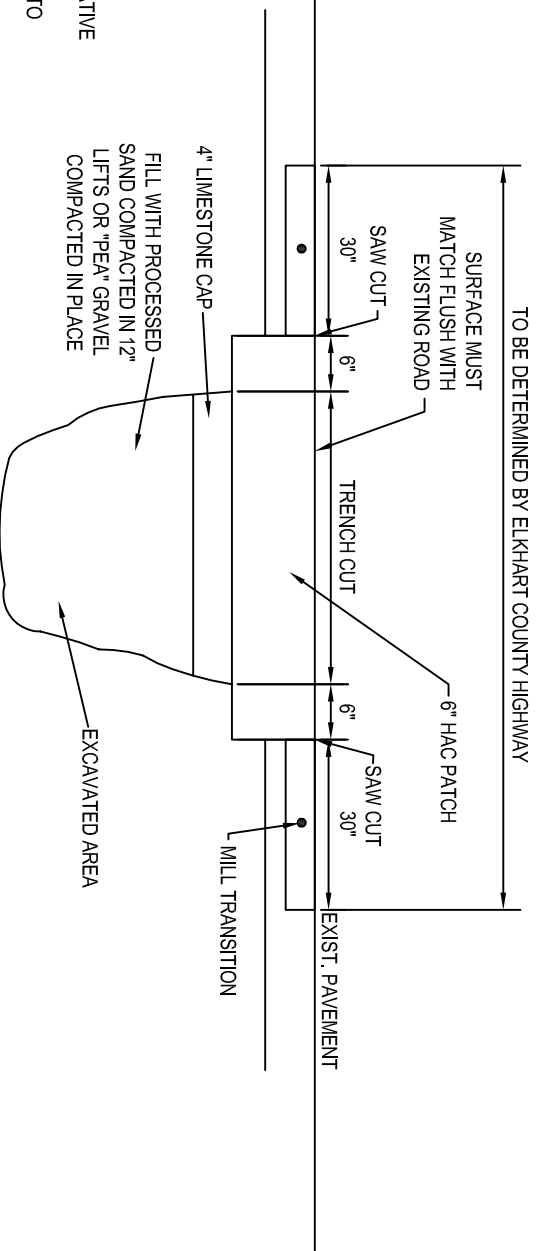
FIG.3





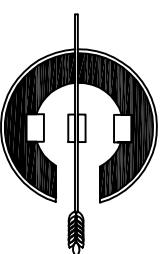
TYPICAL PATCH W/ CONCRETE

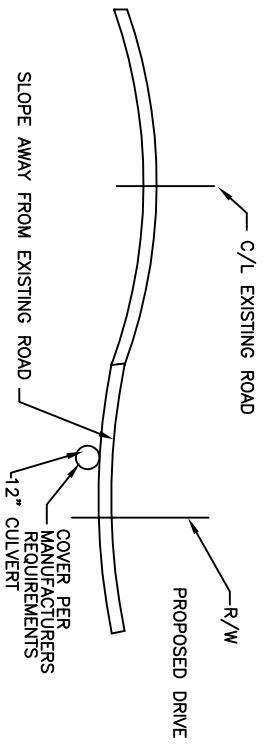
NOTE:
 ASPHALT MUST BE PLACED WITH A PAVING MACHINE (PAVER) OR A ELKHART COUNTY REPRESENTATIVE MUST BE ON SITE WHEN WORK IS BEING ACCOMPLISHED IN ORDER TO GRANT APPROVAL



TYPICAL ASPHALT PATCH

FIG.4

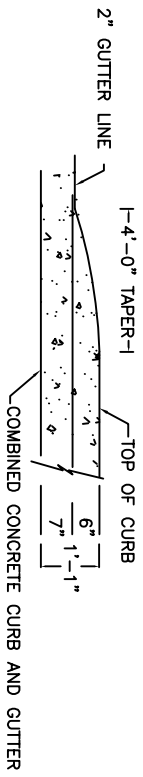




TYPICAL CROSS SECTION "B-B"

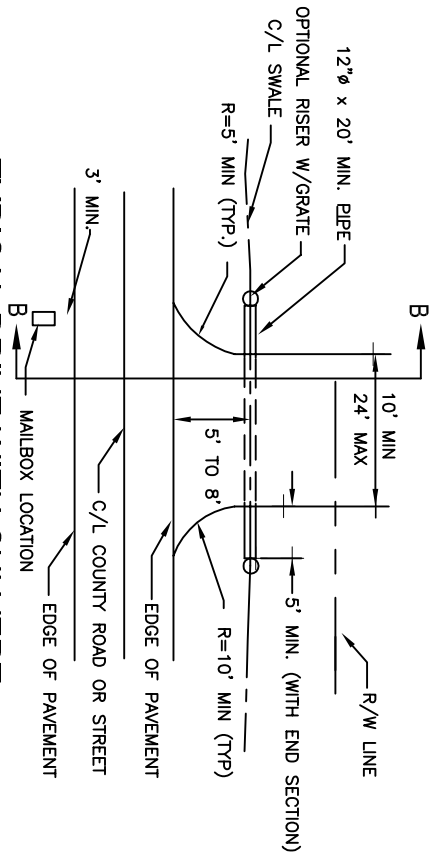
NOTE:

1. THE PRIMARY OBJECTIVE IS TO PREVENT WATER FROM DRAINING ONTO THE ROAD SURFACE THERE ARE NUMEROUS COMBINATIONS WITH ELEVATIONS THAT PRODUCE THE IDEAL DRIVE.
2. GRADES FOR MOWING AND SNOW PLOWING SHOULD ALWAYS BE CONSIDERED.
3. A 90° ELBOW RISER W/YARD GRATE IS OPTIONAL.
4. DRIVES ON COUNTY ARTERIALS REQUIRE CONCRETE OR ASPHALT PAVEMENT FROM EDGE OF ROAD TO EDGE OF RIGHT-OF-WAY.

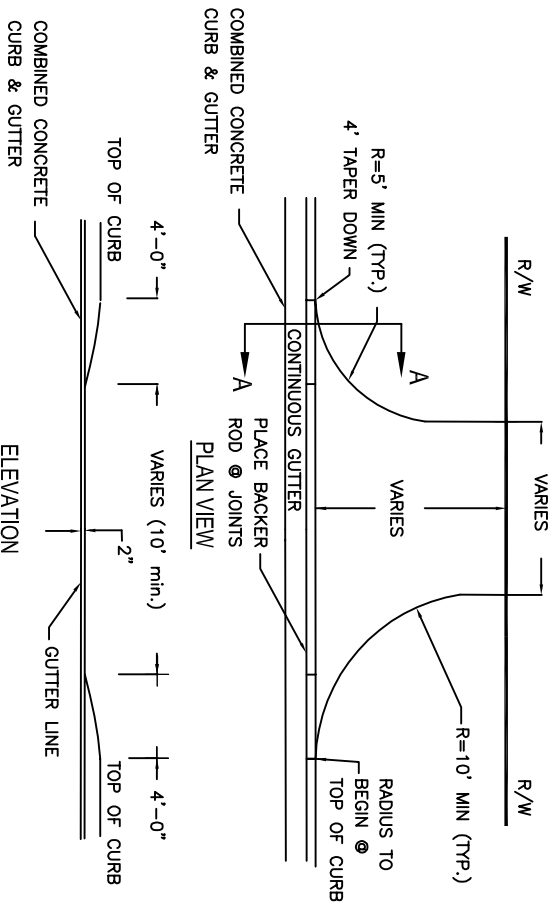


CURB TAPER DETAIL "A-A"

