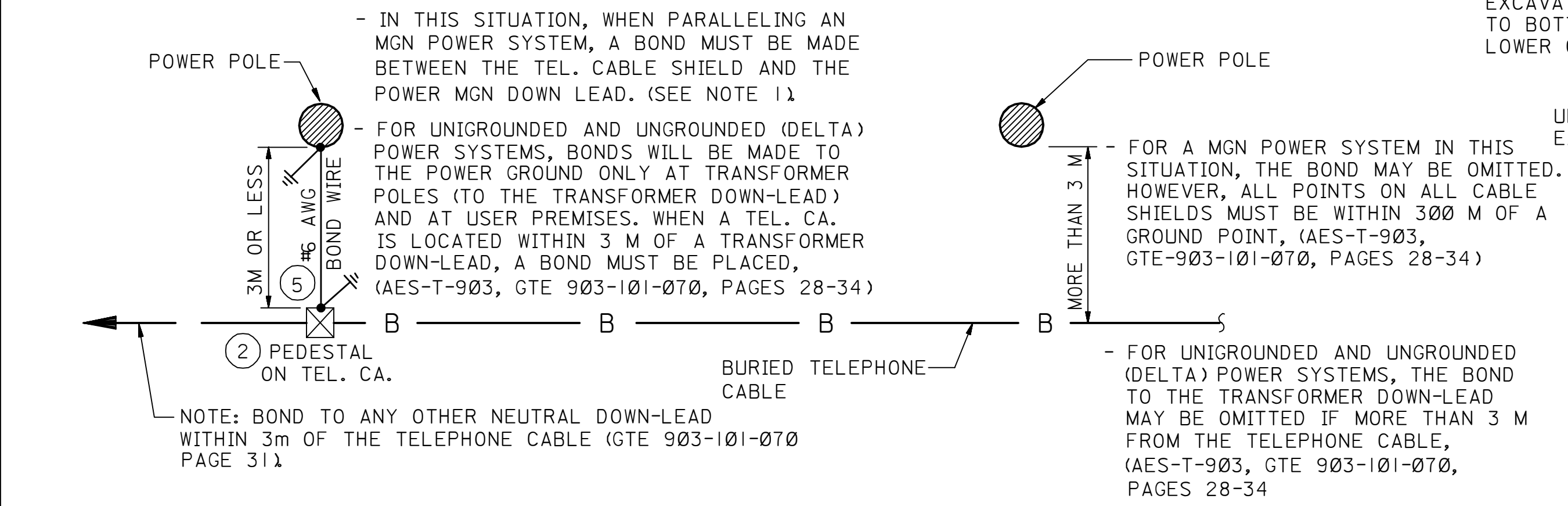
