



45.5.1 Contractor Supplied Materials

Following specifications 651.2 and 670.2, all products supplied by the contractor should conform to specification requirements on the department's approved product list. The list of approved contractor supplied materials and construction products for electrical work can be found at

<http://www.dot.wisconsin.gov/business/engrserv/approvedprod.htm>. For materials not on the approved list, refer to Standard Specification 670.3.3.1.

45.5.2 Communication Requirements

Cellular or conventional dial-up communications are typically required to the HAR site for purposes of transmitting messages to the HAR. Either dial-up or direct communications is required to the advance warning beacons. Chapter 50, Communication Systems provides additional information on communication types and requirements.

45.5.3 Power Requirements

A 100 Amp, 120/240 volt, single phase, three-wire underground electrical service is required for HAR electrical service installation. The electrical service will be furnished and installed by the local power company up to a demarcation point, which consists of an electrical service. The electrical service must conform to the requirements of the local power company. The location of the electrical service must receive approval from the utility company. The electrical service will include two 50-amp circuit breakers rated at 22,000 AIC. The requirements for power cable between the electrical service and controller cabinet can be found under the Cable Routing section of this chapter.

At locations which require a remotely located electrical service, a 100 Amp outside rated breaker box with space for 6 circuits, but no main breaker, will be attached to the side of the cabinet. Also, a 50 Amp single circuit breaker rated at 22,000 AIC will be installed within the breaker box to serve as a local electrical service disconnect point.

The power distribution wires running between the electrical service and the controller cabinet consist of stranded copper single conductors, cross-linked polyethylene (XLP), USE rated. Section 655 of the standard specifications provides guidance on additional requirements. The bid items for "Electrical Wire Lighting (gauge #) AWG will meet the requirements. The gauge of conductors must be calculated per the requirements of the National Electric Code.

45.5.4 HAR Construction Standards

Construction details, Standard Detail Drawings, and Special Provisions can be found in Appendix 70.