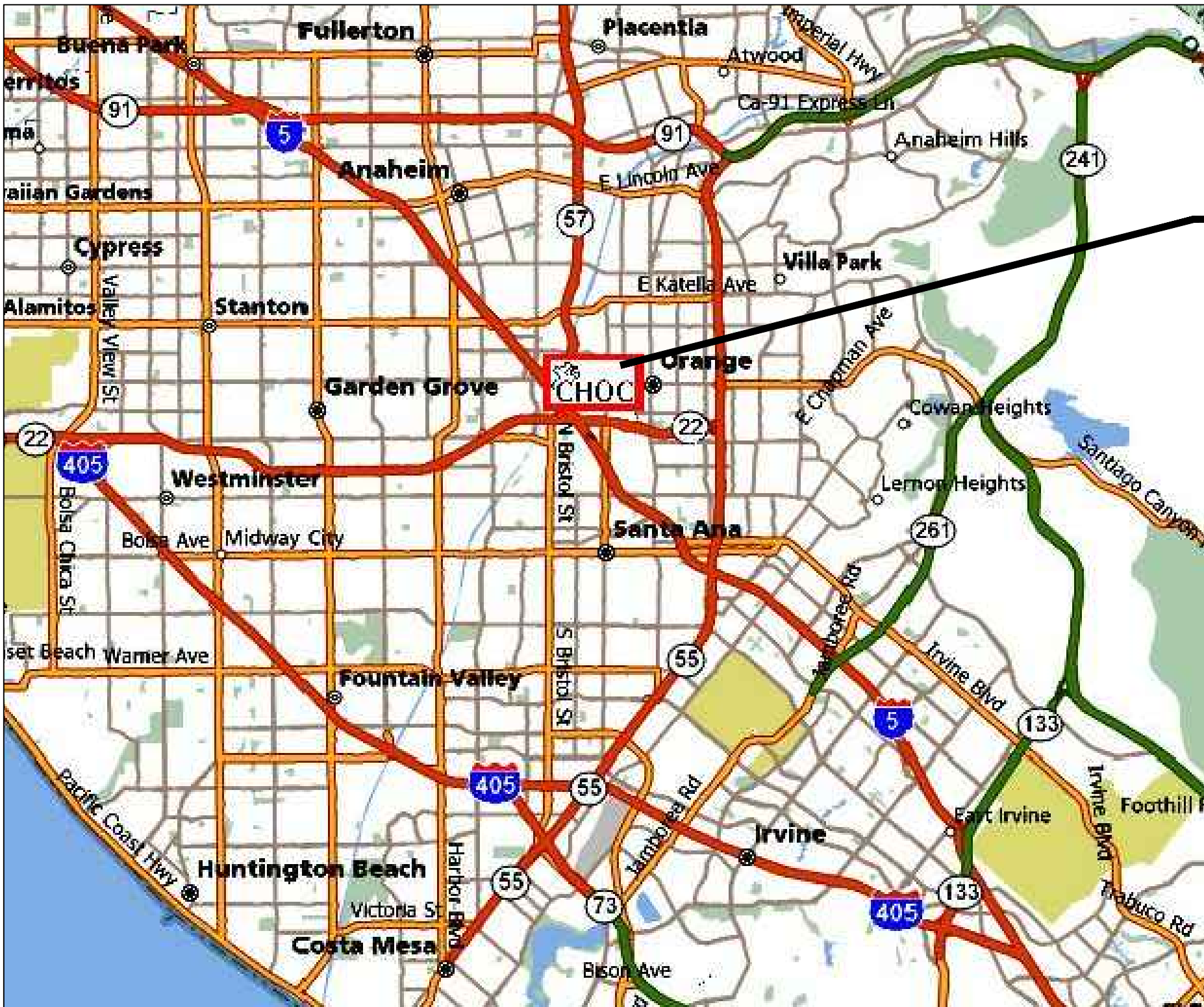


VICINITY MAP		NURSE CALL SYSTEM SYMBOLS LEGEND AND BACKBOX SCHEDULE										SHEET LIST	
		ORIGINAL SYMBOL	MANUFACTURER	PART NUMBER	SYMBOL DESCRIPTION	BACKBOX DESCRIPTION	BACKBOX FURNISHED THOMPSON ELECTRICIAN		ES-01	NURSE CALL SYSTEM COVER AND DATA			
AI	RAULAND BORG	354018	2 JACK STATION – AUXILIARY INPUT	4" SQUARE DEEP BACK BOX WITH SINGLE GANG RING, TO BE SUPPLIED AND INSTALLED BY OTHERS				ES-02	NURSE CALL SYSTEM SINGLE LINE RISER				
AN	RAULAND BORG	351300	VoIP STAFF TERMINAL – CONSOLE / CODE BLUE ANNUNCIATOR	3 GANG DEEP MASONRY BOX, RAYCO 697 OR EQUAL, TO BE SUPPLIED AND INSTALLED BY OTHERS				ES-03	NURSE CALL DETAILS SHEET				
BI	RAULAND BORG	NCBED	37–PIN FEATURE BED RECEPTACLE	4" SQUARE DEEP BACK BOX WITH SINGLE GANG RING, TO BE SUPPLIED AND INSTALLED BY OTHERS				ES-04	NURSE CALL SYSTEM FLOOR PLANS				
BRC	RAULAND BORG	351000	BRANCH REGIONAL CONTROLLER (BRC) [Part of CE]	WALL MOUNTS TO BACKBOARD AT CE				ES-4.0A – BASEMENT AREAS A–M					
CA	RAULAND BORG	354015	CODE STATION / STAFF ASSIST 2 BUTTON STATION	4" SQUARE DEEP BACK BOX WITH SINGLE GANG RING, TO BE SUPPLIED AND INSTALLED BY OTHERS				ES-4.1A – 1ST FLOOR AREAS A, D–L, J, N, P, U					
CB	RAULAND BORG	354011	CODE STATION (CODE BLUE)	4" SQUARE DEEP BACK BOX WITH SINGLE GANG RING, TO BE SUPPLIED AND INSTALLED BY OTHERS				ES-4.2A – 2ND FLOOR AREAS A, D–M, P					
CE	RAULAND BORG	351102	NURSE CALL CENTRAL EQUIPMENT CABINET	WALL MOUNTED CABINET(S)				ES-4.3A – 3RD FLOOR AREAS A, D–M, P					
CL	RAULAND BORG	352000	CORRIDOR LIGHT – 4 POSITION	5" SQUARE DEEP BACK BOX WITH DUAL GANG RING, TO BE SUPPLIED AND INSTALLED BY OTHERS				ES-4.4A – 4TH FLOOR AREAS A, D–M, P					
CS	RAULAND BORG	354015	CODE STATION / STAFF EMERGENCY 2 BUTTON STATION	4" SQUARE DEEP BACK BOX WITH SINGLE GANG RING, TO BE SUPPLIED AND INSTALLED BY OTHERS				ES-4.5A – 5TH FLOOR AREAS A, F, G, H, M					
DC	RAULAND BORG	352020	DOMELESS CORRIDOR CONTROLLER	5" SQUARE DEEP BACK BOX WITH DUAL GANG RING, TO BE SUPPLIED AND INSTALLED BY OTHERS									
DS	RAULAND BORG	353100	DUTY STATION	3 GANG DEEP MASONRY BOX, RAYCO 697 OR EQUAL, TO BE SUPPLIED AND INSTALLED BY OTHERS									
EP	RAULAND BORG	354001	EMERGENCY PULLCORD STATION	4" SQUARE DEEP BACK BOX WITH SINGLE GANG RING, TO BE SUPPLIED AND INSTALLED BY OTHERS									
SW	RAULAND BORG	351004	8 PORT ETHERNET SWITCH W/POE	WALL MOUNTS TO BACKBOARD AT CE									
	RAULAND BORG	351006	FIBER OPTIC ADAPTER MODULE										
J			JUNCTION BOX										
KS	CAMDEN	CM-11250	KEY SWITCH	4" SQUARE DEEP BACK BOX WITH SINGLE GANG RING, TO BE SUPPLIED AND INSTALLED BY OTHERS									
MA	RAULAND BORG	351200	VoIP NURSE CONSOLE	4" SQUARE DEEP BACK BOX WITH SINGLE GANG RING, TO BE SUPPLIED AND INSTALLED BY OTHERS									
PS	RAULAND BORG	353001	ENHANCED SINGLE PATIENT STATION	3 GANG DEEP MASONRY BOX, RAYCO 697 OR EQUAL, TO BE SUPPLIED AND INSTALLED BY OTHERS									
PS	RAULAND BORG	351003	POWER SUPPLY W/BATTERY BACK–UP	WALL MOUNTS TO BACKBOARD AT CE									
RC	RAULAND BORG	354010	REMOTE CANCEL STATION	4" SQUARE DEEP BACK BOX WITH SINGLE GANG RING, TO BE SUPPLIED AND INSTALLED BY OTHERS									
RS	RAULAND BORG	354016	ROOM STATUS BED MANAGEMENT STATION	4" SQUARE DEEP BACK BOX WITH SINGLE GANG RING, TO BE SUPPLIED AND INSTALLED BY OTHERS									
SA	RAULAND BORG	354012	STAFF ASSIST STATION	4" SQUARE DEEP BACK BOX WITH SINGLE GANG RING, TO BE SUPPLIED AND INSTALLED BY OTHERS									