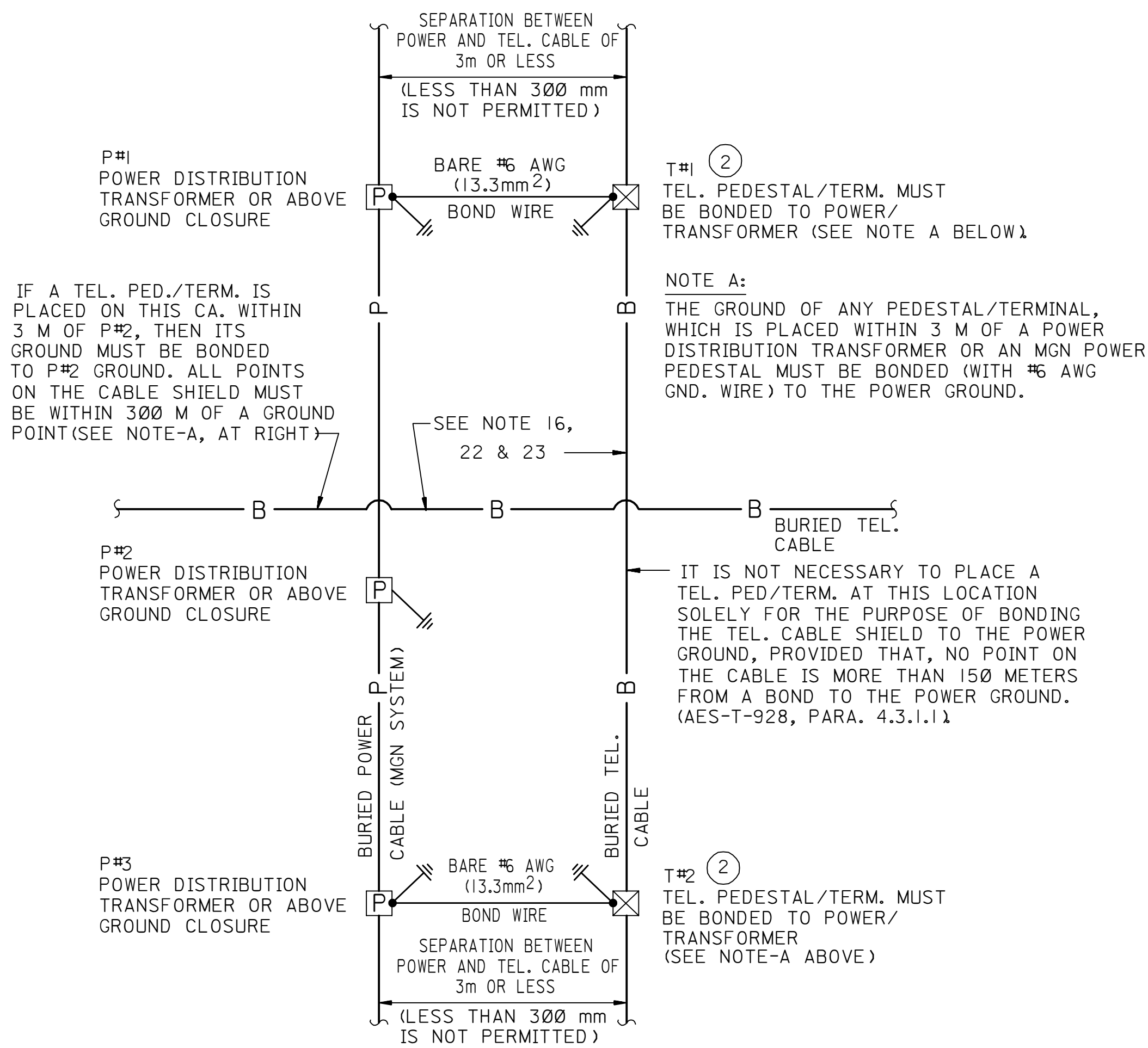


