

**STANDARD SPECIFICATIONS
FOR
SIGNAGE, STRIPING, AND LIGHTING
TOWNSHIP OF STANFORD**

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STANDARD SPECIFICATIONS
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TOWNSHIP OF STANFORD

1.00 GENERAL REQUIREMENTS

1.01 Specification Reference:

All traffic control devices shall conform and be installed in accordance to the Minnesota Manual of Uniform Traffic Control Devices (MN MUTCD) and Part 6, Field Manual for Temporary Traffic Control Zone Layouts , Mn/DOT 2564, 3352 & 3401, Minnesota Standard Signs Manual , the Mn/DOT Traffic Engineering Manual , and as modified herein.

All pavement markings shall be installed in accordance to the Minnesota Manual of Uniform Traffic Control Devices (MN MUTCD), Mn/DOT 2582, the Mn/DOT Traffic Engineering Manual , the Traffic Control Layouts/Typical Traffic Control Layouts in the Plans, and as modified herein.

All lighting shall be approved by the Township and adhere to the Subdivision Ordinances, Mn/DOT 2545, and as modified herein. The Mn/DOT Road Design Manual and AASHTO Roadside Design Guide should be referenced when considering placement of the lighting structures within any Right-of-Way or clear zone.

1.02 Definitions:

Owner: Owner shall mean the person(s), company, corporation, etc. that enter into a "Developers Agreement" with the Township of Stanford for the purpose of construction of public improvements on lands under the ownership and control of said person(s), company, corporation, etc.

Engineer: Engineer shall mean the Owner's engineer.

Town: Town shall mean the Township of Stanford.

Town Engineer: Town Engineer shall mean the engineer designated by the Township as such.

2.00 MATERIALS

2.01 Signage:

- A. All signs deemed necessary by the Town Engineer will be supplied and installed by the Developer. Owners will be financially responsible for all required signs.
- B. All Type C and Type D signs (except stop and street name signs) shall be placed on galvanized flanged channel sign posts (U-Posts) conforming to Mn/DOT 3401. The posts shall have a minimum nominal mass of 2.5 per foot and 3/8 diameter holes punched according to the Minnesota Standard Signs Manual.
- C. All Type C and Type D, delineator, and marker sign base and face materials shall be extruded aluminum and conform to Mn/DOT 2564 and 3352. Refer to the Mn/DOT Traffic Engineering Manual, the Mn/DOT Standard Signs Manual, and/or the MN MUTCD for signage type, color, size, and layout.
- D. All Type C and Type D regulatory and warning signs shall be sized according to the MN MUTCD Conventional Road (CR) or Standard classification. These signs shall have Diamond Grade VIP sheeting (ASTM Type IX) with series C lettering (except No Parking signs).
- E. If a sign structure is to be located within the clear zone as shown in the Mn/DOT Road Design Manual Table 4-6.04A and the speed limit is greater than 40 mph, the sign structure shall meet FHWA breakaway requirements.
- F. Stop signs and street name signs shall be mounted on a 2-3/8 O.D., 12 gauge cold rolled galvanized steel tubular posts. The street name signs shall be double faced, notched and mounted in an E450 bracket and placed above the stop signs on the same post.
- G. Street name plates at the intersections of arterial, collector, or minor collector streets shall be 9 plates. All name plates at the intersections of local to local streets shall be 6 plates. These plates shall have high intensity prismatic sheeting (ASTM Type IV) with series B lettering.
- H. No Parking signs shall be spaced a minimum of 400' apart or so as not to create visual clutter. No Parking signs shall be 18 x18 plates when placed within the Right-of-way. 12 x12 plates are recommended in private driveway areas. All No Parking signs shall have Engineering Grade or Commercial Grade sheeting (ASTM Type I).
- I. Fluorescent Yellow or Fluorescent Yellow Green signs shall have ASTM Type HP FLY or HP FLYG sheeting respectively.
- J. All temporary traffic control equipment shall be in accordance with

Part 6 of the MN MUTCD.