ELEVATION



TYPICAL DRIVE WITH CULVERT



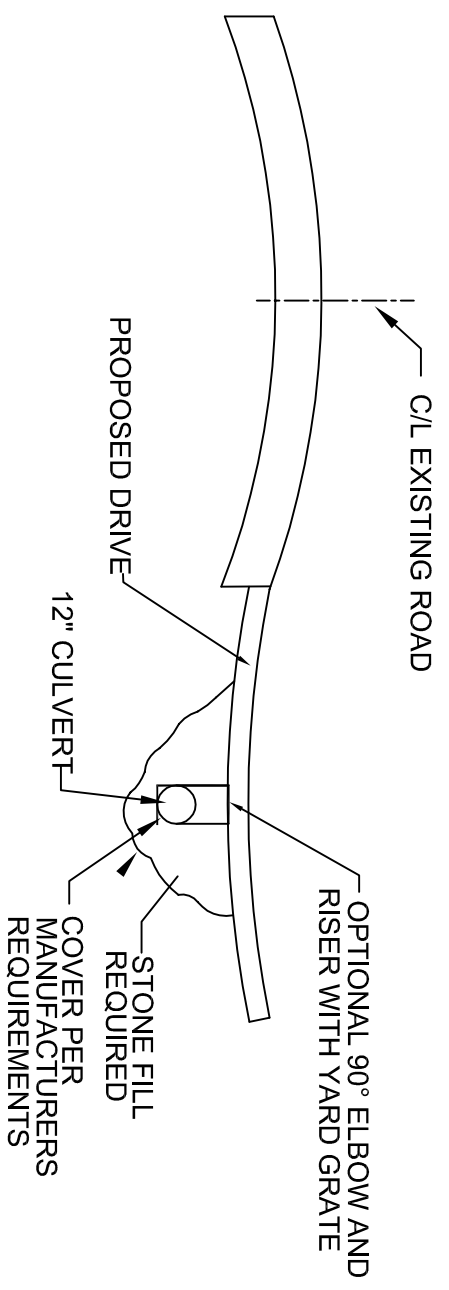
TYPICAL CURB CUT "A-A"

ELEVATION

RESIDENTIAL PRIVATE DRIVE

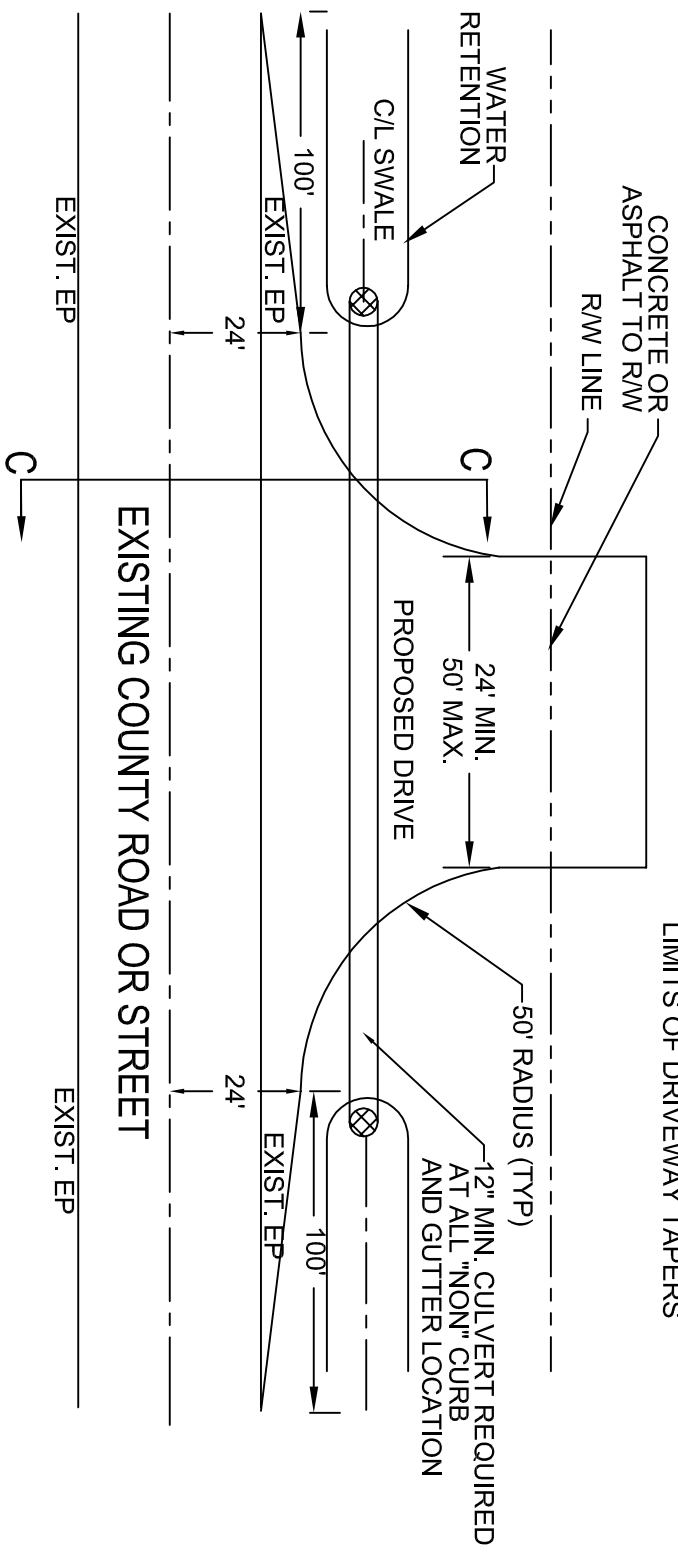
FIG.5





TYPICAL CROSS SECTION "C-C"

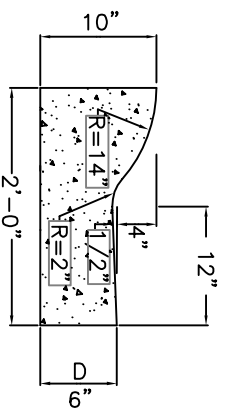
NOTE: FULL WIDTH OF EXISTING COUNTY ROAD MUST BE MILLED AND RESURFACED FROM OUTERMOST LIMITS OF DRIVEWAY TAPERS



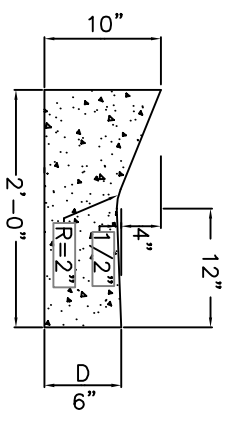
MINIMUM REQUIREMENTS FOR COMMERCIAL DRIVES

FIG.6

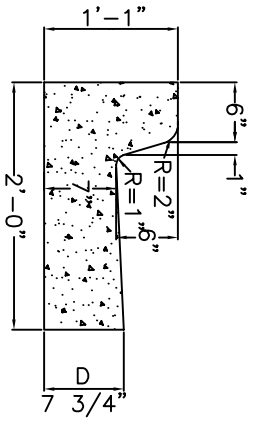




COMBINED CONCRETE CURB
AND GUTTER, "ROLLED CURB"

