

SECTION 900 TRAFFIC CONTROL DEVICES AND STREET LIGHTING

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SECTION 900 TRAFFIC CONTROL DEVICES AND STREET LIGHTING**910.00 GENERAL**

The installation of traffic control devices and street lighting shall comply with all applicable portions, as from time to time amended, of the CDOT Standard Specifications for Road and Bridge Construction, the Manual on Uniform Traffic Control Devices (M.U.T.C.D.) and the accepted plans. These STANDARDS AND SPECIFICATIONS and any other requirements determined by the Town Engineer shall apply to all materials supplied, methods and procedures of work. The Town Engineer must approve a traffic control device, sign layout plan, and a street lighting layout plan.

920.00 TRAFFIC CONTROL DEVICES**921.00 General**

Traffic control devices shall be installed on all new streets accepted by the Town for maintenance as set in these STANDARDS AND SPECIFICATIONS.

922.00 Signs

922.01 Street Name Signs

Street name signs shall be bought by the Contractor or Developer and will be installed by the Contractor or Developer. Sufficient signs and posts shall be provided to allow installation on two (2) corners of each intersection in business district, on principal arterials and on one corner in the residential areas, as directed by the Department of Public Works. All letters shall be Federal Highway Administration Series C2000. Please reference the Street Sign Detail of our Standards & Specifications.

All street signs shall be aluminum 5052-H38 (Conversion coated) minimum thickness of .080.

Retroreflective sheeting for letters and background shall be required in accordance with the Manual on Uniform Traffic Control Devices (M.U.T.C.D.).

Unless directed otherwise by the Town Engineer, signs shall be installed on square stock tubing at eighteen (18) inches behind the curbwalk or curb and gutter, whichever is closest to the street. Anchors shall be galvanized (G90) 12GA steel with seven-sixteenths (7/16) inch diameter holes, one (1) inch on center, two-one fourth (2 ¼) inch square and three (3) feet in length. During installation, the anchors may only be between a minimum of four (4) and maximum of six (6) inches above the ground. Posts shall be of galvanized (G90) 12GA steel with seven-sixteenths (7/16) inch diameter holes, one (1) inch on center, two (2) inches square and to length to meet

mounting requirements set forth in the M.U.T.C.D. All posts and signs shall be affixed using the appropriate size of bolts, washer and nuts (NO RIVETS).

4" diameter PVC pipe sleeves shall be placed in concrete where sign posts are to be installed to accommodate sign post installation and replacement.

922.02 Illuminated Signs

Internally illuminated street name signs shall be furnished and installed by the Contractor or Developer. Signs shall be installed on each traffic signal mast arm at each intersection. Sign lettering shall be in the ten (10) inch uppercase. Suffixes are to be five- (5) inch uppercase letters. Lettering for supplementary to indicate the type of street or section shall be at least four (4) inches where a two-line application is desired or three (3) inches where a three-line application is desired.

922.02.01 Borders

Reserved.

922.02.02 Spacing

Interline spacing shall be approximately one half (1/2) to three-fourths (3/4) the average of uppercase letter heights in adjacent lines of letters. The spacing to the top and bottom borders shall be equal. The lateral spacing to the vertical edges shall be essentially the same as the height of the largest letter. Spacing used in words, words and arrow, a letter and arrow, or a word and numeral in a line copy should be approximately one (1) to one and one half (1 1/2) times the uppercase letter height used in that line of copy.

922.02.03 Arrows

Arrows shall be in accordance to the M.U.T.C.D. standards as illustrated in the Standard Highway Sign Handbook.

922.02.04 Color

Letters and numbers are to be white on a green background face. When a "Town Logo" is required, the Town approved color logo shall be used.

922.02.05 Sign Housing

The street name sign shall be free swinging or limited swinging. Sign fixture and panels shall withstand 90 mph wind loading, with structural requirements meeting AASHTO "Standard Specifications for Structural Supports for Highway Signs, Luminars and Traffic Signals" latest edition. Illuminated street name housing shall be constructed of extruded aluminum. The design shall be rigidly constructed to resist torsional twist and warp. All ferrous parts shall be galvanized or cadmium plated. The front and back sign panels of the cage shall be hinged, to provide access to

the lamps. Neoprene gaskets shall be installed between the sign panels frame and fixture housing to prevent dust and water entrance. The latching devices can be either screw type or latch type to provide a secured attachment of the sign face to the case. Screened weep holes are to be provided on the housing bottom for drainage. The overall weight of the completed sign assembly, including mounting brackets, shall not exceed 90 pounds.

922.02.06 Illumination Source

The entire surface of the sign panel shall be evenly illuminated. The illumination source shall be fluorescent lamps, powered for low temperature operation. There shall be separate ballast for each fluorescent lamp. Photoelectric controls are required and shall be the “hail resistant” type and of the load intended. The reflectors shall have a minimum reflectance of 85%.

922.02.07 Final Layout

Final layout and lettering details are to be submitted to the Town prior to fabrication.

922.03 Stop Signs

Stop signs shall be installed at all approaches to streets designated by the Town as through streets. Stop signs shall be mounted on the same support posts as street name signs where possible.

922.04 Other Signs

Twenty-five (25) MPH speed limit signs shall be installed at all subdivision entrances. Speed limit signs, school signs, and crosswalk signs shall be installed at locations designated by the Town Engineer.