SD			SMOKE DETECTOR – BY OTHERS										
SE	RAULAND BORG	354012	STAFF EMERGENCY STATION	4" SQUARE DEEP BACK BOX WITH SINGLE GANG RING, TO BE SUPPLIED AND INSTALLED BY OTHERS									
SS	RAULAND BORG	353101	STAFF STATION	3 GANG DEEP MASONRY BOX, RAYCO 697 OR EQUAL, TO BE SUPPLIED AND INSTALLED BY OTHERS									
TV			TELEVISION BY OTHERS										
ZL	RAULAND BORG	352000	ZONE CORRIDOR LIGHT – 4 POSITION	5" SQUARE DEEP BACK BOX WITH DUAL GANG RING, TO BE SUPPLIED AND INSTALLED BY OTHERS									
(E)			WALL MOUNT EXISTING										
(ER)			WALL MOUNT EXISTING REMOVED AND REINSTALLED										
CABLE													
SYMBOL	MANUFACTURER	PART NUMBER	DESCRIPTION		USE	COLOR	JACKET	CONSTR					
D	PAIGE	710636	4PR CAT6 ETHERNET CABLE, CMP		D-BUSS	COLOR 1	CMP	SOLID					
E	PAIGE	710636	4PR CAT6 ETHERNET CABLE, CMP		ETHERNET	COLOR 2	CMP	SOLID					
F	PAIGE	800022	2C 22AWG CABLE PLENUM		FIRE ALARM INTERFACE		PLENUM	SOLID					
L	PAIGE	710636	4PR CAT6 ETHERNET CABLE, CMP		L-NET	COLOR 3	CMP	SOLID					
M	PAIGE	710636	4PR CAT6 ETHERNET CABLE, CMP		M-NET	COLOR 4	CMP	SOLID					
P	WEST PENN	25227B	2C 12AWG PLENUM CABLE		POWER		PLENUM	19 STRDS					
T	PAIGE	800026	3C 22AWG CABLE (TV CONTROL) PLENUM		TV CONTROL		PLENUM	SOLID					
APPLICABLE CODES													
THE CALIFORNIA ADMINISTRATIVE CODE OF REGULATIONS, TITLE 24													
2007 CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE PART 1, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)													
2007 CALIFORNIA BUILDING CODE PART 2, TITLE 24, CCR													
(2006 IBC AND 2007 CALIFORNIA AMENDMENTS)													
2007 CALIFORNIA ELECTRIC CODE PART 3, TITLE 24, CCR													
(2005 NEC AND 2007 CALIFORNIA AMENDMENTS)													
2007 CALIFORNIA MECHANICAL CODE PART 4, TITLE 24, CCR													
(2006 UMC AND 2007 CALIFORNIA AMENDMENTS)													
2007 CALIFORNIA PLUMBING CODE PART 5, TITLE 24, CCR													
(2006 UPC AND 2007 CALIFORNIA AMENDMENTS)													
2007 CALIFORNIA FIRE CODE PART 9, TITLE 24, CCR													
(2006 IFC AND 2007 CALIFORNIA AMENDMENTS)													
BUILDING DATA													
The building is classified as a Type 1A Construction, high rise, under CBC, considering the floor plan area, number of stories the non-combustible construction of the building structure and the use of the existing building fully automatic sprinkler system.													
NOTES													
PROJECT NOTES:													
1. THE NURSE CALL SYSTEM SHALL CONFORM TO ARTICLE 517 OF THE CALIFORNIA ELECTRIC CODE.													
2. PENETRATIONS THROUGH FIRE RATED WALLS AND FLOORS WILL BE SEALED WITH A MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASSES. SEE DETAILS ON THIS SHEET.													
3. A MINIMUM OF 48 HOURS NOTICE SHALL BE REQUIRED FOR ANY INSPECTION AND/OR TESTING.													
4. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE CODE OR RECOGNIZED STANDARDS SHALL BE BROUGHT TO THE ATTENTION OF THE INSPECTOR OF RECORD.													
5. THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS TO RECONSTRUCT THE HOSPITAL BUILDING IN ACCORDANCE WITH CALIFORNIA BUILDING STANDARDS CODE, TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY CONDITION DEVELOP NOT COVERED BY THE APPROVED PLANS AND SPECIFICATIONS WHEREIN THE FINISHED WORK NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS, A CHANGE ORDER DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED AND APPROVED BY OSHPD BEFORE PROCEEDING WITH THE WORK. Reference: CCR Title 24, Part 1, Section 7–125(b)(2)													
