

TUSCOLA COUNTY ROAD COMMISSION

ROAD POLICY & PROCEDURE MANUAL





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*** The TCRC Road Policy & Procedure Manual shall be reviewed and approved annually by the Board of Tuscola County Road Commissioners. The Board reserves the right to revise, adjust, and/or delete any section(s) of the TCRC Road Policy & Procedure Manual based on the needs of the County. ***



REVISION HISTORY TABLE

PAGE DATE REVISION

ABBREVIATIONS

AASHTO – American Association of State Highway & Transportation Officials
 ADA – Americans with Disabilities Act
 CIA – Construction Influence Area
 CIP – Compacted In Place
 CMP – Corrugated Metal Pipe
 CPM – Capital Preventive Maintenance
 CRA – County Road Association
 EGLE – Michigan Department of Environment, Great Lakes, & Energy
 HIP – High Intensity Prismatic
 HMA – Hot Mix Asphalt
 MCL – Michigan Compiled Laws
 MDOT – Michigan Department of Transportation
 MMUTCD – Michigan Manual on Uniform Traffic Control Devices
 MSP – Michigan State Police
 MVC – Motor Vehicle Code
 NEC – National Electric Code
 NESC – National Electric Safety Code
 PASER – **P**avement **S**urface **E**valuation **R**ating
 PM – Preventive Maintenance
 QC – Quality Control
 QA – Quality Assurance
 RAP – Recycled Asphalt Product
 R-O-W – Right of Way
 RXR – Railroad Crossing
 SESC – Soil Erosion & Sedimentation Control
 SPEC(s) – Specification(s)
 TAMP – Transportation Asset Management Plan
 TCDC – Tuscola County Drain Commission
 TCRC – Tuscola County Road Commission
 TTC – Temporary Traffic Control
 TWP – Township



1. TCRC ROAD WORK POLICY

PURPOSE

The Highway Law (MCL 224.19b) specifically provides that the County Road Commission must supervise all work on county roads, and must account for all monies spent on roads under its jurisdiction. In order to be in compliance with Highway law, the following steps will be put into immediate effect by order of the Board of County Road Commissioners of Tuscola County, Michigan:

POLICY

- All work that can be done by the Road Commission forces shall be done by the Road Commission unless, at the sole discretion of the Road Commission, the project is approved to be bid to private contractors.
- If the Township chooses to take bids on the work without concurrence with the TCRC, the Township will be ineligible for the current allowance policy. Once bids are taken, the Township cannot request the work be estimated by the Road Commission for a minimum of one year.
- Sealed bids for local road work will be opened at a Road Commission Board meeting on a date set by the Road Commission and all bidders will be notified of this date. No other bids will be accepted after this date for the current construction season. The Township can choose to reject all bids.
- After the successful bidder has been selected, a standard agreement between the Township and the Road Commission will be signed which may include any survey, inspection or supervision costs incurred by the Road Commission to ensure that public safety is being protected, construction standards, material specifications, and soil erosion measures, are being strictly followed by the contractor per the bid proposal. The Road Commission shall pay for TCRC employee benefits.
- Before any work is started by the contractor, the contractor must place on file, with the Road Commission, Signed Agreement, Right-of-Way permit, proof of insurance coverage for liability, and workers compensation coverages in effect.
- The contractor will submit their billing to the Road Commission. Once the project is completed, a final inspection will be done by the Road Commission. Then the Township will be billed for the work by the Road Commission.
- The contractor shall supply results of Quality Control (QC) tests as required by project specification OR material will not be allowed to be placed until testing results are supplied. TCRC will have Quality Assurance (QA) tests completed and charged to the project.
- Where applicable, the Contractor is responsible for the project until the Notice of Termination is approved by the Department of Environment, Great Lakes, and Energy (EGLE) for all soil erosion and sedimentation control measures.



2. TOWNSHIP ALLOWANCE POLICY

PURPOSE

The Township Allowance Policy provides incentives for the townships to utilize a “mix of fixes” instead of using the “worst first” method that will result in accelerated deterioration of the townships transportation system. The State’s Asset Management Council directives include the use of this methodology to choose projects based on condition and apply preventive maintenance at specific times. Thus, applying crack-seal, chip seal, Hot Mix Asphalt (HMA) overlays or other preventive maintenance measures based on the road’s condition, will “Keep the Good Roads Good”.

POLICY

In order for a Township to qualify for any matching allowance by the Road Commission, the following terms and conditions shall apply:

Annual Deadlines for Township Road Agreements, along with the required payment of one-half of the estimated cost of the project:

- **April 1st** = Current Year Chip Seal Projects.
- **April 15th** = Current Year HMA Paving
- **May 1st** = All Other Road Projects. (i.e. Gravel & Limestone)
- **After May 1st** = Approved at the discretion of TCRC.

TRANSPORTATION ASSET MANAGEMENT PLAN (TAMP)

TCRC **RECOMMENDS** implementing a Three-Year Transportation Asset Management Plan (TAMP). If the Township chooses to implement a TAMP, the TCRC will **REQUIRE** it to be submitted by November 1st. This deadline will allow our staff and township personnel to identify any culverts or other maintenance projects needed prior to construction. Items to be included in the Three-Year TAMP are listed below.

- The plan shall be updated yearly and be submitted to TCRC
 - Include budgetary restraints, remove completed projects, & add new ones.
 - Work Request Forms will still be required.
- The TAMP is not intended to be a “report”, rather a list of roads the township is planning to improve and the type of improvement being requested.
- Section II: Preservation/Structural Improvements shall be included as part of the Plan.
- Section III: Capital Preventive and Section IV: Preventive Maintenance activities for existing hard surface roadways should be included as part of the plan.
- Gravel Resurfacing & Gravel Patching activities for existing gravel or limestone roadways should be included as part of the plan.
- The goal of the Townships TAMP should be clearly stated and part of the written plan.
 - i.e. % of roads good/fair, saving for large project while still maintaining system, etc.

The road commission understands events occur that will have an effect on the TAMP and will allow townships to adjust the plan due to changing conditions.



Types of Road Improvements and Maintenance are categorized in the following six (6) sections:

- **SECTION I: CONSTRUCTION/CAPACITY IMPROVEMENTS**
- **SECTION II: PRESERVATION/STRUCTURAL IMPROVEMENTS**
- **SECTION III: CAPITAL PREVENTIVE MAINTENANCE**
- **SECTION IV: PREVENTIVE MAINTENANCE**
- **SECTION V: INNOVATIVE PROJECTS**
- **SECTION VI: ROUTINE MAINTENANCE**

The types of improvements/maintenance are itemized and further defined on the following pages. Also, the funding for each type of improvement/maintenance is defined within each section.

SECTION – I

CONSTRUCTION/CAPACITY IMPROVEMENTS

Funding

100% funded by the Township.

Expenses within this section are generally from the addition of a new roadway or lane(s).

Road Improvements

- The building of a totally new road where no road previously existed
- The addition of lanes to an existing roadway
 - Only the additional lane area is considered construction
- Adding turn lanes, passing flares, acceleration lanes, & deceleration lanes.
- Installation of new guardrail (except around structures).

Other

- All costs for Road Abandonment Procedures.
- Local share of Local Road Federal Aid Projects.
- Road Specialty Signs.
- All costs for Public Hearing of Poor/Failed Local Hard Surface Roads



SECTION – II PRESERVATION/STRUCTURAL IMPROVEMENTS

Funding

The Tuscola County Road Commission offers a \$25,000 matching allowance to each Township. TCRC will match 50% of the costs within this section up to a maximum match of \$25,000 per Township. In order to qualify for any matching allowance within this section, the following stipulations will apply:

- Road resurfacing shall be conducted in accordance with the improvements listed in Section II.
- All work shall be performed by the Tuscola County Road Commission or assigned to an independent contractor at the sole discretion of the Road Commission.
- If a Township has existing mile(s) of blacktop that are 15 years old or older, the Township must resurface one of these roadways based upon Traffic Count and PASER rating unless they have an approved **Transportation Asset Management Plan*** on file with the TCRC.
- If a Township does not utilize the \$25,000 matching allowance for two consecutive years it shall be ineligible for the allowance the following year. The Road Commission may utilize the ineligible years allowance towards maintenance projects in the Township at the Road Commissions discretion.

Expenses within this section are generally the improvement of an existing road by correcting the grades, drainage, width, alignment, surface, and the hard surfacing of gravel roads.

Road Improvements

- Placing a hard surface on Grade, Base, & Drainage built road or Crush & Shape base.
 - 3" Hot Mix Asphalt (HMA) Overlay
 - Prime & Double Chip Seal w/ Fog Seal
 - 2" HMA Overlay the following season.
 - 2" HMA Overlay w/ crush, shape, & improved base.
 - 1" HMA Overlay the following season w/out improved base.
 - Prime and Double Seal Coat with a Final Seal Coat the following year.
 - Note this will be considered a Seal Coat Road.
- Resurfacing a hard surface roadway with 1 ½" thickness or more of HMA.
- Ultra-Thin Overlay
- Double Chip Seal and Fog Seal (single mile)
- Surfacing of shoulders with approved materials.
- Crush, Shape, & Stabilization. (stabilization optional)
- The costs for a Survey, Design, and Public Hearing for proposed road improvements.
- Clearing the Road Right-of-Way.
- Grade, Base, and Drainage construction projects including, but not limited to, ditching, culverts, soil erosion measures, and EGLE permits (in accordance with the TCRC Road Policies).
- Placing 3" or more of new processed aggregate on prepared gravel or stone surfaces of the same material to substantially increase the thickness of the surfacing material beyond that originally built.
- Micro Surfacing & Scrub Seal/Single Chip Seal with Fog Seal. (multiple miles)



Notes

- All improvements will be conducted from intersection to intersection, including maintaining traffic in accordance with TCRC Policies.
- All projects will comply with the TCRC Soil Erosion and Sedimentation Control Procedures.

SECTION –III CAPITAL PREVENTIVE MAINTENANCE

Funding

The Tuscola County Road Commission offers a \$10,000 matching allowance to each Township. TCRC will match 50% of the costs within this section up to a maximum match of \$10,000 per Township.

- All work shall be performed by the Tuscola County Road Commission or assigned to an independent contractor at the sole discretion of the Road Commission.
- The Road Commission Section – III matching allowance is only to be used during the current construction season.

Expenses within this section are generally cost-effective treatments to an existing roadway by maintaining the functional condition without significantly increasing structural capacity. These treatments also require prior approval of the TCRC Engineer.

Road Improvements

- Gravel or Limestone Patching with processed materials.
- Hot Mix Asphalt Machine Patching
 - Beyond normal pothole patching listed under Section V - Routine Maintenance.
- Single Chip Seal with Fog Seal. (single mile)
- Scrub Seal with Fog Seal. (single mile)
- Micro Surfacing. (single mile)

SECTION –IV PREVENTIVE MAINTENANCE

Funding

The Tuscola County Road Commission offers a \$5,000 matching allowance to each Township. TCRC will match 50% of the costs within this section up to a maximum match of \$5,000 per Township.

- All work shall be performed by the Tuscola County Road Commission or assigned to an independent contractor at the sole discretion of the Road Commission.
- The Road Commission Section – IV matching allowance is only to be used during the current construction season.

Expenses within this section are generally low-cost treatments to maintain the functional condition and control the vegetation. These treatments also require prior approval of the TCRC Engineer.



Maintenance Improvements

- Restoration of drainage – Local Project or Ditch Petition. (1)
- Additional ROW Tree Clearing at the Townships' request. (1), (2), or (3)
- Roadside Mowing. (2)
- Dust Control. (1) or (2)
- Overband Crack Filling. (1)
- Pavement Marking (including RXR crossings). (1)
- Shared maintenance costs for RXR signals. (1)
- Roadside Brush Spraying
 - In addition to the \$5,000 matching allowance TCRC will match 50% of the cost for road side brush spray on High-Risk Rural Roads (HRRR) Safety Grant Projects for Fixed Object Removal of trees and New Grade, Base, & Drainage Projects for 15 years.

In order to qualify for any matching allowance within this section, the following stipulations will apply:

(1) = Contractor approved by TCRC Board in accordance with Road Work Policy.

(2) = Permit needed for work in the road right-of-way.

(3) = Work shall be performed by the Tuscola County Road Commission or assigned to an independent contractor at the sole discretion of the Road Commission.

SECTION –V INNOVATIVE PROJECTS

Funding

The Tuscola County Road Commission may offer up to \$10,000 towards a project that utilizes an innovative product or approach brought forth by the Township. The amount of funding available and projects awarded will be at the discretion of the Tuscola County Board of Road Commissioners.

Expenses within this section are meant for innovative products and/or approaches that will expand the tools available to the communities of Tuscola County.

Procedure

- TCRC shall require submittal of Innovative Projects by November 1st for review.
- Following the closeout of the fiscal year in January, the Tuscola County Board of Road Commissioners shall decide on the amount of funds available for Innovative Projects.
- TCRC Staff will notify Townships regarding their eligibility and/or selection for funding
 - If selected an Agreement will be included with notification.

By effective utilization of Township resources in partnership with the Road Commission, we will be able to extend the life of County Roads.



SECTION – VI

ROUTINE MAINTENANCE

Funding

100% by the Tuscola County Road Commission.

Routine Maintenance means actions performed on a regular or controllable basis; or in response to uncontrollable events upon a road.

Routine Maintenance

- Snow and ice removal.
 - TCRC does not have a bare pavement policy.
 - Local Roads are snow plowed; however, they do not receive Salt Applications.
 - The Road Commission utilizes limited Chloride Sand Applications on local roads, mainly on Intersections, curves, hills, & railroad crossings.
 - Drivers can and should expect to encounter random icy spots and should adjust their speed accordingly.
- Patching and repairing roadway surface, including pothole patching.
 - In accordance with TCRC Policy for Poor/Failed Local Hard Surface Road.
- Unplugging crossroad drain facilities.
- Replacing or repairing damaged non-motorized signs & pavement markings.
 - As long as MCL 247.660k (1% non-motorized requirement) is in effect.
- Replacing or repairing damaged regulatory signs.
 - Specialty signs are funded by the Township.
- Replacing or repairing damaged guardrails.
- Repairing storm damage.
- Emergency environmental cleanup.
- Emergency repairs.
- Emergency management of road closures that result from uncontrollable events.
- Clearing or sweeping the road surface.
- Remove traffic hazards from the travel portion of the road.
- Control of roadside brush and vegetation at intersections, guardrails, and railroad crossings.
- Tree/Brush trimming and removal that pose an imminent hazard to the motoring public.
- Gravel road grading.
 - Township Wide by the holidays of Memorial Day, 4th of July, and Labor Day depending on weather conditions, work load, and availability.
 - As needed to keep the roads reasonable safe for public travel.
- Gravel reclamation (disking berm).
- Shoulder maintenance.
- Weighmaster Enforcement and Traffic Counts.
- TCRC Supervision and Benefits.



3. LOCAL ROAD PROJECTS

IMPROVEMENTS/MAINTENANCE ITEMS

The Road Commission offers a range of Improvements/Maintenance items that qualify for the Township Allowance Policy. The following is the standard procedure for Townships to follow when completing a Local Project.

PROJECTS REQUIRING A SURVEY, DESIGN, & PUBLIC HEARING

- Grade, Base, & Drainage
- Roadside Ditch Petition

Procedure

- Work Request Form – Township requests.
- Survey, Design, & Public Hearing
 - A Request for Proposal (RFP) will be created by TCRC Staff and bid out for a Road Commission approved survey crew and design to TCRC standards.
 - Anticipated Project Timeline (All Days from Start of Project)
 - Start of Project – Proposal Received by TCRC
 - 14 Days – Information and Agreement sent to Township for Review
 - To proceed, the Township will return the signed agreement and initial deposit within 45 days
 - 60 Days – Consultant Notified of Award at TCRC Board Meeting
 - 120 Days – 30% Plan Review
 - Topo, alignment, existing cross section, existing utilities
 - 160 Days – 60 % Plan Review
 - Proposed drainage, alignment, and cross section. If necessary, Permitting will start after the 60% Plan Review
 - 200 Days – 90% Plan Review
 - Public Hearing
 - 240 Days – Final Comments Provided to Consultant
 - Within two weeks of public hearing
 - 280 Days – Final Deliverables to Tuscola County Road Commission
 - 295 Days – Final Plans sent to Township
- Completion
 - Township will pay the remaining balance invoiced at the end of the year.
 - At this time the Township may decide to bid project out for Construction.
 - Project can be broken into phases to spread the cost to multiple years.
 - Must be discussed at 60% Plan Review.
 - Including inspection cost.



PRESERVATION/STRUCTURAL IMPROVEMENT PROJECTS

- Gravel & Limestone Resurfacing
- Double Chip Seal w/ Fog Seal
- HMA Resurfacing
- New Hard Surface

Procedure

- Work Request Form – Township requests.
 - Project must be intersection to intersection.
 - TCRC Staff will evaluate the roadway and recommend an appropriate application.
 - If township would like a specific application or product, it must be clearly indicated on the Work Request Form
 - HMA Resurfacing recommendation will be based on PASER Rating, ADT, & Base Conditions.
 - Following Grade, Base, & Drainage Projects or Crush & Shapes for New Hard Surface.
 - Minimum application of 3" Hot Mix Asphalt (HMA) Overlay
 - Alternative:
 - Prime & Double Chip Seal w/ Fog Seal
 - 2" HMA Overlay the following season.
 - 2" HMA Overlay w/ crush, shape, & improved base.
 - 1" HMA Overlay the following season w/out improved base.
 - Prime and Double Seal Coat with a Final Seal Coat the following year.
 - Note this will be considered a Seal Coat Road.
 - Gravel Resurfacing must be on prepared gravel or stone surfaces of the same material to substantially increase the thickness of the surfacing material beyond that originally built. (min. 3")
 - Change of Base Material will require additional material and grading.
- Construction
 - Bids will be taken.
 - The Road Commission will forward bid & agreement to Township for approval.
 - Signed Agreement & Deposit returned in accordance w/ Township Allowance Policy.
 - Construction will begin.
- Completion
 - Township will pay the remaining balance invoiced.



CAPITAL PREVENTIVE MAINTENANCE PROJECTS (CPM)

- Micro Surfacing, Scrub Seal & Single Chip Seal w/ Fog Seal
- HMA Patching
- Gravel Patching

Procedure

- Work Request Form – Township requests.
 - Project must be intersection to intersection for Scrub Seal, Single Chip Seal, & Micro Surfacing.
 - For Patching Projects TCRC Management Staff can assist with choosing and marking locations, at the Township's request.
- Construction
 - Bids will be taken.
 - The Road Commission will forward bid & agreement to Township for approval.
 - Construction will begin
- Completion
 - Township will pay the remaining balance invoiced.

PREVENTIVE MAINTENANCE PROJECTS (PM)

- Overband Crack Filling
- Additional ROW Tree Clearing
- Roadside Brush Spraying & Roadside Mowing
- Dust Control
- Pavement Marking (including RxR crossings)

Roadside Brush Spraying Procedure

- Tuscola County Road Commission County Wide Local Brush Spray Program.
 - A TCRC Representative will approach the Township about participating.
 - TCRC shall spray all Local Roads in a specified Township to control vegetation in the Road Right-Of-Way.
 - The number of Townships done each year will be determined as TCRC funding becomes available.
- Work Request Form – Township requests.
 - Township Wide Brush Spray will include constructed roads sprayed to the ROW & Unimproved roads sprayed a minimum of 15' from the traveled portion of the road.
 - If intermittent spraying, Township must provide maps and location descriptions.
- Construction
 - Bids will be taken for Roadside Brush Spray & Phragmites Spray Application.
 - The Road Commission will forward agreement to the Township for approval.
 - Property owners may request a "No Spray" by completing the Application Form. If approved, the property owners must follow the conditions listed in the application.
 - Treatment will begin.
- Completion
 - Township will pay the remaining balance invoiced.



Roadside Mowing Procedure

- The Township is responsible for performing or contracting out roadside mowing services.
- It is the responsibility of the Township to supply proper documentation to the Road Commission to qualify for reimbursement under Section IV of the Township Allowance Policy.

Dust Control Procedure

The Road Commission will make every effort to prepare the roads for Chloride by the holidays of Memorial Day, 4th of July, and Labor Day depending on weather conditions, work load, and availability.

TCRC awarded contractor

- Work Request Form – Township requests.
 - The Road Commission will forward agreement to the Township for approval.
 - To proceed, the Township will return the signed agreement and initial deposit.
- Construction
 - TCRC Crews will lead brine truck through the Township to ensure no roads are missed
 - Any Township using the Contractor awarded by TCRC bid can request grading at any time for dust control application.
- Completion
 - The remaining balance will be invoiced.

Townships' choosing their own Contractor

- Townships' choosing their own Contractor are responsible for their own financing.
 - Contractor must apply for and obtain a TCRC Right of Way Permit.
- Construction
 - For Townships choosing their own contractor it is the responsibility of the Township to coordinate and order the material.
 - The Contractor will be notified by TCRC when a Township is ready for dust control application.
- Completion
 - It is the responsibility of the Township to supply proper documentation to the Road Commission to qualify for reimbursement under Section IV of the Township Allowance Policy.



Overband Crack Filling & ROW Tree Clearing Procedure

- Work Request Form – Township requests
 - Overband Crack Filling.
 - Project must be from intersection to intersection.
 - ROW Tree Clearing at the discretion of the township.
- Construction
 - Bids will be taken.
 - ROW Tree Clearing if a survey is not required:
 - TCRC will forward estimate & agreement to Township for approval.
 - Signed Agreement & Deposit returned.
 - Construction will begin.
 - ROW Tree Clearing if a survey is required:
 - TCRC will take bids on having the ROW surveyed & staked.
 - The Road Commission will forward the proposal & agreement to Township for approval.
 - Signed Agreement & Deposit returned.
 - Once design is complete, TCRC will forward an engineering estimate & agreement to the Township for Approval.
 - Signed Agreement & Deposit returned.
 - Project will either be bid out or completed by TCRC Crews at the sole discretion of the Road Commission.
- Completion
 - Township will pay the remaining balance invoiced.

Pavement Markings Procedure

- Work Request Form – Township requests.
 - White Edgeline
 - Yellow Centerline
 - No Passing Zones- If a Township chooses to paint centerline yellow, an engineering study will need to be conducted.
 - Two signs are required with each zone.
 - Do Not Pass and Pass with Care.
 - No Passing Zone is optional & shall only be placed at the Twp's request.
 - Repainting shall be required on a minimum 3-year cycle.
 - Special Markings, School, RXR, etc.
 - RXR markings are inspected by the State and will be repainted as required.
- Construction
 - Bids will be taken.
 - The Road Commission will forward agreement to the Township for approval.
 - To proceed, the Township will return the signed agreement and initial deposit.
 - Construction will begin.
- Completion
 - Township will pay the remaining balance invoiced.



ROAD SIGNS

Regulatory and Advisory Signs Procedure

- Work Request Form - The Request must come through the Township.
 - An Engineering Study will be completed.
 - If the study indicates the sign installation is warranted by the Michigan Manual on Uniform Traffic Control Devices (MMUTCD) with the Road Commission Boards Approval, the sign will be installed.
- Types of Regulatory and Advisory Signs
 - Stop, Yield, Curve, Etc.
- Cost Share
 - No Cost to the Township.

Specialty Signs Procedure

- Work Request Form – The Request must come through the Township.
 - An Engineering Study will be completed.
 - If conditions support installing the sign and proper documentation is provided (when necessary) with approval of TCRC Board, it will be installed by TCRC Staff.
- Types of Specialty Signs
 - Yield Ahead, Stop Ahead, Pedestrian, Playground, Bicycle, No Passing Zone, School Bus Stop*, Fire Truck, Truck Crossing, Hidden Driveway, Snowmobile, Golf, Horse-Drawn Vehicle.
 - Animal Signs; Cattle, Equestrian
 - Deer crossing signs will not be permitted.
 - Hearing Impaired*, Deaf*, Handicapped, Blind*
 - Hearing Impaired, Deaf, Handicapped, & Blind Specialty Signs will be handicap symbol w/ placard underneath.
 - Require documentation from the requesting party, Township Board approval, and renewal every 5 years.
 - * = Acceptable per section 2C.MI54.
- Cost Share
 - 100% funded by Township
 - If the Township chooses, it is the Township's responsibility to charge the requesting party.
 - Costs for replacement due to damage or theft is the responsibility of the Township.



Speed Limit Signs Procedure

- Work Request Form – The request must come thru the Township.
 - At the request of the Township, a speed study will be completed by TCRC.
 - Results are sent to the State Police along with safety reports. The State Police reviews the information for meeting criteria as per Section 257.628 of the Michigan Vehicle Code.
 - The Township, Road Commission, and State Police must concur for the speed limit to be changed. The Township has the right to abstain from the vote.
- Cost Share
 - Township share will be 100% of the materials and installation.
 - Road Commission share will be all Engineering Services.

Sign Retro-Reflectivity Replacement Procedure

- Methods of Replacement
 - Blanket Replacement
 - With every HMA paving project TCRC will replace all existing signs.
 - Once replaced TCRC will document location, material information, and year installed utilizing electronic database, Roadsoft.
 - TCRC will continue this process until a complete inventory is established on Roadsoft. Once the sign inventory has been established, the Expected Life Method will be implemented.
 - Expected Life
 - Use Manufacturer's Expected Life for each sign material type.
 - Diamond Grade DG3 12 years
 - HIP (High Intensity Prismatic) 10 years
 - TCRC will run reports from the established database each year for sign material at the end of its expected life to determine the area and quantity of signs to be scheduled for replacement on an annual basis.
- Cost Share
 - Township share will be 100% of the replacement cost of all warning signs or specialty signs as determined by TCRC, which are installed at Township request.
 - Road commission share will be the replacement of all regulatory and standard warning signs, and all Engineering Services.