922.05 Private Street Signs

All subdivisions with private streets shall install private street signs as shown in Standard Details-Streets at all entrances to the private streets.

923.00 Striping

The Contractor shall submit a striping plan to the Town Engineer for acceptance prior to beginning work. The striping plan shall meet the requirements for such work as outlined in the “Manual of Uniform Traffic Control Devices”. Yellow centerline and lane line markings shall be applied to streets designated by the Town as through streets. All temporary striping and markings of roadways shall consist of paint pavement marking materials conforming to Section 713 of the CDOT Standard Specifications for Road and Bridge Construction and installed per Section 627 of the CDOT Standard Specifications for Road and Bridge Construction all striping and markings of roadways minus the top lift shall consist of paint pavement marking materials conforming to Section 713 of the CDOT Standard Specifications for Road and Bridge Construction and installed per Section 627 of the CDOT Standard Specifications for Road and

Bridge Construction. All striping of the top-lifted roadways shall consist of epoxy pavement marking material conforming to Section 713 of the CDOT Standard Specifications for Road and

Bridge Construction and installed per Section 627 of the CDOT Standard Specifications for Road and Bridge Construction. All markings of the top-lifted roadways shall consist of preformed thermoplastic marking material conforming to Section 713 of the CDOT Standard Specifications for Road and Bridge Construction and installed per Section 627 of the CDOT Standard Specifications for Road and Bridge Construction. Standard twelve (12) inch wide stop bars shall be provided at all stop locations and intersections adjacent to schools, parks, commercial, and other areas as determined by the Town. Crosswalks will be marked with two (2) foot by eight (8) foot bars, and layout shall conform to CDOT M&S Standards, typical pavement markings, Standard Plan No. S-627-1.

924.00 Sign Supports

All sign supports or posts shall conform to specifications for perforated square steel tubing and to Standard Specifications for Cold Rolled Carbon Steel Sheets, Commercial Quality, ASTM Designation A-366. The cross section will be square and consist of ten (10) gauge or twelve (12) gauge steel (0.135” U.S.S. Gauge or 0.105” U.S.S. Gauge) carefully rolled to size and continuously welded at the corner and will conform to CDOT M&S Standards, Mounting Data, Standard Plan No. S-614-3. Sign sizes not included in this data shall be:

<u>Total Sign Area</u>	<u>Side Dimensions</u>
Less than 800 sq. inches	2” x 2”
800 to 1000 sq. inches	2” x 2”
Over 1000 sq. inch	CDOT S-614-3

The finished members shall be straight and have a smooth, uniform finish. It will be possible to telescope consecutive sizes of tubes freely with a minimum amount of play. All holes and cut-off ends shall be free from burrs. Seven-sixteenth (7/16) inch diameter holes shall be punched on one (1) inch centers on all sides of the tube. All posts shall be weather protected by galvanizing. Posts shall be formed from cold rolled steel strip that has been zinc coated and is commercial quality (1.25 oz.) conforming to ASTM Specification A-525.

925.00 Street Lighting Procedure To A High Source

The developer shall submit a written request for street light design to the electrical utility company (Xcel or United Power) along with three sets of street and utility plans and one copy of the plat map. The electrical utility company shall submit the final design and cost estimates to the Town Engineer for review and approval. Developer shall pay the electrical utility company the total costs of installation for all street lighting within thirty (30) days of receipt of written notice.

The developer shall coordinate the location of the mail boxes and the street lighting with the United States Postal Service to ensure adequate light is available at each mail box. Lighting shall conform to the requirements of the United Postal Service.

All luminaries for street lighting must have written approval of the Director of Planning and Development prior to installation.

The spacing and illumination which will be used is set forth in Table 900-1:

TABLE 900-1

<u>Street Type</u>	<u>Average Foot Candles</u>	<u>Lamp Lumens</u>	<u>Pole Spacing</u>
Local Residential	0.15	9,500	300' ± *
Rural Residential	0.15	9,500	At Intersections
Collector	0.25	9,500 to 27,500	200' ± *
Arterial	0.50	27,500	150' ± *

* Poles shall be placed on alternating sides of the street.

925.01 Residential Street Lighting

All intersections and cul-de-sac bulbs shall have a minimum of one light. If a segment of street between intersections is greater than 450 feet and less than 600 feet, a light shall be installed at the center of the segment. Residential lighting shall be 25 feet in height unless otherwise approved by the Town.

925.02 Collector Street Lighting

Collector lighting shall be 250 watt high pressure sodium on metal or fiberglass poles 25 feet in height. The light fixture shall have a flat lens and the poles shall be dark in color unless otherwise approved by the Town. A minimum of two lights shall be placed on diagonal corners at all intersections and signalized locations. Collector lighting shall be 25 feet in height unless otherwise approved by the Town.

925.03 Arterial Street Lighting

Arterial lighting shall be 250-watt high pressure sodium on metal or fiberglass poles, 35 feet in height. The light fixture shall be 35 feet in height, have a flat lens, and on 10-foot long mast arms unless otherwise approved by the Town. The poles shall be dark in color unless otherwise approved by the Town. A minimum of two lights shall be placed on diagonal corners at all intersections and signalized locations.