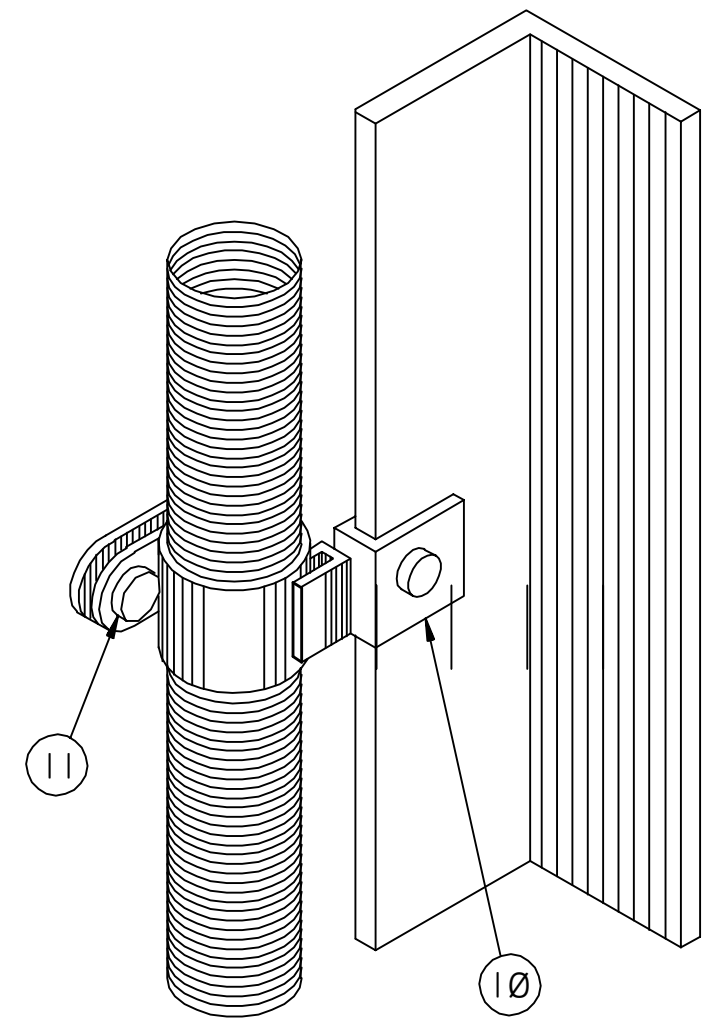
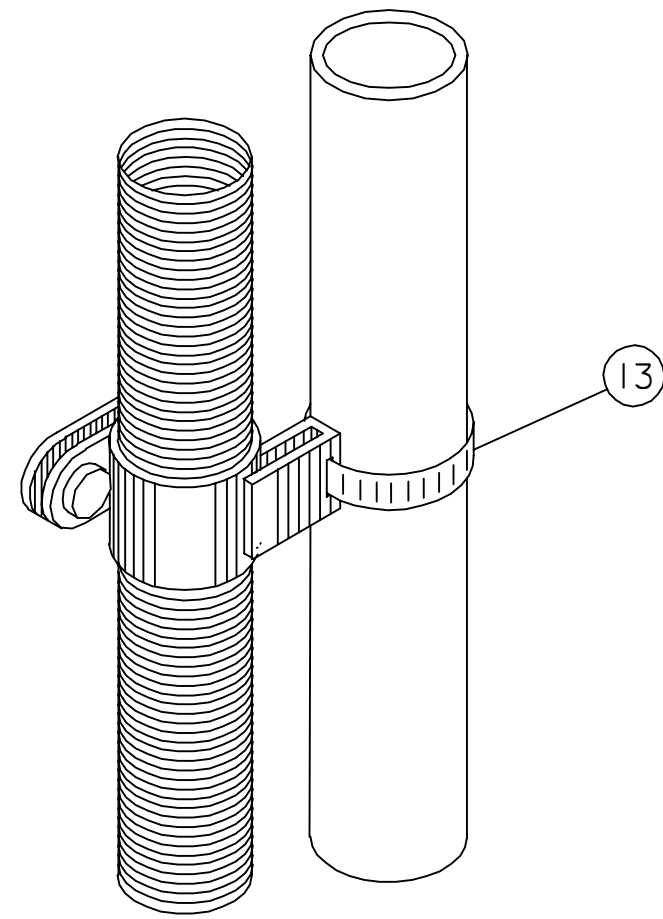




