

PROCEDURES & REGULATIONS FOR PERMIT ACTIVITIES



Washtenaw County Road Commission
555 N. Zeeb Road
Ann Arbor, MI 48103
(734) 761-1500 Phone
(734) 761-3737 Fax
www.wcroads.org

Adopted July 18, 2006
Effective August 1, 2006

BOARD OF COUNTY ROAD COMMISSIONERS
OF WASHTENAW COUNTY

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PERMIT SECTION SUPERVISOR
Gary G. Streight, P.E.

COPY OF RESOLUTION (RC06-313) ADOPTED BY THE BOARD OF COUNTY ROAD COMMISSIONERS OF THE COUNTY OF WASHTENAW, MICHIGAN, UNDER DATE OF JULY 18, 2006

"Moved...

WHEREAS, MCLA §247.325 and §224.19b provide that the Board of County Road Commissioners of the County of Washtenaw may adopt its own rules and permit requirements necessary for the administration of permits after a public hearing, and

WHEREAS, the Board of County Road Commissioners of the County of Washtenaw promulgated rules entitled "Procedures and Regulations for Permit Activities" for administration of aforesaid act, and

WHEREAS, after the required public notice was published, a public hearing was held at the Board Meeting for the Washtenaw County Road Commission on June 6, 2006, and

WHEREAS, this Board hereby determines that procedures and regulations as promulgated prescribe reasonable standards for the regulation of permit activities in the public right-of-way under the jurisdiction of this Board, and

WHEREAS, from the findings of the Board it is deemed appropriate to adopt the aforementioned procedures and regulations so as to regulate permit activities with public safety and with management of public right-of-way;

NOW, THEREFORE, BE IT RESOLVED that:

1. The "Procedures and Regulations for Permit Activities" as presented on July 18, 2006 be and are hereby adopted.
2. All prior procedures and regulations conflicting with this resolution are hereby repealed.
3. The effective date of aforesaid "Procedures and Regulations for Permit Activities" shall be the 1st day of August, 2006.

Voice Vote: YEAS: 3. NAYS: 0. ABSENT: 0. ABSTAIN: 0. Motion Carried."

I hereby certify that the above is a true and correct copy of a resolution adopted by the Board of County Road Commissioners of the County of Washtenaw Michigan, under date of July 18, 2006.

Steven M. Puuri
Deputy Clerk of the Board

COPY OF RESOLUTION (RC06-222) ADOPTED BY THE BOARD OF COUNTY ROAD COMMISSIONERS OF THE COUNTY OF WASTHENAW MICHIGAN, UNDER DATE OF MAY 16, 2006

“Moved...

WHEREAS, on August 9, 1994 this Board did adopt Procedures for Installing Driveways and Approaches, pursuant to authority set forth in MCLA §247.325; and

WHEREAS, on June 1, 1993 this Board did implement Supplementary Permit Specifications For Work Within the Right of Way – Overhead and Underground Construction, pursuant to authority set forth in MCLA §224.19b; and

WHEREAS, on June 1, 2004 this Board did adopt Procedures & Requirements for Designated Haul Routes, pursuant to authority set forth in MCLA §257.725; and

WHEREAS, on June 1, 2004 this Board did adopt permits and rules for special transportation permits, pursuant to authority set forth in MCLA §257.725; and

WHEREAS, on May 31, 2005 this Board did approve the Adopt-A-County Road program, pursuant to authority set forth in MCLA §224.19b; and

WHEREAS, in the opinion of this Board, it is appropriate to revise said procedures and regulations to reflect current standards for said permit activities; and to clarify the processes regarding permit activities; and

WHEREAS, said Acts provide that prior to adoption of permit rules, this Board shall hold a public hearing after providing notice of said hearing by publication at least twice in a newspaper circulated in the County, not more than 30 days nor less than 7 days prior to said hearing; and

WHEREAS, proposed, revised rules have been prepared containing reasonable permit requirements, which rules are consistent with public safety; and

NOW, THEREFORE, BE IT RESOLVED that this Board does set a public hearing on the adoption of the proposed rules; said hearing to be held on the 6th day of June, 2006 at 1:00 p.m. local time at the offices of the Board located at 555 N. Zeeb Road, Ann Arbor, Michigan.

BE IT FURTHER RESOLVED that the Deputy Clerk of the Board is directed to provide for publication of the above referenced notice of hearing.

Voice Vote: YEAS: 3. NAYS: 0. ABSENT: 0. ABSTAIN: 0. Motion Carried.”

I hereby certify that the above is a true and correct copy of a resolution adopted by the Board of County Road Commissioners of the County of Washtenaw, Michigan, under date of May 16, 2006.

Steven M. Puuri
Deputy Clerk of the Board

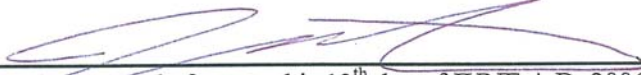
STATE OF MICHIGAN

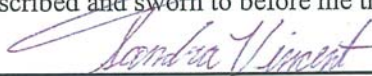
County of Washtenaw, ss:

JESSICA M. MARTIN

being duly sworn, deposes and says the annexed printed copy of a notice was taken from **The Ann Arbor News**, a newspaper printed and circulated in said state and county; that the said notice has been duly published in said newspaper for one time(s), the first insertion thereof being on the 30th day of May, A.D. 2006, and subsequent insertions being on the .

That she is chief clerk of said newspaper and knows well the facts stated herein.


Subscribed and sworn to before me this 13th day of JUNE A.D. 2006.


SANDRA VINCENT Notary Public, Washtenaw County, Michigan
My Commission expires: OCTOBER 18, 2007

PRINTER'S BILL

	Permit
Folios, 1 Time(s)	\$68.80
Affidavit of Publication	\$ 5.00
<u>Cost of Advertisement</u>	<u>\$73.80</u>

Date Payment Received:

NOTICE OF A PUBLIC HEARING ON PROPOSED PROCEDURES AND REGULATIONS FOR PERMIT ACTIVITIES

PLEASE TAKE NOTICE that on June 6, 2006, at 1:00 o'clock p.m. a Public Hearing will be held in the Boardroom of the Washtenaw County Road Commission, located at 555 N. Zeeb Road, Ann Arbor, Michigan, the Board of County Road Commissioners of Washtenaw County, at which time the Board of County Road Commissioners will consider for adoption the proposed Procedures and Regulations for Permit Activities. The Board may not adopt the proposed Procedures and Regulations for Permit Activities until after the Public Hearing. A copy of the proposed Procedures and Regulations for Permit Activities is available for public inspection during normal business hours at the Washtenaw County Road Commission, 555 N. Zeeb Road, Ann Arbor, Michigan, and/or may be obtained for review on the agency's website at <http://www.wcroads.org>. This Public Notice is given by Order of the Board of Washtenaw County Road Commissioners. ~Val Cooper, Public Information/Community Relations Officer. Issued: 5/24/06

Val Cooper
Public Information/Community Relations Officer
Washtenaw County Road Commission
OFF:(734) 327-6675
FAX:(734) 761-3239

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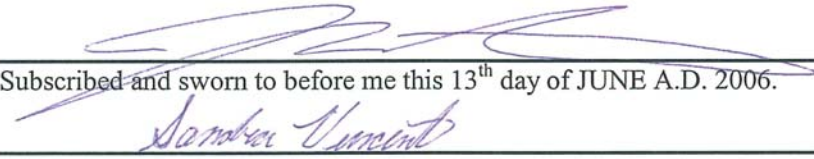
STATE OF MICHIGAN

County of Washtenaw, ss:

JESSICA M. MARTIN

being duly sworn, deposes and says the annexed printed copy of a notice was taken from **The Ann Arbor News**, a newspaper printed and circulated in said state and county; that the said notice has been duly published in said newspaper for one time(s), the first insertion thereof being on the 28th day of May, A.D. 2006, and subsequent insertions being on the .

That she is chief clerk of said newspaper and knows well the facts stated herein.


Subscribed and sworn to before me this 13th day of JUNE A.D. 2006.

SANDRA VINCENT Notary Public, Washtenaw County, Michigan
My Commission expires: OCTOBER 18, 2007

PRINTER'S BILL

Folios, 1 Time(s)	\$132.76
Affidavit of Publication	\$ 5.00
<u>Cost of Advertisement</u>	<u>\$137.76</u>
<u>Date Payment Received:</u>	

NOTICE OF A PUBLIC HEARING ON PROPOSED PROCEDURES AND REGULATIONS FOR PERMIT ACTIVITIES

PLEASE TAKE NOTICE that on June 6, 2006, at 1:00 o'clock p.m. a Public Hearing will be held in the Boardroom of the Washtenaw County Road Commission, located at 555 N. Zeeb Road, Ann Arbor, Michigan, the Board of County Road Commissioners of Washtenaw County, at which time the Board of County Road Commissioners will consider for adoption the proposed Procedures and Regulations for Permit Activities. The Board may not adopt the proposed Procedures and Regulations for Permit Activities until after the Public Hearing. A copy of the proposed Procedures and Regulations for Permit Activities is available for public inspection during normal business hours at the Washtenaw County Road Commission, 555 N. Zeeb Road, Ann Arbor, Michigan, and/or may be obtained for review on the agency's web-site at <http://www.wcroads.org>. This Public Notice is given by Order of the Board of Washtenaw County Road Commissioners. Val Cooper, Public Information/Community Relations Officer. Issued: 5/24/06

Val Cooper
Public Information/
Community Relations Officer
Washtenaw County Road
Commission
OFF: (734) 327-6675
FAX: (734) 761-3239
Published: 5/30/06

Preface

This document has been prepared to consolidate all of the procedures and regulations for the issuance of permits to conduct certain activities within the right-of-way of roads under the jurisdiction of the Washtenaw County Road Commission. These procedures and regulations are made part of any permit issued by the Washtenaw County Road Commission for such activities.

The County Highway Engineer employed by the Washtenaw County Road Commission is responsible for administering these Procedures and Regulations, through the permit process, for certain uses of the road right-of-way in conformance with applicable provisions of federal and state law. Specific standards, regulations, permit conditions, and procedures are necessary to determine whether permit applicants' intentions are acceptable. To assist with the administration of this permit process the County Highway Engineer created a Permit Section to provide timely, professional, and equitable service to all permit applicants.

To the extent this document pertains to design characteristics, the intent of the document is to provide guidelines to the designer by referencing a recommended range of values for critical dimensions. It is not intended to be a detailed design manual that could supersede the need for the application of sound principles by the knowledgeable design professional. Sufficient flexibility is permitted to encourage independent designs tailored to particular solutions.

Should any part of these procedures and regulations be found by public act of law or a court of competent jurisdiction to be invalid, void or illegal, such finding shall in no way affect, impair or invalidate any other provision contained in these procedures and regulations and such other provisions shall remain in full force and effect. To this end these procedures and regulations are declared to be severable.

Questions regarding procedures and regulations for permit activities may be directed to the Permit Section of the Washtenaw County Road Commission at (734) 761-1500.

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SECTION 1: GENERAL PROVISIONS

1.1 ACTIVITIES THAT REQUIRE PERMITTING

- 1.1.1 It is the responsibility of the individual or organization who desires to perform work in the public road right-of-way to secure a permit that authorizes the activity. The types of activities that may require a permit include:
- a) Construct, reconstruct, relocate, surface, or resurface a driveway or road approach to a road under the jurisdiction of the WCRC;
 - b) Engage in a use of the land served by the driveway or road approach which is changed or expanded from that previously existing.
 - c) Operate, use or maintain a new driveway or road connecting to a public road or right-of-way under the jurisdiction of the WCRC;
 - d) Install, maintain, or connect any surface-level, underground, or overhead public or private utility, pipeline, wire, conduit, sewer, or associated appurtenance;
 - e) Conduct surveying or geophysical operations;
 - f) Erect or suspend a banner, decoration, or similar object;
 - g) Close a road or section thereof to normal traffic for the purpose of staging a parade, celebration, festival, demonstration, or similar activity;
 - h) Install, repair or maintain a non-motorized pathway;
 - i) Conduct grading, landscaping, tree trimming or tree removal;
 - j) Movement of vehicles or loads which exceed the size and weight limitations specified by law;
 - k) Any other activity which requires excavation in the right-of-way, working from the right-of-way to reach abutting property, or disruption of normal traffic operations or patterns.

1.2 AUTHORITY

- 1.2.1 The WCRC is the jurisdictional authority over all public roads lying outside the incorporated cities and villages within Washtenaw County, exclusive of any state trunkline highways. This was first established by Act 283, PA of 1909, as amended, being MCL §220.1 et seq, commonly known as the County Road Law.
- 1.2.2 MCL §691.1402 further provides: “Each governmental agency having jurisdiction over any highway shall maintain the highway in reasonable repair so it is reasonably safe and convenient for public travel. Any person sustaining bodily injury or damage to his property by reason of failure of any governmental agency to keep any highway under its jurisdiction in reasonable repair and in condition reasonably safe and fit for travel may recover the damages suffered by him from such governmental agency.” This section provides a specific and narrowly limited exception to governmental immunity.
- 1.2.3 Operations within the county road right-of-way other than normal vehicular or pedestrian travel require a permit when conducted by anyone other than WCRC personnel, agents, or contractors. The statutory authority of the WCRC to require compliance with permit requirements is predicated upon its jurisdictional authority and is set forth in various statutes. These include, without limitation and in no particular order, the following:

- a) MCL §247.321 et seq, known as the Driveways, Banners, Events, and Parades Act, sets forth parameters regarding the regulation of driveways, banners, events, and parades upon and over highways. The term “driveways” is broadly defined to include all points of access to public roads. The statute places responsibility for the regulation of such activities upon the highway authority. With respect to county roads, the highway authority is the Board of County Road Commissioners.
- b) MCL §224.19b, states that “a person, partnership, association, corporation or governmental entity shall not construct, operate, maintain or remove a facility or perform any other work within the right-of-way of a county road except sidewalk installation and repair without first obtaining a permit from the county road commission having jurisdiction over the road...”
- c) MCL §560.101 et seq, known as the Land Division Act, regulates the subdivision of land. It requires certain approvals by the WCRC, including the development of any public roads. The details of the WCRC role with respect to the Land Division Act are covered in the WCRC publication Procedures and Regulations For Developing Public Roads.
- d) MCL §247.171 et seq, prohibits obstructions and encroachments on public highways and provides for the removal thereof, and further prescribes the conditions under which public utility companies, cable television companies, and municipalities may enter upon public roads, bridges, and streets for the construction of their utility facilities.
- e) MCL §257.1 et seq, known as the Michigan Vehicle Code, governs the operation of vehicles on county roads.

1.3 STANDARDS, GUIDELINES & SPECIFICATIONS FOR DESIGN & CONSTRUCTION

- 1.3.1 The non-exhaustive list of engineering authorities in Section 1.3.2 will provide guidance to applicants and WCRC engineers and staff. These authorities do not supersede the need for sound engineering judgment in conformity with accepted engineering principles.
- 1.3.2 The WCRC hereby adopts by reference and incorporates in these procedures and regulations as if fully stated herein the most current editions of the following list of publications:
 - AASHTO A Guide For Accommodating Utilities Within Highway Right-Of-Way
 - AASHTO A Policy On Geometric Design of Highways and Streets
 - AASHTO Roadside Design Guide
 - APWA Position Statement, Public Rights-Of-Way Management, September 22, 1999
 - ATSSA Quality Standards For Work Zone Traffic Control Devices
 - FHWA Roundabouts: An Informational Guide, Publication No. FHWA-RD-00-067
 - ITE Trip Generation Handbook
 - ITE Trip Generation Manual
 - McKenna Associates and the WDBC Group, Evaluating Traffic Impact Studies, prepared for Tri-County Regional Planning, SEMCOG and MDOT, 1994

- MDOT Design Survey Manual
- MDOT Drainage Manual
- MDOT Geometric Design Guide
- MDOT Maintaining Traffic Typicals, Traffic and Safety Division
- MDOT Michigan Design Manual
- MDOT Road and Bridge Standard Plans
- MDOT Standard Specifications For Construction
- MDOT, Reducing Traffic Congestion and Improving Traffic Safety in Michigan Communities: The Access Management Guidebook, October 2001
- Michigan Manual on Uniform Traffic Control Devices
- TRB, Highway Capacity Manual

1.4 DEFINITIONS

- 1.4.1 **ABOVE NORMAL MAINTENANCE:** Within the context of a haul route, all work required that is a direct result of the additional loading placed on the road by the applicant's hauling operations. It includes, but is not limited to, such items as additional grading, gravel/limestone application, pavement repair, seal coating, resurfacing, shoulder restoration, and dust control. Unless otherwise specified on the permit, the Road Commission will perform all maintenance work.
- 1.4.2 **ACCESS:** A way or means of approach providing entrance to or exit from a public road to or from property adjoining the road.
- 1.4.3 **ACCESS CONNECTION:** Any driveway, lane, road or any other way of providing for the movement of vehicles to or from the public road system to or from abutting property.
- 1.4.4 **ACCESS MANAGEMENT:** The process of developing, providing and managing reasonable access while preserving the flow of traffic and maintaining safety, capacity, and proper speed on the roadway system.
- 1.4.5 **ACCELERATION LANE:** A lane, including a taper, constructed for the purpose of enabling a vehicle entering the roadway to increase its speed to a rate at which it can safely merge with through traffic.
- 1.4.6 **ADT:** The average two-way daily traffic volume. It represents the total average daily traffic. Where daily data is not available, data from a shorter period may sometimes be used.
- 1.4.7 **ALTERNATIVE ACCESS:** The ability of any vehicle to enter a roadway through a roadway of lower functional classification.
- 1.4.8 **AASHTO:** American Association of State Highway and Transportation Officials.
- 1.4.9 **APWA:** American Public Works Association.
- 1.4.10 **ATSSA:** American Traffic Safety Services Association.
- 1.4.11 **APPLICANT (Driveway Permit):** A property owner or the property owner's authorized legal agent desiring to construct, reconstruct, relocate, resurface, use and maintain a driveway that connects to a county road.

- 1.4.12 **APPLICANT (Right-of-Way Work):** A public or private entity or a person making application for a permit to construct, operate, use and/or maintain a facility within the road right-of-way for the purpose outlined within the application.
- 1.4.13 **APPLICANT’S ENGINEER:** The Professional Engineer registered in the State of Michigan employed by the Applicant to prepare plans and supervise construction.
- 1.4.14 **APPROACH:** A set of lanes accommodating all left-turn, through, and right-turn movements arriving at an intersection from a given direction.
- 1.4.15 **ARTERIAL:** A major roadway intended primarily to serve through traffic, where access is carefully controlled; generally roadways of regional importance, intended to serve moderate to high volumes of traffic traveling relatively long distances and at higher speeds.
- 1.4.16 **AUGERING:** The procedure of making a hole below the ground surface by the use of an earth auger.
- 1.4.17 **AUXILIARY LANE:** Any lane striped for use, but not for through traffic including without limitation right-turn lanes, bypass lanes (passing flares), and left-turn lanes.
- 1.4.18 **AVERAGE DAY:** A Tuesday, Wednesday, or Thursday for most uses. The average day may be a Saturday or Sunday for those uses which generate higher peak hour traffic volumes on Saturday or Sunday than during midweek.
- 1.4.19 **BACKFILL:** Replacement of acceptable soil or granular material in an excavation.
- 1.4.20 **BANNER:** Any arrangement of words, lettering, symbols, or decoration including a holiday decoration, suspended over any portion of a road or adjacent to a travel lane.
- 1.4.21 **BOARD:** The Board of County Road Commissioners of the County of Washtenaw.
- 1.4.22 **BORING:** The procedure of making a hole below the ground surface by the use of a boring bar.
- 1.4.23 **BUFFER AREA:** An area of the public right-of-way adjacent to a roadway which serves as a physical barrier between road traffic and activity or obstruction on the adjacent private property.
- 1.4.24 **CARRIER PIPE:** Pipe directly enclosing a transmitted liquid, gas or solid.
- 1.4.25 **CASING PIPE:** A larger pipe enclosing a carrier pipe.
- 1.4.26 **CHANNELIZATION:** The separation of conflicting traffic movements into defined paths of travel by use of traffic islands or pavement markings.
- 1.4.27 **CIRCLE DRIVEWAY:** A private driveway which enters and leaves private property at two separate points within the same frontage.
- 1.4.28 **CLEAR VISION AREA:** Land acquired and used by the WCRC for the purpose of maintaining unobstructed vision.
- 1.4.29 **CLEAR ZONE:** The total roadside border area, starting at the edge of the traveled way, available for safe use by errant vehicles. This area may consist of a shoulder, a recoverable slope, a non-recoverable slope, and/or a clear run-out area. The desired width is dependent upon traffic volumes, speeds and roadside geometry.
- 1.4.30 **COLLECTOR ROAD:** A road intended to move traffic between local roads and arterial roads.
- 1.4.31 **COMMERCIAL DRIVEWAY:** A driveway serving a commercial establishment, industry, governmental or educational institution, hospital, church, apartment building, manufactured

housing community, or any other facility not included within the definitions of residential, field or utility structure driveways.

- 1.4.32 CONFLIT POINT: An area where intersecting traffic either merges, diverges or crosses.
- 1.4.33 CORNER CLEARANCE: The distance from an intersection of a public or private road to the nearest access connection, measured from the closest edge of the pavement of the intersecting road to the closest edge of the pavement of the access connection along the traveled way.
- 1.4.34 COUNTY HIGHWAY ENGINEER: Per MCL §224.10, a Professional Engineer employed by the Board of County Road Commissioners who shall make surveys ordered by the board, prepare plans and specifications for roads, bridges, and culverts, and exercise general supervision over construction to insure that the plans and specifications are strictly followed.
- 1.4.35 COVER: Depth between grade of roadway, ditch or other surface and buried utility pipe, culvert, communication cable, or electrical conductor.
- 1.4.36 CROSS ACCESS: An easement or service drive providing vehicular access between two or more contiguous sites so that the driver does not need to reenter the public road system to pass from one site to the other.
- 1.4.37 DECELERATION LANE: A lane, including a taper, constructed for the purpose of enabling a vehicle to leave the through traffic lane at a speed equal to or slightly less than the speed of traffic in the through lane and then decelerate to a stop or execute a slow-speed turn.
- 1.4.38 DEDICATION: A conveyance of property by a private owner to the public.
- 1.4.39 DIRECT BURIAL: Installing a utility facility underground without encasement, by plowing or trenching.
- 1.4.40 DIRECTIONAL MEDIAN OPENING: An opening in a median that provides for specific movements and physically restricts other movements.
- 1.4.41 DESIGN SPEED: A selected speed used to determine the various geometric design features of a roadway, based on the topography, anticipated operating speed, adjacent land use, and the functional classification of the roadway.
- 1.4.42 DESIGNATED ROUTES: Paved roads designed and constructed to AASHTO and MDOT all-season road standards and/or roads that are so designated as such by the Board.
- 1.4.43 DIRECTIONAL DRILLING: Pushing a rod completely through the soil and then pulling a reamer and casing or carrier pipe back through the bore.
- 1.4.44 DIRECTIONAL DRIVEWAY: A driveway system designed so that traffic leaving the road is separated from and does not conflict with traffic entering the road (with critical turning movements to and from the property restricted) at certain access points. (Also known as “one-way” drive.)
- 1.4.45 DIVIDED DRIVEWAY: A driveway with a raised median between ingress and egress lanes.
- 1.4.46 DIVIDED ROADWAY: A roadway on which traffic traveling in opposite directions is physically separated by a median.
- 1.4.47 DRIVEWAY: Any lane, road, or other way providing vehicular access to or from a public road from or to the property adjoining the road.
- 1.4.48 DRIVEWAY FLARE: A triangular pavement surface at the intersection of a driveway with a public road that facilitates turning movements and is used to replicate the turning radius areas with curb and gutter construction.

- 1.4.49 DRIVEWAY OFFSET: The distance between the centerlines of two driveways on opposite sides of an undivided roadway.
- 1.4.50 DRIVEWAY RETURN RADIUS: A circular pavement transition at the intersection of a driveway with a road that facilitates turning movements to and from the driveway.
- 1.4.51 DRIVEWAY SPACING: The distance between the centerlines of driveways on the same side of the road.
- 1.4.52 DRIVEWAY WIDTH: The narrowest width of a driveway, measured perpendicular to the centerline of the driveway.
- 1.4.53 DUAL SERVICE DRIVEWAYS: Two adjacent commercial driveways designed to facilitate traffic movement between a roadway and a single private property by use of one driveway to enter and the other driveway to exit the property.
- 1.4.54 EASEMENT: A right-of-way granted, but not dedicated, for specific and limited use of private land.
- 1.4.55 EGRESS: The exit of vehicular traffic from abutting property to a road.
- 1.4.56 EXCEPTION: Permission to depart from established standards due to unusual circumstances.
- 1.4.57 FIELD DRIVEWAY: Any driveway serving a farm yard, cultivated or uncultivated field, timberland or undeveloped land not used for industrial, commercial or residential purposes.
- 1.4.58 FRONTAGE: The private property that abuts the road right-of-way.
- 1.4.59 FRONTAGE ROAD: An access road that generally parallels a major public roadway and runs between the right-of-way of the major roadway and the front building setback line and provides access to private property while separating it from the major roadway.
- 1.4.60 GAP: The median time headway (in seconds) between vehicles in a major traffic stream which will permit vehicles to cross through or merge with the major traffic stream under prevailing traffic and roadway conditions.
- 1.4.61 GOVERNMENT AGENCY: Classification as a Governmental Agency requires the party to be a political subdivision of the State, (county, township, city, or village) or a subagency or combination thereof. Examples include, without limitation, a drainage district, a combined water distribution or sanitary sewer district, in certain circumstances a school board, etc. An association of individuals or private entities is not recognized as a governmental agency.
- 1.4.62 GRADE (GRADIENT): The rate or percentage change in slope, measured along the centerline of a roadway or access point, either ascending or descending from or along the roadway.
- 1.4.63 HMA: Hot Mix Asphalt.
- 1.4.64 INGRESS: The entrance of vehicular traffic to abutting property from a roadway.
- 1.4.65 INSPECTION: The close observation and examination of various construction operations and the product thereof as a means of determining compliance with standards for activities conducted in the right-of-way.
- 1.4.66 ITE: Institute of Transportation Engineers.
- 1.4.67 INTERPARCEL CIRCULATION: The ability of vehicular traffic to move between adjacent properties without reentering a public roadway.
- 1.4.68 INTERSECTION: The general area where two or more roadways join or cross, including the roadway and roadside facilities for traffic movements within the area.

