



Traffic Signal Design Manual

ORIGINATOR Director, Bureau of Highway Operations		6-1-5
CHAPTER 6	Signal Infrastructure Design	
SECTION 1	Permanent Signals	
SUBJECT 5	Control Cabinet/Electrical Service	

SIZES

The basic traffic signal control cabinet in use is approximately 44" x 26" x 55" and currently specified as a NEMA 3R cabinet.

LOCATION

The Regional Traffic Unit will work with the local utility company and signal designer to determine the most appropriate location for the traffic signal control cabinet. Control cabinets **shall** be located in accordance with, the following considerations:

1. The control cabinet *should not* be vulnerable to traffic. A distance of 20 feet back of curb or 30 feet off the edge of pavement is desirable for offsetting the control cabinet.
2. The control cabinet **shall not** be located in a drainage ditch, in an area which could be under water, or where subjected to water from sprinklers. If the only option is to locate in a low area, it is necessary to fill the area in where cabinet is placed.
3. All traffic movements at the intersection *should* be visible from the control cabinet such that when an electrician is troubleshooting the intersection they may view the intersection and the interior of the control cabinet simultaneously. The door of the cabinet *should* open away from the curb or traveled way.
4. It *should* be possible to park a maintenance truck close to the cabinet and out of the traveled lanes.
5. The control cabinet **shall not** obstruct sidewalks, multi-use trails, curb ramps, or driveways.

6. An attempt **shall** be made to locate the cabinet as not to obstruct pedestrian or driver visibility at the intersection.

ELECTRICAL SERVICE

Typically, for state-maintained signals, state forces will prepare an application for the electrical service. Electrical installations maintained by other jurisdictions will be required to submit their own application for electrical service. The local utility company installs the electrical service lateral from the power source to the meter socket/pedestal.

The service connection point *should* be located as close as possible to, or mounted on, the control cabinet. Electrical service *may* come from overhead or underground lines. Underground service feeds are preferred due to their protection from weather and aesthetics compared to overhead lines. The electrical service **shall** be in accordance with WisDOT *Standard Specifications*, and local utility requirements.

COMMUNICATIONS

Similar to electrical service, provisions *should* be given for communications service for control cabinet placement options. When deciding if communications is required, consult with the Regional Traffic Engineer and refer to TSDM Subject 3-4-5. Future operations should also be considered when determining whether or not provisions for communications are applicable.

Refer to the *Construction Materials Manual*, Section 5-45-170 Lighting, Traffic Signals and Loop Detectors for checklists that pertain to the inspection of installation of these units.