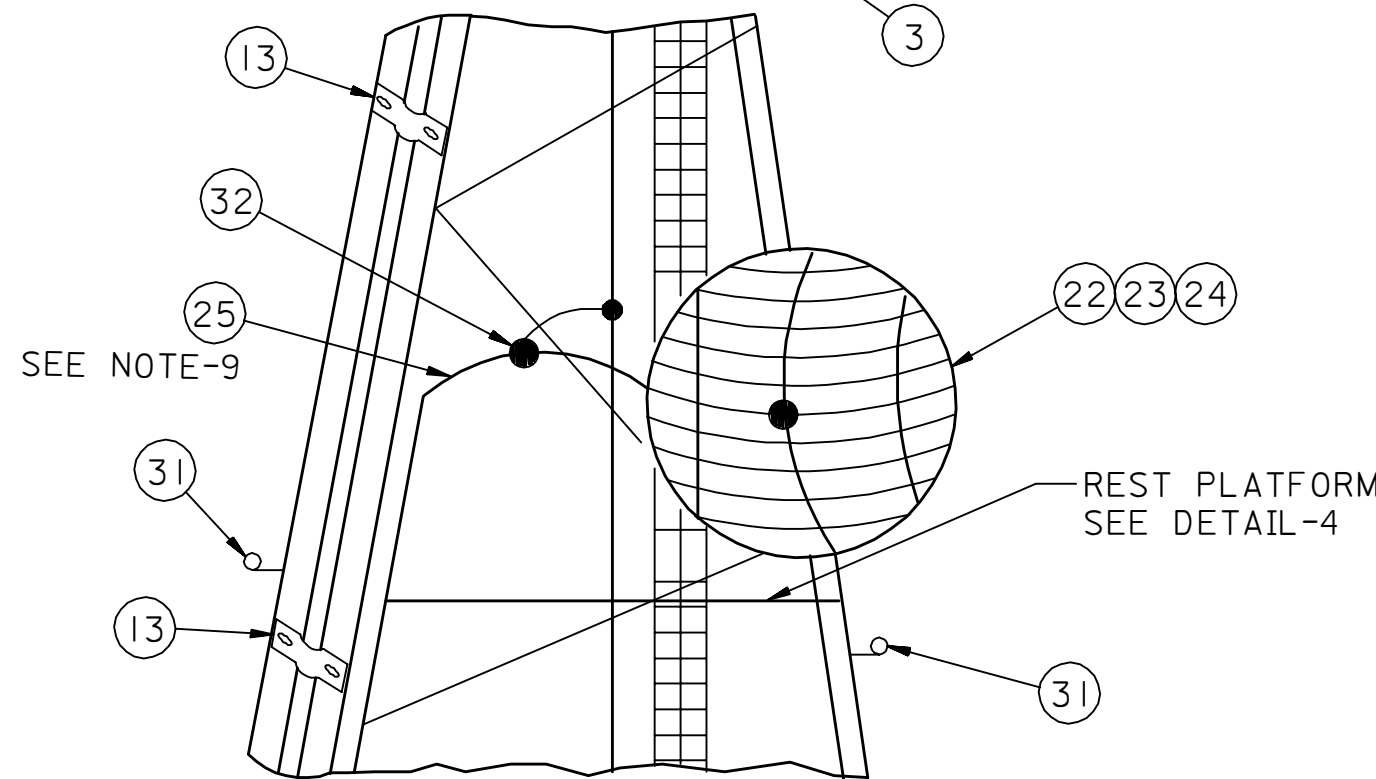
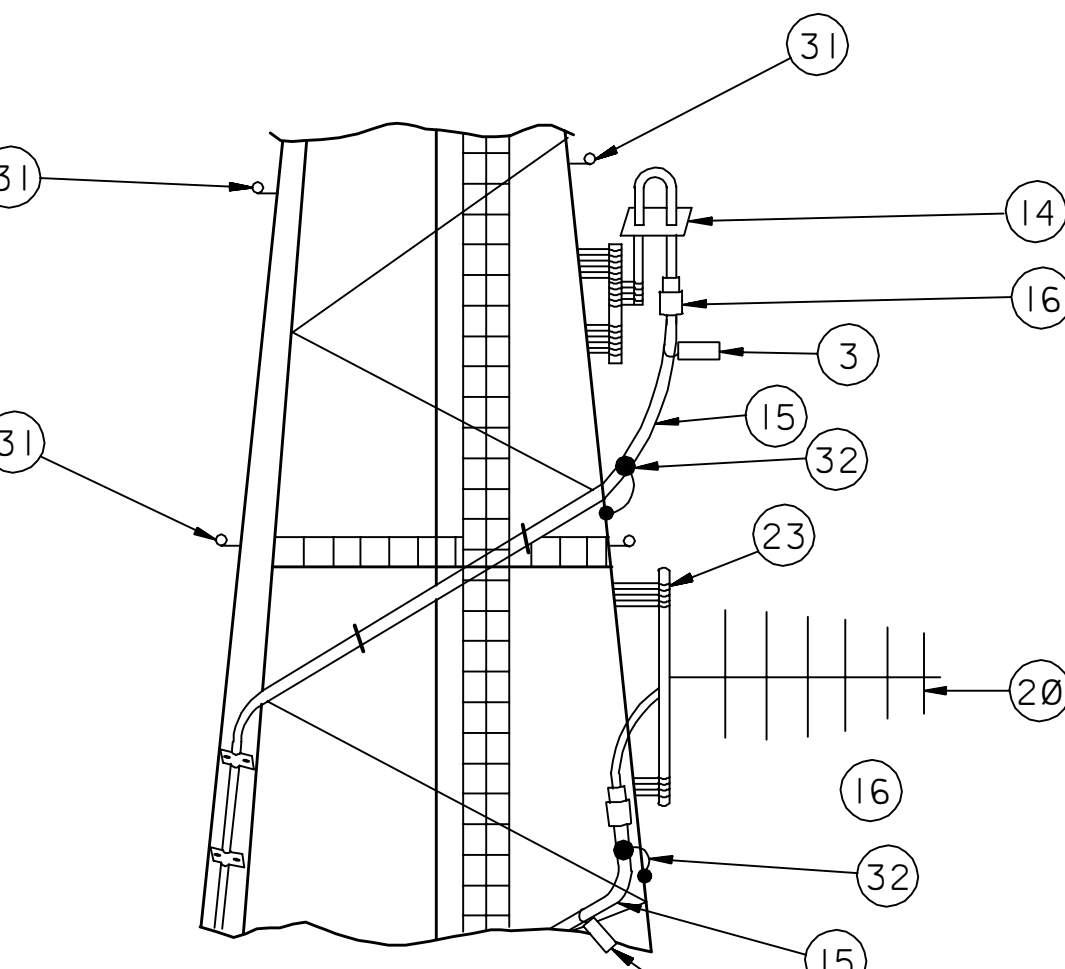