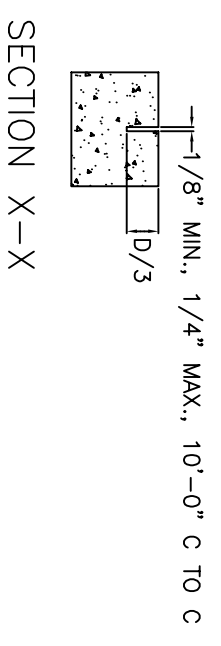


MOUNTABLE "FLORIDA CURB"



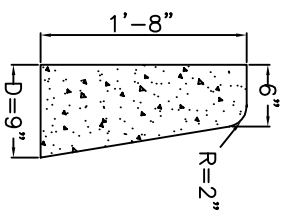
COMBINED CONCRETE CURB
AND GUTTER

TYPE A



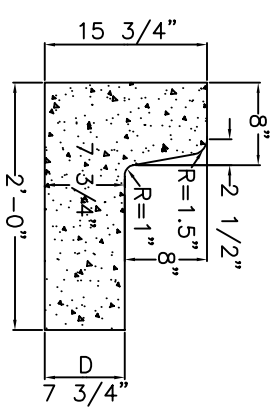
SECTION X-X

NOTE: SAW JOINTS SHALL BE D/3



CONCRETE CURB

TYPE B



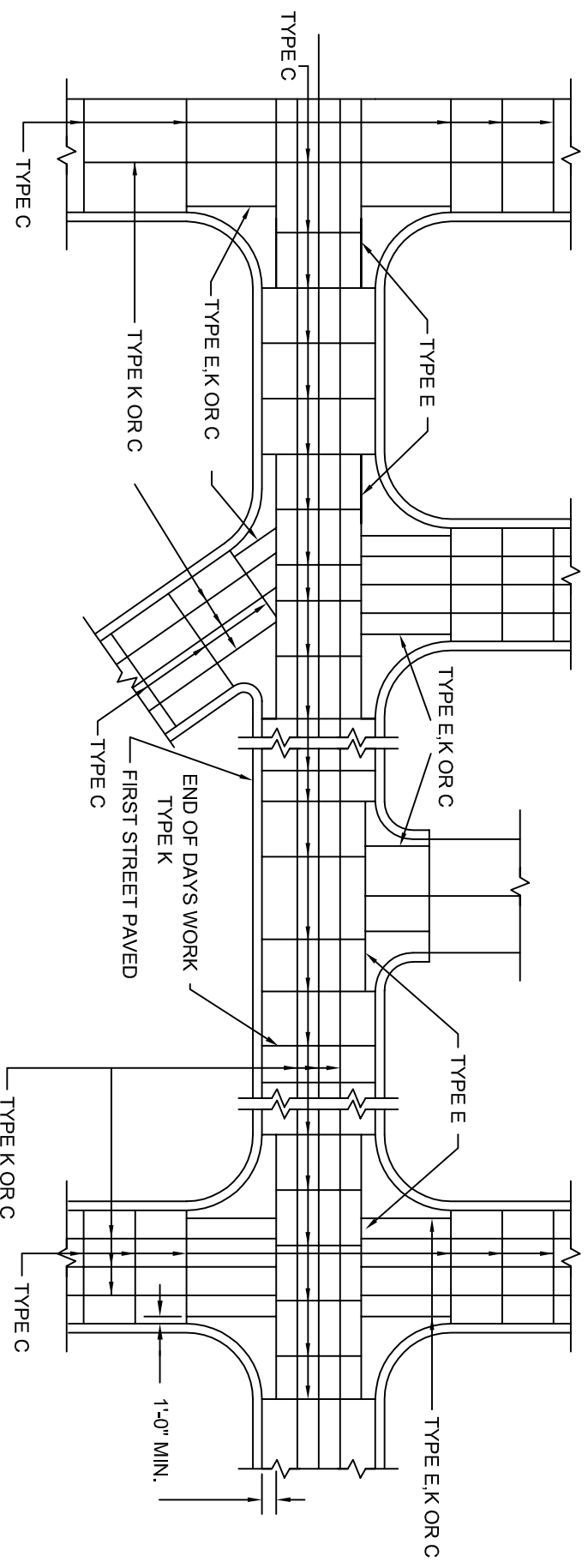
COMBINED CONCRETE CURB
AND GUTTER

TYPE C

CURB & GUTTER DETAILS

FIG.7





MAX. TRANSVERSE JOINT SPACING:

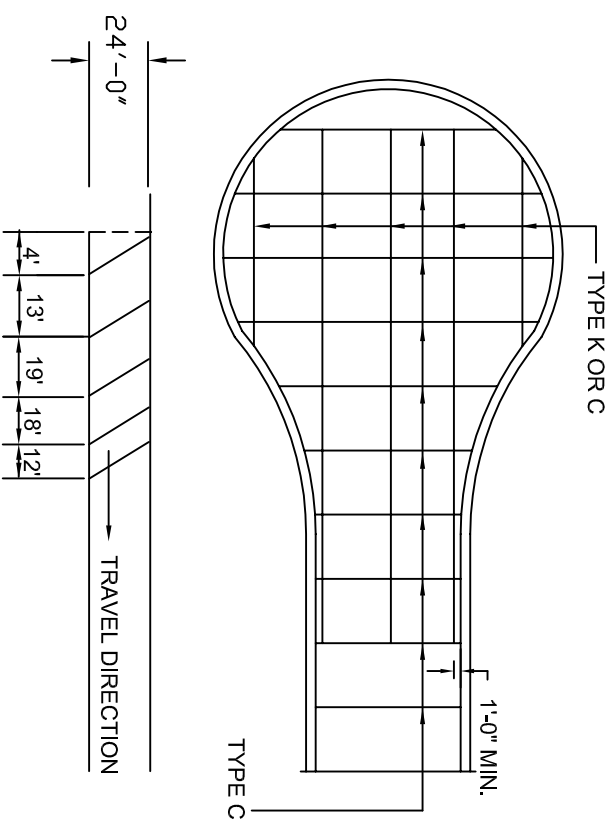
10 FT. (5 1/2" SLABS)

15 FT. (6" AND GREATER SLABS)

MAX. LONGITUDINAL JOINT SPACING:

13 FT.

IF SPEED LIMIT IN EXCESS OF 35 M.P.H.,
 TRANSVERSE JOINT SPACING MAY BE
 RANDOMIZED AT INTERVALS OF 13-19-18-12 FT.
 (REPEAT) AND SKEWED 4 FT. IN 24 FT.