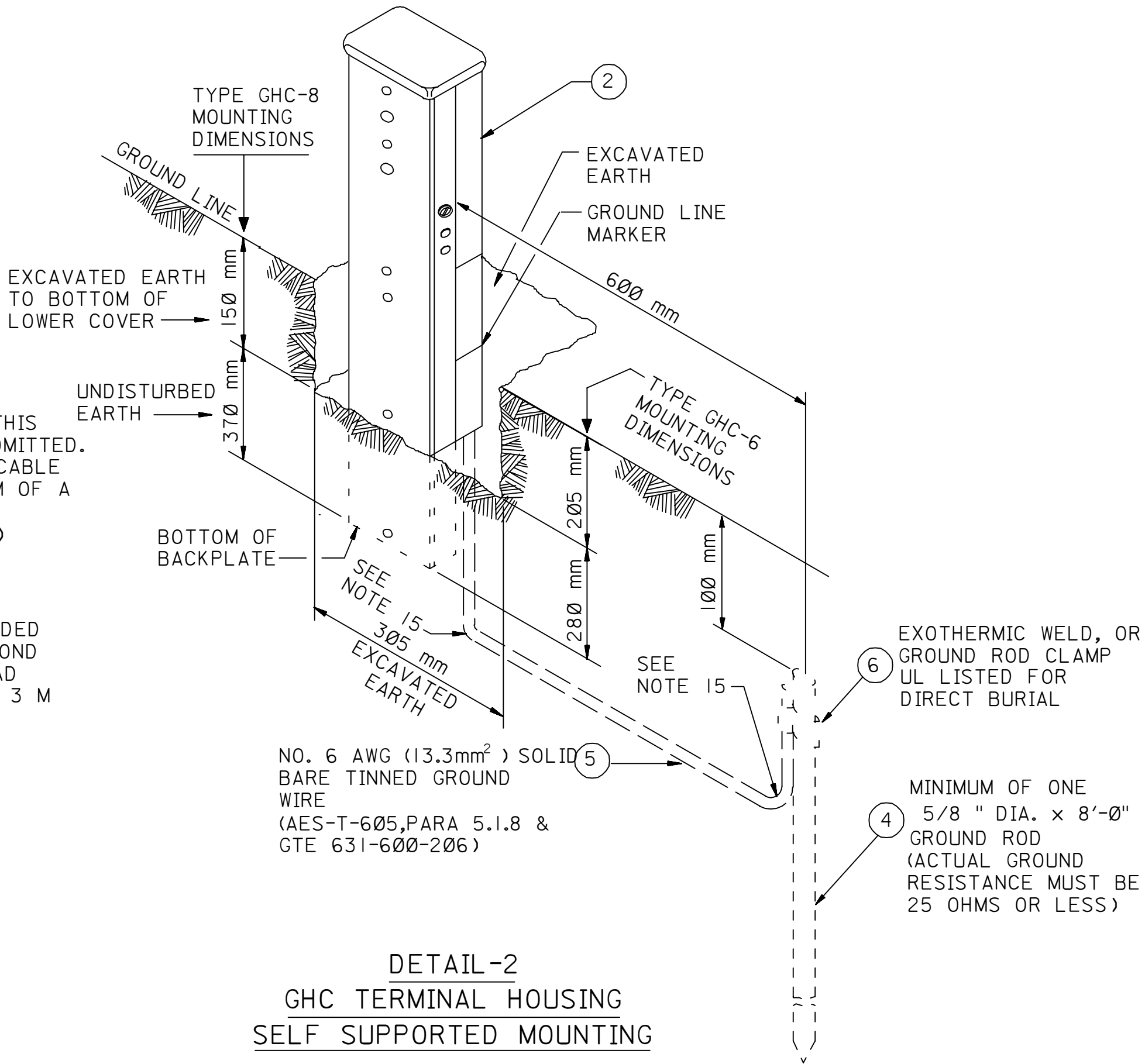


DETAIL-1
BURIED TELEPHONE CABLES PARALLEL TO AERIAL POWER LINES,

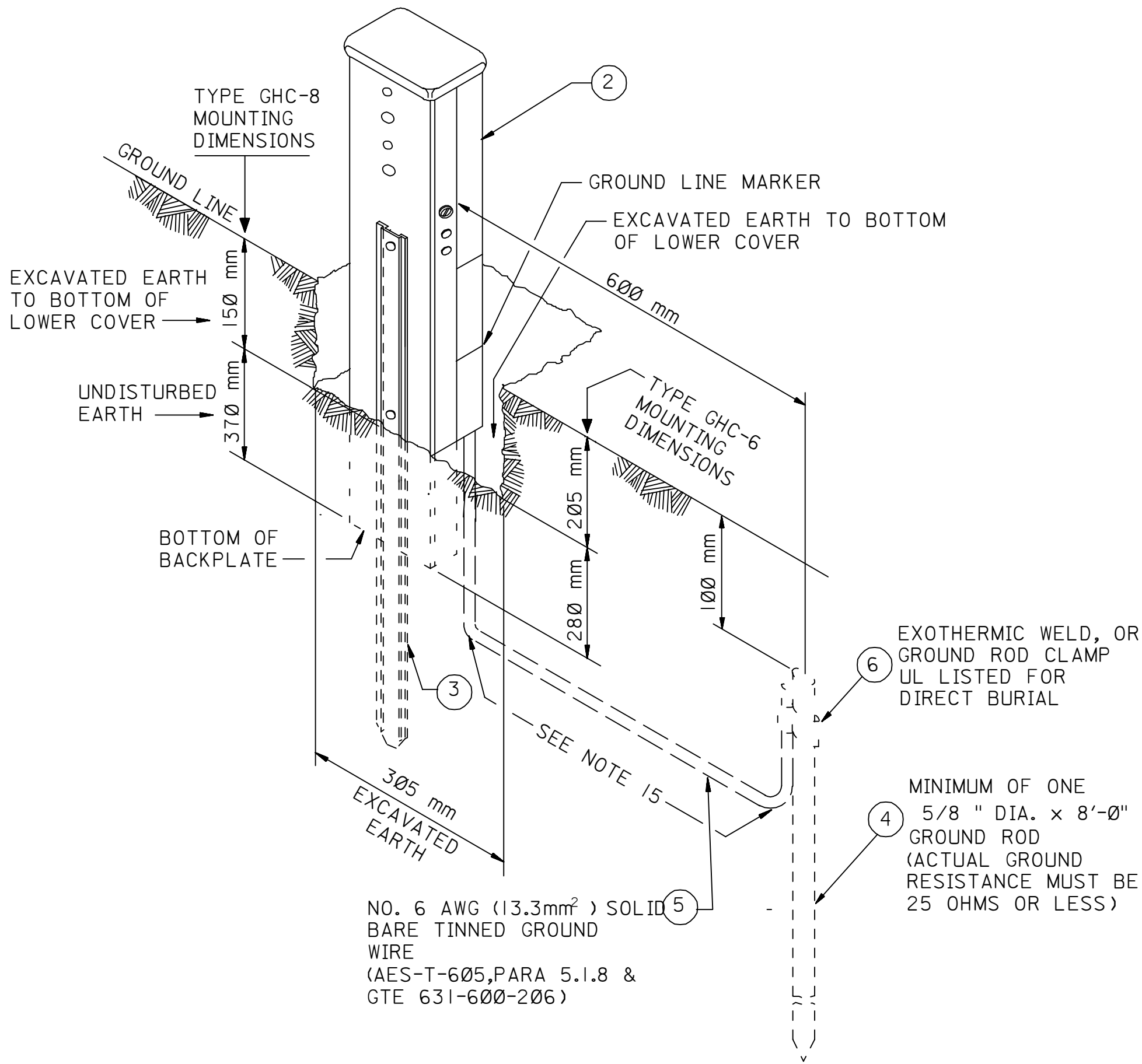
FOR VOLTAGES UP TO 20 KV PHASE TO GROUND
(SEE NOTE 16) OTHER PROTECTIVE ACTION MAY BE REQUIRED WHEN POWER VOLTAGES EXCEED 20 KV.



DETAIL-3
BURIED TELEPHONE CABLES PARALLEL TO BURIED POWER CABLES AND CROSSING BURIED POWER CABLES-BONDING AND GROUNDING
DETAIL FOR POWER VOLTAGES UP TO 20 KV PHASE TO GROUND.
OTHER PROTECTIVE ACTION MAY BE REQUIRED WHEN POWER VOLTAGES EXCEED 20 KV (SEE NOTES 16, 22 & 23)



