

PANELBOARD MDP																	
BUS AMPS:			200A			ELECTRICAL ROOM 145			GROUND BUS:			YES					
MAIN SIZE / TYPE:			MLO			NEMA RATING:			NEMA 1 / SE RATED			ISOL. GROUND BUS:			NO		
VOLTS/PHASE:			208Y/120V, 3PH, 4W			AFC VALUE:			54.51A			FEED THRU LUGS:			NO		
MOUNTING:			SURFACE			AIC RATING:			65,000A FULLY RATED			SECTIONS:			1 OF 1		
CKT #	CIRCUIT DESCRIPTION	BREAKER AMPS	P	WIRE SIZE	LOAD (VA)	CONNECTED PER PHASE (VA)			LOAD (VA)	WIRE SIZE	BREAKER AMPS	P	CIRCUIT DESCRIPTION	CKT #			
						A	B	C									
1	PANELBOARD DP1	600	3	RD	302,811	603,585			300,774	RD	3	600	PANELBOARD DP2	2			
3	PANELBOARD A	225	3	RD	15,442	46,614			32,893	RD	3	400	PANELBOARD D	4			
5	ELEVATOR	60	3	RD	5,404	32,078			29,551	RD	3	225	PANELBOARD B	6			
7	PANELBOARD F	400	3	RD	24,960				24,960				SPACE	8			
PER PHASE SUB-TOTALS						707,237	606,006	619,354	LEGEND:								
TOTAL CONNECTED PANELBOARD (VA)						1,932,597	TS - VIA TIME SWITCH			ST - SHUNT TRIP							
TOTAL CONNECTED PANELBOARD (AMPS)						5,364	GF - GROUND FAULT INTERRUPTER			LCK - LOCKING TAB							
TOTAL PANELBOARD DEMAND (VA)						631,476	FA - FIRE ALARM / RED / LOCKING TAB			IG - ISOLATED GROUND							
TOTAL PANELBOARD DEMAND (AMPS)						1,753	EM - EMERGENCY LTG. / LOCKING TAB			RD - RE: RISER DIAGRAM							

PANEL TO HAVE BUILT-IN SPD WITH 240 KA SURGE RATING.

PANELBOARD DP1																	
BUS AMPS:			600A			ELECTRICAL ROOM 145			GROUND BUS:			YES					
MAIN SIZE / TYPE:			MLO			NEMA RATING:			NEMA 1			ISOL. GROUND BUS:			NO		
VOLTS/PHASE:			208Y/120V, 3PH, 4W			AFC VALUE:			48.64A			FEED THRU LUGS:			NO		
MOUNTING:			SURFACE			AIC RATING:			65,000 SERIES RATED			SECTIONS:			1 OF 1		
CKT #	CIRCUIT DESCRIPTION	BREAKER AMPS	P	WIRE SIZE	LOAD (VA)	CONNECTED PER PHASE (VA)			LOAD (VA)	WIRE SIZE	BREAKER AMPS	P	CIRCUIT DESCRIPTION	CKT #			
						A	B	C									
1	PANELBOARD G (3 UNITS)	125	2	RD	23,175	54,075			30,900	RD	2	125	PANELBOARD G (4 UNITS)	2			
3	PANELBOARD G (4 UNITS)	125	2	RD	30,900				30,900	RD	2	125	PANELBOARD G (4 UNITS)	4			
5	PANELBOARD G (4 UNITS)	125	2	RD	30,900	45,504			30,900	RD	2	125	PANELBOARD G (4 UNITS)	6			
7	PANELBOARD G (4 UNITS)	125	2	RD	30,900	61,800			30,900	RD	2	125	PANELBOARD G (4 UNITS)	8			
9	PANELBOARD G (4 UNITS)	125	2	RD	30,900	45,504			30,900	RD	2	125	PANELBOARD G (4 UNITS)	10			
11	PANELBOARD G (4 UNITS)	125	2	RD	30,900	61,800			30,900	RD	2	125	PANELBOARD G (4 UNITS)	12			
13	PANELBOARD G (4 UNITS)	125	2	RD	30,900	45,504			30,900	RD	2	125	PANELBOARD G (4 UNITS)	14			
15	PANELBOARD G (3 UNITS)	125	2	RD	23,175	34,128			23,175	RD	2	125	PANELBOARD G (3 UNITS)	16			
17	SPACE ONLY				0	0	0	0	0				SPACE ONLY	18			
PER PHASE SUB-TOTALS						302,811	254,424	260,958	LEGEND:								
TOTAL CONNECTED PANELBOARD (VA)						818,193	TS - VIA TIME SWITCH			ST - SHUNT TRIP							
TOTAL CONNECTED PANELBOARD (AMPS)						2,271	GF - GROUND FAULT INTERRUPTER			LCK - LOCKING TAB							
TOTAL PANELBOARD DEMAND (VA)						161,972	FA - FIRE ALARM / RED / LOCKING TAB			IG - ISOLATED GROUND							
TOTAL PANELBOARD DEMAND (AMPS)						450	EM - EMERGENCY LTG. / LOCKING TAB			RD - RE: RISER DIAGRAM							

PANELBOARD DP2																	
BUS AMPS:			600A			UTILITY ROOM 440			GROUND BUS:			YES					
MAIN SIZE / TYPE:			MLO			NEMA RATING:			NEMA 1			ISOL. GROUND BUS:			NO		
VOLTS/PHASE:			208Y/120V, 3PH, 4W			AFC VALUE:			16.86A			FEED THRU LUGS:			NO		
MOUNTING:			SURFACE			AIC RATING:			22,000 SERIES RATED			SECTIONS:			1 OF 1		
CKT #	CIRCUIT DESCRIPTION	BREAKER AMPS	P	WIRE SIZE	LOAD (VA)	CONNECTED PER PHASE (VA)			LOAD (VA)	WIRE SIZE	BREAKER AMPS	P	CIRCUIT DESCRIPTION	CKT #			
						A	B	C									
1	PANELBOARD G (3 UNITS)	125	2	RD	23,175	46,350			23,175	RD	2	125	PANELBOARD G (3 UNITS)	2			
3	PANELBOARD G (3 UNITS)	125	2	RD	17,064				17,064	RD	2	125	PANELBOARD G (4 UNITS)	4			
5	PANELBOARD G (4 UNITS)	125	2	RD	30,900				30,900	RD	2	125	PANELBOARD G (4 UNITS)	6			
7	PANELBOARD G (4 UNITS)	125	2	RD	30,900	61,800			30,900	RD	2	125	PANELBOARD G (4 UNITS)	8			
9	PANELBOARD G (4 UNITS)	125	2	RD	30,900	45,504			30,900	RD	2	125	PANELBOARD G (4 UNITS)	10			
11	PANELBOARD G (4 UNITS)	125	2	RD	30,900	61,800			30,900	RD	2	125	PANELBOARD G (4 UNITS)	12			
13	PANELBOARD G (4 UNITS)	125	2	RD	30,900	45,504			30,900	RD	2	125	PANELBOARD G (4 UNITS)	14			
15	PANELBOARD G (4 UNITS)	125	2	RD	30,900	61,800			30,900	RD	2	125	PANELBOARD G (4 UNITS)	16			
17	SPACE ONLY				0	0	0	0	0				SPACE ONLY	18			
PER PHASE SUB-TOTALS						300,774	248,736	268,683	LEGEND:								
TOTAL CONNECTED PANELBOARD (VA)						818,193	TS - VIA TIME SWITCH			ST - SHUNT TRIP							
TOTAL CONNECTED PANELBOARD (AMPS)						2,271	GF - GROUND FAULT INTERRUPTER			LCK - LOCKING TAB							
TOTAL PANELBOARD DEMAND (VA)						161,990	FA - FIRE ALARM / RED / LOCKING TAB			IG - ISOLATED GROUND							
TOTAL PANELBOARD DEMAND (AMPS)						450	EM - EMERGENCY LTG. / LOCKING TAB			RD - RE: RISER DIAGRAM							

PANELBOARD G (TYPICAL OF 122 REQUIRED)																	
BUS AMPS:			125A			GUEST SUITE			GROUND BUS:			MIN. SIZE LOAD CENTER CONSTRUCTION RCD					
MAIN SIZE / TYPE:			MLO			NEMA RATING:			NEMA 1			ISOL. GROUND BUS:			YES		
VOLTS/PHASE:			208Y/120V, 1PH, 3W			AFC VALUE:			18.076A			FEED THRU LUGS:			NO		
MOUNTING:			RECESSED			AIC RATING:			22,000 SERIES RATED			SECTIONS:			1 OF 1		
CKT #	CIRCUIT DESCRIPTION	BREAKER AMPS	P	WIRE SIZE	LOAD (VA)	CONNECTED PER PHASE (VA)			LOAD (VA)	WIRE SIZE	BREAKER AMPS	P	CIRCUIT DESCRIPTION	CKT #			
						A	B	C									
1	ROOM RCPT AND LIGHTING	20	1	12	1,175	2,075			900	12	1	20	REFRIGERATOR	2			
2	BATHROOM RCPT AND LIGHTING	20	1	12	1,094				2,294	1200	12	1	20	MICROWAVE	4		
3	KITCHEN	20	1	12	1,500	3,000			1,500	1200	12	1	20	KITCHEN	6		
4	GUESTROOM PTAC-1	15	2	12	1,250				2,450	1200	12	2	20	RANGE	8		
5	DISHWASHER (FIRST FLOOR ONLY)	20	1	12	744				844	200	12	1	20	ERV-1 (SUITE 216 ONLY)	12		
6	DOORBELL/MOTORIZED SHADES	20	1	12	200	200			0	0	0	0	SPACE ONLY	14			
7	SPACE ONLY				0	0	0	0	0				SPACE ONLY	16			
PER PHASE SUB-TOTALS						7,725	13,413	5,688	LEGEND:								
TOTAL CONNECTED PANELBOARD (VA)						64	TS - VIA TIME SWITCH			ST - SHUNT TRIP							
TOTAL CONNECTED PANELBOARD (AMPS)						13,411	GF - GROUND FAULT INTERRUPTER			LCK - LOCKING TAB							
TOTAL PANELBOARD DEMAND (VA)						65	FA - FIRE ALARM / RED / LOCKING TAB			IG - ISOLATED GROUND							
TOTAL PANELBOARD DEMAND (AMPS)							EM - EMERGENCY LTG. / LOCKING TAB			RD - RE: RISER DIAGRAM							
TOTAL PANELBOARD DEMAND (AMPS)							AF - COMBINATION TYPE ARC FAULT CIRCUIT INTERRUPTER										

* PHASES VARY DEPENDING ON FEEDER FROM PANELBOARDS 'DP1' AND 'DP2'

PANEL TO HAVE BUILT-IN SPD WITH 240 KA SURGE RATING.

PANELBOARD F																	
BUS AMPS:			400A			ELECTRICAL ROOM			GROUND BUS:			YES					
MAIN SIZE / TYPE:			MLO			NEMA RATING:			NEMA 1			ISOL. GROUND BUS:			NO		
VOLTS/PHASE:			208Y/120V, 3PH, 4W			AFC VALUE:			33.416A			FEED THRU LUGS:			NO		
MOUNTING:			SURFACE			AIC RATING:			42,000A			SECTIONS:			1 OF 1		
CKT #	CIRCUIT DESCRIPTION	BREAKER AMPS	P	WIRE SIZE	LOAD (VA)	CONNECTED PER PHASE (VA)			LOAD (VA)	WIRE SIZE	BREAKER AMPS	P	CIRCUIT DESCRIPTION	CKT #			
						A	B	C									
1	EV CHARGER	60	2	6	4,992	4,992			0				SPACE ONLY	2			
3	EV CHARGER	60	2	6	4,992				4,992				SPACE ONLY	4			
5	EV CHARGER	60	2	6	4,992				4,992				SPACE ONLY	6			
7	EV CHARGER	60	2	6	4,992	4,992			0				SPACE ONLY	8			
9	EV CHARGER	60	2	6	4,992				4,992				SPACE ONLY	10			
11	EV CHARGER	60	2	6	4,992				4,992				SPACE ONLY	12			
13	EV CHARGER	60	2	6	4,992	4,992			0				SPACE ONLY	14			
15	EV CHARGER	60	2	6	4,992				4,992				SPACE ONLY	16			
17	EV CHARGER	60	2	6	4,992				4,992				SPACE ONLY	18			
19	EV CHARGER	60	2	6	4,992				4,992				SPACE ONLY	20			
21	EV CHARGER	60	2	6	4,992				4,992				SPACE ONLY	22			
23	EV CHARGER	60	2	6	4,992				4,992				SPACE ONLY	24			
25	EV CHARGER	60	2	6	4,992				4,992				SPACE ONLY	26			
27	EV CHARGER	60	2	6	4,992				4,992				SPACE ONLY	28			
29	SPACE ONLY				0	0	0	0	0				SPACE ONLY	30			
31	SPACE ONLY				0	0	0	0	0				SPACE ONLY	32			
33	SPACE ONLY				0	0	0	0	0				SPACE ONLY	34			
35	SPACE ONLY				0	0	0	0	0				SPACE ONLY	36			
37	SPACE ONLY				0	0	0	0	0				SPACE ONLY	38			
39	SPACE ONLY				0	0	0	0	0				SPACE ONLY	40			
41	SPACE ONLY				0	0	0	0	0				SPACE ONLY	42			
PER PHASE SUB-TOTALS						24,960	24,960	19,968	LEGEND:								
TOTAL CONNECTED PANELBOARD (VA)						69,888	TS - VIA TIME SWITCH			ST - SHUNT TRIP							
TOTAL CONNECTED PANELBOARD (AMPS)						194	GF - GROUND FAULT INTERRUPTER			LCK - LOCKING TAB							
TOTAL PANELBOARD DEMAND (VA)						69,888	FA - FIRE ALARM / RED / LOCKING TAB			IG - ISOLATED GROUND							
TOTAL PANELBOARD DEMAND (AMPS)						194	EM - EMERGENCY LTG. / LOCKING TAB			OL - ONE-LINE DIAGRAM							