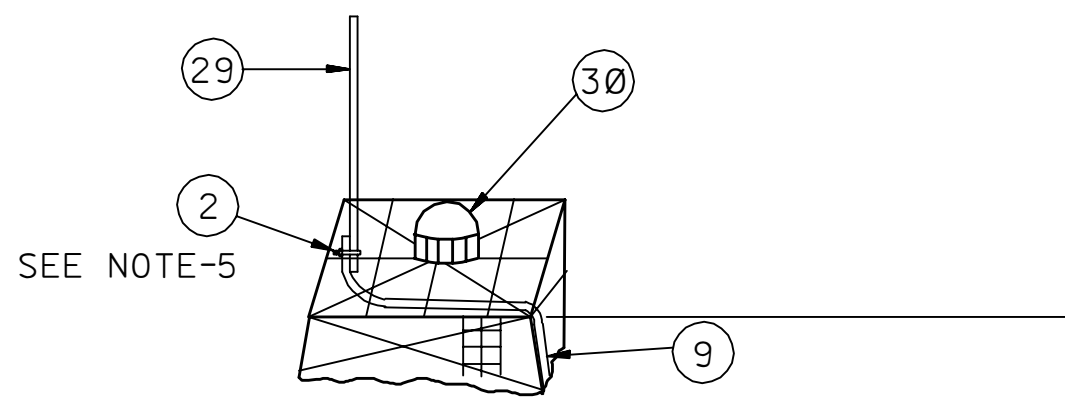
DETAIL-1