5. CORDS FOR TOILET AND SHOWER PULL CORD STATIONS SHALL BE WITHIN 12 INCHES OF THE FINISHED FLOOR.													
6. STATION LOCATIONS REQUIRE A 3/4" (min. U.O.N.) CONDUIT STUB–UP TO ACCESSIBLE CEILING SPACE. ALL NEW CABLE RUN IN OPEN CEILING SPACE SHALL BE PLENUM RATED AND SUPPORTED TO THE BUILDING STRUCTURE PER THE REQUIREMENTS OF THE CEC. ALL NEW PLENUM CABLE WILL BE LISTED AS 300V TO MEET THE REQUIREMENTS OF CEC ARTICLE 800 FOR POWER LIMITED APPLICATIONS.													
7. THE POWER FOR THIS FACILITY IS PROVIDED BY NONSEGREGATED EMERGENCY POWER.													
8. A UNIQUE AUDIBLE AND VISUAL ALARM/SIGNAL WILL BE PROVIDED AT THE ATTENDING NURSES STATION AND ABOVE EACH PATIENT UNIT OR ROOM FOR CODE BLUE PER CEC 517–123(C)(3). THE CODE BLUE WILL BE THE FIRST PRIORITY ALARM ON THE NURSE CALL MASTER CONSOLE.													
9. ALL CODE BLUE CALLS SHALL REPORT TO THE 24 HOUR MANED PBX. AN AUDIBLE VISUAL INDICATION OF CODE BLUE IS PROVIDED AT THE PBX TO COMPLY WITH C.E.C.517–123 (C)(4).													
ELECTRICAL NOTE: NONSEGREGATED EMERGENCY 20 AMP 120 VAC CIRCUITS SHALL BE CONNECTED TO EACH CLOSET'S NURSE CALL SYSTEM POWER SUPPLIES. EACH NURSE CALL POWER SUPPLY WILL DRAW A TOTAL OF 2.0 AMPS OF THE AVAILABLE 20 AMPS 120VAC.													
ELECTRICAL ENGINEERS (E.E.O.R.)													
TMAD TAYLOR & GAINES													
100 S ANAHEIM BLVD, SUITE 150													
ANAHEIM, CA, 92805													
(714) 490-5555													
ARCHITECTS OF RECORD (A.O.R.)													
FKP ARCHITECTS													
PAUL C. GLORIOD													
8 Greenway Plaza #300													
Houston TX 77046-0801 USA													
713-621-2100													
PROJECT SCOPE													
NURSE CALL													
Children's Hospital of Orange County is building a new tower. New Rauland Responder 5 audio/visual nurse call systems will be installed. All new cable will be installed. Stations shall have a stub–up (3/4" min U.O.N.) to accessible ceiling space.													
A complete and operational system shall be provided including all required cable, connectors, special back boxes, station equipment, software and programming. All standard electrical boxes, conduit, stub–throughs and any coring required will be by the EC.													
A Code Blue Pushbutton will be installed at each bed location. The Code Blue Call will provide a unique audible visual at the nurse's station and activate a distinct light in the corridor dome. The Code Blue will be the highest priority call. The Code Blue Call will report to the existing Code Blue Annunciation in the 24 hour manned PBX via the Responder Network.													
Emergency toilet and shower Pull–Cord Stations will be installed in bathrooms. The pull cord will be installed to within 12" of the floor.													
The Nurse Call devices will report to the Nurse Call Console at the nurse's station.													
CHILDREN'S HOSPITAL OF ORANGE COUNTY		TOWER II		SYMBOLS AND NOTES		SHEET INFORMATION							
455 A MAIN STREE, ORANGE, CA, 92868						THOMPSON # 100040							
						DWG # 100040 ES-01							
						SCALE: NTS							
						DATE: 5/6/10							
						SHEET 1 OF 65							
						DRAWN BY: ddb							
						AS AN INSTRUMENT OF SERVICE, THIS DRAWING IS THE PROPERTY OF P.A. THOMPSON ENGINEERING CO. AND IS NOT TO BE USED WITHOUT EXPRESSED WRITTEN AGREEMENT.							
						ES-01							