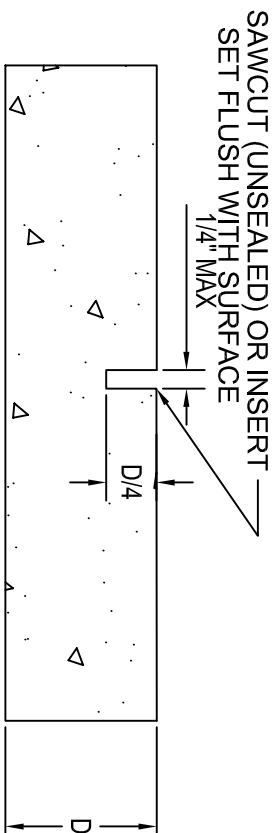


CONCRETE PAVEMENT JOINT LOCATIONS

FIG. 8

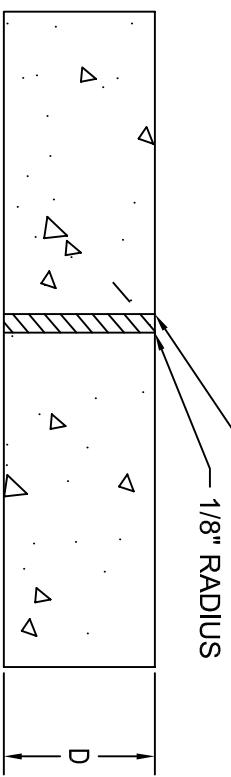


TYPE C

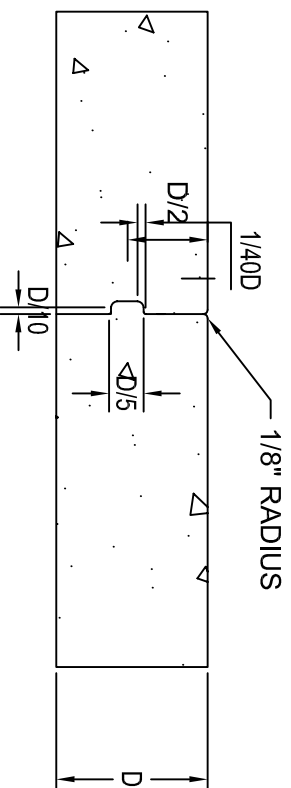


1/2" JOINT FILLER SET FLUSH WITH SURFACE

TYPE E



TYPE K

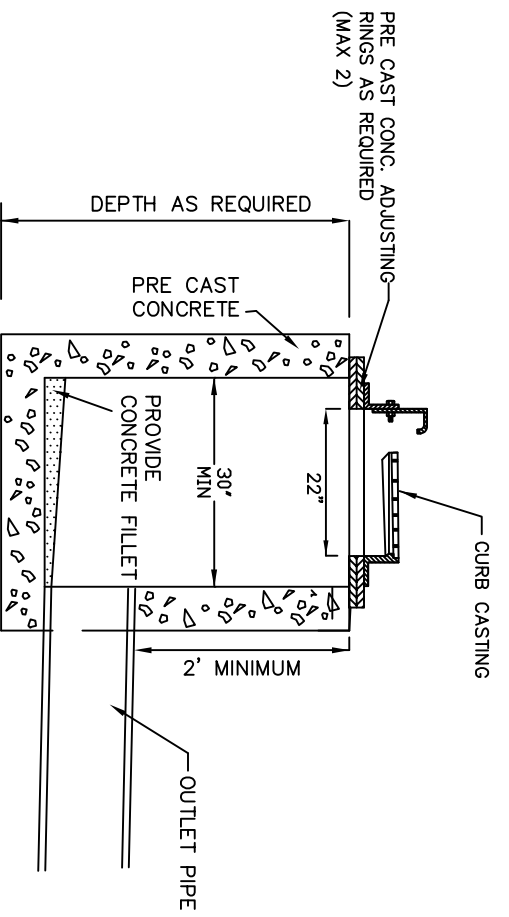


KEYWAY MUST BE AS DETAILED

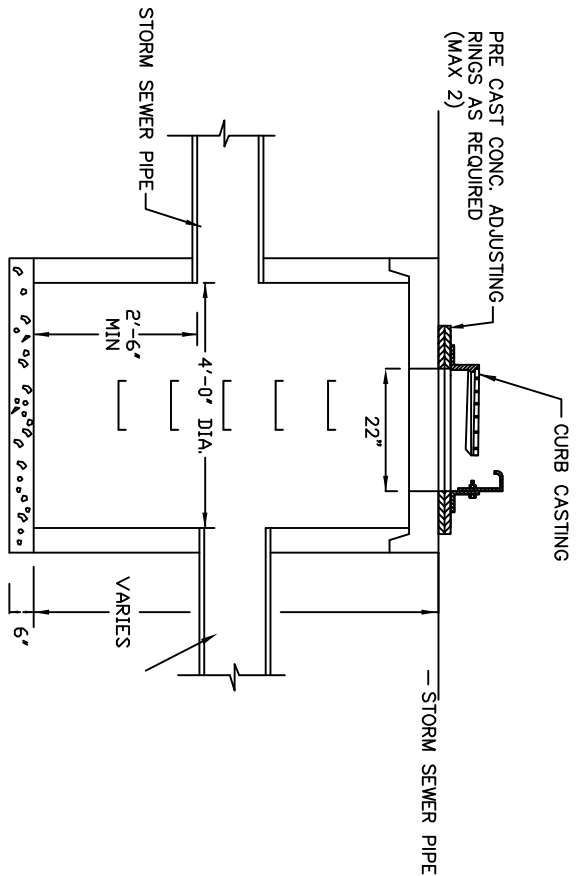
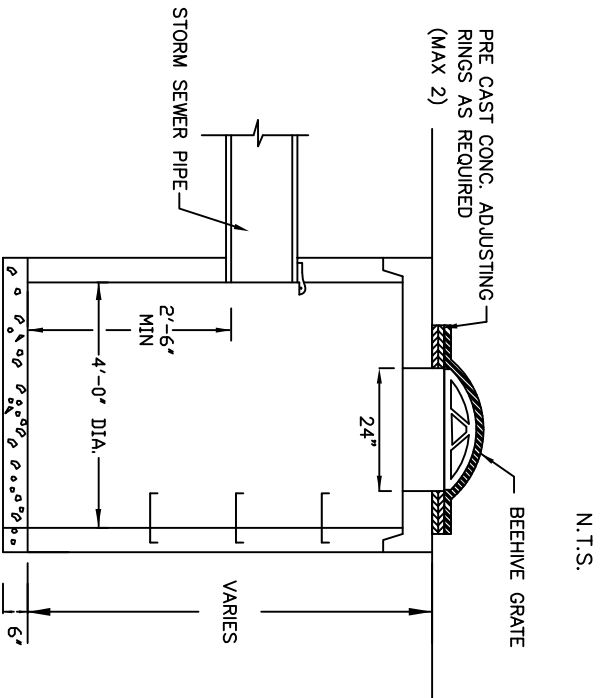
CONCRETE JOINT DETAILS

