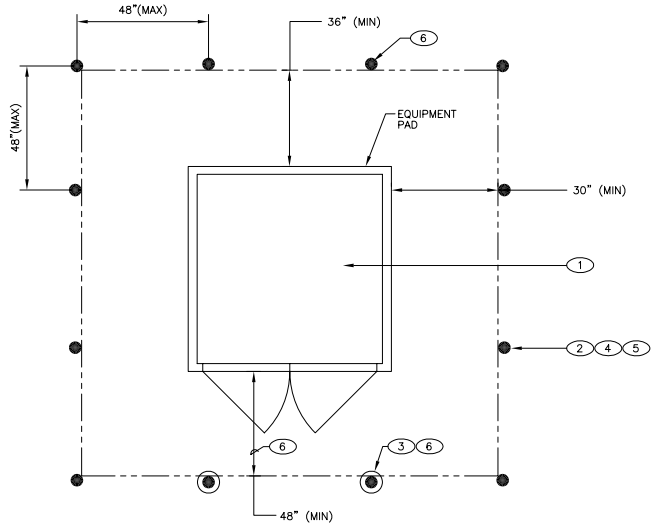
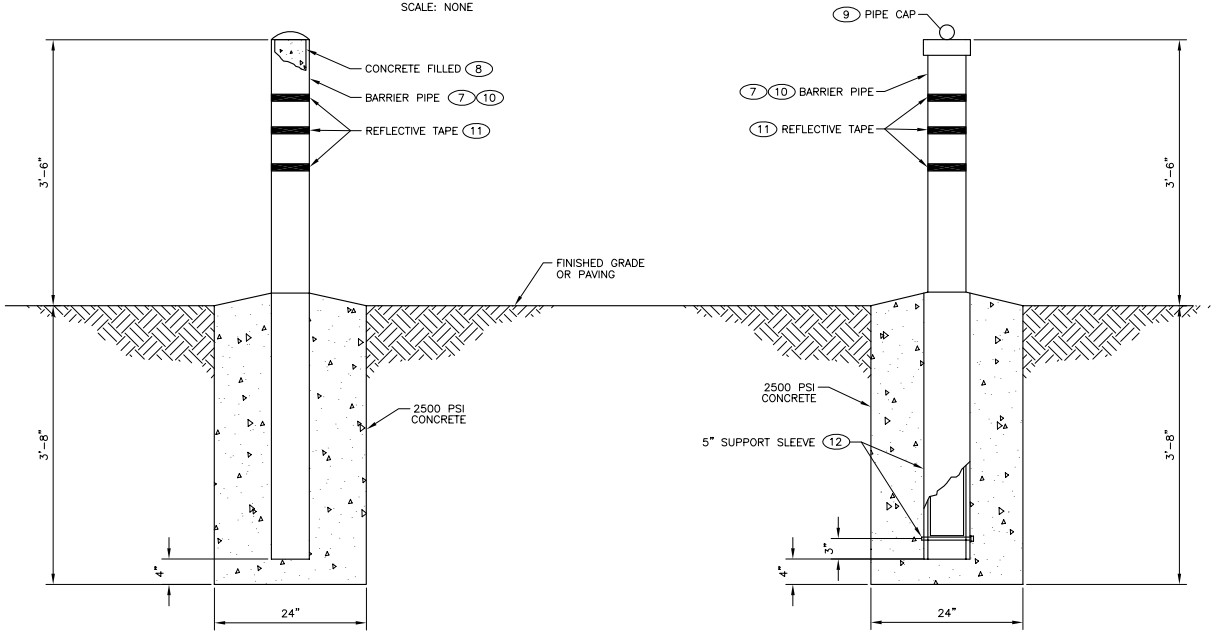