PANELBOARD A																	
BUS AMPS:			225A			ELECTRICAL ROOM 145			GROUND BUS:			YES					
MAIN SIZE / TYPE:			MLO			NEMA RATING:			NEMA 1			ISOL. GROUND BUS:			NO		
VOLTS/PHASE:			208Y/120V, 3PH, 4W			AFC VALUE:			41.116A			FEED THRU LUGS:			NO		
MOUNTING:			SURFACE			AIC RATING:			42,000A SERIES RATED			SECTIONS:			1 OF 1		
CKT #	CIRCUIT DESCRIPTION	BREAKER AMPS	P	WIRE SIZE	LOAD (VA)	CONNECTED PER PHASE (VA)			LOAD (VA)	WIRE SIZE	BREAKER AMPS	P	CIRCUIT DESCRIPTION	CKT #			
						A	B	C									
1	STAFF DRYER	15	3	8	1,450	1,450			1,200	12	1	20	BUILDING SIGNAGE	2			
3	STAFF DRYER	15	3	8	1,450				1,200	8	1	20	BUILDING SIGNAGE	4			
5	STAFF DRYER	15	3	8	1,450				1,200	8	1	20	BUILDING SIGNAGE	6			
7	STAFF DRYER	15	3	8	1,450				1,200	8	1	20	BUILDING SIGNAGE	8			
9	STAFF DRYER	15	3	8	1,450				1,200	8	1	20	BUILDING SIGNAGE	10			

ELECTRICAL KEYNOTES (1 2 X)

1. PROVIDE 4" CONDUIT BETWEEN FLOORS FOR BDA SYSTEM.
2. PROVIDE CIRCUIT AS SHOWN ON PLAN FOR DOOR MAG LOCK SYSTEM. COORDINATE ALL REQUIREMENTS WITH MANUFACTURER AND PROVIDE ALL LOW VOLTAGE WIRING AND ACCESSORIES FOR A COMPLETE AND OPERATIONAL SYSTEM.
3. PROVIDE EMPTY 1-1/2" CONDUIT WITH PULL STRING FROM ACCESSIBLE CEILING IN CORRIDOR.
4. PROVIDE J-BOX FOR HOLD OPEN AT ELEVATOR SMOKE DOOR. FIELD VERIFY EXACT LOCATION AND POWER REQUIREMENTS PRIOR TO ROUGH-IN.
5. PROVIDE (2) EMPTY 2-1/2" CONDUIT WITH PULL STRING FROM ACCESSIBLE CEILING IN CORRIDOR.
6. PROVIDE (2) EMPTY 4" CONDUIT WITH PULL STRING BETWEEN FLOORS.
7. PROVIDE SATELLITE DISH 12" ABOVE GRADE. PROVIDE EMPTY CONDUIT WITH PULL STRING.

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Issues & Revisions

NO.	DATE	DESCRIPTION

Project Name

WoodSpring Suites

Project Address

**937 NORTH STREET
 TEWKSURY, MA**

Drawn By

SH / MR / BS

Checked By

AR / CF

Document Date:

06/19/25

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WSS_v2_B08

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31000677

Professional Seal

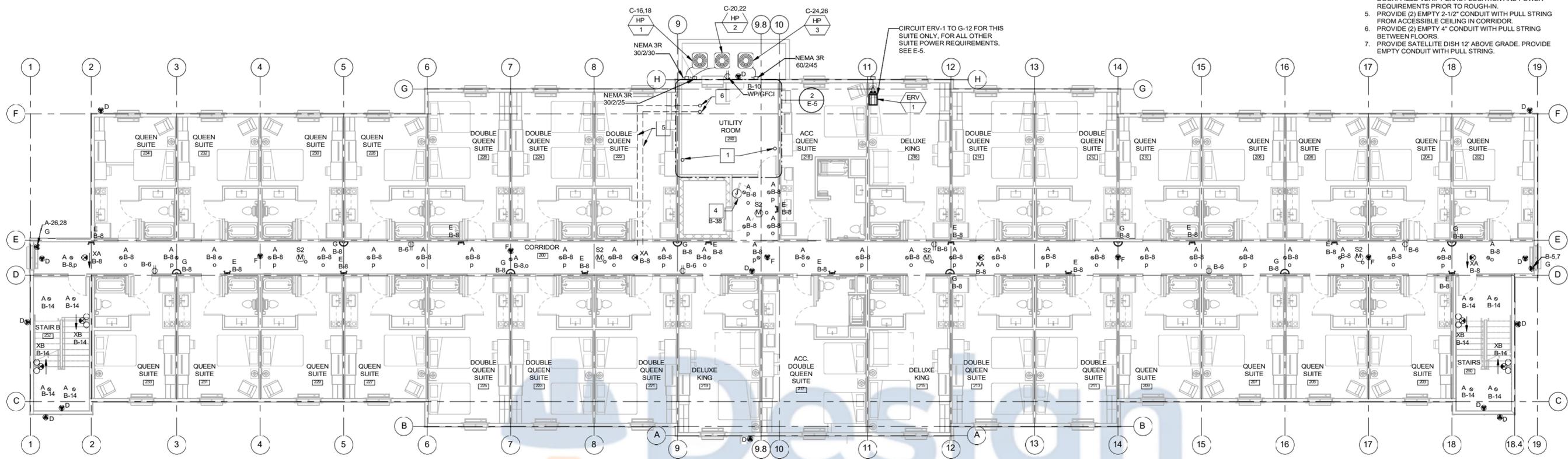
04/03/2026

Sheet Title
**ELECTRICAL PLANS -
 FIRST AND SECOND
 FLOOR**

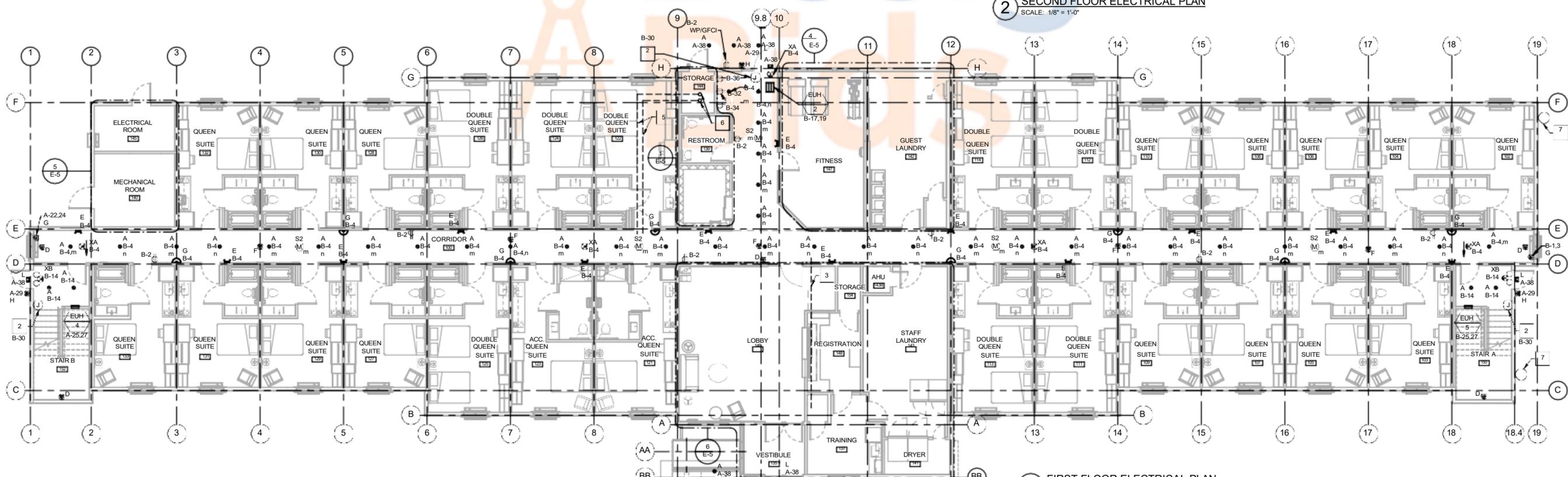
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E-3

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2 SECOND FLOOR ELECTRICAL PLAN
 SCALE: 1/8" = 1'-0"



1 FIRST FLOOR ELECTRICAL PLAN
 SCALE: 1/8" = 1'-0"

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ELECTRICAL KEYNOTES (1 2 X)

1. PROVIDE 4" CONDUIT BETWEEN FLOORS.
2. STUB 1" CONDUIT WITH PULL STRING FROM FOURTH FLOOR STORAGE ROOM TO ROOF FOR FUTURE USE BY OTHERS. MAINTAIN ALL 2-HOUR FIRE RATINGS AS REQUIRED. CONFIRM FINAL LOCATION ON ROOF WITH BDA SYSTEM VENDOR PRIOR TO ROUGH-IN.
3. PROVIDE (2) EMPTY 4" CONDUIT WITH PULL STRING BETWEEN FLOORS.
4. WP-J-BOX FOR BUILDING SIGNAGE. ROUTE VIA CONTACTOR.
5. PROVIDE J-BOX FOR HOLD OPEN AT ELEVATOR SMOKE DOOR. FIELD VERIFY EXACT LOCATION AND POWER REQUIREMENTS PRIOR TO ROUGH-IN.
6. PROVIDE (2) EMPTY 2-1/2" CONDUIT WITH PULL STRING FROM ACCESSIBLE CEILING IN CORRIDOR.

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Revisions

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Project Name
WoodSpring Suites

Project Address
**937 NORTH STREET
 TEWKSBURY, MA**

Drawn by:
SH / MR / BS
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AR / CF
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 (07/24/24)**
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WSS_v2_B08

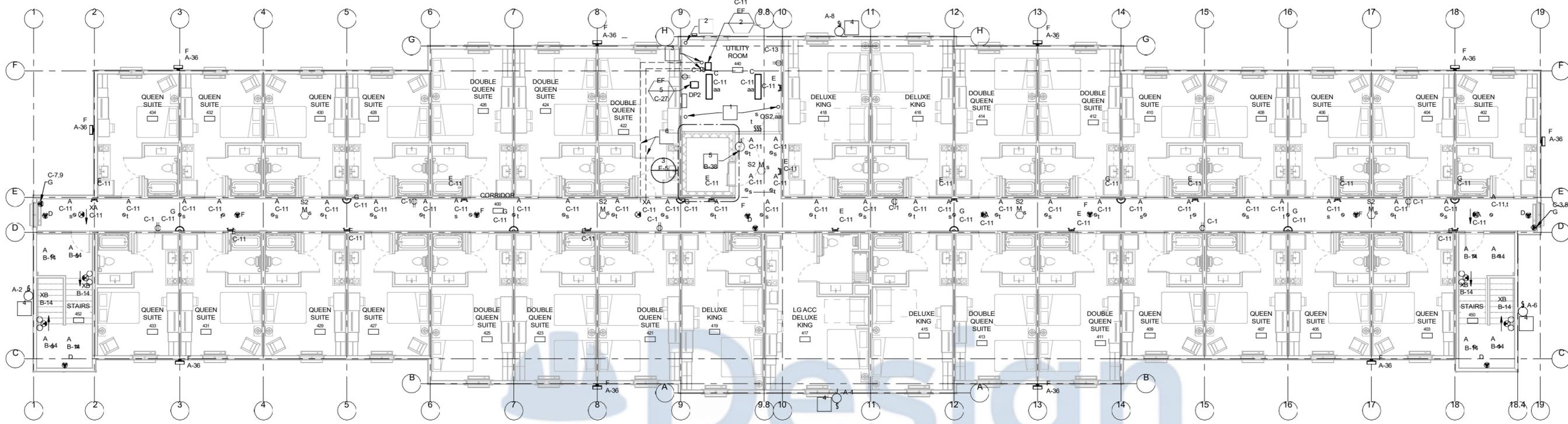
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31000677