FIG 9





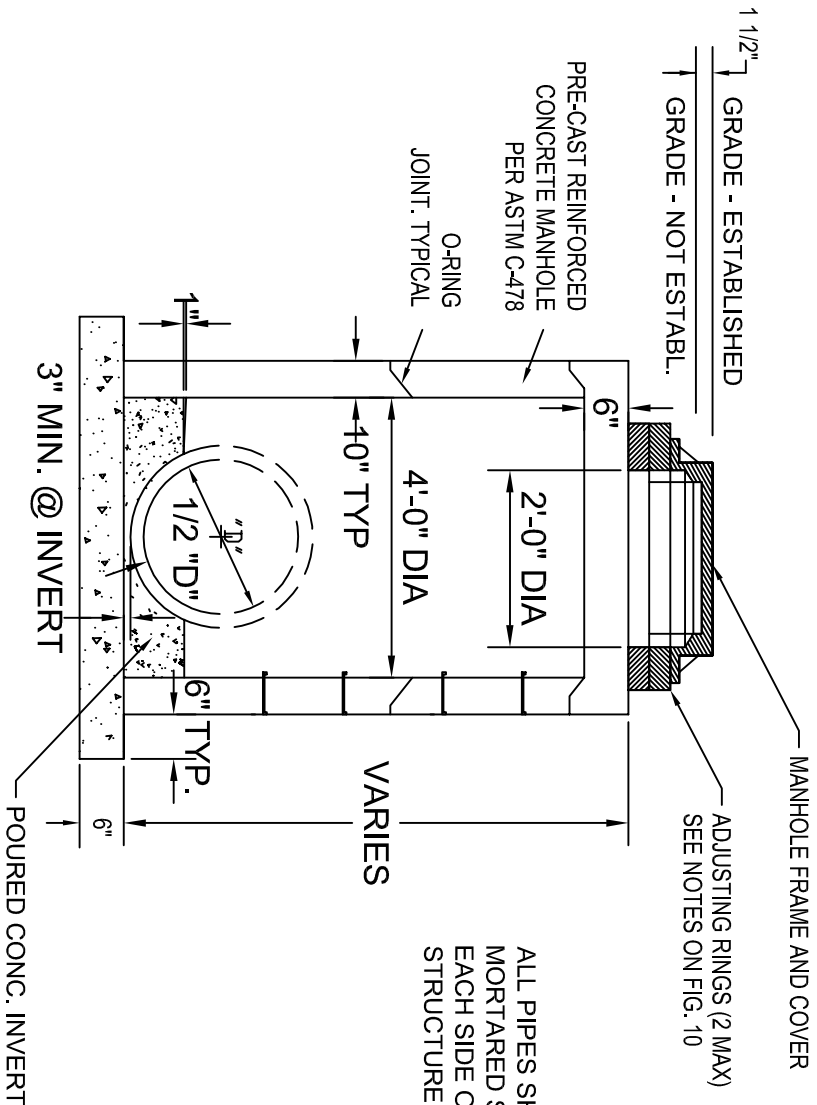
- NOTES:
1. ALL PIPES SHALL BE GROUTED SHUT ON EACH SIDE OF THE STRUCTURE WALL USING A SAND AND CEMENT MIX.
 2. TYPICAL CASTINGS AS SHOWN ON FIG. 11.
 3. ADJUSTING RINGS SHALL BE CONCRETE.
 4. ONLY TWO ADJUSTING RINGS MAY BE USED PER STRUCTURE.
 5. MASTIC SEALANT SHALL BE USED BETWEEN ADJUSTING RINGS AND CASTING.



STANDARD CURB INLETS



FIG.10



ALL PIPES SHALL BE MORTARED SHUT ON EACH SIDE OF THE STRUCTURE

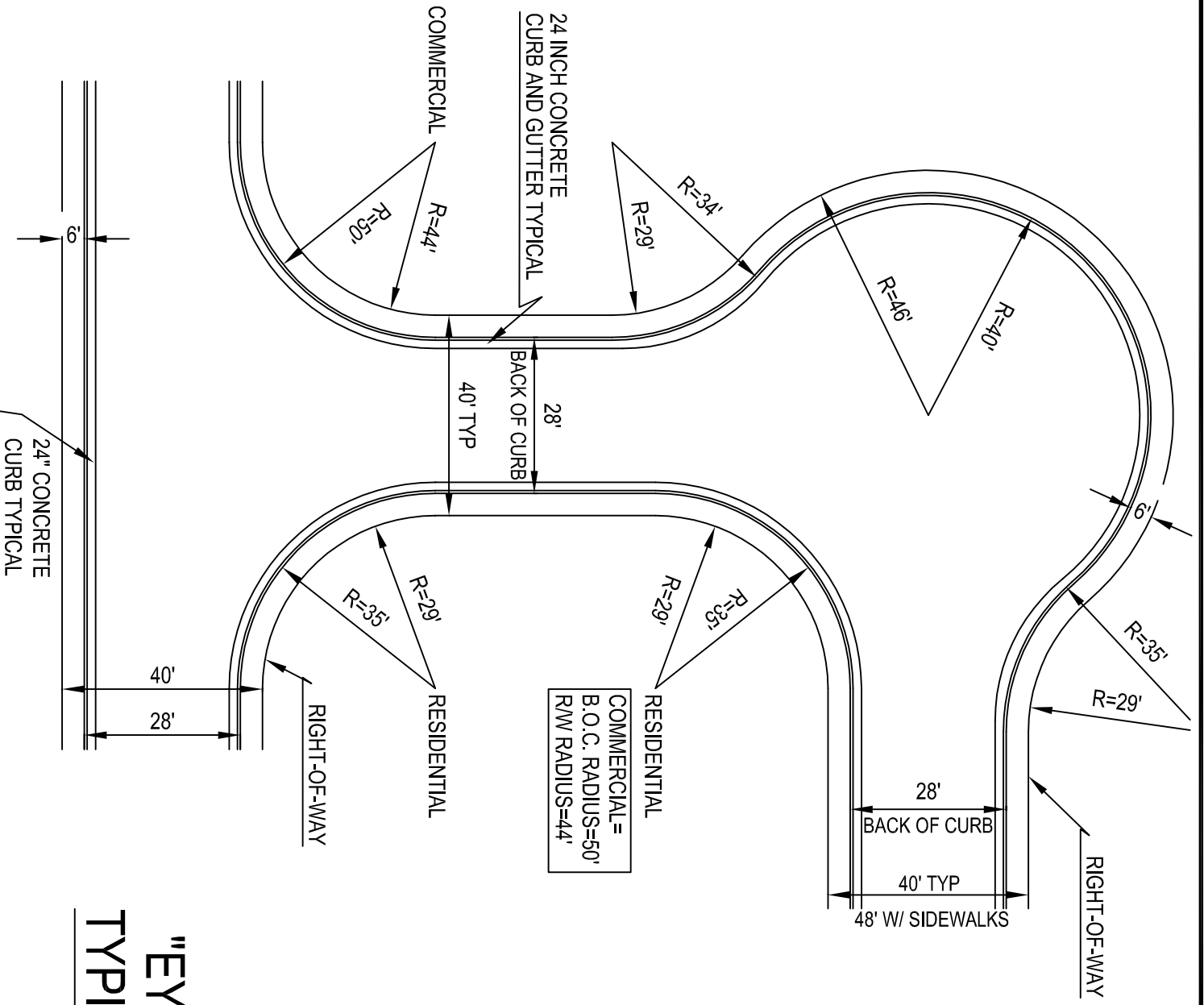
STANDARD MANHOLE

FIG.11

Elkhart County Highway Department Standard Castings for Residential and Commercial Developments

	Neenah	East Jordan
Manholes	R-1772, Type 'B' Lid R-1647, Type 'B' Lid	1022-1, HD Lid 1037, HD Lid
Catch Basins	R-2502, Type 'D' Grate	1022-1, 'M1' Grate
Curb Inlets	R-3010 R-3070	7000, 'M1' Grate, 'T1' Back 7010, 'M1' Grate, 'T1' Back
Flat Gutter	R-3076	
Beehive	R-2560, Type 'D' Grate if within 10' of a non-curbed edge of pavement, Type 'D1' otherwise	1051, Type 'N' Grate if within 10' of a non-curbed edge of pavement, Type '02' otherwise

