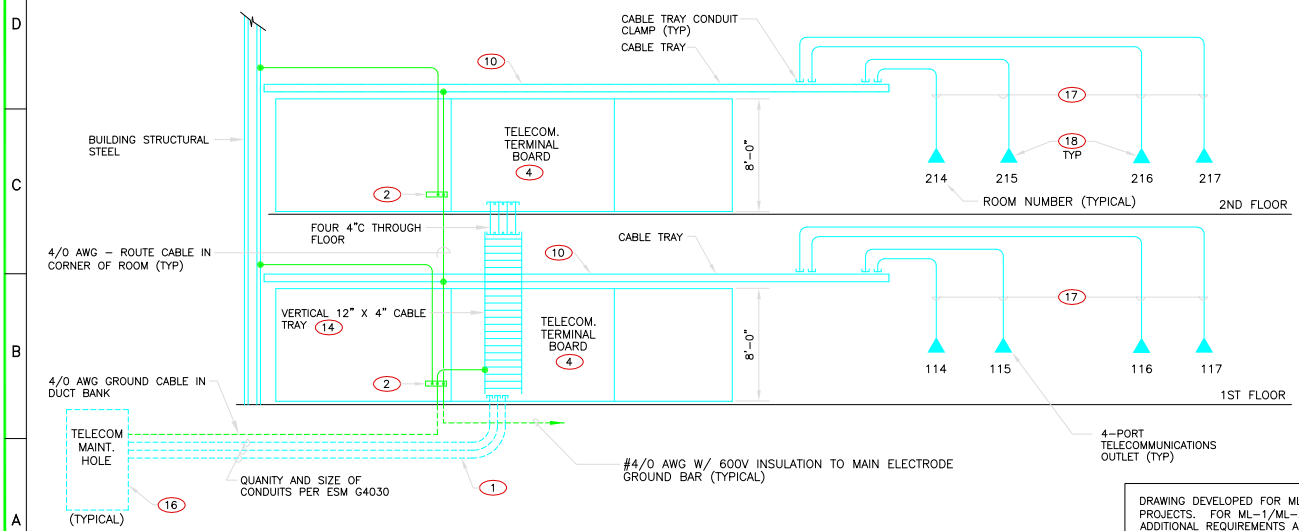


TYPICAL ENTRANCE TELECOMMUNICATIONS ROOM
SCALE: NONE



TELECOMMUNICATIONS RISER DIAGRAM
SCALE: NONE

KEYED NOTES

- 8 PROVIDE VENTILATION OR AIR CONDITIONING TO MAINTAIN THE FOLLOWING CONDITIONS 24 HOURS PER DAY, 365 DAYS PER YEAR:
TEMPERATURE: 64° TO 75°
RELATIVE HUMIDITY: NON-CONDENSING
MINIMUM VENTILATION RATES: 1 AIR CHANGE PER HOUR.
PRESSURIZATION: POSITIVE.
- 9 PROVIDE MINIMUM 9'-0" CEILING HEIGHT; A FINISHED CEILING IS NOT REQUIRED. PROVIDE ILLUMINATION OF 50 FOOT-CANDELES MEASURED AT 3 FT ABOVE THE FINISHED FLOOR. MOUNT LUMINAIRES WITH LAMP GUARDS A MINIMUM OF 8"-6" AFF. USE LIGHT COLORED PAINT ON WALLS AND CEILING TO ENHANCE ROOM LIGHTING. FINISH FLOOR WITH LIGHT COLORED NON-SLIP VINYL FLOOR COVERING.
- 10 PROVIDE 12" (MINIMUM) WIDE, 4" DEEP, LADDER TYPE CABLE TRAY WITH 6 INCH RUNG SPACING AROUND THREE INTERIOR WALLS OF THE ROOM AND ABOVE EQUIPMENT CABINETS. MOUNT TRAY 8 INCHES OUT FROM WALLS AND WITH BOTTOM 7"-9" AFF. USE BRACKETS THAT DO NOT EXTEND DOWN ON THE TERMINAL BOARD. BOND TRAY TO GROUND BAR WITH MINIMUM 6 AWG. EXTEND BOTH ENDS OF CABLE TRAY INTO BUILDING CORRIDOR CEILING SPACE. CONNECT TO CORRIDOR CABLE TRAY OR TO CONDUITS FROM OUTLETS. CONNECT CONDUITS TO CABLE TRAY USING NRTL LISTED CABLE TRAY/CONDUIT CLAMPS.
- 11 RESTORE FIRE RATING OF WALL AND FLOOR AT CABLE TRAY AND CONDUIT PENETRATIONS. USE APPROVED MATERIALS AND METHODS.
- 12 PROVIDE A CONTINUOUS GALVANIZED STEEL FRAMING CHANNEL ABOVE THE TERMINAL BOARD. LOCATE AT 8"-9" AFF. BOND THE CHANNEL TO THE GROUND BAR USING 6 AWG MINIMUM. CLAMP CONDUITS TO THE CHANNEL.
- 13 PROVIDE SIX CABLE DROP-OUT FITTINGS PER TELECOMMUNICATIONS ROOM AT LOCATIONS DIRECTED BY THE LANL TELECOMMUNICATIONS GROUP.
- 14 PROVIDE FOUR 4" CONDUITS WITH INSULATING BUSHINGS ON EACH END OR 12" X 4" CABLE TRAY. EXTEND FROM THE LEFT REAR CORNER OF THE UPPER TELECOMMUNICATIONS ROOM DOWN TO 6" ABOVE THE CABLE TRAY IN THE LEFT REAR CORNER OF THE LOWER TELECOMMUNICATIONS ROOM. BOND TO GROUND BAR WITH MINIMUM 6 AWG.
- 15 PROVIDE A DEDICATED 20A 120V CIRCUIT FROM ISOLATED GROUND PANELBOARD FOR EACH SECURITY SYSTEM PANEL.