- 1.4.69 **INTERSECTION SIGHT DISTANCE:** The distance available at an intersection which will allow drivers of stopped vehicles a sufficient view of the intersecting roadway to decide when to enter or cross the intersecting roadway.
- 1.4.70 **JACKED-IN-PLACE:** A construction method that includes pushing a pipe through the soil. This method may also include pushing a pipe through the soil while a boring auger rotates within the pipe to remove the soil.
- 1.4.71 **JOINT USE (UTILITY):** The use of pole lines, trenches or other facilities by two or more utilities.
- 1.4.72 **LEVEL OF SERVICE:** A qualitative measure describing operational conditions within a traffic stream; generally described in terms of such factors as speed and travel delay, freedom to maneuver, traffic interruptions, comfort and convenience, and safety.
- 1.4.73 **LIMITED ACCESS:** Road right-of-way to which no person, including owners or occupants of abutting lands, shall have legal right of access except at limited access points established by the public authority having jurisdiction over the road, street, or highway.
- 1.4.74 **LOCAL ROAD:** A roadway with the primary function of providing access to and from adjacent properties and to and from roadways of a higher functional classification.
- 1.4.75 **LOCAL TRAFFIC:** Traffic, which uses a particular road or route to access residences, businesses, or other abutting properties and has no alternative route to said residence, business, or other abutting property.
- 1.4.76 **LONG TERM HAUL ROUTE:** A haul route established when the need for such routes is expected to exceed two years. These may include routes serving extraction operations, landfill sites, agricultural commodities, and hauling raw materials to and finished products from manufacturing and warehousing installations.
- 1.4.77 **MEDIAN:** The portion of a divided roadway or divided entrance separating the traveled ways from opposing traffic.
- 1.4.78 **MEDIAN CROSSING:** A gap in the median provided for crossing or turning traffic.
- 1.4.79 **MICHIGAN COORDINATE SYSTEM:** The system of identification of land defined in MCL §§ 54.231 to 54.239.
- 1.4.80 **MDEQ:** The Michigan Department of Environmental Quality.
- 1.4.81 **MDOT:** The Michigan Department of Transportation.
- 1.4.82 **MMUTCD:** The current edition of the Michigan Manual on Uniform Traffic Control Devices.
- 1.4.83 **NATIONAL FUNCTIONAL CLASSIFICATION SYSTEM:** A system used to group public roadways into classes according to their purpose in moving vehicles and providing access.
- 1.4.84 **NORMAL ROUTES:** Gravel roads and those paved road that are subject to normal load and dimension maximums as defined by statute.
- 1.4.85 **PEAK HOUR:** The one-hour period within a day which a particular portion of the road system experiences its highest hourly volume of traffic flow. Peak hours may be identified during the morning (a.m. peak hour), the afternoon or evening (p.m. peak hour), or the hour of highest volume of traffic entering or exiting a site (peak hour generator).
- 1.4.86 **PERMIT SECTION:** The Permit Section of the Engineering Department of the Washtenaw County Road Commission.

- 1.4.87 **PLOWING:** The placing of cable, conductors or flexible pipe underground by a plow designed so as to permit the cable, conductor, or pipe to be fed through the plow blade to a minimum specified depth with minimum displacement of soil.
- 1.4.88 **PCC:** Portland Cement Concrete.
- 1.4.89 **PRIVATE ROAD:** A road which is not under the jurisdiction of the WCRC and which serves four or more businesses, homes or lots.
- 1.4.90 **PROPERTY OWNER:** A person, firm, association, partnership, corporation, or combination of any of these or any other party having an ownership interest in land.
- 1.4.91 **PERMIT HOLDER:** Once a permit is issued, the Applicant or a person, partnership, corporation or entity under sufficient authority and control of the Applicant to perform the work requested by the Applicant in accordance with the requirements set forth in these rules and the terms and conditions of a permit issued by the WCRC.
- 1.4.92 **PROFESSIONAL ENGINEER:** A civil engineer who is a professional engineer licensed under Article 20 of the Michigan Occupational Code, and MCL §§339.2001 to 339.2014.
- 1.4.93 **PROFESSIONAL SURVEYOR:** A surveyor licensed under Article 20 of the Michigan Occupational Code and MCL §§339.2001 to 339.2014.
- 1.4.94 **REAR SERVICE DRIVE:** A local road or private road typically located behind principal buildings and parallel to an arterial roadway for service to abutting properties for the purpose of controlling access to the arterial road.
- 1.4.95 **REGIONAL TRAFFIC ANALYSIS:** a traffic impact study for very high traffic-generating uses typically covering a large geographic area and may include traffic condition projections for up to a twenty year period.
- 1.4.96 **RESIDENTIAL DRIVEWAY:** A driveway serving one single-family dwelling.
- 1.4.97 **RESIDENTIAL SHARED DRIVEWAY:** A driveway serving not more than three (3) single family dwellings.
- 1.4.98 **REVERSE FRONTAGE:** Frontage on an access road constructed at the rear of a lot or lots fronting on a major roadway.
- 1.4.99 **RIGHT-OF-WAY:** The land over which the Board has jurisdiction and which is subject to use for highway purposes. Right-of-way may be obtained by deed, statutory or plat dedication, condemnation, or a ten-year period of use pursuant to statute. It may be held either in fee or as an easement.
- 1.4.100 **RIGHT-OF-WAY LINE:** A boundary along the road frontage which denotes the limit of width of the right-of-way.
- 1.4.101 **ROAD:** A way for vehicular traffic, whether designated as a “street”, “highway”, “thoroughfare”, “freeway”, “expressway”, “parkway”, “through-way”, “avenue”, “boulevard”, “lane”, “cul-de-sac”, “drive”, “court”, or other title including the entire area within the right-of-way.
- 1.4.102 **ROADWAY:** That portion of a road improved, designed or ordinarily used for vehicular travel exclusive of the berm or shoulder. In the event a road includes two or more separate roadways, “roadway” refers to any such roadway separately, but not to all such roadways collectively.

- 1.4.103 SERVICE ROAD: A public or private road auxiliary to an arterial roadway that provides access to parcels surrounding an arterial roadway and that typically serves nonresidential development.
- 1.4.104 SHARED ACCESS: A single connection serving two or more adjoining lots or parcels.
- 1.4.105 SHORT TERM HAUL ROUTE: A haul route established for a specific project that will not exceed a period of two years.
- 1.4.106 SIGHT DISTANCE: The length of the roadway ahead that is visible to the driver. The available distance on a roadway should be sufficiently long to enable a vehicle traveling at or near the design speed to stop before reaching a stationary object in its path.
- 1.4.107 SIGHT TRIANGLE: An area of unobstructed sight distance along both approaches of an access connection.
- 1.4.108 STOP WORK ORDER: A written notice issued by the WCRC directing immediate cessation of illegal and/or unpermitted work within the WCRC right-of-way.
- 1.4.109 STOPPING SIGHT DISTANCE: The sum of two distances: (1) the distance traversed by the vehicle from the instant the driver sights an object necessitating a stop to the instant the brakes are applied; and (2) the distance needed to stop the vehicle from the instant brake application begins.
- 1.4.110 STORAGE LENGTH: Lane footage added to a deceleration lane to store the maximum number of vehicles likely to accumulate during a peak period, so as not to interfere with the through-travel lanes.
- 1.4.111 STUDY AREA: The geographic area containing site access points and critical intersections (and connecting road segments) that are expected to be affected by traffic generated by a development.
- 1.4.112 SUBDIVISION SECTION: The Subdivision Section of the Engineering Department of the Washtenaw County Road Commission.
- 1.4.113 TAPER: Widening of pavement to allow the redirection and transition of vehicles around or into an auxiliary lane. There are two types: (a) redirect tapers necessary for the redirection of vehicles along the traveled way, and (b) transition tapers for auxiliary lanes that allow the turning vehicle to transition from or to the traveled way, to or from an auxiliary lane.
- 1.4.114 TEMPORARY ACCESS CONNECTION (CONDITIONAL): An access connection permitted to be used for a particular purpose for a specified, short period of time not to exceed one year. After said period of time, either a permanent access connection permit must be obtained and the permanent connection built or the temporary access connection must be removed and the right-of-way restored to its original condition.
- 1.4.115 THROAT LENGTH: The distance running parallel to the centerline of a driveway from the access point to the first onsite location at which a driver can make a right or left turn; measured on roadways with curb and gutter from the face of the curb and on roadways without a curb and gutter from the edge of shoulder.
- 1.4.116 THROAT WIDTH: The narrowest width of a driveway, measured perpendicular to the centerline of the driveway.
- 1.4.117 THROUGH MOVEMENT: The predominant direction of traffic flow through an intersection.
- 1.4.118 TRAFFIC CONTROL PLAN: A plan identifying all required traffic control devices, including but not limited to signs, barriers, barricades, plastic drums, lights and pavement markings, in accordance with the current MMUTCD.

- 1.4.119 **TRAFFIC COUNT:** A tabulation of the number of vehicles or pedestrians passing a certain point during a specified period of time.
- 1.4.120 **TRAFFIC IMPACT STUDY:** Analysis of the potential traffic impacts generated by a proposed project on intersection level-of-service and the safety and operation of the public road system. The type of study and level of analysis will vary depending upon the type and size of development. Typically, there are three types of traffic impact studies including (1) Traffic Impact Assessment, (2) Traffic Impact Statement, and (3) Regional Traffic Analysis.
- 1.4.121 **TRAFFIC IMPACT ASSESSMENT:** a traffic impact study for relatively low traffic generating uses which focuses on the impacts at proposed site access points.
- 1.4.122 **TRAFFIC IMPACT STATEMENT:** a traffic impact study which evaluates the impacts on roadways adjacent to the study site and specified nearby intersections. This is the most common type of impact study.
- 1.4.123 **TRB:** Transportation Research Board.
- 1.4.124 **TRAVELED WAY:** That portion of a road improved, designed or ordinarily used for vehicular travel exclusive of the berm or shoulder. In the event a road includes two or more separate roadways, "roadway" refers to any such roadway separately, but not to all such roadways collectively.
- 1.4.125 **TRIP (DIRECTIONAL TRIP):** A single or one direction vehicle movement with either the origin or the destination inside a study area. A vehicle leaving the roadway and entering a property is one trip, and the vehicle leaving the property is a second trip.
- 1.4.126 **TRIP DISTRIBUTION:** The measure of the number of vehicles or passenger movements that are or will be made between geographic areas.
- 1.4.127 **TWO-WAY LEFT-TURN LANE, CONTINUOUS (TWLTL):** A continuous lane located between opposing traffic streams that provides a refuge for vehicles to complete left turns from both directions.
- 1.4.128 **UNDIVIDED ROADWAY:** A roadway that has no directional separation, natural or structural, to separate traffic moving in opposite directions.
- 1.4.129 **URBAN AREA:** The urban area in Washtenaw County based on the current Federal-Aid Urban Boundary as determined by MDOT and FHWA.
- 1.4.130 **UTILITY SERVICE CONNECTIONS:** Facilities supplying utility service to individual consumers from a main line.
- 1.4.131 **UTILITY STRUCTURE DRIVEWAY:** Any driveway serving a structure or utility installation such as a pump house or substation which operates automatically and requires only occasional access.
- 1.4.132 **WAIVER:** Permission to depart from a regulatory standard where required conditions are satisfied.
- 1.4.133 **WARRANT:** The criteria by which the need for a safety treatment or roadway improvement can be determined.
- 1.4.134 **WCRC:** Washtenaw County Road Commission
- 1.4.135 **WORK AUTHORIZATION:** Instrument used by the WCRC to correct conditions that, in the judgment of the WCRC, are unsafe, causing unacceptable delay and inconvenience to the public, damage to the roadway, drainage systems, or appurtenances, damage to public or private property. Work Authorization shall be issued after reasonable efforts to notify the

Applicant, Permit Holder, or property owner. The work authorizations shall provide for labor and equipment to install signs, barricades or barriers, and other equipment and materials required to restore the right-of-way.

1.5 PRESERVATION OF SURVEY MONUMENTS

1.5.1 To ensure compliance with the provisions of MCL §54.201 et seq, regarding the preservation of survey monuments and witnesses, the following procedures shall apply to all permit applicants, their engineers and surveyors, and Permit Holders performing work within WCRC right-of-way:

- a) Public land survey corners and property controlling corners located within a construction area shall be witnessed prior to the commencement of construction and their locations shall be noted on plans submitted as part of a permit application. All corners shall be re-established in accordance with MCL §54.201 et seq. The Permit Holder and contractor shall coordinate the work with a Professional Surveyor licensed in the State of Michigan during construction activities for the purpose of placing survey monuments and monument boxes in new pavement, etc.
- b) If a survey corner or property controlling monument is located in a public roadway that is hard surfaced, the monument shall be flush with the finished pavement elevation on all sides.
- c) If a survey corner or a property controlling monument is located in a public roadway that is not hard-surfaced, the monument shall be at least 8 inches below the surface of the finished road.
- d) All monuments shall comply with and the current WCRC special provision.
- e) Upon completion of the requirements of MCL §54.201 et seq, the Professional Surveyor shall submit two copies of the recorded Land Corner Record Certificate (with Liber and Page); one shall be sent to the project engineer and one shall be sent to the WCRC Permit Section.

1.6 AMENDMENT

1.6.1 From time to time and as circumstances may require the Board may amend all or any part of these Procedures and Regulations as provided by law.

SECTION 2: PERMITTING PROCESS

2.1 APPLICATION FOR PERMIT

- 2.1.1 Applications for permits shall be submitted in the manner prescribed by and on the appropriate forms supplied by the Permit Section of the WCRC. The application shall contain or be accompanied by a certification of either legal ownership or agency authorization. Applications shall be accompanied by plans or drawings where applicable and fees as established by the Board.
- 2.1.2 For processing of permit applications, every applicant requesting a permit shall be classified into one of three categories: governmental agencies, public utilities or private parties. These classifications shall determine the procedures by which the application will be reviewed to assure compliance with federal and state law and WCRC requirements as authorized by statute.
- 2.1.3 Incorporated governmental bodies such as cities, villages, townships, counties, and certain other governmental and public entities are granted certain privileges by law to utilize the county road right-of-way with permission of the WCRC, subject to the paramount rights of the public. A governmental entity's utility has priority over a public utility's facility, and may require the public utility to relocate its facility at its expense for the benefit of the governmental entity.
- 2.1.4 A review period begins with the acceptance, by the WCRC, of a permit application. The WCRC shall be guided by this regulation and any other applicable federal or state statutes or regulations in evaluating and acting on the application. The WCRC will work cooperatively with the Applicant in an attempt to resolve all issues prior to taking final action on the application. Generally, a response to an application will be provided within 15 work days. Transmittal of a completed permit, approved by the WCRC, or transmittal of a denied application constitutes action on the permit application. Failure to meet the aforementioned timeframes shall not be construed as an approval of the permit requested.
- 2.1.5 If the WCRC denies an application, the WCRC shall provide the Applicant a copy of the application marked "denied" along with any attachments and a written explanation for the decision.
- 2.1.6 If the WCRC approves a permit application, the permit shall be prepared for issuance and signature by the Applicant and its contractor and shall include any additional terms and conditions established by review. The owner noted on the permit, normally the property owner, will become the Permit Holder. If the Permit Holder does not agree to all terms and conditions of the permit, the permit shall be deemed denied.
- 2.1.7 On extensive projects, detailed plans shall clearly define that portion of the work which will involve work on WCRC right-of-way or affect WCRC operations. Plans are not necessary for those areas which will not involve work on WCRC right-of-way or affect WCRC operations.
- 2.1.8 Entry upon WCRC right-of-way for the purpose of conducting survey or field inspections, obtaining soils information, or any other purpose associated with the design and construction of the proposed use shall be allowed only with a proper permit from the WCRC.
- 2.1.9 The permit is fully executed and in force after the application and any attached plans are approved and the permit is signed by the owner or authorized agent, the contractor, and the authorized representatives of WCRC.

2.2 APPLICATIONS BY GOVERNMENTAL AGENCIES

- 2.2.1 Permit applications initiated by governmental or public agencies shall include a current resolution by the governing body of the agency, authorizing and accepting responsibility for the work to be done and the occupancy of the right-of-way. A resolution must be submitted for each application unless an acceptable resolution is already on file. Either of the following types of resolution is acceptable.
- An individual resolution which pertains only to the permit work
 - A blanket resolution which is applicable to all permit work
- 2.2.2 The WCRC may require security in the form of a bond, irrevocable bank letter of credit, or cash from contractors performing certain types of permit construction for governmental agencies. As an alternative, the WCRC may, in its sole discretion and by agreement with the governmental agency, arrange for withholding of a portion of the contractor's payment pending approval of the permitted activity by the WCRC. A construction performance bond on which the WCRC is a joint beneficiary is generally unacceptable unless there is an agreement between the governmental agency and the WCRC regarding termination of the bond.
- 2.2.3 The governmental agency must apply in its own name for the following types of permits and no other applicant is acceptable:
- Road Closures for parades, festivals, celebrations, neighborhood block parties, marathons, races, etc.)
 - Banners

2.3 PLAN REQUIREMENTS FOR PROPOSED RIGHT-OF-WAY ACTIVITIES

- 2.3.1 Certain permit applications, primarily those involving construction activities, shall be accompanied by three sets of plans or drawings prepared in conformance with the current edition of the MDOT Michigan Design Manual and clearly indicating the requirements herein, or as the Permit Section may require to adequately review the proposed work. Typically, an application for a residential driveway permit will be exempt from the aforementioned plan requirements.
- 2.3.2 Surveying shall conform to the current edition of the MDOT Design Survey Manual.
- 2.3.3 All elevations shall be based on the North American Vertical Datum of 1988 (NAVD 88).
- 2.3.4 Road design shall conform to the current AASHTO Policy On Geometric Design of Highways and Streets, applicable MDOT design methodology, and the WCRC requirements described herein.
- 2.3.5 Plans shall be signed and sealed by a Professional Engineer registered in the State of Michigan. All correspondence concerning the design of the proposed activity will be directed to the Engineer whose seal appears on the plan, with a copy to the Applicant.
- 2.3.6 Plans shall be submitted on 24" x 36" white paper having blue or black lines with a minimum horizontal scale of 1" = 40' and vertical of 1" = 4'.
- 2.3.7 English units of measure shall be used exclusively.
- 2.3.8 Drainage calculations, in accordance with the MDOT Drainage Manual, shall be submitted and incorporated into the plan drawings.

- 2.3.9 A detailed, itemized cost estimate for all work in the road right-of-way shall be submitted at the time of plan submittal. The estimate shall be signed and sealed by a Professional Engineer registered in the State of Michigan.

2.4 CONDITIONS & LIMITATIONS OF PERMITS

- 2.4.1 The Permit Holder shall abide by the conditions and limitations contained on the permit. The application and any work undertaken under the permit shall constitute the Permit Holder's agreement to this provision.
- 2.4.2 Any activity described in Section 1.1 shall be allowed only after an approved permit has been obtained from the Permit Section. The activity shall be as described in an approved permit and plans or drawings accompanying the permit. The WCRC must approve in writing any significant changes in plans.
- 2.4.3 The Permit Holder shall provide the Permit Section at least two days (excluding Saturdays, Sundays and Holidays) written notice prior to the commencement of any activity covered by the permit. In certain instances WCRC may require more notice.
- 2.4.4 In the event of failure to comply with the terms and conditions of any permit issued in accordance with these procedures and regulations or failure to obtain an appropriate permit, the Permit Section shall have the right to halt the offending activity until adequate corrections have been made or deficiencies corrected. Upon the Permit Section issuing a Stop Work Order, the Permit Holder shall immediately cause all activity covered by the Order to cease and desist.
- 2.4.5 The WCRC reserves the right of inspection by its authorized representatives of all activity within the right-of-way. The Permit Holder shall reimburse the WCRC for such onsite inspections as may be required for large commercial or residential developments or other special cases. Such inspections and testing may include, without limitation, inspection of materials, soils, construction methods, compaction, grades, drainage, signing and safety precautions, soil erosion and sedimentation control, and restoration.
- 2.4.6 If, upon inspection, an activity described in Section 1.1 is found to be in violation, the responsible party shall correct any deficiencies within a period of 30 days, as specified in a Notice of Violation sent by Certified Mail. Dangerous or hazardous conditions, as determined by the WCRC, shall be corrected immediately. If the responsible party fails to make the necessary corrections within the time stated in the Notice, WCRC may perform the necessary corrections at the expense of the responsible party.
- 2.4.7 Any Permit Holder who conducts operations in a manner detrimental to WCRC's ability to maintain roads reasonably safe and convenient for public travel will be required to cease all such operations. If necessary, additional cash deposits for the expense of maintaining a WCRC inspector on-site (full-time) may be required from the Permit Holder prior to the resumption of work.
- 2.4.8 The Permit Holder shall restore the right-of-way and roadway to a condition acceptable to the WCRC. The WCRC will take all reasonable actions necessary to provide reasonably safe and convenient public travel, preservation of the roadway and drainage, prevention of soil erosion and sedimentation, and elimination of nuisance to abutting property owners caused by the permitted activity. The cost of any such action will be charged to the Permit Holder, who shall reimburse the WCRC. In the event that a suspension of work will be protracted or that the work will not be completed by the Permit Holder, the Permit Holder shall restore the right-of-way to a condition similar to the condition that existed prior to issuance of the permit.

- 2.4.9 All expenses incurred by the WCRC due to obtaining or enforcing compliance with conditions and requirements of the permit, failure to obtain a permit, or defective workmanship or materials shall be borne by the Permit Holder or other responsible party, as the case may be.
- 2.4.10 The Permit Holder shall keep a copy of the permit and any associated approved plans available at the site during permitted activities.
- 2.4.11 The Permit Holder shall take, provide and maintain all necessary precautions to prevent injury or damage to persons and property from operations covered by the permit and shall use warning signs and safety devices which are in accordance with the current MMUTCD. The Permit Holder shall conduct all activities and maintain all facilities as set forth in the permit in a manner so as not to damage, impair, interfere with, or obstruct a public road or create a foreseeable risk of harm to the traveling public. The Permit Holder shall comply with all applicable O.S.H.A. and M.I.O.S.H.A. requirements.
- 2.4.12 The Permit Holder shall comply with all requirements of the Miss Dig Statute, MCL §460.701 et seq., as amended. The Permit Holder shall call "MISS DIG" at (800) 482-7171 at least three (3) full working days (excluding Saturdays and Sundays), but not more than twenty-one (21) calendar days, before starting any underground work. The Permit Holder assumes all responsibility for damage to or interruption of underground utilities.
- 2.4.13 The Permit Holder shall surrender the permit, cease operation, and surrender all rights thereunder, whenever notified to do so by the WCRC because of a public need to use the area covered by the permit or because of a default of any condition or requirement of the permit.
- 2.4.14 Drainage shall not be altered to flow into the road right-of-way or road drainage system unless approved by the WCRC.
- 2.4.15 WCRC makes no warranty either express or implied as to the condition or suitability of subsurface conditions or any existing facility which may be encountered during an excavation. The Permit Holder is responsible for proper disposal, in accordance with current regulations, with any material excavated from within the right-of-way. Such materials include, without limitation, soils or groundwater contaminated by petroleum products or other pollutants associated with sites identified by the MDEQ or reported on appropriate release forms for underground storage tanks.
- 2.4.16 The Permit Holder shall remove all surplus materials to an area outside the right-of-way unless the permit otherwise provides. Excavated material and raw materials or equipment shall not be stockpiled or stored so as to adversely affect the safety of the traveling public nor shall such material be disposed in such manner that wetlands, floodplains, streams, rivers, drains, or other defined watercourses are impacted. Work within wetlands or wetland fringes is not authorized by the permit unless accompanied by State or local wetland permit.
- 2.4.17 All work authorized by the permit shall be completed to the satisfaction of the Permit Section on or before the completion date specified in the permit. Any request for an extension of time for completion shall be in writing and shall demonstrate good cause for granting the request. Approval of an extension of time shall be based on extenuating circumstances indicating no neglect on the part of the Permit Holder. Additional requirements may be imposed as a condition of an extension of time due to seasonal limitations or other considerations. These additional requirements may include, without limitation, changes to materials or construction methods, re-establishment of fees, bonds, deposits and insurance requirements.
- 2.4.18 The Permit Holder shall notify the Permit Section in writing of completion of the work and shall request a final inspection. All work authorized by permit shall be completed prior to

final inspection and all items identified by the final inspection shall be resolved prior to release of the permit.

- 2.4.19 The Applicant and the Permit Holder are responsible for obtaining any permits and complying with State, federal and local laws, rules, regulations and ordinances. These include without limitation those pertaining to inland lakes and streams, wetlands, woodlands, flood plains, filling, noise regulation, and hours of operation. Issuance of a WCRC permit does not authorize activities otherwise regulated by State, federal or local agencies.
- 2.4.20 The Permit Holder is solely responsible for the correctness and completeness of plans submitted as part of a permit application. Any errors in the plans which become evident after the issuance of a permit and which change the scope of permitted work are subject to review and may be grounds for revocation of the permit.
- 2.4.21 Where roads or road drainage cannot be contained within the existing right-of-way due to the Applicant's proposed work, the WCRC may require that additional right-of-way be dedicated. Prior to permit issuance, required right-of-way and easements shall be submitted and approved in a format that is recordable by the Washtenaw County Register of Deeds and meets the drafting requirements of Act 132, P.A. of 1970, prior to permit issuance.
- 2.4.22 The Permit Holder shall at all times possible maintain a minimum of one acceptable access to all abutting occupied properties, driveways, and side streets unless otherwise allowed on the approved plans. The Permit Holder shall notify any owners or occupants of properties whose access may be temporarily disrupted during the permitted work. The local police, fire, or emergency service agencies shall define acceptable access. The Permit Holder shall provide signing and other improvements necessary to ensure adequate access until the roadway, driveway, or side street is restored. The Permit Holder shall conduct all operations so as to minimize inconvenience to abutting property owners. The WCRC reserves the right to reasonably restrict the progress of work by the Permit Holder based on the rate of roadway and right-of-way restoration, including permanent or temporary pavement. The WCRC may require that work be suspended until satisfactory backfilling of open trenches or excavations has been completed and driveways, side streets, and drainage restored.
- 2.4.23 All pumping or de-watering operations shall be conducted in compliance with N.P.D.E.S. permits. Outlet filters or sediment basins shall be used before discharged water reaches roadside ditches, storm sewer inlets, or surface waters. Placement of discharge lines on or across the surface of the traveled portion of any road will not be allowed without advance written permission from the WCRC. The Permit Holder shall perform all necessary restoration of the road drainage system. If the WCRC deems it necessary for the Permit Holder to either alter dewatering operations or to cease de-watering operations altogether for reasons of public safety, the Permit Holder shall immediately comply. The Permit Holder shall locate all de-watering facilities as far from the road surface as possible. If, due to extenuating circumstances, these facilities are located closer to the road than the back slope of the ditch, a Type B high intensity flashing light mounted on a plastic drum shall be required at each location.
- 2.4.24 Normal weight restrictions will be in effect at all times, except during the period when reduced seasonal load limitations are in effect. If, due to the high volume of trucking, damage to the roads is threatened, the Permit Holder shall reduce loads carried on the roads as necessary to avoid damage, as directed by WCRC. The use of tracked or crawler mounted equipment on road pavements shall not be permitted unless specifically authorized in advance in writing by the WCRC. Written authorization for such use will usually require complete replacement or resurfacing of the entire pavement so used.