ABANDONMENT PROCEDURES

- Requested by the Township in writing.
- The Road Commission Board approves the process to continue.
- Research and property descriptions are obtained.
 - Attorney fees – 100% Township cost
- The TCRC attorney will send out a petition to the Township to acquire 7 free holders' signatures in the Township.
- The Township has 60 days to obtain signatures, otherwise the procedure is closed.
- Once the petition is returned, a public hearing is scheduled at a Road Commission Board Meeting.
- The Road Commission Board makes action on the abandonment after hearing comments from the residents. Per MCL 224.18



4. PRIMARY ROAD PROJECTS

TRANSPORTATION ASSET MANAGEMENT PLAN (TAMP)

Asset management is defined by Public Act 325 of 2018 as “an ongoing process of maintaining, preserving, upgrading, and operating physical assets cost effectively, based on a continuous physical inventory and condition assessment and investment to achieve established performance goals”. In other words, asset management is a process that uses data to manage and track assets, like roads and bridges, in a cost-effective manner using a combination of engineering and business principles. The Tuscola County Road Commission (TCRC) has adopted an “asset management” business process to overcome the challenges presented by having limited financial, staffing, and other resources while needing to meet road users’ expectations. Utilizing these principles, the Road Commission funds 100% of the following projects on the primary road system:

- Grade, Base, & Drainage Project
- Crush, Shape, & Stabilization Project
- New Hard Surface
- HMA Resurfacing
- Double Chip Seal w/ Fog Seal
- Scrub Seal w/ Fog Seal
- Single Chip Seal w/ Fog Seal
- Micro Surfacing
- Roadside Mowing
- Roadside Brush Spray
- Bridges & Culverts

TOWNSHIP REQUESTED PROJECTS ON PRIMARY ROUTES

Occasionally Townships request specific projects to be completed on Primary Routes that fall outside the TAMP approved by the Tuscola County Board of Road Commissioners. In these instances, the Township may be required to share in the costs of the project. The following projects are the most commonly requested:

Speed Limit Signs Procedure

- Work Request Form – The request must come thru the Township.
 - At the request of the Township, a speed study will be completed by TCRC.
 - Results are sent to the State Police along with safety reports. The State Police reviews the information for meeting criteria as per Section 257.628 of the Michigan Vehicle Code.
 - The Township, Road Commission, and State Police must concur for the speed limit to be changed. The Township has the right to abstain from the vote.
- Cost Share
 - 100% Funded by Road Commission if found necessary and approved by MSP.



Specialty Signs Procedure

- Work Request Form – The Request must come through the Township.
 - An Engineering Study will be completed.
 - If conditions support installing the sign and proper documentation is provided (when necessary) with approval of TCRC Board, it will be installed by TCRC Staff.
- Types of Specialty Signs
 - Yield Ahead, Stop Ahead, Pedestrian, Playground, Bicycle, No Passing Zone, School Bus Stop*, Fire Truck, Truck Crossing, Hidden Driveway, Snowmobile, Golf, Horse-Drawn Vehicle.
 - Animal Signs; Cattle, Equestrian.
 - Deer crossing signs will not be permitted.
 - Hearing Impaired*, Deaf*, Handicapped, Blind*
 - Hearing Impaired, Deaf, Handicapped, & Blind Specialty Signs will be handicap symbol w/ placard underneath.
 - Require documentation from the requesting party, Township Board approval, and renewal every 5 years.
 - * = Acceptable per section 2C.MI54.
- Cost Share
 - 100% funded by Township.
 - It is the Township's responsibility to charge the requesting party.
 - Costs for replacement due to damage or theft is the responsibility of the Township.



5. ROADSIDE DRAINAGE, BRIDGES, & CULVERTS

ROADSIDE DRAINAGE

Roadside ditches are designed for the drainage of the road not for the drainage of property. The Road Commission will ensure that washouts, water over the road, cross culvert failure, & plugged cross culverts are repaired so it is reasonable safe for public travel. If the Township requests to have a drainage project completed the following options are available:

TOWNSHIP REQUEST

Funding

- In accordance with Section IV of the Township Allowance Policy.

Procedure

- Work Request Form – The request must come thru the Township.
- TCRC Staff will review locations and determine if a design will be required to ensure positive drainage.
 - If a design is not required:
 - TCRC will forward estimate & agreement to Township for approval.
 - Signed Agreement & Deposit returned.
 - Construction will begin.
 - If a design is required:
 - TCRC will take bids on having the ditch surveyed, staked, & designed.
 - The Road Commission will forward the proposal & agreement to Township for approval.
 - Signed Agreement & Deposit returned.
 - Once design is complete, TCRC will forward an engineering estimate & agreement to the Township for Approval.
 - Signed Agreement & Deposit returned.
 - Project will either be bid out or completed by TCRC Crews at the sole discretion of the Road Commission.
- Completion
 - The remaining balance will be invoiced.

RESIDENTS REQUEST (ROW PERMIT)

Funding

- 100% Funded by the Resident(s)

Procedure

- Ditch Cleanout ROW Permit.
 - Resident fills out permit worksheet, there is no cost for the permit.
 - TCRC Staff to review location & proposed project.
 - Only on residents' property or w/ property owners' permission.
 - If approved, resident/resident's contractor to perform work under ROW Permit.
- Completion



ROADSIDE DITCH PETITION

Funding

- As determined by Township

Procedure

Petition & Design

- Obtain Roadside Ditch Petition and complete the top portion of form.
- Petitioner to obtain signatures and dates of all property owners (additional petitioners) whose property the ditch will cross.
 - Signatures indicate agreement to pay portion of expense as determined by the Township.
 - If additional signatures are required attach a separate sheet.
- Petitioner to submit petition to participating Township for signatures and dollar amount of Township participation.
- Participating Township to forward signed and dated petition to TCRC.
 - Signatures indicate Township's agreement to pay expenses.
- Upon receipt of completed petition the TCRC shall:
 - Assign petition number.
 - Approve or reject petition (board action).
 - If approved the TCRC will forward an estimate & agreement to the Township on having the ditch surveyed, staked, & designed.
- To move forward with design, Township will sign agreement and return deposit to TCRC.
- Once design is completed, a minimum of one plan sheet of the proposed ditch cleanout & estimate of construction cost will be sent to the Township.
- The Township shall forward the plan sheet and estimate of costs to the original petitioner.

Construction

- If TCRC to contract work:
 - At Townships request TCRC will solicit bids for construction.
 - TCRC will forward estimate & agreement to the Township for approval.
 - Once signed agreement & deposit are returned the project will be completed during the construction season. Project qualifies for Preventive Maintenance Allowance
 - Township will pay remaining balance invoiced at the end of the year.
 - It is the Townships responsibility to charge the petitioner(s).
- If the petitioner(s) perform work:
 - The petitioner(s) or their contractor complete a ROW permit and have the proper insurance certificate on file with a signed copy of the Roadside Ditch Petition Form.
 - After completion of the ditch cleanout, the Township will submit a copy of the invoice to the TCRC to qualify for the Preventive Maintenance Allowance.
 - After receipt of a copy of the invoice from the Township or notification from petitioner(s), the TCRC will inspect the completed cleanout.
 - Upon TCRC approval of the work, the Allowance will be applied.
 - It is the Township responsibility to charge the property owners (petitioners) for their share of the cleanout.



COUNTY DRAINS

Some roadside ditches are under the jurisdiction of the Tuscola County Drain Commission (TCDC). The Drain Commissioner is responsible for all established drains for stormwater runoff, drainage, and water quality according to the Michigan Drain code, Act 40 of 1956 as amended. The Drain Commissioner requires a permit for work done within the Drain Right-of-Way and that no obstructions will impede the flow of the channel. Please contact the Drain Commissioner's office if you have questions on inland lake, stream, or drain Right-of-Way width, which currently exists on all county drains. (Office: 989-672-3820)

PERMITS

Any project that requires a culvert replacement that needs an TCDC and/or EGLE Permit will be approved at the discretion of TCRC in order to proceed with the project in a given year. Township Supervisors are encouraged to meet with their TCRC Division Foreman and/or the Engineering Department annually to review their local roads in order to assist in developing and estimating a **Transportation Asset Management Plan** for future road projects.

BRIDGES

Bridges are defined as any structure that has a 20' span or longer. TCRC has implemented an asset management program for its bridges and structures to ensure efficient and effective management. This program balances the decision to perform reconstruction, rehabilitation, preventive maintenance, scheduled maintenance, or new construction, with TCRC's bridge funding in order to maximize the useful service life and to ensure the safety of the local bridges under its jurisdiction. TCRC's bridge asset management program aims to preserve and/or improve the condition of its local bridge network within the means of its financial resources. As long as Tuscola County's Local Bridge Millage is in place the Township share will be as follows:

MDOT Local Bridge Program Projects

- Bridges 20' span or longer through Michigan Department of Transportation (MDOT)
- Cost of design, construction engineering, and local matching of Federal Aid funds for State/Federal Aid shall be as follows.
 - Bridges on Primary Routes:
 - The Road Commission share 100% of the design, construction engineering, and matching funds for Federal Aid.
 - Matching funds may be higher to increase chances of being selected.
 - Remainder of construction cost paid by State & Federal Funds
 - Bridges on Local Routes:
 - No Cost to Township as long as Local Bridge Millage in place.
 - The Road Commission shares the remainder of design, construction engineering, and matching funds for Federal Aid.
 - Matching funds may be higher to increase chances of being selected.
 - Remainder of construction cost paid by State & Federal Funds



TCRC Local Bridge Millage Projects

- Bridges 20' span or longer.
- Cost of design, construction engineering, and permitting shall be as follows
 - No Cost to Township as long as Local Bridge Millage in place.
 - The Road Commission shares the remainder of design, construction engineering, permitting, and construction costs not covered by the local bridge millage.

CULVERTS

New Road Construction

- Roadway cross culverts
 - Township Share 100% charged to the project
 - Road Commission Share Supervision & Benefits
- Driveway Culverts
 - Existing drive culverts will be replaced as part of the project costs.
 - If it is not an existing location on the plans and not approved by the Township, the land owner must buy the culvert, and the installation can be done with the project, charged to the Township.

New Cross Culvert Placement minimum 15" diameter

- Township Share 100%, Road Commission Share Supervision & Benefits.
 - Request must come thru the Township
 - Permission shall be obtained, in writing, from the property owner accepting the water from the placement of the new culvert.
 - TCRC shall install the culvert if it will be the Road Commissions to maintain.
(e.g. Culverts for private drives & driveway culverts will not qualify)
 - If installation is done by a Contractor, they are required to get a permit from TCRC with all conditions on the permit being followed.
 - Maintenance costs shall be covered by others specified on the permit.

Replacement of structures 15" to 48" (as part of Local Road Project)

- TCRC Staff to review cross culverts prior to local road projects.
 - Projects w/ HMA are evaluated to span life cycle of 15 years.
 - Projects w/ Chip Seal are evaluated for failed culverts.
 - If deemed necessary to replace for the roadway by TCRC Staff
 - Township Share 0% Road Commission Share 100%.

Replacement of structures 15" to 48" (Township Request)

- TCRC Staff to review cross culvert.
 - Not part of a local road project
 - Township Share 100% Road Commission Share Supervision & Benefits.
 - If deemed necessary to replace due to road issue by TCRC Staff
 - Township Share 0% Road Commission Share 100%.



Replacement of structures over 48" in diameter (as part of Local Road Project)

- TCRC Staff to review cross culverts prior to local road projects.
 - Projects w/ HMA are evaluated to span life cycle of 15 years.
 - Projects w/ Chip Seal are evaluated for failed culverts.
- If deemed necessary to replace for the roadway by TCRC Staff
 - No Cost to Township as long as Local Bridge Millage in place.
 - Road Commission share engineering, design, any needed permits, and replacement charged to the local bridge millage.

Replacement of structures over 48" in diameter (Township Request)

- TCRC Staff to review cross culvert.
 - Not part of a local road project
 - Township Share 100% Road Commission Share Supervision & Benefits.
 - If deemed necessary to replace due to road issue by TCRC Staff
 - No Cost to Township as long as Local Bridge Millage in place.
 - Road Commission share engineering, design, any needed permits, and replacement charged to the local bridge millage.

Replacement of Driveway Culverts

- Driveway Culverts
 - Landowner purchases and installs with a permit. 100% cost to landowner.



6. RIGHT-OF-WAY ENCROACHMENT POLICY

PURPOSE

To establish procedures governing the use of roadside areas under the jurisdiction of the Board of County Road Commissioners based on its responsibility to maintain a roadway system that is reasonably safe and convenient for public travel.

POLICY

In the interest of highway safety, Michigan Law (1925 PA. 368, as amended, MCLA 247.171) prohibits the placement of any object within the highway right-of-way without a permit from the road authority.

In many instances property owners or contractors place fences, rocks/boulders, trees/shrubs, unauthorized mailboxes, earthwork, underground sprinkler systems, underground utilities/devices or other objects within the road right-of-way as a measure of enhancing or protecting the property. However, these fixed objects often become vision obstructions, hazards to motorists, or interfere with drainage and/or public utilities.

Any structural or ornamental object, whether permanent or temporary, placed within the county road right-of-way without a permit from the Tuscola County Road Commission ("Road Commission") shall be subject to removal. Further, any costs incurred by the Road Commission may be recovered from the property owner(s) by statute.

PROCEDURE

Road Commission staff will do an onsite review of the area when an object or obstruction is identified as a potential roadway safety hazard, vision, or drainage obstruction, etc. If it is determined that the object or obstruction has to be removed, the Road Commission will contact the property owner. The owner(s) will have up to thirty (30) days, depending on the severity of the issue, to remove the item(s).

In the event the Road Commission is required to do the work, Public Act 1925, 368, Section 2, requires the Road Commission keep an accurate accounting of the expenses it incurred in carrying out the law and to present affected owners a full and complete statement of expenses it incurred in removing hazardous objects or obstructions from the right-of-way and to therefore require the owner to pay the amount set forth in the statement. Said Act further states: "If the owner shall refuse or neglect to pay the amount set forth in the statement within thirty (30) days after such notice and demand for payment is presented, the Tuscola County Road Commission shall present a verified copy of the statement to the Clerk of the Township of _____, Tuscola County, Michigan, who shall then assess the land and collect the expenses in the same manner as other taxes are collected."



PROCEDURE CON'T.

Campaign Signs, Real Estate Signs, and/or other portable signs placed in Tuscola County Road Right-of-Way, shall be placed on the backside of the roadside ditch and placed as noted as not to obstruct the visibility from drives or side approaches. Any portable signs placed in a location other than specified shall be removed and kept at the local Road Commission garage for a period of seven (7) days, during which the owner of the sign shall have the right to reclaim them. After the seven (7) day period, the Road Commission shall dispose of them.



7. MAILBOX POLICY

PURPOSE

The Tuscola County Road Commission makes every effort to protect and preserve the integrity of property owners' mailboxes. However, during periods of heavy snow accumulation, mailboxes can become damaged due to winter maintenance road scraping and plowing. Therefore, property owners are encouraged to inspect their mailboxes/supports before the winter season each year and to replace deteriorated mailboxes/posts to ensure their durability.

POLICY

The location and construction of mailboxes shall conform to the rules and regulations of the U.S. Postal Service. In addition, Michigan's state and local road agencies follow the standards published by the American Association of State Highway and Transportation Officials (AASHTO) in "A Guide for Erecting Mailboxes on Highways." Any mailbox that violates these Regulations shall be immediately removed by the owner upon notification by the Road Commission. In the case that the owner has not removed the mailbox the Road Commission, in accordance with M.S.A. 9.251, will issue the owner an Encroachment Removal Order. After that, the owner will be granted 30 days to remove the unacceptable mailbox. If the mailbox has not been removed after 30 days, the Road Commission will remove the mailbox at the owner's expense.

Contact your local Post Office for instructions on the height (normally 42" – 46") and side of the road where your mailbox should be located. Mailboxes with improper specifications or locations in the right-of-way will be liable for damages.

WINTER MAINTENANCE DAMAGED MAILBOXES

A mailbox damage claim can be reported to the Road Commission for damages caused during snow removal operations. The Division Foreman will investigate the complaint and if the damage was caused by the blade, plow, or wing the mailbox will be replaced. If the damage is determined to be caused by the snow there will be no replacement.

Note: Replacement with standard or large mailbox and support post.



8. TRAFFIC CONTROL POLICY

PURPOSE

The Tuscola County Road Commission manages traffic operations throughout the county and local road network to minimize vehicle crashes and maximize mobility.

POLICY

Traffic shall be maintained in accordance with Sections 812 and 922 of the 2020 Michigan Department of Transportation (MDOT) Standard Specifications for Construction, including any Supplemental Specifications, and as herein specified.

LOCATION OF WORK

- A. **Work outside of the shoulder** – occurs when equipment, personnel, and/or material “is confined to an area 5 feet or more from the edge of the traveled way”
- B. **Work on the shoulder**– when equipment, personnel, and/or material is confined to the shoulder without reducing any width of the traveled way. Edge of pavement to 5 feet.
- C. **Work within the traveled way** – work that exceeds the definition of any work previously described in parts A through B.

Location A. signing for work outside of the shoulder shall be according to the MDOT Maintaining Traffic typical [4000-M-SHL-OUT](#). Additional signage maybe required at Engineers discretion depending on number of personal & equipment in the ROW.

Location B. signing for a shoulder closure shall be according to attached MDOT Maintaining Traffic Typical [122-NFW-SHL-\(R\)](#).

Location C. work that exceeds the boundaries set by Parts A and B shall be completed in a single lane closure detailed according to a MDOT typical [110-TR-NFW-2L](#). Any alterations to this typical must be approved by the engineer prior to implementation of the TTC plan.

CONSTRUCTION INFLUENCE AREA

The construction influence area (CIA) shall consist of the width of the project right-of-way from 3,500 feet before the project P.O.B. to 3,500 feet beyond the project P.O.E. and 1,500 feet in all directions along all crossroads.



TRAFFIC CONTROL DEVICES

All traffic control devices and their usage shall conform to the Michigan Manual on Uniform Traffic Control Devices (MMUTCD), 2011 edition as amended, and as herein specified.

Sign covers shall be placed over existing regulatory, warning and construction signs that are not applicable during construction.

Arrow boards are to be placed and used in a manner that allows for the signal board to be “clearly legible at distances from 2500 feet to 200 feet, from all traffic lanes and roadway entrances. Do not place the lighted arrow on a horizontal or vertical curve that might interfere with this legibility requirement” – MDOT typical Sheet [104-GEN-AB](#).

Reflective sheeting must meet or exceed the requirements of ASTM D4956 for Type VIII reflective sheeting on rigid signs. Reflective sheeting must meet or exceed the requirements of ASTM D4956 for Type VI reflective sheeting on flexible, roll-up signs. Orange sheeting must be fluorescent orange reflective sheeting.

FLAGGER/TRAFFIC REGULATORS

Traffic regulators are required to have completed the Michigan Traffic Regulator training within 12 months prior to performing any traffic regulating duties.

Traffic regulators and workers must conform with paragraph 4 of Section 6D.03 (MMUTCD) as quoted below.

Traffic Control for a one-lane, two-way traffic control shall be conducted in accordance with Section 6C.11 of the MMUTCD and as herein modified.

“Traffic should be controlled by a traffic regulator at each end of a constricted section of roadway. One of the traffic regulators should be designated as the coordinator. To provide coordination of the control of the traffic, traffic regulators should be able to communicate with each other orally, electronically, or with manual signs. These manual signals should not be mistaken for traffic regulating signals. Any alternative options must be approved by the engineer.”

Alternatively, traffic control may be conducted via an automated flagger assistance device or pilot car as stated by the MMUTCD, except as modified herein w/ prior approval from the Engineer.



ALL WORKERS IN ROW

“All workers, including emergency responders, within the right-of-way who are exposed either to traffic (vehicles using the highway for purposes of travel) or to work vehicles and construction equipment with the Temporary Traffic Control (TTC) zone shall wear high-visibility safety apparel that meets the Performance Class 2 or 3 requirements of the ANSI/ISEA 107-2004 publication entitled "American National Standard for High-Visibility Safety Apparel and Headwear" (see Section 1A.11), or equivalent revisions, and labeled as meeting the ANSI 107-2004 standard performance for Class 2 or 3 risk exposure, except as provided in Paragraph 5 (MMUTCD). A person designated by the employer to be responsible for worker safety shall make the selection of the appropriate class of garment.”

WORK DURATION

Work duration is a major factor in determining the number and types of devices used in TTC zones. The duration of a TTC zone is defined relative to the length of time a work operation occupies a spot location.

Standard

The four categories of work duration and their time at a location shall be:

- A. Intermediate-term stationary is work that occupies a location more than one daylight period up to 3 days or more.
- B. Short-term stationary is daytime work that occupies a location for more than 1 hour within a single daylight period.
- C. Short duration is work that occupies a location up to 1 hour.
- D. Mobile is work that moves intermittently or continuously.”

In addition, work shall be conducted during daylight hours only. No work shall be conducted on Sundays unless approved by the Engineer. The maximum distance between the traffic regulators shall be no more than 2 miles in length. All sequences of more than 2 miles in length will require written permission from the Engineer before proceeding.

Traffic Control for work conducted on the shoulder shall be in accordance with section 6H.01 of the MMUTCD as modified herein.

- a. **Short duration or mobile operations on the shoulder** – “Stationary warning signs may be omitted if the work vehicle displays high-intensity rotating, flashing, oscillating, or strobe lights. If an arrow board is used, the caution mode shall be used. Vehicle-mounted signs shall be mounted in a manner such that they are not obscured by equipment or supplies. Sign legends on vehicle-mounted signs shall be covered or turned from view when work is not in progress.”
- b. **Short-term or intermediate-term work on the shoulder without encroachment** – “When paved shoulders having a width of 8 feet or more are closed, at least one advance warning sign shall be used. In addition, channelizing devices shall be used to close the shoulder in advance to delineate the beginning of the work space and direct vehicular traffic to remain



- within the traveled way. Alternatively, traffic regulation shall be in accordance with MDOT typical 122-NFW-SHL-(R).”
- c. **Work on the shoulder with encroachment** – “Where the opposite shoulder is suitable for carrying vehicular traffic and of an adequate width, lanes may be shifted by use of closely-spaced channelizing devices, provided that the minimum lane width of 10 feet is maintained. Otherwise, a lane closure shall be employed in accordance with MDOT typical 110-TR-NFW-2L.”
 - d. Work extending beyond the criteria above shall have traffic control in accordance with MDOT typical 110-TR-NFW-2L or result in a full road closure.

ATTACHMENTS

<u>MDOT TYPICAL</u>	<u>Pg.</u>
<u>101-GEN-SPACING-CHARTS</u>	33
<u>102-GEN-NOTES</u>	36
<u>103-GEN-SIGN</u>	38
<u>104-GEN-AB</u>	43
<u>110-TR-NFW-2L</u>	44
<u>122-NFW-SHL-(R)</u>	45
<u>4000-M-SHL-OUT</u>	46

Maintaining Traffic Typicals can also be found on MDOT’s website:
<https://mdotjboss.state.mi.us/TSSD/tssdHome.htm>.

DISTANCE BETWEEN TRAFFIC SIGNS, "D"

"D" DISTANCES	POSTED SPEED LIMIT, MPH (PRIOR TO WORK AREA)										
	25	30	35	40	45	50	55	60	65	70	75
D (FEET)	250	300	350	400	450	500	550	600	650	700	750

GUIDELINES FOR LENGTH OF LONGITUDINAL BUFFER SPACE, "B"

"B" LENGTHS	SPEED* MPH (PRIOR TO WORK AREA)											
	20	25	30	35	40	45	50	55	60	65	70	75
B (FEET)	33	50	83	132	181	230	279	329	411	476	542	625

* POSTED SPEED, OFF-PEAK 85TH PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED.

MINIMUM MERGING TAPER LENGTH, "L" (FEET)

OFFSET (FEET)	POSTED SPEED LIMIT, MPH (PRIOR TO WORK AREA)										
	25	30	35	40	45	50	55	60	65	70	75
1	11	15	21	27	45	50	55	60	65	70	75
2	21	30	41	54	90	100	110	120	130	140	150
3	32	45	62	80	135	150	165	180	195	210	225
4	42	60	82	107	180	200	220	240	260	280	300
5	53	75	103	134	225	250	275	300	325	350	375
6	63	90	123	160	270	300	330	360	390	420	450
7	73	105	143	187	315	350	385	420	455	490	525
8	84	120	164	214	360	400	440	480	520	560	600
9	94	135	184	240	405	450	495	540	585	630	675
10	105	150	205	267	450	500	550	600	650	700	750
11	115	165	225	294	495	550	605	660	715	770	825
12	125	180	245	320	540	600	660	720	780	840	900
13	136	195	266	347	585	650	715	780	845	910	975
14	146	210	286	374	630	700	770	840	910	980	1050
15	157	225	307	400	675	750	825	900	975	1050	1125

NOT TO SCALE



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO.

101-GEN-
SPACING-CHARTS

"B", "D" AND "L" TABLES

CHANNELIZING DEVICE SPACING,
SIGN BORDER KEY, AND ROLL-AHEAD SPACING

DATE: MAY 2021

SHEET:

1 OF 3

FILE: 101-GEN-SPACING-CHARTS.dgn



To Our Future
Tuscola County Road Commission

THE FORMULAS FOR THE MINIMUM LENGTH OF A MERGING TAPER IN DERIVING THE "L" VALUES SHOWN IN THE ABOVE TABLES ARE AS FOLLOWS:

$$L = \frac{W \times S^2}{60} \quad \text{WHERE POSTED SPEED PRIOR TO THE WORK AREA IS 40 MPH OR LESS}$$

$$L = W \times S \quad \text{WHERE POSTED SPEED PRIOR TO THE WORK AREA IS 45 MPH OR GREATER}$$

L = MINIMUM LENGTH OF MERGING TAPER
S = POSTED SPEED LIMIT IN MPH PRIOR TO WORK AREA
W = WIDTH OF OFFSET

TYPES OF TAPERS

UPSTREAM TAPERS
MERGING TAPER
SHIFTING TAPER
SHOULDER TAPER
2 TO 1 LANE ROAD TAPER

DOWNSTREAM TAPERS
(USE IS RECOMMENDED)

TAPER LENGTH

L - MINIMUM
1/2 L - MINIMUM
1/3 L - MINIMUM
100' - MAXIMUM

100' (PER LANE)

MAXIMUM SPACING FOR CHANNELIZING DEVICES

WORK ZONE SPEED LIMIT	DAY AND 42" DEVICE SPACING (FT)		NIGHTTIME 42" DEVICE SPACING (FT)	
	TAPER	TANGENT	TAPER	TANGENT
< 45 MPH	1 x SPEED LIMIT	2 x SPEED LIMIT	25 FEET	50 FEET
≥ 45 MPH	50 FEET	100 FEET	25 FEET	50 FEET

SIGN OUTLINE KEY

DASHED OUTLINES INDICATE A SIGN THAT EXISTS ON SITE, AND NEEDS TO BE COVERED.