Date:
04/03/2026

Sheet Title
**ELECTRICAL PLANS -
 THIRD AND FOURTH
 FLOOR**

Sheet No:
E-4

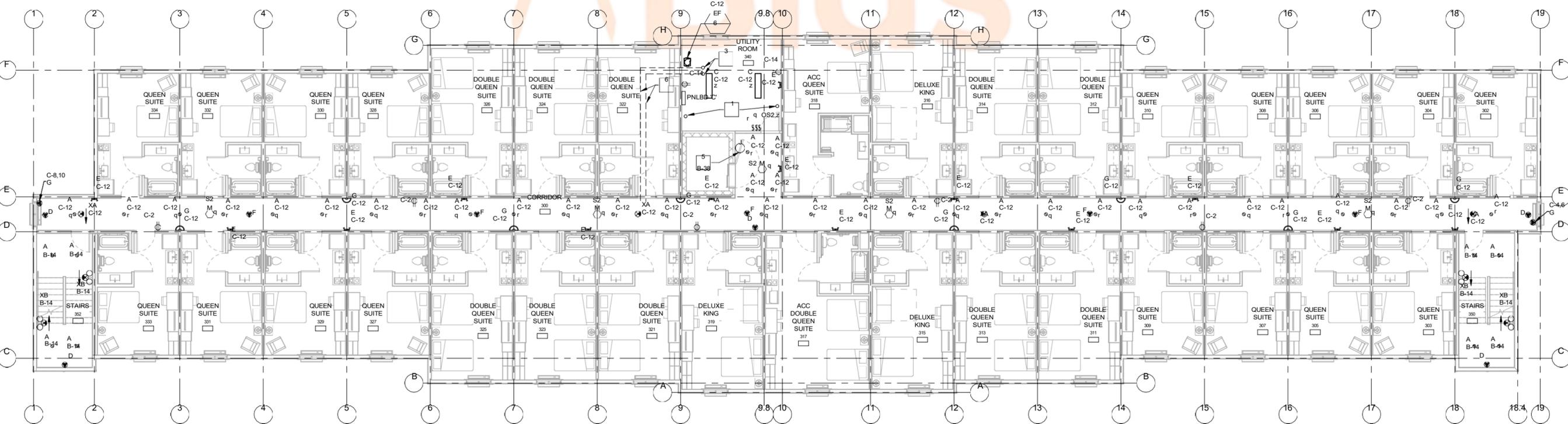
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2 FOURTH FLOOR ELECTRICAL PLAN
 SCALE: 1/8" = 1'-0"

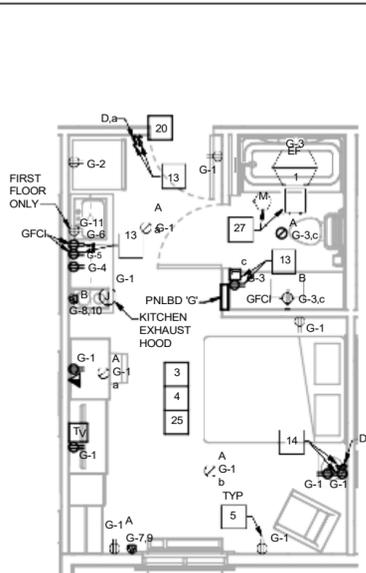
NOTE: COORDINATE FINAL LOCATION AND QUANTITY OF J-BOXES FOR SIGNAGE WITH ARCHITECT AND SIGN VENDOR PRIOR TO ROUGH-IN. (TYP.)

NOTE: ALL STAIRWELL CAMERAS ARE TO BE WALL MOUNTED. ALL OTHER INTERIOR CAMERAS ARE TO BE CEILING MOUNTED.

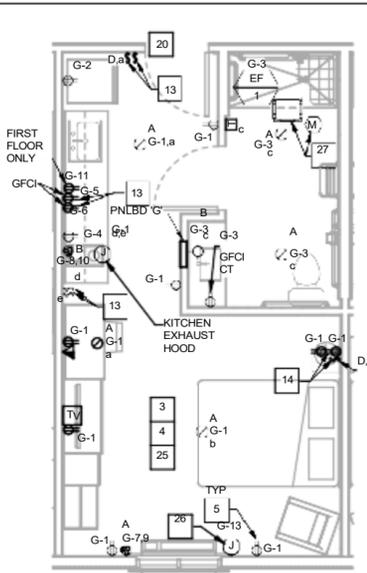


1 THIRD FLOOR ELECTRICAL PLAN
 SCALE: 1/8" = 1'-0"

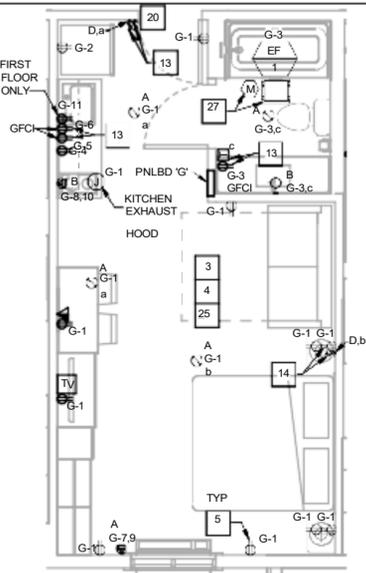
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13 QUEEN SUITE
SCALE: 1/4" = 1'-0"



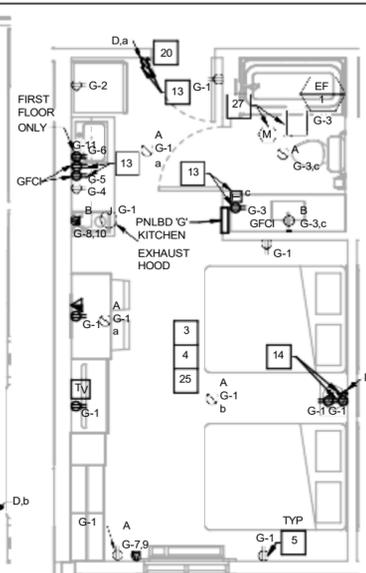
12 ACC. QUEEN SUITE
SCALE: 1/4" = 1'-0"



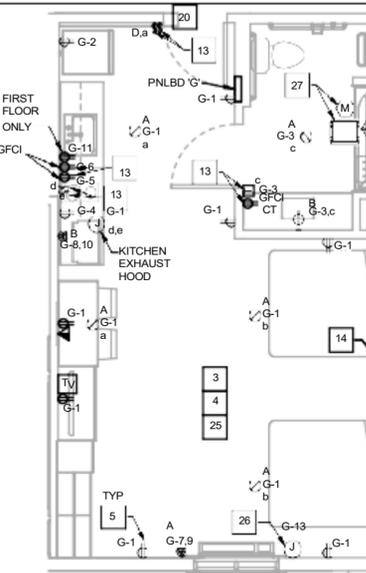
11 DELUXE KING SUITE
SCALE: 1/4" = 1'-0"



10 ACC. DELUXE KING SUITE
SCALE: 1/4" = 1'-0"



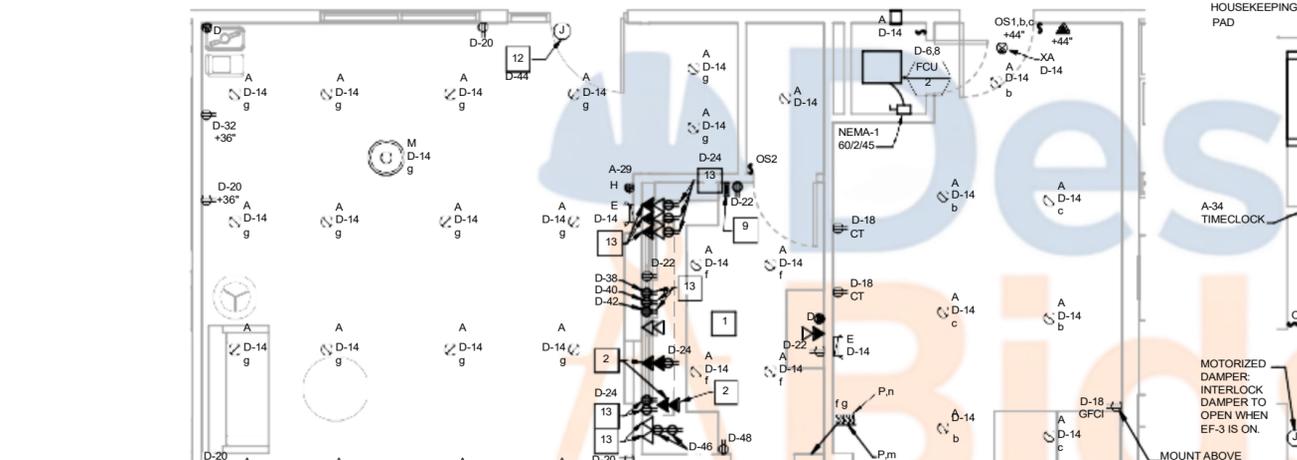
9 DOUBLE QUEEN SUITE
SCALE: 1/4" = 1'-0"



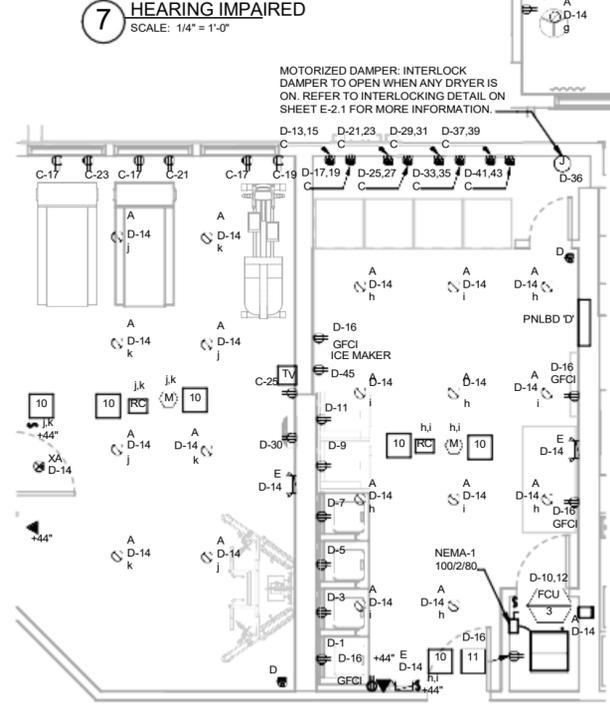
8 ACC. DOUBLE QUEEN SUITE
SCALE: 1/4" = 1'-0"



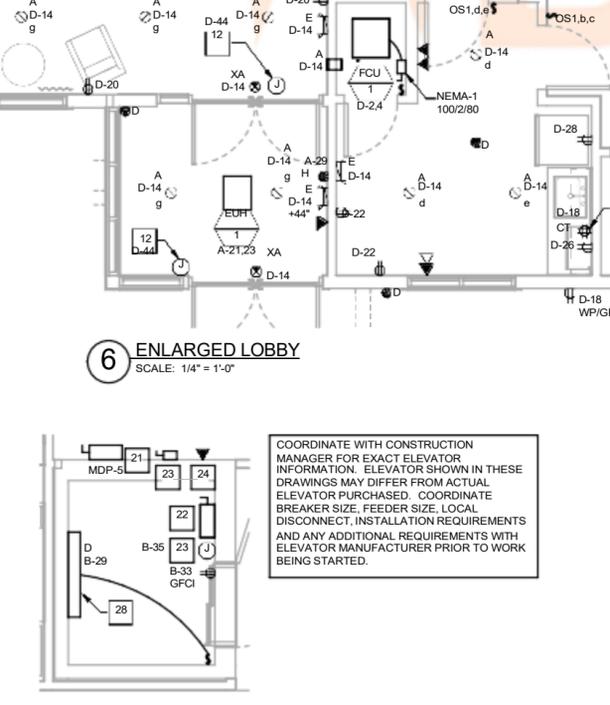
7 HEARING IMPAIRED
SCALE: 1/4" = 1'-0"



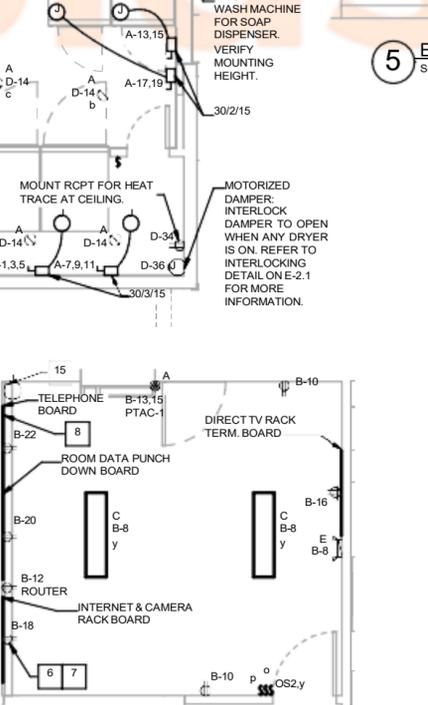
6 ENLARGED LOBBY
SCALE: 1/4" = 1'-0"