- 2.4.25 The Permit Holder shall maintain all work areas in the right-of-way in a safe, dust free condition until all work in a given area is completed, including the hauling of materials. Dust control at a frequency determined by the WCRC shall be provided on any unpaved detour, by-pass, or shoulder which is to be used by traffic. Dust control shall be provided in compliance with Section 107.15 of the MDOT Standard Specification For Construction.
- 2.4.26 If the area disturbed by the work is one (1) acre or greater, and requires a National Pollution Discharge Elimination System (N.P.D.E.S.) Permit, the Permit Holder shall notify the WCRC and provide the name and address of the certified operator.

2.5 LIMITATIONS ON USE OF ANNUAL PERMIT

- 2.5.1 Use of an annual permit is primarily limited to geophysical exploration, land surveys, and certain operations by governmental agencies and organizations recognized by the WCRC as public utilities for activities defined in Section 4.18.1.
- 2.5.2 Poles, conductors, lead guys, and anchors may be added within an existing lead. An existing lead is defined as an established line or conduit, including poles or appurtenances within the physical limits of that line. If a conductor is extended beyond the existing lead, individual permits are required except as noted below. It is not intended that changing poles or location of poles within an existing lead necessitates an individual permit. However, a significant reconstruction, i.e., converting poles to towers or replacing several poles for a large overhead utility run, shall not be performed under an annual permit. Routine maintenance may be performed on all existing aerial facilities.
 - a) Service drops requiring a pole across the road and outside the lead may be performed under an annual permit.
 - b) Upgrading a two to a three wire may be performed under an annual permit only if it provides for a single service.
 - c) Individual permits shall be obtained if there is parallel work within the right-of-way made from a particular service drop.
- 2.5.3 The allowable use of an annual permit for underground utility operations is limited and very specific. The annual permit provides for underground individual services only up to three-inch diameter if crossing pavement. Any activities not within the scope of the annual permit require an individual permit. Pavement cuts are not allowed for transverse crossing under an annual permit.
- 2.5.4 Where two utilities jointly occupy a pole or facility with a bona fide joint use agreement, each party shall be required to secure its own permit.

2.6 INDEMNITY AND CERTIFICATES OF INSURANCE

- 2.6.1 The Permit Holder shall defend and hold harmless the WCRC against any claim for damages or related costs and expenses arising from any activities or operations covered by the permit, provided, however, that in the case of construction activities, the Permit Holder shall not be obligated to indemnify the WCRC against its own sole neglect.
- 2.6.2 The Applicant or its contractor shall furnish proof of general liability insurance in amounts not less than \$1,000,000 each occurrence and general aggregate, proof of automobile liability in amounts not less than \$1,000,000 combined single limit for each accident, bodily injury per accident, and property damage per accident, and in an amount not less than \$500,000 for bodily injury per person. that the Permit Holder shall cause WCRC to be an additional

insured party on the policy. Such insurance shall cover a period not less than the term of the permit and shall provide that it cannot be cancelled without 30 days advance written notice to WCRC, by certified mail, first-class, return receipt requested.

- 2.6.3 The Applicant shall name the Road Commission as additional insured, by name, on the policy of insurance worded as follows: “The Board of County Road Commissioners of the County of Washtenaw, the Washtenaw County Road Commission, and its officers, agents and employees, are named as additional insured parties.”
- 2.6.4 The certificate of insurance must be provided by a person, the corporation, or by authorized representatives who signed personally either the application or permit. Insurance shall remain in force until the permitted activity is completed, inspected and approved.
- 2.6.5 Should insurance coverage be cancelled or reduced below acceptable limits, authorization to continue work under the permit shall be suspended or revoked. WCRC may in such case take appropriate action to restore or protect the road and appurtenances, utilizing any inspection, fees, security deposits or applicable bonds to defray expenses.

2.7 PERMIT FEES

- 2.7.1 Fees shall be paid in amounts per the current schedule of fees, as adopted by the Board, to be charged sufficient to cover the necessary and actual costs applied in a reasonable manner for the issuance of the permit and for review and inspection of the proposed activity and related expenses including any fees charged by outside professional consultants. After the work authorized in the permit has been completed, itemization of all costs shall be provided upon request of the Permit Holder.
- 2.7.2 Deposits in the form of a Cashier’s check or cash shall be required for surety, inspection and administration fees, and sign fee in the amounts indicated on the approved application form. These deposits, as well as the permit fee, may be combined into one check.
- 2.7.3 Corporate checks may be accepted subject to the approval of the Permit Section.
- 2.7.4 All inspection charges over and above the amount estimated and any costs associated with work authorizations shall be deducted from the surety. Any unused portion of the surety will be returned to the Applicant. Any charges in excess of the surety will be the obligation of the Applicant. The surety and permit will not be released until such payments are received by the WCRC.
- 2.7.5 The following details shall be resolved by the Permit Section prior to granting a permit:
 - a) Inspection requirements, scope of work.
 - b) Inspection personnel: WCRC, Contract Agency, Inspection Services Contract.
 - c) Based upon the scope of the project, traffic impacts, or available work force, an inspection services contract may be required.
 - d) Estimated inspection costs assessed to the Applicant; these costs may include WCRC employee wages, equipment rental, expenses, overhead, any inspection related contract costs, and any outside professional consultants fees.
 - e) Inspection fees may be adjusted at the completion of the project to reflect actual inspection costs.

2.8 SECURITY FOR RIGHT-OF-WAY RESTORATION

- 2.8.1 Financial security is required for a permit for most of the activities listed in Section 1.1. This is required to secure the cost of restoring the disturbed portion of right-of-way to an acceptable and safe condition and to protect the WCRC against the cost of completing construction or correcting deficiencies. The amount of the guarantee shall be determined by the Permit Section in accordance with the adopted WCRC fee schedule. Acceptable types of guarantee are cash, Cashier's check, money order, or irrevocable bank letter of credit. A governmental agency may provide a letter of retainage. A public utility may provide a surety bond using WCRC forms.

2.9 REFUNDS OF FEES

- 2.9.1 Application and Permit fees are non-refundable.
- 2.9.2 In the event that the work covered by a permit does not commence, sureties and inspection fees will be refunded to the Permit Holder upon receipt of a written request to revoke the permit and return the surety and inspection fees.
- 2.9.3 Upon completion of the work covered by the permit, any unused balances of surety or estimated inspection fees will be refunded to the Permit Holder. Sign fees and pavement striping fees are non-refundable. Refunds will be processed after final inspection of the work by the Permit Section. Refunds will not be issued until the WCRC has been satisfied that all repairs have been made, vegetation has been established, storm systems affected by the project are clean and undamaged, no settlements of the road surface or side slopes will occur, all temporary soil erosion and sedimentation control measures have been removed, and all excess construction materials are removed from the project area.

2.10 REVIEW OF PERMIT DENIAL OR REQUEST FOR VARIANCE

- 2.10.1 An Applicant wishing review of either a denial of a permit application or a variance from permit requirements shall submit a written request for review, clearly specifying the facts in support of the request, to the County Highway Engineer.
- 2.10.2 The County Highway Engineer shall whenever practicable make a written determination within 30 days of submission of the request, either granting or denying said request. The Applicant shall be forwarded a copy of the determination by first-class mail. If the request is denied, the response shall set forth the reasons for denial. Failure of the County Highway Engineer to act within 30 days shall not be construed as an approval of the variance requested.
- 2.10.3 An Applicant wishing review of either a denial of a permit application or denial of a variance by the County Highway Engineer may within 60 days of such denial submit a written request for review by the Board.
- a) The permit application, supporting documentation, and determination and recommendation by the County Highway Engineer shall be provided by WCRC staff to the Board.
 - b) The Applicant shall demonstrate, as a condition of any permit or variance, that the requested permit or variance will be consistent with the safety and convenience of the public taking into account traffic volumes, drainage, the nature, character and use of the land, and other requirements in the public interest.

- c) The Board shall after due consideration either grant or deny an Applicant's request. The Applicant shall be forwarded a copy of the Board resolution approving or denying the request.

2.11 ENFORCEMENT

- 2.11.1 Failure to obtain a required permit or to comply with any provision of an issued permit may result in suspension of the work for which the permit was issued until adequate corrections have been made. Costs incurred by the WCRC in correcting failure to comply with the terms and conditions of a permit, failure to obtain a permit, or defective workmanship or materials shall be borne by the Permit Holder.
- 2.11.2 The Permit Holder or its authorized representative shall perform all work and pay all costs in connection with permitted activities.
- 2.11.3 If, upon inspection, a driveway, shared driveway, or private road approach constructed or reconstructed after the effective date of these rules is found to be in violation of these rules, the owner shall correct any deficiencies within a period of time not more than 30 days, specified in a notice of violation sent by certified mail to the owner. Any safety hazard shall be corrected immediately. If the owner fails to make the necessary corrections within the period of time stated in the notice, the WCRC, or its agents, may perform the necessary correction(s), with all costs incurred to be reimbursed to the WCRC by owner.
- 2.11.4 In the event of failure to comply with the terms and conditions of any permit issued in accordance with these rules, or failure to obtain an appropriate permit, the WCRC shall have the right to halt ingress and egress activity to and from the site until adequate corrections have been made.
- 2.11.5 A notice of violation shall specify which rules are violated, the correction required, and the time for said correction (not less than 30 days). The notice shall be sent by certified mail, return receipt requested, to the owner of the subject property.
- 2.11.6 If the violation is not corrected in the time required by the notice, the WCRC may perform any necessary corrections at the owner's cost. This procedure is in addition to and does not negate the rights of the Permit Section to issue a Stop Work Order or of the WCRC to correct conditions within the right-of-way creating hazards to public travel.
- 2.11.7 A non-compliance fee of three times the permit fee will be charged for activities conducted without a required permit.

SECTION 3: DRIVEWAY STANDARDS

3.1 ACCESS MANAGEMENT

- 3.1.1 The purpose of access management is to provide vehicular access to land development in a manner that preserves the safety and efficiency of the transportation system. Access management can extend the operational life of roadways, increase public safety, reduce traffic congestion, and improve the appearance along a roadway corridor. This in turn benefits property owners abutting county roads by preserving property values and enhancing development potential.
- 3.1.2 The WCRC recognizes that the right of reasonable access to public roads is incidental to ownership of abutting land. The goal of the WCRC is to grant landowners access connections for their needs consistent with WCRC access management and access control requirements in the public interest. The WCRC driveway permit process determines the location and design of driveways so as to provide freedom of traffic movement, safety for roadway users, and preservation of roadway capacity. A successful access management program reduces crash potential and preserves capacity by regulating parameters such as driveway location, driveway spacing, driveway design, traffic signal progression, use of channelization, and use of alternate access systems.
- 3.1.3 Construction of a new driveway, shared driveway, or private road connecting to a county road or reconstruction of a driveway or private road connecting to a county road shall be allowed only after an approved permit has been obtained from the Permit Section. The construction or reconstruction of all driveways or private roads shall be as described in an approved permit and plans or drawings accompanying the permit.
- 3.1.4 Permits for access connections to public roads shall be issued when consistent with public safety and based upon traffic volumes, drainage requirements, maintenance needs, the character of the use of the land adjoining the roadway, and any other requirements in the public interest. Construction or reconstruction of any driveway or road approach shall be as described in the approved permit and plans or drawings accompanying the permit. Approaches for private roads shall be constructed or reconstructed to the same geometrics and specifications as a new public road unless otherwise approved by the WCRC.
- 3.1.5 Construction of a new road which will become a public road shall be allowed only after an approved permit for the approach has been obtained from the Subdivision Section. Construction of the approach, tapers, auxiliary lanes and new road shall be in accordance with plans and specifications approved by the Subdivision Section. Geometrics and construction standards may be found in the current Procedures and Regulations for Developing Public Roads which may be downloaded in .pdf format from the WCRC website at <http://www.wcroads.org>.
- 3.1.6 When the use of the land served by the driveway is changed or expanded, and the change or expansion may cause the existing driveway to be a potential safety hazard or to be inconsistent with the criteria described herein, the driveway will be considered a new driveway in accordance with MCL §247.327. Factors that may indicate a potential safety hazard include, but are not limited to, the following:
- a) Elevated crash rate
 - b) Increased traffic volume on the main road
 - c) Increased turning movements using the driveway or road approach

- d) Improper drainage
- e) Inadequate sight distance
- f) Excessive grades of driveway
- g) Improper driveway design for use
- h) Change in functional classification of road

3.1.7 The WCRC may revoke any driveway or road access permit if at any time the permitted object, use, or activity fails to meet the requirements of these procedures and regulations, MCL §247.321 et seq, or the terms and conditions of the permit itself.

3.2 AUTHORIZED APPLICANT

3.2.1 A permit granting permission to construct, reconstruct, relocate, resurface, use and maintain a driveway that connects to a county road may be issued by the WCRC only to the property owner or the property owner's authorized representative.

3.3 APPLICATION FORMS

3.3.1 An application for a driveway permit, on forms provided by the WCRC, shall specify the driveway system requested, including the location, number and type of driveways (i.e., 2-way, 1-way, divided, dual service or directional). The WCRC may approve the system as requested or may condition approval on such changes as may be necessary to maintain safe conditions and proper spacing between driveways. Application review will be based on anticipated traffic volumes on the driveways and on the roadway, type of traffic to use the driveways, type of roadside development, drainage, and other operational considerations in the public interest.

3.4 PLAN REQUIREMENTS

3.4.1 With the exception of most applications for residential driveway permits, applications shall be accompanied by three (3) sets of plans or drawings signed and sealed by a Professional Engineer which clearly show the following features:

- a) Existing road pavement, ditches, right of way and property lines, road appurtenances, medians (if existing) and dimensions thereof, driveways on adjacent property and on property opposite the frontage, and names of existing and proposed roads.
- b) All buildings and appurtenances, both proposed and existing, with dimensions and a notation as to present or proposed use of the buildings.
- c) Design standards of all driveways, tapers, through lanes, right turn lanes, left turn lanes, or passing lanes to be constructed, reconstructed, relocated, surfaced, resurfaced, operated, used or maintained shall include the following dimensions and features:
 - widths of all driveways and lanes;
 - radii of driveway returns and other points of curvature;
 - driveway grades or profile view of driveway;
 - road centerline and edge of pavement grades;
 - angle of the driveway(s) relative to the roadway centerline;

- dimensions of roadside control island and other traffic islands adjacent to the road;
 - driveway surface material and traffic island surface material; and
 - sight distance for the approach.
- d) Distance from existing driveway(s) and proposed driveway(s) to the nearest intersecting street and distance from driveways to property lines.
- e) North directional arrow and scale of drawing.
- f) All roadside features to be constructed within the road right-of-way, including without limitation roadside control island, curb, sidewalks, traffic control devices, manholes, poles, etc.
- g) Existing and proposed drainage structures and controls to include:
- size of drive culvert;
 - type of culvert;
 - type of culvert end treatment;
 - grade of culvert with sufficient elevations upstream and downstream to show the extent of flow across the proposed development and to the proposed outlet;
 - direction of surface water flow on and from adjacent property;
 - drainage structures;
 - drainage plan and outlet for all storm drainage on the site.

3.5 TRAFFIC IMPACT STUDIES

3.5.1 The WCRC recognizes the direct correlation between land use decisions and traffic operations. The Applicant's proposed project or development, and its needs for access, will create traffic impacts on the public roads. The intent of these procedures and regulations is to provide a framework for proper evaluation and remediation of those impacts. In order that the WCRC may continue to meet its statutory duty to maintain roads under its jurisdiction in reasonable repair, so as to be reasonably safe and convenient for public travel, the WCRC may require, as a permit condition, the completion by the Applicant's engineer of a Traffic Impact Study. This policy will further promote the following objectives:

- a) Provide a standard set of analytic tools and format for traffic impact analysis.
- b) Provide a consistent and comprehensive approach to the overall impact of development on the public roads.
- c) Allow the community to assess the effects that a proposed project may have on the transportation network by outlining information needed and evaluation procedures to be used.
- d) Promote reasonably safe and convenient traffic operating conditions on roads and intersections after development of a proposed site.
- e) Reduce the negative traffic impacts created by individual developments, in the interests of the public and of the development, by helping to ensure that the transportation system can accommodate the expected traffic safely and efficiently.

- f) Realize a comprehensive approach to the overall impacts of various developments along a corridor or within part of a community rather than a piecemeal approach.
 - g) Provide direction to governmental agencies and developers of expected impacts of a project.
 - h) Alert the community, governmental agencies, and developers to the need for improvements or modifications to the roadway, access or site design.
 - i) Protect the substantial public investment in the existing road system by facilitating the WCRC ability to maintain roads under its jurisdiction as required by statute.
- 3.5.2 When a Traffic Impact Study is required, it shall be prepared under the direction of an experienced traffic/transportation engineer, licensed as a Professional Engineer by the State of Michigan.
- 3.5.3 A Traffic Impact Study is a complete analysis and assessment of traffic generated by a proposed development, and of the impact on the surrounding transportation system. A traffic impact study is required for any proposed development expected to generate over one hundred (100) peak hour directional trips, or 750 daily trips, or at the discretion of the Permit Section. The study shall be completed and sealed by a Professional Engineer. If the study includes the review of potential signal operations, a pre-qualified signal operations consultant must be used. Table 1 gives examples of land use that is expected to meet or exceed the 100 peak hour directional trips or 750 daily trips.
- 3.5.4 A traffic impact study shall include:
- a) A narrative summary at the beginning of the report, including, but not limited to:
 - i. The applicant and project name.
 - ii. A location map.
 - iii. The size and type of development and any adjacent development.
 - iv. Generated traffic volumes based on type and size of land use which are compatible with those listed in the ITE Trip Generation Manual, or which are developed according to the methodology described in the ITE Trip Generation Handbook.
 - b) Project phasing identifying the year of development activities per phase and proposed access plan for each phase.
 - c) A transportation system inventory, which describes the physical, functional and operational characteristics of the study area highway system, and where appropriate, locates transit services. The description shall provide, where pertinent, data on:
 - i. peak-hour volumes (existing and projected)
 - ii. number of lanes
 - iii. cross-section
 - iv. intersection traffic signals and configuration
 - v. traffic signal progression
 - vi. percentage of heavy trucks
 - vii. adjacent and opposing access point locations
 - viii. jurisdiction

- ix. auxiliary lane lengths
- x. grades
- xi. functional classifications
- d) Site Plan including proposed roadway per phase for each access. Driveway design and roadway improvements shall meet WCRC procedures and regulations.
- e) Capacity analysis shall be performed at each access point. Default values shall not be used when actual values are reasonably available or obtainable. The interaction of conflicting traffic movements shall be addressed in the Traffic Impact Study.
- f) A Traffic Impact Study shall be analyzed with and without the proposed development and with the proposed development for both existing and projected traffic volumes.
- g) The traffic volumes for the development shall assume a total build out and, in the case of multi-phase development, evaluate the cumulative effects of each phase.
- h) The completed analysis shall be summarized in a table showing all the Measures of Effectiveness (MOE) for all of the above conditions, as determined necessary by the WCRC.
- i) Required operational changes shall be part of the permit approval process.

TABLE 1: EXAMPLES OF TYPICAL LAND USE SIZE THRESHOLDS BASED ON TRIP GENERATION CHARACTERISTICS		
Land Use	100 Peak Hour Trips (Directional)	750 Trips Daily
Residential		
Single Family	150 units	70 units
Apartments	245 units	100 units
Condominiums/Townhouses	300 units	120 units
Mobile Home Park	280 units	135 units
Shopping Center (GLA) ⁽³⁾	16,700 sq. ft.	3,400 sq. ft.
Fast Food Restaurant w/drive-thru (GFA) ⁽³⁾	5,500	1,200
Convenience Store w/gas (GFA) ^(3,5)	1,000 sq. ft. or 7 fueling stations	1,000 sq. ft.
Banks w/drive thru (GFA) ⁽³⁾	4,400 sq. ft.	2,800 sq. ft.
Hotel/Motel	310 rooms	90 rooms
General Office	37,200 sq. ft.	45,000 sq. ft.
Medical/Dental Office	40,800 sq. ft.	26,000 sq. ft.
Research & Development	87,000 sq. ft. or 7 acres	70,000 sq. ft. or 4 acres
Light Industrial	115,000 sq. ft. or 8 acres	115,000 sq. ft. or 11.5 acres
Manufacturing	215,000	195,000
Notes:		
<ol style="list-style-type: none"> 1. Rates/equations used to calculate the above thresholds are from Trip Generation Manual, 7th Edition, 2003, by the Institute of Transportation Engineers. This table will likely need updating as future editions provide additional information. 2. For example, a full traffic impact study should be completed (100 peak hour, peak direction trips generated) if 150 or more single family units are proposed for a site. 3. GLA – Gross Leasable Area; GFA – Gross Floor Area. 4. Using AM peak-hour rates/equations would provide a lower threshold. However, adjacent roadway volumes are usually higher during the PM peak hour. 5. Uses both “Service Station with Market” and “Convenience Market with Pumps” data. 6. For further trip generation characteristics of the above land uses, or of other uses not illustrated above, refer to the latest version of Trip Generation. 		

3.5.5 The Level of Service (LOS) and capacity shall be evaluated for the critical movements at site access points. Also, the traffic study should show the projected level of service for all movements at signalized intersections and for all critical movements at unsignalized intersections. If the LOS of the existing intersections are a "D" or better, and the proposed project will produce a LOS of "E" or worse at one or more movements at a nearby intersection or site access point, mitigation needs to be evaluated. If the intersection LOS is currently an "E", or worse, the current LOS or vehicular delay must be maintained or improved.

3.5.6 The major benefit of a Traffic Impact Study is to determine what, if any, mitigation measures are needed. The study should present mitigation alternatives and recommendations. Mitigation measures are not limited to physical improvements. Mitigation can include changes to traffic signal timing or reducing the number of trips generated in the peak hour. Sample mitigation measures include, but are not limited to, the following:

- a) Roadway Improvements
 - construct an auxiliary turning lane

- pave the roadway
 - re-align the road
 - improve sight distance
 - widen the roadway
 - intersection improvements
 - add deceleration/acceleration lanes
 - add a median crossover
- b) Access Management Techniques
- increase driveway spacing from intersections
 - relocate driveway or intersection
 - reduce the number of driveways
 - install a median
 - develop a service road system
 - share access with adjacent land
- c) Operational Improvements
- change signal timing or phasing
 - improve signal progression
 - reduce peak hour trips through transit
 - off-peak shift changes
- d) Site Plan/Land Use Techniques
- reduce project size
 - modify project phasing
 - use of traffic control devices
 - pedestrian or bicycle circulation
 - internal circulation
 - service vehicle/truck access or circulation

3.5.7 The study shall include a resume of the preparer and/or relevant experience of the firm responsible for the report and shall be signed by the preparer with full recognition of potential liability for the results and recommendations outlined in the report.

- a) Traffic Impact Studies shall meet the requirements of Evaluating Traffic Impact Studies: A Recommended Practice for Michigan Communities, by McKenna Associates, Inc; The WBDC Group which is available in .html format at the National Transportation Library website at <http://ntl.bts.gov/DOCS/etis.html>.
- b) The study shall include a description of the site, surroundings, and study area. Illustrations and a narrative should be included to help describe the characteristics of the site and adjacent road system including functional classification, number and types of lanes, speed limits, and traffic control. The description should include surrounding land uses, expected development in the vicinity which could influence future traffic conditions, special site features, and a description of any programmed road improvements. The study should define and justify the study area selected for analysis.
- c) The study shall include a description of the proposed use including details such as land use, the number and types of dwelling units, the gross and usable floor area of buildings, number of employees, shift changes, intended development phasing, potential future expansion, etc.

- d) The study shall include a description of existing traffic conditions as follows:
- i. Traffic Counts: Existing conditions including peak hour traffic volumes (and daily volumes if applicable) on roads adjacent to the site. Existing counts and levels of service for intersections in the vicinity which are expected to be impacted, as identified by the community at a pre-application conference or discussion, should be provided for projects requiring a Traffic Impact Statement or Regional Traffic Analysis. Traffic count data shall be not more than two years old, to be increased by a factor supported by documentation or a finding that traffic has increased at a rate less than two percent annually over a period measured by the last three years, four years, or five years.
 - ii. Traffic counts shall be taken on Tuesday, Wednesday, or Thursday of non-holiday weeks and preferably when public schools are in session. Additional counts, e.g., on a Saturday for a proposed commercial development or a Sunday for a proposed church, may also be required in some cases. The individual or firm performing the impact study shall obtain the traffic counts during average or higher than average volume conditions, so as to minimize weather or seasonal variations, the effects of any construction or special events, etc.
 - iii. Roadway characteristics shall be described and illustrated as appropriate. Features to be addressed include lane configurations, geometrics, signal timing, traffic control devices, posted speed limits, average running speeds, and any sight distance limitations. Existing levels of service shall be calculated for intersections included within the study area.
 - iv. Existing driveways and potential turning movement conflicts in the vicinity of the site shall be illustrated and described.
 - v. The existing right-of-way shall be identified along with any planned or desired expansion of the right-of-way requested by the WCRC.
 - vi. Traffic crash data and analysis covering the most recent three years for the study area or proximity to site access points may be required, particularly for sites along roadways identified as critical or congested corridors.
- e) A Traffic Impact Statement with a development completion date beyond one year at the time of the traffic study shall also include analysis of forecast traffic at date of completion along the adjacent road network. The forecast shall be based on a network traffic assignment model (if available), historic annual percentage increases and future approved development in the area. Long range projections shall be used when a Regional Traffic Analysis is required.
- f) Forecasted trip generation of the proposed use shall be provided for the a.m. and p.m. peak hours and the average day. The forecasts shall be based on the data and procedures outlined in the most recent edition of the ITE Trip Generation Manual and per the methodology as described in the ITE Trip Generation Handbook. The applicant may use other commonly accepted sources of data or supplement the standard data with data from at least three similar developments located in southeast Michigan. Any reduction for pass-by trips, transit, ridesharing, other modes of travel, or internal capture rates shall be based on both ITE findings and documented survey results acceptable to the WCRC. For projects intended to be developed in phases, the trip generation by phase shall be described.