SOLID OUTLINES INDICATE A SIGN THAT IS TO BE PLACED ON THE PROJECT



NOT TO SCALE



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO. 101-GEN-SPACING-CHARTS

"B", "D" AND "L" TABLES
CHANNELIZING DEVICE SPACING
SIGN BORDER KEY AND ROLL-AHEAD SPACING

DATE: MAY 2021
SHEET:

2 OF 3

FILE: 101-GEN-SPACING-CHARTS.dgn

GUIDELINES FOR ROLL-AHEAD DISTANCES FOR TMA VEHICLES - TEST LEVEL 2

WEIGHT OF TMA VEHICLE	PREVAILING SPEED (POSTED SPEED PRIOR TO WORK ZONE)	ROLL-AHEAD DISTANCE* (DISTANCE FROM FRONT OF TMA VEHICLE TO WORK AREA)
5.5 TONS (STATIONARY)	40 MPH OR LESS	25 FT

* ROLL-AHEAD DISTANCES ARE CALCULATED USING A 4,410 POUND IMPACT VEHICLE WEIGHT.

GUIDELINES FOR ROLL-AHEAD DISTANCES FOR TMA VEHICLES - TEST LEVEL 3

WEIGHT OF TMA VEHICLE	PREVAILING SPEED (POSTED SPEED PRIOR TO WORK ZONE)	ROLL-AHEAD DISTANCE* (DISTANCE FROM FRONT OF TMA VEHICLE TO WORK AREA)
5 TONS (MOBILE)	45 MPH	100 FT
	50-55 MPH	150 FT
	60-75 MPH	175 FT
12 TONS (STATIONARY)	45 MPH	25 FT
	50-55 MPH	25 FT
	60-75 MPH	50 FT

* ROLL-AHEAD DISTANCES ARE CALCULATED USING A 10,000 POUND IMPACT VEHICLE WEIGHT.

 Michigan Department of Transportation FILE: 101-GEN-SPACING-CHARTS.dgn	NOT TO SCALE	MAINTAINING TRAFFIC TYPICAL	"B", "D" AND "L" TABLES CHANNELIZING DEVICE SPACING SIGN BORDER KEY AND ROLL AHEAD SPACING	DATE: MAY 2021
		NO. 101-GEN-SPACING-CHARTS		SHEET: 3 OF 3

THE FOLLOWING NOTES APPLY IF CALLED FOR ON THE TRAFFIC TYPICAL

GENERAL NOTES

- G1: SEE GEN-SPACING-CHARTS FOR COMMON VALUES INCLUDING:
D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES
L = MINIMUM LENGTH OF TAPER
B = LENGTH OF LONGITUDINAL BUFFER
ROLL AHEAD DISTANCE
- G2: DISTANCE BETWEEN SIGNS, "D", THE VALUES FOR WHICH ARE SHOWN IN TYPICAL GEN-KEY ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY THE ENGINEER.
- G3: ALL TEMPORARY SIGNS, TYPE III BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING MUST MEET NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM REPORT 350 (NCHRP 350) TEST LEVEL 3, OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) TL-3 AS WELL AS THE CURRENT EDITION OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS, ONLY DESIGNS AND MATERIALS APPROVED BY MDOT WILL BE ALLOWED.
- G4: DO NOT STORE EQUIPMENT, MATERIALS OR PERFORM WORK IN ESTABLISHED BUFFER AREAS.
- G5: ALL EXISTING PAVEMENT MARKINGS WHICH ARE IN CONFLICT WITH EITHER PROPOSED CHANGES IN TRAFFIC PATTERNS OR PROPOSED TEMPORARY TRAFFIC MARKINGS SHALL BE REMOVED BEFORE ANY CHANGE IS MADE IN THE TRAFFIC PATTERN. EXCEPTION WILL BE MADE FOR TRAFFIC PATTERNS FOR WORK LESS THAN THREE DAYS THAT ARE ADEQUATELY DELINEATED BY OTHER TRAFFIC CONTROL DEVICES.

SIGN NOTES

- S1: ALL NON-APPLICABLE SIGNING WITHIN THE CIA MUST BE MODIFIED TO FIT CONDITIONS, COVERED, OR REMOVED, FOR GUIDANCE SEE THE WORK ZONE SAFETY AND MOBILITY MANUAL, SECTIONS 6.01.09 AND 6.01.10.
- S2: RS-18b SIGNS ARE ONLY REQUIRED ON FREEWAY PROJECTS WITH A DURATION OF 15 DAYS OR LONGER OR NON-FREEWAY PROJECTS WITH A DURATION OF 90 DAYS OR LONGER. TO APPLY THIS TYPICAL WITHOUT RS-18b SIGNS, REMOVE THE SIGNS AND CONSOLIDATE THE SEQUENCE AS APPROPRIATE.
- S3: RS-18c IS ONLY REQUIRED IN THE INITIAL SIGNING SEQUENCE IN THE WORK ZONE. OMIT THIS SIGN IN SUBSEQUENT SEQUENCES IN THE SAME WORK ZONE.
- S4: ADDITIONAL SIGNING AND/OR ELONGATED SIGNING SEQUENCES SHOULD BE USED WHEN TRAFFIC VOLUMES ARE SIGNIFICANT ENOUGH TO CREATE BACKUPS BEYOND THE W20-5 SIGNS.
- S5: PLACE ADDITIONAL SPEED LIMIT SIGNS REFLECTING THE WORK ZONE SPEED AFTER EACH MAJOR CROSSROAD THAT INTERSECTS THE WORK ZONE, OR AFTER EACH ENTRANCE RAMP THAT COMES ONTO THE FREEWAY WHERE THE REDUCED SPEED IS IN EFFECT. PLACE ADDITIONAL SPEED LIMIT SIGNS AT INTERVALS ALONG THE ROADWAY SUCH THAT NO SPEED LIMIT SIGNS ARE MORE THAN 2 MILES APART. WHEN REDUCED SPEED LIMITS ARE UTILIZED IN THE WORK AREA, PLACE ADDITIONAL SPEED LIMIT SIGNS RETURNING TRAFFIC TO ITS NORMAL SPEED BEYOND THE LIMITS OF THE WORK AREA AS INDICATED. IF PERMANENT SIGNS DISPLAYING THE CORRECT SPEED LIMIT ARE POSTED, OMIT ALL W3-5b AND R2-1 SIGNS AND REDUCE SPACING ACCORDINGLY.
- S6: FABRICATE SPECIAL SIGNS IN ACCORDANCE WITH CURRENT SIGNING DESIGN STANDARDS.
- S7: PLACE ADDITIONAL R8-3 SIGNS AT A MAXIMUM 500' SPACING THROUGHOUT THE WORK ZONE.
- S8: WHEN SPEED LIMIT SIGNS CANNOT BE PLACED SIDE BY SIDE AS SHOWN, PLACE THEM "D" DISTANCE APART.
- S9: STOP SIGNS NOT REQUIRED IF SIGNALS ARE ON 4-WAY FLASHING RED. STOP AHEAD SIGNS ARE NOT REQUIRED IF THERE IS ADEQUATE VISIBILITY OF THE STOP SIGN OR IF SIGNALS ARE BEING USED TO CONTROL TRAFFIC.
- S10: PLACE REDUCED SPEED ZONE AHEAD SIGN (W3-5b) HERE WHEN USING A SPEED REDUCTION IN THIS DIRECTION.
- S11: THE NUMBER OF W1-6 SHIFT SIGNS TO PLACE FOR A SHIFT IS AS FOLLOWS:
SHIFTS 4FT OR LESS, PLACE ONE W1-6(RH/L)
SHIFTS 5FT TO 12FT, PLACE TWO W1-6(RH/L)
SHIFTS MORE THAN 12FT, PLACE THREE OR MORE W1-6(RH/L) SIGNS DEPENDING UPON LENGTH OF SHIFT AND AS PER THE ENGINEER.
- S12: PLACE R2-1 SIGNS AS DETAILED IN NOTE S5 WHEN THERE IS A SPEED REDUCTION IN THIS DIRECTION

TRAFFIC REGULATOR NOTES


- TR1: TRAFFIC REGULATORS MUST FOLLOW ALL THE REQUIREMENTS IN THE STANDARD SPECIFICATIONS, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS, THE CURRENT VERSIONS OF THE TRAFFIC REGULATOR'S INSTRUCTION MANUAL AND THE VIDEO "HOW TO SAFELY REGULATE TRAFFIC IN MICHIGAN". THE MAXIMUM DISTANCE BETWEEN THE TRAFFIC REGULATORS IS DETERMINED BY THE ROADWAY ADT, GEOMETRICS, AND AS DIRECTED BY THE ENGINEER.
- TR2: PROVIDE APPROPRIATE BALLOON LIGHTING TO SUFFICIENTLY ILLUMINATE TRAFFIC REGULATOR'S STATIONS WHEN TRAFFIC REGULATING IS ALLOWED DURING THE HOURS OF DARKNESS.
- TR3: PROVIDE EITHER A STOP/SLOW AHEAD OR A RED/YELLOW LENS AHEAD, MEETING THE REQUIREMENTS OF THE MMUTCD

TEMPORARY TRAFFIC CONTROL DEVICE NOTES

- TC01: THE MAXIMUM DISTANCE IN FEET BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD NOT EXCEED 1.0 TIMES THE WORK ZONE SPEED LIMIT IN MPH FOR ROADWAYS WITH A POSTED WORK ZONE SPEED LIMIT LESS THAN 45 MPH AND SHOULD NOT EXCEED 50 FEET ON ROADWAYS WITH A POSTED WORK ZONE SPEED LIMIT OF 45 MPH OR GREATER. THE SPACING FOR 42 INCH CHANNELIZING DEVICE TAPERS ARE NOT TO EXCEED 25 FEET AT NIGHT.
- TC02: THE MAXIMUM DISTANCE IN FEET BETWEEN CHANNELIZING DEVICES IN A TANGENT SHOULD NOT EXCEED TWICE THE WORK ZONE SPEED LIMIT IN MPH FOR ROADWAYS WITH A POSTED WORK ZONE SPEED LIMIT LESS THAN 45 MPH AND SHOULD NOT EXCEED 100 FEET ON ROADWAYS WITH A POSTED WORK ZONE SPEED LIMIT OF 45 MPH OR GREATER. THE SPACING FOR 42 INCH CHANNELIZING DEVICE TANGENTS ARE NOT TO EXCEED 50 FEET AT NIGHT.
- TC03: TYPE III BARRICADES MUST BE LIGHTED FOR OVERNIGHT CLOSURES.
- TC04: WHEN THE HAUL ROAD IS NOT IN USE, PLACE LIGHTED TYPE III BARRICADES WITH "ROAD CLOSED" EXTENDING COMPLETELY ACROSS THE HAUL ROAD.
- TC05: USE OBJECT MARKER SIGNS IN LIEU OF THE TYPE B HIGH INTENSITY LIGHT SHOWN IN THE STANDARD PLAN FOR TEMPORARY CONCRETE BARRIER (R-55 AND R-126) WHEN USED WITH A TEMPORARY SIGNAL SYSTEM. THE OBJECT MARKERS MUST BE A MINIMUM OF 12 INCHES IN WIDTH AND 36 INCHES IN HEIGHT AND HAVE ORANGE AND WHITE RETROREFLECTIVE SHEETING. THE RETROREFLECTIVE SHEETING MUST HAVE ALTERNATING DIAGONAL ORANGE AND WHITE STRIPES SLOPING DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION VEHICULAR TRAFFIC IS TO PASS.
- TC06: PLACE LIGHTED ARROW PANELS AS CLOSE TO THE BEGINNING OF TAPERS AS PRACTICAL, BUT NOT IN A MANNER THAT WILL OBSCURE OR CONFUSE APPROACHING MOTORISTS WHEN PHYSICAL LIMITATIONS RESTRICT PLACEMENT. IN CURBED SECTIONS, IF ARROW BOARD CANNOT BE PLACED BEHIND CURB, PLACE ARROW BOARD IN THE CLOSED LANE AS CLOSE TO THE BEGINNING OF TAPER AS POSSIBLE.
- TC07: ADDITIONAL TYPE III BARRICADES MAY BE REQUIRED TO COMPLETELY CLOSE OFF ROAD FROM EDGE OF PAVEMENT TO EDGE OF PAVEMENT.
- TC08: WHERE THE SHIFTED SECTION IS SHORTER THAN 600 FEET, A DOUBLE REVERSE CURVE SIGN (W24-1) CAN BE USED INSTEAD OF THE FIRST REVERSE CURVE SIGN AND THE SECOND REVERSE CURVE SIGN CAN BE OMITTED.
- TC09: RUMBLE STRIPS ARE TO BE PLACED AS SPECIFIED IN THE CONTRACT. IF NOT SPECIFIED IN THE CONTRACT, PLACE RUMBLE STRIPS AS SHOWN, AND IN ACCORDANCE WITH THE RUMBLE STRIP MANUFACTURER'S RECOMMENDATIONS. AN ARRAY OF RUMBLE STRIPS CONTAINS THREE RUMBLE STRIPS. PLACE THE RUMBLE STRIPS IN THE ARRAY AT A CONSISTENT DISTANCE BETWEEN 10' AND 20' APART.
- TC10: SEE THE WORK ZONE SAFETY AND MOBILITY MANUAL PORTABLE CHANGEABLE MESSAGE SIGN GUIDELINES FOR RECOMMENDED AND CORRECT PCMS MESSAGING. STAGGER PCMS THAT ARE ON OPPOSING SIDES OF THE ROAD 1000 FEET FROM EACH OTHER.

RAMP NOTES

- RMP1: WHEN CONDITIONS ALLOW, E5-1 SIGNS MUST BE REMOVED OR COVERED AND CHANNELIZING DEVICES MUST BE POSITIONED TO ENABLE RAMP TRAFFIC TO DIVERGE IN A FREE MANNER.
- RMP2: STOP AND YIELD CONDITIONS SHOULD BE AVOIDED WHENEVER PRACTICAL. WHEN CONDITIONS WARRANT, R1-1 SIGNS MAY BE USED IN PLACE OF R1-2 SIGNS. WHEN R-1 SIGNS ARE USED, W3-1 SIGNS MUST BE USED IN PLACE OF W3-2 SIGNS. CONSIDERATION SHOULD BE GIVEN TO CLOSING THE RAMP TO COMPLETE WORK TO ALLOW AN ADEQUATE MERGE DISTANCE. WORK SHOULD BE EXPEDITED TO AVOID THE STOP AND/OR YIELD CONDITIONS.

 <p>Michigan Department of Transportation</p>	NOT TO SCALE	MAINTAINING TRAFFIC TYPICAL	TRAFFIC TYPICALS	DATE: MAY 2022
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THE FOLLOWING NOTES APPLY IF CALLED FOR ON THE TRAFFIC TYPICAL

SIGNAL NOTES

- S101: EXISTING SIGNAL MUST BE EITHER 4-WAY FLASHING RED, BAGGED, OR TURNED OFF.
- S102: SIGNAL IS IN OPERATION.
- S103: DELINEATE THE WORK ZONE AREA WITH 28 INCH CONES FOR DAYTIME WORK, OR 42 INCH CHANNELIZING DEVICES FOR NIGHTTIME WORK.
- S104: THE CONTRACTOR MUST HAVE A DESIGNATED SPOTTER IF THE AERIAL BUCKET TRUCK IS LOCATED OVER ACTIVE TRAVEL LANES.
- S105: THE LOWEST POINT OF THE BUCKET MAY NOT TRAVEL BELOW 14 FOOT VERTICAL CLEARANCE. THE CONTRACTOR MUST UTILIZE AN ALTERNATE SET UP, OR PLACE THE INTERSECTION IN A 4 WAY STOP IF THE 14 FOOT VERTICAL CLEARANCE IS COMPROMIZED, USE TRAFFIC REGULATORS TO CONTROL TRAFFIC THROUGH THE INTERSECTION WHEN TRAFFIC IS PLACED IN A 4 WAY STOP.
- S106: DELINEATE THE TRUCK WITH CHANNELIZING DEVICES. THE POSITION OF THE TRUCK MAY BE MOVED TO FACILITATE WORK.

MAINTENANCE AND SURVEYING NOTES

- MS1: WHENEVER STOPPING SIGHT DISTANCE EXISTS TO THE REAR, THE SHADOW VEHICLES SHOULD MAINTAIN THE RECOMMENDED DISTANCE FROM THE WORK AREA AND PROCEED AT THE SAME SPEED. THE SHADOW VEHICLE SHOULD SLOW DOWN AND TRAVEL AT A FARTHER DISTANCE TO PROVIDE ADEQUATE SIGHT DISTANCE IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES.
- MS2: WORKERS OUTSIDE OF VEHICLES SHOULD WORK WITHIN 150' OF WORK VEHICLES WITH AN ACTIVATED BEACON, BETWEEN THE "BEGIN WORK CONVOY" SIGN AND THE "END WORK CONVOY" SIGN, OR BETWEEN THE "WORK ZONE BEGINS" AND "END ROAD WORK" SIGN.
- MS3: WORK OR SHADOW VEHICLES WITH OR WITHOUT A TMA MAY BE USED TO SEPARATE THE WORK SPACE FROM TRAFFIC. IF USED, THE VEHICLES SHOULD BE PARKED ACCORDING TO THE ROLL AHEAD DISTANCE TABLES.
- MS4: WORK AND SHADOW VEHICLES SHALL BE APPROPRIATELY EQUIPPED WITH AN ACTIVATED AMBER BEACON.
- MS5: WHEN WORKERS ARE OUTSIDE THEIR VEHICLES IN AN EXISTING LANE WHILE A MOBILE OPERATION IS OCCURRING DURING THE NIGHTTIME HOURS, CHANNELIZING DEVICES TO DELINEATE OPEN OR CLOSED LANES AT 50 FT SPACING MUST BE USED. AN EXAMPLE OF AN OPERATION (BUT NOT LIMITED TO) IS THE LAYOUT OF CONCRETE PATCHES.
- MS6: W21-6 AND W20-1 SIGNS MAY BE SUBSTITUTED AS DETERMINED BY THE TYPE OF WORK TAKING PLACE AS PER THE ENGINEER.

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To Our Future
Tuscola County Road Commission

SIGN NUMBER KEY							
 E5-1f 48" x 48" 60" x 48"	 E5-2 48" x 36"	 E5-2a 48" x 36"	 E5-3 48" x 36"	 E13-1P VAR x 24"	 E13-1P 36" x 24"	 G20-1 60" x 24"	 G20-2 48" x 24"
 G20-4 36" x 18"	 18" x 18" 24" x 24" 30" x 30"	 18" x 18" 24" x 24" 36" x 36" 48" x 48"	 22.5" x 18" 30" x 24" 45" x 36" 60" x 48"	 18" x 18" 24" x 24" 36" x 36" 48" x 48"	 22.5" x 18" 30" x 24" 45" x 36" 60" x 48"	 18" x 18" 24" x 24" 36" x 36" 48" x 48"	 22.5" x 18" 30" x 24" 45" x 36" 60" x 48"
 18" x 18" 24" x 24" 36" x 36" 48" x 48"	 22.5" x 18" 30" x 24" 45" x 36" 60" x 48"	 18" x 18" 24" x 24" 30" x 30" 36" x 36"	 18" x 18" 24" x 24"	 18" x 18" 24" x 24" 36" x 36"	 22.5" x 18" 30" x 24" 45" x 36"	 M3-1 12" x 6" 18" x 9" 24" x 12" 30" x 15" 36" x 18"	 M3-2 12" x 6" 18" x 9" 24" x 12" 30" x 15" 36" x 18"
 M3-3 12" x 6" 18" x 9" 24" x 12" 30" x 15" 36" x 18"	 M3-4 12" x 6" 18" x 9" 24" x 12" 30" x 15" 36" x 18"	 M4-1 12" x 6" 18" x 9" 24" x 12" 30" x 15" 36" x 18"	 M4-1a 12" x 6" 18" x 9" 24" x 12" 30" x 15" 36" x 18"	 M4-2 12" x 6" 18" x 9" 24" x 12" 30" x 15" 36" x 18"	 M4-3 12" x 6" 18" x 9" 24" x 12" 30" x 15" 36" x 18"	 M4-4 18" x 9" 24" x 12" 30" x 15" 36" x 18"	 M4-5 12" x 6" 18" x 9" 24" x 12" 30" x 15" 36" x 18"
 M4-6 12" x 6" 18" x 9" 24" x 12" 30" x 15" 36" x 18"	 M4-7 12" x 6" 18" x 9" 24" x 12" 30" x 15" 36" x 18"	 M4-7a 12" x 6" 18" x 9" 24" x 12" 30" x 15" 36" x 18"	 M4-8 12" x 6" 18" x 9" 24" x 12" 30" x 15"	 M4-8a 24" x 18"	 M4-8b 24" x 12"	 M4-9L 30" x 24" 48" x 36" 60" x 48"	 M4-9R 30" x 24" 48" x 36" 60" x 48"
 M4-9J 30" x 24" 48" x 36" 60" x 48"	 M4-9kL 30" x 30" 48" x 42" 60" x 54"	 M4-9kR 30" x 30" 48" x 42" 60" x 54"	 M4-9mL 30" x 30" 48" x 42" 60" x 54"	 M4-9mR 30" x 30" 48" x 42" 60" x 54"	 12" x 18"	 12" x 18"	 12" x 18"
 12" x 18"	 12" x 18"	 12" x 18"	 12" x 24"	 12" x 18"	 48" x 18"	 48" x 18"	 M4-11a 12" x 6" 18" x 9" 24" x 12" 30" x 15" 36" x 18"
 12" x 9" 21" x 15" 30" x 21"	 12" x 9" 21" x 15" 30" x 21"	 12" x 9" 21" x 15" 30" x 21"	 12" x 9" 21" x 15" 30" x 21"	 12" x 9" 21" x 15" 30" x 21"	 12" x 9" 18" x 12" 21" x 15" 30" x 21"	 12" x 9" 18" x 12" 21" x 15" 30" x 21"	 12" x 9" 18" x 12" 21" x 15" 30" x 21"
 12" x 9" 18" x 12" 21" x 15" 30" x 21"	 12" x 9" 18" x 12" 21" x 15" 30" x 21"	 12" x 9" 18" x 12" 21" x 15" 30" x 21"	 12" x 9" 18" x 12" 21" x 15" 30" x 21"	 12" x 9" 18" x 12" 21" x 15" 30" x 21"	 12" x 9" 18" x 12" 21" x 15" 30" x 21"	 12" x 9" 18" x 12" 21" x 15" 30" x 21"	 12" x 9" 18" x 12" 21" x 15" 30" x 21"

SEE MDOT SHS 13-WORK ZONE FOR SIGN DETAILS

 Michigan Department of Transportation FILE: 103-GEN-SIGN.dgn	NOT TO SCALE	MAINTAINING TRAFFIC TYPICAL	TRAFFIC TYPICALS SIGN SHEET	DATE: JUNE 2021
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To Our Future
Tuscola County Road Commission

SIGN NUMBER KEY									
NORTH 10 KEEP LEFT MB-1GL 36" x 66"	SOUTH 27 KEEP RIGHT MB-1GR 36" x 66"	NORTH 10 SOUTH 27 MB-2GL 60" x 48"	NORTH 10 SOUTH 27 MB-2GR 60" x 48"	NORTH 10 SOUTH 27 MB-2GL 60" x 48"	NORTH 10 SOUTH 27 MB-2GR 60" x 48"	NORTH 10 SOUTH 27 MB-2GL 60" x 48"	NORTH 10 SOUTH 27 MB-2GR 60" x 48"	NORTH 10 SOUTH 27 MB-2GL 60" x 48"	NORTH 10 SOUTH 27 MB-2GR 60" x 48"
TO ONCOMING TRAFFIC R1-2GL 24" x 18" 36" x 30" 48" x 36"	SPEED LIMIT XX R2-1 18" x 24" 24" x 30" 30" x 36" 36" x 48" 48" x 60"	WHERE WORKERS PRESENT 45 R2-1a 48" x 60"							
ONLY R3-5R 30" x 36" 36" x 48"	ONLY R3-5G 30" x 36" 36" x 48"	ONLY R3-6L 30" x 36" 42" x 48"	ONLY R3-6R 30" x 36" 42" x 48"	LEFT LANE MUST TURN LEFT R3-7L 30" x 30" 36" x 36"	RIGHT LANE MUST TURN RIGHT R3-7R 30" x 30" 36" x 36"	ONLY ONLY R3-8C 36" x 30"	ONLY ONLY R3-8D 36" x 30"	ONLY ONLY R3-8E 36" x 30"	ONLY ONLY R3-8F 36" x 30"
DO NOT PASS R4-1 12" x 18" 18" x 24" 24" x 30" 36" x 48" 48" x 60"	PASS WITH CAUTION R4-2 12" x 18" 18" x 24" 24" x 30" 36" x 48" 48" x 60"			STAY IN LANE R4-9 18" x 24" 24" x 30" 36" x 48" 48" x 60"	DO NOT ENTER R5-1 30" x 30" 36" x 36" 48" x 48"	WRONG WAY R5-1a 30" x 18" 36" x 24" 42" x 30"	BLIND / HILL A HEAD R5-1b 48" x 60"	BLIND / HILL A HEAD R5-1c 48" x 60"	BLIND / HILL A HEAD R5-1d 48" x 60"
WORK ZONE BEGIN R5-18a 48" x 48"	BEGIN WORK CONVOY R5-18b 78" x 12"	END WORK CONVOY R5-18c 72" x 12"	USE ALL LANES DURING BACKUPS R5-18d 48" x 60"	FORM ONE LANE RIGHT R5-18e 30" x 42"	DO NOT FOLLOW TRUCKS INTO WORK ZONE R5-18f 48" x 60"	ONE WAY R6-1L 36" x 12" 54" x 18"	ONE WAY R6-2L 12" x 16" 18" x 24" 24" x 30" 36" x 48" 48" x 60"	ONE WAY R6-2R 12" x 16" 18" x 24" 24" x 30" 36" x 48" 48" x 60"	ONE WAY R6-2L 12" x 16" 18" x 24" 24" x 30" 36" x 48" 48" x 60"
PEDESTRIAN CROSSWALK R9-8 36" x 18"	SIDEWALK CLOSED R9-9 24" x 12" 30" x 18"	SIDEWALK CLOSED USE OTHER SIDE R9-10 24" x 12" 48" x 24"	SIDEWALK CLOSED AHEAD CROSS HERE R9-11L 24" x 12" 48" x 36"	SIDEWALK CLOSED AHEAD CROSS HERE R9-11R 24" x 12" 48" x 36"	SIDEWALK CLOSED AHEAD CROSS HERE R9-11L 24" x 12" 48" x 36"	SIDEWALK CLOSED AHEAD CROSS HERE R9-11R 24" x 12" 48" x 36"	SIDEWALK CLOSED AHEAD CROSS HERE R9-11L 24" x 12" 48" x 36"	SIDEWALK CLOSED AHEAD CROSS HERE R9-11R 24" x 12" 48" x 36"	SIDEWALK CLOSED AHEAD CROSS HERE R9-11L 24" x 12" 48" x 36"
ROAD CLOSED TO TRAFFIC R11-3a 60" x 30"	BRIDGE OUT TO TRAFFIC R11-3b 60" x 30"	ROAD CLOSED TO TRAFFIC R11-4 60" x 30"	ROAD CLOSED TO TRAFFIC R11-5 60" x 30"	ROAD CLOSED TO TRAFFIC R11-6 60" x 30"	ROAD CLOSED TO TRAFFIC R11-7 60" x 30"	ROAD CLOSED TO TRAFFIC R11-8 60" x 30"	ROAD CLOSED TO TRAFFIC R11-9 60" x 30"	ROAD CLOSED TO TRAFFIC R11-10 60" x 30"	ROAD CLOSED TO TRAFFIC R11-11 60" x 30"