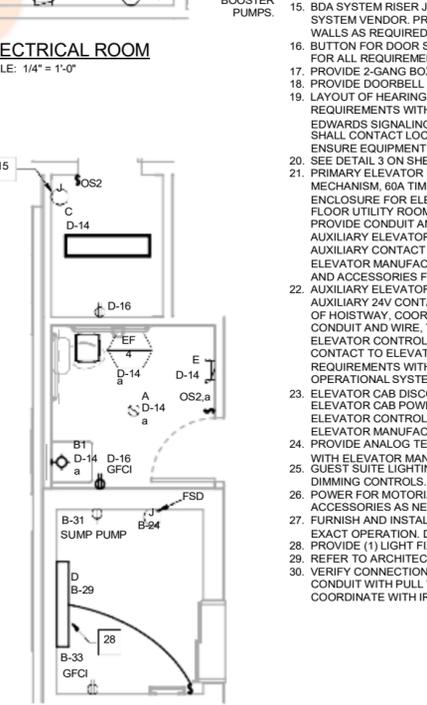
4 ENLARGED LAUNDRY
SCALE: 1/4" = 1'-0"



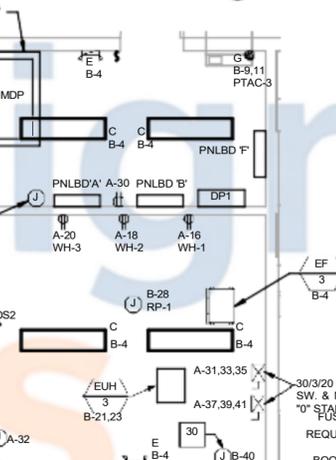
3 ELEVATOR ELECTRICAL PLAN
SCALE: 1/4" = 1'-0"



2 ENLARGED UTILITY ROOM #240
SCALE: 1/4" = 1'-0"



1 ENLARGED R/ELEVATOR
SCALE: 1/4" = 1'-0"



5 ELECTRICAL ROOM
SCALE: 1/4" = 1'-0"

ENLARGED PLAN KEYNOTES (1, 2, X)

- VERIFY EXACT LOCATION OF ALL REGISTRATION DEVICES PRIOR TO ROUGH-IN. REFER TO ARCHITECTURAL DRAWINGS FOR MORE INFORMATION.
- LOW VOLTAGE JUNCTION BOX FOR HDMI JACK. COORDINATE WITH OWNER FOR CONDUIT ROUTING. PROVIDE 1" CONDUIT WITH PULL WIRE AND CABLES AS REQUIRED. VERIFY EXACT MOUNTING HEIGHT AND LOCATION WITH LOW VOLTAGE VENDOR PRIOR TO ROUGH-IN. INTENT OF DESIGN IS TO ROUTE HDMI CABLES FROM FRONT END EQUIPMENT TO MONITORS. COORDINATE WITH OWNERSHIP AND LOW VOLTAGE VENDOR FOR SPECIFIC LOCATIONS AND ROUTING REQUIREMENTS.
- SUITE ANNUNCIATOR REQUIRED IN HEARING IMPAIRED SUITES ONLY. HARD WIRED SYSTEM FOR HEARING IMPAIRED SUITES (DOOR BELL SYSTEM) SYSTEM. COORDINATE WITH ARCH ON HARD-WIRED HIR DEVICES AND ROOMS.
- CONTRACTOR SHALL CONTACT LOCAL TELEPHONE PROVIDER TO OBTAIN REQUIREMENTS FOR HEARING IMPAIRED ROOMS. CONTRACTOR SHALL THEN INSTALL ALL REQUIRED EQUIPMENT.
- ALL GUESTROOM 120V RECEPTACLES SHALL BE TAMPER-RESISTANT SPECIFICATION GRADE RECEPTACLES AS REQUIRED BY N.E.C.
- PROVIDE 2-4" CONDUIT WITH PULLWIRE FOR CABLE TV AND TELEPHONE. ROUTE UNDERGROUND AND STUB OUT 5'-0" FROM BUILDING. COORDINATE WITH CIVIL FOR ROUTING TO PROPERTY LINE. CAP AND MARK FOR OWNER USE.
- PROVIDE 1-2" CONDUIT FOR CAMERA AND GAS CABLEING ROUTE FROM OPENING AND STUB INTO FIRST FLOOR CORRIDOR CEILING CAVITY.
- PROVIDE 1-3" CONDUIT WITH PULLWIRE FOR FUTURE USE. ROUTE UNDERGROUND AND STUB OUT 5'-0" FROM BUILDING. CAP AND MARK FOR OWNER USE.
- PUSHBUTTON FOR FRONT ENTRY DOORS.
- PROVIDE WATSTOPPER DUAL RELAY ROOM CONTROLLER LMRC-102, OCCUPANCY SENSOR LMDC-100 AND LOW VOLTAGE SWITCH LMSW-102-W FOR CONTROL OF LIGHTING AS INDICATED BY LOWER CASE LETTERING. PROGRAM RELAY ONE IN ROOM CONTROLLER TO AUTO-OFF BASED ON ROOM OCCUPANCY AND RELAY TWO IN ROOM CONTROLLER FOR MANUAL ON BY LOW VOLTAGE SWITCH AND AUTO OFF BY ROOM OCCUPANCY. INSTALL ALL EQUIPMENT PER MANUFACTURER REQUIREMENTS AND PROVIDE ALL LOW VOLTAGE WIRING FOR A COMPLETE AND OPERATIONAL SYSTEM.
- PROVIDE (1) DATA PORT AND (1) GFCI RECEPTACLE. MOUNT ON WALL. REFER TO ARCHITECTURAL PLANS FOR MOUNTING HEIGHTS.
- PROVIDE CIRCUIT AS SHOWN ON PLAN FOR DOOR MAG LOCK SYSTEM. COORDINATE ALL REQUIREMENTS WITH MANUFACTURER AND PROVIDE ALL LOW VOLTAGE WIRING AND ACCESSORIES FOR A COMPLETE AND OPERATIONAL SYSTEM. REFER TO KEYNOTE FOR OFFICE REQUIREMENTS.
- DEVICES TO BE GANGED TOGETHER. MOUNT AT HEIGHT INDICATED ON ARCHITECTURAL PLANS.
- LIGHT SWITCH AND ONE RECEPTACLE TO BE GANGED TOGETHER. MOUNT AT HEIGHT INDICATED ON ARCHITECTURAL PLANS.
- BDA SYSTEM RISER JUNCTION BOX. JUNCTION BOX SHALL BE 12"x12"x6". CONFIRM ALL REQUIREMENTS WITH BDA SYSTEM VENDOR. PROVIDE 2" CONDUIT BETWEEN EACH RISER JUNCTION BOX. MAINTAIN FIRE RATINGS OF FLOORS AND WALLS AS REQUIRED.
- BUTTON FOR DOOR SIGNAL FOR HEARING IMPAIRED SUITES. REFER TO MANUFACTURERS INSTALLATION INSTRUCTIONS FOR ALL REQUIREMENTS.
- PROVIDE 2-GANG BOX WITH TRANSFORMER FOR DOORBELL. FIELD VERIFY EXACT LOCATION.
- PROVIDE DOORBELL DISABLE SWITCH FOR HEARING IMPAIRED DEVICES IN SUITES.
- LAYOUT OF HEARING IMPAIRED DEVICES APPLIES TO HEARING IMPAIRED SUITES ONLY. VERIFY INSTALLATION REQUIREMENTS WITH MANUFACTURER. INFORMATION SHOWN IS BASED ON MODEL 7005-GS ANNUNCIATOR KIT - EDWARDS SIGNALING. REFER TO ARCHITECTURAL DRAWINGS FOR ALL HEARING IMPAIRED SUITES. CONTRACTOR SHALL CONTACT LOCAL TELEPHONE PROVIDER TO OBTAIN ALL REQUIREMENTS FOR HEARING IMPAIRED ROOMS AND ENSURE EQUIPMENT SHOWN MEETS REQUIREMENTS.
- SEE DETAIL 3 ON SHEET E-2.1 FOR MASTER LIGHT SWITCHING CONFIGURATION.
- PRIMARY ELEVATOR DISCONNECT. PROVIDE (1) 60A, 3P, 208V BUSSMANN POWER MODULE WITH SHUNT TRIP MECHANISM, 60A TIME-DELAY (CLASS J OR BUSSMANN LPJ) FUSES, AND AUXILIARY 24V CONTACT IN A NEMA-1 ENCLOSURE FOR ELEVATOR EQUIPMENT PER MANUFACTURER REQUIREMENTS. LOCATE DISCONNECT IN FOURTH FLOOR UTILITY ROOM 440. COORDINATE EXACT LOCATION WITH ELEVATOR MANUFACTURER PRIOR TO ROUGH-IN. PROVIDE CONDUIT AND WIRE, THE SAME SIZE AS THE ELEVATOR FEEDER, FROM PRIMARY ELEVATOR DISCONNECT TO AUXILIARY ELEVATOR DISCONNECT AS DIRECTED BY THE ELEVATOR MANUFACTURER. PROVIDE 24V WIRING FROM AUXILIARY CONTACT IN PRIMARY ELEVATOR DISCONNECT TO ELEVATOR CONTROL UNIT AS DIRECTED BY THE ELEVATOR MANUFACTURER. COORDINATE ALL REQUIREMENTS WITH ELEVATOR MANUFACTURER. PROVIDE ALL WIRING AND ACCESSORIES FOR A COMPLETE AND OPERATIONAL SYSTEM.
- AUXILIARY ELEVATOR DISCONNECT SWITCH. PROVIDE (1) 60A, 3P, 208V NON-FUSED DISCONNECT SWITCH WITH AUXILIARY 24V CONTACT IN A NEMA-1 ENCLOSURE PER MANUFACTURER REQUIREMENTS. LOCATE DISCONNECT AT TOP OF HOISTWAY. COORDINATE EXACT LOCATION WITH ELEVATOR MANUFACTURER PRIOR TO ROUGH-IN. PROVIDE CONDUIT AND WIRE, THE SAME SIZE AS THE ELEVATOR FEEDER, FROM AUXILIARY ELEVATOR DISCONNECT TO ELEVATOR CONTROL UNIT AS DIRECTED BY THE ELEVATOR MANUFACTURER. PROVIDE 24V WIRING FROM AUXILIARY CONTACT TO ELEVATOR CONTROL UNIT AS DIRECTED BY THE ELEVATOR MANUFACTURER. COORDINATE ALL REQUIREMENTS WITH ELEVATOR MANUFACTURER. PROVIDE ALL WIRING AND ACCESSORIES FOR A COMPLETE AND OPERATIONAL SYSTEM.
- ELEVATOR CAB DISCONNECT. PROVIDE (1) 20A, 1P, 120V DISCONNECT FUSED AT 15A IN A NEMA-1 ENCLOSURE FOR ELEVATOR CAB POWER. PROVIDE CONDUIT AND WIRE, SIZED FOR 20A AT 120V, FROM ELEVATOR CAB DISCONNECT TO ELEVATOR CONTROL UNIT AS DIRECTED BY THE ELEVATOR MANUFACTURER. COORDINATE ALL REQUIREMENTS WITH ELEVATOR MANUFACTURER. PROVIDE ALL WIRING AND ACCESSORIES FOR A COMPLETE AND OPERATIONAL SYSTEM.
- PROVIDE ANALOG TELEPHONE LINE TO ELEVATOR CONTROL UNIT FOR CAB TELEPHONE. CONFIRM ALL REQUIREMENTS WITH ELEVATOR MANUFACTURER.
- GUEST SUITE LIGHTING CONTROLS ARE DESIGNED FOR COMPLIANCE WITH IECC 2018 C405.2.4 AND C405.2.2.2 VIA DIMMING CONTROLS.
- POWER FOR MOTORIZED SHADES. COORDINATE EXACT REQUIREMENTS WITH MANUFACTURER. PROVIDE ALL ACCESSORIES AS NEEDED FOR COMPLETE AND OPERATIONAL SYSTEM.
- FURNISH AND INSTALL CEILING MOUNTED OCCUPANCY SENSOR FOR EXHAUST FAN. SEE MECHANICAL SCHEDULE FOR EXHACTION OPERATION. DO NOT CONTROL WITH WALL SWITCH.
- PROVIDE (1) LIGHT FIXTURE AT TOP OF ELEVATOR PIT AND (1) AT BOTTOM OF ELEVATOR PIT.
- REFER TO ARCHITECTURAL SHEETS FOR ELEVATION.
- VERIFY CONNECTION TYPE AND EXACT LOCATION FOR IRRIGATION CONTROLLER PRIOR TO ROUGH-IN. RUN 1-1/2" CONDUIT WITH PULL WIRE FROM LANDSCAPED AREA TO CONTROLLER. MOUNT WIRELESS WEATHER SENSOR ON ROOF. COORDINATE WITH IRRIGATION DESIGNER FOR ADDITIONAL INFORMATION.