DETAIL-2
GHC TERMINAL HOUSING SELF SUPPORTED MOUNTING



DETAIL-5
GHC TERMINAL HOUSING STAKE MOUNTING

LIST OF MATERIALS			
KEY DWG. NUMBER	ITEM	AMOUNT	A.M.S. STOCK NUMBER
1	TAPE, MARKING 1000 FT ROLL +5%	1 ROLL PER 1000 FEET	18-079-890
2	PEDESTALS, NON-CORROSIVE/CORROSIVE	1 PER LOCATION	SEE MATERIAL LIST FOR PEDESTALS INFORMATION
3	STAKE, MOUNTING	1 PER PEDESTAL	18-076-210 CORR. 18-076-214 NON CORR.
4	ROD, GROUND, 5/8 " x 8'-0" COPPERWELD	1 PER PEDESTAL	14-246-542
5	WIRE, 6 AWG (13.3mm ²) GROUND PER PEDESTAL	2700 mm (9'-0")	15-043-163 (UNCOATED) 15-043-124 (TINNED)
6	CLAMP, GROUND WIRE (UL LISTED FOR DIRECT BURIAL)	AS REQUIRED	18-020-990
7	SAND, FOR CABLE TRENCH	AS REQUIRED	
8	PLUG, PVC CONDUIT, 102 mm (4")	1 PER CONDUIT END	15-466-409
9	CONCRETE, 3000 PSI	AS REQUIRED	
10	CAP, CABLE END NEOPRENE	1 PER CABLE END	18-018-199 - 3/8 " TO 1" 18-018-201 - 1" TO 2" 18-018-203 - 2" TO 3"
11	BRACKET, SPLICE SUPPORT SEE MATERIAL LIST FOR PEDESTALS BELOW	AS REQUIRED	
12	GUARD, U CABLE	1 PER RISER	18-040-115
13	STRAP, U CABLE GUARD	4 PER RISER	15-511-263
14	SHIELD, CONNECTOR	2	18-021-990
15	CONDUIT, 4" PVC, TYPE DB	AS REQUIRED	15-312-017

MATERIAL LIST FOR PEDESTALS ONLY

NON CORROSIVE AREAS

PEDESTAL-SPLICING		A.M.S. STOCK NUMBER
1800 PAIR CAPACITY	UP-1000	18-021-360
900 PAIR CAPACITY	UP-10/900	18-021-365

TERMINATION & SPLICING

GHC-6	MAX. CABLE LOOP SIZE 2.25" = 600 PAIR	> 18-021-370
	MAX. SPLICING = 400 PAIR	
GHC-8	MAX. CABLE LOOP SIZE 3.00" = 600 PAIR	> 18-021-375
	MAX. SPLICING = 600 PAIR	
STAKE MOUNTING LENGTH 1219 mm		18-076-214

BRACKET, SPLICE SUPPORT

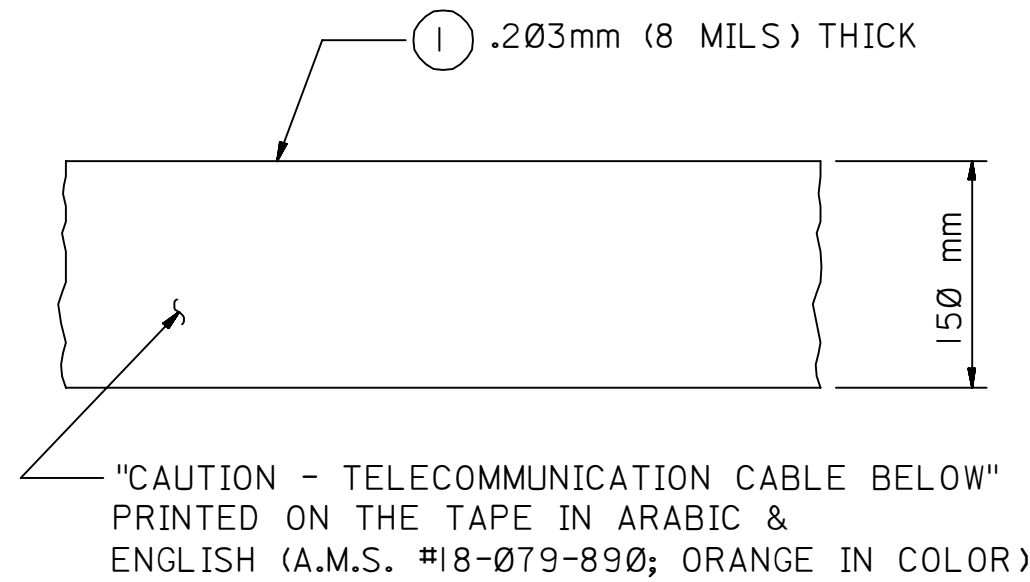
TO CONVERT PEDESTAL FROM A TERMINATION POINT FOR SERVICE WIRES TO A SPLICE CLOSURE ONLY - REMOVE DIVIDER PLATE AND PLACE SPLICE SUPPORT BRACKET.