- g) The generated traffic volumes shall be distributed (inbound v. outbound, left turn v. right turn) onto the existing road network to project turning movements at site access points and nearby intersections where required. Projected turning movements shall be illustrated in the report. A description of the application of standard engineering procedures for determining the distribution should also be attached (trip distribution model, market studies, counts at existing driveways, etc.). For projects requiring a Regional Traffic Analysis, use of a network traffic assignment model projection may be required to help evaluate impacts.
- h) The following impact analyses shall be included in the report:
 - i. Level of service and capacity analysis at the proposed access points shall use the procedures outlined in the most recent edition of the TRB Highway Capacity Manual. For projects requiring a Traffic Impact Statement or Regional Traffic Analysis, before-and after-capacity analyses shall also be performed for all intersections where the expected traffic generated at the site will comprise at least five percent of the existing intersection capacity, or for roadway sections and intersections experiencing congestion or a relatively high crash rate, as determined by the WCRC.
 - ii. Gap studies for unsignalized intersections where applicable.
 - iii. The WCRC may require a Regional Traffic Analysis which evaluates the impact on the road network over a wide area for up to 20 years for a project of regional significance, if a network model is available.
- i) The report shall include a map and description of the location and design of proposed access points (driveways or road approaches) including: any sight distance limitations, dimensions from adjacent driveways and intersections within 250 feet on either side of the main roadway, data to demonstrate that the number of driveways proposed is the fewest necessary, and evidence that the proposed access points will provide safe and efficient traffic operation and will comply with all WCRC regulations.
- j) The Traffic Impact Study shall include the following:
 - i. Description of any additional right-of-way where planned or desired by the WCRC.
 - ii. Changes that should be considered to the plat or site plan layout.
 - iii. Description of any needed non-motorized facilities.
 - iv. If the use involves a drive-through facility, the adequacy of the queuing/stacking area should be evaluated.
 - v. If a median crossover is desired, separate analysis should be provided.
 - vi. If a traffic signal is being requested, provide the relationship of anticipated traffic to traffic signal warrants in the most recent edition of the MMUTCD. Analysis should also be provided of the impacts to traffic progression along the roadway through coordinated timing.
 - vii. Description of site circulation and available sight distances at site driveways.
- k) The study shall outline mitigation measures and demonstrate any changes to the level of service achieved by these measures. Any alternatives or suggested phasing of improvements should be described. The mitigation measures may include items such as roadway widening, addition of turn lanes or deceleration and acceleration tapers, changes to signalization, use of access management techniques or a reduction in the proposed

intensity of use. Proposed mitigation measures should be discussed with the WCRC. The responsibility for and timing of roadway improvements shall be described.

3.6 DRIVEWAY LOCATION

- 3.6.1 The location and spacing of access for commercial driveways and road approaches is an important element in the planning, design, and operation of roadways. Access points are the main location of crashes and congestion. Their location and spacing directly affect the safety and functional integrity of the roadway.
- 3.6.2 A driveway shall be so located that no undue interference with the free movement of roadway traffic will result. A driveway shall be so located also to provide the most favorable vision and grade conditions possible for motorists using the roadway and the driveway consistent with development of the site considering proper traffic operations and safety. The Applicant shall submit plans showing the driveway layout requested, including the number, type, dimensions, location, and spacing of all driveways. Driveways shall provide the required sight distance and shall provide the most favorable driveway grade reasonably possible.
- 3.6.3 In general, one access point is adequate for a single business. When one-way pair driveways (In-Out) are requested and the inside traffic circulation promotes such operation, these driveways may be considered as a single access point. If multiple access points are requested, the Permit Section may require a traffic impact study from the business owner/property owner to justify the need for the multiple access points.
- 3.6.4 Adjacent driveways on the same side of the road shall be spaced as far apart as on-site circulation allows. In some cases the Permit Section may require that the business owner/property owner redesign the site plan, and relocate the access point to meet the desirable spacing distance.
- 3.6.5 Adjacent property owners may consolidate their driveways by using either a frontage road or a joint driveway system. If the WCRC approves such a system, a driveway permit shall be issued to all property owners concerned and shall state that there is an agreement that all properties shall have access to the roadway via the frontage road and the joint driveway system.
- 3.6.6 Table 2 shows desirable unsignalized access spacing as a function of posted speed. These distances are based on average acceleration and deceleration considered adequate to maintain good traffic operations. The sight distance at the access points must also be investigated. Driveway spacing in Table 2 is measured from centerline to centerline.

TABLE 2: UNSIGNALIZED ACCESS SPACING (ADJACENT)	
Design Speed (mph)	Center-to-Center of Access (ft)
25	130
30	185
35	245
40	300
45	350
50 and above	455

- 3.6.7 In the event that a particular parcel or parcels lack sufficient frontage to maintain adequate spacing, the owner(s) have several options:
- a) Seek a variance from the County Highway Engineer from the desired spacing, but in no case can the variance be greater than the next lowest classification shown in Table 2. For example, on a 30 mph roadway requiring 185 foot spacing, the distance may be reduced to no less than 130 feet. To minimize left turning conflicts, driveways should be either aligned directly with those across the road, or offset a sufficient distance from those across the road to achieve the minimum spacing standards listed in Table 2.
 - b) Adjacent owners may agree to establish a common driveway. In such case the driveway centerline should be the property line between the two parcels. The driveway must meet standard specifications, and the estimated driveway volume will be the sum of the trip generation rate of both parcels.
 - c) In areas where frontage roads or service drives exist or can be constructed, individual properties shall be provided access to these drives rather than directly to the main highway.
 - d) After all the above options are exhausted, an access point may be allowed within the property limits as determined by the Permit Section.
- 3.6.8 All frontage roads shall be placed on private property outside of the future right-of-way, as defined by the WCRC.
- 3.6.9 If the road carries one-way traffic, the dimensions provided in Table 2 may be revised so that the movements creating conflict are discouraged. If the driveway system is on the left-hand side of a one-way road, the dimensions approved shall be based on the same principles as used on right-hand side driveways.
- 3.6.10 In accordance with AASHTO guidelines, driveways should not be situated within the functional boundary of at-grade intersections. This boundary includes the longitudinal limits of auxiliary lanes. An access point may be allowed within the above boundary if the entire property frontage is located within this boundary.
- 3.6.11 Restricting or prohibiting left turns at unsignalized access points aligned across from each other can greatly reduce safety and operational problems. Table 3 provides the desirable distances between two access points on the opposite side of the roadway.

TABLE 3: DESIRABLE DRIVEWAY OFFSETS ON UNDIVIDED ROADWAYS	
Design Speed (mph)	Center-to-Center of Access (ft)
25	255
30	325
35	425
40	525
45	630
50 and above	750

- 3.6.12 A driveway, including the radii but not including the right-turn lanes and tapers, shall be located entirely within the area between the Applicant's property lines extended to the

centerline of the roadway. A driveway radius may extend outside of that area only if the adjacent property owner certifies in writing that he will permit such extension. Driveways, including the radii (but not including right turn lanes, left-turn lanes, passing flares, or tapers), shall be located entirely within the Applicant's right-of-way frontage. This right-of-way frontage is determined by projecting the property lines to the centerline of the road. Radii on adjacent right-of-way frontage shall be permitted only upon obtaining a letter allowing encroachment from the adjacent property owner and when the Permits Section has determined that such encroachment is necessary.

- 3.6.13 A driveway shall not be constructed along acceleration or deceleration lanes and tapers, unless no other reasonable access point is available. WCRC may require extension of these lanes by the Applicant.
- 3.6.14 Driveways shall not be constructed along the acceleration or deceleration lanes and tapers connecting to freeway interchange ramp terminals.
- 3.6.15 The number of residential driveways that may be permitted shall be determined as follows:
 - a) One (1) residential driveway shall be permitted for each platted lot or for each unplatted residential parcel.
 - b) Two (2) residential driveways may be permitted for residential property with more than 300 feet of frontage if, in the opinion of the Permit Section, the additional driveway does not create a safety problem.
 - c) Two (2) residential driveways may be permitted on the same property, in lieu of the above, to serve a circle driveway if the frontage of the property is 85 feet or more at the right-of-way line.
 - d) Residential driveways on the same property shall be at least 45 feet apart, center-to-center.
- 3.6.16 Spacing between a road intersection and an access connection shall be sufficient to avoid creating conflicts between driveway traffic movements and road movements at the intersection. The corner clearance required is a function of the types of roads which intersect. In all quadrants of an intersection access points should be located according to the dimensions shown in Figure 1. Table 4 provides the minimum corner clearance dimensions. The spacing requirements in Table 4 are from the centerline of the proposed driveway to the near right-of-way line of the intersecting road.

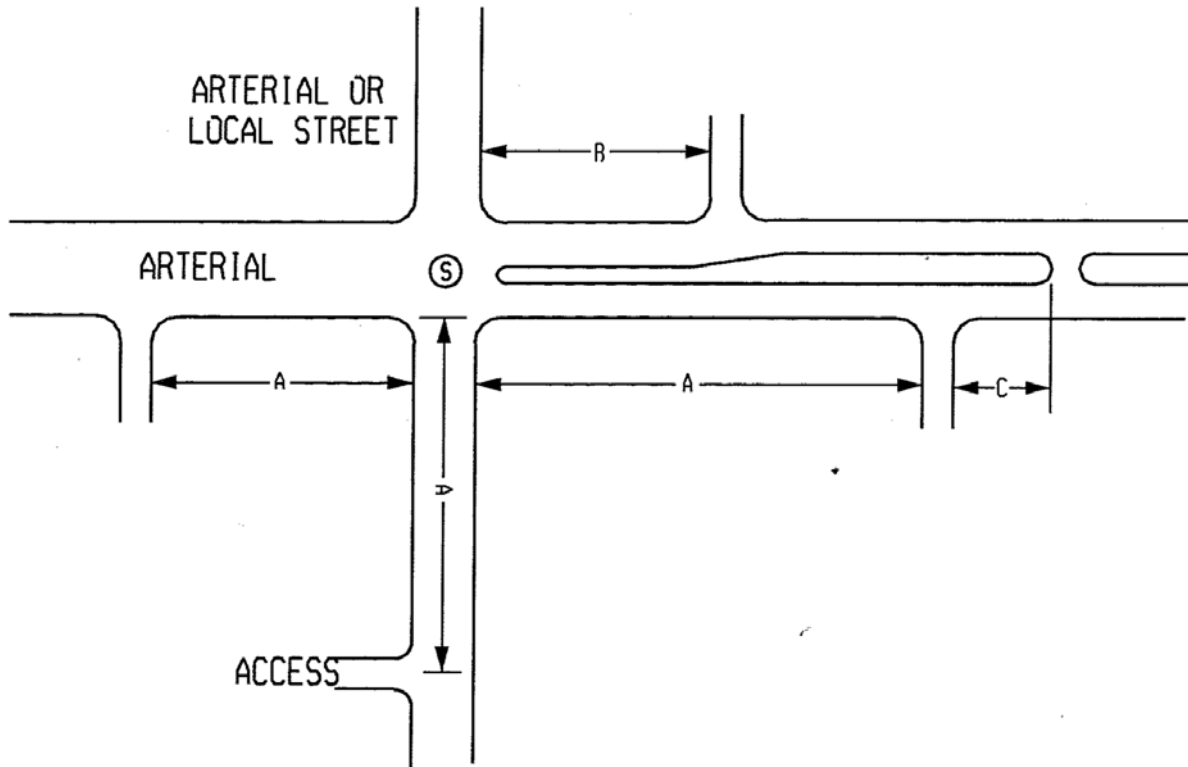


Figure 1: Corner Clearance

TABLE 4: CORNER CLEARANCE			
Design Speed (mph)	Dimension	Signalized Intersection Control (ft)	Stop Sign Intersection Control (ft)
25 to 35	A	230	115
	B	115	85
	C	75	75
40 to 55	A	460	230
	B	230	170
	C	150	150

3.6.17 The application shall specify the driveway system requested, including the number and type (two-way, one-way, or divided) of driveway(s). The Permits Section may approve the requested system or may require as a condition of issuance that the Applicant make changes to ensure safe operations and necessary spacing between driveways. Such requirements shall be based on anticipated traffic volumes on the driveways and on the road, type of traffic to use the driveway, characteristics of roadside development, and other safety and operational considerations. Generally, only one driveway will be permitted per parcel.

3.7 DRIVEWAY GRADE

- 3.7.1 The driveway grade shall be determined using the following criteria:
- a) If the road is uncurbed, the grade of the driveway shall meet the existing shoulder.
 - b) If the road is curbed, the grade of the driveway shall meet the existing edge of pavement.
 - c) The grade of a commercial driveway shall not exceed a maximum of six percent (6%).
 - d) The grade of a residential driveway shall not exceed a maximum of ten percent (10%).
 - e) If the sidewalk elevation must be adjusted to meet the driveway, the slope shall not exceed five percent (5%).

3.8 SIGHT DISTANCE

- 3.8.1 Minimum sight distance for all driveways and road approaches shall be in accordance with the current edition of the AASHTO Policy On Geometric Design of Highways and Streets.
- 3.8.2 The safety of an access connection is improved where the location and geometrics of the connection are clear to approaching drivers and the driver of a stopped vehicle intending to enter or cross the intersecting road. The area on either side of an access connection should contain a triangular area free of obstructions that might block an approaching or stopped driver's view. To provide for adequate vision, all obstructions must be removed within the clear vision area, otherwise known as a sight distance triangle. A driveway or road approach shall be constructed and maintained at a location along the property frontage that meets or exceeds the requirements of Tables 5 and 6. Should this not be obtainable, then the driveway shall be constructed at a location that provides the distance closest to that required in Tables 5 and 6, provided the stopping sight distance identified in Table 6 is met or exceeded.
- 3.8.3 Stopping Sight Distance: The following general discussion on stopping sight distance is adopted as excerpted from the 2004 edition of A Policy on Geometric Design of Highways and Streets (AASHTO) page 110:

Sight distance is the length of the roadway ahead that is visible to the driver. The available sight distance on a roadway should be sufficiently long to enable a vehicle traveling at or near the design speed to stop before reaching a stationary object in its path. Although greater lengths of visible roadway are desirable, the sight distance at every point along a roadway should be at least that needed for a below-average driver or vehicle to stop.

Stopping sight distance is the sum of two distances: (1) the distance traversed by the vehicle from the instant the driver sights an object necessitating a stop to the instant the brakes are applied; and (2) the distance needed to stop the vehicle from the instant brake application begins. These are referred to as brake reaction distance and braking distance, respectively.

- 3.8.4 In computing and measuring stopping sight distance, the height of the driver's eye is estimated to be 3.5 feet and the height of the object to be seen by the driver is 2 feet (equivalent to the taillight height of a passenger car). 2004 AASHTO Exhibit 3-1 on page 112 also gives stopping sight distances for various design speeds.

- 3.8.5 Intersection Sight Distance: The following general discussion on intersection sight distance is adopted as excerpted from the 2004 edition of A Policy on Geometric Design of Highways and Streets (AASHTO) page 651:

The driver of a vehicle approaching an intersection should have an unobstructed view of the entire intersection, including any traffic control devices, and sufficient lengths along the intersecting highway to permit the driver to anticipate and avoid potential collisions. The sight distance needed under various assumptions of physical conditions and driver behavior is directly related to vehicle speeds and to the resultant distances traversed during perception-reaction time and braking.

TABLE 5: INTERSECTION SIGHT DISTANCE FOR PASSENGER CARS FROM STOP		
Design Speed (mph)	Left Turn (ft)	Right Turn or Crossing (ft)
25	280	240
30	335	290
35	390	335
40	445	385
45	500	430
50	555	480
55	610	530

TABLE 6: SIGHT DISTANCE FOR PASSENGER CARS LEFT TURN FROM INTERSECTING ROAD		
Design Speed (mph)	Stopping Sight Distance (ft)	Intersection Sight Distance (ft)
25	155	205
30	200	245
35	250	285
40	305	325
45	360	365
50	425	405
55	495	445

- 3.8.6 Sight distance will be measured 10 feet from the edge of the traveled portion of the intersecting road for proposed residential driveways and a minimum of 15 feet for all other proposed access connections.

- 3.8.7 The sight distances presented in Tables 5 and 6 are valid for passenger cars, two-lane undivided intersecting roads, and when roadway grades are between -3.0 percent and +3.0 percent. Additional adjustment factors, per AASHTO, shall be applied for situations that exceed these parameters.
- 3.8.8 A permit for an access connection between a property and a public road shall be denied when minimum safe sight distance cannot be attained. When a permit is denied, access may be obtained, at the owner's expense and subject to WCRC approval in one of the following ways:
- a) Negotiating with adjacent property owners to acquire access to the subject parcel through easements which facilitate lawful permitted access;
 - b) Constructing an approved frontage road serving the subject property and connecting with the roadway at a location where a safe driveway can be permitted; or
 - c) Realignment or reconstruction of the existing roadway to correct the sight distance deficiency. This possibility would require execution of a Road Improvement Agreement as described in Section 3.2.2.
- 3.8.9 At intersections or railroad crossings where the WCRC owns limited access right-of-way to provide a clear vision area, no driveway shall enter or cross any part of that clear vision area. Where the WCRC has an easement for such clear vision area, driveways shall not be permitted through the clear vision area.
- 3.8.10 These standards shall be used unless WCRC engineering judgment determines that another value is more suitable for a particular site or a special condition is approved by the WCRC.

3.9 BUFFER AREAS

- 3.9.1 Adjacent to driveways, a buffer area between the right of way line and the pavement edge shall be provided as determined necessary by the WCRC to provide a physical barrier between moving traffic and private property. A buffer area is needed to provide an unobstructed vision area and to physically prohibit potentially hazardous movement of vehicles (especially at undesirable angles of approach) from and to the road. Where encroachment by parked vehicles takes place or may take place, the WCRC may require the buffer area to be established by traffic control order and installation of regulatory signs, guardrail, guard posts, curb or equivalent method. In every case, an area of unobstructed vision shall be provided at either side of driveways. This may require the removal of trees, earthen embankments and other obstructions.

3.10 STANDARD DIMENSIONS FOR RESIDENTIAL DRIVEWAYS

- 3.10.1 The design features described herein with their appropriate illustration of various driveway features as shown in Figure 1 shall be used by the Applicant in dimensioning a proposed residential driveway on plans accompanying driveway permit applications. The dimensions to be used for various driveway design features, shown as a standard with a working range of dimension, are given in Table 7. These standard dimensions shall be used unless conditions warrant a deviation. The WCRC may specify particular dimensions so a particular driveway system will accommodate vehicle movements normally expected without creating undue congestion or hazard on the roadway or to provide reasonable access.
- 3.10.2 The letters in the following design features refer to features in Figure 2:
- a) Intersecting angle, A, the clockwise angle from a roadway centerline to a driveway reference line which is the centerline or the edge of the driveway.

- b) Driveway width, B, the distance between driveway edges of pavement or edges of the gravel surface measured at the point where the edges of the driveway become parallel, point b in figure 1. If the right-of-way line is so close to the pavement that point b falls on the applicant's property, then the width of the driveway at the right-of-way line shall be based on the projected driveway width.
- c) Entering radius, C, the radius of a driveway edge curve on the right side of a vehicle entering the applicant's property.
- d) Exiting radius, D, the radius of a driveway edge curve on the right side of a vehicle leaving the applicant's property.
- e) Curb cut, R, the length of the opening along a roadway curb for a straight-sided residential driveway.

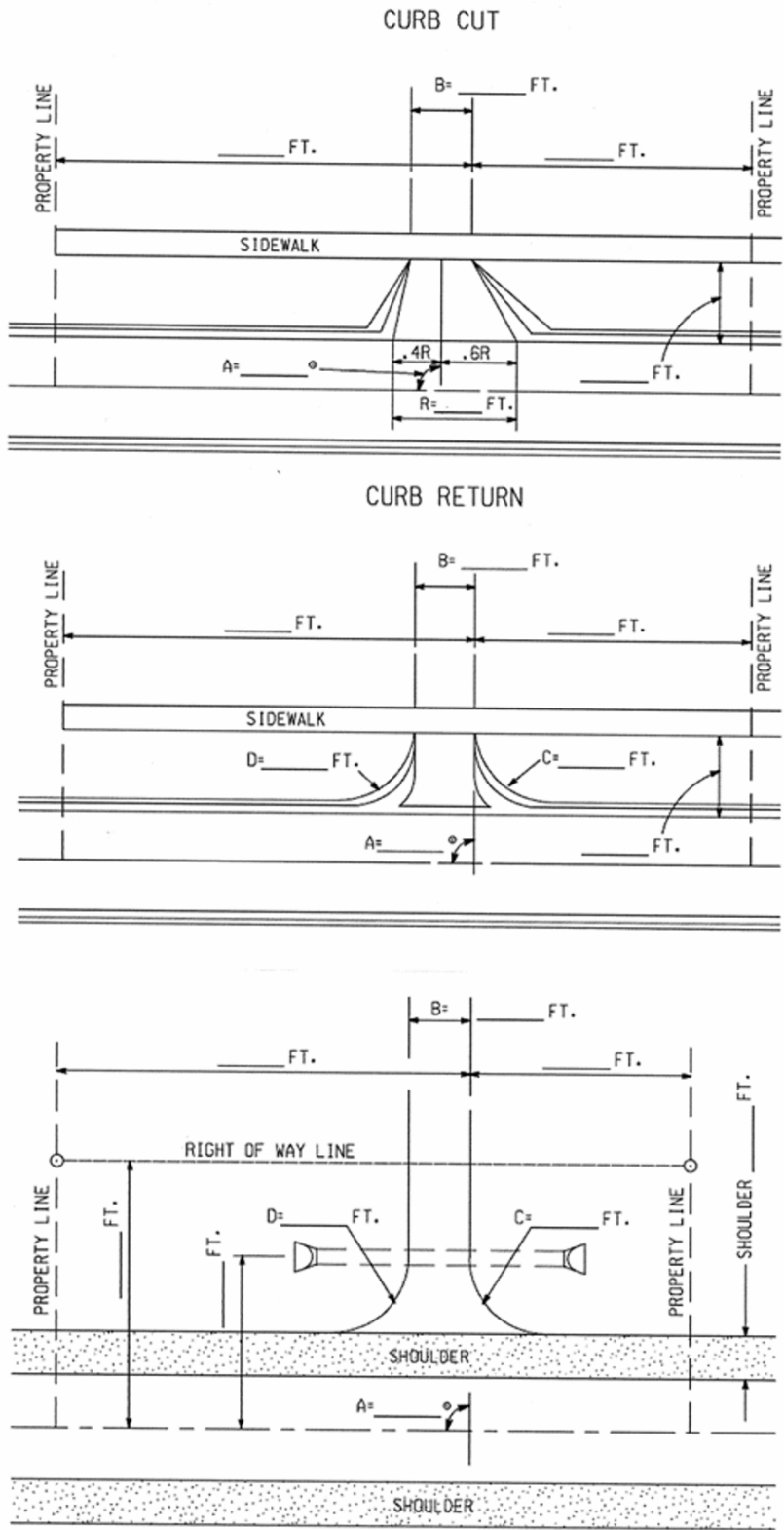


Figure 2

3.10.3 A residential driveway shall be paved between the edge of the pavement and the existing or proposed sidewalk. If there is no existing or proposed sidewalk, the surfacing shall extend at least 10 feet from the edge of pavement. For a residential driveway, either curb cuts or curb returns shall be required as determined by the WCRC, based on the current WCRC standards for curb and gutter and shall be a MDOT Type ‘L’ opening unless otherwise authorized.

3.10.4 Residential driveway dimensions

- a) The design feature dimensions of a residential driveway shall conform to those given in Table 7.

TABLE 7: RESIDENTIAL DRIVEWAY					
Design Features		Curbed Roadway		Uncurbed Roadway	
		Standard	Range	Standard	Range
Intersecting Angle	A	90°	80 to 100°	90°	80 to 100°
Driveway Width	B	12 ft	10 to 20 ft	12 ft	10 to 20 ft
Entering Radius	C	15 ft	5 to 15 ft	15 ft	5 to 20 ft
Exiting Radius	D	10 ft	5 to 15 ft	10 ft	5 to 20 ft
Curb Cut	R	26 ft	20 to 40 ft	Not Applicable	
The standard shall be used unless engineering judgment determines that another dimension within the range is more suitable for a particular site or a special condition is approved by the WCRC.					

3.11 STANDARD DIMENSIONS FOR COMMERCIAL DRIVEWAYS

3.11.1 The MDOT Geometric Design Guide, GEO-680 shall be used by the applicant in dimensioning a proposed commercial driveway or driveway system on plans accompanying the driveway permit application. The WCRC may specify certain dimensions so a particular driveway system will accommodate vehicle movements normally expected without creating undue congestion or hazard on the roadway or to provide reasonable access.

3.11.2 If the roadway carries one-way traffic, dimensions may be altered so that the prohibited movements are discouraged. If the driveway system is on the left-hand side of a one-way roadway, the dimensions used shall be based on the same principles as used on right-hand side driveways.