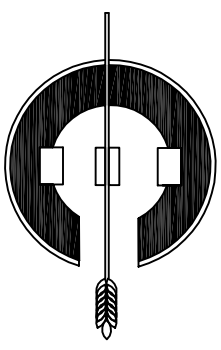


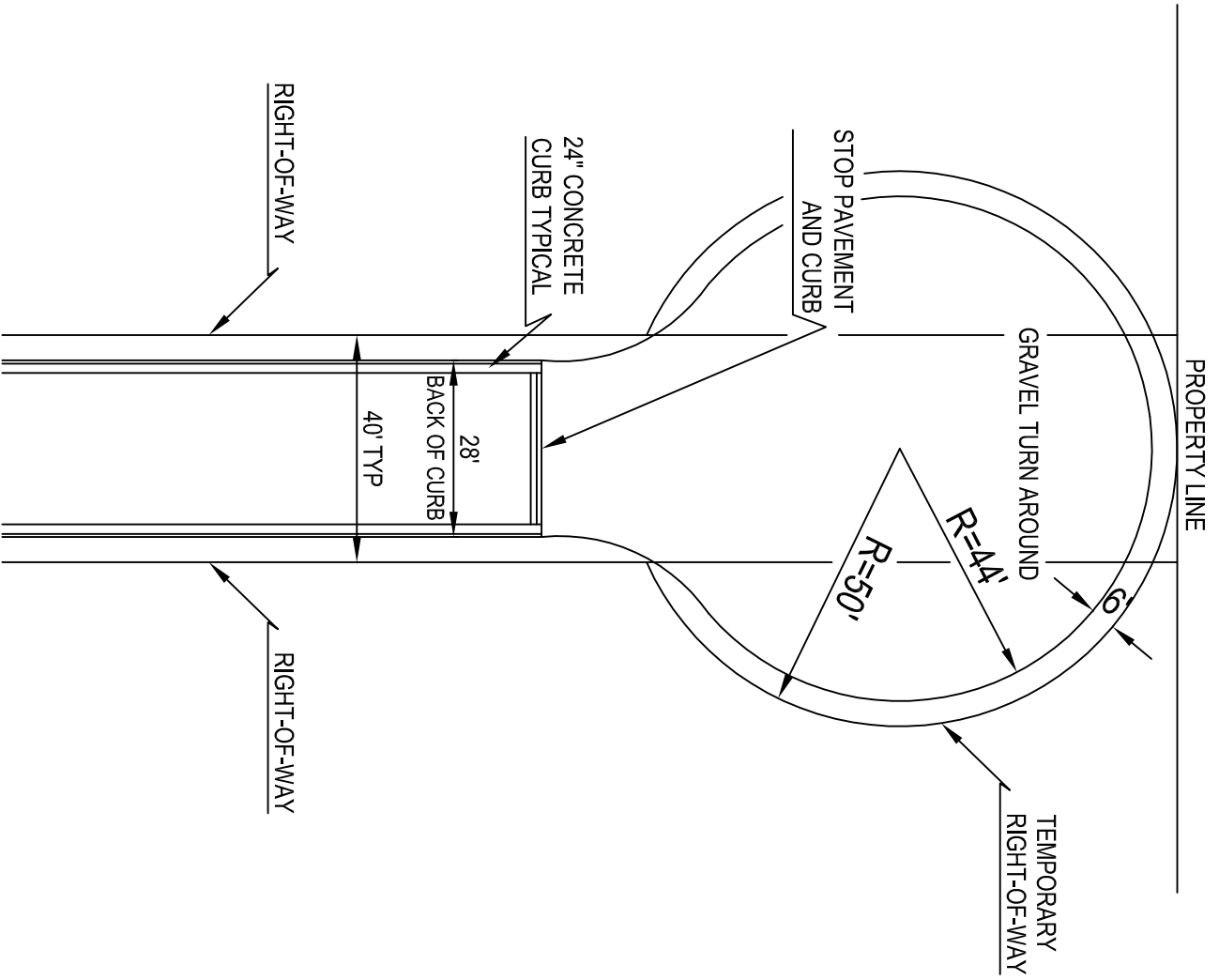


NOTE:
 EYEBROWS TO BE PAVED SOLID WITH
 NO ISLANDS.