GHC-6	400 PAIR SPLICING	18-012-205
GHC-8	600 PAIR SPLICING	18-012-215

CORROSIVE AREAS

PEDESTAL, FIBERGLASS

100 PAIR CAPACITY	24 GA.	18-021-347
400 PAIR CAPACITY	24 GA.	18-021-349
600 PAIR CAPACITY	24 GA.	18-021-351
STAKE MOUNTING FIBERGLASS LENGTH 1066.8 mm		18-076-210



DETAIL-4
LOCATION MARKER TAPE 1000 FT. LG. ROLL ± 5%

NOTES:

- ALL PERMITS SHALL BE OBTAINED BY THE CONTRACTOR AS STIPULATED IN ARAMCO GENERAL INSTRUCTION 2.100 PRIOR TO STARTING CONSTRUCTION AND SHALL BE READILY AVAILABLE FOR REFERENCE.
- ALL UTILITIES SHALL BE LOCATED AND MARKED IN THE FIELD PRIOR TO BEGINNING CONSTRUCTION OF BURIED TELEPHONE FACILITIES.
- DUE TO POSSIBLE SHEATH DAMAGE TO BURIED TELEPHONE FACILITIES, WHILE PLACING, ARAMCO COMMUNICATION INSPECTOR WILL INSPECT PRIOR TO BACK FILLING OF TRENCH.
- NO BURIED CABLE ENDS SHALL BE LEFT OPEN. AFTER PLACING CABLE, ENDS MUST BE SEALED WITH A NEOPRENE CAP AS SHOWN IN DETAIL-7, SHEET 003.
- ALL DAMAGED CABLE SECTIONS SHALL BE REPAIRED OR REPLACED.
- DURING THE INSTALLATION STAGE, CABLES SHALL BE PLACED IN PEDESTALS OR UNDER RISER GUARDS AS SOON AS POSSIBLE AND NOT LEFT COILED ON THE GROUND.
- PRIOR APPROVAL IS REQUIRED BY SAUDI ARAMCO'S COMMUNICATION ENGINEERING DIVISION BEFORE PLACING ANY DIRECT BURIED CABLES SPLICES.
- BOTTOMS OF EXCAVATED TRENCHES AND BACKFILL MATERIAL SHALL BE FREE OF ROCKS AND DEBRIS THAT COULD DAMAGE CABLES. A CUSHION OF 50 mm OF SAND SHALL BE PLACED IN TRENCH BOTTOMS (AES-T-928, PARA. 4.1.8.2)
- BACKFILLING OF TRENCH SHALL BE COMPACTED IN 150 mm LIFTS (200 mm MAXIMUM) TO THE APPLICABLE STANDARD REQUIREMENT. NON-TRAVELED AREA TRENCH BACKFILL COMPACTION MUST BE EQUAL TO OR BETTER THAN SURROUNDING MATERIAL. MACHINE COMPACTION IS NOT PERMITTED WITHIN 150 mm OF CABLE (NESC, SEC 353.A.1)
- THE SURFACE AT GRADE LEVEL SHALL BE RESTORED TO AS GOOD OR BETTER THAN ORIGINAL CONDITION.
- CABLE MARKER SIGNS (STANDARD DWG. AB-036897) SHALL BE PLACED AS DIRECTED BY COMM. ENG'G.
- MECHANICAL PROTECTION REQUIRED WHEN PLACING BURIED TELEPHONE CABLE WITH LESS THAN 450 mm OF COVER, IN TRAFFIC AREAS.
- LOCATION MARKER TAPE SHALL BE PLACED IN THE TRENCH ABOVE TELEPHONE CABLES AS SHOWN IN DETAILS ON SHEETS 002 & 003. DETAIL OF TAPE IN DETAIL-4 SHEET 001.