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Issues & Revisions

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VERIFY ALL PRIMARY AND SECONDARY ELECTRICAL SERVICE ENTRANCE REQUIREMENTS WITH LOCAL UTILITY CO. CODES AND ORDINANCES PRIOR TO BID. INCLUDE ALL ASSOCIATED COSTS IN BID.

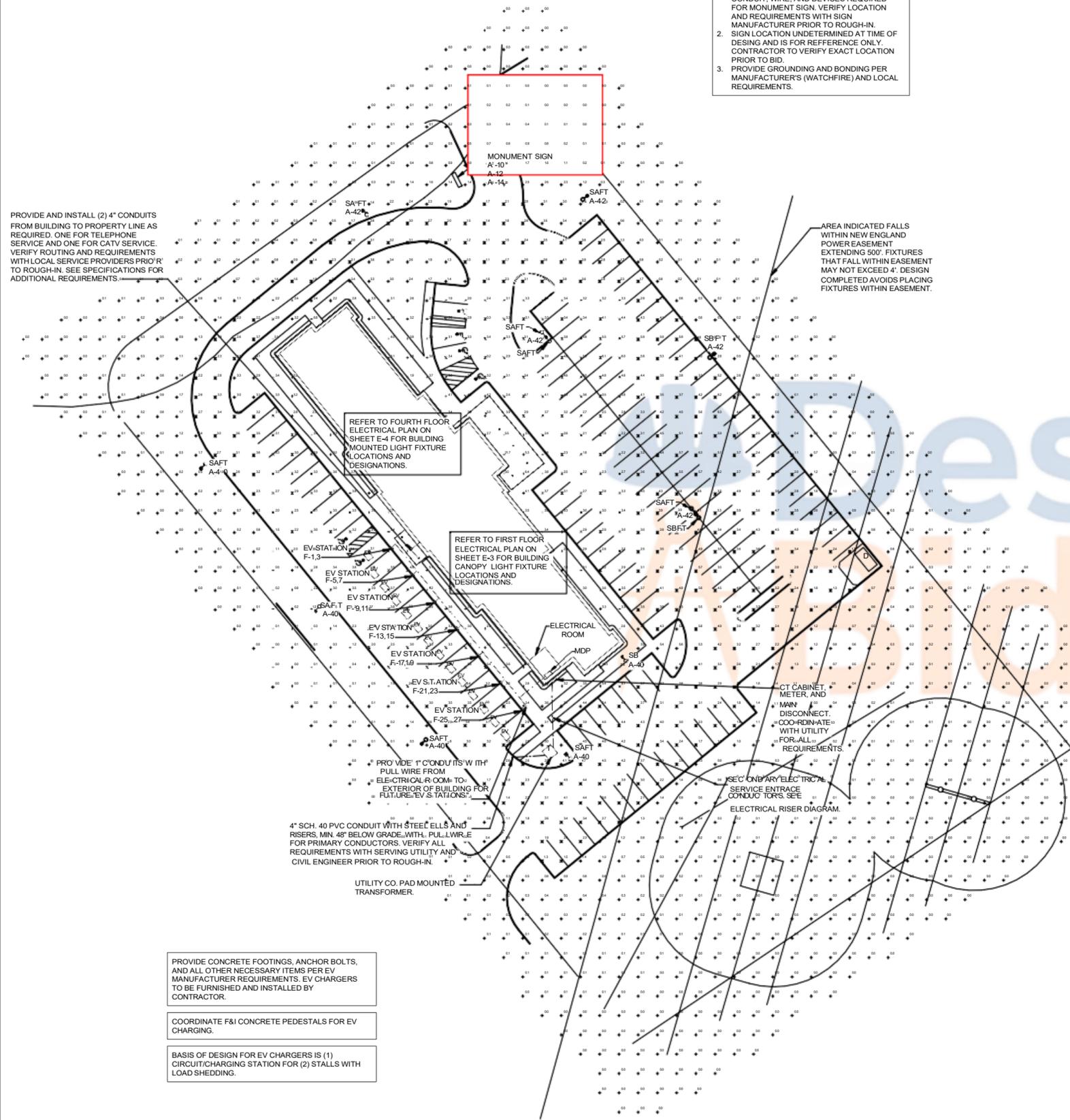
SIGN NOTES:
1. CONTRACTOR TO PROVIDE AND INSTALL ALL CONDUIT, WIRE, AND DEVICES REQUIRED FOR MONUMENT SIGN. VERIFY LOCATION AND REQUIREMENTS WITH SIGN MANUFACTURER PRIOR TO ROUGH-IN.
2. SIGN LOCATION UNDETERMINED AT TIME OF DESIGN AND IS FOR REFERENCE ONLY. CONTRACTOR TO VERIFY EXACT LOCATION PRIOR TO BID.
3. PROVIDE GROUNDING AND BONDING PER MANUFACTURER'S (WATCHFIRE) AND LOCAL REQUIREMENTS.

- GENERAL NOTES:**
1. VERIFY PAD LOCATION, DIMENSION, AND ALL REQUIREMENTS WITH LOCAL UTILITY COMPANY. VERIFY ALL REQUIREMENTS WITH LOCAL UTILITY COMPANY PRIOR TO CONSTRUCTION OF PAD.
 2. THE TOP OF THE TRANSFORMER PAD SHALL RECEIVE A SMOOTH TROWEL FINISH. THE CORNERS AND EDGES SHALL BE ROUNDED OR BEVELLED.
 3. IF THE TRANSFORMER PAD IS INSTALLED IN AN AREA SUBJECT TO VEHICULAR TRAFFIC, THE INSTALLATION SHALL BE PROTECTED PER UTILITY COMPANY STANDARDS.
 4. THE CONDUIT OPENING SHALL BE FREE AND CLEAR OF CONCRETE.
 5. THE MAXIMUM NUMBER OF CONDUITS FOR THE SECONDARY SERVICE SHALL NOT EXCEED THE MAXIMUM NUMBER ALLOWED BY THE UTILITY COMPANY. VERIFY ALL REQUIREMENTS WITH UTILITY COMPANY PRIOR TO ROUGH-IN.
 6. PROVIDE PROPER CLEARANCE AROUND THE TRANSFORMER FROM ANY ABOVE GROUND OBSTRUCTIONS. VERIFY ALL REQUIREMENTS WITH LOCAL UTILITY COMPANY AND AHJ.

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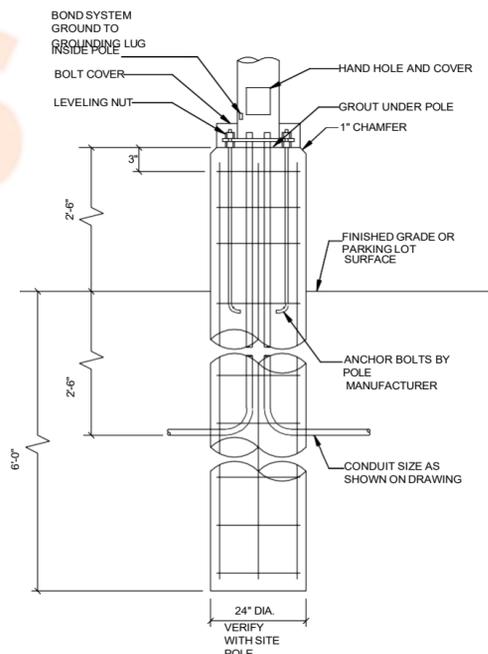
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SITE LIGHT FIXTURE SCHEDULE									
FIXT LTR	MANUFACTURER	CATALOG NUMBER	LAMPS		FIXT VOLT	FINISH	MOUNTING	TOTAL VA	REMARKS
			NO.	TYPE					
SAFT	LSI	SLM-LED-18L-SIL-FT-50-70CRI-IL	-	LED W/ UNIT	120	BRONZE	26" 6"	135	FORWARD THROW SITE LIGHT HEAD WITH INTEGRAL SHIELD
SB	LSI	VALM-48L-4W-50K7-IS	-	LED W/ UNIT	120	BRONZE	26" 6"	306	TYPE 4 SIGHT LIGHT HEAD WITH INTEGRAL SHIELD
SBFT	LSI	VALM-54L-4F-50K7-IS	-	LED W/ UNIT	120	BRONZE	26" 6"	353	FORWARD THROW SITE LIGHT HEAD WITH INTEGRAL SHIELD
POLE		5SQB5 S07G 24 S BRZ POLE				BRONZE			

LIGHT FIXTURE SCHEDULE NOTES

1. VERIFY LAMP COLOR WITH ARCHITECT PRIOR TO ORDERING.
2. MANUFACTURERS LISTED IN THIS SCHEDULE OR BY WRITTEN ADDENDUM WILL BE THE ONLY APPROVED MANUFACTURERS TO BID THE LIGHTING FIXTURES FOR THIS PROJECT. CONTRACTORS AND SUPPLIERS USING PRICING FROM MANUFACTURERS NOT LISTED ON SCHEDULE OR BY ADDENDUM DO SO AT THEIR OWN RISK.
3. FIXTURES BY THE FOLLOWING MANUFACTURERS EQUAL TO THOSE SPECIFIED AND APPROVED BY THE ENGINEER WILL BE ACCEPTABLE: FIXTURE EQUALS SHALL BE MANUFACTURED THE SAME AS SPECIFIED UNITS, I.E., ENCLOSED SPRING LOADED LATCHES, ALUMINUM DOORS, POST PAINTED FINISH.
4. PROVIDE POLE AS NOTED. POLE TYPE AND EXACT SPEC MUST MEET ALL CODE REQUIREMENTS FOR LOCAL WIND LOAD CATEGORY. PROVIDE POLE WITH FACTORY INSTALLED VIBRATION DAMPER.