3.11.3 A divided commercial driveway shall have a curbed island separating the entrance and the exit drive. The radii forming the edges on this island shall be designed to accommodate the largest vehicle that will normally use the driveway. WCRC may deny divided commercial driveways in areas where left turn interlock problems may develop or where otherwise deemed necessary by WCRC.

3.11.4 To facilitate vehicle movements between a roadway and private property when the major vehicle movement at a commercial establishment is approximately parallel to the roadway, such as at a service station or drive-in bank, the WCRC may permit dual service driveways.

3.11.5 A directional commercial driveway is a special case and the driveway shall be designed individually to facilitate the desired turning movements and to discourage prohibited movements. Radii shall be as approved by the WCRC, based on the driveway intersecting angle and on the turning path of the largest vehicle that will normally use the driveway.

3.12 STANDARD DIMENSIONS FOR FIELD DRIVEWAYS

3.12.1 One farm field entrance may be permitted for each 1000 feet of frontage of cultivated land, timber land or undeveloped land. Additional driveways may be permitted when a single driveway will not provide adequate access due to topographic conditions.

3.12.2 Field entrances may be surfaced with stabilized gravel and may be uncurbed unless otherwise required by the WCRC.

3.12.3 The design feature dimensions of a farm field driveway shall conform to those given in Table 8 and as illustrated in Figure 2.

TABLE 8: FARM FIELD DRIVEWAY					
Design Features		Curbed Roadway		Uncurbed Roadway	
		Standard	Range	Standard	Range
Intersecting Angle	A	90°	80 to 100°	90°	80 to 100°
Driveway Width	B	20 ft	15 to 40 ft	20 ft	15 to 40 ft
Entering Radius	C	Not Applicable		20 ft	5 to 40 ft
Exiting Radius	D	Not Applicable		20 ft	5 to 40 ft
Curb Cut	R	26 ft	20 to 50 ft	Not Applicable	
The standard shall be used unless engineering judgment determines that another dimension within the range is more suitable for a particular site or a special condition is approved by the WCRC.					

3.13 STANDARD DIMENSIONS FOR UTILITY STRUCTURE DRIVEWAYS

3.13.1 A utility structure driveway may be surfaced with stabilized gravel or with sod over a stable base and may be uncurbed, as determined by the WCRC.

3.13.2 The design feature dimensions of a utility structure driveway shall conform to those given in Table 9 and as illustrated in Figure 2.

TABLE 9: UTILITY STRUCTURE DRIVEWAY					
Design Features		Curbed Roadway		Uncurbed Roadway	
		Standard	Range	Standard	Range
Intersecting Angle	A	90°	80 to 100°	90°	80 to 100°
Driveway Width	B	20 ft	15 to 40 ft	20 ft	15 to 40 ft
Entering Radius	C	Not Applicable		20 ft	5 to 40 ft

Exiting Radius	D	Not Applicable		20 ft	5 to 40 ft
Curb Cut	R	26 ft	20 to 50 ft	Not Applicable	
The standard shall be used unless engineering judgment determines that another dimension within the range is more suitable for a particular site or a special condition is approved by the WCRC.					

3.14 AUXILIARY LANES & TAPERS

- 3.14.1 Driveways serving large developments frequently generate large numbers of turning movements. On two-lane, two-way roadways, this situation can disrupt traffic operations and often makes shoulder maintenance difficult. MDOT Traffic & Safety Notes 603A, 604A, and 605A shall be utilized in order to promote a uniform system to determine where right-turn lanes, left-turn lanes, or passing flares shall be required as a condition of permit issuance.
- 3.14.2 The applicant shall provide right-turn lanes or tapers as part of a commercial driveway system if the WCRC determines per MDOT standards or an approved traffic impact study that such right-turn lanes or tapers are required to minimize congestion or hazard on the roadway caused by vehicles entering the applicant’s driveways. A right-turn lane shall be preceded by a taper. The current MDOT Design Guide for Flares and Intersection Details, VII-650 series, shall be utilized for the design of turning lanes, flares and tapers.
- 3.14.3 The cross slope of a right-turn lane and tapers shall be 2%, unless otherwise determined by the WCRC.

3.15 SURFACING

- 3.15.1 Residential driveways will normally be surfaced to match the existing road surface type, i.e., HMA if the existing road is HMA or PCC if the existing road is PCC. When required by the WCRC, residential driveway approaches shall be paved with HMA Mixture 13A, placed according to MDOT specifications using 330 lbs/syd minimum. Concrete driveway approaches shall use six inches minimum of PCC Grade P1. When reinforcement is specified, wire fabric reinforcement shall be used according to MDOT Standard Plan R-29 Series.
- 3.15.2 A commercial driveway shall be paved and curbed to the right-of-way line and shall be an MDOT Type ‘M’ opening unless otherwise authorized.
- 3.15.3 When the public road to be accessed is paved the type of surfacing at commercial driveways depends upon the existing surface of the road and the potential axle loading of vehicles using the driveway.
- 3.15.4 When the public road to be accessed is unpaved commercial driveways may be surfaced with stabilized gravel. The minimum requirement for commercial driveways is ten inches of compacted MDOT 23A dense-graded aggregate. If driveways are paved, the paving shall extend no closer to the road than one foot behind the driveway culvert location or five feet from the edge of the road, whichever is greater.
 - a) The surface of paved commercial driveways, including tapers without right-turn lanes, shall be concrete, hot mix asphalt or equivalent surfacing material. The thickness of the surface and the base to be used shall be sufficient to provide the bearing capacity needed to carry the proposed traffic loads. A three-inch (330 pounds per square yard) hot mix asphalt on eight inches of compacted gravel, or eight inches of hot mix asphalt on existing ground, or eight inches of nonreinforced concrete on sand, or equivalent surfacing material which meets current MDOT Standard Specifications For Construction

may be considered acceptable for normal commercial driveway traffic loads over stable soil.

- b) The pavement of all additional lanes such as turning lanes, and accompanying tapers, shall be the same material as the pavement of the existing road or applicable WCRC pavement cross section, whichever is greater. The cross slope of all additional lanes and all tapers shall be a continuation of the cross slope of the existing road pavement unless otherwise specified by the Permit Section.
- c) The surface of road shoulder adjacent to all additional lanes and tapers shall be of the same material as the surface of the contiguous existing road shoulder and shall conform to the current MDOT Standard Specifications For Construction. The shoulder area between adjacent commercial driveways serving the same property which are less than 200 feet apart (centerline to centerline) must be paved as directed by the Permit Section.
- d) If a roadway is uncurbed, the following driveway surfacing and curbing requirements apply:
 - i. A commercial driveway, along a paved road, shall be paved and curbed either to the right-of-way line or to the point of curvature between the driveway edge and the larger radius, point b in Figure 1, except a commercial driveway may be uncurbed where there is a proper ditch and other adequate roadside control or delineation, as determined by the WCRC. The curb ending adjacent to the roadway shall be located at least 13.5 feet from and parallel to the edge of the pavement.
 - ii. A commercial driveway approach off a gravel road shall be gravel.

3.15.5 Surface materials and thickness

- a) The surface of a paved driveway, excluding right-turn lanes, shall be concrete, bituminous or equivalent surfacing materials. The thickness of the surface and the base to be used shall be sufficient to provide the bearing capacity needed to carry the proposed traffic loads. A 2 ½ inch, 250 pounds per square yard, bituminous mix on 8 inches of compacted gravel, 8 inches of unreinforced concrete or equivalent surfacing material, which meets the MDOT Standard Specifications for Construction, is acceptable for normal driveway traffic loads over stable soil.

3.16 CURBING

- 3.16.1 Curbing shall either be the same detail as any existing curb or shall conform to the current WCRC standards for curb and gutter.
- 3.16.2 If the road is uncurbed, the grade of the driveway between the road edge of pavement and the edge of the shoulder shall conform to the slope of the shoulder.
- 3.16.3 The curb height shall be tapered from full height at the edge of pavement to zero-height at any sidewalk if the driveway grade meets the grade of the existing sidewalk.
- 3.16.4 The driveway curb shall either match the existing roadway curb or shall conform to the current WCRC standards for curb and gutter.
- 3.16.5 The driveway curb height shall be constant if there is no existing or proposed sidewalk or if an inclined sidewalk is permitted by the WCRC.
- 3.16.6 The driveway curb height may be tapered to zero height at the sidewalk if the driveway grade meets the grade of an existing or proposed sidewalk.

3.17 SHOULDERS

- 3.17.1 The surface of the shoulder adjacent to a right-turn lane and tapers shall be of the same materials as the roadway shoulder and conform to the MDOT Standard Specifications for Construction.
- 3.17.2 If the distance between two paved commercial driveways serving the same property is less than 200 feet, measured between adjacent ends of the curb endings, the applicant shall pave the shoulder between the driveways, unless otherwise determined by the WCRC.

3.18 DRAINAGE

- 3.18.1 Design of drainage facilities shall conform to the current edition of the MDOT Drainage Manual.
- 3.18.2 A driveway or road approach, including any new lanes or tapers, shall be constructed so that the existing drainage is not adversely affected. The drainage and the stability of the road subgrade shall not be altered by driveway construction or roadside development. Roadway drainage shall be carried to the outside edge of the pavement.
- 3.18.3 Drainage from adjacent private property in excess of assumed agricultural runoff from natural ground contours shall not be discharged directly into the road drainage system. Drainage from paved areas of the driveway within the right-of-way shall be directed outside the right-of-way unless adequate enclosed drainage facilities are available or are provided by the Applicant as part of the driveway construction.
- 3.18.4 All culvert pipe used shall be of a size adequate to carry the anticipated natural flow of the ditch. The culvert size shall be approved by the WCRC and shall be not less than 12 inches inside diameter. All culverts, catch basins, drainage channels and other drainage structures required within the road right-of-way shall be manufactured or constructed and installed in accordance with the current MDOT Standard Specifications For Construction. The minimum length of the culvert may be determined as the sum of the width of the driveway and the distance needed to provide slopes to adjacent fore slope and back slope with a maximum transverse slope of 1 on 6 for locations susceptible to high-speed impacts. On low-volume or low-speed roads, where a crash history does not indicate a high number of run-off-the-road occurrences, a steeper transverse slope up to 1 on 4 may be considered. The use of headwalls on culvert ends will not be permitted. The use of sloped end sections or mitered ends are required on all culverts 18 inches diameter and greater. Sod, rip-rap or other suitable material shall be placed at all culvert ends and slopes to prevent erosion.

3.19 PROFILE/GRADE

- 3.19.1 If the road is curbed, the grade of the driveway shall meet the existing edge of pavement.
- 3.19.2 If the road is uncurbed, the grade of the driveway between the road edge of pavement and the outside edge of the shoulder shall conform to the slope of the shoulder. Where the existing shoulder is less than six feet, the grade of the existing road bed or shoulder shall be carried to a point six feet off the edge of the existing roadway surface.
- 3.19.3 The grade of two-way, one-way, and divided commercial driveways shall not exceed a maximum of six percent (6%).
- 3.19.4 The grade of residential, utility, and field driveways shall not exceed a maximum of ten percent (10%).

- 3.19.5 Vertical curves (15-foot minimum) shall be provided at all changes of grade of four percent (4%) or more.
- 3.19.6 If a sidewalk elevation must be adjusted to meet the driveway, the slope of the sidewalk shall not exceed five percent (5%).
- 3.19.7 A driveway profile shall be determined using the following criteria:
- a) If the roadway is uncurbed, the grade of the driveway between the roadway edge of pavement and the edge of the shoulder shall conform to the slope of the shoulder.
 - b) If the roadway is uncurbed or if the sidewalk is more than 10 feet from the edge of the pavement or if there is no sidewalk:
 - i. The grade of a two-way, one-way or divided commercial driveway after it transitions from the shoulder edge shall not exceed 6%.
 - ii. The grade of a residential or utility structure driveway or field entrance shall not exceed 10% after it transitions from the shoulder edge.
 - c) If the roadway is curbed and if the sidewalk is 10 feet or less from the edge of pavement, the grade of a driveway, except a directional driveway, shall be the grade required to meet the sidewalk elevation; but if that grade would exceed the maximums specified in paragraph (b), the sidewalk shall be either tilted or inclined.
 - d) The grade of a directional driveway shall be designed so to provide vision of the roadway edge of pavement and the driveway surface for a distance of 100 feet along the driveway. For a driveway on an upgrade towards the roadway, a grade of 1.5% for a distance of 100 feet from the edge of the pavement is acceptable. Beyond this distance, the grade shall not exceed 6% and the differences in grades where there is a change of grade shall not exceed 3%.
 - e) Vertical curves, with a minimum length of 15 feet, shall be provided at a change of grade of 4% or more.

3.20 PARKING AND STORAGE

- 3.20.1 Adequate storage for vehicles parking or waiting to be serviced shall be provided so as not to interfere with pedestrian movements, vision requirements or traffic operations on the roadway.
- 3.20.2 Commercial establishments of a "drive-in" nature (drive-in restaurants, drive-in banks, auto washes, etc.) should provide adequate storage off highway rights of way for vehicles waiting to be serviced because vehicle storage on highway lanes or shoulders may constitute a traffic hazard in the public roadway.

3.21 TRAFFIC CONTROL DEVICES AT DRIVEWAYS & ROAD APPROACHES

- 3.21.1 The Applicant shall provide and/or maintain traffic control devices as required by the WCRC and per the current MMUTCD. The plans shall illustrate and specify all required traffic control devices. For private road approaches, a private road sign package including a stop sign and road name panel is required and shall be paid for, per the WCRC fee schedule, by the Applicant. The private sign package will be fabricated, installed and maintained by the WCRC at the completion of the private road approach construction.
- 3.21.2 At high-volume intersections, traffic safety and operations may be enhanced by the installation of a traffic signal. Traffic signal warrants shall be determined by reference to a traffic impact study completed by the Applicant's engineer. The installation of a traffic signal shall require

approval of the County Highway Engineer. Although the warrants for the installation of a traffic signal may be satisfied, the County Highway Engineer may determine that a traffic signal would be detrimental to coordinated traffic flow, result in undue delay, impair traffic operations, or impair traffic safety on the county road. In this case, a traffic signal shall not be installed. If authorized by the County Highway Engineer, the traffic signal shall be designed in accordance with the current WCRC, MDOT, and MMUTCD requirements.

- 3.21.3 All costs associated with a traffic signal installation necessitated by or approved in conjunction with any new or modified public road access shall be the sole responsibility of the Applicant. Prior to approval of an access facility with a traffic signal, the Applicant shall enter into a formal agreement with the WCRC. The agreement shall delineate the responsibilities of the WCRC and the responsibilities of the developer regarding the signal installation. The responsibilities of the developer shall include, without limitation, paying or causing to be paid all perpetual costs for the energy and maintenance of a traffic signal; paying or causing to be paid all costs for any future upgrading, revisions, modifications, and/or modernizations; providing the WCRC with indemnification; and such other provisions related to the traffic signal installation as the WCRC shall require. Ownership of the traffic signal shall remain with the WCRC. If a traffic signal is required to be a part of an interconnected traffic signal system, the developer shall be responsible for all costs associated with the interconnection, before or after the installation of the signal.
- 3.21.4 To facilitate progression of traffic in both directions at design speed through a system of traffic signals, spacing of signalized intersections of an arterial or major collector roadway with cross streets should be in multiples of at least one-quarter mile.
- 3.21.5 Signalization of driveways should only be considered if driveway traffic volumes or past crash experience warrants installation. With the approval of the County Highway Engineer, any warranted driveway signals may be located 600-700 feet from adjacent signals if the driveways served form "T" intersections. Four-legged signalized driveway intersections should be avoided unless they are least one-quarter mile from adjacent signals. Driveway signals should also be interconnected and coordinated with any other signals, either existing at the time the driveway signal is installed or added later, within 1,500 feet of the signalized driveway.
- 3.21.6 Outside the public road right-of-way, the Applicant should provide and properly maintain approved permanent traffic control signs and pavement markings as necessary for the proper operation of the driveway intersection. All signs and pavement markings should conform to the current MMUTCD. The plans shall indicate the signing and pavement markings required.

3.22 ROAD IMPROVEMENT AGREEMENT

- 3.22.1 When the Application and its supporting data demonstrate that traffic, safety, and/or road maintenance impacts of the proposed project or modified use will require road improvements as a condition of permit approval, the Applicant may decide, as a business decision, to agree to fund the road improvements. In such case the WCRC may require that the agreement of the parties be expressed in a written Road Improvement Agreement subject to the approval of the Board of County Road Commissioners. The Road Improvement Agreement shall set forth all of the material terms of the parties' agreement. The Road Improvement Agreement shall require that the parties obtain a Declaratory Judgment from the Washtenaw County Circuit Court, finding and declaring that the Agreement is a valid, lawful, binding, and enforceable agreement pursuant to any and all provisions of the Michigan Constitution, statutes, and common law.

- a) The need for road improvements shall be determined in accordance with the findings of a traffic impact study.
- b) When road improvements are required as a condition of permit approval, the WCRC shall not issue the permit until all of the foregoing conditions have been met.
- c) Should the Applicant decline to fund the road improvements necessitated by the impact of the Applicant's project, the application will be denied. The WCRC is without funds to expend on mitigation of the impacts on the public roads caused by new development or intensified use.

SECTION 4: UTILITIES

4.1 GENERAL PROVISION

- 4.1.1 The primary purpose of all public road right-of-way is the reasonably safe and convenient operation of facilities for public transportation. All occupancies shall therefore be designed and constructed so that roadway operations, facilities, and maintenance shall not be impeded, interrupted or endangered. In addition, any permitted facility shall be located so as to minimize any interference to the right-of-way and ensure that the WCRC shall have unrestricted use of the right-of-way for current and future operations.
- 4.1.2 Unless otherwise prescribed herein, the AASHTO publication, A Guide for Accomodating Utilities Within Highway Right-of-Way, October 2005, shall apply to all public utilities.

4.2 AUTHORIZED APPLICANT

- 4.2.1 Classification as a public utility for purposes of using county road right-of-way shall require conformance with the following criteria:

a) Communication Companies

- The organization shall provide direct service to the general public, and the service shall be in the public interest.
- The organization shall be recognized by the Michigan Public Service Commission (MPSC) as a regulated telecommunication company licensed in Michigan to provide basic local exchange service or a regulated telephone inter-exchange carrier and competitive access provider operating in Michigan.

b) Power and Other Public Utility Companies

- The organization must be a power or other public utility company within the meaning of MCL §247.171 et seq, and must be authorized to operate in Michigan.
- The organization shall provide direct service to the general public, and the service shall be in the public interest.
- Gas and petroleum distribution companies must be (a) certified by MPSC as a company distributing natural gas or as a common purchaser or common carrier, or (b) certified by the federal government as an interstate pipeline operator.
- Electric companies must be recognized by MPSC as an investor-owned or cooperative electric provider.

c) Cable Television Companies

- The organization must be a cable television company authorized to operate in Michigan.
- The organization shall provide direct service to the general public, and the service shall be in the public interest.
- The organization shall be authorized by the local unit of government where the facility is located to operate within its jurisdiction.

- d) Proof of the criteria established for classification as a public utility may be shown as follows:
- Proof of authorization to operate in Michigan as a telecommunication, power or other public utility company can be made by a certified document created by the applicant.
 - Proof of direct service to the general public can be made by a certified document created by the applicant. The certified document shall specifically describe any conditions regarding the organization's permissible charges to the public. Service which is limited to specific organizations or individuals shall not be considered to be direct service to the general public.
 - When applicable, proof that an organization's facilities are not exclusively committed to a private use can be made by recognition on each permit application. The recognition shall read as follows: "This is a public utility facility."
- e) Classification by the WCRC of an organization as a public utility or a cable television company is done solely for the purposes of applying MCL §247.171 et seq. Classification does not constitute, beyond that, any recognition that the organization is a public utility or has satisfied any other requirements of federal or state law. The WCRC may modify, without prior notice, the criteria for evaluating public utilities as WCRC deems appropriate to meet its statutory responsibilities with respect to the county road system.

4.3 LOCATION

- 4.3.1 Utility installations shall be located so as to: (1) minimize the need for later adjustments to accommodate future roadway improvements; and (2) permit access to servicing the installations with minimum interference to roadway traffic.

4.4 ALIGNMENT

- 4.4.1 **Storm sewers** – shall be located and aligned to best conform to the layout of existing facilities. In roads where no pattern has been established, storm sewers shall be located on the east or north side of the road between the back of curb (or shoulder point) and right-of-way line.
- 4.4.2 **Sanitary sewers** – shall be located and aligned to best conform to the layout of existing facilities. In roads where no pattern has been established, sanitary sewer shall be located on the south or west side of the road between the back of curb (or shoulder point) and right-of-way line.
- 4.4.3 **Water mains** – shall be located on the north or east side of the road between the back of curb (or shoulder point) and right-of-way line.
- 4.4.4 **Gas mains** – shall be located on the west or south side of the road at a three-foot offset from the right-of-way line.
- 4.4.5 **Electric** – shall be located on the east or north side of the road at a uniform offset between three and five feet from the right-of-way line.
- 4.4.6 **Telecommunications** – shall be located on the east or north side of the road at a uniform offset between one and three feet from the right-of-way line.

- 4.4.7 For joint trench type installations, alternative locations to the specified locations of electric, gas, and telecommunications facilities may be considered by the WCRC.

4.5 DEPTH OF UTILITY COVER

- 4.5.1 Unless shown on approved plans, all new or replacement utilities shall be installed to provide a minimum depth of cover of four feet below and in reference to the road surface and a minimum of three feet below and in reference to the ditch bottom. Where approved plans require a greater depth of cover, the approved plan depth shall govern.
- 4.5.2 Where the roadway is superelevated, the minimum depth of the bore shall be measured from the lower side of the road surface.
- 4.5.3 The maximum depth of cover over a plastic pipe to top of pavement shall not exceed 18 feet unless otherwise approved by the WCRC. Requests for depth of cover over 18 feet shall require site specific analysis, including a geotechnical investigation.

4.6 DIRECTIONALLY-DRILLED PIPE

- 4.6.1 This work shall consist of constructing underground utility installation by an approved directionally-drilled method which shall ensure the safety of the right-of-way facilities and provide minimal inconvenience to vehicular traffic. This work shall also include the directional drilling of pipe to serve as a carrier pipe or as a casing for a carrier pipe.
- 4.6.2 This method consists of augering, jacking or drilling a “steerable” rod with a device that also senses the location of the head. The head is then pulled out of the hole with a cone, reamer, or wing cutter that provides the desired diameter.
- 4.6.3 The diameter of the cone, reamer, or wing cutter shall not exceed the diameter of the casing pipe by more than one and one-half times. An approved flowable fill shall be pumped into the void between the carrier pipe and drill hole displacing the drilling fluid when the cone, reamer, or wing cutter exceeds the pipe diameter by two inches.
- 4.6.4 Plastic pipe for directionally-drilled pipe shall meet the requirements of ASTM D 2513; SDR 11. Plastic pipe may be used for medium pressure gas pipelines (pressure less than 100 psi), as a carrier pipe, or as a casing for other utility facilities. The minimum plastic pipe wall thickness, pipe joining methods, and testing requirements for a gas pipeline installation shall meet the requirements of the Michigan Gas Safety Code.
- 4.6.5 Steel pipe for directionally-drilled pipe shall meet the requirements identified in the MDOT Standard Specifications For Construction, and, when applicable, the Michigan Gas Safety Code.
- 4.6.6 All voids around the outside of the directionally-drilled pipe shall be filled by pressure grouting with approved material as specified in the MDOT Standard Specifications For Construction. Grouting shall be completed immediately upon completing the bore. Bracing shall be immediately strengthened at the first notice of any earth movement. If the access pit becomes unsafe, the access pit shall be stabilized immediately and all voids filled as approved by the WCRC.
- 4.6.7 A drilling fluid of water and bentonite or a polymer may be used to lubricate and line the drilled hole.
- 4.6.8 Where “heads” are used to develop the conduit opening, holes with diameters larger than two inches shall be developed by increasing the head size in one inch increments.

- 4.6.9 Should anything prevent completion of the directionally-drilled operations, the remainder of the pipe shall be constructed by methods approved by the engineer or the partially completed directionally-drilled pipe shall be abandoned in place, and the carrier pipe shall be backfilled completely with flowable fill as indicated in Section 4.8.

4.7 JACKED-IN-PLACE PIPE

- 4.7.1 This work shall consist of constructing underground utility installation by an approved jacked-in-place method which shall ensure the safety of the right-of-way facilities and provide minimal inconvenience to vehicular traffic. This work shall also include the jacking of steel pipe to serve as a carrier pipe or as a casing for a carrier pipe.
- 4.7.2 Steel pipe for jacking in place shall meet the requirements of the MDOT Standard Specifications For Construction. Concrete pipe for jacking in place shall meet the requirements of the MDOT Standard Specifications For Construction.
- 4.7.3 Proposed methods shall be evaluated on a case-by-case basis by the WCRC prior to construction. Water or air-jetting, “missiles”, or hole hogs are prohibited.
- 4.7.4 The following methods are approved for use on four-inch diameter or less bores.
- a) Compaction auger (“Packer”, “Expander”)
 - b) Hydraulic push rods or stem (“Pipe Puller”, “Packer”)
 - c) Other proposed methods shall be evaluated on a case-by-case basis by the WCRC prior to construction. Water or air jetting, and air rams, missiles or hole hogs are prohibited.
- 4.7.5 Steel and concrete pipe shall be jacked-in-place as specified in the MDOT Standard Specifications For Construction.
- 4.7.6 All visually identified voids around the outside of the jacked pipe shall be filled by pressure grouting with approved material as specified in MDOT Standard Specifications For Construction. Grouting shall be completed immediately upon completing the bore. Bracing shall be immediately strengthened at the first notice of any earth movement. If the access pit becomes unsafe, the access pit shall be stabilized immediately and all voids filled as approved by the engineer.
- 4.7.7 Alignment of the utility shall be installed as indicated in the plans and permit.
- 4.7.8 Should anything prevent completion of the jacking operations, the remainder of the pipe shall be constructed by methods approved by the WCRC or the partially completed jacked-in-place pipe shall be left in place, and the casing pipe shall be backfilled completely with flowable fill as described in Section 4.13.
- 4.7.9 A small diameter utility crossing shall require the use of a starter alignment trench to be excavated to the elevation of the proposed utility conduit. The length of level trench shall be a minimum of 15 feet for trench depths to four feet, increased by five feet for each additional one-foot increment of depth.
- 4.7.10 Guide rails, sills, or other positive alignment devices shall be used to start the crossing. Drive rods, if used, shall be securely restrained against side-to-side or up-and-down movement.
- 4.7.11 Where “Heads” are used to develop the conduit opening, holes greater than two inches in size shall be developed by increasing the head size in one-inch increments.
- 4.7.12 Where the roadway is super-elevated, the bore shall be started from the lower side of the road surface.

