

## ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)

# SERVICE INSTALLATION POLE MOUNT (SHOWN)

(0.35 m) DOOR OPENING I.D.O.T. IDENTIFICATION DECALS SHALL BE MOUNTED TO FRONT OF DOORS OF ALL TYPES ELECTRIC 10' (3.0m) MAX. UTILITY DOOR-ENCLOSURE -ELECTRICAL SERVICE LOCK (ABOVE OR BELOW SEE PANEL DIAGRAM, ABOVE 13-75" (O-35m GROUND) -CONDUIT BUSHINGS -SEE CABINET BASE, BELOW -1" CHAMFER, CONTINUOUS SEE ELECTRICAL FINISH GRADE SERVICE (0.60m), - 4' (1.2m) DEPTH PANEL DIAGRAM SQUARE FOUNDATION TO TRAFFIC SIGNAL CONTROLLER (50mm) GALV, CONDUIT 2" (50mm) GALV. CONDUIT **SERVICE INSTALLATION** -3/4" x 10' (20mm x 3.0m) COPPER CLAD GROUND ROD **GROUND MOUNT** (413 mm) 16.25" (0.29 m) CABINET BASE-(37 mm) - 1.13" (29 mm) **LANCHOR** BOLT LOCATIONS

**CABINET - BASE BOLT PATTERN** 

### NOTES:

HANDHOLE COVER

DETAIL "A"

DETAIL "B"

- RECESSED COVER

-U.L. LISTED

DIRECT BURIAL

GROUND CABLES

TO CONTROLLER

TO POLE OR

POST AS REQ'D.

-SEE DETAIL "B"

HANDHOLF COVER

CAST CORNER FRAME WEB-

ANTI-CORROSION COMPOUND -SHALL BE APPLIED ON ALL

STEEL WASHERS

CABLE HOOKS

REQUIRED, ALL

BOLT/ CONNECTION ASSEMBLIES

-STAINLESS STEEL NUT AND 2 STAINLESS

SEE DETAIL "A"-

LIL LISTED GROUND COMPRESSION CONNECTOR

UL LISTED GROUND COMPRESSION CONNECTOR — WITH STAINLESS STEEL NUT

HANDHOLF FRAME

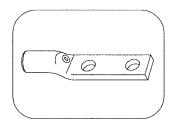
#### GROUNDING SYSTEM

COUNTY RTE. SECTION CH A47 LAKE 176 109 TO STA. STA. 03-0008B-00-FP ILLINOIS SURFACE TRANSPORTATION FUNDIN

CONTRACT NUMBER 83807

1. THE GROUNDING SYSTEM SHALL CONSIST OF AN INSULATED CONDUCTOR TYPE XLP, NO. 6 A.W.G., STRANDED COPPER TO BE INSTALLED IN RACEWAYS. THE GROUNDING CABLE SHALL BE INSTALLED IN A CONTINUOUS MANNER AS SHOWN ON THE CABLE PLAN PROVIDED. ALL GROUNDING CONDUCTORS SHALL BE BONDED TO METAL ENCLOSURE (HANDHOLE, POST, MAST ARM, CONTROLLER, ETC.). GROUND ROD SHALL BE  $3/4^{\prime\prime}$  DIA.  $\times$  10'-0" (20mm  $\times$  3.0m) LONG, COPPER CLAD. ONE GROUND ROD SHALL BE INSTALLED AT ALL POST FOUNDATIONS, POLE FOUNDATIONS, CONTROLLER CABINET FOUNDATION AND ELECTRICAL SERVICE INSTALLATION AS INDICATED ON THE CABLE PLAN. IF THERE ARE ANY SPECIAL CONDITIONS SUCH AS SUB-SURFACE CONDITIONS OR INSTALLATION PROBLEMS, THE RESIDENT ENGINEER SHALL BE NOTIFIED OR CONTACT THE BUREAU OF TRAFFIC. ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT ONE AT (847) 705-4139.

- 2. THE NEUTRAL CONDUCTOR AND THE GROUND CONDUCTOR SHALL BE CONNECTED IN THE SERVICE INSTALLATION. AT NO OTHER POINT IN THE TRAFFIC SIGNAL SYSTEM SHALL THE NEUTRAL AND GROUND CONDUCTORS BE CONNECTED.
- 3. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
- 4. THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.



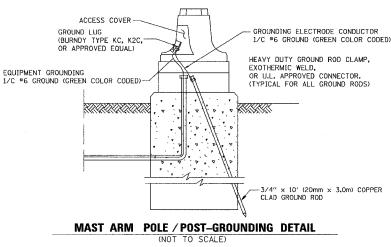


HEAVY-DUTY COMPRESSION TERMINAL (BURNDY TYPE YGHA OR APPROVED EQUAL)

3/4" (20mm) HEAVY-DUTY GROUND ROD CLAMP (BURNDY TYPE GRC OR APPROVED EUAL)

## NOTES:

• ALL CLAMPS SHALL BE BRONZE OR COPPER, UL APPROVED. • GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES 6.5' (2.0m) SLACK SHALL BE PROVIDED IN SINGLE HANDHOLES 13' (4.0m) OF SLACK SHALL BE PROVIDED IN DOUBLE HANDHOLES. 5' (1.4m) OF SLACK SHALL BE PROVIDED BETWEEN FRAME AND COVER.

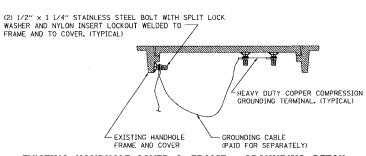


# ILLINOIS DEPARTMENT OF TRANSPORTATION NAME DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAILS SCALE: VERT. NONE DATE 1-01-02

HANDHOLE COVER & FRAME - GROUNDING DETAIL (NOT TO SCALE)

1/C #6 (GREEN)

(GREEN)



## **EXISTING HANDHOLE COVER & FRAME - GROUNDING DETAIL**

(NOT TO SCALE)