2 POLE BASE DETAIL
SCALE: NOT TO SCALE

1 SITE PLAN
SCALE: 1" = 30'-0"

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GENERAL ELECTRICAL NOTES
PART 1 - GENERAL
1.1 GENERAL CONDITIONS, GENERAL REQUIREMENTS, AND SPECIAL CONDITIONS SHALL BE AND ARE HEREBY MADE A PART OF THIS SECTION. THE ELECTRICAL CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, TOOLS, TRANSPORTATION, EQUIPMENT, SERVICES AND FACILITIES REQUIRED FOR THE COMPLETE, PROPER AND SUBSTANTIAL INSTALLATION OF ALL ELECTRICAL WORK SHOWN ON THE DRAWINGS AND/OR OUTLINED IN THESE SPECIFICATIONS. THE INSTALLATION SHALL INCLUDE ALL MATERIALS, APPLIANCES AND APPARATUS NOT SPECIFICALLY MENTIONED HEREIN OR NOTED ON THE DRAWINGS, BUT WHICH ARE NECESSARY TO MAKE A COMPLETE WORKING INSTALLATION OF ALL ELECTRICAL SYSTEMS.
1.2 THE CONTRACTOR SHALL CONSULT AND BE GUIDED BY THE GENERAL CONDITIONS AND ALL OTHER DIVISIONS REFERRED TO HEREIN AND RELATIVE THERETO IN PERFORMING THE WORK COVERED UNDER THIS DIVISION OF THE SPECIFICATION.
1.3 ALL OF THE ELECTRICAL RELATED WORK REQUIRED FOR THIS PROJECT (UNLESS SPECIFIED OTHERWISE) IS A PART OF THE ELECTRICAL CONTRACT PRICE AND IS NOT NECESSARILY SPECIFIED UNDER THIS DIVISION OF THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS. THEREFORE, ALL DIVISIONS OF THE SPECIFICATIONS AND ALL DRAWINGS SHALL BE CONSULTED.
1.4 THE DRAWINGS SHOWING THE LAYOUT OF THE WORK INDICATE THE APPROXIMATE LOCATIONS OF OUTLETS, APPARATUS AND EQUIPMENT. THE DRAWINGS ARE SCHEMATIC ONLY AND ARE NOT INTENDED TO SHOW THE EXACT ROUTING OF CONDUITS, ETC. THE FINAL DETERMINATION AS TO THE ROUTING SHALL BE GOVERNED BY STRUCTURAL CONDITIONS AND OTHER OBSTRUCTIONS. THIS SHALL NOT BE CONSTRUED TO MEAN THE DESIGN OF THE SYSTEM MAY BE CHANGED, IF MERELY REFERS TO THE EXACT RUN OF A RACEWAY BETWEEN GIVEN POINTS. THE CONTRACTOR SHALL CONSULT ALL CONTRACT DOCUMENTS AND DRAWINGS WHICH MAY AFFECT THE LOCATION OF ANY OUTLET, APPARATUS OR EQUIPMENT TO AVOID POSSIBLE INTERFERENCE AND PERMIT FULL COORDINATION OF ALL WORK. THE RIGHT TO MAKE ANY REASONABLE CHANGE IN THE LOCATION OF APPARATUS, OUTLETS AND EQUIPMENT UP TO THE TIME OF ROUGH-IN IS RESERVED BY THE ARCHITECT WITHOUT INVOLVING ANY ADDITIONAL EXPENSE TO THE OWNER.
1.5 THE APPROVAL BY THE ARCHITECT OR HIS REPRESENTATIVE OF ANY MATERIALS, DRAWINGS, ETC., SUBMITTED BY THE CONTRACTOR WILL BE CONSIDERED AS GENERAL ONLY AND TO AID THE CONTRACTOR IN CARRYING OUT HIS WORK. SUCH APPROVAL AS MAY BE GIVEN DOES NOT RELIEVE THE CONTRACTOR FROM THE NECESSITY OF FURNISHING THE MATERIALS AND PERFORMING ALL THE WORK AS REQUIRED BY THE DRAWINGS AND THE SPECIFICATIONS.
1.6 THE WORK SPECIFIED UNDER THIS DIVISION OF THE SPECIFICATIONS SHALL INCLUDE THE FURNISHING OF ALL LABOR, MATERIALS, APPARATUS AND TOOLS NECESSARY FOR THE COMPLETE INSTALLATION OF ALL CONDUIT AND WIRING, DEVICES FOR LIGHTING, POWER AND CONTROL SYSTEMS, AND SUCH OTHER WORK AND EQUIPMENT AS ARE INDICATED ON THE DRAWINGS OR AS NOTED HEREIN.
1.7 THE ENTIRE INSTALLATION SHALL BE MADE IN A WORKMAN LIKE MANNER, LEFT COMPLETELY CONNECTED, AND READY TO GIVE PROPER AND CONTINUOUS SERVICE.
1.8 ALL MATERIALS AND WORK IN CONNECTION WITH THE FOREGOING ITEMS SHALL BE AS SPECIFIED HEREIN, OR CALLED FOR ON THE DRAWINGS.
1.9 THE COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE NATIONAL FIRE PROTECTION ASSOCIATION AND ALL OTHER BOARDS AND DEPARTMENTS HAVING JURISDICTION. ANY ITEMS OR REQUIREMENTS NOTED HEREIN OR SHOWN ON THE DRAWINGS IN EXCESS OF CODE REQUIREMENTS, BUT PERMITTED UNDER THE CODE, SHALL TAKE PRECEDENCE UNLESS SPECIAL PERMISSION IS OBTAINED FROM THE ARCHITECT TO THE CONTRARY.
1.10 THE LIGHT AND POWER INSTALLATION SHALL OPERATE WITH THE ELECTRICAL ENERGY OBTAINED FROM OUTSIDE SOURCES. SUCH PART OF THE SYSTEMS AS MAY BE REGULATED BY RULES OF THE LOCAL UTILITY COMPANY SHALL, INsofar AS METHOD OF CONSTRUCTION, WORKMANSHIP AND MATERIALS ARE CONCERNED, BE IN FULL ACCORDANCE WITH THE STANDARD PRACTICE AND RULES AND REGULATIONS OF THE LOCAL UTILITY COMPANY.
1.11 THIS CONTRACTOR SHALL COORDINATE HIS WORK UNDER THIS DIVISION OF THE SPECIFICATIONS WITH THE WORK OF OTHER TRADES WHEREIN IT MAY BE INTERFERED. HIS WORK SHALL BE DONE IN SUCH AN ORDER THAT THERE WILL BE NO INTERFERENCE IN INSTALLING, NOR DELAY IN COMPLETION, OF ANY PART OR PARTS OF EACH RESPECTIVE TRADE, THEREBY PERMITTING ALL CONSTRUCTION WORK TO PROCEED IN ITS NATURAL SEQUENCE AND WITHOUT DELAY.
1.12 BEFORE SUBMITTING HIS BID, THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE RULES OF ALL GOVERNING BODIES HAVING JURISDICTION AND SHALL NOTIFY THE ARCHITECT IN SUBMITTING HIS BID, IF IN HIS OPINION, ANY WORK OR MATERIAL SPECIFIED IS CONTRARY TO SUCH RULES. OTHERWISE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE APPROVAL OF ALL WORK AND MATERIALS AND, IN CASE THE USE OF ANY MATERIAL SPECIFIED IS NOT PERMITTED, A SUBSTITUTE SHALL BE APPROVED BY THE ARCHITECT AND SHALL BE PROVIDED AT NO INCREASE IN COST.
1.13 UNLESS NOTED OTHERWISE ON THE DRAWINGS, OR ELSEWHERE IN THESE SPECIFICATIONS, THE SINGULAR WORDS 'PROVIDE', 'FURNISH', OR 'INSTALL' NOTED ON THE DRAWINGS OR IN THESE SPECIFICATIONS SHALL MEAN TO COMPLETELY FURNISH, INSTALL, AND CONNECT EACH ITEM, AND IF SUCH IS A PART OR COMPONENT OF A SYSTEM THE ENTIRE SYSTEM SHALL BE FUNCTIONAL WITH ALL ITEMS AND COMPONENTS PROVIDED.
PART 2 - RULES AND REGULATIONS
2.1 ALL WORK UNDER THIS HEADING SHALL COMPLY WITH THE LATEST RULES AND REGULATIONS OF THE NATIONAL ELECTRICAL CODE STANDARD OF THE NATIONAL FIRE PROTECTION ASSOCIATION AND WITH ALL LAWS, REGULATIONS AND ORDINANCES OF THE UTILITY COMPANY, CITY, COUNTY AND STATE.
2.2 DRAWINGS AND SPECIFICATIONS INDICATE THE MINIMUM STANDARDS OF CONSTRUCTION. SHOULD ANY WORK INDICATED BE SUBSTANDARD TO ANY ORDINANCE, LAW, CODE, RULE OR REGULATION BEARING ON WORK, THE CONTRACTOR SHALL EXECUTE WORK ACCORDINGLY, WITHOUT INCREASED COST TO THE OWNER, BUT NOT UNTIL HE HAS REFERRED SUCH VARIANCES TO THE ARCHITECT FOR HIS APPROVAL.
2.3 THIS CONTRACTOR SHALL PROVIDE AND INSTALL ONLY THE BRANDS OF MATERIALS AND EQUIPMENT SPECIFIED HEREIN, OR EQUIPMENT APPROVED BY THE ARCHITECT-ENGINEER AS EQUAL. ALL MATERIAL AND EQUIPMENT SHALL BE LISTED AND LABELED BY UNDERWRITERS LABORATORIES, INC., INDICATING COMPLIANCE WITH NATIONALLY RECOGNIZED STANDARDS AND/OR TESTS.
PART 3 - PERMITS, FEES AND INSPECTIONS
3.1 SECURE AND PAY FOR ALL NECESSARY AND USUAL PERMITS, FEES, INSPECTIONS AND CERTIFICATES REQUIRED FOR ALL WORK AND DELIVER PERMITS AND CERTIFICATES TO THE ARCHITECT FOR TRANSMITTAL TO THE OWNER BEFORE FINAL ACCEPTANCE OF THE PROJECT.
PART 4 - SERVICES
4.1 THIS CONTRACTOR SHALL PAY FOR ALL EXPENSES, DEPOSITS, REIMBURSEMENTS, ETC., REQUIRED BY THE LOCAL RULES AND CODES FOR THE SERVICE TO THE BUILDING, COMPLETE AND READY FOR USE.
4.2 THIS CONTRACTOR SHALL BEAR ALL EXPENSES INVOLVED FOR THE COMPLETE INSTALLATION OF THE ELECTRICAL SERVICE (BOTH TEMPORARY AND PERMANENT) TO THE BUILDING READY FOR OPERATION, EXCEPT AS SPECIFICALLY EXCLUDED ON THE DRAWINGS. ALL TEMPORARY WIRING SHALL BE INSTALLED PER THE NATIONAL ELECTRICAL CODE. THIS SHALL INCLUDE GUARD POSTS AROUND TRANSFORMERS AND FEEDERS PER UTILITY COMPANY STANDARDS. VERIFY COMPLETE INSTALLATION AND LOCATIONS OF PAD MOUNT OR POLE MOUNT TRANSFORMERS WITH THE LOCAL ELECTRICAL UTILITY COMPANY AND BID INSTALLATION TO COMPLY WITH THEIR REQUIREMENTS.
4.3 THIS CONTRACTOR SHALL CONSULT ALL LOCAL DEPARTMENTS TO VERIFY REQUIREMENTS AND BID INSTALLATION OF SERVICE IN ACCORDANCE WITH LOCAL CODES AND UTILITY COMPANY STANDARDS.
4.4 THIS CONTRACTOR SHALL BEAR ALL EXPENSES INVOLVED FOR THE COMPLETE TELEPHONE SERVICE CONDUIT INSTALLATION AND STEEL OR NYLON PULL WIRE READY FOR CABLE INSTALLATION. VERIFY COMPLETE INSTALLATION WITH THE LOCAL TELEPHONE COMPANY AND BID INSTALLATION TO COMPLY WITH THEIR REQUIREMENTS.