- PROVIDE THERMAL, CHEMICAL, MECHANICAL AND ELECTRICAL PROTECTION FOR CABLES & FACILITIES AS DICTATED BY FIELD CONDITIONS (AES-T-928, PARA. 4.1.2.2)
- BENDS IN GROUNDING CONDUCTORS MUST BE LONG SWEEPING RADIUS. THE MINIMUM BEND RADIUS FOR #6 AWG WIRE IS 150mm (6") REFER TO GTE 795-805-075, PAGE 22.
- CABLE INSTALLATIONS MUST BE DESIGNED SO THAT POWER INDUCED VOLTAGES IN THE TELECOM. CABLE COMPLY WITH AES-T-928, PARA. 4.1.3 AND WITH ALL ELECTRICAL PROTECTION AND SAFETY REQUIREMENTS (AES-T-605, AES-T-887, AES-T-903)
- MAINTENANCE OF TRAFFIC DURING CONSTRUCTION IN OR ALONG SAUDI ARAMCO ROADS AND STREETS SHALL BE CARRIED OUT IN ACCORDANCE WITH G.I. 1021.00.
- THE SAUDI ARAMCO "CONSTRUCTION SAFETY MANUAL", THE AES-B-SERIES, THE AES-O-SERIES AND OTHER APPLICABLE SAFETY AND SECURITY STANDARDS SHALL BE COMPLIED WITH.
- ALL DIRECT BURIED CABLES AND BURIED SERVICE WIRES SHALL BE OF THE FILLED CORE TYPE, (AES-T-928, PARA. 4.1.3)
- REFER TO AES-T-624 FOR STANDARDS REQUIREMENTS FOR INSTALLATION OF FIBER OPTIC CABLES.
- WHEN DESIGNING A BURIED CABLE SYSTEM IN AN AREA WHERE A CATHODIC PROTECTION SYSTEM IS INVOLVED, COORDINATE THE DESIGN WITH THE CATHODIC SYSTEM PROPONENT.
- TELEPHONE CABLES THAT ARE BURIED WITHIN ONE METER OF EXISTING POWER CABLES/FACILITIES MUST HAVE A RATED CORE-TO-SHEATH DIELECTRIC STRENGTH EQUAL TO 1.5 TIMES (MINIMUM) THE PHASE-TO-GROUND VOLTAGE OF THE POWER SYSTEM (GTE 903-101-070, PAGE 33)
- BURIED TELEPHONE CABLES MUST NEVER SHARE A TRENCH WITH A POWER SYSTEM WITH A PHASE-TO-GROUND VOLTAGE OF OVER 20,000 VOLTS (SEE GTE 903-101-070, PAGE 33)

TYPICAL INSTALLATION DRAWING

06	AUG90	RLD	GENERAL REVISION.						
REV. NO.	DATE	BY	JO/EWO	DESCRIPTION		CHKD.	CERT.	APPD.	

SAUDI ARABIAN OIL COMPANY

DRAWN BY	HARDO	CHECKED BY	JW	SCALE:	N.T.S.
DATE STARTED		DATE COMPLETED		AUG. 1983	
OPR'G. DEPT.		ENG. DEPT.	M.M. SALAMAH		
APPD. FOR CONST.					

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION OR FOR ORDERING MATERIAL UNTIL CERTIFIED AND DATED		CERTIFIED BY	DATE
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BURIED TELEPHONE CABLE /

DISTRIBUTION WIRE

INSTALLATION DETAILS

STD. DWG.			METRIC	
PLANT NO.	INDEX	DRAWING NUMBER	SHT. NO.	REV. NO.
990	T	AA-036748	1 OF 3	06