Seventh Floor Shell

Sixth Floor Shell

Fifth Floor

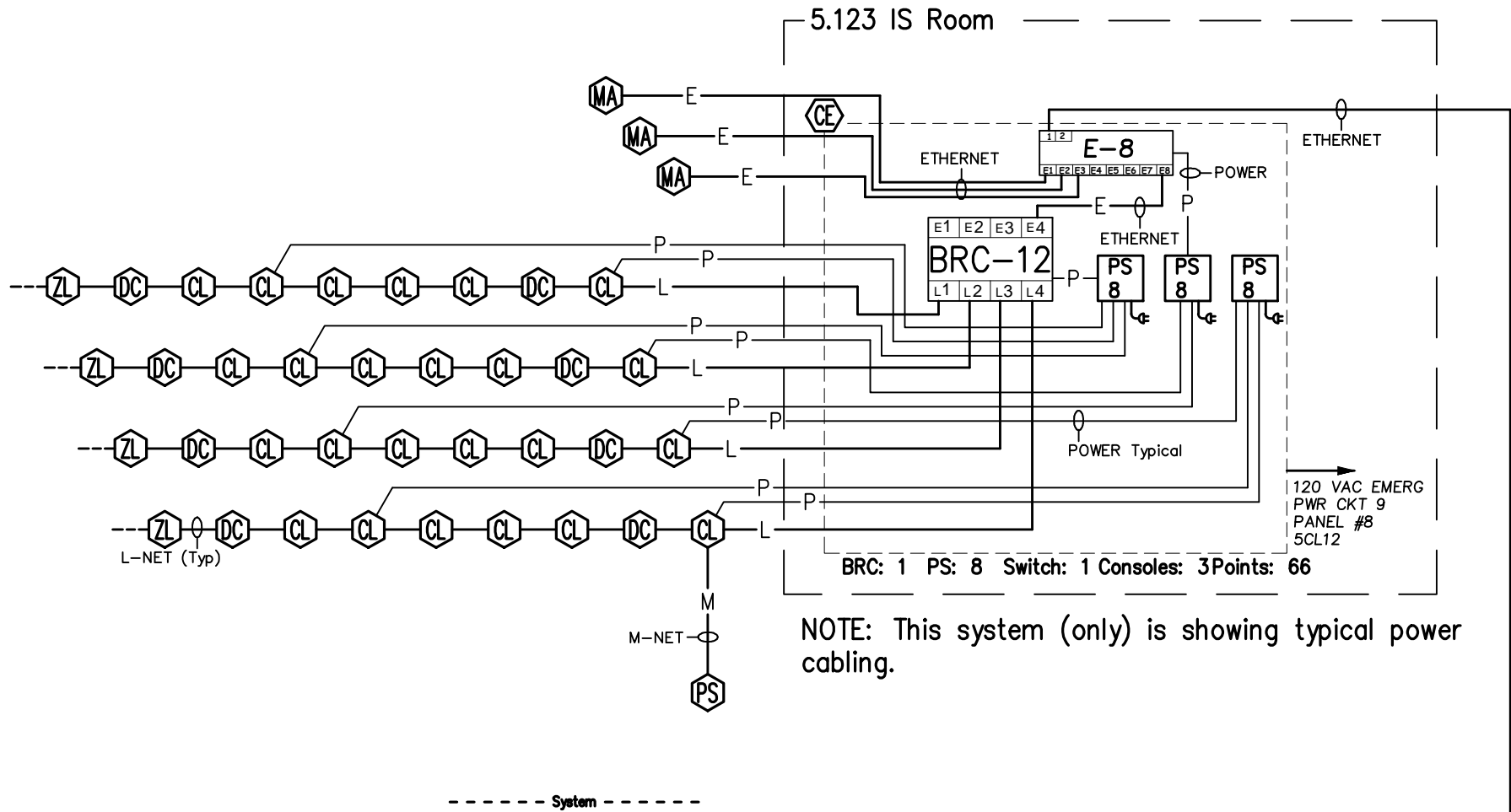
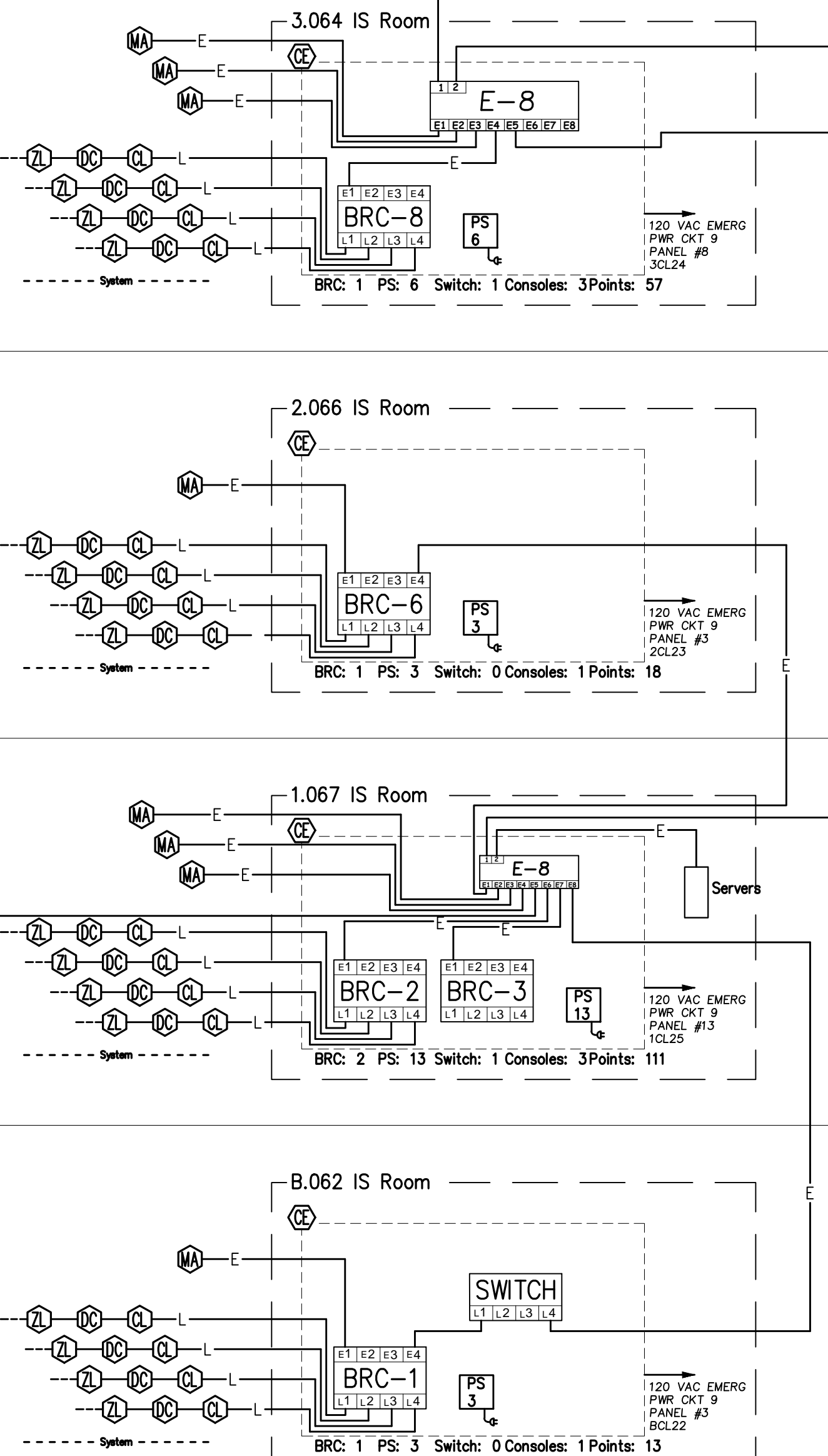
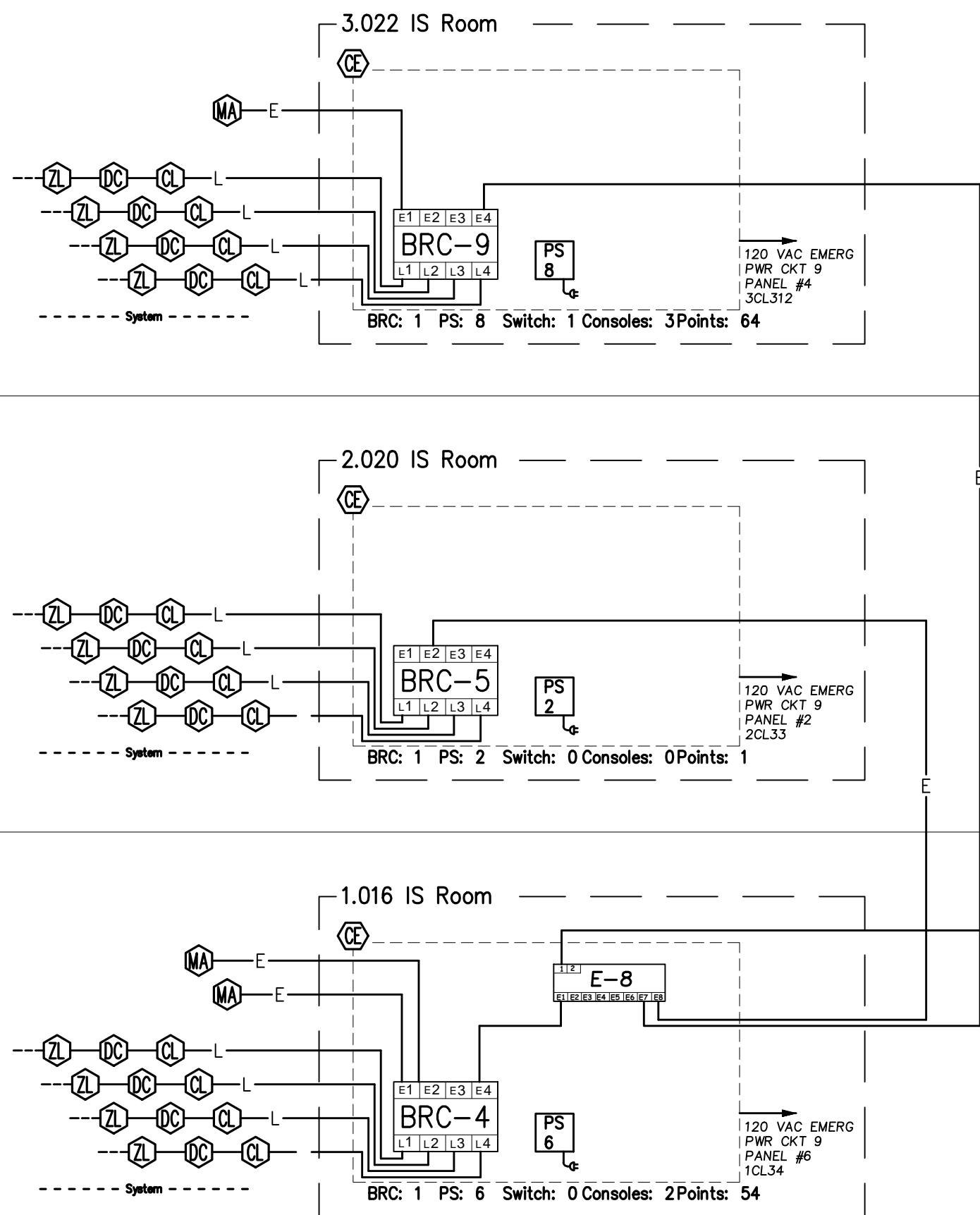
Fourth Floor

Third Floor

Second Floor

First Floor

Lower Level



NOTES

Vertical riser cabling shall be Riser Rated Cable - Typical .