PART 5 - TEMPORARY ELECTRICAL
5.1 ELECTRICAL CONTRACTOR/SUBCONTRACTOR SHALL:
A. MAKE ARRANGEMENTS WITH ELECTRIC UTILITY FOR TEMPORARY SERVICE.
B. PROVIDE MATERIALS, EQUIPMENT, LABOR TO INSTALL, MODIFY, MAINTAIN (AND UPON COMPLETION OF PROJECT, REMOVE) SAFE TEMPORARY ELECTRICAL POWER AND LIGHTING SYSTEMS PER OSHA STANDARDS.
C. PROVIDE SUFFICIENT CAPACITY FOR CONSTRUCTION TOOLS, EQUIPMENT, TEMPORARY VENTILATION AND LIGHTING.
D. DISTRIBUTE SYSTEMS THROUGHOUT BUILDING AND CONSTRUCTION AREA OF SITE SUCH THAT AN EXTENSION CORD NO LONGER THAN 100' WILL REACH ANY WORK AREA. OPEN BRANCH SYSTEMS PERMITTED WHERE PERMITTED BY THE NATIONAL ELECTRICAL CODE AND OSHA. PROVIDE TEMPORARY SERVICES TO ALL CONSTRUCTION OFFICES AS REQUIRED.
E. EMPLOY PERMANENT SYSTEMS AS THEY ARE COMPLETED AND AVAILABLE.
F. PROVIDE METERING OF TEMPORARY SERVICE. ALL TEMPORARY UTILITY COSTS WILL BE PAID BY THE GENERAL CONTRACTOR.
PART 6 - MATERIALS OF APPROVED EQUAL
6.1 WHERE ITEMS OF EQUIPMENT AND/OR MATERIALS ARE SPECIFICALLY IDENTIFIED HEREIN BY A MANUFACTURER'S NAME, MODEL OR CATALOG NUMBER, ONLY SUCH SPECIFIC ITEMS MAY BE USED IN THE BASE BID, EXCEPT AS HERENAFTER PROVIDED.
6.2 UNLESS REQUESTS FOR CHANGES IN BASE BID SPECIFICATIONS ARE RECEIVED AND APPROVED AND NOTED BY WRITTEN ADDENDUM PRIOR TO THE OPENING OF BIDS, THE SUCCESSFUL CONTRACTOR WILL BE HELD TO FURNISH SPECIFIED ITEMS.
6.3 AFTER CONTRACT IS AWARDED, CHANGES IN SPECIFICATIONS SHALL BE MADE ONLY AS DEFINED UNDER "SUBSTITUTION OF EQUIPMENT".
PART 7 - SUBSTITUTION OF EQUIPMENT
7.1 AFTER EXECUTION OF THE CONTRACT, NO SUBSTITUTION OF EQUIPMENT WILL BE ALLOWED.
7.2 REQUESTS FOR SUBSTITUTIONS MUST BE ACCOMPANIED BY DOCUMENTARY PROOF OF EQUALITY OF DIFFERENCE IN PRICE AND DELIVERY, IF ANY, IN FORM OF CERTIFIED QUOTATIONS FROM SUPPLIERS OF BOTH SPECIFIED AND PROPOSED EQUIPMENT.
7.3 THE OWNER SHALL RECEIVE ALL BENEFITS OF THE DIFFERENCE IN COST INVOLVED IN ANY SUBSTITUTION, AND THE CONTRACT ALTERED BY CHANGE ORDER TO CREDIT OWNER WITH ANY SAVINGS SO OBTAINED.
PART 8 - COORDINATION AND BUILDING CONDITIONS
8.1 THE CONTRACTOR SHALL VISIT THE SITE AND DETERMINE ALL EXISTING LOCAL CONDITIONS AFFECTING WORK IN HIS CONTRACT. HE SHALL EXAMINE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS TO FAMILIARIZE HIMSELF WITH THE TYPE OF CONSTRUCTION TO BE USED FOR ALL WORK AND HOW IT WILL AFFECT THE INSTALLATION OF WORK IN HIS CONTRACT.
8.2 FAILURE TO DETERMINE EXISTING CONDITIONS OR THE NATURE OF EXISTING OR NEW CONSTRUCTION WILL NOT BE CONSIDERED AS A BASIS FOR THE GRANTING OF ADDITIONAL COMPENSATION.
8.3 THE DRAWINGS HAVE BEEN PREPARED TO COVER ALL ELECTRICAL WORK UNDER THIS CONTRACT. THE CONTRACTOR IS REFERRED TO ALL OTHER CONTRACT DRAWINGS TO GUIDE HIM IN THE PROPER INSTALLATION OF HIS WORK.
8.4 THE CONTRACTOR SHALL FULLY FAMILIARIZE HIMSELF WITH THE FLOOR DRAWINGS, ELEVATIONS, DETAILS OF CONSTRUCTION, FEEDERS, FIXTURES, CONDUIT, WIRING, SERVICE, ETC., INsofar AS IT MAY AFFECT THE INSTALLATION OF THE WORK UNDER THIS SPECIFICATION IN ORDER THAT ALL NECESSARY MATERIALS AND LABOR MAY BE PROVIDED EVEN THOUGH NOT SPECIFICALLY REFERRED TO ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS.
8.5 AS THE DRAWINGS ARE GENERALLY DIAGRAMMATIC, THE FINAL LAYOUT OF THE WORK SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT BUT THE CONTRACTOR SHALL BE RESPONSIBLE WITHOUT INCREASE IN CONTRACT PRICE FOR THE COORDINATION OF ALL WORK UNDER VARIOUS DIVISIONS OF THE SPECIFICATIONS.
8.6 THIS CONTRACTOR SHALL CONFER WITH OTHER CONTRACTORS INSTALLING WORK WHICH MAY AFFECT HIS WORK AND MUST ARRANGE HIS CONDUIT, ETC., IN PROPER RELATION TO SUCH WORK. ANY DAMAGE RESULTING FROM HIS NEGLIGENCE TO DO SO MUST BE PAID FOR BY THE CONTRACTOR.
8.7 WHERE NECESSARY TO FIT AND CENTER WITH PANELING OF CEILINGS AND WALL SPACES, THE CONTRACTOR MUST, AT HIS OWN EXPENSE, SHIFT THE LIGHTING OUTLETS OR OTHER OUTLETS AS REQUIRED BY THE ARCHITECT.
8.8 ALL OUTLETS SHALL BE SET IN SUCH A MANNER AS TO FINISH FLUSH WITH WALL AND CEILING LINES UNLESS MARKED TO BE EXPOSED OR SURFACE MOUNTED ON THE DRAWINGS. THE HEIGHT OF BRACKETS, SWITCHES, OUTLETS, ETC., ARE TO BE AS DIRECTED.
8.9 THE CONTRACTOR SHALL OBTAIN FROM THE ARCHITECTURAL AND STRUCTURAL DRAWINGS THE EXACT LOCATION AND SIZE OF SPACES AVAILABLE FOR HIS APPARATUS AND MATERIAL AND SHALL INSTALL THEM ACCORDINGLY. IN CASE THE SPACE ALLOWED IS NOT SUFFICIENT, OR AN OBSTRUCTION INTERFERES WITH PLACING THEM AS SHOWN OR SPECIFIED, THE CONTRACTOR SHALL OBTAIN INSTRUCTIONS FROM THE ARCHITECT AND SHALL INSTALL THEM AS DIRECTED WITHOUT EXTRA CHARGE.
8.10 THE ABOVE PROVISIONS REFER ONLY TO THE EXACTNESS OF POSITIONS THAT CANNOT BE DETERMINED FROM THE DRAWINGS AND DO NOT PERMIT PLACING APPARATUS DISTINCTLY DIFFERENT FROM THAT SHOWN ON THE DRAWINGS.
8.11 THIS CONTRACTOR SHALL DO ALL CUTTING AND PATCHING OF BUILDING MATERIALS REQUIRED FOR THE INSTALLATION OF WORK HEREIN SPECIFIED. NO STRUCTURAL MEMBER SHALL BE CUT WITHOUT THE APPROVAL OF THE ARCHITECT AND ALL SUCH CUTTING SHALL BE DONE IN A MANNER DIRECTED BY HIM.
8.12 ALL PATCHING SHALL BE DONE IN A NEAT AND WORKMAN-LIKE MANNER, MEETING WITH THE APPROVAL OF THE ARCHITECT, BY MECHANICS OF THE PARTICULAR TRADE INVOLVED.
8.13 ANY HOLES OR VOIDS CREATED IN FLOORS, CEILINGS AND WALLS, INCLUDING ANY SPACES OR GAPS AROUND CONDUIT OR EQUIPMENT PASSING THROUGH SUCH AREAS, WHICH COMPROMISE THE APPLICABLE RATING OF THE FLOORS, CEILINGS OR WALLS, SHALL BE SEALED WITH AN INTUMESCENT MATERIAL, CONFORMING TO ARCHITECTURAL REQUIREMENTS. ALL INSTALLATIONS SHALL BE PER MANUFACTURER'S EXACT INSTRUCTIONS.
8.14 ALL DRILLING OF HOLES THROUGH CONCRETE SHALL BE ACCURATELY AND CAREFULLY DONE BY USING A POWERED CONCRETE DRILL. THE USE OF A STAR DRILL OR AIR HAMMER FOR THIS WORK SHALL NOT BE PERMITTED.
8.15 ALL PAINTING SHALL BE PERFORMED IN ACCORDANCE WITH THE ARCHITECTURAL SPECIFICATION SECTION ON "PAINTING AND FINISHING". ALL COLORS AND FINISH APPLICATIONS SHALL BE AS DIRECTED BY THE ARCHITECT. (PAINTING IS NOT REQUIRED OF RECEPTACLES, SWITCHES, CIRCUIT BREAKERS, ETC., UNLESS SPECIFICALLY SO NOTED ON THE DRAWINGS.)
8.16 THE ELECTRICAL CONTRACTOR SHALL CONFIRM THE EXACT ELECTRICAL REQUIREMENTS FOR ALL EQUIPMENT SUPPLIED BY OTHERS AND INSTALLED OR CONNECTED BY THE ELECTRICAL CONTRACTOR. THE SPECIFIC WORK PERFORMED FOR THE INSTALLATION OF ANY EQUIPMENT SHALL BE IN CONFORMANCE WITH THE REQUIREMENTS ESTABLISHED BY THE SHOP DRAWINGS OF THE EQUIPMENT SUPPLIED. IN THE EVENT THE SHOP DRAWINGS ESTABLISH REQUIREMENTS DISTINCTLY DIFFERENT THAN THE REQUIREMENTS SHOWN IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL BE ENTITLED ONLY TO AN ADJUSTMENT OF THE DIFFERENCE BETWEEN THE WORK SHOWN AND THE WORK REQUIRED WITH FULL CREDIT FOR LABOR AND MATERIALS SHOWN ON THE ORIGINAL DRAWINGS.
8.17 THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL TRENCHING AND BACKFILLING FOR UNDERGROUND CONDUITS. UNLESS NOTED OTHERWISE IN OTHER DIVISIONS OF THESE SPECIFICATIONS, ALL TRENCHES SHALL BE BACKFILLED AND COMPACTED WITH MATERIAL DEFINED BY THE UNITED SOIL CLASSIFICATION AS ML OR CL (SILT AND CLAY OF LOW TO MEDIUM PLASTICITY). COMPACTION SHALL BE TO 90% OF ASTM D698.
PART 9 - PERFORMANCE
9.1 PROVIDE AS PART OF THE WORK OF THIS CONTRACT, IN ADDITION TO THE FIRST YEAR GUARANTEE ON EQUIPMENT AND MATERIALS, THE FOLLOWING DESCRIBED ROUTINE MAINTENANCE AND INSPECTION. (THE ONE YEAR TIME PERIOD WILL NOT START UNTIL EACH AND EVERY ITEM IS COMPLETE IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS AND ACCEPTED BY THE OWNER). CHECK ALL EMERGENCY SYSTEMS, CONTROL, FIRE ALARM, TRANSFORMERS, ETC., CORRECT AND ADJUST SAME. THIS SERVICE TO BE PROVIDED DURING THE GUARANTEE PERIOD.