- 16 ALIGN ENTRANCE DUCTBANK WITH EXISTING MAIN DUCTBANK TO ENTER MAINTENANCE HOLE. AVOID ENTERING SIDE OF MAINTENANCE HOLE.
- 17 INSTALL DEDICATED CONDUIT TO EACH TELECOMMUNICATION OUTLET. 1" MINIMUM REFER TO SECTION 27.1000 OR FLOOR PLAN FOR SIZES.
- 18 INSTALL 4-11/16" SQUARE, 2-1/8" DEEP BOX WITH SINGLE GANG RAISED COVER.

KEYED NOTES

- 1 INSTALL CONDUITS FROM POINT OF CONNECTION TO NETWORK (AS DETERMINED BY THE LANL TELECOMMUNICATIONS GROUP). TERMINATE THE CONDUITS WITH INSULATING BUSHINGS 4" ABOVE FLOOR IN LEFT REAR CORNER OF THE ROOM AND ADJACENT TO THE LEFT WALL. INSTALL 1200 LB. TEST PULL TAPE WITH STAMPED FOOTAGE IN EACH CONDUIT AND TIE OFF AT EACH END. PROVIDE TEMPORARY CAPS TO EXCLUDE CONSTRUCTION DEBRIS FROM CONDUITS.
- 2 INSTALL 4" X 12" X 1/4" COPPER GROUND BAR WITH INSULATED STANDOFFS AND PRE-DRILLED WITH 1/4" HOLES IN LEFT REAR CORNER OF THE ROOM. INSTALL DEDICATED THW INSULATED 4/0 AWG GROUND CONDUCTOR FROM GROUND BAR TO MAIN ELECTRODE GROUND BAR IN MAIN ELECTRICAL ROOM AND TO NEARBY BUILDING STRUCTURAL STEEL IF PRESENT.
- 3 PROVIDE TELECOMMUNICATIONS ROOM(S) ON EACH FLOOR WITH MINIMUM DIMENSIONS AS DETERMINED BY THE LANL TELECOMMUNICATIONS GROUP. THE FOLLOWING ARE EXAMPLE TELECOMMUNICATIONS ROOM SIZES:
ROOM SERVING UP TO 5000 SQ. FT.: 10 FT X 7 FT.
ROOM SERVING UP TO 8000 SQ. FT.: 10 FT X 9 FT.
ROOM SERVING UP TO 10,000 SQ. FT.: 10 FT X 11 FT.
PROVIDE LOCKABLE DOUBLE DOORS OPENING INTO A MAIN CORRIDOR. COORDINATE WITH ARCHITECTURAL DESIGN. TELECOMMUNICATIONS ROOM(S) SHOULD BE CENTRALLY LOCATED, VERTICALLY ALIGNED, AND AS CLOSE AS POSSIBLE TO THE MAIN ELECTRICAL GROUND BAR.
- 4 LINE THREE WALLS OF THE ROOM WITH SHEETS OF 3/4" APA GRADE A-B GROUP 1 SANDED INTERIOR PLYWOOD FINISHED WITH TWO COATS OF WHITE OR LIGHT GRAY FIRE RETARDING PAINT. ON ALL SIDES.
- 5 INSTALL 120V DUPLEX RECEPTACLES AT 6 FT INTERVALS AROUND THE ROOM, 6 INCHES AFF.
- 6 INSTALL TWO 120 VOLT, 20 AMP TWISTLOCK RECEPTACLES FOR EACH EQUIPMENT RACK; MOUNT ON CABLE TRAY SUPPORT STRUCTURE. SERVE EACH RECEPTACLE WITH A DEDICATED 20A, 120V CIRCUIT.
- 7 INSTALL DOUBLE CIRCUIT MULT-OUTLET ASSEMBLY WITH RECEPTACLES 12 INCHES ON CENTER AT 7"-6" AFF ON LEFT WALL. INSTALL TWO 20 AMP, 120 VOLT CIRCUITS TO THE MULT-OUTLET ASSEMBLY.