ATTACHMENT OF CABLE TO  
ANGLE TOWER OR TRAY MEMBER  
USING HANGER AND ANGLE ADAPTOR



DETAIL-2

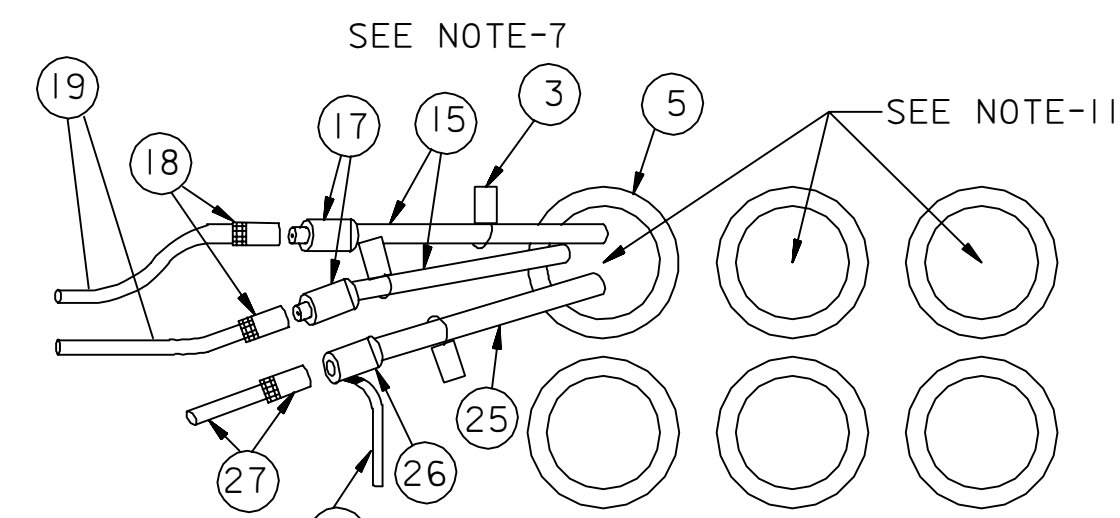
ATTACHMENT OF CABLE TO  
ROUND TOWER MEMBER USING  
HANGER AND ROUND MEMBER ADAPTOR