SEE MDOT SHS 13-WORK ZONE FOR SIGN DETAILS



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO:
103-GEN-SIGN

TRAFFIC TYPICALS
SIGN SHEET

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SIGN NUMBER KEY							
W1-1L 18" x 18" 24" x 24" 30" x 30" 36" x 36" 48" x 48"	W1-1R 18" x 18" 24" x 24" 30" x 30" 36" x 36" 48" x 48"	W1-2L 18" x 18" 24" x 24" 30" x 30" 36" x 36" 48" x 48"	W1-2R 18" x 18" 24" x 24" 30" x 30" 36" x 36" 48" x 48"	W1-2bL 36" x 36" 48" x 48"	W1-2bR 36" x 36" 48" x 48"	W1-3L 18" x 18" 24" x 24" 30" x 30" 36" x 36" 48" x 48"	W1-3R 18" x 18" 24" x 24" 30" x 30" 36" x 36" 48" x 48"
W1-4L 18" x 18" 24" x 24" 30" x 30" 36" x 36" 48" x 48"	W1-4R 18" x 18" 24" x 24" 30" x 30" 36" x 36" 48" x 48"	W1-4bL 24" x 24" 30" x 30" 36" x 36" 48" x 48"	W1-4bR 24" x 24" 30" x 30" 36" x 36" 48" x 48"	W1-4cL 24" x 24" 30" x 30" 36" x 36" 48" x 48"	W1-4cR 24" x 24" 30" x 30" 36" x 36" 48" x 48"	W24-1L 30" x 30" 36" x 36" 48" x 48"	W24-1R 30" x 30" 36" x 36" 48" x 48"
W24-1cL 30" x 30" 36" x 36" 48" x 48"	W24-1cR 30" x 30" 36" x 36" 48" x 48"	W24-1bL 30" x 30" 36" x 36" 48" x 48"	W24-1bR 30" x 30" 36" x 36" 48" x 48"	W1-6L 24" x 12" 36" x 18" 48" x 24" 60" x 30" 96" x 48"	W1-6R 24" x 12" 36" x 18" 48" x 24" 60" x 30" 96" x 48"	W1-8L 12" x 18" 18" x 24" 24" x 30" 30" x 36" 36" x 48"	W1-8R 12" x 18" 18" x 24" 24" x 30" 30" x 36" 36" x 48"
W3-1 18" x 18" 24" x 24" 30" x 30" 36" x 36" 48" x 48"	W3-2 18" x 18" 24" x 24" 30" x 30" 36" x 36" 48" x 48"	W3-3 18" x 18" 24" x 24" 30" x 30" 36" x 36" 48" x 48"	W3-4 30" x 30" 36" x 36" 48" x 48" 60" x 60"	W3-4b 30" x 30" 36" x 36" 48" x 48"	W3-5 36" x 36" 48" x 48"	W3-5a 30" x 30" 36" x 36" 48" x 48" 60" x 60"	W3-5b 30" x 30" 36" x 36" 48" x 48"
W4-1L 24" x 24" 30" x 30" 36" x 36" 48" x 48"	W4-1R 24" x 24" 30" x 30" 36" x 36" 48" x 48"	W4-2L 30" x 30" 36" x 36" 48" x 48"	W4-2R 30" x 30" 36" x 36" 48" x 48"	W4-3L 30" x 30" 36" x 36" 48" x 48"	W4-3R 30" x 30" 36" x 36" 48" x 48"	W4-5L 24" x 24" 30" x 30" 36" x 36" 48" x 48"	W4-5R 24" x 24" 30" x 30" 36" x 36" 48" x 48"
W4-5P 18" x 24" 24" x 30"	W4-6L 24" x 24" 30" x 30" 36" x 36" 48" x 48"	W4-6R 24" x 24" 30" x 30" 36" x 36" 48" x 48"	W4-7L 30" x 30" 36" x 36" 48" x 48" 60" x 60"	W4-7R 30" x 30" 36" x 36" 48" x 48" 60" x 60"	W5-1 30" x 30" 36" x 36" 48" x 48"	W5-2 18" x 18" 30" x 30" 36" x 36" 48" x 48"	W5-3 24" x 24" 30" x 30" 36" x 36" 48" x 48"
W5-4 30" x 30" 36" x 36" 48" x 48"	W6-1 30" x 30" 36" x 36" 48" x 48"	W6-2 30" x 30" 36" x 36" 48" x 48"	W6-3 30" x 30" 36" x 36" 48" x 48"	W6-4 12" x 18"	W7-1 24" x 24" 30" x 30" 36" x 36" 48" x 48"	W7-1a 24" x 24" 30" x 30" 36" x 36" 48" x 48"	W8-1 18" x 18" 24" x 24" 30" x 30" 36" x 36" 48" x 48"

SEE MDOT SHS 13-WORK ZONE FOR SIGN DETAILS



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SIGN NUMBER KEY

 WB-2 18" x 18" 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 WB-3 18" x 18" 30" x 30" 36" x 36" 48" x 48"	 WB-4 18" x 18" 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 WB-5 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 WB-5P 24" x 18" 30" x 24" 36" x 30"	 WB-7 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 WB-8 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 WB-9 24" x 24" 30" x 30" 36" x 36" 48" x 48"
 WB-11 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 WB-12 30" x 30" 36" x 36" 48" x 48"	 WB-14 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 WB-15 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 WB-15P 24" x 18" 30" x 24" 36" x 30"	 WB-17L 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 WB-17R 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 WB-17P 24" x 18" 30" x 24" 36" x 30"
 WB-18 24" x 24" 36" x 36" 48" x 48"	 WB-23 24" x 24" 36" x 36" 48" x 48"	 WB-24 30" x 30" 36" x 36" 48" x 48"	 WB-25 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 WB-26 36" x 36" 48" x 48"	 WB-1L 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 WB-1R 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 WB-2L 30" x 30" 36" x 36" 48" x 48"
 WB-2R 30" x 30" 36" x 36" 48" x 48"	 WB-3C 30" x 30" 36" x 36" 48" x 48" 60" x 60"	 WB-3L 30" x 30" 36" x 36" 48" x 48" 60" x 60"	 WB-3R 30" x 30" 36" x 36" 48" x 48" 60" x 60"	 WB-3a 30" x 30" 36" x 36" 48" x 48" 60" x 60"	 WB-3b 30" x 30" 36" x 36" 48" x 48" 60" x 60"	 WB-10 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 WB-10a 24" x 24" 30" x 30" 36" x 36" 48" x 48"
 WB-24 36" x 36" 48" x 48"	 WB-12-1 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 WB-12-2 18" x 18" 30" x 30" 36" x 36" 48" x 48"	 WB-13-1P 18" x 18" 24" x 24" 30" x 30"	 WB-13-2 24" x 30" 36" x 48" 48" x 60"	 WB-13-3 24" x 30" 36" x 48" 48" x 60"	 WB-13-4P 24" x 24" 36" x 36"	 WB-13-6 24" x 42" 36" x 60" 48" x 84"
 WB-13-6a 24" x 42" 36" x 60" 48" x 84"	 WB-13-7 24" x 42" 36" x 60" 48" x 84"	 WB-13-7a 24" x 42" 36" x 60" 48" x 84"	 WB-14-3 36" x 24" 40" x 30" 48" x 36" 64" x 48"	 WB-16-2P 18" x 12" 24" x 18" 30" x 24"	 WB-16-4aP 18" x 12" 24" x 18" 30" x 24" 36" x 30"	 WB-16-12P 24" x 18"	 WB-16-13P 24" x 18" 30" x 24"
 WB-20-1 24" x 24" 30" x 30" 36" x 36" 48" x 48" 60" x 60"	 WB-20-1a 24" x 24" 30" x 30" 36" x 36" 48" x 48" 60" x 60"	 WB-20-1b 24" x 24" 30" x 30" 36" x 36" 48" x 48" 60" x 60"	 WB-20-1c 24" x 24" 30" x 30" 36" x 36" 48" x 48" 60" x 60"	 WB-20-1d 24" x 24" 30" x 30" 36" x 36" 48" x 48" 60" x 60"	 WB-20-2 30" x 30" 36" x 36" 48" x 48"	 WB-20-3 30" x 30" 36" x 36" 48" x 48"	 WB-20-3a 30" x 30" 36" x 36" 48" x 48"


















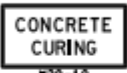

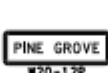
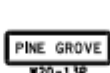


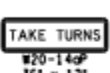
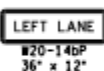

























SEE MDOT SHS 13-WORK ZONE FOR SIGN DETAILS

 FILE: 103-GEN-SIGN.dgn	NOT TO SCALE	MAINTAINING TRAFFIC TYPICAL	TRAFFIC TYPICALS SIGN SHEET	DATE: JUNE 2021
		NO: 103-GEN-SIGN		SHEET: 4 OF 5


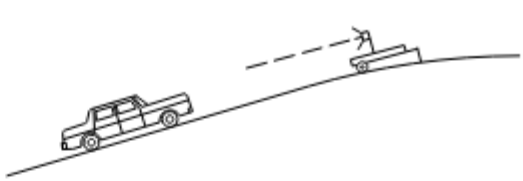


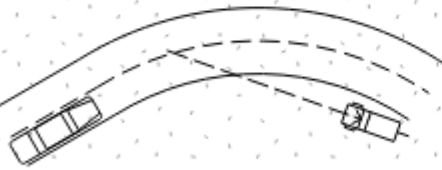
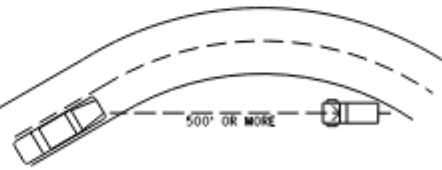

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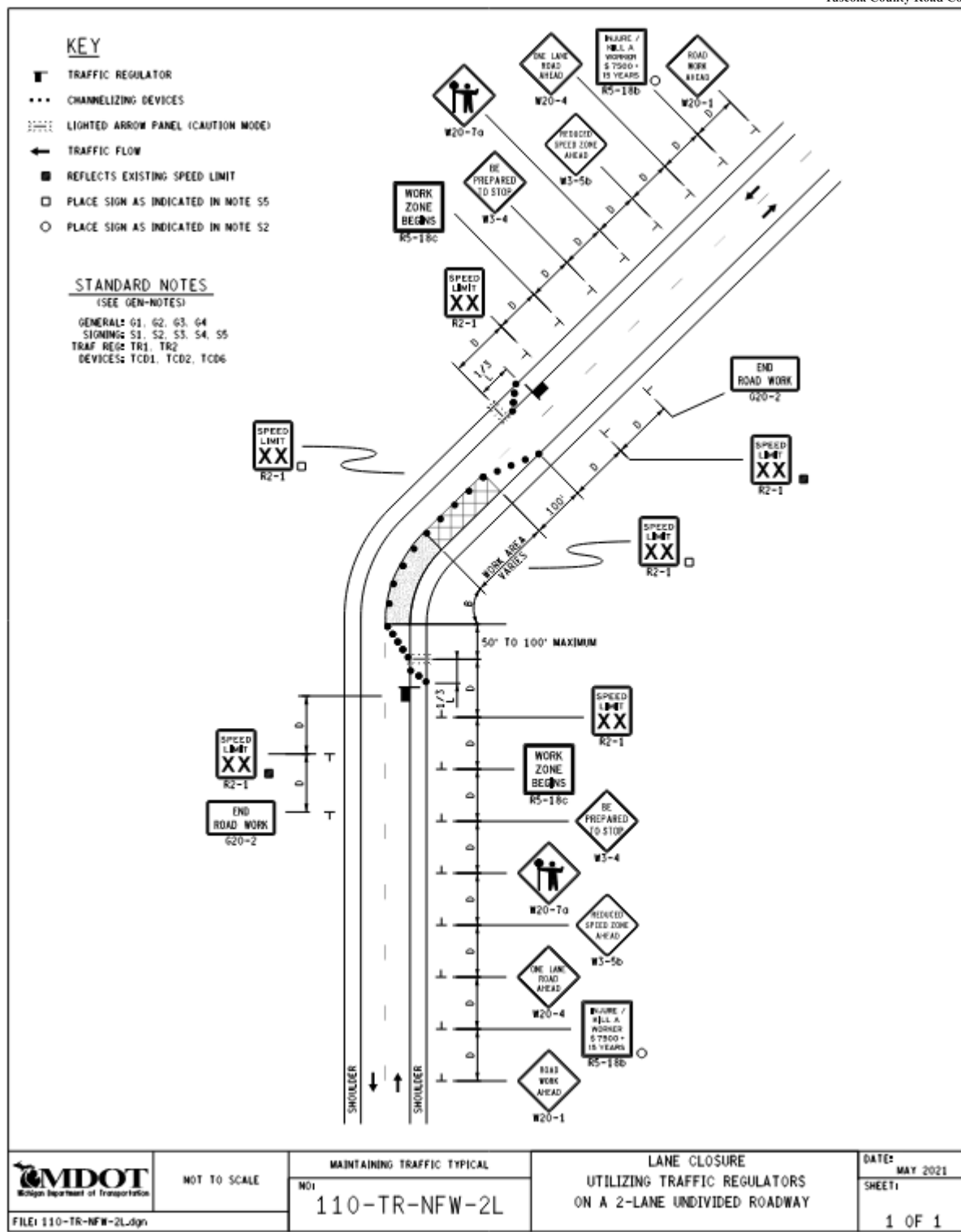


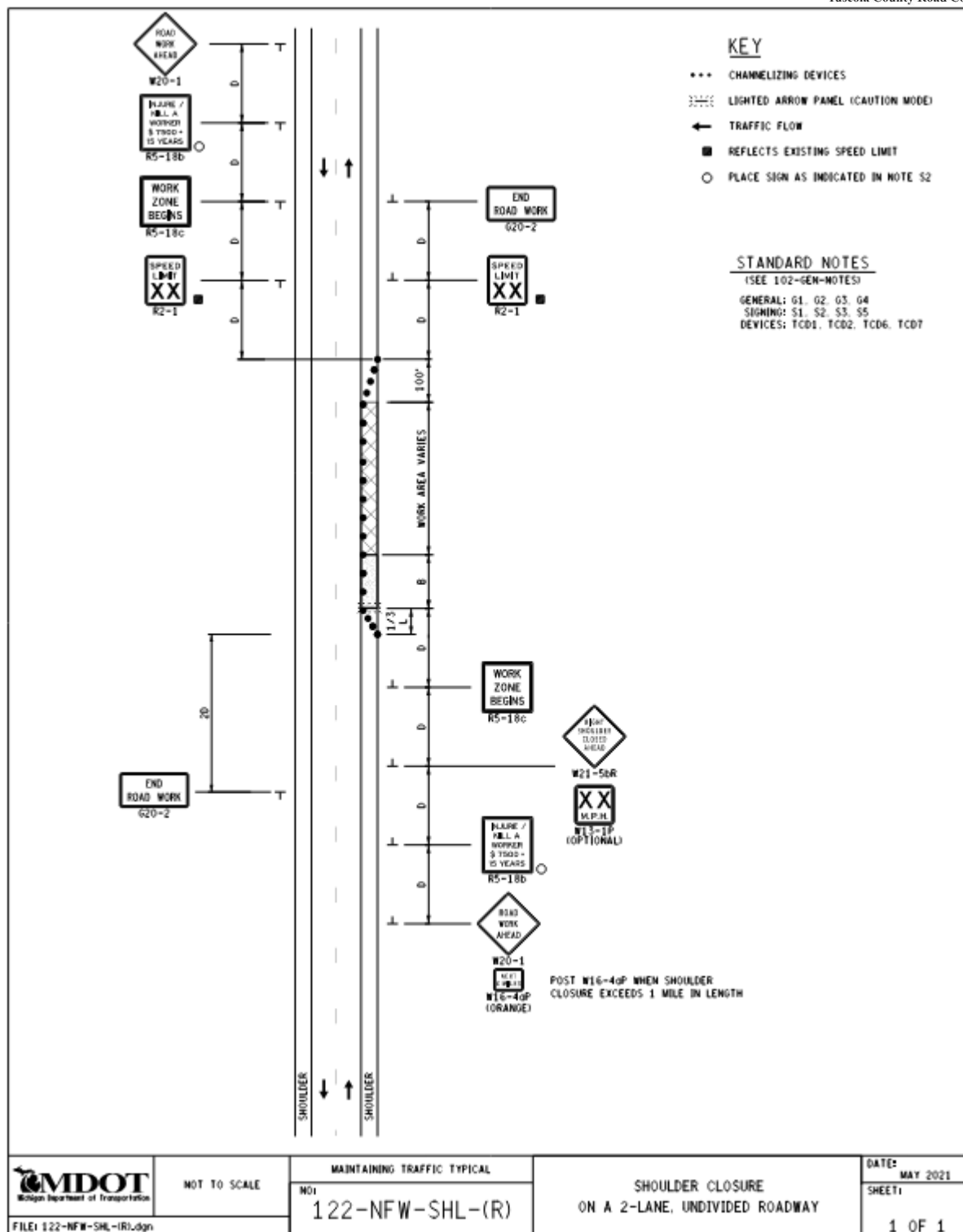
To Our Future
Tuscola County Road Commission

SIGN NUMBER KEY							
 W20-3b 30" x 30" 36" x 36" 48" x 48"	 W20-4 30" x 30" 36" x 36" 48" x 48"	 W20-4c 36" x 36" 48" x 48"	 W20-5C 30" x 30" 36" x 36" 48" x 48"	 W20-5L 30" x 30" 36" x 36" 48" x 48"	 W20-5L1 30" x 30" 36" x 36" 48" x 48"	 W20-5L2 30" x 30" 36" x 36" 48" x 48"	 W20-5R 30" x 30" 36" x 36" 48" x 48"
 W20-5R1 30" x 30" 36" x 36" 48" x 48"	 W20-5R2 30" x 30" 36" x 36" 48" x 48"	 W20-5dL2 30" x 30" 36" x 36" 48" x 48"	 W20-5dL3 30" x 30" 36" x 36" 48" x 48"	 W20-5dR2 30" x 30" 36" x 36" 48" x 48"	 W20-5dR3 30" x 30" 36" x 36" 48" x 48"	 W20-7a 30" x 30" 36" x 36" 48" x 48"	 W20-8 24" x 18"
 W20-9 54" x 48"	 W20-10 48" x 24" 66" x 30"	 W20-11 12" x 18"	 W20-12P VARIABLE x 12"	 W20-13P VARIABLE x 12"	 W20-14L 36" x 36" 48" x 48"	 W20-14R 36" x 36" 48" x 48"	 W20-14aP 36" x 12" 48" x 12"
 W20-14bP 36" x 12" 48" x 12"	 W20-15 36" x 36" 48" x 48"	 W20-15a 36" x 36" 48" x 48"	 W20-15c 48" x 54"	 W20-15d 48" x 54"	 W20-16 36" x 36" 48" x 48"	 W20-17 36" x 36" 48" x 48"	 W21-1 24" x 24" 30" x 30" 36" x 36" 48" x 48"
 W21-2 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 W21-2 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 W21-3 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 W21-4 36" x 18"	 W21-5 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 W21-5dL 30" x 30" 36" x 36" 48" x 48" 60" x 60"	 W21-5dR 30" x 30" 36" x 36" 48" x 48" 60" x 60"	 W21-5dL 30" x 30" 36" x 36" 48" x 48" 60" x 60"
 W21-5bR 30" x 30" 36" x 36" 48" x 48" 60" x 60"	 W21-6 24" x 24" 30" x 30" 36" x 36" 48" x 48"	 W21-7 30" x 30" 36" x 36" 48" x 48"	 W21-8 30" x 30" 36" x 36" 48" x 48"	 W22-1 30" x 30" 36" x 36" 48" x 48"	 W22-2 42" x 36"	 W22-3 36" x 30" 42" x 36"	 W23-1 48" x 24"
 W23-2 36" x 36" 48" x 48"							
SEE MDOT SHS 13-WORK ZONE FOR SIGN DETAILS							
 FILE: 103-GEN-SIGN.dgn	NOT TO SCALE	MAINTAINING TRAFFIC TYPICAL		TRAFFIC TYPICALS SIGN SHEET		DATE: JUNE 2021	
		NO: 103-GEN-SIGN				SHEET: 5 OF 5	

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 INCORRECT USAGE		 CORRECT USAGE	
PLACEMENT ON A CREST VERTICAL CURVE			
 INCORRECT USAGE		 CORRECT USAGE	
PLACEMENT ON A SAG VERTICAL CURVE			
 INCORRECT USAGE		 CORRECT USAGE	
NOT TO SCALE		PLACEMENT ON A HORIZONTAL CURVE	
<p>NOTE: ENSURE THE ARROW REMAINS CLEARLY LEGIBLE AT DISTANCES FROM 2,500 FEET TO 200 FEET, FROM ALL TRAFFIC LANES AND ROADWAY ENTRANCES. DO NOT PLACE THE LIGHTED ARROW ON A HORIZONTAL OR VERTICAL CURVE THAT MIGHT INTERFERE WITH THIS LEGIBILITY REQUIREMENT.</p>			
 Michigan Department of Transportation FILE: 104-GEN-AB.dgn	NOT TO SCALE NO: 104-GEN-AB	MAINTAINING TRAFFIC TYPICAL USE OF ARROW BOARD ON HILL OR CURVE AND WORK ZONE LAYOUT	DATE: MAY 2021 SHEET: 1 OF 1





NOTES

1. FOR SHORT-DURATION OR MOBILE OPERATIONS, NO SIGNS ARE REQUIRED IF APPROPRIATELY EQUIPPED VEHICLES ARE USED.
2. IF THE OPERATION HAS VEHICLE(S) PARKED ON THE SHOULDER OR VEHICLES ACCESSING THE WORK SITE VIA THE HIGHWAY OR CROSSING THE HIGHWAY TO PERFORM OPERATIONS, A "ROAD WORK AHEAD" SIGN OR AN ARROW BOARD IN CAUTION MODE SHALL BE USED.
3. WORK VEHICLES SHOULD BE PARKED AS FAR OFF THE TRAVELED WAY AS PRACTICAL.
4. IF THE WORK SPACE IS IN THE MEDIAN OF A DIVIDED ROADWAY, ADVANCE WARNING SIGNS SHALL BE PLACED IN BOTH DIRECTIONS OF TRAVEL.
5. VEHICLES AND PERSONNEL SHOULD ALL BE LOCATED AND PARKED ON THE SAME SIDE OF THE ROADWAY TO THE EXTENT PRACTICAL.