2.02 Striping:

- A. All pavement markings shall be High Solids Water-Based Traffic Paint in conformance with Mn/DOT 3591 and shall be covered with treated glass beads in conformance with Mn/DOT 3592 for retroreflectorizing the paint.

2.03 Lighting:

- A. Developers will be responsible for supplying and installing all required street lights in commercial and industrial areas. The responsible electrical company will supply and install all required street lights in residential or rural areas. The developer will be financially responsible for all required lights for a period of 24 months of operation after installation has been accepted by the Township.
- B. A cobra head style luminaire mounted on a 30' tall pole shall be used in all commercial and industrial areas. When approved by the Township, a 15' tall decorative luminaire may be used.
- C. If a lighting structure is to be located within the clear zone as shown in the Mn/DOT Road Design Manual Table 4-6.04A and the speed limit is greater than 40 mph, the lighting structure shall meet FHWA breakaway requirements.
- D. The cobra head luminaire shall have a 150 watt, high-pressure sodium (HPS) lamp. The Township will require LED optic comparisons to be provided prior to approving any lighting luminarie.
- E. All lighting fixtures shall be warranted by the manufacture for a period of 5 years.
- F. All lighting fixtures shall be equipped with cutoff shielding to minimize sky light pollution.

3.00 DESIGN LAYOUT

3.01. Signage:

- A. No regulatory, warning, street name or any other permanent traffic control signs will be placed until the street(s) has been paved with at least the bituminous base course.
- B. Signs along streets with urban sections and speed limits of less

than 40 mph shall have a lateral offset of 2' from the face of the curb to the edge of the sign panel and shall have a vertical clearance of 7' from the ground to the bottom of the sign panel.

- C. Lateral offsets of signs placed along streets with rural sections or speed limits of 40 mph or greater shall be 12' from the edge of the shoulder or face of curb and shall have a vertical clearance of 7' from the ground or 5' from the elevation of the traveled roadway whichever is greater, unless further considerations require otherwise (i.e. degree of horizontal curves, Right-of-Way limits, etc).
- D. Placement of stop signs shall be marked in the field by the Township Engineer. Stop signs shall be placed beyond the through traffic's clear zone when possible. See Mn/DOT Road Design Manual Table 4-6.04A for clear zone distances.
- E. All temporary traffic control layouts shall be in accordance with Part 6 of the MN MUTCD.

3.02. Striping:

- A. Permanent pavement markings are required on all arterial and collector streets and streets identified by the Town Engineer.
- B. Temporary pavement markings are required when permanent markings are not feasible and the road is open to public traffic. Temporary markings are required prior to opening the road to traffic and shall include all centerlines, edge (fog) lines, and lane lines.
- C. Crosswalk pavement markings shall consist of two parallel 12" wide white lines when crossing local streets at an intersection. All other crosswalk crossings shall be marked using a zebra pattern crosswalk (3' wide x 6' high, white blocks spaced 3' apart). The crosswalk blocks shall be spaced so that they avoid the wheel path.
- D. Stop bars are required at the intersections of all arterial, collector, or minor collector streets unless crosswalk markings exist or are to be installed at the intersection. Stop bars shall be located in the field by the Town Engineer.

3.03. Lighting:

- A. Lights shall be spaced a minimum of 250' and a maximum of 450' along all white-way areas in Commercial and Industrial areas.

- B. A minimum of one light at each street intersection and at least one light within blocks having a length of 900' or greater is required in residential subdivisions.
- C. All lighting foundations shall be nearly flush with the finished ground. In parking lot areas the foundations shall extend 24" above the finished ground

4.00 STANDARD PLATES

Standard Plates are included in Appendix A of the Stanford Township Engineering Manual. Where standard plates are not shown for a particular circumstance, the Owner's engineer shall insure the design and installation procedure meets the requirements of this specification.