## PAD–MOUNTED EQUIPMENT PROTECTION

SCALE: NONE




PERMANENT BARRIER PIPE

## BARRIER PIPE DETAILS

SCALE: NONE

REMOVABLE BARRIER PIPE

## KEYED NOTES:

1. ELECTRICAL EQUIPMENT SUCH AS PAD–MOUNTED TRANSFORMER OR SECTIONALIZING SWITCHGEAR.
2. PERMANENT BARRIER PIPE PER DETAIL ON THIS SHEET.
3. REMOVABLE BARRIER PIPE PER DETAIL ON THIS SHEET.
4. PROVIDE BARRIER PIPES WHERE EQUIPMENT IS SUBJECT TO ACCIDENTAL LOW–SPEED VEHICLE CONTACT SUCH AS IN PARKING LOTS, ALLEYS, OR EQUIPMENT SERVICE PATHS. WHERE EQUIPMENT IS NEAR ROADWAYS, PROVIDE SUITABLE ROADSIDE BARRIER TO MEET SITE CONDITIONS IN ACCORDANCE WITH THE AASHTO "ROADSIDE DESIGN GUIDE."
5. BARRIER PIPES MAY BE OMITTED ON SIDES THAT ARE ADEQUATELY PROTECTED FROM ACCIDENTAL VEHICLE CONTACT BY STRUCTURES OR TOPOGRAPHY.
6. PROVIDE 4 FT CLEARANCE AND REMOVABLE BARRIER PIPES WHERE ACCESS IS REQUIRED FOR SERVICE OR HOT STICK OPERATIONS. SECTIONALIZING SWITCHGEAR TYPICALLY REQUIRES HOT STICK OPERATION SPACES ON TWO SIDES.
7. MAKE BARRIER PIPES FROM 4 INCH SCHEDULE 40 GALVANIZED STEEL.
8. FILL PERMANENT BARRIER PIPES WITH CONCRETE AND FINISH WITH A ROUNDED TOP.
9. LEAVE REMOVABLE BARRIER PIPES EMPTY AND CAP WITH THREADED PIPE CAP WITH 1 INCH LIFTING EYE.
10. PAINT BARRIER PIPES WITH TWO COATS OF "SAFETY YELLOW" PAINT OVER A SUITABLE PRIMER. YELLOW POLYETHYLENE SLEEVES, SUCH AS THE ARMORCAST "GUARDIAN SLEEVE" MAY BE USED INSTEAD OF PAINTING.
11. APPLY THREE 2–INCH WIDE REFLECTIVE TAPE BANDS ON EACH PIPE BARRIER; USE 3M "SCOTCH–LITE" SILVER REFLECTIVE TAPE OR EQUIVALENT.
12. MAKE SUPPORT SLEEVES FOR REMOVABLE BARRIER PIPES FROM 5 INCH SCHEDULE 40 GALVANIZED STEEL PIPE. INSTALL A 3/4" X 8" GALVANIZED STEEL MACHINE BOLT 3 INCHES ABOVE BASE OF SLEEVE TO ACT AS A SUPPORT STOP FOR THE 4 INCH REMOVABLE BARRIER PIPE.

| NO | DATE | CLASS REV | ADC | DESCRIPTION | DWN | DSGN | CHKD | SUB | APP |
|---|---|---|---|---|---|---|---|---|---|

ENGINEERING STANDARDS PROGRAM

ENGINEERING STANDARDS MANUAL

PAD–MOUNTED EQUIPMENT PROTECTION AND BARRIER PIPE DETAILS

| | |
|---|---|
| DRAWN | L. TIETJEN |
| DESIGN | D. POWELL |
| CHECKED | R. DALEY |
| DATE | 7–27–06 |

BLDG TA–

SUBMITTED DAVID POWELL

APPROVED FOR RELEASE TOBIN ORUCH

Los Alamos NATIONAL LABORATORY PO Box 1663 Los Alamos, New Mexico 87545

SHEET OF

CLASSIFICATION: UNC REVIEWER: DONALD YARDMAN DATE:

PROJECT ID CHAPTER 7 DRAWING NO ST–G4010–39 REV 0

H:\LANL Eng Standards\Eng. Manual [LEM]\1. Working\ST–G4010–39.dwg, 07/27/06 @ 09:11 099538