KEY

← TRAFFIC FLOW

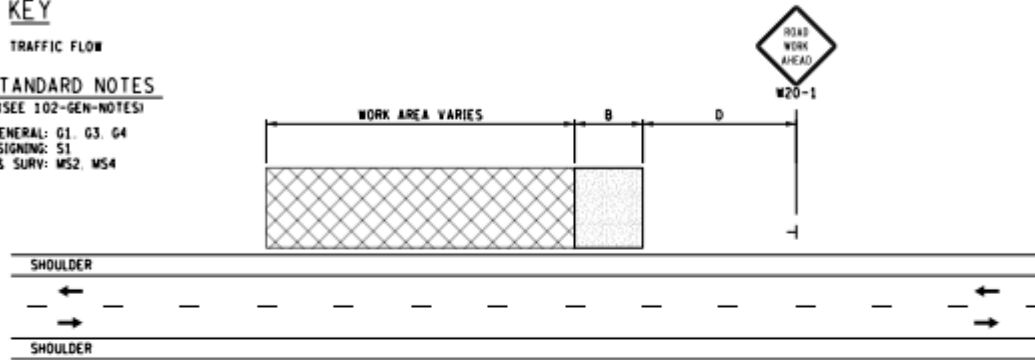
STANDARD NOTES

(SEE 102-GEN-NOTES)

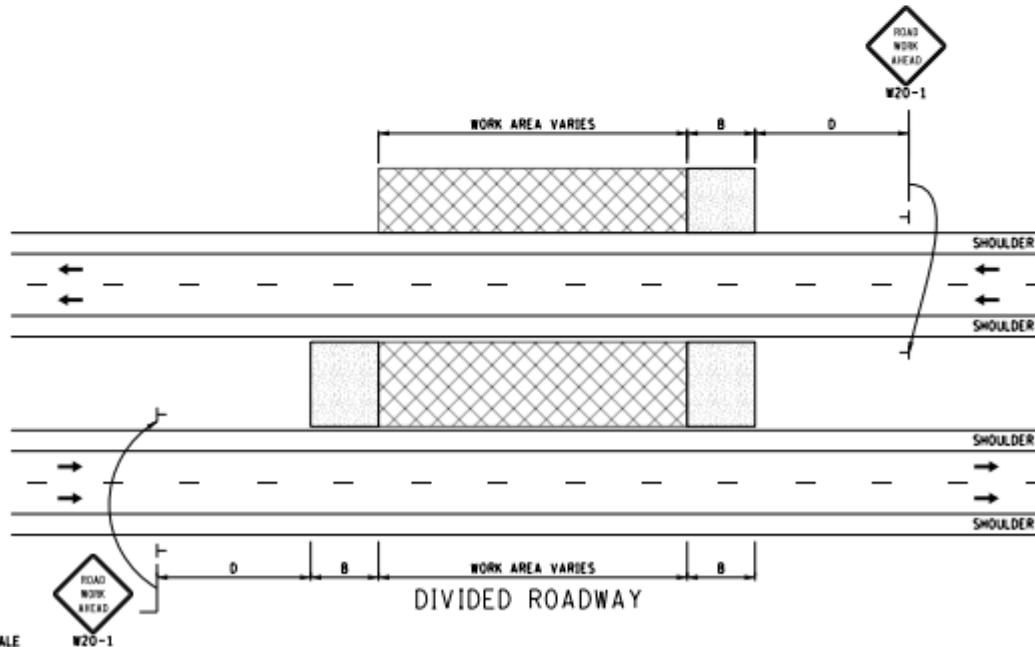
GENERAL: G1, G3, G4

SIGNING: S1

MAINT & SURV: MS2, MS4



TWO LANE, TWO WAY ROADWAY



DIVIDED ROADWAY

NOT TO SCALE



MAINTENANCE
MAINTAINING TRAFFIC
TYPICAL

DURATION:

ALL

WORK OUTSIDE SHOULDER

DATE: MAY 2021

NO: 4000-M-SHL-OUT

SHEET: 1 OF 1

FILE: 4000-M-SHL-OUT.dgn



9. ACCESS MANAGEMENT

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REFERENCED DOCUMENTS

Michigan Department of Transportation, Standard Specifications for Construction, current edition
American Association of State Highway and Transportation Officials, A Policy on Geometric Design of Highways and Streets, current edition
Michigan Manual on Uniform Traffic Control Devices (MMUTCD)
Motor Vehicle Code (MVC)

9.1. LAND DIVISIONS

Public or Private

Requirements

- Must submit Township approval for the Land Division.
- Must submit a scalable plan showing lots, roadway, section lines, dimensions from nearest roadways, and anything else pertaining to the Land Division. This plan must be sealed by a certified Professional Engineer or Professional Surveyor indicating adequate sight distance, down the county roadway, and that it meets standards as stated in the ASSTHO Geometric Design of Highways and Streets, current edition. A letter is also acceptable.
- Insurance Requirements as specified in Section 9.7. [Insurance Requirements](#)

If the Roadway is to be Public, we would also need the following:

- Digital or Mylar Plans indicating Road and Drainage easements, dimensions, typical cross section (if different from Road Commission attached) and any other pertinent information. These plans must be sealed by a Professional Engineer to ensure that the roadway was or is going to be constructed to Road Commission Specifications as listed below.
- We also will need a deposit (check or cash) to cover any signing necessary. The Road Commission Engineer will provide the amount.
- Dedicated "Right of Way" conforming to the following conditions:
 - The following right-of-ways will be required
 - Alleys-20 Feet (by special permission)
 - Roads and Streets-minimum 66'
 - Turn-around Per Illustration No. (2 or 3)
 - Federal Aid System- minimum 100'
 - Dead End Roadways ending with a Cul-De-Sac will require a turn around with a minimum external diameter of 150' or a "T" as shown on attached drawing. If there is ever a remote possibility of the road being extended into adjoining property it shall extend to the Plat Line with an easement given to the Road Commission, and constructed by the proprietor, until the future street has been accepted.
 - A minimum 20' Drainage Easement shall also be provided as indicated on the plans if it is required.
- Construction shall be according to Section 9.4. [Specifications for Construction](#) as stated in the following.



9.2. PLAT DEVELOPMENT

The Board of County Road Commissioners discourages the platting of private roads and streets; however, all private roads and streets shall meet the requirements of Public Roads and Streets, and it shall be understood that private streets and roads will **NOT** receive maintenance of any kind from the Road Commission.

Public Road and Street Requirements

- Approval of the Plat from the Township
- Plans: Preliminary Blue Prints: 4 Sets to be submitted to Road Commission Indicating the following:
 - Name of Roadway or Street: Please note the name must be unique and not a duplicate of any other roadways under the jurisdiction of the Road Commission.
 - Plat Proprietor
 - Engineer or Survey Firms Involved
 - Section Lines, Bench Marks and Datum
 - Typical Cross Section (if different from the Road Commission Typical as attached)
 - These items shall be shown, but are not limited to; adjoining subdivisions, roadways or streets, rivers, railroads, cemeteries, parks, natural watercourses, county drains. (Including drainage arrows), sewers, utilities (gas and electrical facilities).
 - Dedicated "Right of Way": conforming to the following conditions:
- The following Deeded Right-of-Ways will be required as they apply
 - Alleys-20 Feet (by special permission)
 - Roads and Streets-minimum 66'
 - Turn-around Per Illustration No. (2 or 3)
 - Federal Aid System-minimum 100'

Dead End Roadways ending with a Cul-De-Sac will require a turn around with minimum external diameter of 150' or a "T" as shown on attached illustrations. If there is ever a remote possibility of the road being extended into adjoining property it shall extend to the Plat Line with an easement given to the Road Commission, and constructed by the proprietor, until the future street has been accepted.

- A minimum 20' Drainage Easement shall also be provided as indicated on the plans if it is required.
- Final Plan, Digital or Mylar (18" x 24") to be submitted for Road Commissioner final for approval and signatures.
- Construction of Roadway or Street shall be according to Section 9.4. [Specifications for Construction](#) as stated in the following.



9.3. CONDOMINIUM DEVELOPMENT

That all roadway, street and alley rights of way with regard to existing or proposed public rights-of-way shall conform to the requirements as established in this manual, and shall be dedicated to the use of the public through the Tuscola County Road Commission and not be a part of any element controlled by the condominium association.

9.4. SPECIFICATIONS FOR CONSTRUCTION

For Public Roads and Plats

IMPORTANT INFORMATION

The Proprietor shall bear any cost incurred for certification, verification, and testing of new Roadway or Street construction.

APPROVAL

A written statement shall be obtained by the proprietor from the respective Township Board approving to proceed using the county's standards that will develop this roadway for acceptance into their public road system. The Road Commission will supply the proprietor with information to see that the roadway is built to our standards. The Board of Road Commissioners will have to make a motion to approve this roadway for submittal to the Michigan Department of Transportation for acceptance as a certified public road.

CONSTRUCTION

All phases of construction are to be certified (that they meet the Specifications listed within) by a licensed Professional Engineer. Paperwork must be submitted to the Road Commission Engineer prior to acceptance of the Roadway or Street.

MATERIALS

All material specified within this document shall conform to the current Michigan Department of Transportation Standard Specifications for Construction. The materials must also be certified by a Pre-Qualified Supplier. All Paperwork must be submitted to the Road Commission Engineer prior to acceptance of the Roadway or Street.

ALIGNMENT AND GRADES

- Centerline of Road shall coincide with the Section Line, unless approved by the Engineer.
- Minimum length of roadway shall be 600', unless an extension of an existing road built on section line.
- Horizontal curves not less than 200' radius will be permitted
- Vertical curves shall be designed according to AASHTO Geometric Design of Highways and Streets, current edition.
- Minimum sight distance onto an existing county road shall be based on the Geometric Design of Highways and Streets, for each direction. This shall be certified by a licensed engineer or surveyor on the plans. A sealed letter is also acceptable.



CLEARING, REMOVAL OF TREES AND BRUSH

- All trees, brush, shrubs located within the Right-of-Way shall be cleared.

DRAINAGE

- All culverts located along roadway will be sized by a professional engineer. The hydraulic calculations shall be supplied to the TCRC for review & approval. Proper installation is the Proprietor's responsibility.
- The Proprietor shall provide adequate means to care for surface drainage in and adjacent to his property. The design shall meet all standards as required by the Michigan Department of Environmental Quality (if regulated), with final approval from the Road Commission.
- In all such cases, accepting regularly established county drains; an easement (in the name of the Board of County Road Commissioners) shall be given by the proprietor to provide access to such drainage system.
- Any work or construction involving a County Drain shall be in accordance with the Office of the Drain Commissioner, and as approved by the Road Commission.
- The plans shall indicate disposition of surface water to the nearest, adequate, functioning outlet.
- Surface drainage and storm water shall be the only open drainage in the Right-of-Way.

DRAINAGE STRUCTURES & GUARDRAIL

- All cross road culverts shall be a minimum of 15"x 40' Poly-Coated CMP (16 gauge).
- Minimum driveway culverts shall be 12"x20' CMP (16 gauge), If the proprietor chooses to use corrugated plastic pipe, (up to 36" inch diameter) metal flared end sections will be required with the size and type approved by the Road Commission.
- No vertical Headwalls will be allowed in the Right-of-Way; length of culvert must be adequate to provide minimum 1 on 2 side slopes.
- All pipes shall be backfilled with a minimum of 12" sand (or approved equal) and a minimum total cover of 24 inches.
- Guardrail (with approved endings) may be required by the Road Commission if 1 on 2 slopes exist or there is a grade separation of more than 6 feet.
- Where ever possible, minimum depth of the roadside ditches shall be 18" or greater.
- Catch Basins and Manholes will be approved by the Road Commission on a site-specific need.

EARTH GRADE

- Finished earth grade shall be free of stones, stumps, and organic matter.

SUBBASE

- A minimum of 12" CIP of sand (Class II or approved equal) material will be required, constructed according to the attached Illustration 1.

BASE

- Crushed material shall meet the current MDOT specification for 21A, 22A, or 23A or an approved equal. It shall be a minimum of 6" CIP placed according to the attached Illustration 1.



HARD-SURFACE TREATMENT

- Option #1 - 3" (2 lifts) 4EL HMA Mix, including 23A Shoulder Gravel
- Option #2 - Prime and Double Seal Coat with 2" 4EL HMA Mix, including 23A shoulder gravel the following year.
- Option #3 - 2" 4EL HMA Mix, including 23A shoulder gravel with 1.5" 4EL HMA Mix, including 23A shoulder gravel the following year.
- Option #4 - Prime and Double Seal Coat with a Final Seal Coat the following year.
(Per TCRC Specification)

APPROACHES

- All approaches onto the roadway shall be graded so that a minimum of 10' is level with the roadway and cross-sloped to drain into roadside ditches. Curbed radii may be required on a site-specific basis as determined by the Road Commission Engineer.

SOIL EROSION, SEDIMENT CONTROL AND SEEDING REQUIREMENTS

- All Soil Erosion and Sediment Control measures shall be according to the TCRC manual (copies available upon request).
- The Seed shall be a Roadside Seed Mix or better. Topsoil 4", seed, mulch, or mulch blanket shall be required on all exposed areas in the road right of way. No roads will be accepted where erosion is evident. Riprap and geo-textile fabric may be required on a site-specific need as determined by the Road Commission Engineer.

Illustration No. 2- Cul-de-Sac Typical

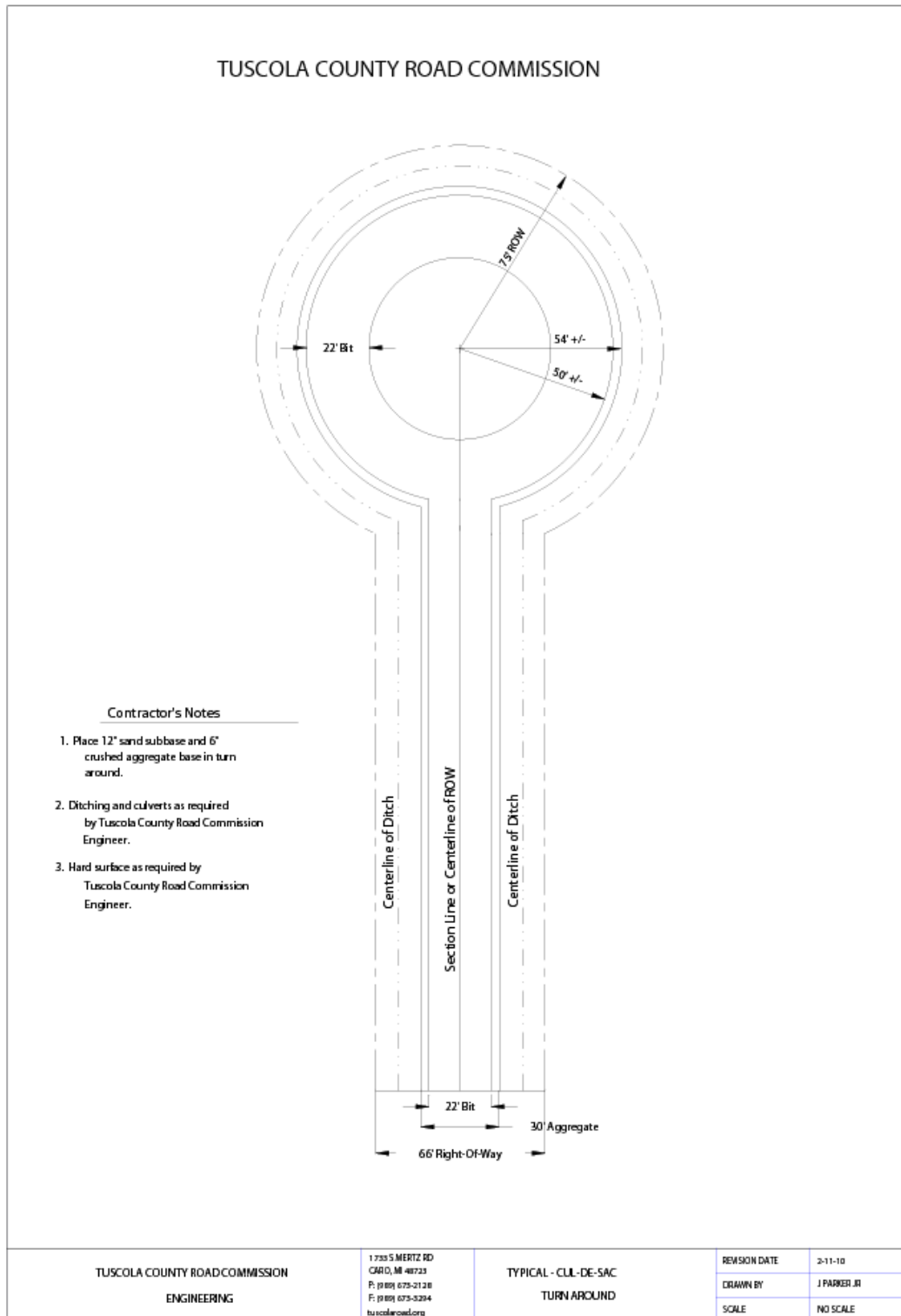


Illustration No. 3- "T" Turn Around Typical

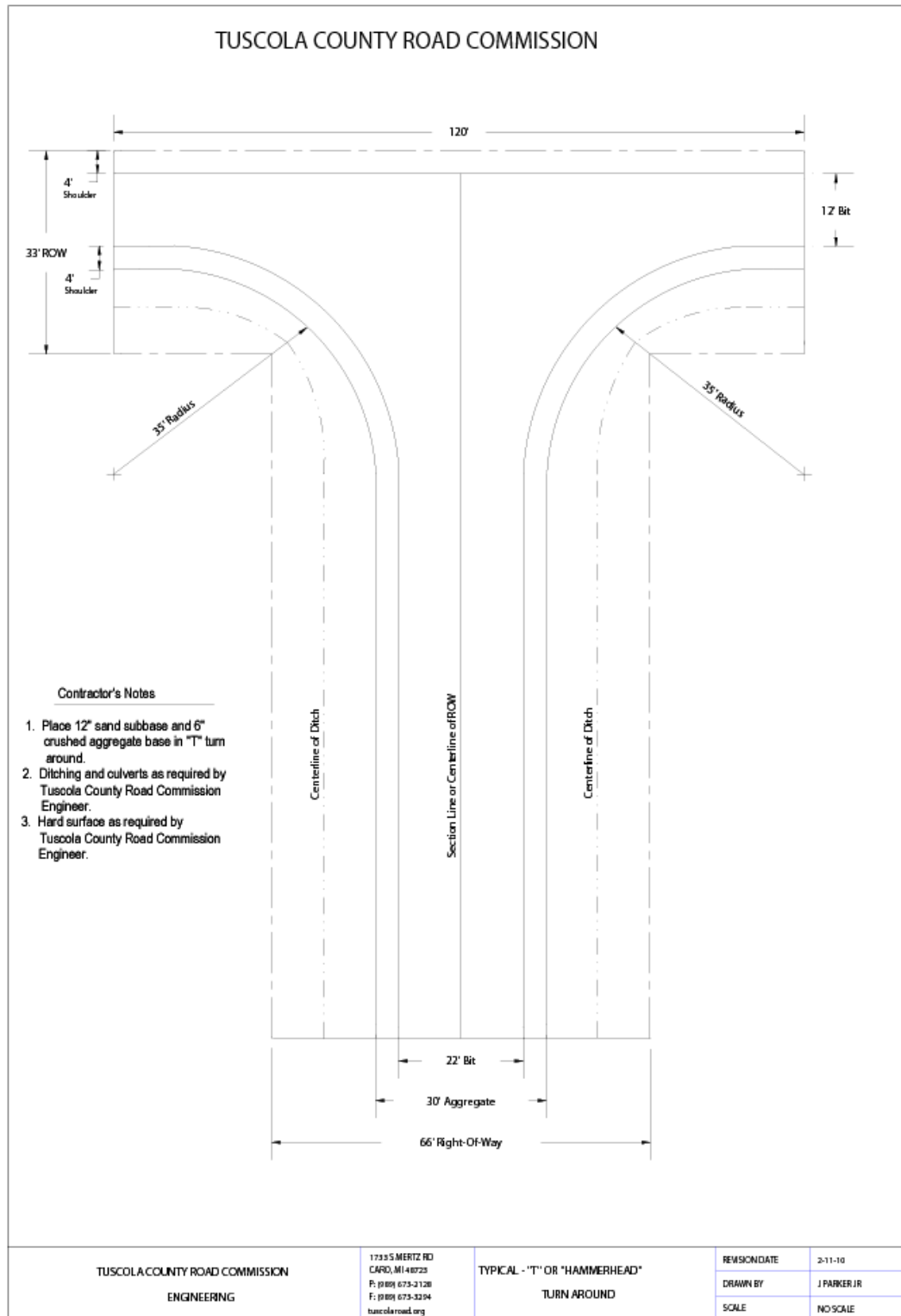
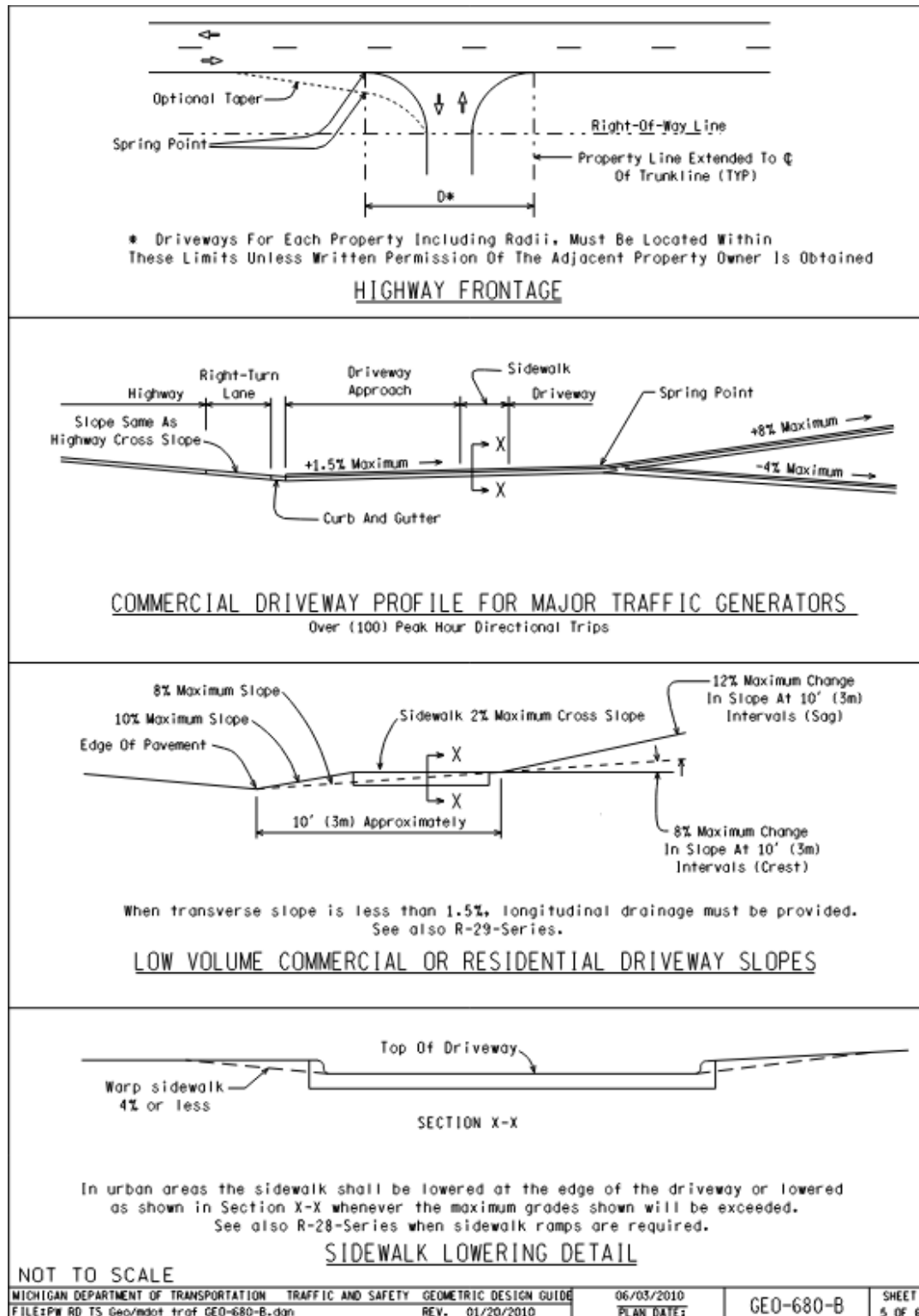


Illustration No. 4- GEO-680 Series





9.5. R-O-W PERMITS

Prior to commencement of any work or project, a Right of Way permit application shall be completed. As per Michigan Compiled Law Public Act 368 of 1925 247.184 Section 14 “the consent of the Board of County Road Commissioners shall be obtained before the work of such construction shall be commenced; ...” No person, organization, or governmental unit shall undertake or conduct any of the following activities within county road Right-of-Way unless a permit to allow such activities shall have been obtained from the Tuscola County Road Commission (TCRC). The permit fee schedule for Right-of-Way Permits are as follows:

<u>RIGHT-OF-WAY PERMIT</u>	<u>PERMIT FEE</u>
<u>RESIDENTIAL:</u>	
New or Existing Driveway	No Charge
Yard Enclosure	\$100.00
General Work in Road R.O.W.	No Charge
<u>AGRICULTURAL:</u>	
New or Existing Driveway	No Charge
General Work in Road R.O.W.	No Charge
<u>COMMERCIAL:</u>	
New or Existing Driveway	\$220.00
General Work in Road R.O.W.	\$100.00
<u>MISCELLANEOUS:</u>	
Private Drive Entrances	\$220.00
Surveyors – Annual County-Wide Permit	\$50.00
Surveyors – Individual Permit	\$100.00
Soil Borings	\$100.00
Seismographic	\$100.00
Under Road Boring	\$150.00
Open Cut Road*	\$150.00 Plus Density Testing
<u>MUNICIPALITY & NON-PROFIT:</u>	
Roadside Mowing	No Charge
Dust Control	No Charge
Road Closures – Parades/Festivals	No Charge
<u>UTILITIES: **</u>	
Annual County-Wide Blanket	\$275.00
Service Drops	\$125.00
Aerial Work***	\$220.00
Underground Work***	\$220.00

**To Open Cut Paved Surface requires TCRC Board Approval*

*** Permit Fee Schedule is for TCRC Charges. There will be additional service charges from Oxcart*

****For work up to one mile in length. Additional \$100.00 for each additional mile.*



GENERAL RIGHT-OF-WAY PERMIT STANDARDS (NON-UTILITIES)

Revised August 28, 2025

9.5.1. GENERAL R-O-W PERMITS

Permits are to be obtained prior to the start of any construction within the Right-of-Way (ROW). Failure to obtain a permit prior to the start of any construction within the ROW may be subject to additional charges. Specifications as provided on the permit shall be complied with, including modifications approved by authorized TCRC personnel. Developers of property are encouraged to contact the TCRC during the initial planning stage so an approved preliminary site plan, satisfactory to all parties, may be agreed upon early in the development process. No driveway shall be allowed in a designated intersection clear-vision zone.

RESIDENTIAL/AGRICULTURAL DRIVEWAY

In accordance with PA 200 of 1969 (MCL 247.324), as amended, the highway authority is charged with the responsibility to issue driveway permits consistent with the rules promulgated by the highway authority for public safety and in the public interest. Such rules are based on traffic volumes, drainage needs, the character of adjoining land use, and other requirements. The rules prescribe rational standards for the design and location of driveways within the ROW. It is not the intent of this policy to deny reasonable access to a non-limited access highway.

Any construction, reconstruction, or modification of an existing driveway providing vehicular access to or from a highway under the jurisdiction of the TCRC requires a permit. A permit is also required when the use of the land served by an existing driveway is changed or expanded (PA 200 of 1969 MCL 247.327).

You may apply at the Road Commission's main office located at 1733 Mertz (M-24), Caro, MI 48723, Phone: 989.673.2128. Email Address: permits@tuscolaroad.org Website: www.tuscolaroad.org

You will need to provide the Road Commission with the following information:

- Location, including road name, township, and nearest crossroad
- [Insurance Requirements](#) see Section 9.7.
- Signature
- Payment if Applicable
- You will be provided with white flags to be placed at the desired location of your proposed work

Road Commission will review site of proposed work. Insurance and payment if applicable will be required prior to review. Upon approval, a permit will be issued with necessary requirements for work within TCRC Road Right-of-Way. The permit will be returned via mail, e-mail, or it can be picked up in person.

