

SOUTHSIDE TOWNSHIP

ROADWAY STANDARDS POLICY

Adopted September 7, 2004

General: Sections of the Minnesota Department of Transportation (Mn/DOT), Standard Specification for Construction, 2000 or Current Edition and all amendments hereto, shall apply except as modified or altered below.

Right of Way / Street Widths: Right of Ways for all Township roads shall be 66', unless approved otherwise by the Township Engineer and Township Maintenance Supervisor. The standard street width is 24' bituminous with 2' gravel shoulders for collectors. A 22 foot paved roadway is allowed in an established Right of Way of 33 feet (2 rods). However, Developers are strongly encouraged to pursue widening of the Right of Way to 66 feet. Ditches shall maintain a minimum depth of 2.5 feet from the shoulder P.I. and a 4-foot wide ditch bottom. Inslopes shall be a minimum of 1:4 and backslopes shall be a minimum of 1:3 unless otherwise specifically approved by the Township Engineer. A cross slope of -.02 ft/ft is from the roadway centerline is recommended. All curbed streets shall be 28' from back of curb to back of curb, be surmountable, and maintain a 12' boulevard at 2% grade. All street radii shall be a minimum of 30 feet.

Grading: (Mn/DOT Sections 2105 & 2112): New roads shall be graded according to the typical section. Maximum street grade shall be 8%. A suitable landing area on all approach areas and should be provided at a maximum of 2.5% for 100 feet for up to 4%, 150 feet for up to 6%, and 200 feet for up to the maximum grade of 8% from the PVI of the vertical curve. Minimum roadway ditch grade shall be 0.5%. **Drainage swales and green areas shall maintain a minimum grade of 1%.** Subgrade shall be prepared in accordance with Mn/DOT Section 2112. Compaction shall be obtained by Ordinary Compaction as described in Mn/DOT Section 2105. Test rolling with a loaded truck will be required by the Township Engineer to prove compaction. No topsoil, mulch, peat or other unsuitable materials may be left in the subgrade. The subgrade shall be approved by the Township prior to placement of aggregate base, geotextile fabric, or granular borrow.

No material shall be disposed of in a wetland area, unless the contractor and/or developer has obtained all the necessary permits.

Subgrade Correction: Soft, wet or unstable soils encountered below the aggregate base elevation shall be excavated and disposed of. Aggregate backfill

or select granular borrow (Mn/DOT Spec. 3149) material shall be used to fill these excavations. Geotextile fabric may be required to be placed over the subgrade prior to placement of select granular borrow. Geotextile shall meet the requirements of Mn/DOT Spec. 3733, Type V. Depth of select granular backfill shall be a minimum of 12 inches as shown on the attached typical sections, or as directed by the Township Engineer, on a case-by-case basis.

Aggregate Base: (Mn/DOT Section 2211): Aggregate base material shall be Class 5. It shall be compacted in 4-inch lifts to not less than 100 percent Maximum Density.

Plant-Mixed Bituminous Surface: (Mn/DOT Specification 2340): Bituminous thickness shall be for a 9-TON design and as determined by the Township Engineer based on soil borings and expected traffic. In general, this will be based on the following criteria for new residential roadways.

<u>Subgrade Soil Type</u>	<u>Aggregate Base CL 5</u>	<u>Select Granular Subgrade</u>	<u>Pavement Thickness</u> <u>Type 31 Base ⁽²⁾</u> <u>Type 41 Wear ⁽²⁾</u>
Sand	10 inches	----	2" Base and 1.5" Wear min.
Clay	10 inches	1 foot (1)	2" Base and 1.5" Wear min.

* (1) The need for select granular subgrade and Edge drains shall be determined by the Township Engineer.

(2) Pavement thickness is a minimum depth. A 0.0 inches of reduced thickness allowed.

Roads that will be subject to major truck traffic will be examined on a case-by-case basis.

All new paved roadways shall experience one freeze – thaw cycle prior to placement of the bituminous wear surface.

Pavement thickness is measured after compaction. Compaction shall be a minimum of 98% of the density obtained when a sample of the mixture is compacted by the Marshall compaction method. Tack coat, at 0.05 gals/sq. yd., shall be placed between base and wear courses.

The bituminous wear will be a Type 41A using PG 58-28 or better asphalt cement of which no recycle will be allowed.

Turf Establishment (Mn/DOT Section 2575): Ditch bottoms and slopes shall be finished with 4 inches of topsoil, seeded with Mn/DOT Spec. 3876 Mix 60A, (100 lbs/acre) and mulched with Mn/DOT Type I mulch (2 tons/acre). The mulch shall be disc anchored into the soil for upland and front yards. Areas located adjacent or in pond areas shall be seeded with Mn/DOT Spec. 3876 Mix 25A (100

lbs/acre) and mulched with Type I mulch, etc. Steep slopes (greater than 1:3) shall be sodded or protected by an erosion mat to prevent erosion. Fertilizer shall be applied at a rate of 350 lbs/acre, analysis 10-20-20. Hay bales and silt fence will be provided along with the final seeding to prevent erosion of the topsoil.