Typical Power Cabling Shown only on closet 5.123.

CABLE		
SYMBOL	DESCRIPTION	USE
D	4PR CAT6 ETHERNET CABLE, CMP	D-BUSS
E	4PR CAT6 ETHERNET CABLE, CMP	ETHERNET
F	2C 22AWG CABLE PLENUM	FIRE ALARM INTERFACE
L	4PR CAT6 ETHERNET CABLE, CMP	L-NET
M	4PR CAT6 ETHERNET CABLE, CMP	M-NET
P	2C 12AWG CABLE	POWER
T	3C 22AWG CABLE (TV CONTROL) PLENUM	TV CONTROL

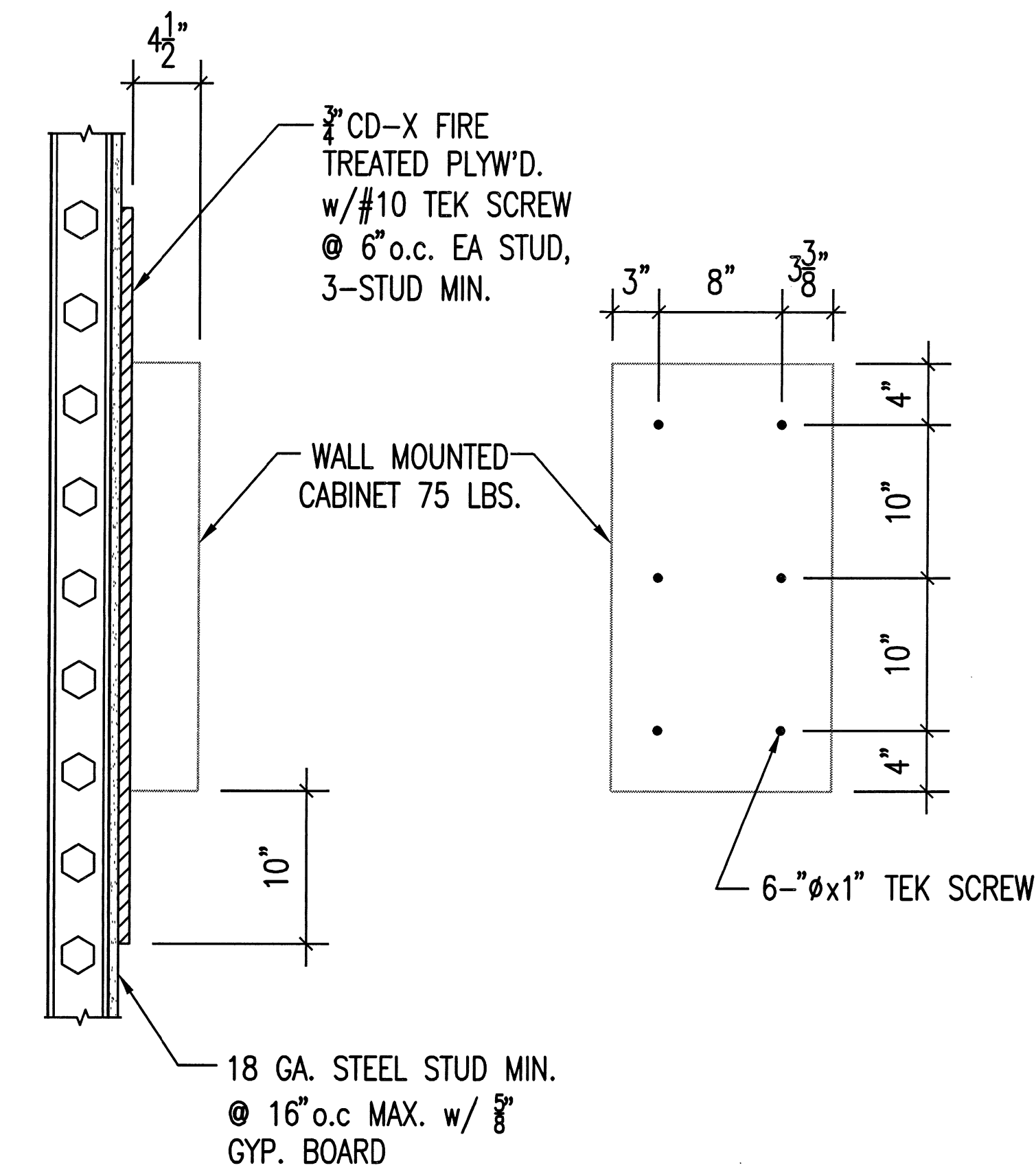
CHILDREN'S HOSPITAL OF ORANGE COUNTY
455 A MAIN STREE, ORANGE, CA, 92868
TOWER II
NURSE CALL SYSTEM RISER DIAGRAM
AS BUILT