Driveway Pipe Length and diameter shall be determined during the TCRC review. Minimum 20 feet for top of drive, with additional length of pipe calculated to construct 1 on 2 side slopes.



If the driveway is to be located adjacent to an intersection, railroad, or bridge:

- At an Intersection or railroad crossing where the TCRC owns ROW to provide a clear vision area, a driveway shall not enter or cross that clear vision area.
- The curvature of the driveway radius shall be at least 50 feet from the edge of pavement of the intersecting highway, railroad, or bridge.
- Adjacent to and on both sides of a driveway, a buffer area between the ROW Line and the road edge shall be used, as determined by the Engineer, to provide a physical barrier between traffic and activity on private property.
 - A buffer area is needed to provide an unobscured vision area and to prevent potentially hazardous movement of vehicles, especially at undesirable angles of approach, from and to the road. The buffer area shall consist of a lawn area, a low shrub area, a ditch or equivalent.
 - Where encroachment of vehicle parking on the buffer area takes place or may take place, the TCRC may require the buffer area to be established by guardrail, guard posts, curb or equivalent.

No vertical headwalls allowed. Minimum 12 inches in diameter required in road right of way. Ends of pipe shall receive top soil, seed, and mulch to prevent erosion.

- Driveway Metal Pipe: Must meet TCRC specifications for gauge thickness.
 - 16 Gauge - 12" to 18"
 - 14 Gauge - 24" to 30"
 - 12 Gauge - 36" to 48"
 - 8 Gauge - 60" to 66"
 - Over 66" contact TCRC Caro Office
- Driveway Concrete Pipe: Must meet standards as specified in the Michigan Department of Transportation Standard Specifications for Construction, current edition.
- Plastic Pipe/Driveways: For diameters 12 inch to 36 inch only. Must be double walled pipe meeting AASHTO Standard M-294, current edition.
 - Metal Flared end sections required or plastic pipe must connect to metal pipe on the ends.
 - Minimum 12 inches of cover over the pipe.
 - Backfill shall include no stones larger than 1 inch in diameter shall be placed within 6 inches of the pipe.

Hard surface driveways shall have the hard surface portion from the edge of the existing hard surface road to the edge of existing shoulder, following the slope of the existing road surface. Hard surface coming to existing gravel roadway should stop a minimum of 20' from road centerline.



COMMERCIAL DRIVEWAY

The Tuscola County Board of Road Commissioners has the responsibility of regulating and controlling the location, design, and operation of access to roads and streets under its jurisdiction and has established certain policy guidelines concerning driveway design and construction. The Board's objectives are to provide maximum protection and safety for the public through the orderly control of traffic entering and leaving roads or streets at driveways, and also to provide a uniform policy throughout the County in the design and construction of driveways.

Prior to applying for a permit for commercial driveways, the site development plans for the complete project must be submitted to the County Highway Engineer for his approval. Plans shall provide sufficient detail so as to be used as construction plans. The Permit Holder shall furnish all materials and bear all costs of necessary construction, including tapers, widenings, islands, pavement marking, signing, etc. Further, it shall be the responsibility of the property owner or lessee to maintain all driveways connecting the property to the roadway, as well as those appurtenances set forth in the permit as related requirements.

The Board reserves the right of inspection by its authorized representatives of any driveway construction within the road right-of-way. The Permit Holder shall reimburse the Board for services required for the review and approval of plans and for any on-the-job inspectors which are required. Failure to obtain a permit or to comply with the terms and conditions of an issued permit will cause the Board to take appropriate action as allowed in Act 200 of the Public Acts of 1969. All costs incurred in corrective action to comply with design standards, defective workmanship and/or materials shall be borne by the Permit Holder.

A non-returnable fixed permit fee to cover the cost of processing the permit will be collected at the time the permit is issued based on the Board's current fee schedule. A plan review fee to recover the cost of plan review may also be collected at the time the permit is issued. The plan review fee will be proportionately higher if deceleration and/or passing lanes are part of the driveway construction. The Board's objective and intent is to recover actual costs incurred in connection with review & inspection of projects by the TCRC.

Commercial driveways shall be designed and constructed in accordance with the Rules and Regulations of the Tuscola County Road Commission, the general guidelines contained herein and in accordance with the specific recommendations of the TCRC Engineer.

You may apply at the Road Commission's main office located at 1733 Mertz (M-24), Caro, MI 48723, Phone: 989.673.2128. Email Address: permits@tuscolaroad.org Website: www.tuscolaroad.org



All copies of driveway permit applications must be accompanied by a plan clearly indicating the following:

- Road name and address, roadway pavement, right-of-way and property lines, lot or parcel number, roadway appurtenances, medians (if existing) and dimensions of same.
- All buildings (proposed or existing) and all appurtenances to any business conducted (gas pumps, signs, canopies, etc.) and dimensions of same.
- Driveways to be constructed in accordance to Illustration No (4) GEO-680 Series for County Highway Approach, proposed surfacing, proposed drainage scheme and dimensions including:
 - Width of driveway (20' minimum)
 - Radii of each side of drive (25' minimum)
 - Driveway elevations
 - The approximate angle the driveway makes with the road centerline
 - Proposed culvert or sewer grades with sufficient elevations upstream and downstream to show the extent of flow across the proposed development and to the proposed outlet
 - Typical cross-section thru acceleration-deceleration lane showing proposed subbase, aggregate base, pavement, curb, etc. (if applicable)
 - Location of any proposed landscaping
- Drainage plan and outlet for all storm drainage on the site.
 - DRAINAGE FROM ADJACENT PARKING OR STORAGE AREAS ON PRIVATE PROPERTY MAY NOT BE DISCHARGED ONTO THE ROADWAY OR ITS APPURTENANCES.
- Location of the driveways including dimensions relating to:
 - Property lines and property lines extended to the pavement
 - Buildings and business appurtenances
 - Reference dimension to nearest cross road or street
 - Driveways on opposite side of roadway & adjacent properties
- Drive(s) must also meet sight distance requirements as based on AASHTO Geometric Design of Highways and Streets.
 - A Professional Engineer or Professional Surveyor must certify that the location meets this sight distance requirement as based on the AASHTO Geometric Design of Highways and Streets either by written statement or on the plan, prior to placement of the driveway.
- North directional arrow.

The above requirements, when applicable, should be incorporated with appropriate guidelines from the Typical Drawings to form a complete plan for permit application.

Driveways shall be located so that no undue interference with the free movement of normal traffic will result. Driveways should be located as far from the edge of the intersecting roadway as is possible. Hard surface driveways coming to existing gravel roadway should stop a minimum of 20' from road centerline. The radius of a driveway should not encroach upon the intersection radius of the roadway pavements. All attempts shall be made to locate commercial driveways, including their radii and any associated acceleration/deceleration tapers & lanes if required, entirely within the Permit Holder's roadway frontage, which shall be determined by the extension of the property lines to the pavement



edge. Should this prove to be impractical, the Permit Holder shall secure written permission from adjacent property owners for construction of portions of the commercial driveway which will lie within property owned by others.

The following material thicknesses are minimums required. Additional depth of each or all of the pavement cross-section layers described below may be required, should projected traffic volumes, loadings, or soil conditions warrant an increased pavement cross-section. A geotechnical analysis of the existing soil conditions is recommended to assist in determining a proper pavement cross-section design.

- A minimum twelve-inch (12") CIP sand subbase shall be placed with the construction of either a bituminous or reinforced concrete surface. The sand subbase shall meet the requirements for Granular Material Class II as detailed in the current edition of the MDOT Standard Specifications for Construction.
 - Sand subbase shall be placed as described in the current edition of the MDOT Standard Specifications for Construction for Roadway Earthwork, using the controlled density method.
- A minimum six inches (6") CIP 23A Crushed Limestone or 23A Crushed Gravel Aggregate base shall be placed prior to placement of a bituminous surface course, while a six inch (6") reinforced concrete surface may be placed directly on the sand subbase. The aggregate base material shall meet the requirements for 23A Dense Graded Aggregate as detailed in the current edition of the MDOT Standard Specifications for Construction.
- The bituminous surface shall meet or exceed the current edition of the MDOT Standard Specifications for Construction for Hot Mix Asphalt Construction Practices, and Plant Mixed Hot Mixed Asphalt Mixtures 4EL. The minimum rate of application shall be a total of 330 lbs./sq. yd.
- The reinforced concrete surface shall meet or exceed the current edition of the MDOT Standard Specifications for Construction for Concrete and Steel Reinforcement. The size and weight of reinforcing shall be approved by the Board prior to the start of construction.
- If the proposed commercial drive access abuts to a roadway that has existing curb & gutter, saw cutting and removing the back of curb is NOT allowed. The entire length of existing curb & gutter must be removed and replaced with new curb & gutter that allows for access to the proposed development.
- Sidewalk, when called for on plans, shall be not less than four-inch (4") thickness except at driveways where the thickness shall be six inches (6"). The current edition of the MDOT Standard Specifications for Construction will apply. Width shall be five feet (5'). All Americans with Disabilities Act (ADA) requirements for access shall be met.
- Other items, such as bituminous curb, not included in these specifications shall be approved by the County Engineer prior to design completion or start of construction.
- The pavement section required for road widenings, crossovers or taper sections shall be as directed by the Board and may include submission of soil borings and a pavement design to the County Engineer for approval.
- The shoulder area between adjacent commercial driveways serving the same property which are less than two hundred feet (200') apart (centerline to centerline) must be paved as directed by the County Engineer.



All proposed road approaches shall be provided with facilities for adequate surface and sub-surface drainage which will allow the free flow of existing or additional storm drainage produced from the proposed road approach. Where drains or ditches cross private property, the proprietor shall furnish a recorded easement twenty feet (20') wide for ditches or closed drains, to allow for maintenance and/or surface construction. All easements shall be submitted to the Board before the permit will be signed by the Board. Storm sewers shall meet or exceed standards set forth in TCRC [“Permit Standards for All Utilities within the Right-of-Way”](#). Any areas of the development which do not drain into the approach drainage system shall be shown on the plan with a note indicating disposition of water accumulating on such areas. County road drainage facilities may not be used to drain storm water from private property. Further, no drainage from adjacent parking or storage areas may be discharged onto the roadway.

The Permit Holder will be responsible for the maintenance of all work constructed or placed in the road or street right-of-way except for widening lanes which are incorporated into the main traveled roadway. This responsibility shall include the driveway, pavement and subsurface base materials, curb and gutter, shoulders, drainage, landscaping, sidewalk or other appurtenances associated with the driveway. Maintenance shall also include snow removal.

All driveway construction will be subject to inspection by the Road Commission. The executed permit will provide the telephone number to call for this service. Full time inspection for detailed projects involving road widenings and/or the construction of enclosed storm drainage in the right-of-way shall be performed under the supervision of a registered professional engineer. The engineer shall certify (over his professional seal) that the project has been constructed in accordance with the approved plans and specifications.

It is the Permit Holder’s responsibility to provide, erect and maintain all necessary signing (Stop, Keep Right, Do Not Enter, Road Work Ahead, etc.) and/or pavement markings as outlined in the current edition of the Michigan Manual of Uniform Traffic Control Devices, or as required by the Board. The plans shall indicate the signing and pavement marking required, as specified above. All expenses related to maintaining traffic during construction shall be the responsibility of the Permit Holder.



MUNICIPALITY & NON-PROFIT

You may apply at the Road Commission's main office located at 1733 Mertz (M-24), Caro, MI 48723, Phone: 989.673.2128. Email Address: permits@tuscolaroad.org Website: www.tuscolaroad.org

You will need to provide us with the following information:

- Type of Work (brine, roadside mowing, event, etc.)
- Location, including road name, township, and nearest crossroad
- [Insurance Requirements](#) see Section 9.7.
- Signature

Upon approval, a permit will be issued with necessary requirements for work within TCRC Road Right-of-Way. The permit will be returned via mail or it can be picked up in person.

MISCELLANEOUS

You may apply at the Road Commission's main office located at 1733 Mertz (M-24), Caro, MI 48723, Phone: 989.673.2128. Email Address: permits@tuscolaroad.org Website: www.tuscolaroad.org

You will need to provide us with the following information:

- Location, including road name, township, and nearest crossroad
- [Insurance Requirements](#) see Section 9.7.
- Signature
- Payment if applicable

Road Commission Staff will review site of proposed work. Insurance and payment if applicable will be required prior to review. Upon approval, a permit will be issued with necessary requirements for work within TCRC Road Right-of-Way. The permit will be returned via mail or it can be picked up in person.



PERMIT STANDARDS FOR ALL UTILITIES WITHIN THE RIGHT-OF-WAY

Revised August 28, 2025

9.5.2. UTILITY PERMITS

Tuscola County Road Commission's Utility Permits are processed using a web-based permitting system called Oxcart Permits (<http://www.oxcartpermits.com>).

Prior to commencement of a project, a Right of Way permit application shall be completed. As per Michigan Compiled Law Public Act 368 of 1925 247.184 Section 14 "the consent of the Board of County Road Commissioners shall be obtained before the work of such construction shall be commenced; ..." No person, organization, or governmental unit shall undertake or conduct any of the following activities within county road Right-of-Way unless a permit to allow such activities shall have been obtained from the Tuscola County Road Commission (TCRC).

- Construct, reconstruct, relocate, repair any facilities (sewer, water, gas, electric, drains, telephone, cable, fiber, guys/anchors, etc.)
- Perform any work (ditching, tree trimming, landscaping, etc.)

Failure to comply with any part of this document shall be just cause for either the temporary or permanent suspension of the permit, as well as the Permit Holder's other permits.

Plan Requirements

All permit applications shall be accompanied by a set of plans which shall include all of the following:

- Drawing(s) on a proper size sheet at a reasonable scale for the proposed work with an arrow depicting North.
- Existing road pavement/surface, ditches, cross culverts, and dimensions thereof.
- Location of all existing utilities and driveways including surface type; and diameter and length of culverts.
- Show location of all proposed construction with dimensions from the Right-of-Way and centerline of Right-of-Way along w/ dimensions to centerline of existing roadway.
- Show the distance to the nearest monument box or section corner.
- Ditching plans must show watershed area, existing and proposed grades, ditch depth relative to roadway and calculations used in culvert sizing.
- A Traffic Control Plan documenting how traffic will be managed and controlled during construction.

Variations to these procedures must be approved by the TCRC.



General Requirements for All Utilities

- A. All utility crossings of the public roadway shall be perpendicular within the road right of way, unless TCRC approved variance. Utilities running parallel to the road shall be installed at or near the edge of road right-of-way unless otherwise agreed upon by the Engineer. All material and workmanship shall comply with the current Michigan Department of Transportation Standard Specifications for Construction (MDOT Specs). Materials shall meet American Association of State Highway and Transportation Officials (AASHTO) standards as noted herein.
- B. As per MDOT Road Design Manual; Section 9.02.02 (**revised 7-25-2022**) ... **“Private utilities may be located within trunkline ROW by permit issued by the Department pursuant to Public Act 368 of 1925. If conflicts between private utilities and a trunkline project exist, relocation or adjustment of the utility is at the utility company's expense.”** ...
- C. All installation activity shall conform to the permit terms listed on the reverse of the Right-of-Way Permit issued by TCRC.
- D. The construction, maintenance, or reconstruction of all facilities shall be as described in an approved engineered drawing and permit.
- E. The Permit Holder shall notify the TCRC by fax, email, or phone call between 24 and 72 hours before beginning construction.
- F. All permits issued shall have clean-up and restoration performed at the time of installation. The restoration shall include, at a minimum: 4” topsoil, seed (summer or winter blend), and staked mulch blankets. Any variances shall be approved by TCRC prior to performing the work.
- G. Any permits not completed by November 15th must be resubmitted with the TCRC and will be charged with a new permit fee in accordance with the current TCRC fee schedule. Winter permits may be issued at the discretion of TCRC. Winter Construction Practices shall be followed or the permit will be revoked.
- H. Work crews shall have all applicable permits onsite. Miss Dig is to be notified prior to any work. No work shall be allowed on an unmarked location.
- I. All work shall be performed Mondays through Fridays between 8:00 A.M. and 5:00 P.M. unless written approval is obtained from the TCRC. If road closures are permitted by the TCRC they shall be done during off-peak traffic hours, between the hours of 9:00 A.M. and 3:00 P.M. unless otherwise approved and/or directed by the TCRC.
- J. If a road closure is not approved, traffic shall be maintained at all times. Sheeting may be required to protect the road if conditions warrant sheeting. The road surface may not be used for the storage of materials or any other construction purpose without prior approval of the TCRC. Depending on traffic volumes and other conditions, the TCRC may require the Permit Holder to provide bypass lanes (either paved or unpaved), may allow one-lane traffic properly controlled, or some combination of the two. Traffic control shall be in accordance with the TCRC Section 8. [Traffic Control Policy](#).



- K. In the event of an emergency, a permit shall be obtained as soon as possible, but no later than the next working day. Immediate notification must be given to the TCRC for emergency (public safety, health, and welfare) work which requires the removal of the road surface. If the Tuscola County Road Commission cannot be reached, Tuscola County Central Dispatch shall be notified and a phone message/fax/email shall be submitted to the TCRC offices.
- L. Routine inspections may be charged to an account established in the Utility's name. If damages are identified from routine inspections, the Utility will be contacted immediately. Repairs will be determined to keep the road safe for public travel. Charges by TCRC Maintenance crews may be made to the Utility's account for immediate repairs. Examples: bituminous patching or limestone/gravel patching, grading, or dust control.
- M. The Contractor when performing work authorized by permit, within the right of way or on a project is responsible for protecting the life and health of all personnel; the safety and health of the public; and property during the construction of the project. The Contractor must comply with all local, state, and federal laws and regulations governing construction methods and the furnishing and use of safeguards, safety devices, protective equipment, and environmental and hazardous materials controls. All workers must wear high-visibility safety apparel as specified in the MMUTCD. Costs incurred to comply with this requirement will be the responsibility of the Contractor. Failure to follow these requirements may result in termination of the permit/contract.
- N. Any Permit Holder who conducts his/her operations in a manner detrimental to the Road Commission's statutory obligation of maintaining roads and streets at all times in a safe and fit condition for the traveling public will be required to cease all operations within the Right-of-Way. If necessary, additional cash deposits and expense of maintaining a TCRC inspector (full time) may be required from the Permit Holder before the resuming of work.
- O. If utility is being relocated due to conflict with future work, the abandoned utility must be removed from the Right-of-Way.
- P. **Winter Construction Procedure:**
 - a. Permitted work may be allowed at the discretion of the TCRC during winter restrictions (Nov. 15-Apr.15) contingent upon the following:
 - i. The work shall be scheduled (day and time) with TCRC at least 36 hours in advance. An inspector shall meet the crew onsite at the stated day and time to ensure they have the proper signs, equipment and restoration materials onsite.
 - ii. All frozen material shall be removed and replaced with suitable material.
 - iii. All cleanups shall be finished immediately following the installation of the utility. This would include topsoil, seed and mulch blankets. Please note that either winter seed or wheat will have to be used to prevent spring erosion. Before beginning another job, all clean-up from the previous job location shall be complete.
 - iv. If inclement weather presents itself, all work shall be rescheduled and all equipment shall be removed from the Right-of-Way



Requirements for Underground Utilities

A. Material

All material shall meet the requirements as stated in the MDOT Standard Specs, Section 401, 402.02, and 909.

- a. HDPE: Smooth-lined corrugated plastic pipe shall meet the requirements of AASHTO M-294, Type S Polyethylene pipe.
- b. PVC: Corrugated Polyvinyl Chloride Pipe shall meet AASHTO M-304, Certa-Lok joint. C900, or equivalent, shall be used for all water main or storm sewer crossings, Certa-Lok joint.
- c. Steel Casing: Casings for under the road drains shall meet MDOT Spec section 909-06 and as herein specified. Casings are to be fabricated with corrugations of 2 2/3" x 1/2", have a galvanized finish, and all casing ends are to be re-rolled. All casings 24" and larger are to be built to a tolerance of plus or minus 1" from the normal size. 15" through 18" bands are to be a minimum of 11" in width. 24" and larger bands are to be a minimum of 21" in width. Bands are to be fully corrugated. Casings for Jack and Bore shall meet MDOT Spec sections 401-03H and 909-05D

*Bell and spigot joint allowed for approved open-cut method. See Table 402-1 in the MDOT Spec Book for further detail.

Note: Tracer Wire is required for all non-metallic pipe installation for post construction location purposes.

B. Depth

Utilities shall be installed at the depths displayed in Chart 1 according to utility type.

Chart 1		
Utility Type	Minimum Plow/Bore Depth in ROW	Minimum Road Crossing Depth
Telecommunications and Cable*	36"	48"
Electric*	48"	48"
Gas and Oil*	48"	48"
Water, Storm Drains, and Sewer*	60"	60"
Agricultural Tile		36"

*Depths shall be measured from the bottom of ditch pan or road grade, whichever is lowest.

C. Exposed Outlet

When the cross road pipe has an exposed outlet a concrete ring, a steel end Section, or a concrete end section shall be installed as per MDOT Specs 404.02.C. A rodent screen shall also be installed. As shown in MDOT Standard Plan R-80-Series.

D. Agricultural Drain

Connections shall be made outside the Right-of-Way unless approved by the TCRC. All Material inside Right-of-Way shall meet TCRC Standards. If surface water may enter the drain, pipe shall be placed inside TCRC Approved Steel Casing under the roadway.



E. **Bore or Jack**

When the pipe is installed by boring and jacking, the leading edge of the pipe shall proceed the auger by $\frac{1}{2}$ times the diameter of the pipe. If the auger cannot be operated inside the utility pipe, a casing pipe will be required. A casing pipe may also be required at other times when deemed necessary by the TCRC. Directional boring methods may not require casing. If directional boring is to be used, the TCRC will evaluate requirements on a case-by-case basis.

F. **Shaft or Pit**

All shafts or pits shall be located at least 10 feet off the edge of pavement on all county roads. If the shaft or pit must be closer to the road than the above dimensions due to the location of the utility to be tapped, TCRC approval shall be required. Sheet piling or shoring shall be used on all sides of the excavation which are closer to the road than the above requirements. Protection-Fencing barriers shall be installed at the site until Backfilled. Backfill shall meet trench backfill requirements with suitable material.

G. **Drilling Fluids**

Drilling fluid shall be used during drilling and back reaming operations. Excess drilling fluids shall be contained in a lined pit or containment pond, or trailer-mounted portable tank, until removed from site. Drilling fluids shall not be allowed to enter the streets, manholes, sanitary and storm sewers, and other drainage systems, including county drains, streams, and rivers.

H. **Fill Voids**

All voids shall be filled by pressure grouting or other approved methods. If any settlement or other change in grade occurs, the road shall be reconstructed per TCRC typical cross section.

I. **Open Cut**

If the TCRC approves crossing the road by the open cut method, the provisions for handling traffic will be as directed by the TCRC. Approval of road closures will usually require that detours be installed in accordance with TCRC Maintaining Traffic Spec. 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 and reasons for the request. Open-cut crossings shall be made during off-peak traffic hours, normally between the hours of 9:00 A.M. and 3:00 P.M. unless otherwise approved and/or directed by the TCRC.

J. **Pavement Removal**

All utility trenches crossing major roads by the open-cut method shall remove pavement to a minimum width of 5 feet and at least 1 foot wider on each side than the trench. All Pavement Removals require TCRC Approval.

K. **Saw Cut**

The pavement shall be cut by sawing unless otherwise approved. All saw cuts shall be made in a straight line and shall be parallel to existing transverse and longitudinal joints unless otherwise approved.



L. **Backfill**

Backfill shall be as per MDOT Spec Section 401.03D. MDOT Certified Class II Sand up to 6" (six inches) below the bottom of the existing surface. Remaining 6" backfill shall be 23A Crushed Gravel or 23A Cr. Limestone, matching existing material. A copy of the certified mechanical analysis shall be supplied to TCRC for all material used. Match existing thickness of hard surface or 3" (three inches) of 13A bituminous or LVSP, whichever is greater.

M. **Density**

For all open cuts or If work is done within a 1' on 1' influence from the edge of the gravel shoulder backfill shall be in appropriate lifts with density tests taken. A copy of results shall be supplied to the TCRC. Density to a minimum of 95%. Class II Sand Compacted to 95% of the maximum unit weight as per MDOT Specs Section 401.03.D. Aggregate compacted to 98% of the maximum unit weight at no greater than optimum moisture content, as per MDOT Specs Section 307.03. Density Testing can be supplied by TCRC if the contractor so chooses.

N. **Fiber Optic Cables**

All fiber optic cables shall be installed between 28' and 33' from the center of the road right of way. Installations shall be in straight lines in-so-far as possible, with deflections subject to approval in advance. Marker posts shall be installed at all cross culverts & intersections to clearly mark the location. Additional markers will be required at deflections. Caution ribbon shall be installed with the cable. Caution Ribbons must be 12"-18" above the cable.

Road Crossing Method

All crossings will be done by approved methods other than the open-cut method if possible & all crossings shall be perpendicular within the road right of way. Any variance must be approved by the TCRC.

A. **Gravel Road**

Allowed to open cut a trench with proper backfill as per MDOT Specs, Section 401.03 D. Class II Sand up to 6" (six inches) from top of road. Remaining 6" (six inches) shall be 23A Cr. Gravel or 23A Crushed limestone, match existing. Contractor shall meet all **Requirements for Underground Utilities**. Proper notification shall be done by Contractor to TCRC, Central Dispatch, Post Office, and School District (if during school year).

B. **Hard Surfaced Road**

All requests for Hard Surfaced Road open cuts must obtain TCRC Board Approval. If allowed to open cut, proper backfill as per MDOT Specs, Section 401.03 D. Class II Sand up to 6" (six inches) from top of road and the remaining 12" (twelve inches) shall be 23A Cr. Gravel or 23A Crushed limestone (match existing) is required. Match existing thickness of hard surface or 3" (three inches) of 4EL, whichever is greater. Contractor shall meet all **Requirements for Underground Utilities**. Proper notification shall be done by Contractor to TCRC, Central Dispatch, Post Office, and School District (if during school year).