- 4.7.13 Sheeting and bracing shall be required pursuant to current MDOT specifications when boring or receiving pits are located within the one-on-one slope from the edge of any paved surface or back of curb.
- 4.7.14 The bore and jack record or log shall be submitted to the WCRC.
- 4.7.15 The path of the proposed bore must be marked in advance of the boring to check for conflicts with utilities and structures.
- 4.7.16 The top bore hole shall be a minimum of 48 inches below the edge of pavement and 36 inches below the bottom of ditch.
- 4.7.17 The contractor shall use a cutting head suitable to cut a hole large enough to accommodate the product and lubricating fluid. Plain water will not be used as a lubricating fluid on bores exceeding two inches in diameter.
- 4.7.18 After boring operations and connections are completed, the contractor shall restore the bore pit areas to the same or better than original conditions.
- 4.7.19 In the event of damage to the pavement or roadside due to drilling operations, the contractor shall repair the pavement or roadside as required by the WCRC before further boring operations may continue.
- 4.7.20 The contractor shall provide the WCRC with a log of the bores on all conduits over two inches in diameter, showing the final depth and path of the conduit under the roadway.

4.8 CASING FILLER

- 4.8.1 This work, when required, shall apply only to casings greater than 12 inches in diameter. It shall consist of filling the annular void between the casing and carrier pipe with an approved material and bulkheading the casing ends to prevent seepage of water and loss of material.
- 4.8.2 Casing filler material shall meet the requirements of commercial grade pea stone, granular material Class II, or cementitious grout as follows:
 - a) Bentonite.
 - b) Cementitious grout (when required by utility owner) shall meet the requirements of MDOT Standard Specifications For Construction.
 - c) Granular material Class II shall meet the requirements of MDOT Standard Specifications For Construction.
 - d) Approved alternate.
- 4.8.3 Filler material shall be placed by an approved method which will provide a uniform and thorough filling of the void. The casing shall be filled to within one inch of the top plus or minus one-half inch. Upon completion of the filling operation, the ends of the casing shall be sealed with a one foot thick bulkhead of commercial grade concrete or approved alternate.

4.9 ACCESS PITS, EQUIPMENT & SUPPLIES

- 4.9.1 In areas where the posted speed limit is 40 mph or lower, the Permit Holder or contractor shall maintain a minimum distance of 10 feet from the edge of pavement to the face of any access pit, equipment, or supplies. Where the posted speed limit is 45 mph or higher, a minimum distance of 15 feet from the edge of pavement to the face of any access pit, equipment, and supplies shall be maintained.

4.9.2 Sheeting and Bracing

- a) Sheeting and bracing shall be required when any excavation or the face of any access pit is located within the 1 on 1 slope from the shoulder point or back of curb to the bottom of any access pit. When directed by the WCRC, steel sheet piling shall be furnished and placed as described in the MDOT Standard Specifications For Construction.
- b) Support shall be required at the front face of all access pits in bore and jack operations to prevent loss of material during construction.
- c) Sheeting and bracing shall generally not be required for small diameter bores, unless otherwise directed by the WCRC.

4.9.3 Protection

- a) Barriers may be needed to protect vehicular traffic. When the WCRC determines a potential hazard exists, temporary concrete barriers shall be installed pursuant to MDOT Standard Plans and the Standard Specifications For Construction. Alternatively, temporary beam guardrail shall be installed pursuant to Standard Specification For Construction.
- b) All access pits, open excavations, equipment and supplies within the right-of-way shall be protected with suitable fencing and plastic drums to prohibit access to the work site. Equipment shall not be used in lieu of fencing to protect access pits.

4.10 ROAD CROSSINGS

- 4.10.1 All crossings of county roads shall be accomplished by trenchless and nondestructive methods unless otherwise approved by the WCRC.
- 4.10.2 All underground utility crossings of paved roads and gravel primary roads shall be accomplished by an approved trenchless installation method as described in Sections 4.6 and 4.7 or as otherwise approved by the WCRC.

4.11 PAVEMENT REMOVAL

- 4.11.1 If a crossing cannot be installed by an approved trenchless installation method due to extenuating circumstances, an open-cut crossing may be approved by the WCRC Permit Section. Provisions for handling traffic will be directed by the WCRC. All expenses, including but not limited to signing, pavement marking and traffic control, shall be borne by the Permit Holder.
- 4.11.2 Open-cut crossings shall be made during off-peak traffic hours (9:00 a.m. – 3:00 p.m.). Lane closures may not commence before 9:00 a.m. and must be completed and normal traffic flow restored before 3:00 p.m. unless otherwise approved and/or directed by the Road Commission. Lane closures will not be authorized on major holidays or the Friday before major holidays such as Memorial Day, Fourth of July and Labor Day. All equipment and material necessary for restoration, including but not limited to compaction equipment and granular backfill material, shall be onsite prior to beginning excavation or pavement removal. Material which cannot be stored, such as hot mix asphalt, shall be immediately available. Open-cuts will not be allowed to begin if inclement weather is threatening which may impede the contractor's ability to restore the traveled way in a timely manner.
- 4.11.3 No road shall be closed without prior approval of the Board of County Road Commissioners. Approval of road closures will require that detours be installed in accordance with Section 11. Requests for road closures must be made in writing and include the location, length of time the

road will be closed, approximate starting and completion dates, reasons for the request and a signing diagram showing all detour signing.

- 4.11.4 If a road closure is not approved, through-traffic must be maintained at all times. Sheeting of the excavation may be required to protect the road if conditions so warrant. The road surface may not be used for the storage of materials or any other construction purpose without prior approval of the WCRC. Depending on traffic volumes and other conditions, the WCRC may require the Permit Holder to provide bypass lanes (either paved or unpaved), may allow one-lane traffic properly controlled, or may require some combination of the two. Traffic control shall be in accordance with Section 11.
- 4.11.5 Any crossing of a major road by the open-cut method shall include the removal of the pavement to a minimum width of at least six feet, including at least three feet beyond the limits of the trench and one foot beyond the limits of any damaged pavement.
- 4.11.6 If the pavement removed is concrete or asphalt over concrete, the remaining slabs shall have a minimum width of at least five feet from the patch to an existing joint. The pavement cut shall be made by sawing to a minimum depth of five inches. Cuts in concrete residential or commercial driveway approaches shall be as described above except that the patch width shall be a minimum of three feet and the remaining slab width from the patch to the existing joint shall be a minimum of three feet.
- 4.11.7 If the pavement is asphalt, the pavement cut shall be made by sawing prior to excavation unless otherwise indicated on the approved plans. Cuts in driveways or road approaches may require a resurfacing of the entire driveway or road approach as determined by the WCRC.
- 4.11.8 All saw cuts shall be made in a straight line and shall be parallel to existing transverse and longitudinal joints unless otherwise approved.
- 4.11.9 If contractor operations remove or damage 20% or more of the road surface or if it is determined that any open cut will result in substantial surface deterioration or pavement integrity loss, the entire roadway shall be resurfaced, rehabilitated, or reconstructed as required by the WCRC.

4.12 BACKFILLING & COMPACTION OF BACKFILL

- 4.12.1 Backfill materials shall conform to current MDOT specifications.
- 4.12.2 Compaction shall be accomplished by suitable mechanical compaction equipment and methods pursuant to current MDOT specifications.
- 4.12.3 Granular compaction material shall be used within roadbed limits or under concrete or asphalt sidewalks, driveways, or parking areas unless otherwise shown on approved plans or approved in writing by the WCRC. If the Permit Holder proposes to use excavated material, not shown on approved plans, the WCRC shall require that the Permit Holder agree to suitable provisions for material sampling, testing, storage, and handling prior to the use of such materials. The backfill shall be placed in layers of not more than nine inches in thickness. Each layer shall be compacted to not less than 95% of maximum unit weight as determined by the One-Point Michigan Cone Test.
- 4.12.4 Approved excavated material may be used outside the roadbed but within its zone of influence, or under sidewalks, driveways or surfaced areas, provided that specified density and gradation requirements are met. The backfill shall be placed in layers of not more than nine inches in thickness. Each layer shall be compacted to not less than 95% of maximum unit weight as determined by appropriate MDOT test method.

- 4.12.5 Approved excavated material may be used outside the roadbed and its zone of influence but not under sidewalks, driveways or surfaced areas provided that specified density requirements are met. The backfill shall be placed in layers of not more than one foot in thickness. Each layer shall be thoroughly compacted to 90% of maximum unit weight.
- 4.12.6 The Permit Holder shall supply materials sampling and testing reports conducted by an approved independent testing company to assure the WCRC that compaction requirements are being accomplished. The Permit Holder shall notify the Road Commission of the name, address and phone number of the testing laboratory 72 hours prior to beginning backfill operations.
- 4.12.7 Any geotextile fabric or geogrid encountered in the excavation must be restored in a manner that ensures the integrity of the material as it was originally intended. The WCRC must approve the material and methods of repair prior to installation.
- 4.12.8 Flowable fill shall be placed as indicated on the plans or as directed by the WCRC. All requirements for flowable fill and related work will conform to MDOT Standard Specifications For Construction as specified herein. Flowable fill shall consist of a mixture of Portland cement, ground granulated blast furnace slag (optional), granular material (fine aggregate), fly ash, water, air entraining admixture (optional), and performance enhancing admixture (optional).
- a) Portland cement shall be either Type I or IA and shall conform to the MDOT Standard Specifications For Construction. Portland cement used for flowable fill shall be selected from the MDOT qualified product list and certified as meeting MDOT requirements.
 - b) Ground granulated blast furnace slag shall conform to the MDOT Standard Specifications For Construction.
 - c) Fly ash shall be Class F or Class C and shall conform to ASTM C 618, except the limit for Loss on Ignition will be deleted.
 - d) Granular material shall meet the requirements of Class II material as specified in the MDOT Standard Specifications For Construction, except that 100 percent shall pass the one-half inch sieve. Fine aggregate shall meet the requirements of 2NS material as specified in the MDOT Standard Specifications For Construction.
 - e) Performance enhancing admixtures may be used to improve flowability, lower densities, eliminate segregation and settlement, and control strength development. If used, the performance-enhancing admixture must be included in the mix design and trial batch, and must be used according to the Manufacturer's recommendations.
- 4.12.9 Flowable Fill, Mix Design and Strength Requirements: The contractor shall submit a flowable fill mix design and trial batch documentation to the WCRC for review a minimum of seven days prior to placement. The mix design shall show source and type or class of materials and batch proportions.
- a) The compressive strength of the flowable fill mixture shall be not less than 50 psi at three days, nor less than 75 psi nor greater than 150 psi at 28 days.
 - b) If an air entraining admixture or performance enhancing admixture is used, then the air content of the flowable fill shall not exceed 35 percent of the flowable fill volume.
- 4.12.10 Flowable Fill, Transportation and Construction Methods: Twenty-four hours shall elapse from start to start of each subsequent placement.

- a) The temperature of the flowable fill mixture as manufactured and delivered shall be at least 50°F. No placement of flowable fill will be allowed if the anticipated air temperature is 35°F or less within the 24-hour period following proposed placement.
- b) The batching equipment shall have devices designed to measure the specified quantities of each component material, and mixing shall be of sufficient duration to insure uniform consistency of the mixture. No water may be added to the flowable fill mixture after batching. Water content shall be maintained so that compressive strengths are achieved and a uniform, flowable mixture is developed that is essentially self-leveling when placed.
- c) During trench flowable fill placement operations, care shall be used to avoid dislocating any pipes due to fluid pressure from the flowable fill. All pipes within the backfill area shall be secured to avoid buoyant effect of flowable fill. Pipelines, manholes, and other areas not intended to receive flowable fill shall be sealed tightly to prevent infiltration of fill material.
- d) Upon completion of the filling operations, the casing ends shall be sealed with a minimum one foot thick bulkhead of commercial grade concrete or approved alternate.

4.13 STRUCTURES

4.13.1 The height of the top of any utility structure constructed or reconstructed within the right-of-way shall be determined as follows:

- a) If the structure falls within a paved road or other paved surface including driveways, side roads, sidewalks and non-motorized paths, the cover shall be one-quarter inch below the finished pavement elevation on all sides.
- b) If the structure falls within the roadbed of a gravel road or the unpaved shoulder of a paved road, the cover shall be eight inches below the finished gravel surface.
- c) If the structure falls within a ditch, the cover elevation shall be set at the top of the ditch slope elevation and the ditch shall be relocated around the structure and away from the road with a stable earth berm around the structure. Where called for on the approved plans or as directed by the WCRC, a culvert of adequate length and size shall be installed in order to carry storm water around the structure.
- d) Any structure on the backslope of a ditch shall not protrude more than six inches above the slope.

4.13.2 In the event that a utility cover falls within a traveled lane, turn lane, or taper, and final pavement restoration will take place more than 30 days after temporary pavement repair, the utility cover shall be set flush with the temporary surface or the first course of asphalt and then adjusted at the time of final surface restoration.

4.14 DISPOSAL OF WATER

4.14.1 The Permit Holder shall not directly or indirectly discharge any water, in excess of normal runoff rates of natural precipitation, into the WCRC road drainage system or into the right-of-way in such manner as to cause a hazardous condition to either pedestrian or vehicular traffic or to cause erosion, sedimentation or ponding which adversely affects the stability of the roadway or damages adjacent property.

4.14.2 All pumping or de-watering operations shall be conducted in compliance with NPDES permits. Outlet filters or sediment basins shall be used before discharged water reaches

roadside ditches, storm sewer inlets or surface waters. The placement of discharge lines on or across the surface of the traveled portion of any road shall not be allowed. The Permit Holder agrees to perform all necessary restoration of the road drainage system. If the WCRC deems it necessary for the Permit Holder to either alter de-watering operations or to cease de-watering operations altogether for public safety the Permit Holder shall immediately comply. The Permit Holder shall locate all de-watering facilities as far from the road surface as possible. If, due to extenuating circumstances, such facilities are located closer to the road than the back slope of the ditch, a flashing light shall be installed at each location.

- 4.14.3 Minor water seepage or pockets of saturated soil can be effectively controlled through bailing or pumping. Control shall be accomplished without removing adjacent soil, which could weaken or undermine any access pit, supports, or nearby structure.
- 4.14.4 One or more well points or staged deep wells may be used to control large volumes of groundwater from entering the area of the access pit.
 - a) Well points and staged deep well pumping systems shall be installed without damaging property or structures and without interfering with the rights of the public, owners of private property, pedestrians, vehicular traffic, WCRC maintenance activities, or the work of other contractors. Any pumping methods used for dewatering and control of groundwater and seepage shall have properly designed filters to ensure that the adjacent soil will not be pumped along with the water. Well diameter, well spacing and the pump's pumping rate shall provide adequate draw-down of the water level. Wells shall be properly located to intercept groundwater that otherwise would enter the excavation and interfere with the work. Upon removal of a well, the hole shall be filled and grouted with flowable fill.
 - b) Existing storm sewers may be used for discharge of the water from the dewatering system in accordance with a permit obtained from the appropriate owner. Filters or sedimentation control devices shall be required to ensure that the existing system is not adversely affected by construction debris or increased sediment.
- 4.14.5 If grouting is used to control groundwater from entering the area of the access pit, the grouting shall be done without damaging property or structures and without interfering with the rights of the public, owners of private property, pedestrians, vehicular traffic, WCRC maintenance activities, or the work of other contractors. Grout shall meet the requirements of flowable fill.

4.15 REMOVAL, RELOCATION & ADJUSTMENTS

- 4.15.1 Utility owners shall be responsible, at no expense to the WCRC, to repair, remove, and/or relocate any existing facility within the right-of-way except where the facility is dedicated solely to providing public services such as lighting, traffic signals, etc., if such installation, repair, removal or relocation is required by the WCRC for any purpose including but not limited to road or drainage improvements.

4.16 ABANDONMENT

- 4.16.1 Except for asbestos pipe, utility owners may abandon existing underground facilities or structures that do not pose a hazard or impediment to the use and maintenance of the right-of-way. In any such case the utility owner shall maintain ownership and responsibility for the facility or structure. Abandonment may require that the utility owner remove its facility or structure, at the discretion of the WCRC, and restore all areas to conditions satisfactory to the WCRC. All abandoned pipe shall be pressure grout filled.

4.16.2 A utility owner proposing to cease operation of an asbestos pipe system shall remove the abandoned system from the right-of-way and shall properly dispose of the materials pursuant to applicable laws and regulations.

4.17 OVERHEAD UTILITIES

4.17.1 Single pole construction and joint use of the pole by utility owners is desirable and should be utilized whenever practicable.

4.17.2 In the event of pole relocation, replacement, or removal all utilities using the original pole shall transfer to the new pole within six months of the pole installation. The owner of the pole shall remain responsible for coordinating transfers.

4.17.3 Right-of-way commonly varies in width. Where varying width is encountered, a uniform alignment of facilities may be allowed subject to WCRC approval.

4.17.4 Vertical clearance of overhead power and telecommunications lines above the road shall conform to the minimum distances provided in Table 10.

TABLE 10: OVERHEAD UTILITIES VERTICAL CLEARANCE	
Utility Type	Minimum Vertical Clearance (ft)
Telecommunications	18
Electrical 0-750 volts	18
Electrical 751-22,000 volts	20
Electrical 22,000-50,000 volts	21

4.17.5 The minimum vertical clearance of a line crossing the road shall be measured from the lowest portion of the line crossing the highest elevation of the road, i.e., centerline (crown), high point of superelevated curve, etc.

4.18 ANNUAL BLANKET PERMIT ACTIVITIES

4.18.1 Utility companies are allowed to undertake the following activities in WCRC right-of-way under a ‘Blanket Utility Permit’:

- a) Maintenance tree trimming, with permission of abutting property owners (no tree removal without WCRC and abutting property owner’s permission).
- b) Repair of existing underground conduit, buried cable, buried wire, and pipe (except under pavement).
- c) Replacement of defective or degraded buried cable sections with like size up to 50 feet in length. Plans shall be submitted for all cable section replacement. Replacement cable may not be placed outside the immediate area (more than two feet away from existing location centerline), without special permission.
- d) Insertion of plastic pipe inserts or lining through existing mains (gas, water or sewer), in connection with maintenance and renewal programs not requiring pavement cuts.

- e) Installation of buried cable to an existing pole in an existing pole line. This may include crossing of road by squeeze boring or pushing one pipe not more than two inches in diameter.
- f) Installation, removal or replacement of load coil case on existing buried cable or wire, including loop from main trench, at one location only.
- g) Replacement of open wires, single pair rural wire and/or drop wire with multiple line wire or small cable on same pole line, not extending beyond the present wire.
- h) Repair and maintenance of open wire, multiple type wire, drop wire and/or aerial cable.
- i) Replacement or addition of up to two poles within or beyond an existing pole line, provided that poles are not relocated laterally and that no tree work is required because of increased pole height.
- j) Repair and/or replacement of leaking, distressed, or otherwise damaged sections of up to 50 feet of existing gas main (except under pavement). In such cases the Permit Holder shall backfill and restore in accordance with WCRC specifications.
- k) Addition or replacement of guys and anchors to poles. New or replacement equipment shall run parallel to or away from the road centerline.
- l) Installation of aerial drops which do not require a new pole within road right-of-way outside of the existing pole line, or installation of aerial drop along with intermediate pole in an existing pole line to facilitate installing an aerial drop.
- m) Crossing beneath paved roads for underground house service, per the following conditions. Any such crossing shall be accomplished by squeeze bore, auger or moleing (a single forward boring system without removal of soil and a return pass of reamer or shank with underground cable, water or gas line attachment) as follows:
 - i. Maximum diameter of auger - 2 ½ inches with no casing
 - ii. Maximum width of bore trench - 18 inches
 - iii. Minimum depth below paved surface - 48 inches
 - iv. Minimum depth below ditch bottom - 36 inches
 - v. Minimum distance from edge of paved or traveled way surface to bore pit - ten feet. Subdivision roads - five feet from back of curb.
- n) System tie-ins from streets under municipal jurisdiction to near side of gas mains installed per permit within WCRC right-of-way (except under pavement).
- o) Crossing beneath gravel roads for underground house service. Such crossings may be made by trenching. In such cases the Permit Holder shall backfill and restore to WCRC specifications.
- p) Inspection and maintenance of systems, valves and meters and their associated manholes.
- q) Conduct soil borings and perform survey work outside of the traveled way of the road.
- r) Installation of gas service lines not more than two inches in diameter to residential and commercial customers (near side only; not under pavement).

4.18.2 Conditions for Annual Blanket Permit Activities:

- a) Emergency repairs may be made provided notification is given to the Permit Section as soon as possible, and no later than the next WCRC business day.

- b) Immediate notification must be given for emergency (public safety, health and welfare) operations which involve cutting of pavement, and an individual permit shall be obtained by the Permit Holder as soon as possible.
- c) The Permit Section shall be notified of normal repairs in advance, and in writing. The Permit Holder shall provide the approximate location and date of all work to be performed.
- d) Traffic shall be maintained in accordance with the current MMUTCD and WCRC specifications.
- e) Utility companies shall submit reports monthly to the Permit Section listing location, date and type of activity for each activity performed under the blanket permit for that month.
- f) Miss Dig shall be notified prior to any work.
- g) A Blanket Utility Permit shall remain in force until such time as written notice has been received of its cancellation by either party, subject to the payment of all annual fees and monthly billings in accordance with the conditions specified upon invoices submitted by the WCRC.

SECTION 5: RESTORATION

5.1 GENERAL INFORMATION

- 5.1.1 The Permit Holder shall restore, at its expense, all public and private property damaged in consequence of acts or omissions by the Permit Holder or its contractor, to a condition similar and equal to that existing before the damage was done. If the Permit Holder neglects to make restoration, the WCRC may, after 48 hours written notice to the Permit Holder, proceed to make the restoration. The cost of restoration shall be paid by the Permit Holder.

5.2 PAVEMENT

- 5.2.1 Before disturbing or removing any pavement the Applicant or Permit Holder shall survey or measure existing roadway conditions in sufficient detail to allow description of any road restoration which may become necessary due to the project. This shall include depiction of lane widths, shoulder widths, cross-slope, superelevations, vertical or horizontal curves, ditch cross-sections and grades, and pavement thickness and subgrade type. Where vertical curves or horizontal curves with superelevations exist, cross-sections shall be provided at maximum intervals of 50 feet. Should the Applicant or Permit Holder fail to provide this information on approved plans or other documentation prior to disruption or removal, then-current design guidelines shall apply to any restoration.
- 5.2.2 Open-cutting pavement will generally not be allowed if in the judgment of the WCRC asphalt availability or weather conditions are expected to preclude paving.
- 5.2.3 Subject to the foregoing, any pavement removed or damaged as a result of the activities of the Permit Holder or its contractor shall be temporarily replaced by the Permit Holder with the following:
- a) Between May 1st and October 31st, a minimum of three inches compacted thickness of HMA (MDOT HMA Mixture Type 13A or better, placed in two lifts) over 12 inches of compacted 21AA modified, dense graded aggregate. Crushed concrete will not be allowed.
 - b) Between November 15th and April 30th, if HMA is not available, a minimum of three inches compacted thickness of cold patch asphalt over twelve inches of compacted 21AA modified, dense graded aggregate. These dates are approximate only. If HMA is reasonably available between November and April it shall be used if weather allows.
 - c) The WCRC may require a temporary concrete patch based on expected traffic or maintenance considerations.
- 5.2.4 Temporary pavements must be placed immediately after utility installation in the intersection of main roads and within five days after installation on subdivision roads. Failure to do so shall be just cause for temporary or permanent suspension of the Permit Holder's permit.
- 5.2.5 All temporary pavements shall be maintained in good condition by the Permit Holder until the final pavement replacement is installed. Costs for emergency repairs by the WCRC will be charged to the Permit Holder.
- 5.2.6 Final pavement replacement shall be installed within the first paving season (May 1 through October 31) after completion of the excavation provided adequate settlement has taken place over a period of at least four months, unless otherwise required by the WCRC. If more than 20% of the width of a lane of asphalt road pavement is removed or damaged by the activities

of the Permit Holder or its contractor a complete resurfacing of the lane will be required. The resurfacing shall consist of a HMA overlay of minimum thickness of one and one-half inch (165 pounds per square yard) of MDOT HMA Mixture Type 13A or 4C as determined by the WCRC. The overlay shall be placed over the entire road after replacing the damaged or removed asphalt.

- 5.2.7 The final area of any pavement to be replaced and/or overlaid shall be determined by the WCRC. The final paving shall be done by an approved paving contractor in accordance with then current WCRC standards. The name of the proposed paving contractor and a list of equipment and source of materials to be used during paving shall be submitted in writing to the WCRC and approved in writing by the WCRC before paving commences. The WCRC shall be given two working days advance notice before paving commences. The WCRC reserves the right at the Permit Holder's expense to test and inspect at the point of origin all materials to be used. The WCRC will notify the Permit Holder of the testing results. All pavement restoration shall be performed to the satisfaction of the WCRC. This includes all traveled lanes, turn lanes, passing lanes, tapers, paved shoulders, driveways and road approaches, which may be restored due to damage caused directly by the work performed or indirectly due to material handling, trucking, equipment, or temporary roads.
- 5.2.8 The final pavement replacement shall be structurally equivalent to and of the same type as the pavement being replaced and in accordance with the following specifications:
- a) Asphalt on a sand, gravel, unknown or undetermined base: Match existing pavement thickness within the following limits:
 - i. Minimum three inches (330 pounds per square yard) MDOT 4C HMA on eight inches of 21AA limestone aggregate base;
 - ii. Maximum ten inches "deep strength" asphalt placed in four lifts on suitable granular compacted subbase. Deep strength asphalt shall consist of two (2) three-inch lifts (330 pounds per square yard) of MDOT HMA Mixture Type 2C or 3C and 2 two-inch lifts (220 pounds per square yard) of MDOT HMA Mixture Type 4C.
 - b) Asphalt on concrete: Subbase shall match existing subbase. The pavement may be placed with full depth asphalt equal in thickness to the concrete base and asphalt cap, with a minimum pavement thickness of ten inches. Wearing course asphalt shall be MDOT 4C HMA mechanically compacted in two-inch lifts (220 pounds per square yard).
 - c) Concrete pavement: Replace with concrete pavement of the same thickness and type as the existing pavement on a sand or gravel subbase equal to the existing subbase in thickness and compacted to 98% density. All concrete shall be MDOT Grade P1 unless otherwise required by the WCRC. High early or extra-high early 35HE should not be used unless required by the WCRC based upon traffic volumes and the Permit Holder's operations. Lane ties and appropriate load transfer assemblies shall be used.
- 5.2.9 Pavement restoration shall include wedging with suitable asphalt as necessary to restore pavement cross-slope, superelevation or transitions, including adjustments to driveways, side roads and paved shoulders. The Permit Holder is responsible for any necessary adjustments to shoulders, including adding material if needed to achieve a smooth and uniform cross-slope. Special care shall be taken to maintain positive drainage at all locations including driveway aprons. The WCRC may require paved shoulders on primary roads.
- 5.2.10 Any deviations in pavement design or materials must be approved by the WCRC.