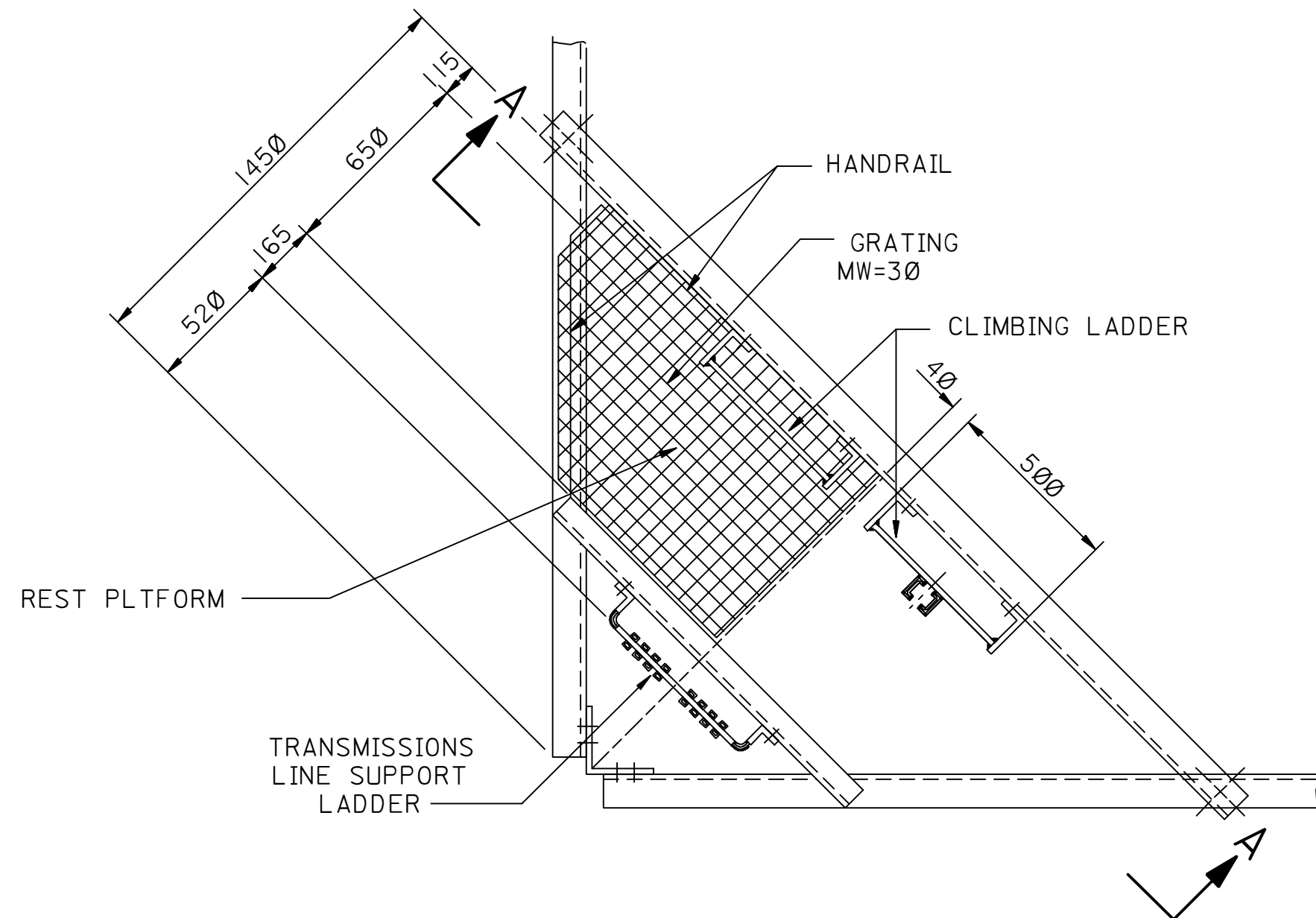
135000  
SEE NOTE-8

LIST OF MATERIALS  
HARDWARE

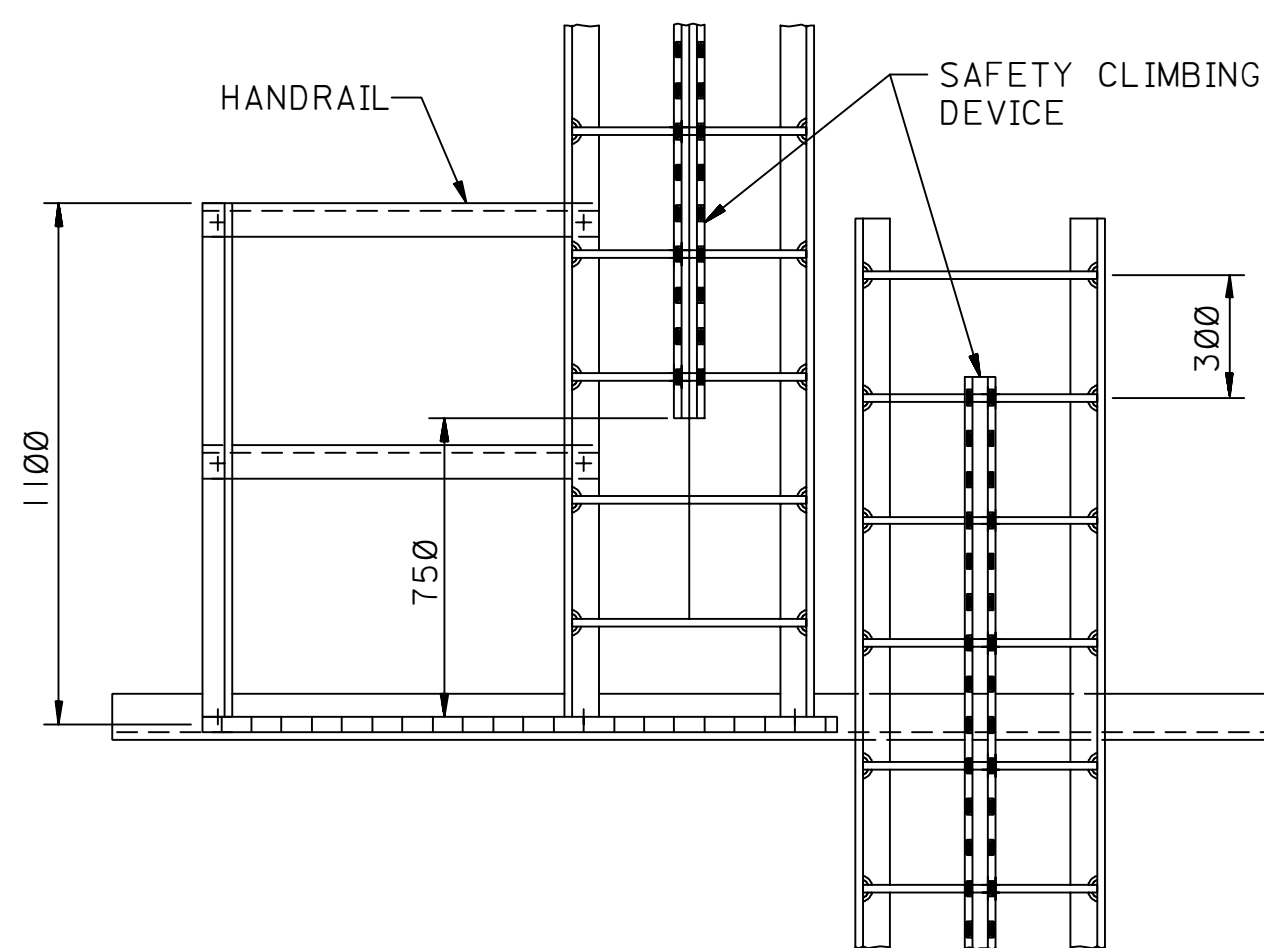
| KEY # | SAMS #     | UNIT | DESCRIPTION                                       |
|-------|------------|------|---------------------------------------------------|
| 1     | 18-017-610 | 100  | CABLE; NYLON; NO. 31 IN LENGTH;50/PK              |
| 2     | 14-118-241 |      | CONNECTOR;GROUNDING;U-BOLT FOR IN ROD             |
| 3     | 18-079-845 |      | TAG & CABLE; 95.25 LG /45" WIDE                   |
| 5     | 01-515-673 |      | CPVC PIPE; 4"                                     |
| 6     | 14-188-241 | 8    | GROUND CONNECTOR                                  |
| 7     | 14-246-542 | 4    | GROUND RODS; 5/8 " X 8"                           |
| 8     | 15-194-225 | 30M  | WIRE: BUILDING; #6 AWG GROUND                     |
| 9     | 15-194-241 | 200M | 2/0 GROUND CABLE                                  |
| 10    | 18-534-870 |      | ANGLE ADAPTER KIT                                 |
| 11    | 18-534-888 |      | HANGER KIT;                                       |
| 12    | 18-534-890 |      | HANGER KIT; 1"                                    |
| 13    | 08-748-773 |      | CLAMP;222 TO 241 DIAMETER                         |
| 14    | 18-509-880 |      | OMNI DIRECTIONAL VHF ANTENNA                      |
| 15    | 18-534-825 | 150M | LDF5-50 ANDREWS 7/8 "FOAM HELIAX                  |
| 16    | 18-534-890 | 1    | N JACK (FEMALE)TYPE L45N ANDREWS CORP.            |
| 17    | 18-549-096 | 1    | N PLUG UG-21 MALE CONNECTORS                      |