Requirements for Overhead Utilities

- A. All overhead crossings of the public roadway shall be perpendicular within the road right of way, unless TCRC approved variance. Location shall be no closer than 100' (feet) horizontally to a water crossing of 36" (inch) diameter or more. Utilities running parallel to the road shall be installed at or near the edge of road right-of-way unless otherwise agreed upon by the Engineer. All material and workmanship shall comply with the current Michigan Department of Transportation (MDOT) Standard Specifications for Construction (MDOT Specs), the National Electrical Code (NEC) as well as, the National Electrical Safety Code (NESC).
- B. The Utility Company shall notify the TCRC of project completion. All roads affected by the project will be reviewed for damage by TCRC. If deemed necessary by the TCRC, a plan will be identified to have repairs completed within a specific time frame. If repairs are not completed within the time frame, all future permits will be held until an agreement is established with the TCRC.
- C. Vertical clearance of wires, conductors, and cables over TCRC roadways for an unloaded sag with no wind at 60 degrees F shall not be less than 18 feet. The vertical clearance of wires, conductors, and cables over these roadways for a loaded sag with ice at 32 degrees F shall not be less than 15ft 6in.
- D. All utility poles shall be located a minimum of 31 feet from the center of the road right of way. In areas of wider right of way, poles shall be located a minimum of 40 feet from the center of the Right-of-Way. Upon decommissioning of the poles, they shall be removed from the Right-of-Way by the Utility at no additional cost to the TCRC.



Public Utility Annual Maintenance Permit

The following is a list of the activities which utility companies will be allowed to undertake within the Tuscola County Road Right-of-Way under an annual permit, and the conditions under which activities will be allowed:

A. Allowable Annual Permit Activities

- Repair existing underground conduit, buried cable, buried wire, and pipe (not under pavement).
- Replacement of bad cable sections with like size up to 200 feet parallel to the roadway or up to 66 feet perpendicular to the roadway. This only applies if all excavation is at least 10 feet from the edge of the road. If the replacement cable is to be placed outside the immediate area (more than 2 feet away from the existing location centerline), special permission is required to do so. (This item does not apply to gas mains – see below)
- Near-side service leads may be installed up to 300 feet parallel to the roadway.
- Insertion of plastic pipe inserts or lining through existing mains. (no pavement cuts)
- Install buried cable or wire loop/lateral to an existing pole in an existing pole line or to an existing pedestal. This may include crossing of the road by squeeze boring or pushing one pipe 2 inches or less in diameter.
- Install, remove or replace any case with similar size on existing buried cable or wire.
- Replace open wires, single pair rural wire and/or drop wire with multiple line wire or small cable on the same pole line.
- Repair and maintenance of open wire, multiple type wire, drop wire and aerial cable.
- Replace or add up to two poles within or beyond an existing pole line.
- Repair and/or replace leaking, distressed or otherwise damaged sections, up to 50 feet, of existing gas mains (except under pavement). Backfill and restore in accordance with this policy.
- Adding or replacing guys and/or anchors to poles parallel to the road or directed away from the road.
- Install aerial drops which do not require a new pole within road Right-of-Way outside of existing pole line, or install aerial drop along with intermediate pole in an existing pole line to permit installing aerial drop.
- Inspect and maintain systems, valves and meters and their associated manholes.
- Conduct soil borings outside of the traveled surface. Voids shall be backfilled with suitable material and borings in asphalt or concrete shall be capped.
- System tie-ins to existing near-side facilities (except under pavement).
- Survey work, locating, and investigating utility facilities.
- Tree Work.
- Place and replace utility marker posts.



B. Conditions for Annual Maintenance Permit Activities

- Miss Dig is to be notified prior to any work. No work shall be allowed on an unmarked location.
- Except for survey, location, and investigation work, as well as aerial repair, the annual maintenance permit does not apply during winter shutdown (Nov. 15- Apr. 15).
- The TCRC shall be notified of all work in advance with the approximate location and date. Failure to provide the required notification and other disruptions (such as improper signing/safety issues) shall result in an additional inspection charge of four (4) hours of inspection time to cover time lost in scheduling and other related costs incurred by the Road Commission. Emergency repairs may be made with notification being given to the Road Commission as soon as possible, but no later than the next working day.
- Any work requiring pavement removal requires a separate permit. If emergency repairs are necessary under the pavement, refer to the first section of this policy regarding notification.
- Monthly reports shall be submitted to TCRC Permits listing the location, date, and type of work for each activity performed. These reports shall be provided within seven (7) calendar days after the end of each month.

Failure to comply with any of the above conditions, or to submit timely payment of all fees and monthly bills, will result in the cancellation of the annual permit. At such a time, a separate utility permit shall be required for all work within the road right-of-way per the requirements set forth previously in this policy.



9.5.3. PROCEDURES AND CRITERIA FOR TSP, VSP AND SMALL WIRELESS WORK WITHIN THE RIGHT-OF-WAY PERMITS

Prior to commencement of a project within a County Highway Right-of-Way, a Right-of-Way permit application must be submitted and approved. Pursuant to MCL 247.184, "the consent of the Board of County Road Commissioners shall be obtained before the work [within a County Highway Right-of-Way] shall be commenced." No person, organization, or governmental unit shall undertake or conduct any of the following activities within a county road Right-of-Way without first obtaining a permit from the Tuscola County Road Commission ("TCRC"):

- Construct, reconstruct, relocate, or repair any facilities (sewer, water, gas, electric, drains, telephone, cable, fiber, wireless, guys/anchors, etc.)
- Perform any work (ditching, tree trimming, landscaping, etc.)

This document contains the procedures and criteria applicable to Telecommunications Service Provider (TSP), Video Service Provider (VSP) and Small Wireless Right-of-Way Permits. Failure to comply with the Board's written policy, applicable law, or any part of this document shall be just cause for either the temporary or permanent suspension of the permit, as well as the Permit Holder's other permits. Civil fines as provided by law will also be assessed against any "provider" as defined in MCL 224.19b(13)(b) who performs work within the Right-of-Way without obtaining the necessary permit, or who performs work within the Right-of-Way without maintaining the security required by MCL 224.19b(9) and as described in this document.

Video Service Provider and Telecommunications Service Provider Requirements:

- A.** Application must be accompanied by permit fee according to TCRC fee schedule (\$300 per permit or \$600 per permit if population is greater than 250,000) (capped at \$1,000 per project or \$2,000 per project if population is greater than 250,000).
 - a.** For purposes of determining the appropriate permit fee, the definition of "project" is "a proposal for work similar in nature and submitted by one applicant to be accomplished in one year along one road, but may include a **minor** amount of work by one applicant of a similar nature along contiguous road segments to be completed within one year."
- B.** In addition to the permit fee, Applicant is responsible for the Road Commission's necessary and actual costs applied in a reasonable manner for issuing the permit and for review of the proposed activity, inspection, and related expenses.
 - a.** Applicant shall submit a cash deposit with the Application in an amount determined by the Road Commission to be sufficient to cover these costs and expenses. Any unused portion of the deposit will be returned to Applicant upon closure of the Permit.
- C.** Applicant must submit a separate application for an annual routine or emergency maintenance and repair permit (\$300 per permit or \$600 per permit if population is greater than 250,000) (capped at \$1,000 per project or \$2,000 per project if population is greater than 250,000).
- D.** Applicant must provide proof of security (cash, bond or letter of credit) in the amount of \$20,000 (\$40,000 if population is greater than \$250,000).



- a. If a claim is made against the security at any time, for any reason, **ALL** permits issued to the Applicant throughout the County, whether or not related to the project against which the claim is made, are immediately suspended and will not be reinstated until additional security is provided in the statutory amount.
 - b. Failure to maintain the security required by statute and this policy will result in a \$5,000 civil fine, payable to the TCRC, for each instance of noncompliance associated with each individual permit held by the Applicant.
 - c. If the Applicant is both a governmental entity and a telecommunications or video service provider, the amount of the security shall be not less than would be required for the TCRC to restore the road, its appurtenances and the adjacent right-of-way to a condition reasonable equal to or better than that existing before the Applicant's activity.
- E. Applicant must provide proof of insurance in an amount not less than \$2 million per occurrence for bodily injury and, separately, not less than \$2 million per occurrence for property damage.
- F. Application must be accompanied by proof of Metro Act Permit from Township (if Metro Act applies to Applicant).
- G. Any video service or telecommunications provider who performs work within the right-of-way without first obtaining the permit required by MCL 224.19b shall be assessed a \$5,000 civil fine per violation, payable to the TCRC.

Small Cell Wireless Provider Requirements:

- H. Application must be accompanied by permit fee according to TCRC schedule, as follows:
 - a. One-time fee of \$200 per small cell facility **or** \$300 per small cell facility/utility pole combination
 - b. \$20/\$125 annual fee per pole or wireless support structure
- I. Application must be accompanied by proof of permit/franchise from affected Townships
- J. Application cannot contain request for more than 20 small cell facilities
 - a. The TCRC may approve or deny any portion of the total requested facilities, as appropriate.
- K. All work approved by permit must be completed within 1 year. After that, the permit is automatically void.
- L. The TCRC may request that any proposed facility be moved up to 75 feet in any direction.
- M. Applicant may be required to obtain additional standard Right-of-Way Permit(s) if proposed work will unreasonably affect traffic patterns or obstruct vehicular or pedestrian traffic. All permit fees, security, insurance, cost reimbursement, etc., is as provided for standard Right-of-Way permit.
- N. Application must be accompanied by proof of insurance naming the TCRC as an additional insured.
- O. Applicant must agree to defend, hold harmless and indemnify the TCRC from any liability arising from the activity permitted or the presence of any facilities within the Right-of-Way.



- P. Application must be accompanied by proof of security in the amount of \$1000 per small cell wireless facility.
- a. If the Applicant has failed to maintain the required security or has defaulted on an existing bond, the TCRC will require a cash bond in the amount of \$1000 per small cell facility before any permit will be issued and work can occur.
- Q. For any facilities to be collocated on authority poles, the Applicant will be assessed \$30.00 per year.
- a. This fee increases every five years after March 12, 2019, the effective date of the Small Wireless Communications Facilities Deployment Act.
- R. For any facilities to be collocated on non-authority poles, the Applicant will be assessed \$50.00 per year.
- a. This fee increases every five years after March 12, 2019, the effective date of the Small Wireless Communications Facilities Deployment Act.

Annual Maintenance Permits for TSP, VSP and Small Wireless Utilities:

Routine maintenance activities, as defined by the TCRC, may be performed upon existing TSP, VSP and Small Wireless facilities through an Annual Maintenance Permit. Failure to comply with any of the following conditions will result in the cancellation of the Annual Maintenance Permit:

A. Conditions for Annual Maintenance Permit Activities

- Miss Dig is to be notified prior to any work. No work shall be allowed on an unmarked location.
- The TCRC shall be notified of all work in advance with the approximate location and date. Contractor shall follow TCRC "Permit Standards for All Utilities within the Right-of-Way". Emergency repairs may be made with notification given to the Road Commission as soon as possible, but no later than the next working day.
- Any work requiring pavement removal requires a separate permit. If emergency repairs are necessary underneath the pavement, notice to the Road Commission must be simultaneous to the commencement of the emergency work.
- Monthly reports shall be submitted to TCRC listing the location, date, and type of work for each activity performed. These reports shall be provided within seven (7) calendar days after the end of each month.

TCRC PERMITS

1733 Mertz Rd.
Caro, MI 48723
Phone (989) 673-2128
Fax (989) 673-3294
Email permits@tuscolaroad.org



9.6. TRANSPORTATION PERMITS

OVERSIZE/OVERWEIGHT PERMITS

Pursuant to Act 300 of the Public Acts of 1949, the Michigan Vehicle Code (MVC) authorizes the Tuscola County Road Commission to issue special transportation permits for the movement over county roads of vehicles and/or loads, which exceed the size or weight limitations specified by law. It is the objective of the Road Commission to permit the movement of necessary overweight and oversize vehicles or loads consistent with the following obligations: Protection of motoring public from potential traffic hazards and protection of road surfaces, structures, and private property.

SEASONAL WEIGHT RESTRICTIONS

Under MCL 257.722, seasonal weight restrictions are legal limits placed on the loads that trucks may carry. Roads thaw out from the top down each spring, trapping moisture near the surface. During the thawing period, the melting ice leaves voids underneath the pavement. Heavy loads then compress the gravel and bituminous surfaces, causing them to deteriorate. Therefore, when seasonal weight restrictions are in effect during spring thaw, the maximum allowable axle load and speed is reduced to prevent weather-related deterioration of roads.

APPLICATION

Tuscola County Road Commission's Transportation Permits are processed using a web-based permitting system called Oxcart Permits (<http://www.oxcartpermits.com>).

ALL OVERSIZE AND/OR OVERWEIGHT VEHICLES

PERMIT FEE

Extended/Annual Permit	\$100.00 *
Extended/Annual Permit Mobile Home Permit	\$110.00
Single Move Permit	\$50.00 (round trip- up to 3 days) *
Single Move Permit	\$50.00 (multiple trips- up to 3 days) *
Single Move Mobile Home Permit	\$50.00 (up to 3 days)
Super Move Permit	\$100.00 Per Move (Per Location/Project) *
Refuse Hauler Permit	\$100.00

SPECIALTY TRANSPORT PERMITS

PERMIT FEE

Seasonal Milk Haulers	No Charge
Seasonal Public Utilities – Non-Emergency	No Charge
Seasonal Agricultural Permit	\$50.00 + \$40 Video Inspection Fee

**Asterisk denotes that this fee is set by law.*

Permit Fee Schedule is for TCRC Charges, there will be additional service charges from Oxcart.

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GENERAL CONDITIONS AND LIMITATIONS

- A. The maximum allowable axle weight under the Annual Permit is 125% of the legal axle weights. If the applicant requests a permit over 125% of the legal limit and up to 140% limit, the issuing county may authorize this privilege. If the 25% limit is authorized the permit holder must provide the issuing Road Commission 48 hours advanced notice and the applicant must provide Route Notification. In no case may the Annual Permit be issued for loads in excess of 125% legal axle weights.
- B. Permits are 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.
- C. The issuance of permits is 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.
 - o Loads shall be arranged to affect 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 provided no additional nonconforming dimensions of width, height, or length are created or made greater by the additional commodities.
- D. As a matter of general procedure, permits will not be issued for transportation of loads exceeding limitations specified in the attachment. Efforts should be made to move vehicles or loads exceeding these 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 is to be submitted with a properly completed application for further consideration.
- E. Weight- 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.
 - o No overweight permits will be issued during the springtime weight restrictions period, except in case of public emergency.
- F. Height- Careful consideration must be given to any application requesting movement where the overall height exceeds 13 feet 6 inches because of possible overhead obstructions on proposed routes. All applications for permits in excess of 13 feet 6 inches shall certify that the proposed routes have been traveled to assure vertical clearance.
- G. Escort Vehicles- An escort vehicle must be a passenger car or pickup truck with at least one flashing or rotating amber light on top of the cab. Amber lights are to be visible for 360 degrees for a distance of 500 ft.
- H. 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 from noon on the day preceding and continuing until daylight of the 1st day after the holidays here listed: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas Day.
 - When holiday occurs on a Friday or Monday, permits will not be valid for period beginning at noon before the three-day weekend, and ending daylight of the 1st day after the three-day weekend. Mobile Home permits are not valid until noon of the day following the holiday or three-day weekend.
- I. 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 5 business day period.
- J. 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.
- K. All hydraulic attachments or mechanisms must be securely immobilized with adequate chains and binders. Vehicles must have air or lift axles on the ground.
- L. Vehicles shall be registered as required by Michigan statute and will not violate any statute or 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 valid only if transporting equipment is licensed for maximum legal axle loadings.
- M. Any approvals, reviews, and inspections of any nature by the Road Commission, its officers, agents, and employees shall not be construed as a warranty or assumption of liability on the part of the Road Commission. It is expressly understood and agreed that any such approvals are for the sole and exclusive purpose of the Road Commission, which is acting in a governmental capacity. Any approvals, reviews, and inspections by the Road Commission will not relieve the permittee of the permittee's obligations hereunder, nor are such approvals, reviews, and inspections by the Road Commission to be construed as a warranty as to the propriety of the permittee's performance.
- N. 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, defend, and represent the Board against any and all claims for bodily injury or property damage, or and other claim, arising out of or related to the moving of said vehicle, load, or its presence on or use of the highway by said vehicle and load.
- O. Maximum speed 35 mph. All County Roads for travel to Tuscola County Work Sites Only. Permit Holder is not to use county roads for travel routes thru county. If the proposed move utilizes state highways or city streets, permission must be obtained from the state or local authorities.



9.6.1. ANNUAL TRANSPORTATION PERMITS

Applicant requesting permit must complete CRA Form for Annual Transportation Permit. Permits are processed using a web-based permitting system called Oxcart Permits (<http://www.oxcartpermits.com>)

PERMITS ARE VALID FOR ONE YEAR. Permit is invalid during spring restrictions.

Applicant shall review and adhere to the Tuscola County Road Commission Class B Restricted Roads & Bridges Map. (<http://www.tuscolaroad.org>) Bridges marked green are permitted to axle weight load of 110% over the PA MCL 257.725 limits. Bridges marked yellow are permitted to legal loads only. Bridges marked red are posted bridges. Any weight beyond the allowed axle weights as designated on the Class B Restricted Roads & Bridges Map shall be considered as a single move transportation permit.

Must use Single or Super Move Transportation Permit Form if dimensions are over maximums stated:

- Width 12' 6"
- Height 13' 6"
- Length 75' 0"
- Length of truck or power unit 45' 0"

9.6.2. SINGLE MOVE TRANSPORTATION PERMITS

Applicant requesting permit must complete CRA Form for Single Move Transportation Permit. Permits are processed using a web-based permitting system called Oxcart Permits (<http://www.oxcartpermits.com>)

Permit is invalid during spring restrictions.

Additional fees shall apply if route crosses a bridge(s) as designated on Tuscola County Road Commission Class B Restricted Roads & Bridges Map. (<http://www.tuscolaroad.org>) Fee amount shall be based on the amount of bridges crossed and type of analysis required to complete permit overload calculations. Fee Schedule for bridge analysis to be determined annually, contact TCRC permits agent at permits@tuscolaroad.org for more details.

Must use Super Move Transportation Permit Form if dimensions are over maximums stated:

- Width 16' 0"
- Height 14' 0"
- Length 95' 0"



9.6.3. SUPER MOVE TRANSPORTATION PERMITS

Applicant requesting permit must complete CRA Form for Super Move Transportation Permit. Permits are processed using a web-based permitting system called Oxcart Permits (<http://www.oxcartpermits.com>)

Permit is invalid during spring restrictions.

Must notify the County Weighmaster at (989) 550-3431 a minimum of one Working Day before travel to satisfy Police Supervision in Rule 18. Width over 12' 6" shall be proceeded by an escort vehicle. If the proposed move utilizes state highways or city streets, permission must be obtained from the state or local authorities.

Additional fees shall apply if route crosses a bridge(s) as designated on Tuscola County Road Commission Class B Restricted Roads & Bridges Map. (<http://www.tuscolaroad.org>) Fee amount shall be based on the amount of bridges crossed and type of analysis required to complete permit overload calculations. Fee Schedule for bridge analysis to be determined annually, contact TCRC permits agent at permits@tuscolaroad.org for more details.

9.6.4. ANNUAL MOBILE HOME TRANSPORTATION PERMITS

Applicant requesting permit must complete CRA Form for Annual Mobile Home Transportation Permit. Permits are processed using a web-based permitting system called Oxcart Permits (<http://www.oxcartpermits.com>)

PERMITS ARE VALID FOR ONE YEAR. A new application and payment will need to be sent upon expiration. To be towed by at least a 1 ½ Ton truck with dual wheels. Permit is invalid during spring restrictions.

Applicant shall review and adhere to the Tuscola County Road Commission Class B Restricted Roads & Bridges Map. (<http://www.tuscolaroad.org>) Bridges marked green are permitted to axle weight load of 110% over the PA MCL 257.725 limits. Bridges marked yellow are permitted to legal loads only. Bridges marked red are posted bridges. Any weight beyond the allowed axle weights as designated on the Class B Restricted Roads & Bridges Map shall be considered as a single move mobile home transportation permit.

Must use Super Move Transportation Permit Form if dimensions are over maximums stated:

- Width 14' 0"
- Height 14' 0"
 - Over 13' 6" applicant must check for vertical clearance & overhead obstructions along route.
- Length 80' 0" in body length of mobile home or modular
- Length 105' 0" in overall length with towing vehicle



9.6.5. SINGLE MOVE MOBILE HOME TRANSPORTATION PERMITS

Applicant requesting permit must complete CRA Form for Single Mobile Home Transportation Permit. Permits are processed using a web-based permitting system called Oxcart Permits (<http://www.oxcartpermits.com>)

To be towed by at least a 1 ½ Ton truck with dual wheels. Permit is invalid during spring restrictions.

Additional fees shall apply if route crosses a bridge(s) as designated on Tuscola County Road Commission Class B Restricted Roads & Bridges Map. (<http://www.tuscolaroad.org>) Fee amount shall be based on the amount of bridges crossed and type of analysis required to complete permit overload calculations. Fee Schedule for bridge analysis to be determined annually, contact TCRC permits agent at permits@tuscolaroad.org for more details.

Must use Super Move Transportation Permit Form if dimensions are over maximums stated:

- Width 14' 0"
- Height 14' 0"
 - Over 13' 6" applicant must check for vertical clearance & overhead obstructions along route.
- Length 80' 0" in body length of mobile home or modular
- Length 105' 0" in overall length with towing vehicle

9.6.6. REFUSE TRANSPORTATION PERMITS

Applicant requesting permit must complete Form for Annual Transportation Permit for Licensed Refuse Haulers. Permits are processed using a web-based permitting system called Oxcart Permits (<http://www.oxcartpermits.com>)

PERMITS ARE VALID FOR ONE YEAR. A new application and payment will need to be sent upon expiration. Permit is invalid during spring restrictions.

Applicant shall review and adhere to the Tuscola County Road Commission Class B Restricted Roads & Bridges Map. (<http://www.tuscolaroad.org>) Bridges marked green are permitted to axle weight load of 110% over the PA MCL 257.725 limits. Bridges marked yellow are permitted to legal loads only. Bridges marked red are posted bridges.

9.6.7. SEASONAL UTILITY TRANSPORTATION PERMITS

Applicant requesting permit must complete CRA Form for Seasonal Public Utility Transportation Permit. Permits are processed using a web-based permitting system called Oxcart Permits (<http://www.oxcartpermits.com>). If the applicant is a subcontractor the Public Utility must be listed.

The use of restricted roads shall be minimized. Movement shall be as early in the morning as possible when at axle weight maximums as stated in Rule 10. Speed Reduced to 35 MPH when on restricted roads. All County Roads for travel to Tuscola County Work Sites Only. Permit Holder is not to use county roads for travel routes thru county.



Applicant shall review and adhere to the Tuscola County Road Commission Class B Restricted Roads & Bridges Map. (<http://www.tuscolaroad.org>) Bridges marked green are permitted to axle weight load of 110% over the PA MCL 257.725 limits. Bridges marked yellow are permitted to legal loads only. Bridges marked red are posted bridges. Any weight beyond the allowed axle weights as designated on the Class B Restricted Roads & Bridges Map shall be considered as a single move permit.

9.6.8. SEASONAL MILK HAULER TRANSPORTATION PERMITS

Applicant requesting permit must complete CRA Form for Seasonal Milk Transportation Permit. Permits are processed using a web-based permitting system called Oxcart Permits. (<http://www.oxcartpermits.com>)

Route Notification with route and weight in and out at each address must be provided. Move as early in morning as possible.

Applicant shall review and adhere to the Tuscola County Road Commission Class B Restricted Roads & Bridges Map. (<http://www.tuscolaroad.org>) Bridges marked green are permitted to axle weight load of 110% over the PA MCL 257.725 limits. Bridges marked yellow are permitted to legal loads only. Bridges marked red are posted bridges. Any weight beyond the allowed axle weights as designated on the Class B Restricted Roads & Bridges Map shall be considered as a single move permit.

9.6.9. AGRICULTURAL TRANSPORTATION PERMITS

A company/farmer can obtain a permit to use a roadway for the frost law season. Applicant requesting permit must complete CRA Form for Agricultural Transportation Permit. Permits are processed using a web-based permitting system called Oxcart Permits. (<http://www.oxcartpermits.com>)

Agricultural transportation permits are truck specific, One Permit for One Truck.

Silviculture may utilize agricultural transportation permits during seasonal weight restrictions.

Route Notification is required, this includes a copy of the route, weights in and out (at all stops), plus axle configuration. The Weighmaster or TCRC Staff will take video before and after of road conditions. The Weighmaster and Management will review the video and verify there is indeed no damage. If there is damage- The permit holder will be notified in writing of needed repairs and an estimate will be determined.

Weights must STILL be legal subject to State Law 257.722(5) or 257.725, and Tuscola County Road Commission MUST be called before each move. (We document the permit.)

Once all above is supplied the permit must be approved by TCRC Staff. With the approved permit, the fee must be collected before issuing.

9.7. INSURANCE REQUIREMENTS

Agriculture Hauling Permit	
Type of Insurance	Notes
None	As required by Statute per the Attorney General Opinion

Oversize / Overweight Permits						
Type of Insurance	Coverage Limits	Addl. Insured	Waiver of Subrogation	Primary/Non Contributory	Claims Made	Indemnification
Auto Liability	Michigan No Fault Coverage/Property Protection (PPI) \$1M Statutory Limit	No	No	No	No	Yes

Driveway Permit	
Individual Homeowner Permit Holder - Residential Driveway	
Type of Insurance	Notes
None	Advise homeowner they will be responsible for any damage done to the ROW
	Advise homeowner they will be responsible for any injuries as a result of the work in the ROW
	Advise homeowner they will be required to indemnify the RC as outlined in the ROW permit

Contractor Permit Holder - Commercial or Residential Driveway

Type of Insurance	Coverage Limits	Addl. Insured	Waiver of Subrogation	Primary/Non Contributory	Claims Made	Indemnification
Commercial General Liability (CGL)	Each Occurrence	No	No	No	No	Yes
	Products Comp/Op Aggregate					
	General Aggregate					

Special Event / Parade Permits							
Type of Insurance	Coverage Limits		Addl. Insured	Waiver of Subrogation	Primary/Non Contributory	Claims Made	Indemnification
Commercial General Liability (CGL)	Each Occurrence	\$2,000,000	Yes	Yes	Yes	No	Yes
	General Aggregate	\$2,000,000					
Notes							
For special events requiring participant waivers - Endeavor to have the RC added to the waiver.							
If alcohol is being served, host liquor liability is required.							