5.3 GRAVEL ROADS

- 5.3.1 All excavations within the limits of the roadbed shall be backfilled with material as shown on approved plans subject to the approval of the WCRC.
- 5.3.2 Immediately after the excavation is backfilled and compacted, the affected portion of the road and ditches shall be rough graded to the appropriate gravel road cross-section indicated in these specifications and the affected portion of the road surface shall be stabilized with a minimum of ten inches of compacted dense-graded aggregate (MDOT 23A or approved equal). Cementitious materials such as crushed concrete are not considered equivalent and will not be permitted. If road surface areas outside the trench excavation are used for storage of construction materials or excavated materials, or are otherwise damaged or contaminated due to construction operations, a minimum of two inches of compacted 23A road gravel shall be placed over such contaminated areas immediately following construction.
- 5.3.3 All excess construction materials, excavated materials and contaminated materials shall be removed prior to the placement of gravel unless otherwise approved. The road surface shall be maintained in good, smooth, dust free condition at all times, and gravel of the type noted above shall be added if settlements occur. Before requesting final inspection, the Permit Holder shall place over the entire road surface within the affected portion of the roadway two inches of compacted MDOT 23A road gravel suitably stabilized with liquid calcium chloride.

5.4 SHOULDERS

- 5.4.1 Road shoulders at a minimum shall be restored to the same condition, width, slope and thickness as existed before the start of work.
- 5.4.2 Any gravel shoulders which are removed or substantially altered during construction shall be replaced or restored with shoulder material consisting of six inches of 23A compacted gravel and if the shoulder has a sand subbase it shall also be replaced.
- 5.4.3 Gravel shoulders which are not removed but become contaminated, rutted, or otherwise damaged by the Permit Holder's activities shall be restored by removing the contaminated material and replacing it with 23A gravel to the original thickness, width, and slope, brought flush with the road surface. If the road is resurfaced, sufficient gravel shall be added to bring the shoulder up to the new surface elevation.
- 5.4.4 If the shoulders were grass covered, the grass shall be removed and the shoulder shall be restored and brought flush with the road surface with 23A gravel. Paved or gravel shoulders shall be restored to the same type.
- 5.4.5 If all or a portion of the shoulder is paved, the Permit Holder shall replace the paved shoulder with a minimum of two inches (220 pounds per square yard) of MDOT 4C HMA, over three inches (330 pounds per square yard) of MDOT 3C HMA, over eight inches of approved base course. If necessary, the edge of the roadway shall be trimmed to present a smooth edge for attachment to the paved shoulder and treated with a bond coat. The width of the paved shoulder shall match the pre-existing width.

5.5 ROADSIDE

- 5.5.1 All areas within the road right-of-way beyond the shoulders, curbs, or edge of gravel of the road which are disturbed as the result of the Permit Holder's activities shall be restored as soon as possible during the first growing season. Temporary measures may be required prior to the growing season where necessary to minimize erosion. Restoration shall not be delayed

until project completion. Failure to comply with this specification shall be just cause for the WCRC to stop the remaining construction work until the required restoration is completed. The ground cover specified on approved plans shall be maintained until final settlement of excavated or disturbed areas has occurred and growth is established.

- 5.5.2 Sod may be required by the WCRC in areas where topsoil, seeding, and mulching cannot (or has not) provided the effective ground cover required because of steep slopes or grades, velocity or volume of water, or other conditions. Sod may be required in areas of established, maintained lawns. All sod shall be placed on three inches of topsoil following preparation of the surface per the MDOT Standard Specifications for Construction. The Permit Holder is responsible for the establishment and growth of vegetation. The permit and surety will not be released until the WCRC is satisfied that vegetation has been re-established.
- 5.5.3 Areas that are not to be sodded shall be topsoiled, seeded, and mulched. The seed shall be MDOT roadside seed mixture, unless otherwise specified on approved plans. Seed, fertilizer and mulch shall be applied pursuant to MDOT specifications.

5.6 DRAINAGE SYSTEM

- 5.6.1 All road drainage shall be restored as soon as possible following construction. Ditches, ditch slopes, and other areas with the right-of-way shall be restored to meet then current standards, unless otherwise shown on approved plans.
- 5.6.2 All culverts and ditch enclosures removed in good condition, as determined by WCRC, shall be re-placed in proper position and elevation. All culverts and ditch enclosures or sections thereof which are not in good condition after removal shall be replaced with pipe meeting then current WCRC standards. Culverts and other drainage facilities which are damaged but not removed during the Permit Holder's operations must be fully repaired to the satisfaction of the WCRC or be replaced in accordance with then current WCRC standards. Grading or ditching may be required near the inlet or outlet in order to re-establish drainage beyond that shown on approved plans.
- 5.6.3 The Permit Holder shall restore or re-establish any drainage patterns or systems disturbed by the Permit Holder's activities. The Permit Holder shall perform any survey necessary to establish elevations of culverts, ditches, inlets, outlets, or any other structure required in order to restore function to the drainage system. If necessary, the WCRC may establish these elevations and grades at the expense of the Permit Holder. The Permit Holder shall re-ditch or establish new ditch elevations based on changes to culverts or other structures in order to ensure that stable, maintainable ditch is established. If the velocity of water is great enough that erosion of the ditch bottom may occur, rip-rap or other structural elements may be required in order to stabilize the roadside ditches or their outlets. The WCRC will notify the Permit Holder if additional soil erosion and sedimentation control measures are required.
- 5.6.4 Road drainage shall not be diverted onto private property without the dedication of a drainage easement by the affected property owner(s).
- 5.6.5 If culverts or other drainage structures that are not shown on approved plans are encountered during the course of the work, the Permit Holder shall replace and/or restore any such structures.

SECTION 6: BANNERS

6.1 AUTHORIZED APPLICANTS

- 6.1.1 Pursuant to MCL §247.323 a permit for installation of any banner to be placed within or over county road right-of-way may be issued only to the governing body of a city, incorporated village, or township. Commercial signs shall not be permitted within the right-of-way of any road under the jurisdiction of the WCRC.

6.2 APPLICATION FORMS

- 6.2.1 Applications for permits for the erection of banners shall be in the manner prescribed by or on the appropriate forms supplied by the Permit Section.

6.3 MINIMUM REQUIREMENTS

- 6.3.1 Any permit application shall be accompanied by a copy of a resolution of the governing body of the city, village, or township designating an authorized official to make the application for the city, village or township. The resolution shall indemnify and hold harmless the WCRC from all claims and expenses of any kind or nature arising as a result of the permitted banner installation. The application shall be submitted approximately one month in advance of the proposed installation.
- 6.3.2 The application shall include the following information:
- a) The activity in connection with which the banner is to be placed;
 - b) The location of the proposed installation, including distance to overhead traffic control devices;
 - c) A description of the banner, including any legend or symbol thereon;
 - d) The height of any overhead banner from the road surface to its lowest point;
 - e) The dates on which the banner will be erected and removed. This period shall not exceed a time specified by the WCRC. A generally acceptable period of time for banners to be in place is three weeks, except for Holiday decorations, which may be in place for eight weeks;
 - f) Such other information as the WCRC may require.

6.4 DESIGN & PLACEMENT REQUIREMENTS

- 6.4.1 Any banner shall be designed, installed, and located so as to avoid danger to those using the road or undue interference with the free movement of traffic or maintenance operations.
- 6.4.2 Any banner shall be securely fastened, shall have a minimum bottom height of 18 feet above the surface of the traveled way, shall be placed no closer than 100 feet in advance of flashing beacons or traffic control signals, and shall be placed so as not to obstruct a clear view of traffic lights or signals or other traffic control devices. Banners shall not be attached to trees.
- 6.4.3 No banner shall have displayed thereon any legend or symbol which may in any way be construed to advertise or otherwise promote the sale of or publicize any merchandise or commodity, or which may be construed to be political in nature.

- 6.4.4 No banner shall have displayed thereon any device that is or purports to be, is an imitation of, resembles, or may be mistaken for a traffic control device, or which attempts to direct the movement of traffic.
- 6.4.5 Decorations shall not include flashing lights, reflective materials, or other devices that may distract motorists.

6.5 PERMIT CONDITIONS

- 6.5.1 Any Permit for the erection or installation of a banner may be revoked by the WCRC if such installation becomes dangerous to those using the road or unduly interferes with the free movement of traffic or maintenance operations.
- 6.5.2 The city, village or township making application shall faithfully fulfill all permit requirements. Any permit may be revoked by the WCRC upon failure to comply with any permit conditions.

SECTION 7: PARADES, EVENTS, CELEBRATIONS & FESTIVALS

7.1 AUTHORIZED APPLICANTS

- 7.1.1 A permit granting permission to temporarily close a county road for a reasonable length of time for a parade, event, celebration, festival or similar activity or to use a county road as a detour for traffic around such activity taking place on a non-county road, may be issued by the WCRC only to the governing body of a city, incorporated village or township.

7.2 APPLICATION FORMS

- 7.2.1 An application for a permit to close or partially close or use as a detour a County road for a parade, event, celebration, festival or similar activity shall be made on a form supplied by the Permit Section.

7.3 MINIMUM REQUIREMENTS

- 7.3.1 Any permit application shall be accompanied by a copy of a resolution of the governing body of the city, village or township requesting permission for the road closure or use as a detour and designating and authorizing an appropriate official to sign the permit documents on its behalf.
- 7.3.2 The application shall include without limitation the following information:
- a) The nature of the activity for which the permit is requested;
 - b) The dates and times it is proposed to close and reopen the county road to traffic;
 - c) The roads and/or portions of roads to be closed;
 - d) The proposed detour route or routes;
 - e) Such other information as the WCRC may require.

7.4 ROAD CLOSURE PERMIT CONDITIONS

- 7.4.1 All permits allowing the closure or partial closure of a road shall be issued subject to the following conditions:
- a) The closure or partial closure of the road and any detour route selected shall allow alternative routes for the reasonably safe and convenient movement of traffic.
 - b) No suitable alternate location is available for the parade, event, celebration or festival which would allow greater traffic safety and/or impose less interruption of traffic.
 - c) Where a temporary nighttime closure is permitted for a parade, event, celebration, festival or similar activity, all points of potential hazard and all barricades and warning signs shall be lighted at the Permit Holder's expense. Such lighting must be approved in accordance with requirements and specifications of the WCRC.
 - d) All traffic control devices installed in conjunction with the road closure or partial closure and any detour route shall conform to the provisions of then current MMUTCD.
 - e) The Applicant or Permit Holder shall, at its sole expense, furnish, install, maintain, and remove when no longer necessary any required traffic control devices.

- f) The city, village or township making the application shall faithfully fulfill all permit requirements and shall indemnify and hold harmless the WCRC from all claims and expenses of any kind or nature arising as a result of the permitted activity.
- g) The Permit Holder shall, at its sole expense, immediately following conclusion of the permitted activity clean up and remove any litter, debris, refuse, etc., placed or left in the right-of-way as a result of the permitted activity. In the event that the Permit Holder fails to clean up as required, causing the WCRC to do the cleanup work, the Applicant shall reimburse the WCRC for the cost thereof.

7.5 ANNUAL PARADE PERMITS

The Permit Section may issue permits to cities, villages, or townships conducting multiple parades or events using the same or similar routes or locations. Permits are subject to the aforementioned conditions.

SECTION 8: SPECIAL TRANSPORTATION PERMITS

8.1 INTRODUCTION

- 8.1.1 The statutes of the State of Michigan authorize the WCRC to issue special permits for the movement over county roads of vehicles or loads which exceed the size or weight limitations specified by law.
- 8.1.2 It is the intention of the WCRC to permit the movement of necessary overweight and oversize vehicles or loads consistent with the following obligations:
 - a) Protection of the motoring public from potential traffic hazards.
 - b) Protection of road surfaces, structures and private property.
- 8.1.3 The WCRC reserves the right to impose such requirements or conditions as it may in its sole discretion deem necessary to prevent injury to persons or damage to property, and/or to require security against any loss or damages.

8.2 AUTHORIZED APPLICANTS

- 8.2.1 Permits shall be issued only to business entities or individuals actually doing the transporting. The transporting vehicles to be used must be owned by the applicant or operated under a bona fide lease or rental agreement. A copy of the lease or rental agreement must be provided.

8.3 GENERAL PROCEDURES

- 8.3.1 Application may be submitted at the WCRC office by mail, in person, by facsimile or by electronic means if available (with prior approval).
- 8.3.2 As a matter of general procedure, permits will not be issued for transportation of loads exceeding limitations as specified herein. Efforts should be made to move vehicles or loads exceeding those limitations by some means other than by roadway or to dismantle the object being moved to comply with the limitations. However, issuance of permits may be considered for limited movement of special loads if all efforts to utilize other means of transportation have been exhausted and if the object being moved cannot feasibly be reduced to comply with the specified limitations. A complete written explanation shall be submitted with a properly completed application for further consideration.
- 8.3.3 A single round trip permit may be issued for one move in and one move out; this permit may be valid for 5 business days. A multiple trip permit may be issued for an unlimited number of trips in a 5 business day period.

8.4 CONDITIONS & LIMITATIONS

- 8.4.1 The maximum allowable axle weight under an Extended Transportation Permit is 140% of the legal axle weights. If the 140% limit is authorized the permit holder must provide the WCRC with 48 hours advance notice and the applicant must provide a specific route. In no case may the Extended Permit be issued for loads in excess of 140% of the legal axle weights.
- 8.4.2 The issuance of permits is generally limited to those vehicles and/or loads which cannot reasonably be divided, dismantled, reduced or otherwise rearranged to conform to legal dimensions and/or weights as provided by law.

- 8.4.3 Loads shall be arranged to effect the minimum dimensions for height, length or width. Staggered loading is not permitted. If a loaded commodity creates a single over-dimension, two or more commodities may be transported as one load provided the permit application so indicates, legal axle loadings are not exceeded, and no additional nonconforming dimensions of width, height or length are created or made greater by the additional commodities.
- 8.4.4 A request for an overweight permit will not be approved for a load consisting of more than one object, and in no event shall any wheel load exceed 700 pounds per inch of tire width. No overweight permits will be issued during the springtime weight restrictions period, except in case of public emergency.
- 8.4.5 All applications for loads in excess of 13 feet 6 inches shall certify that the proposed route has been traveled to assure vertical clearance.
- 8.4.6 Any escort vehicle shall be equipped with at least one flashing or rotating amber light on top of the vehicle. Amber lights shall be visible for 360 degrees for a distance of 500 ft.
- 8.4.7 Oversize Permits are issued for daylight hours only, Monday through Saturday, with the exception that Mobile Home permits are not valid on Saturday. In special instances other time limitations may be considered. Under no conditions will an Oversize Permit be issued for a movement to take place between noon on the day preceding and continuing until daylight of the 1st day after the following holidays:
- a) New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas Day.
- 8.4.8 When a holiday occurs on a Friday or Monday, permits will not be valid for the period beginning at noon before the three day weekend and ending at daylight of the 1st day after the three day weekend. Mobile Home permits are not valid until noon of the day following the three day weekend.
- 8.4.9 Any of the following actions shall immediately void the permit and subject the applicant to appropriate legal action: (a) Misrepresentation of information set forth in an application for permit; (b) Any operation on highways beyond the size or weight limitations shown on the permit; (c) a change or erasure on the permit.
- 8.4.10 All hydraulic attachments or mechanisms must be securely immobilized with adequate chains and binders. Vehicles must have air or lift axles on the ground.
- 8.4.11 Vehicles shall be registered as required by Michigan statute and shall not violate any statute, ordinance, rule or regulation of any state agency or subdivision of the state. Vehicles shall comply with all statutory provisions as to other permits, licensing, motor vehicle equipment and operation. Overweight permits are valid only if the transporting equipment is licensed for maximum legal axle loadings.
- 8.4.12 Any approvals, reviews, and inspections of any nature by the WCRC, its officers, agents, and employees shall not be construed as a warranty or assumption of liability on the part of the WCRC. It is expressly understood and agreed that any such approvals are for the sole and exclusive purposes of the WCRC, which is acting in a governmental capacity. Any approvals, reviews, and inspections by the WCRC will not relieve the Applicant of the Applicant's obligations hereunder, nor are such approvals, reviews, and inspections by the WCRC to be construed as a warranty as to the propriety of the Applicant's performance.
- 8.4.13 Applicant agrees to accept responsibility for any damage caused to wires, mailboxes, trees, buildings, or the road, including the structures and appurtenances, and shall reimburse the appropriate parties for any damage caused by the moving of said vehicle or load. Applicant shall save harmless, indemnify and defend the WCRC against any and all claims for bodily

injury or property damage or any other claim arising out of or related to the moving of said vehicle or load, or its presence on or use of the highway.

8.4.14 Construction Equipment, Prefabricated Items, and Boats: Maximum overall dimensions (loaded or unloaded)

a) Single Move Permit

- 16 feet in width
- 15 feet in height
- 150 feet in overall combination length

b) Extended Transportation Permit

- 12 feet 6 inches in width
- 13 feet 6 inches in height
- 75 feet in overall combination length
- 45 feet in length of one truck or power unit

8.4.15 Mobile Homes: Maximum overall dimensions

a) Single Move Permit

- 16 feet in actual body width; fixtures not to exceed 6 inches on each side.
- When height is over 13'6", applicant shall check for vertical clearance and overhead obstructions along route
- 80 ft. in body length of the mobile home or module; 95 feet overall length with towing vehicle.

b) Extended Transportation Permit

- 14 feet in actual body width; fixtures not to exceed 3 inches on each side.
- 14 feet; when height is over 13'6", applicant shall check for vertical clearance and overhead obstructions along route.
- 80 ft. in body length of the mobile home or module; 95 feet overall length with towing vehicle.

8.4.16 Poles, Pipe, and Similar Loads: Maximum overall dimensions (loaded or unloaded)

a) Single Move Permit

- 16 feet in width
- 15 feet in height
- 150 feet in overall combination length

b) Extended Transportation Permits

- 9 feet in width
- 13 feet 6 inches in loaded height
- 75 feet in overall combination length
- Consideration will be given to the issuance of extended permits to public utility companies and their contractors for loads of utility poles in excess of 75 feet. Any such permit, if issued, shall be limited to the service area of the utility company. Firms under contract to utility companies who wish to obtain extended permits in excess of 75 feet in length shall submit written confirmation from the utility company.

8.5 DESIGNATED HAUL ROUTES

- 8.5.1 The WCRC is authorized by MCL §257.725 to designate routes for the operation of vehicles of a weight exceeding the maximum otherwise specified for said roads. A designated haul route shall be defined as a road or series of roads where normal load and dimension limits may be exceeded up to the designated load and dimension maximums. Permits may be issued on a seasonal or shorter term basis, depending on the route to be followed and the conditions of the road or series of roads along the route.
- 8.5.2 A permit for a designated haul route shall be obtained from the WCRC prior to commencing hauling operations. All applications for permits will be reviewed for safety, traffic and other transportation impacts. These factors may include, but are not limited to, locations of driveways, sight distance, interference with other driveways and road intersections, width of haul route roadways and shoulders, dust control on unpaved roads, horizontal and vertical curves, traffic volumes, adjacent land uses, and the composition of the road and the drainage systems and their ability to withstand the proposed use. Any permit shall be subject to all conditions and specifications appearing on the permit. Haul route permits will not be issued if, in the opinion of the WCRC, the requested usage will adversely impact the public health, safety and welfare. Haul route permits may be issued for periods up to but not exceeding one year and all permits shall expire no later than December 31st of each year unless otherwise specified.
- 8.5.3 It is the intent of the WCRC that no designated haul route permits will be issued which would allow vehicles to cross bridges and/or culverts while carrying loads which exceed posted limitations. Any permit so issued will in no way supersede posted load limitations on any bridge or other roadway structure.
- 8.5.4 Permits will not be valid during the time of weight restrictions as set forth in MCL §257.722 (commonly referred to as Seasonal Weight Restrictions) or at such other times during the year as determined by the WCRC.
- 8.5.5 It is understood that road improvements may be necessary in connection with the issuance of designated haul route permits to protect the public health, safety, and welfare. These improvements shall be made at the applicant's expense and the extent of such improvements will depend on the nature and duration of the requested usage. In the event that the applicant's type of operation can reasonably be expected to be continuous over a number of years and to generate high traffic volumes, the WCRC may require that the haul route be upgraded at the applicant's expense to such extent that a haul route permit is no longer required.
- 8.5.6 County designated and normal routes are shown on the current edition of the Truck Operator's Map published by the WCRC which may be obtained at the WCRC administrative offices or downloaded in .pdf format from the WCRC website at <http://www.wcroads.org>.
- 8.5.7 General Procedures
- a) A haul route application will be considered separately from any driveway access permit application. Because the determination of the access driveway location may involve many factors, the WCRC should be contacted during the site planning process.
 - b) The applicant must allow sufficient time for processing of the application in order that a proper inspection can be made of the requested route. Review of the application will require a minimum of 30 days and a maximum of 60 days processing time.
 - c) An application for a designated haul route permit will be accepted from the property owner, facility operator, or truck operator. A designated haul route shall apply only to the applicant under the permit, and only for the duration of the permit. It should be

understood that there may be more than one haul route permit in effect simultaneously on any section of road.

- d) An application for a haul route permit shall be submitted in the manner prescribed on forms supplied by the WCRC. An applicant shall be required to supply route descriptions, estimates of traffic volumes and tonnage to be hauled, hauling duration, township agreements and land use approvals, and any other pertinent information requested by the WCRC.
- e) An application fee shall be submitted with the original permit application form.
- f) The WCRC staff shall review the application and route for compliance with the current procedures and requirements.
- g) If the application appears to be in compliance, the WCRC staff will determine the amounts of the necessary security, the sign fee, and any extraordinary inspection/analysis fees as well as any upgrading requirements.
- h) If the application is acceptable, the WCRC will notify the applicant of the financial and any necessary road improvement requirements. If the application is unacceptable as presented, the applicant shall be so notified.
- i) Upon receipt and satisfactory review of any required road improvement agreement the application will then be referred to the Board for approval or denial. The annual renewal of existing permits will be referred to the County Highway Engineer and Managing Director for approval or denial.
- j) The Applicant shall submit a security guarantee, permit fee, applicable sign fees, and a certificate of insurance. The amounts of the guarantee, fees, and insurance shall be shown on the approved application. These financial requirements shall be submitted after approval of the application and prior to the issuance of the permit.

8.5.8 The applicant shall be responsible for all costs of “above normal” maintenance work necessary on the haul route. Unless otherwise specified on the permit, the WCRC shall perform all maintenance work. The cost of the “above normal” maintenance is based on current labor rates, equipment rental rates and material costs, plus indirect costs and overhead. The applicant shall reimburse the WCRC within 30 days following issuance of billing statements for costs incurred by the WCRC or the permit may be revoked.

8.5.9 Conditions and Limitations

- a) A designated haul route permit is subject to the following conditions and limitations as well as any conditions noted on the permit itself:
 - i. The WCRC reserves the right to have its weighmaster stop and weigh vehicles and confirm compliance with conditions of the permit. If it is specifically determined that weights exceed those allowed by the permit, the truck operator will be ticketed according to the load and dimension restrictions in effect prior to permit issuance.
 - ii. Copies of the permit shall be available at the originating facility in a conspicuous location and shall also be carried in all vehicles to which it refers. The permit shall be available for verification when requested by a WCRC weighmaster or other law enforcement officer.
 - iii. All trucks shall carry a certified load ticket.
 - iv. The applicant is responsible for all loaded hauling operations to and from their source, and shall use the designated haul route.

- v. Renewal is required annually.
- vi. The permit does not relieve the applicant from compliance with all applicable requirements of federal, state, and local laws and ordinances.
- vii. Road improvements authorized in connection with the permit shall be completed and inspected to the satisfaction of the WCRC on or before the agreed completion date.
- viii. The applicant shall maintain all facility driveways to the satisfaction of the WCRC and shall be responsible for the prevention and removal of material tracking onto public roads.
- ix. If the applicant fails to comply with any provisions of the permit the WCRC may revoke the permit. Costs incurred by the WCRC to correct non compliance with the terms and conditions of the permit shall be the responsibility of the applicant.

8.5.10 Fee Requirements

- a) A non-refundable application fee for a haul route permit shall be paid at the time of application in accordance with the current fee schedule policy of the Board of County Road Commissioners. This fee shall cover review of the application by the WCRC office. If more extensive inspection and analysis, such as non destructive testing, bridge or culvert analysis, etc., of the proposed haul route is determined necessary, all special or extraordinary costs shall be at the applicant's expense.
- b) A non-refundable combined permit, administrative, and inspection fee shall be paid in accordance with the current fee schedule policy of the Board of County Road Commissioners. This fee shall be paid prior to the initial permit issuance and prior to annual renewal of the permit, if applicable.
- c) The applicant shall post a surety bond using forms provided by the WCRC or submit an irrevocable bank letter of credit to serve as surety for repairs in the event the roads are adversely impacted by the hauling operations. If a surety bond is posted, a cash deposit in the form of a certified check will also be required to guarantee a payment of bills for "above normal maintenance" necessitated by the applicant's operations. The amount of the deposit will be 10% of the approved bond amount. The deposit, minus any unpaid charges, will be refunded at the expiration of the permit.
- d) A sign fee shall be paid, if applicable, in accordance with the current fee schedule.
- e) An appeal fee shall be paid whenever an appeal is submitted.