SHEET INFORMATION

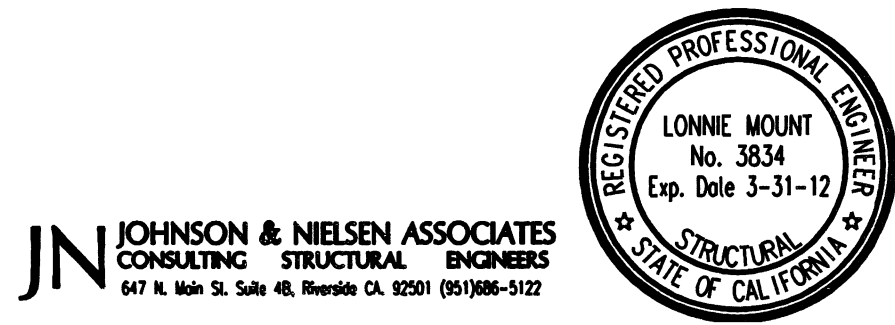
THOMPSON # 100040
DWG # 100040 ES-2.0
SCALE: NTS
DATE: 05/6/10
SHEET 2 OF 65
DRAWN BY: dab

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ES-2.0



RAULAND-BORG
351102-WALL MOUNTED CABINET



WALL MOUNT CABINET DETAIL

JOHNSON & NIELSEN ASSOCIATES
647 North Main St. Suite 4B
Riverside, California 92501
Phone 909-686-5122 FAX 909-686-6752

Project _____
Job # 29-2250
by AOD
Date 05/06/2010
Sheet of

> ver. 11-15-99 Current Load directory: mech Retrieve/Save drive = C: work dir = 29-2250
> wk4 Filespec: C:\J&N\CALC\WORK\29-2250\CAB.WK4 Load drive = C: filespec = CAB

wallcab1 Rauland-Borg Cabinet
ASCE 7-05 (13.3-2) Fp = 2.206 x Wp/1.4 = 118 # where
ASCE 7-05 (13.3-1) Fp = 0.414 x Wp/1.4 = 22 # Fa = 1.0 ASCE 7-05 (Table 11.4-1)
Wp = 75 # governing Fp = 22 # Ss = 1.379 ASCE 7-05 (11.4.1)
y = 1.67 ft. (Vert Dist Between Anchors) Sds = 0.92 ASCE 7-05 (11.4.4)
x = 0.67 ft. (Horiz Dist Between Anchors) alp = 2.5 ASCE 7-05 (Table 13.5-1)
ex = 0.25 ft. (Horiz Eccentricity of Unit) Rp = 6.0 ASCE 7-05 (Table 13.5-1)
z = 4.00 ft. (Unit Height) Ip = 1.5 ASCE 7-05 (13.1.3)
h = 10.00 ft.

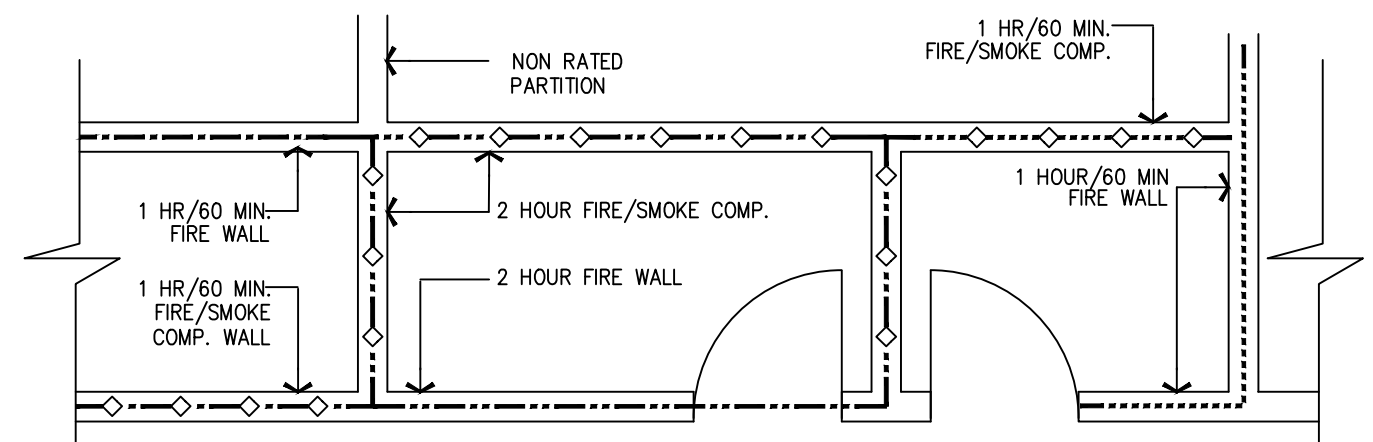
Fasteners in a Row (Worst Case)
LOAD PERP TO WALL
Fp = 22 lbs
T (Fp) = 11 lbs
T (Wt Ecc) = 11 lbs
Total T = 22 lbs GOVERNING TENSILE LOAD
Total V = 0 lbs

Fasteners in a Vertical Line (Worst Case)
LOAD PARALLEL TO WALL
Fp = 22 lbs
T (Fp) = 8 lbs
T (Wt Ecc) = 11 lbs
Total T = 20 lbs TOTAL SHEAR LOAD
Total V = 22 lbs

Attachment of Cabinet to 3/4" Plywood Backing Board
Use 6 1/4" sheet metal screws to attach cabinet to plywood
Tensile Capacity per screw = 159 #/screw x .8 = 127
Total Tensile Capacity = 382 #
Shear Capacity per screw = 89 #/screw x .8 = 71
Total Shear Capacity = 427 #