General Right of Way Permit	
Individual Homeowner Permit Holder	
Type of Insurance	Notes
None	Advise homeowner they will be responsible for any damage done to the ROW
	Advise homeowner they will be responsible for any injuries as a result of the work in the ROW
	Advise homeowner they will be required to indemnify the RC as outlined in the ROW permit

Contractor Permit Holder

Type of Insurance	Coverage Limits	Addl. Insured	Waiver of Subrogation	Primary/Non Contributory	Claims Made	Indemnification
Commercial General Liability (CGL)	Each Occurrence	Yes	Yes	Yes	No	Yes
	Products Comp/Op Aggregate					
	General Aggregate					
Auto Liability	Michigan No Fault Coverage/Property Protection (PPI) \$1M Statutory Limit	No	No	No	No	Yes
Professional Liability, as required	Each Occurrence & Aggregate	N/A	N/A	N/A	Yes	Yes

Umbrella may be used to meet limit requirements: Commercial General Liability & Auto Liability
Retro Date for Professional Liability must be prior to issuing permit date.
It is recommended the Self Insured Retention (SIR) for CGL be no greater than \$25,000.



10. UTILITY ROAD USE POLICY

POLICY

Prior to commencement of a project, a Right of Way permit application shall be completed. If there are commercial vehicles involved that require a Special Transportation or Building Moving Permit this shall classify the project as Large Scale.

Large Scale Project

A Large-Scale Project shall have a haul route identified on a map by the Utility. Mileage of hard surfaced and gravel roads will be calculated and added to the permit to identify the amount of Bond needed.

- a. A Road Use Agreement shall be obtained and a minimum Bond in the amount as stated:
 - i. \$10,000/mile hard surfaced roads
 - ii. \$1,000/mile limestone or gravel roads

The Original bond shall be supplied to TCRC

The TCRC will provide the most recent Pavement Surface Evaluation Rating (PASER) for the identified paved roads as a benchmark for current condition. The Utility shall photo or video record the route for additional documentation, both pre and post project. A copy shall be provided to the TCRC. The TCRC reserves the right to also document the route.

Normal Scale Project

If the project encompasses a mile or more of Tuscola County roadway, but no Special Transportation permits are required, this will be considered a normal scale project with increased traffic volumes. A bond in the amount up to \$25,000 will be supplied by the Utility and held by the TCRC. A normal scale project with increased traffic volumes will be inspected on a routine basis by a TCRC representative. The TCRC will provide the most recent Pavement Surface Evaluation Rating (PASER) for the identified paved roads as a benchmark for current condition.

An account will be established at the TCRC in the Utility's name. Routine inspections will be charged to this account. If damages are identified from routine inspections, the Utility will be contacted immediately. Repairs will be determined to keep the road safe for public travel. Charges by TCRC Maintenance crews may be made to the account for immediate repairs. Examples: bituminous patching or limestone/gravel patching, grading, or dust control.

The Utility Company shall notify the TCRC of project completion. All roads affected by the project will be reviewed for damage by TCRC. If deemed necessary by the TCRC or as dictated by the Road Use Agreement, a plan will be identified to have repairs completed within a specific time frame. If the repairs are completed, the Bond will be released. If repairs are not completed within the time frame, the Bond will be claimed to assist with the repair costs.



11. HAULING AGREEMENTS

PURPOSE

The Tuscola County Road Commission is authorized by Michigan statute (MCL 257.726, MSA 9.2426) to designate routes for the operation of a vehicle of a weight exceeding the maximum specified for said roads. A designated haul route is 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.

POLICY

CLASS A HAUL AGREEMENT:

A Haul Agreement will be 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. In many cases, the roadway will have to be upgraded at the applicant's expense prior to the haul agreements issuance.

CLASS B HAUL AGREEMENT:

A Haul Agreement will be established when the need for such routes is expected during spring weight restrictions. This agreement is intended to serve the agricultural and silvicultural industries that require multiple trucks to utilize the route.

PROCEDURE

CLASS A HAUL AGREEMENT:

- Request from interested party to the Road Commission:
 - 1733 S. Mertz Rd.
Caro, MI 48723
Attn: County Highway Engineer
 - Specify roadway and location or address the hauling agreement will start from.
- Engineering Study Completed.
 - History of the road is reviewed for existing material applied to the roadway. If there isn't sufficient history available, core samples can be taken at random locations along the roadway to determine existing roadway thickness. These core samples are paid for by the interested party.
- The interested party will be notified by the Highway Engineer of any deficiencies in the roadway and what options can be used, if needed, to construct the road. The Township is copied on correspondence for all local roads.



- Paved Road
 - Paved roads shall meet the All-Season standards as established by the Road Commission. The cost of construction is the responsibility of the interested party.
 - Gravel or Limestone Roads
 - Gravel or Limestone Roads may need material applied or routine grading completed to keep the roadway in good condition or dust control applied, as required by the Road Commission. The work deemed necessary by the Road Commission is the responsibility of the interested party to have completed.
- The roadway shall be built to All Season standards prior to the hauling agreement being issued. Supporting documentation will need to be supplied to the Highway Engineer for verification of any work completed to the roadway.
 - A two-year hauling agreement will be drafted by the Road Commission for the interested party's signature. The hauling agreement shall be returned to the Road Commission for Board signature denoting Road Commission Approval.
 - The hauling agreement can be renewed every two years.

CLASS B HAUL AGREEMENT:

- Request from interested party to the Road Commission:
 - 1733 S. Mertz Rd.
Caro, MI 48723
Attn: County Highway Engineer
 - Specify roadway and location or address the hauling agreement will start from.
- Fee for Haul Agreement is \$150.00 + \$40.00 Video Inspection Fee
 - Upon payment a hauling agreement will be drafted by the Road Commission for the interested party's signature. The hauling agreement shall be returned to the Road Commission for Board signature denoting Road Commission Approval.
- Video Inspection will be taken before and after Seasonal Weight Restrictions of road conditions at the applicant's expense.
 - The Weighmaster and TCRC Management staff will review the video and verify there is indeed no damage.
 - If there is damage- The haul agreement holder will be notified in writing of needed repairs and an estimate will be determined.
- Weights must STILL be legal subject to State Law 257.722(5) or 257.725
- The hauling agreement is required to be renewed every year.



12. RECYCLED ASPHALT PRODUCT (RAP) POLICY

PURPOSE

The Tuscola County Road Commission (TCRC) shall make every effort to stockpile, process, and reuse Recycled Asphalt Product (RAP) removed from TCRC roads. By utilizing RAP that has been salvaged and processed by TCRC it will reduce the overall cost of future maintenance and heavy maintenance projects throughout the county.

POLICY

TCRC shall periodically process the stockpile of RAP into material that can be utilized in Structural & Capital Preventive Maintenance projects.

FUNDING

- TCRC shall fund 100% of the costs associated to the processing of the RAP.
- Townships shall fund 100% of the costs associated with trucking & placement of the RAP.
 - This cost will be a price per ton of material placed.
 - A breakdown of the price per ton shall be supplied to the Township.
- Townships shall receive a credit for RAP removed from township road.
 - To qualify for credit must be minimum 1.0" Profile Milling from Intersection to Intersection.
 - The credit will be a price per ton of material removed.
 - Price determined by TCRC Highway Engineer.

Procedure

- Work Request Form in accordance with Township Allowance Policy.
 - Project involves RAP.
 - TCRC Engineering Staff will evaluate the roadway and recommend an appropriate application.
- Township utilizing RAP will pay the remaining balance invoiced at the end of the year.
- Township receiving credit will have balance removed from invoice at the end of the year.



13. POOR/FAILED LOCAL HARD SURFACE POLICY

PURPOSE

The Tuscola County Road Commission (TCRC) may pulverize a “hard surface” County Local Road and place gravel, if it is determined to be the most cost-effective alternative to maintain it in a “reasonably safe and convenient” condition. The road will then be reclassified as a “gravel” County Local Road and will be maintained with an aggregate driving surface indefinitely or until such time as the Township deems it appropriate to place a hard surface upon it.

POLICY

TCRC may initiate return to gravel for a local hard surface road if **two** or more of the following conditions are met:

- Road has a PASER* Rating of 2 or less.
- Cost of repairs exceeds three times the average cost of maintaining a gravel road per year.
 - Cost of Repairs includes
 - Labor, Equipment, and Cold Patch
 - Road Closure
 - Cost to maintain a gravel road includes
 - Minimum 3 Full Grades per year
 - Surface Maintenance
 - Brine/Dust Control
- Road is deemed unsafe by TCRC and is closed.
 - Examples: Damage to vehicles, potential accidents

Townships may initiate return to gravel for a local hard surface road if the following conditions are met:

- Road has a PASER* Rating of 2 or less.
- Township unable to adequately maintain hard surface network
 - 3 Year Asset Management Plan required to detail funding deficit
- Resolution in support from Township Board

The above criteria will only be applicable for rural non-platted, low volume roads, (i.e. not in subdivisions). Further, the average daily traffic (ADT) the road receives and connectivity to other hard surface roads will also be considered in the determination. The TCRC will continue to encourage the Township to pursue other avenues for funding a project including special assessment and millage revenue.

PROCEDURE

If the Road Commission deems the local road has met the policy criteria:

- A TCRC Representative will attend a Township Board Meeting.
 - TCRC will detail repairs needed to have the road remain hard surfaced.
- If repairs have not been initiated within the construction season the Road Commission shall schedule a public hearing.



- Public Notice flyers shall be mailed to all township residents.
- TCRC will continue to encourage the Township to pursue other avenues for funding a project including special assessment and millage revenue.
- The Road Commission Board makes action on return to gravel after hearing comments from the residents.
- The Public Hearing results will be forwarded to the Township.

If the Township requests the local road to be returned to gravel and the policy criteria is met:

- A condition assessment will be performed on the requested road by TCRC Staff.
 - If the conditions are met, the Road Commission will send a Representative to a Township Board Meeting to discuss the process of returning a hard surface road back to gravel.
- A public hearing shall be scheduled to review returning the roadway to gravel condition.
 - Public Notice flyers shall be mailed to all township residents.
 - The Road Commission Board makes action on return to gravel after hearing comments from the residents.
- The Public Hearing results will be forwarded to the Township.

Following the Public Hearing, a representative from the Road Commission will attend the next scheduled Township Board Meeting. If the Township cannot implement the needed repairs or if the road is approved for return to gravel, the Road Commission shall, as soon as practical:

- Choose one of the following:
 - Option #1
 - Conduct minimum of 2 road cores to determine structure of existing road
 - Place a minimum of 3" of crushed gravel, prior to crushing.
 - Have the road crushed and shaped.
 - Utilize Base One Application.
 - Apply one application of 35% Calcium Chloride for Dust Control.
 - Option #2
 - Conduct minimum of 2 road cores to determine structure of existing road
 - Have the road crushed and shaped.
 - Place a minimum of 6" of crushed gravel, over existing cross section.
 - Apply one application of 35% Calcium Chloride for Dust Control.

If return to gravel is initiated by TCRC, funding for the above work shall be taken from the Township Allowance Policy and the remainder shall be paid by the Township. If return to gravel is initiated by the Township, 100% of the cost is funded by the Township. The road would then be maintained as any other Local Gravel Road. Future gravel will likely be required; it will be the responsibility of the Township to procure gravel and annual dust control that may be necessary. The Township may choose to return the roadway to hard surface in the future.

****Pavement Surface Evaluation and Rating (from the Transportation Asset Management Council)***



14. SOIL EROSION AND SEDIMENTATION CONTROL

INTRODUCTION

All requirements of Part 91, Soil Erosion and Sedimentation Control (SESC), of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Part 91), and the administrative rules promulgated under the authority of Part 91 are included in this procedure by reference.

This procedure is adopted as a working document; its contents are intended to serve as guidance for all activities of the Tuscola County Road Commission (hereafter referred to as the TCRC), falling under the jurisdiction of Part 91. A copy of this procedure is provided to all TCRC staff and available to contracted personnel engaged in any aspect of SESC. Those personnel are expected to understand and implement the contents of this procedure. Standards and specifications referenced in this procedure are available to all TCRC and contracted personnel.

The goal of the TCRC is an effective and economical SESC program to protect the soil, water, and other natural resources of Tuscola County. Controlling erosion and off-site sedimentation is a high priority for all maintenance and new construction projects undertaken by, or performed under contract for, the TCRC.

The TCRC will anticipate and plan for potential SESC problems associated with all phases of a project, including clearing, rough grading, construction, final grading, restoration, and continuing site maintenance. All earthwork for construction or heavy maintenance projects is performed in accordance with a comprehensive SESC plan which meets the requirements of Rule 323.1703. Routine maintenance projects will be done in accordance with a comprehensive SESC plan or with established maintenance guidelines referenced in this procedure.

The SESC procedures of the TCRC are subject to review by TCRC staff and the Michigan Department of Environment, Great Lakes, and Energy (EGLE). Procedures will be revised as standards and techniques for SESC evolve. Any revisions to the procedures must be reviewed and approved by the EGLE prior to formal adoption.

All TCRC personnel who make decisions regarding the design, inspection, or implementation of SESC measures must complete the EGLE's SESC training and pass the final exam. This includes personnel in the following positions:

County Highway Engineer, Superintendent/Manager, Engineer Tech, and Division Foremen



STANDARDS AND SPECIFICATIONS

The most recent versions of the documents listed below are available at the TCRC, are routinely consulted by all staff, and guide the implementation of SESC measures:

1. Michigan Department of Transportation Specifications for SESC, including:
 - a. The most recent edition of *Standard Specifications for Construction*
 - b. Soil Erosion and Sedimentation Control Measures, *Standard Plan R-96-Series*
 - c. *Soil Erosion and Sedimentation Control Manual*
2. Michigan Department of Environment, Great Lakes, and Energy, *Guidebook of Best Management Practices for Michigan Watersheds*.
3. The manufacturer's standards and specifications for SESC products

THE SOIL EROSION AND SEDIMENTATION PROCESS

Soil erosion is classified as either natural or accelerated. Natural erosion is a geological process facilitated by time, climate, and other environmental site conditions, which proceeds relatively independently of human activity. Accelerated soil erosion is a result of human activity. After soil has been exposed or topography altered, wind or moving water can rapidly move sediments into water bodies or onto adjacent property. Accelerated erosion and off-site sedimentation must be prevented during and after construction and maintenance activities.

Base erosion potential is the amount of erosion expected from a site after vegetation has been removed. Whenever and wherever possible, avoid construction or soil disturbance in locations with a high base erosion potential or a preexisting natural erosion condition. Such sites logically possess high-accelerated erosion potential; seek viable sites with lower erosion potential as alternatives.

The TCRC will utilize slope and soil information to estimate the base erosion potential of the site. Information will be obtained from the county soil survey, topographic maps, and on-site analysis. The Revised Universal Soil Loss Equation (RUSLE) or other commonly accepted methods will be used in determining the project route and prescribing SESC measures.

The scheduling of a project, with respect to the growing season and accepted seeding dates, will be considered when selecting SESC measures for a project. Liberal use of erosion control blankets, securely anchored mulch, or other erosion resistant materials will be used when a project extends beyond the growing season.



PRINCIPLES OF SESC

The TCRC recognizes seven (7) basic principles of SESC:

1. Design and construct terrain features, such as slopes and drainage ways, to minimize the erosion potential of the exposed site. Consider soil type, time of year, proximity to waterways, duration of exposure, length and steepness of the slope, and the anticipated volume and intensity of runoff.
2. Minimize the area of unstabilized soils left unprotected from runoff and wind.
3. Minimize the amount of time areas of unstabilized soils are exposed to erosive forces.
4. As soon as it is practical after earth disturbance, protect exposed soils with temporary or permanent vegetation, mulch, or other approved erosion resistant material.
5. Avoid concentrating runoff. If concentrated runoff is unavoidable, implement measures to reduce runoff to a non-erosive velocity.
6. Trap eroded sediments on-site with temporary and permanent barriers, basins, or other sediment retention measures and allow for the controlled discharge of runoff at a non-erosive velocity.
7. Implement a continuous inspection and maintenance procedure, which includes written documentation of the SESC actions.

The foregoing principles guide the SESC decisions of the TCRC during planning, design, and installation for both construction and maintenance sites and during the performance of routine maintenance tasks.

PLANNING AND DESIGN

Effective SESC begins with planning, including locating projects to best meet each project objective while minimizing the potential for erosion.

Minimize the number of stream crossings to reduce disturbance to streams and protect water quality. When a stream crossing is necessary, locate it at a stable reach of the stream and either at a right angle to the direction of flow or so the culvert or waterway opening is aligned to accommodate the natural course of the stream. If possible, avoid project locations which encroach on lakes, streams, floodplains,



or wetlands. Structures placed below the ordinary high-water mark, encroachments into floodplains, potential impediments to navigation or riparian rights, or changes to channel characteristics must have approval of local, state, or federal authorities as appropriate. Develop a comprehensive SESC plan in accordance with Rule 323.1703 for incorporation into the design plans for all phases of all projects. Clearly show the scope, location, and installation details for all SESC measures on the plans, in the specifications, and in the special guidelines for in-house or contracted construction and maintenance projects. Provide a section in the plans to list miscellaneous quantities of SESC materials to address unanticipated control requirements. In addition, include a construction sequence which specifically schedules the installation and maintenance requirements of each temporary and permanent SESC measure included in the design.

Emphasize the placement and maintenance of both temporary and permanent SESC measures on plans and guidelines, and handle as bid items in contracts when feasible. Contracts will specify that temporary SESC measures shall be installed prior to, or upon commencement of, earth change activity and shall be removed only after permanent SESC measures are in place and the site is stabilized. Permanent SESC measures shall be in accordance with the manufacturer's specifications and the guidelines set forth in the standards and specifications adopted by the TCRC.

Install permanent SESC measures for all slopes, channels, ditches, or any disturbed land area within five (5) calendar days after final grading or completion of the final earth change. If permanent stabilization of a disturbed area is not possible upon completion of an earth change, maintain temporary SESC measures until the site is stabilized.

Select horizontal and vertical alignments of rights-of-way to avoid critically erodible sites along the proposed route and minimize disturbance to surface and groundwater flows. Alignments will be consistent with safety criteria and, to the extent possible, fit into the natural landscape to reduce the number and size of cuts and fills.

Control the concentration of water on slopes with infiltration areas, intercepting ditches, diversion berms, or drop structures with stable outlets. Reduce the concentration and velocity of runoff by use of horizontal surface roughening, reduction of effective slope length, and the prompt installation of mulch, geotextile, or other appropriate surface covering.

Design ditches and channels with the flattest side slopes permitted by the right-of-way (preferably 3H:1V, or flatter) and broad, flat or rounded bottoms. Channels shall be vegetated or armored with geotextile, riprap, or other suitable material as necessary to prevent erosion at anticipated flows.

Place check dams, sediment traps, or both, in combination to reduce runoff velocity and trap sediments in unstabilized ditches or channels. These devices may be either temporary or permanent, depending on the conditions at the site. Plans must include a routine inspection and maintenance schedule. Structures designed to trap sediments shall be cleaned out to full capacity when found to be 50 percent full and the sediment removed to an approved upland disposal site. Maintain check dam integrity and contours to ensure runoff does not create erosion by undermining or traveling around the ends of the structures. Culverts and other structures placed in channels often constrict flood flows, increase water



velocity, and increase the potential for erosion. In situations with such potential, protect the culvert or structure embankment slopes and the downstream channel and banks with riprap or other erosion resistant material. Design road crossings to locate culverts, bridges, or other in-stream structures to minimize changes to channel cross section and orientation.

CONSTRUCTION

All phases of construction and in-house maintenance, including the installation and maintenance of SESC measures, will follow the schedule prescribed in the SESC plan or maintenance guidelines. The first step in the construction sequence is the placement of SESC measures around the perimeter of the proposed earth change to effectively prevent sediment from entering any lake, stream, wetland, or adjacent property. The construction sequence is completed by the conversion of temporary SESC measures to permanent controls and full stabilization of soils on the site.

Schedule and perform clearing operations to permit the timely and sequential installation of SESC measures. The maximum area of erodible soils exposed at any time will be based on site characteristics and stated in the phasing, staging, and sequencing section of plans or guidelines.

If embankment slopes terminate near a lake or stream, maintain or establish a protective buffer of vegetation between the water body and the disturbed area whenever feasible. Place silt fence or an equivalent SESC treatment at the toe of the disturbed portion of the embankment; additional courses of silt fence may be required along intermediate contours of long or steep slopes.

Perform all maintenance and new construction operations in the dry by placing cofferdams or similar structures around work done below the ordinary high-water mark or legally established level of a lake.

When a temporary diversion channel is used, slopes of the channel must be stabilized with vegetation or erosion resistant materials before water is released to the channel. Install sediment traps, check dams, or filters in the channel to remove sediments from runoff which may leave the site or discharge to a water body.

Locate all stockpiles, waste material, and spoils in upland areas where they can be properly contained and will not erode into water bodies or on to adjacent properties.

Conduct site restoration and stabilization in a manner that ensures adequate temporary or permanent SESC measures are in place and functioning at the end of each workday.



INSPECTIONS

TCRC personnel or Contractors working for TCRC who have successfully completed the SESC training required by Section 9123 of Part 91 and passed the final exam are responsible for inspecting and documenting the condition of the SESC measures. This shall be on a weekly basis or within 24 hours of a precipitation or snow event that causes discharge from the site. Personnel shall also be responsible for initiating changes or completing maintenance, if required.

Violations or problems with SESC measures are corrected immediately and both the problem and the corrective action are documented in an inspection report. General oversight and ultimate responsibility for inspections and compliance of all TCRC operations resides with the County Highway Engineer or Superintendent/Manager.

MAINTENANCE OF CONTROL MEASURES

Maintenance includes implementing necessary repairs or corrections to existing temporary or permanent SESC measures. Temporary SESC measures shall be maintained daily; permanent measures in need of repair shall be corrected within five (5) days of detection of the problem, unless the scope of the work or the season prevents such action. Implement temporary measures immediately to contain sediments from failed permanent measures and maintain temporary measures until the permanent measures are repaired.

Apply seed and mulch or plant other ground stabilizing vegetation immediately following final grading on all disturbed sites where the slopes are gentle enough to allow their effective use. Vegetative treatments shall follow guidelines published in the documents referenced elsewhere in this procedure. Use staked sod, geotextiles, riprap, or other suitable erosion control materials, as necessary, on steep slopes or other areas unsuitable for standard vegetative treatments. Length of slope, soil characteristics, and access for maintenance will influence the maximum slope suitable for standard vegetative treatments. Any slope steeper than 2H:1V should have structural treatments to reinforce or replace vegetation. Slopes steeper than 3H:1V *may* require structural treatments depending on site conditions. Use all products in accordance with the manufacturer's specifications.

MAINTENANCE CONSTRUCTION (HEAVY MAINTENANCE)

Plans are developed and SESC measures are implemented for maintenance construction and heavy maintenance in the same manner as for new construction. Plans shall meet the requirements set forth in Rule 323.1703. Inspect and document site conditions and maintain SESC measures on maintenance construction and heavy maintenance projects in the same manner as for new construction.



ROUTINE MAINTENANCE

Routine maintenance activities are subject to the same general SESC considerations as new construction or heavy maintenance. Typical routine maintenance tasks include, but are not limited to, the following:

- Road and shoulder grading
- Roadside ditch clean-out
- Cross drainage culvert, underdrain, bridge approach, and embankment repair or replacement
- Slope protection and washout repair

In lieu of developing formal SESC plans, the TCRC will undertake the above listed activities in accordance with the following guidelines:

Road and Shoulder Grading

- For roads with ditches, grade to allow runoff to enter the ditch at points no closer than 100 feet from a lake or stream; this may require removal of berms formed between the road and the ditch.
- For roads without ditches, construct outlets to natural depressions or excavated sumps which allow runoff to leave the road at points no closer than 100 feet from a lake or stream.
- Conduct road grading operations adjacent to or crossing any watercourse in a manner which does not allow graded materials to enter directly or be carried by runoff into the watercourse. Direct road drainage to areas which allow runoff to filter through a vegetative buffer prior to entering any watercourse.

Roadside Ditch Clean-Out

- Conduct ditching operations in the dry or in periods of low water flow.
- Leave at least 50 feet of natural vegetation between the terminus of ditching and any lake or stream.
- If existing vegetation is inadequate to filter sediments from runoff, install temporary or permanent check dams, sediment traps, or both.
- If it is necessary to remove the vegetated filter described in (a), do so only after the remainder of the ditch is revegetated and stabilized.
- Protect ditches with long slopes by leaving 20-foot-long natural vegetation filters or constructing check dams at intervals not exceeding 2-feet of vertical drop or at lesser intervals if conditions dictate.
- Where possible, salvage topsoil and replace immediately upon completion of the ditching project or within five (5) days of earth disturbance on any portion of the project, whichever is less. Seed and mulch ditches within five (5) days of final grade.



Cross-Drainage Culvert, Underdrain, Bridge Approach, and Embankment Repair

- Isolate all work from flowing water.
- Stabilize culvert ends and areas below annual high-water levels with riprap over geotextile or other suitable erosion resistant materials.
- Stabilize all disturbed areas above the annual high-water mark with sod, seed, mulch, or other suitable erosion resistant material within five (5) days of final grade.
- Acquire all applicable permits from the Department of Environmental, Great Lakes, and Energy under the provisions of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

Slope Protection and Washout Repair

- Isolate all work from flowing water.
- Immediately stabilize all disturbed areas with sod, seed, mulch, or other erosion resistant Materials.
- Divert water flow away from the top of the slope or convey water downslope with a properly designed down drain with a stable outlet until the area is stabilized.
- Additional SESC measures may be required for work on steep slopes or slopes located near lakes or streams.

COMPLIANCE

The TCRC is ultimately responsible for SESC practices undertaken by contractors working under the authorized public agency designation. Therefore, all contractors shall comply with this operating procedure. The TCRC shall ensure that contracts include clear language describing the responsibility of contractors to comply with the operating procedure, the authority of the TCRC to enforce compliance with the operating procedure, and the consequences for noncompliance. Noncompliance issues will be relayed verbally to the contractor. If compliance is not obtained in a timely manner, as deemed by the TCRC representative, corrective action will be implemented, up to and including a stop work order.

REV 4-21-2016
REV 9-11-2025 (DEQ to EGLE)