**"EYEBROW"
 TYPICAL PLAN**

FIG. 12

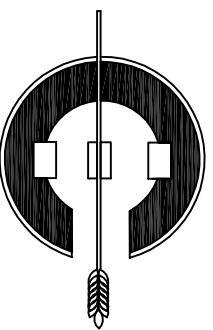


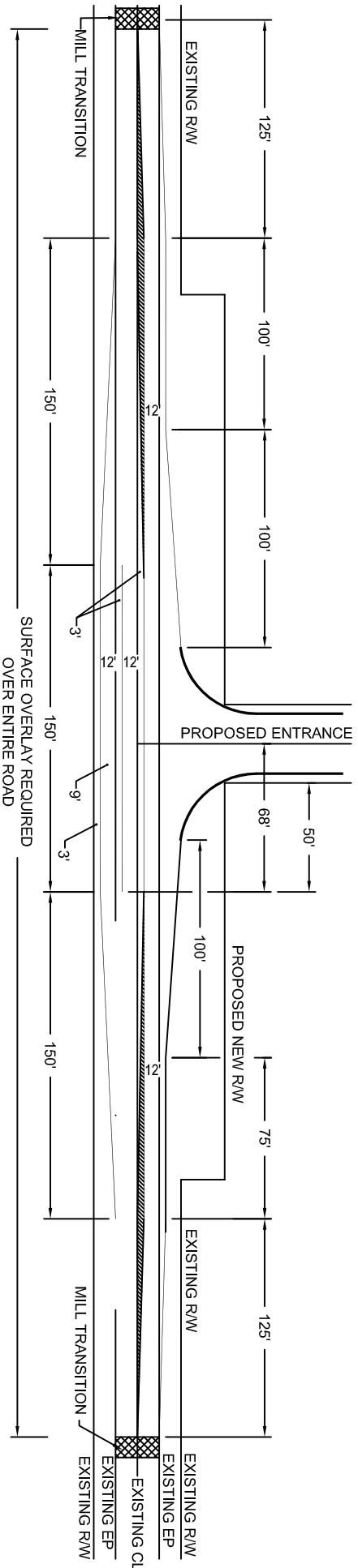


NOTE:
 TEMPORARY CUL-DE-SAC SHALL HAVE
 3" OF NO. 53 GRAVEL AND 3" OF #8 OR
 #9 LIMESTONE GRADED SMOOTH

TYPICAL PLAN

FIG.13

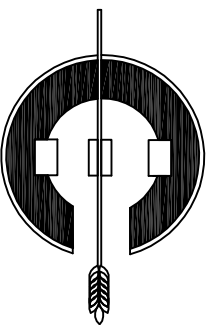


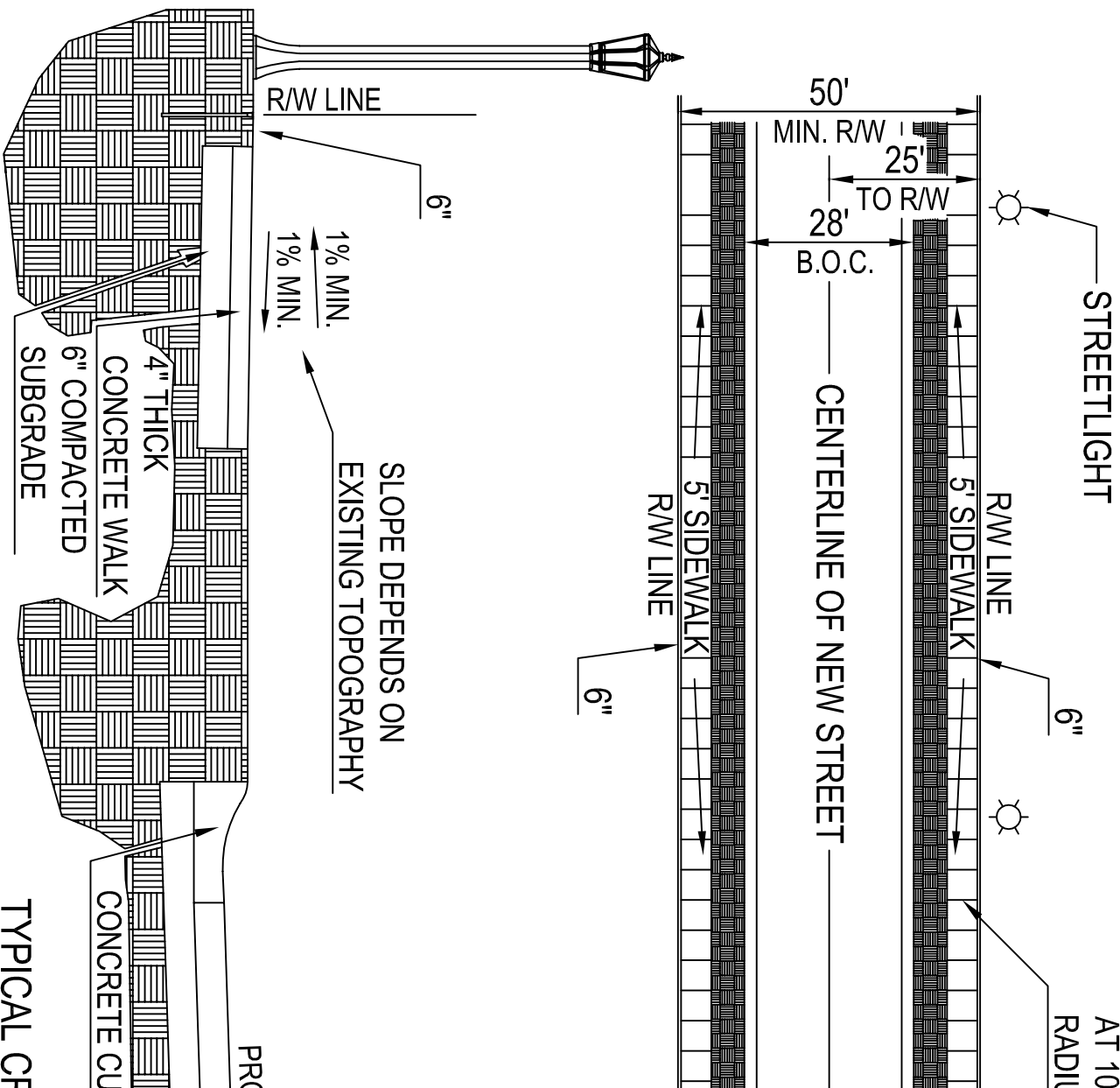


NOTE:
PAVEMENT MARKINGS ARE REQUIRED

TYPICAL PASSING LANE WITH A 3' LANE SHIFT

FIG.14



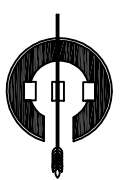


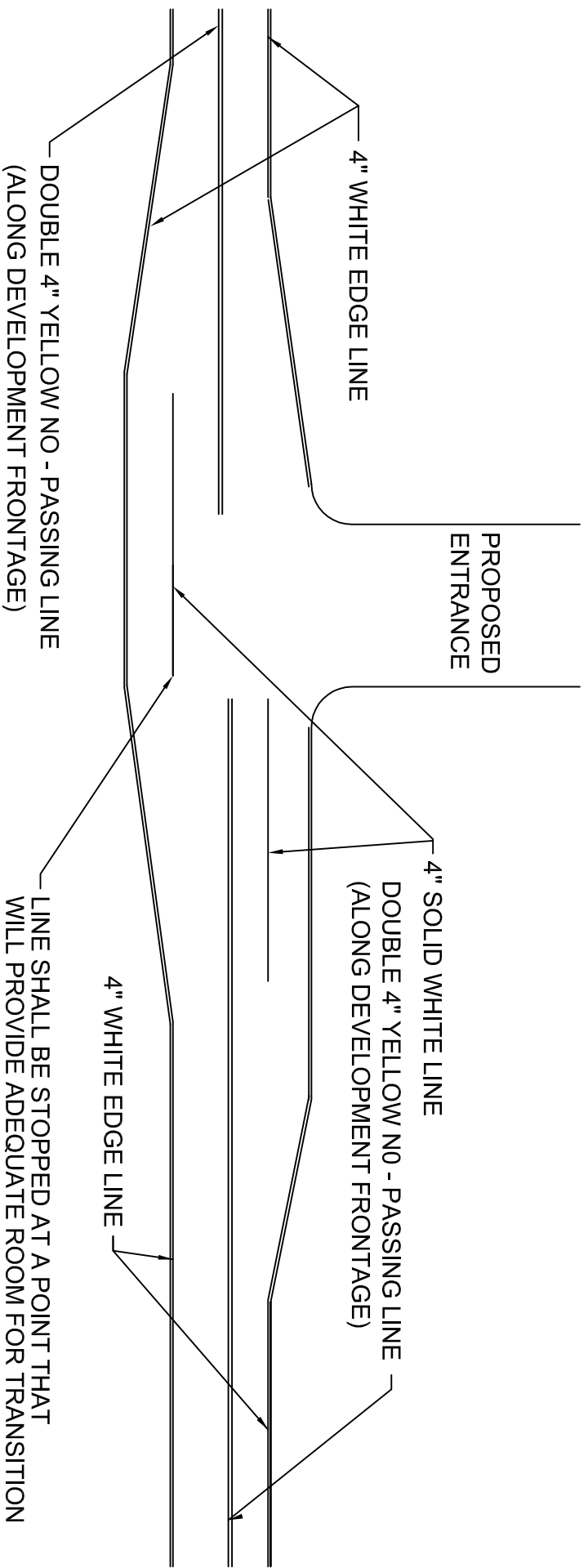
SAW JOINTS AT 5' O.C. EXPANSION JOINTS AT 10' O.C. AT DRIVES CURBS AND RADIUS P.C.s AND P.T.s

NOTES:
 CONCRETE TYPE TO MATCH CONCRETE ROAD SPECIFICATIONS.