| 18    | 18-549-189 | 2    | PL259 UHF (MALE) CONNECTORS                       |
| 19    | XX-XXX-XXX | 10M  | RG-9 / RG-214 COAX                                |
| 20    | 19-508-855 | 1    | UHF DIRECTIONAL ANTENNA, YAGI.                    |
| 21    | 18-534-883 | 0    | GROUNDING KIT;                                    |
| 22    | XX-XXX-XXX | 1    | GRID ANTENNA (3M) AND PRESSURIZED DIPOL 7/8 "     |
| 23    | 15-314-425 | 3M   | EIA FLANGE PART #RPL10 ANDREWS CORP.              |
| 24    | XX-XXX-XXX | 1    | 4" I.D. 4 1/2 " O.D. X 4 FT.CONDUIT VERTICAL RISE |
|       |            |      | 7/8 " EIA REDUCER TYPE 875 FOR 1 5/8 "            |
|       |            |      | CABLE ANDREWS CORP.                               |
| 25    | 18-534-828 | 110M | 1 5/8 " AIR DIELECTRIC CABLE TYPE HJ7-50A         |
| 26    | XX-XXX-XXX | 1    | N JACK (FEMALE)TYPE 87N ANDREWS CORP.             |
| 27    | XX-XXX-XXX | 3M   | 1/2 " SUPERFLEXIBLE HELIAX CABLE ASSEMBLY         |
|       |            |      | COMPLETE WITH TWO N PLUG CONNECTORS               |
|       |            |      | ANDREWS CORP. TYPE 48365                          |
| 28    | XX-XXX-XXX | 1    | DEHYDRATOR ANDREWS CORP.TYPE 40525A               |
|       |            |      | COMPLETE KIT WITH MOUNTING HARDWARE               |
| 29    | 14-246-549 | 1    | ROD: GROUND 3/4 " X 8FT. (CUT TO 1500 )           |
| 30    | XX-XXX-XXX | 1    | BEACON: TOWER LIGHT                               |
| 31    | XX-XXX-XXX | 4    | SIDE TOWER LIGHT                                  |
| 32    | 18-534-884 | 3    | GROUND KIT: 1"                                    |