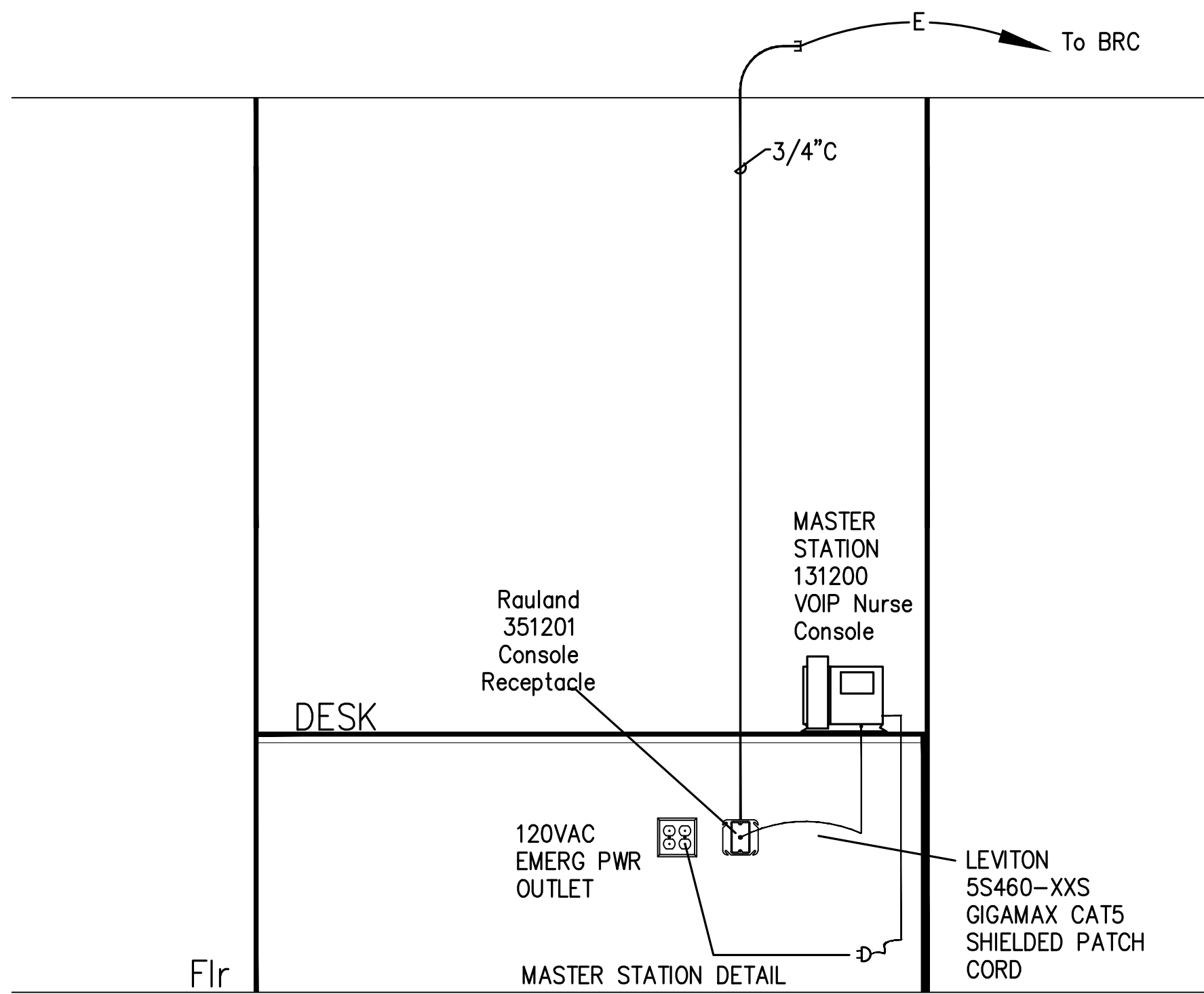
Attachment of 3/4" Plywood Backing Board to Steel Stud Wall
Use 24 # 10 (min 8 ea stud/3 studs) sheet metal screws to attach plywood to steel studs
Tensile Capacity per screw = 158 #/screw x .8 = 126
Total Tensile Capacity = 1517 #
Shear Capacity per screw = 220 #/screw x .8 = 176
Total Shear Capacity = 4224 #

WALL MOUNT CALCS



- EXAMPLE - FIRE/SMOKE RATING**
- TYPICAL CORRIDOR WALL [1 HOUR WALL/DOORS SMOKE-RATED/NON-RATED WINDOWS LIMITED IN SIZE(25% OF WALL)] CBC 407.3.
 - ONE HOUR FIRE RATED WALL (OCCUPANCY SEPARATION) WITH 60 MIN. DOORS. CBC 508.
 - ONE HOUR FIRE/SMOKE RATED WALL (OCCUPANCY SEPARATION) WITH 60 MIN. DOORS. CBC 709.
 - TWO HOUR FIRE RATED WALL (SHAFT ENCLOSURE, OCCUPANCY SEPARATION & HORIZONTAL EXIT) WITH 90 MIN. DOORS. CBC 508, 707 & 1022.
 - TWO HOUR FIRE/SMOKE RATED WALL (SHAFT ENCLOSURE/SMOKE COMPARTMENT) WITH 90 MIN. DOORS. CBC 404.4 & 707.
 - 3 HOUR RATED WALL (OCCUPANCY SEPARATION) 180 MIN. DOORS. CBC 715.
 - 3 HOUR FIRE/SMOKE RATED WALL (OCCUPANCY SEPARATION/SMOKE COMPARTMENT) 180 MIN. DOORS. CBC 404.4 & 715.
 - 4 HOUR RATED WALL (OCCUPANCY SEPARATION) 180 MIN. DOORS. CBC 715.
 - SMOKE COMPARTMENT WALLS-ONE HOUR RATE WITH 60 MIN. DOORS. CBC 407.4, 709 & 715.
 - DISCHARGE PATH TO PUBLIC WAY

FIRE SMOKE RATINGS



MASTER STATION DETAIL



CHILDREN'S HOSPITAL OF ORANGE COUNTY
455 A MAIN STREE, ORANGE, CA, 92868
TOWER II
NURSE CALL SYSTEM DETAILS

SHEET INFORMATION

THOMPSON # 100040
DWG # 100040 ES-3.0
SCALE: NTS
DATE: 05/6/10
SHEET 3 OF 65
DRAWN BY: ddb

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ES-3.0