DESIGNER:
EDIT TELECOMMUNICATIONS RISER DIAGRAM TO BE PROJECT-SPECIFIC. THE REQUIREMENTS IN KEYED NOTES 6, 7, AND 14 ARE TYPICAL BUT MAY VARY DEPENDING ON CONDITIONS. VERIFY REQUIREMENTS WITH THE LANL TELECOMMUNICATIONS GROUP. IN CONSTRUCTION DRAWINGS PUT THIS TELECOMMUNICATION ROOM PLAN(S) AND THE TELECOMMUNICATIONS RISER DIAGRAM ON SEPARATE SHEET PER THE LANL DRAFTING MANUAL.

NO	DATE	CLASS REV	ADC	DESCRIPTION	OWN	DSGN	CHKD	SUB	APP
3	8/14/08			CLARIFIED TWISTLOCK RECEPTACLES MOUNTING, LOCATED PAGING SYSTEM EQUIPMENT	LT	DP	JS	DP	TO
2	9-25-06			NEW TITLE BLOCK REVISED CABLE TRAY GROUNDING ADDED CABLE TRAY OPTION BETWEEN FLOORS	LT	DP	RD	DP	TO
1	11-19-02			NEW DRAWING NO., CORRECTED LAYERS, REVISIONS PER CCN-4 REPLACES ST-7005	SB	DP	DW	DP	TO

ENGINEERING STANDARDS PROGRAM

ENGINEERING STANDARDS MANUAL		DRAWN	D.W. POWELL
TELECOMMUNICATIONS ROOM PLAN AND TELECOMMUNICATIONS RISER DIAGRAM		DESIGN	D.W. POWELL
		CHECKED	D. WITHERELL
		DATE	08-22-02
BLDG	TA-	APPROVED FOR RELEASE	
SUBMITTED	DAVID W. POWELL	TOBIN ORUCH	
Los Alamos NATIONAL LABORATORY		SHEET	
PO Box 1663 Los Alamos, New Mexico 87545		OF	
CLASSIFICATION: UNCL	REVIEWER: DONALD YARDMAN	DATE:	REV
PROJECT ID	DRAWING NO		
CHAPTER 7		ST-D5030-1	
			3

DRAWING DEVELOPED FOR ML-3/ML-4 PROJECTS. FOR ML-1/ML-2, ADDITIONAL REQUIREMENTS AND QA REVIEWS ARE REQUIRED. (REMOVE THIS NOTE WHEN INSERTED INTO A DRAWING PACKAGE).

NOT FOR CONSTRUCTION