Cul-De-Sacs: Shall be a minimum radius of 50 feet, or as approved by the Township Engineer and maintenance supervisor. The right of way shall be a radius of 70 feet and a minimum 50-foot lead in radius will be provided on the bituminous surface and the right of way. A snow storage area shall be provided at the end of the cul-de-sac, 40' deep by 34' wide. Hammerhead and T shaped turnarounds will be considered on a case-by-case basis. **Cul-de-sacs shall not exceed a profile grade of 2.5 percent.**

Traffic Control: Sufficient and adequate traffic control shall be provided at all times during construction operations. Access to homes and businesses within or near the construction project must be provided. Proper barricades, flasher and other safety measures shall be utilized as required by the construction or directed by the Engineer, and the Minnesota Manual on Traffic Control Devices.

Storm Sewer and Culverts: All storm sewer and culverts located under the roadway shall be reinforced concrete pipe (RCP). Centerline Culverts shall be a minimum of 18 inches and driveway culverts will be a minimum of 15 inches. HDPE (high density polyethylene) is acceptable outside of the Township roadway. Driveway culverts may be HDPE or CMP and shall include aprons. Driveway culverts shall be of such length to allow for a 1:4 slope from the driveway in the ditch area.

All Storm Sewer systems shall be designed for a 10-year storm event. All centerline and driveway culverts shall be designed for the 50-year storm event.

Pond Design, General: All ponds shall be designed with 2 feet of free board from the 100-year high water level to the lowest opening elevation of a structure. Pond design will accommodate the critical 100-year storm event (6 inches in 24 hours, SCS type II storm distribution or 7.2 inches of runoff in 10 days) and Best Management Practices as a minimum. No infiltration ponds are allowed unless specifically approved by the Township Board. Infiltration ponds will only be allowed in cases where no outlet is available or there is no other possible alternative. Cost will not be considered as a reason for an infiltration design. Energy dissipaters will be placed at all storm sewer outlets.

Stormwater, General: Design will not allow the Peak Discharge Rate to increase from the site from existing conditions. Landlocked areas will be considered on a case-by-case basis and will be at the discretion of the Township Engineer and Township Board.

Erosion Control: An erosion control system, to be approved by the Township Engineer, shall be established and maintained throughout the duration of the project. Erosion control devices such as silt fencing, hay bales; snow fencing and proper site grading must be utilized to prevent erosion. The Township will require a non-cancelable bond to cover erosion control on projects, which require site grading in an amount estimated by the Township to include erosion protection measures. **The contractor is responsible to obtain the NPDES permit and comply with the requirements set forth by the MnPCA and NURP standards.**

Maintenance and Bonds: The Township will maintain the road after acceptance. However, for a period of **three** years from the date of acceptance, the Owner/Developer shall be responsible for the expense of correcting any defects or unusual problems that become obvious and require repair. The Township will require a **non-cancelable three-year warranty bond** or other security in an amount that the Board of Supervisors deems reasonable to cover such expenses.

Seal Coat: **The Township will require the Owner/Developer to provide a non-cancelable bond for an amount estimated on current average bid prices of seal coat projects.** The Owner/Developer will be expected to provide for a seal coat of the project within a two-year period (June through September) after completion of the bituminous wear course. The seal coat shall meet the current specifications that the Township is using for their projects for that calendar year.

Street Signs: Prior to acceptance, the Owner/Developer will pay the Township the cost of all street signs and markers to be installed (by Township forces) on the road or roads.

Borings: Soil borings are required a **minimum** of one each 500 feet and near lowlands. Boring logs shall be made available for viewing to determine soil and groundwater conditions. The Township engineer may require additional borings.

Deed: Prior to acceptance, a quitclaim deed must be furnished to the Township, and approved by the Township Attorney.

Lien Waivers: Prior to acceptance, lien waivers shall be provided from contractors and suppliers that were involved with the improvements.

Access: All access to lots shall be shown on the plat and access will be via a bituminous surface street, which abuts the lot. Access will not be allowed off of unimproved right of way provided in the plat.

All entrances shall not have slopes steeper than a 1:4 ratio and **will not** include retaining walls in rural ditch areas.

Conflict of Standards: In cases where the Township Standards conflict with those of another Governmental Unit with jurisdiction over such development, the higher standard shall apply.

Updating of Policy: This Policy will be reviewed and updated as needed.