TYPICAL CROSS SECTION DETAILS

FIG.15





TYPICAL PAVEMENT MARKINGS FOR TURN LANES AND PASSING LANE

FIG.16



Please notify affected parties in each category

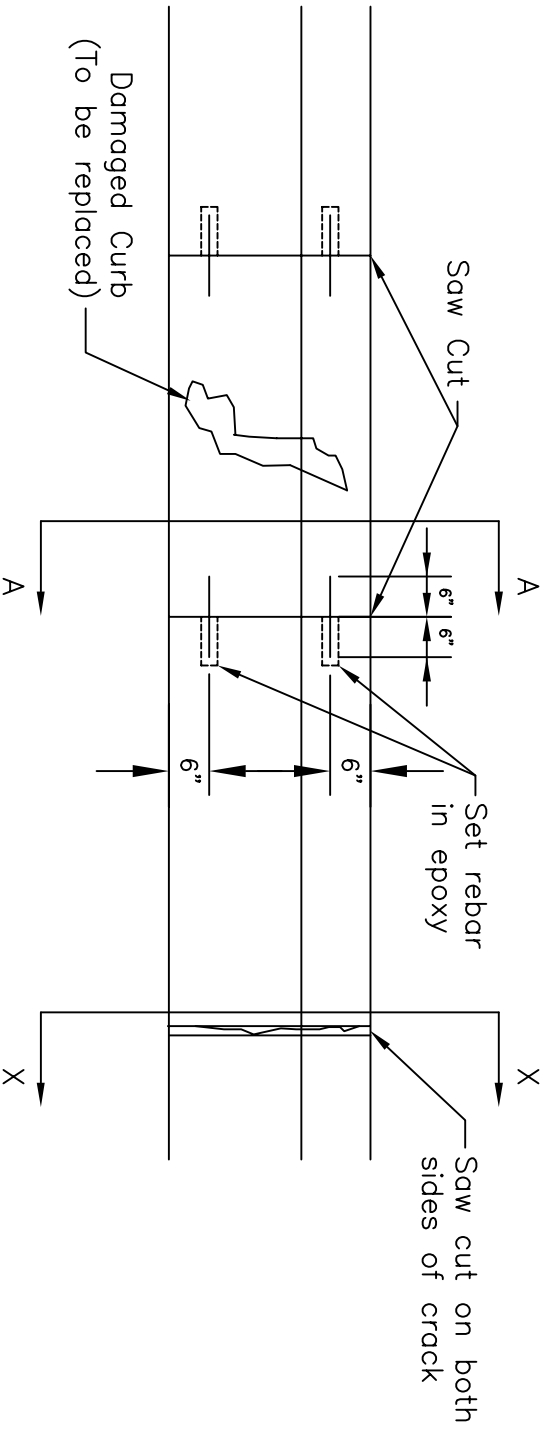
<u>POLICE DEPARTMENT</u>	<u>PHONE #</u>	<u>FAX #</u>	<u>POST OFFICES</u>	<u>PHONE #</u>	<u>FAX #</u>
911 Center	574-533-4151	574-537-2350	Bristol Notify Elkhart Post Office	574-293-5502	574-293-5501
Elkhart County Sheriff	Notify 911 Center		Elkhart	574-293-5502	574-293-5501
State Police	574-206-2931	800-421-4912	Goshen	574-533-3915	574-533-8077
Bristol City	Notify 911 Center		Middlebury	574-825-2505	574-825-0012
Elkhart City	574-295-7070	574-293-0679	Wakarusa	574-862-2010	574-862-3109
Goshen City	Notify 911 Center		Nappanee	574-773-4801	574-773-5907
Middlebury City	Notify 911 Center				
Nappanee City	574-733-4111	574-773-4155	<u>NEWS MEDIA</u>	<u>PHONE #</u>	<u>FAX #</u>
Wakarusa City	Notify 911 Center		Elkhart Truth	574-294-1661	574-294-3895
			Goshen News	574-533-2151	574-534-8830
			WFRN	574-875-5166	574-875-6662
			WKAM	574-533-3330	574-534-3698
			WTRC	574-295-9872	574-295-2329
<u>FIRE DEPARTMENT</u>	<u>PHONE #</u>	<u>FAX #</u>	Channel 16	574-294-1616	574-293-3297
Bristol City	Notify 911 Center		Channel 22	574-293-3141	574-289-0622
Elkhart City	574-293-8931	574-522-1023	Channel 28	574-679-9758	574-522-7609
Goshen City	Notify 911 Center				
Middlebury City	Notify 911 Center				
Nappanee City	574-773-4111	574-773-4155	<u>SCHOOLS</u>	<u>PHONE #</u>	<u>FAX #</u>
Wakarusa City	Notify 911 Center		Baugo	574-293-8583	574-294-2171
All Townships	Notify 911 Center		Concord	574-875-5161	574-875-1617
			Elkhart	574-262-5500	574-262-5750
			Fairfield	574-831-2188	574-831-5698
			Goshen	574-533-8631	574-533-2505
			Middlebury	574-825-9425	574-825-6426
			Northwood	574-773-3131	574-773-5593
<u>EMERGENCY MANAGEMENT</u>	<u>PHONE #</u>	<u>FAX #</u>			
Director	574-535-6590	574-535-6591			
<u>MACOG</u>	<u>PHONE #</u>	<u>FAX #</u>			
Office	574-674-8894	574-287-1840			
<u>ELKHART COUNTY</u>	<u>PHONE #</u>	<u>FAX #</u>			
Eng/Maintenance	574-534-9394	574-533-7103			

Numbers are correct as of 9/1/10. Elkhart County is not responsible for any number changes after 9/1/10.

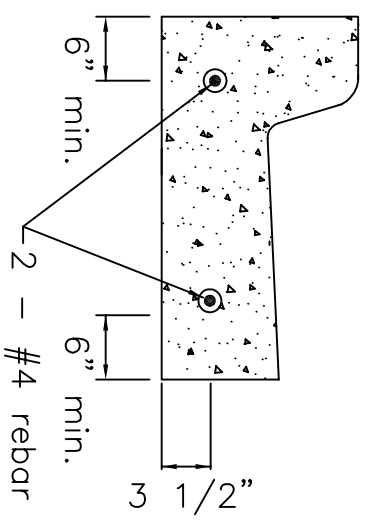
ROAD CLOSING NOTIFICATION NUMBERS/2010



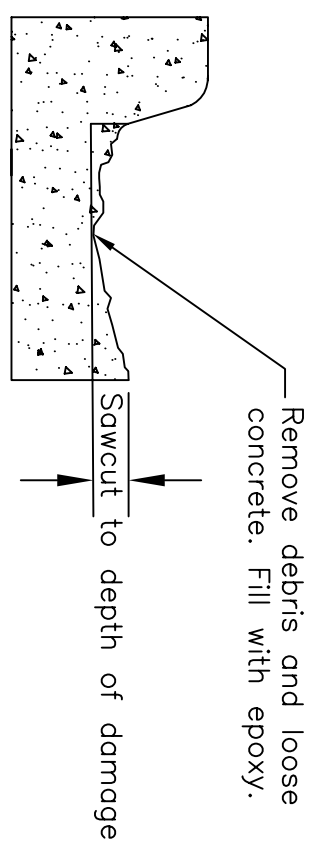
FIG.17



Plan View



Section A-A



Section X-X

CURB REPAIR DETAIL

FIG.18



