

ENGINEERING DESIGN STANDARDS

SECTION 6 - PAVING

6.0 GENERAL

This standard establishes the minimum requirements for paving, sidewalks, and sidewalk repair in the Township.

6.1 ROADS AND OFF-STREET PARKING

A. DESIGN REQUIREMENTS

1. Roads - All public and non-public roads shall be designed according to the criteria of the Road Commission for Oakland County (RCOC) or Michigan Department of Transportation (MDOT).
 - a. Non-public roads are allowed within the Town Center Overlay District only.
 - b. Approval of public road improvements by the above agencies must be obtained and furnished to the Township Engineer prior to Township approval of the paving.
 - c. Approval of non-public road improvements will by the Township Engineer.
2. Off Street Parking and Loading - Off-street parking and loading facilities shall be constructed in accordance with the Charter Township of Commerce Zoning Ordinance.
 - a. Parking and loading area pavement cross sections shall be designed based on the existing soil conditions and shall accommodate the types of traffic loads anticipated. Minimum pavement cross sections are listed below:

Use and Type	Surface	Base
Commercial and Multi-family		
Asphalt	4" MDOT 13A/5E1 HMA in 2 lifts	6" MDOT 21AA Aggregate or 8" MDOT 22A Aggregate
Concrete	7" Portland Concrete	Aggregate Base
Industrial		
Asphalt	4" MDOT 13A/5E1 HMA in 2 lifts	8" MDOT 21AA Aggregate
Concrete	8" Portland Concrete	Aggregate Base

- b. Subgrade:
 - i. Subgrade shall be MDOT Class II granular backfill compacted in place or approved equal based on soil conditions.
 - ii. Compacted subgrade shall meet 95% modified Proctor.
- c. Minimum slope:
 - i. Asphalt: One percent (1%).
 - ii. Portland Concrete: One-half percent (0.5%)
- d. Maximum slope:
 - i. Drives and Parking: Six percent (6%).
 - ii. Sidewalks: Four percent (4%) Longitudinal, Two percent (2%) Transverse.

ENGINEERING DESIGN STANDARDS

- e. Parking stalls shall be dimensioned as approved by the Planning Department including barrier free parking requirements.
3. Approaches - Approaches to any sites from roads under the jurisdiction of the RCOC or MDOT shall be designed according to their criteria. Approval of these improvements by the above agencies must be obtained and furnished to the Township Engineer prior to Township approval of the paving.

B. MATERIAL REQUIREMENTS

All paving material for public roads, non-public roads, off street parking, and non-motorized pathways shall conform to the requirements of the MDOT Standards and Specifications, current edition and as modified by the Road Commission for Oakland County standard plans and special provisions when applicable.

6.2 SIDEWALKS

A. DESIGN REQUIREMENTS

1. Where sidewalks are proposed, they shall be indicated on the site plan.
2. Properties within the DDA must meet all requirements of the Master Plan. Pathways within the DDA must meet the Commerce Towne Center Pathway Standards.
3. Proposed grades shall be indicated at the lot lines.
4. The sidewalk shall be a minimum of five (5) feet wide and located one (1) foot inside the existing or proposed right-of-way line of public roads.
5. Sidewalks shall extend through all driveways.
6. Sidewalks shall be four (4) inches thick, except at driveways where they shall be six (6) inches thick.
7. Sidewalks shall have a maximum transverse slope of two percent (2%) per foot per ADA requirements.

B. MATERIAL REQUIREMENTS

1. Concrete sidewalks shall meet MDOT requirements for P1 (3500 psi) grade.
2. Expansion papers shall be of the pre-molded, non-extruding, asphalt impregnated type, not less than one-half (1/2) inch thick, the length shall be equal to the width of the slab and the depth equal to the thickness of the slab plus one (1) inch.
3. The curing compound shall be white membrane type. It shall retain at least 93% of the moisture for a period of three (3) days when tested according to ASTM D C-156.

6.3 FINAL ACCEPTANCE

- A. All road systems shall be subjected to a Final Inspection by the Road Commission for Oakland County (for public roads) or The Charter Township of Commerce (for non-public roads) prior to acceptance of the system by the Township or issuance of a certificate of occupancy.
- B. A set of approved record drawings, together with copies of all material certifications, density testing reports and concrete cylinder test reports, and any recorded easement shall be submitted to the Township prior to final acceptance of off-street parking and non-public roads.