8.5.11 Permit Renewal

- a) Short Term haul route permits generally will not be renewed or reissued more than once. Conversely, it is expected that Long Term haul route permits may be renewed or reissued annually, provided that the applicant has abided by all rules and regulations, paid all fees and charges, performed all required road improvements, and provided that the physical condition of the road warrants such continued use.
- b) Upon the completion of any required road improvements for a Long Term haul route, the applicant may expect to be able to continue to use the haul route for a number of years by renewing the permit annually, provided the conditions of the permit do not change. However, the WCRC does not relinquish its right to reduce load limits to protect the public health, safety and welfare and road integrity.
- c) In order to renew a haul route permit annually, the applicant shall submit a permit renewal application each year. The application shall include a statement of any proposed

changes in conditions, along with a documented declaration of estimated tonnage for the coming year.

8.5.12 Road Improvement Requirements

- a) On all haul routes, the applicant may be required to accomplish improvements of the roads according to the following requirements in order to provide for the public health, safety, and welfare, and to protect the public investment in the current road system. The WCRC, based on the existing road conditions and the expected use by the applicant, will determine the scope of improvements required. The improvements may be performed prior to issuance of the permit or at some future time, in accordance with the terms of an approved agreement between the applicant and the WCRC:
- b) Improvements on gravel roads:
 - i. Small volumes: Up to 75,000 tons per year or up to ten round trip truck movements per day on average. Adequate sight distance shall be provided at the driveway access connection.
 - ii. Medium volumes: 75,000-250,000 tons per year or 10-25 round trip truck movements per day on the average. In addition to intersection sight distance improvements, reconstruct the road to current standards suitable as a base for a future hot mix asphalt surface, establish drainage, widen narrow segments to allow for safe, two-way traffic, and other improvements as directed.
 - iii. High volumes: 250,000 tons per year or more, or over 25 round trip truck movements per day on average. Reconstruct to a County designated route road standard.
- c) Improvements on paved roads:
 - i. Small volumes: Up to 75,000 tons per year or up to ten round trip truck movements per day on the average. Provide adequate sight distance at the access driveway.
 - ii. Medium volumes: 75,000-250,000 tons per year or 10-25 round trip truck movements per day. Provide adequate intersection sight distance at the access driveway. Pave all access driveway approaches for at least 60 feet from the edge of pavement of the public road with a minimum of three to four inches of surfacing. Resurface the haul route and improve drainage as determined necessary by the WCRC.
 - iii. High volumes: 250,000 tons per year or more, or over 25 round trip truck movements per day. Reconstruct the haul route to a County designated route road standard. Pave the facility driveway approaches as required above.
- d) Road improvements may be performed by the applicant, the WCRC or a designee. This shall be determined by agreement between the parties. In any case, the work shall be conducted under WCRC supervision and funded by the Permit Holder.
- e) Prior to approval of the agreement, the applicant shall submit an engineering plan for the construction. The applicant shall also submit material quantity estimates, cost estimates and a construction schedule.
- f) The applicant shall enter into an agreement with the WCRC for road improvements on the haul route, including fees, payments and improvement schedules, prior to the issuance of the permit. The terms of the agreement shall be based on an approved plan that is in compliance with the WCRC Haul Route Policy and road construction standards.

- g) The cost of all roadway improvements required for a new haul route shall be borne by the applicant. The applicant shall pay all costs directly to material suppliers and contractors, if any. If the applicant requests that the WCRC carry out the road improvements, then the applicant shall pay in advance to the WCRC an amount equal to the approved cost estimate, plus right-of-way acquisition, preliminary engineering, and construction engineering.

SECTION 9: ADOPT-A-COUNTY ROAD PROGRAM

9.1 INTRODUCTION

- 9.1.1 Adopt-A-County Road is a program coordinated by the WCRC and designed to keep the County's roadsides clean and attractive. Participants "adopt" a section of county road of their choice. Participants are asked to adopt at least two miles and clean both sides of the roadway periodically for a period of at least two years. The participant's name will be publicized on Adopt-A-County Road signs at an appropriate location within the portion of roadway adopted.

9.2 AUTHORIZED APPLICANTS

- 9.2.1 Permits will be issued only to groups consisting of at least seven participants. All participants must be at least 18 years of age. Typical qualifying organizations include college fraternities and sororities, small and large businesses, churches, and service organizations who wish to help keep our roadsides clean and free of unsightly debris.

9.3 GENERAL PROCEDURES

- 9.3.1 Only paved, primary roadways under the jurisdiction of the WCRC may be adopted under this program. Free permits for litter pickup will be issued by the Permit Section. Permits will be issued to a group for a 2-year period. The Permit Section will assign sections of roadways to adopting groups. Assignments will be made on a first come/first served basis. Groups must agree to pick up litter three (3) times a year during designated dates. Groups are required to adopt, at a minimum, a 2-mile section of road (both sides). Less than 2-mile sections may be adopted with Permit Section approval, but in such case identification signs may not be provided. A permit must be placed on file at the Permit Section to participate in the Adopt-A-County Road program. No permit fee will be charged to Adopt-A-County Road.
- 9.3.2 The Applicant's group coordinator shall hold a safety meeting prior to each and every pickup day. The meeting shall be conducted by the group coordinator with the Permit Section supplied literature and video. All participants must sign a form acknowledging the training prior to participation. Forms shall be sent to the WCRC annually and kept on file at the Permit Section.
- 9.3.3 The WCRC will provide, install, and maintain signs noting the program and the Applicant. Only two (2) identification signs per adopted section are allowed. These will be located near the beginning point from each direction. Missing or vandalized signs will be replaced one (1) time only.
- 9.3.4 The Permit Holder, upon request of the Permit Section made at any time, shall immediately cease operations and surrender this permit.
- 9.3.5 Applicants failing to follow the terms, conditions and specifications of the permit or not participating in litter pickups for two (2) periods of the year will have their permit revoked. A warning will follow the first pickup date missed, the second occurrence will result in permit revocation. The Permit Section shall retain the right to revoke any permit at any time.
- 9.3.6 Applicant shall notify the Permit Section immediately of intent to drop the program. All safety vests and unused garbage bags and gloves must be returned to the Permit Section when an Applicant withdraws from the program.

- 9.3.7 After each pickup, the Applicant's group coordinator shall file reports detailing the participants involved, number of bags of litter picked up, hours spent, etc. The Permit Section will furnish pre-printed forms for making the reports.
- 9.3.8 The Applicant may voluntarily withdraw from the program without jeopardizing a future application, upon notification to the Permit Section.

9.4 INDEMNITY, HOLD HARMLESS/RELEASE AND ASSUMPTION OF RISK

- 9.4.1 The Applicant and each participant shall hold harmless and indemnify the WCRC from all claims, suits and judgments to which the WCRC may be subject, and for all costs and actual attorney fees which may be incurred on account of injury to persons or damage to property, including property of the WCRC, whether due in whole or in part to the negligence of the Participant, the WCRC, and/or others, arising out of or related to Participant's participation in the Adopt-A-County Road Program.

9.5 CONDITIONS & LIMITATIONS

- 9.5.1 Issuance of this permit does not relieve the Applicant from meeting any and all requirements of the law, or of other public bodies or agencies.
- 9.5.2 This permit is not assignable or transferable unless specifically authorized by the Permit Section.
- 9.5.3 All participants shall wear safety vests, provided by the WCRC, while working in the right-of-way. The Permit Section will supply safety vests, gloves and advance warning signs prior to the first pickup day. Thereafter, the adopting group shall replace any vests at its own expense. Additional vests may be supplied by the WCRC for a nominal fee.
- 9.5.4 Participants shall not pick up litter during electrical or wind storms, or during periods of fog or low visibility. Litter pick up shall be performed during daylight hours and shall commence not sooner than one hour after sunrise and end not later than one hour before sunset.
- 9.5.5 All participants shall work on one side of the roadway at a time. Participants are required to obey all relevant state laws and applicable ordinances regarding vehicular and pedestrian travel, traffic and parking while engaged in permitted activities.
- 9.5.6 All vehicles shall be parked well off the right-hand shoulder so as not to obstruct sight distance for driveways and road approaches or interfere with traffic operations.
- 9.5.7 All litter must be placed in bags provided by the Permit Section. Those objects too large/heavy for bags shall be placed next to the bags. Bags and larger objects shall be placed at the outer edge of the shoulder or five feet behind the curb.

SECTION 10: MISCELLANEOUS PERMITS

10.1 LANDSCAPING

- 10.1.1 The following requirements apply to proposed landscaping within right-of-way under the jurisdiction of the WCRC:
- a) No plantings or installation of walls, barriers, berms, signs, paths, lighting elements, entrance markers, or structural elements associated with landscaping shall be installed within the right-of-way unless the WCRC issues a permit.
 - b) The application for permit shall include three sets of scaled drawings or plans showing all proposed landscaping work, existing conditions, size, location and dimensions of proposed landscaping elements, sight distance triangles at approaches, and a location map.
 - c) The application for permit shall include an agreement to maintain the landscaping and landscaping elements located within the right-of-way.
- 10.1.2 Plantings, walls, signs, entrance markers, or other structural elements will not be permitted within clear vision areas or sight distance triangles at driveways or road approaches.
- 10.1.3 No landscaping or landscaping element shall interfere with drainage facilities, easements, or access to such facilities for maintenance purposes.
- 10.1.4 Signs, decorative lighting, or other structural elements will not be permitted in a boulevard median within the road right-of-way.
- 10.1.5 Irrigation systems are not allowed in the right-of-way. Control panels, electrical systems, sprinkler heads or water supplies and distribution lines to sprinkler systems shall be located outside the right-of-way.
- 10.1.6 Landscaping may be permitted within an island of a subdivision or residential road subject to the following:
- a) The curb shall be non-mountable. All fixed objects shall be located beyond the clear zone as defined by then current AASHTO Roadside Design Guide.
 - b) All trees planted with the island shall be ornamental-type trees with a maximum expected diameter at breast height (DBH) of four inches.
- 10.1.7 Roadside trees will be permitted adjacent to the subdivision or residential road as allowed by the appropriate governing body, subject to the aforementioned clear zone and clear vision/sight distance requirements.

10.2 TREE REMOVAL, TRIMMING OR TUNNELING

- 10.2.1 Permit requirements
- a) A permit is required for any tree removal, trimming, tunneling or boring of trees within the right-of-way. A separate permit will not be required if the tree removal, trimming, tunneling or boring is performed in conjunction with other permitted activities. Such other permitted activities may include the construction of approaches, road improvements, or utilities, provided that the tree removal, trimming, tunneling or boring is shown on the approved plans.

- b) The Permit Holder shall show on the construction plans the location, size, and species of all trees which may be affected by the proposed construction.
 - c) Before removing or trimming any tree located within the right-of-way the Permit Holder shall obtain a wood disposal agreement from the abutting property owner. Wood disposal agreement forms may be obtained from the WCRC Permit Section. A separate form shall be obtained from each individual property owner on whose frontage trees will be removed or trimmed. The wood disposal agreement shall be evidence of the property owner's permission to remove the trees as shown on the plans. The Applicant or Permit Holder shall negotiate terms of the wood disposal agreement with each individual property owner. Signed copies of any necessary wood disposal agreements must be on file with the WCRC Permit Section before a permit will be issued. The Permit Holder shall notify the abutting property owner(s) prior to beginning tree removal or trimming operations.
- 10.2.2 The Permit Holder shall dispose of all stumps, limbs, litter, and logs outside of the road right-of-way. The abutting property owner shall be entitled to the wood. The Permit Holder shall be responsible for notifying and coordinating delivery of wood to the property owner(s).
- 10.2.3 Any tunneling or boring under trees must be below the major root system and must extend a distance of one foot on either side of the tree for each two inches of trunk diameter. All voids around the tunneled or bored facility shall be backfilled with excavated material and thoroughly compacted to avoid settlement. If the tree is severely damaged or dies within one year as a result of the tunneling or boring, the Permit Holder shall at its expense remove the tree.
- 10.2.4 The Permit Holder may be required to replace trees. If applicable, landscaping plans showing trees to be removed as well as the species, size and planting location for each replacement tree shall be included with the permit application. Replacement trees shall be well-formed and sturdy stock of a size and variety approved by the WCRC.

10.3 DRAINAGE

- 10.3.1 All drainage improvements shall conform to the design requirements of the current edition of the MDOT Drainage Manual, which may be downloaded in .pdf format (as of the effective date of these Procedures and Regulations) from the MDOT website at <http://www.michigan.gov/stormwatermgmt/>.
- 10.3.2 Any water diversion or discharge into the WCRC road drainage system shall require a permit from the WCRC and shall not exceed normal agricultural runoff rates of flow, unless otherwise specifically approved by the WCRC.
- 10.3.3 Any such water diversion or discharge shall be performed in such manner as not to cause a hazardous condition to either pedestrian or vehicular traffic nor to cause erosion, siltation, or ponding which adversely affects the stability of the roadway or damages adjacent property.
- 10.3.4 If the existing road drainage system lacks the capacity to handle a new discharge or diversion, the WCRC reserves the right to deny access to the drainage system.
- 10.3.5 If agricultural rates of discharge cannot be accomplished naturally, the Applicant must propose a detention system with an outlet control approved by the WCRC prior to being granted access to the existing road drainage system.

10.4 MONITORING WELLS

- 10.4.1 Prior to applying for a permit for borings or monitoring wells to be situated in the right-of-way, the Applicant must obtain written permission from the owners of adjoining lands. The documented evidence of this permission shall be submitted with the permit application.
- 10.4.2 The approval of locations for borings within the right-of-way assumes that generally the testing method is a short-term operation followed by immediate restoration of the disturbed area. If borings are later to be converted into monitoring wells, the Applicant shall indicate this intent on the initial application.
- 10.4.3 The WCRC reserves the right to require the Permit Holder remove the well as a result of road and drainage construction purposes without replacement or reimbursement of any costs incurred by the Permit Holder or any other party.
- 10.4.4 Any costs of cleanup shall be considered as restoration and shall be the sole responsibility of the Permit Holder pursuant to the permit.
- 10.4.5 If not implemented within 12 months of issuance, the permit shall expire unless the Permit Holder receives a continuance in writing from the Permit Section.
- 10.4.6 The Permit Holder shall provide a copy of the data collected from the monitoring well operation to the Permit Section upon request.
- 10.4.7 The applicant is responsible for locating nearby drainage facilities prior to installing monitoring wells.
- 10.4.8 Since the character, time limits, area, and particular requirements of each non-intrusive testing project vary significantly, such permits are generally addressed on a case-by-case basis. Fees, insurance, surety and general requirements are handled similarly. The permit shall not sanction drilling or the taking of physical samples. However, since there is potential for surface damage when moving heavy equipment within the right-of-way, permits are required for all such activities.
- 10.4.9 Borings or monitoring wells will not be permitted in the paved or traveled portions of the roadway nor the shoulder.
- 10.4.10 The Applicant shall specify the proposed dimensions in its drilling and/or well completion program. The boring and/or completion designs shall be drilled and installed in accordance with industry standards.
- 10.4.11 Top of well casing shall be four inches or less above the ground to prevent contact with roadway maintenance equipment, and shall be placed outside the mowed area, if possible.
- 10.4.12 All soil and water (drilling muds included) produced during the boring/drilling, testing, and/or sampling operations shall be disposed of outside of the right-of-way in a manner acceptable to the MDEQ.
- 10.4.13 All operating monitoring wells are to be completed with a cap that is mounted flush with the ground to minimize interference with landscaping, mowing, road maintenance, pedestrian, and/or automotive traffic using the right-of-way.
- 10.4.14 As soon as possible following completion of intrusive test borings and/or abandonment of monitoring wells, the Permit Holder shall restore the right-of-way to its previous condition. All borings or monitoring wells (whether successful or not) shall be sealed (plugged) and abandoned as prescribed by MDEQ regulations.

SECTION 11: MAINTAINING TRAFFIC & TRAFFIC CONTROLS

11.1 GENERAL INFORMATION

- 11.1.1 The Permit Holder or its Contractor shall maintain local vehicular and pedestrian traffic and access to all properties within the influence of necessary lane or road closures.
- 11.1.2 All temporary traffic control devices shall meet the design requirements of the MMUTCD, Part VI, as well as the MDOT Standard Specifications For Construction.

11.2 SIGNS & SIGNING

- 11.2.1 All signs and sign support standards, barricades, plastic drums, warning lights, and traffic control devices necessary for safe and convenient traffic operations shall conform to the current MMUTCD as approved by the WCRC. All such devices shall be furnished, installed and maintained by the Permit Holder at its expense. All traffic control devices shall meet ATSSA quality standards.
- 11.2.2 Traffic control signs and road name signs shall be removed, temporarily reset, and maintained as necessary by the Permit Holder. Traffic control signs shall be reset in conforming locations where they will continue to serve their intended purposes. Signs shall be mounted so as to be easily visible and legible to traffic.
- 11.2.3 Upon completion of the project, the WCRC will reset traffic control signs and road name signs in their proper positions. The WCRC may furnish and erect temporary speed limit signs along the project. The Permit Holder shall relocate and maintain the temporary speed limit signs as directed by the WCRC.
- 11.2.4 The Permit Holder shall pay all costs and expenses associated with any signs erected or relocated by the WCRC. Any existing signs which are damaged during the course of construction will be replaced at the expense of the Permit Holder.
- 11.2.5 The Permit Holder shall be responsible for the protection of all traffic control devices within the project area from damage due to any activities associated with the project, including hauling operations, construction equipment and materials, storage, equipment moves, staging and parking.
- 11.2.6 Advisory or information signs may be required by the WCRC in order to direct traffic to commercial or public facilities located within the work area. The Permit Holder shall be responsible for fabrication, installation, maintenance, and removal of such signs at its expense.
- 11.2.7 All construction warning signs shall be supplemented with two fluorescent orange warning flags positioned above the sign. Those signs in use during hours of darkness shall also include prismatic sheeting. Plastic drums and Type III barricades shall have one and three Type C steady-burning warning lights attached, respectively, and include prismatic sheeting.
- 11.2.8 If signs are required with Type III barricades the signs shall be mounted above the barricades on separate supports.
- 11.2.9 Traffic control devices shall be maintained by the Contractor for the duration of the project. The Contractor shall conduct night patrols of the construction area and any detour route.
- 11.2.10 Any W20-4, W20-7a and W20-15 signs shall be completely covered with plywood or aluminum sheeting or taken down when a flagging operation is not being conducted.

- 11.2.11 The Contractor shall stake all construction sign locations and notify the WCRC when the staking is complete. The Contractor shall allow two working days for the WCRC to review, adjust and approve the construction sign staking. The construction sign stakes shall indicate the type (code) and size of the sign to be placed at each location. Each stake shall be marked with white flagging ribbon.
- 11.2.12 Type III barricades shall consist of eight foot sections.
- 11.2.13 All M4-9 signs shall be supplemented with D3-1 (road name) panels.
- 11.2.14 Temporary lane markings shall be placed immediately after paving where needed to control traffic.

11.3 LANE CLOSURES

- 11.3.1 Where a lane closure is approved by the WCRC for purposes of open-cut crossings or construction within, immediately adjacent to, or parallel to the traveled portion of the roadway, the following requirements shall apply:
 - a) Lane closures will be restricted to the hours of 9:00 a.m. to 3:00 p.m. unless specifically authorized by the WCRC.
 - b) All required temporary traffic control devices and temporary improvements shall be in place and shall be completed before the actual lane closure begins.

11.4 ROAD CLOSURES & DETOURS

- 11.4.1 Pursuant to state statute, the Board must approve any road closure and assign appropriate detour routes before closing a road. In order to construct a facility covered by a permit which will require any road closure, the Board must first approve by resolution the time and date and section of road to be closed.
- 11.4.2 Before commencing any work which will require closing a road, the Applicant must:
 - a) Submit a written request to close the road in question and establish a detour;
 - b) State the dates and times of the beginning and ending of the proposed road closure;
 - c) Submit a proposed detour route, showing all signing requirements in accordance with the current MMUTCD;
 - d) Submit written approval of the local community/communities involved;
 - e) If the proposed detour route involves roads not under the jurisdiction of the WCRC, submit written evidence of request for approval of the current jurisdictional agency to use such roads as detour routes;
 - f) State in writing the party responsible for fabricating and installing road closure and detour route signing, with acknowledgment that all costs associated with road closure and detour signing shall be born by the Applicant or Permit Holder; and
 - g) Submit all of the above information not less than three weeks prior to the anticipated road closure date.
- 11.4.3 Upon review and approval of the proposed detour route and signing, the Permit Section will propose to the Board a resolution authorizing road closure and establishment of the detour route. The Permit Section will notify the Applicant of approval (or denial) and will authorize installation of signs for the approved closure by permit issuance. Detour routing signs must be

covered until the road is closed and covered or removed immediately after the road is reopened. The WCRC will notify the appropriate local officials including police, fire, ambulances, schools, and newspapers, of the closure one week before the date of closure.

- 11.4.4 The Permit Holder shall install and maintain all signing for approved detours unless other arrangements are approved in advance by the WCRC. The Permit Holder shall give the WCRC at least three weeks advance notice, not including Saturdays, Sundays, or holidays, of erection of any detour signing. Special information signs, including closure dates, shall be posted at least one week prior to closure.
- 11.4.5 The Permit Holder shall provide a progress schedule to the WCRC and notify the WCRC of any schedule changes. When the detour is no longer needed the Permit Holder shall notify the WCRC that the road has been reopened and that the detour is no longer in effect.
- 11.4.6 If, in the judgment of the WCRC, the road or roads over which the detour is routed cannot reasonably handle the resulting increased traffic, the Permit Holder shall make necessary improvements to handle the increased traffic and shall maintain the detour in the improved condition as directed by the WCRC for the duration of the detour.
- 11.4.7 The WCRC may require additional informational or advisory signs to ensure convenient access to schools, churches, businesses, residences, or other facilities within the area affected by the road closure. The cost of such signs and their installation and maintenance shall be the responsibility of the Permit Holder.
- 11.4.8 Upon reopening of the closed road and discontinuance of the detour the WCRC will make a final inspection of the detour route. The Permit Holder shall repair any damage resulting from use of the detour before the terms and conditions of the permit will be released.

11.5 STEEL PLATING

- 11.5.1 Whenever possible, all excavations shall be backfilled and repaired before the road is opened for traffic. Whenever small openings such as “window cuts” are made in a section of pavement that must remain open to traffic during the time there is no work activity, the openings shall be covered with steel plates. The steel plates shall be of adequate size and thickness to support all legal axle loads and shall overlap existing pavement by at least one foot on all sides of the excavation for trenches six feet deep or less and two feet on all sides of the excavation for trenches deeper than six feet. Table 11 provides the minimum size and thickness required for a range of excavation sizes:

TABLE 11: PLATING DIMENSIONS		
Hole Area	Minimum Plate Size	Minimum Plate Thickness
Up to 3' x 4'	5' x 6'	3/4"
Up to 4' x 6'	6' x 8'	3/4"
Up to 4' x 10'	6' x 12'	1"

- 11.5.2 Side by side plating may be used to cover cuts longer than ten feet provided the abutting edges are supported by a steel beam of adequate strength, firmly supported on sound earth for at least one foot on each end. Steel plates shall be bedded in cold patch and held in position by bolts or pins at least three inches long. Cold patch ramps shall be used along all edges of the

plates. Upon removal of the steel plates, all cold patch shall be removed from the pavement and disposed of outside the road right-of-way. The necessary steel plates must be on the jobsite before the pavement is removed.

11.5.3 The use of steel plates will only be allowed when no other option is available and must be approved in advance by the WCRC.

11.5.4 Steel plates shall not be used in winter.

11.6 TRAFFIC CONTROL DEVICES & EQUIPMENT

11.6.1 The Permit Holder shall protect from damage or interference all traffic control devices and equipment, including but not limited to hand holes, conduit, wiring, detectors, cabling, supports, cameras, beacons, signals, control boxes, and any other equipment associated with the control of traffic signals, signs, and warning devices. The Permit Holder may not remove, adjust, relocate, tamper with, or interfere with the operation of these traffic control devices without the express permission of the WCRC Traffic and Safety Section unless specifically indicated on the permit and on the approved plans. The Permit Holder shall pay the cost and expense of any and all necessary repairs, restorations, or adjustment to these systems as determined by the WCRC.

11.7 GUARDRAIL

11.7.1 The Permit Holder shall remove or protect from damage any guardrail, guardrail posts, guideposts, or end treatment that conflicts with the proposed work or the operations of the Permit Holder. No guardrail may be removed without prior permission of the WCRC. If guardrail is removed with permission, lighted plastic drums shall be placed and the guardrail shall be restored as soon as the conflict no longer exists. The Permit Holder may elect, at its sole expense and with the permission of the WCRC, to eliminate guardrail by flattening slopes, removing obstacles, or other measures which result in the guardrail no longer being warranted by then current AASHTO standards. If any guardrail or posts are removed or damaged the Permit Holder shall restore them to then current MDOT standards for height, type, construction, and end treatment. If the height of the guardrail is changed in relation to the roadway or shoulder as a result of the work performed by the Permit Holder, the guardrail must be upgraded at the direction of the WCRC and at the expense of the Permit Holder.

11.8 PAVEMENT MARKINGS

11.8.1 Unless otherwise stated on the approved plans or on the permit, the Permit Holder shall protect, restore, or replace as necessary any pavement markings, including without limitation lane lines, pedestrian crossings, legends, symbols, and stop bars, which are disturbed or damaged by the work or the contractor's operations.

11.8.2 Permanent pavement markings shall be placed immediately after the installation of pavement. Temporary markings may be used on temporary pavements, but must be replaced before November 1st with permanent markings if the permanent pavement will not be installed until the following year. Temporary markings will not be allowed during the winter season.

11.9 DUST CONTROL & GRADING

11.9.1 In cases where the Permit Holder's activities result in increased traffic on existing soft surface roads, WCRC may require a deposit to provide for additional dust control and grading. Grading and dust control shall be conducted at the discretion of WCRC.