DETAIL-3



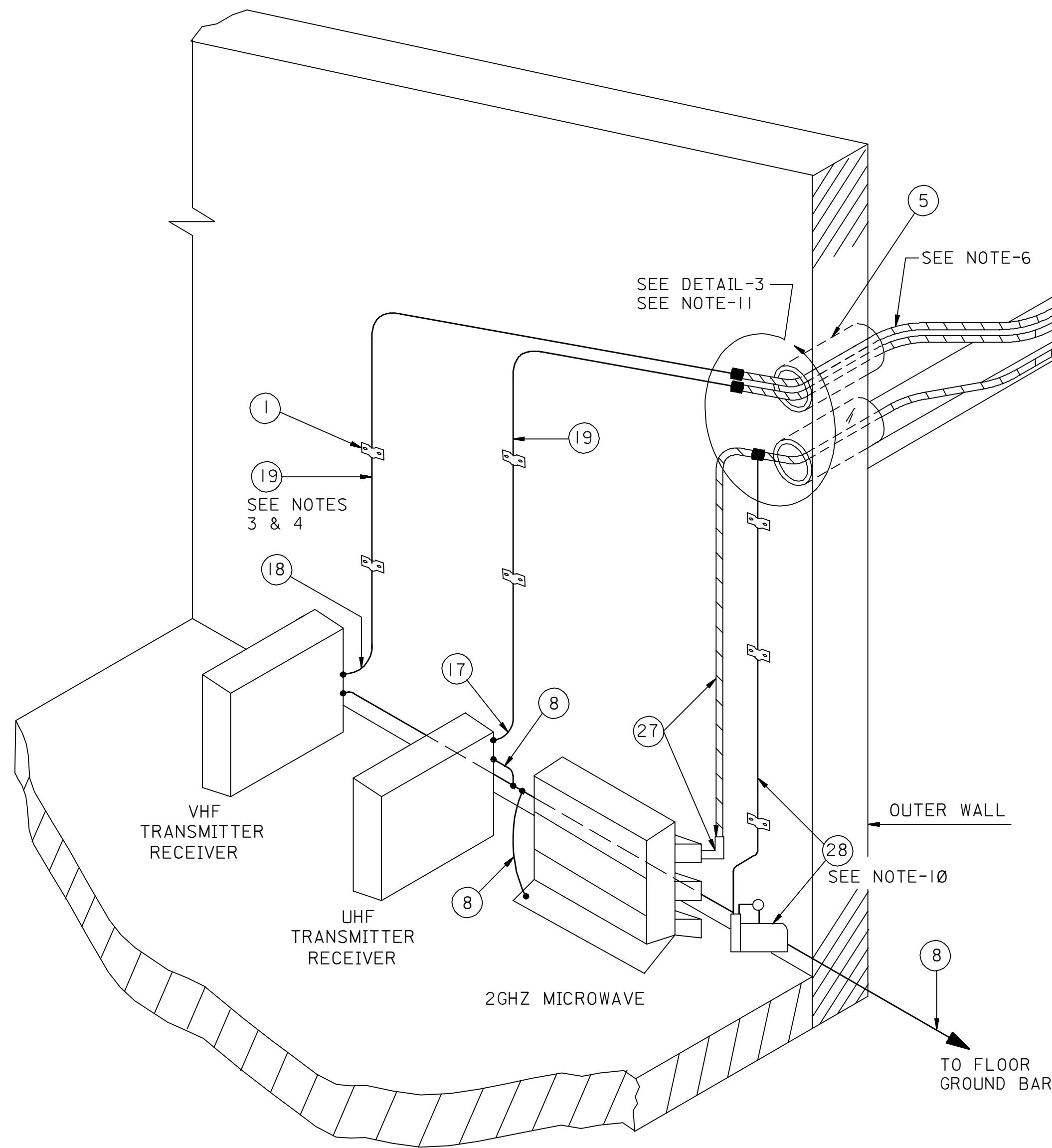
PLAN



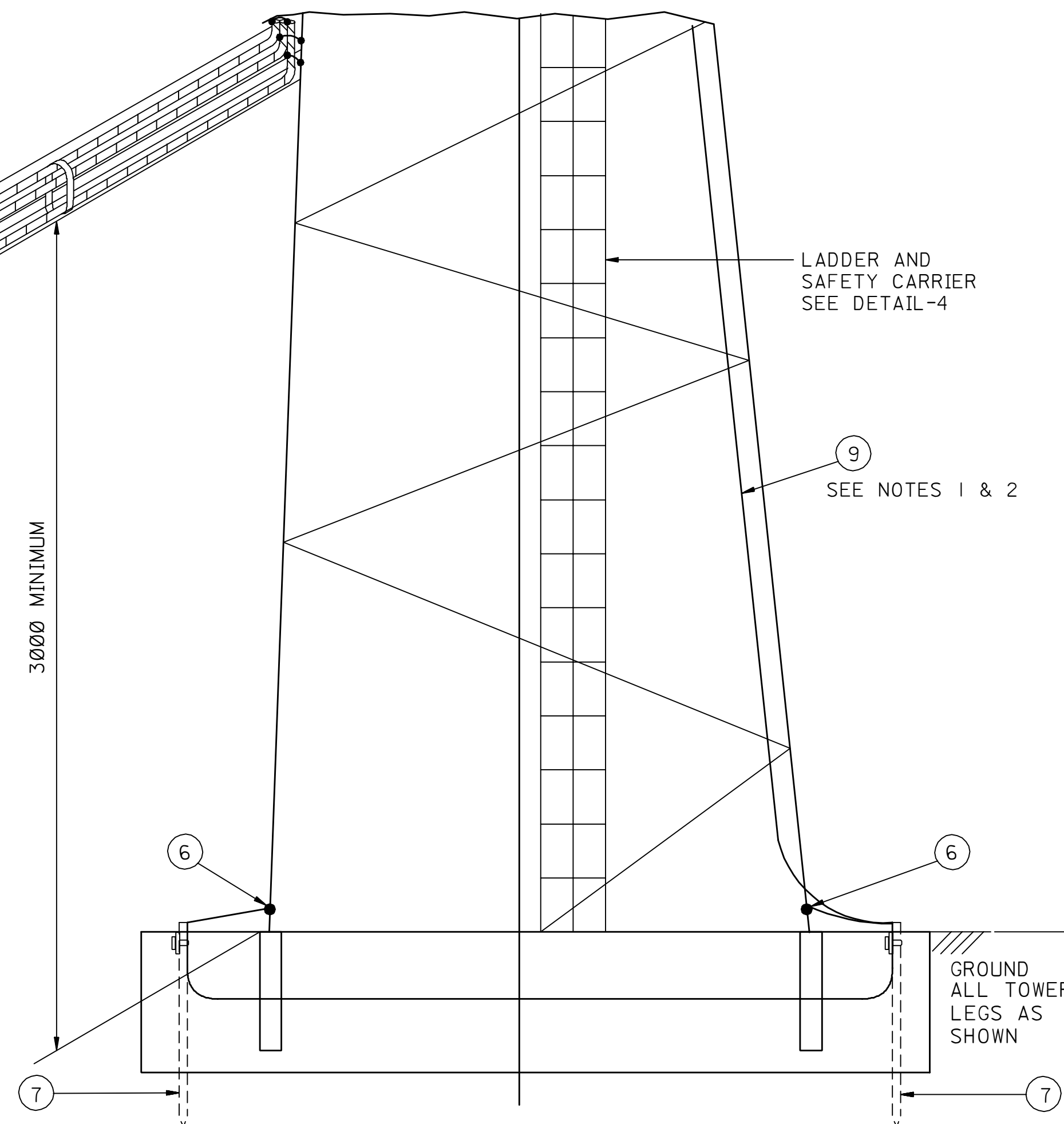
SECTION A-A

DETAIL-4

REST PLATFORM  
AND LADDER



TRANSMISSION CABLE ENTRANCE  
INTO UTILITY BUILDING



ANTENNA TOWER,  
TRANSMISSION CABLE  
& TOWER GROUNDING

NOTES:

1. STRAP @ ONE METER INTERVAL.
2. EARTH CABLE TO BE CONNECTED TO LEG OF TOWER NOT CARRYING CABLES.
3. ACTUAL LENGTH TO BE DETERMINED AT SITE.
4. REQUIREMENT OF PROVIDING LIGHTNING PROTECTION SHALL BE DECIDED BY CRITERIA IN CHAPTER 8 OF SAES-P-1111.
5. A DRIP LOOP IS REQUIRED IF THE CABLE ENTRANCE IS AT SAME OR LOWER LEVEL THAN THE CABLE TRAY.
6. CABLE TAGS SHALL BE PLACED AT BOTH ENDS OF EACH TRANSMISSION LINE FOR IDENTIFICATION.
7. TOWER HEIGHT TO BE DETERMINED AS PER SITE REQUIREMENT.
8. USE CABLE TIES TO FASTEN FLEXIBLE CABLE TO CABLE TRAY AND EQUIPMENT RACKS.
9. FOR 2GHZ MICROWAVE 1 5/8 " HELIAX IS PREFERRED SIZE.
10. 70 KP (10 LB. / IN.) MAXIMUM AIR OR NITROGEN PRESSURE IN AIR FILLED LINES.
11. CABLE ENTRANCE MUST PREVENT GAS AND MOISTURE.

TYPICAL INSTALLATION DRAWING

|                                                                                                          |       |                      |        |                                                  |       |          |          |  |  |
|----------------------------------------------------------------------------------------------------------|-------|----------------------|--------|--------------------------------------------------|-------|----------|----------|--|--|
|                                                                                                          |       |                      |        |                                                  |       |          |          |  |  |
|                                                                                                          |       |                      |        |                                                  |       |          |          |  |  |
|                                                                                                          |       |                      |        |                                                  |       |          |          |  |  |
|                                                                                                          |       |                      |        |                                                  |       |          |          |  |  |
| 05                                                                                                       | APR90 | RLO                  |        | REDRAWN AND REVISED.ADDED<br>TYP. INSTALL. NOTE. |       |          |          |  |  |
| REV.<br>NO.                                                                                              | DATE  | BY                   | JO/EWO | DESCRIPTION                                      | CHKD. | CERT.    | APPD.    |  |  |
| SAUDI ARABIAN OIL COMPANY                                                                                |       |                      |        |                                                  |       |          |          |  |  |
| DRAWN BY _____                                                                                           |       | CHECKED BY _____     |        | SCALE: _____                                     |       | NONE     |          |  |  |
| DATE STARTED _____                                                                                       |       | DATE COMPLETED _____ |        |                                                  |       |          |          |  |  |
| OPR'G. DEPT. _____                                                                                       |       | ENG. DEPT. _____     |        |                                                  |       |          |          |  |  |
| APP'D. FOR CONST. _____                                                                                  |       |                      |        |                                                  |       |          |          |  |  |
| THIS DRAWING IS NOT TO BE USED FOR<br>CONSTRUCTION OR FOR ORDERING<br>MATERIAL UNTIL CERTIFIED AND DATED |       |                      |        | CERTIFIED<br>BY _____ DATE _____                 |       |          |          |  |  |
| VHF/UHF ANTENNA INSTALLATION<br>ON SELF SUPPORTING TOWER                                                 |       |                      |        |                                                  |       |          |          |  |  |
| STD. DWG. METRIC                                                                                         |       |                      |        |                                                  |       |          |          |  |  |
| PLANT NO.                                                                                                | INDEX | DRAWING NUMBER       |        |                                                  |       | SHT. NO. | REV. NO. |  |  |
| 990                                                                                                      | T     | AA-036361            |        |                                                  |       | 001      | 05       |  |  |