PART 10 - ADJUSTING, ALIGNING AND TESTING
10.1 ALL EQUIPMENT SHALL BE CHECKED FOR PROPER ADJUSTMENT AND BALANCE. ALL PANELBOARDS, DISTRIBUTION PANELS, SWITCHBOARDS, AND TRANSFORMERS SHALL BE BALANCED TO PROVIDE A BALANCED LOAD ON EACH PHASE. A COMPLETE RECORD OF ALL SUCH ADJUSTMENTS SHALL BE MADE. FINAL READINGS SHALL BE SUBMITTED TO THE ARCHITECT-ENGINEER FOR RECORDS. THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, INSTRUMENTS, GAUGES, METERS, ETC., AS REQUIRED FOR THE COMPLETE CHECKING OF THESE SYSTEMS.
10.2 MECHANISMS OF ALL ELECTRICAL EQUIPMENT SHALL BE CHECKED, ADJUSTED, AND TESTED FOR PROPER OPERATION. ADJUSTABLE PARTS OF ALL LIGHTING FIXTURES AND OTHER ELECTRICAL EQUIPMENT SHALL BE CHECKED, ADJUSTED, AND TESTED AS REQUIRED TO PRODUCE THE INTENDED PERFORMANCE.
10.3 COMPLETED WIRING SYSTEM SHALL BE FREE FROM OPEN OR SHORTED CIRCUITS. AFTER COMPLETION, THIS CONTRACTOR SHALL PERFORM TESTS FOR INSULATION RESISTANCE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE.
10.4 THE CONTRACTOR SHALL MAINTAIN SERVICE AND EQUIPMENT FOR THE TESTING OF ELECTRICAL EQUIPMENT AND APPARATUS UNTIL ALL WORK IS APPROVED AND ACCEPTED BY THE OWNER. A FIRST CLASS VOLT-METER AND AMMETER SHALL BE KEPT AVAILABLE AT ALL TIMES AND THIS CONTRACTOR SHALL PROVIDE SERVICE FOR TEST READINGS WHEN AND AS REQUIRED. ALL TEST READINGS SHALL BE RECORDED ON AN APPROVED FORM AND SUBMITTED TO THE ARCHITECT.
10.5 BEFORE FINAL ACCEPTANCE IS MADE, THIS CONTRACTOR SHALL, AT HIS OWN EXPENSE, FRAME UNDER PLASTIC THE SEQUENCE OF OPERATIONS OF THE SOUND SYSTEM, CONTROLS, FIRE ALARM, ETC., FOR EACH AND EVERY ITEM REQUIRING INSTRUCTIONS. THESE INSTRUCTIONS SHALL BE MOUNTED AS DIRECTED. HE SHALL COVER SAME WITH ARCHITECT AND/OR HIS SELECTED PARTIES, AND SHALL ADJUST ALL APPARATUS AND PLACE SAME IN SATISFACTORY OPERATING SERVICE AS APPROVED BY THE ARCHITECT.
10.6 FINAL OBSERVATION WILL BE MADE UPON WRITTEN REQUEST FROM THE CONTRACTOR AFTER THE PROJECT IS COMPLETE. AT THE TIME OF FINAL OBSERVATION, THE CONTRACTOR SHALL BE PRESENT OR SHALL BE REPRESENTED BY A PERSON OF AUTHORITY. THE CONTRACTOR SHALL DEMONSTRATE, AS DIRECTED BY THE ARCHITECT-ENGINEER, THAT HIS WORK FULLY COMPLES WITH THE PURPOSE AND INTENT OF THE DRAWINGS AND SPECIFICATIONS. ALL LABOR, SERVICES, AND ALL INSTRUMENTS OR TOOLS NECESSARY FOR SUCH DEMONSTRATION AND TESTS SHALL BE PROVIDED BY THE CONTRACTOR.
PART 11 - MOTOR CONTROL AND SPECIAL CONNECTIONS
11.1 THE ELECTRICAL CONTRACTOR SHALL FURNISH, INSTALL AND CONNECT ALL WIRING, CONDUIT, BOXES, TOGGLE SWITCHES, THERMAL SWITCHES, DISCONNECT SWITCHES, REMOTE PUSH-BUTTON STATIONS NOT INCLUDED IN MAGNETIC STARTERS, ETC. FOR ALL EQUIPMENT REQUIRING ELECTRICAL POWER THAT IS FURNISHED BY OTHER CONTRACTORS AND/OR THE OWNER, AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM. THE ELECTRICAL CONTRACTOR SHALL RECEIVE, INSTALL AND CONNECT ALL MAGNETIC STARTERS AND CONTROLLERS, CAPACITORS, POWER FACTOR CORRECTION DEVICES, TRANSFORMERS, ALARMS, BELLS, HORNS, RELAYS, REMOTE SWITCHES, ETC. FOR EQUIPMENT SUPPLIED BY OTHERS, I.E. STARTERS, CAPACITORS OR POWER FACTOR CORRECTION DEVICES FOR MECHANICAL EQUIPMENT, ETC. IN GENERAL ALL MAJOR EQUIPMENT WILL BE SPECIFIED TO BE FACTORY PREWIRED WITH ONLY SERVICE AND INTERLOCKING REQUIRED AT THE SITE BY THE ELECTRICAL CONTRACTOR; HOWEVER HE SHALL CHECK ALL DIVISIONS OF THE SPECIFICATIONS TO VERIFY IF THE EQUIPMENT IS SPECIFIED FACTORY PREWIRED AND IF NOT, FRAME AND WIRING FOR THE EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE COMPLETE WIRING OF THE EQUIPMENT IN ACCORDANCE WITH WIRING DIAGRAMS AND TEMPERATURE CONTROL DRAWINGS PROVIDED BY THE OTHER CONTRACTORS AND/OR THE OWNER, TO THE ELECTRICAL CONTRACTOR. ALL INTERLOCKING OF EQUIPMENT SHALL BE BY THE ELECTRICAL CONTRACTOR.
11.2 ALL CONTROL EQUIPMENT REQUIRING PIPING CONNECTIONS TO AIR, WATER, STEAM, ETC., LINES SUCH AS PNEUMATIC ELECTRICAL RELAYS, REMOTE BULB TEMPERATURE CONTROLS, SOLENOID VALVES, AQUASTATS, PRESSURE CONTROL, ETC., WILL BE FURNISHED AND INSTALLED UNDER "MECHANICAL WORK".
11.3 ALL LINE AND LOW VOLTAGE WIRING, CONDUIT AND CONNECTIONS REQUIRED TO CONTROL EQUIPMENT AND/OR DAMPERS ARE A PART OF THIS SECTION. PROVIDE AND INSTALL LINE OR LOW VOLTAGE WIRING TO CONTROL ALL DAMPERS AS REQUIRED. ALL LOW VOLTAGE WIRING, CONDUIT, CONNECTIONS AND/OR TERMINATIONS ARE BY THE ELECTRICAL CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE WITHIN THE BIDDING DOCUMENTS.
11.4 IT SHALL BE ASSUMED THE CONTRACTOR HAS FAMILIARIZED HIMSELF WITH THE EQUIPMENT TO BE FURNISHED BY THE OTHER CONTRACTORS AND/OR THE OWNER IN CONNECTION WITH THIS WORK AND THAT PROVISIONS FOR SUCH CONNECTIONS AND WORK HAVE BEEN INCLUDED IN THE CONTRACTOR'S PRICE. IN NO CASE WILL EXTRA REMUNERATION BE ALLOWED FOR SUCH WORK.
11.5 CONNECTIONS TO ALL EQUIPMENT HAVE BEEN DESIGNED FOR UNITS AS SPECIFIED ON THE DRAWINGS OR IN THE SPECIFICATIONS. IN THE EVENT EQUIPMENT OR CONTROLS DIFFER ON APPROVED MECHANICAL SHOP DRAWINGS, IT SHALL BE THE RESPONSIBILITY OF THE SUPPLYING CONTRACTOR TO COORDINATE ELECTRICAL CONNECTIONS TO THE UNITS AND REIMBURSE ELECTRICAL CONTRACTOR FOR ANY CHANGES IN SYSTEM DESIGN. THESE CHANGES SHALL NOT INVOLVE ADDITIONAL COST TO THE OWNER.
PART 12 - GUARANTEE
12.1 THIS CONTRACTOR, BY THE ACCEPTANCE OF THIS SPECIFICATION AND THE SIGNING OF HIS CONTRACT, ACKNOWLEDGES HIS ACQUAINTANCE WITH THE REQUIREMENTS AND GUARANTEES THAT EVERY PART USED IN CONSTRUCTING THE SYSTEM AS HEREIN DESCRIBED WILL BE OF THE BEST OF ITS RESPECTIVE KIND THAT CAN BE OBTAINED AND WILL BE ERRECTED IN A MOST THOROUGH AND SUBSTANTIAL MANNER BY NONE BUT EXPERIENCED WORKMEN.
12.2 HE GUARANTEES THAT ALL CONDUIT AS PROVIDED WITHIN AND BY THIS SPECIFICATION WILL BE FREE FROM ALL OBSTRUCTIONS OF EVERY DESCRIPTION AND WILL BE FREE FROM HOLES OR BROKEN PLACES AND BE WELL BONDED TOGETHER. HE GUARANTEES THAT ALL WIRING AND CONDUIT TO BE USED IN CONSTRUCTION OF THIS PROJECT WILL BE NEW AND UNUSED.
12.3 HE FURTHER GUARANTEES TO HOLD HIMSELF RESPONSIBLE FOR ANY DEFECTS WHICH MAY DEVELOP IN ANY PART OF THE ENTIRE SYSTEM, INCLUDING APPARATUS AND APPLIANCES PROVIDED UNDER THIS SECTION WITHOUT COST TO THE OWNER AS LONG AS SUCH DEFECTS OR PARTS OF CONSTRUCTION WHICH DEVELOP DEFECTS AT ANY TIME WITHIN ONE YEAR FROM DATE OF FINAL CERTIFICATION OF COMPLETION AND ACCEPTANCE. PROVIDE MANUFACTURER'S ENGINEERING AND TECHNICAL STAFF AT SITE TO ANALYZE AND RECTIFY PROBLEMS THAT DEVELOP DURING GUARANTEE PERIOD IMMEDIATELY. IF PROBLEMS CANNOT BE RECTIFIED IMMEDIATELY TO THE OWNER'S SATISFACTION, ADVISE ARCHITECT IN WRITING, DESCRIBE EFFORTS TO RECTIFY SITUATION AND PROVIDE ANALYSIS OF CAUSE OF PROBLEM. THE ELECTRICAL CONTRACTOR SHALL REPLACE MATERIAL AND EQUIPMENT THAT REQUIRES EXCESSIVE SERVICE DURING GUARANTEE PERIOD AS DEFINED AND AS DIRECTED BY THE ARCHITECT. THIS GUARANTEE DOES NOT INCLUDE ORDINARY LAMP FAILURE.
12.4 USE OF SYSTEMS PROVIDED UNDER THE SPECIFICATION FOR TEMPORARY SERVICES AND FACILITIES SHALL NOT CONSTITUTE FINAL ACCEPTANCE OF THE WORK NOR BENEFICIAL USE BY THE OWNER, AND SHALL NOT INSTITUTE GUARANTEE PERIOD.
PART 13 - SUPPLEMENTARY CONDITIONS
13.1 SUPPLEMENTARY TO ALL OTHER TERMS OF THE CONTRACT, THIS WORK SHALL BE PERFORMED SUBJECT TO THE FOLLOWING CONDITIONS.
13.2 MATERIALS AND EQUIPMENT INSTALLED ON THIS PROJECT SHALL BE FIRST CLASS IN QUALITY AND SHALL BE NEW AND UNUSED.
13.3 WORKMANSHIP ON THIS PROJECT SHALL BE FIRST CLASS WORK PERFORMED BY THE EXPERIENCED LICENSED MECHANICS OF THE PROPER TRADE.
13.4 WORK UNDER THIS CONTRACT SHALL BE ADEQUATELY PROTECTED AT ALL TIMES. TEMPORARY RACEWAYS SHALL BE KEPT CLOSED AND ALL RACEWAYS SHALL BE INSTALLED CLEAN AND FREE FROM DIRT AND GREASE.
13.5 STORAGE, PARKING, SIGNS, ADVERTISEMENTS, FIRES AND SMOKING SHALL CONFORM TO ALL APPLICABLE REGULATIONS AND/OR DIRECTIONS OF THE ARCHITECT.
13.6 MEASUREMENTS ON JOB AND SHOP LAYOUTS REQUIRED FOR INSTALLATION OF WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND ACCEPTANCE OF WORK IS SUBJECT TO APPROVAL OF SHOP DRAWINGS BY THE ARCHITECT.
13.7 CONTRACTOR SHALL FURNISH ALL HOISTS, SCAFFOLDS, STAGING, RUNWAYS AND EQUIPMENT NECESSARY FOR THE COMPLETION OF THIS WORK.
13.8 OBTAIN AND PAY FOR ALL REQUIRED ELECTRICAL PERMITS AND LICENSES.
13.9 MAINTAIN LIGHTS AND GUARDS REQUIRED FOR SAFETY.
13.10 REMOVE TEMPORARY SERVICE AFTER USE.
PART 14 - CONTRACT CHANGES
14.1 ALL CHANGES OR DEVIATIONS FROM THE CONTRACT, INCLUDING THOSE FOR EXTRA OR ADDITIONAL WORK, MUST BE SUBMITTED IN WRITING FOR THE APPROVAL OF THE ARCHITECT/ENGINEER. NO VERBAL ORDERS WILL BE RECOGNIZED.
PART 15 - RUBBISH/CLEANUP
15.1 ALL RUBBISH RESULTING FROM THE WORK HEREIN SPECIFIED SHALL BE PERIODICALLY REMOVED BY THIS CONTRACTOR.
15.2 CLEAN ALL ELECTRICAL EQUIPMENT AND MATERIALS OF ALL FOREIGN MATTER (BOTH INSIDE AND OUT). CLEAN ALL LIGHT FIXTURES USING ONLY METHODS AND MATERIALS AS RECOMMENDED BY THE MANUFACTURER.
PART 16 - PROPOSALS
16.1 THE CONTRACTOR SHALL CONSULT THE GENERAL CONDITIONS AND THE PROPOSAL FORM FOR PROPOSALS AND SUBDIVISIONS OF THE WORK REQUIRED.
PART 17 - EXTENT OF WORK
17.1 THE EXTENT OF THE WORK UNDER THIS HEADING OF THE CONTRACT SHALL BE THE FURNISHING OF ALL PLANT, LABOR, MATERIALS, AND EQUIPMENT AS REQUIRED TO COMPLETE WORK AS SHOWN ON THE DRAWINGS AND AS SPECIFIED UNDER THIS HEADING, AND ALL PLANT, LABOR, MATERIALS AND EQUIPMENT NOT SHOWN ON THE DRAWINGS OR SPECIFIED, BUT NECESSARY TO MAKE INSTALLATION COMPLETE IN ACCORDANCE WITH THE INTENT OF THE CONTRACT, TO PROVIDE FIRST CLASS, COMPLETE, AND OPERATIVE INSTALLATION THROUGHOUT.
PART 18 - TAXES
18.1 CONTRACTOR SHALL INCLUDE ALL APPLICABLE LOCAL, STATE AND FEDERAL TAXES IN HIS BID. CONSULT THE SUPPLEMENTARY CONDITIONS OF THESE SPECIFICATIONS RELATIVE TO ANY AND ALL TAX EXEMPTIONS PERMITTED FOR THIS PROJECT.
COMMUNICATION SYSTEMS
PART 1 - GENERAL
1.1 SUMMARY
A. SCOPE: EXTENT OF COMMUNICATIONS SYSTEMS WORK IS INDICATED BY DRAWINGS AND DETAILS, AND AS HEREBY DEFINED TO INCLUDE, BUT NOT BE LIMITED TO TELEPHONE, DATA, AND CCTV (SECURITY CAMERAS) CONDUITS, CABLES, BOXES, JACKS, TERMINALS, AND OTHER ASSOCIATED EQUIPMENT AND HARDWARE, AND OTHER ASSOCIATED EQUIPMENT AND HARDWARE, AND THERE ARE OBLIGATIONS THAT REST WITH AT LEAST THE GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR, OWNER'S TELECOM VENDOR, AND THE OWNER.
B. PROVIDE SUBMITTALS ON ALL PRODUCTS SPECIFIED WITH THIS SECTION.
C. ALL TELEPHONE, DATA, CATV, AND CCTV CABLING, ASSOCIATED CONDUITS, TERMINATIONS, AND INTERFLOOR SLEEVES SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR (EC).
D. ALL TELEPHONE AND DATA RACKS, PATCH PANELS, AND WIRE MANAGEMENT HARDWARE WILL BE FURNISHED AND INSTALLED BY OWNER'S TELECOM VENDOR, UNLESS OTHERWISE NOTED ON THE DRAWINGS OR IN THE SPECIFICATIONS. ALL TELEPHONE AND DATA JACKS WILL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. CATV GUEST ROOM TERMINATIONS TO BE DONE BY CONTRACTOR. CONTRACTOR SHALL PROVIDE ALL FINAL CONNECTIONS TO DEVICES AND PROVIDE FINAL TESTING OF CABLES.
E. CATV PATCH PANELS, RACKS, EQUIPMENT, ETC. WILL BE PROVIDED AND INSTALLED BY THE OWNER'S INSTALLERS, UNLESS OTHERWISE NOTED ON THE DRAWINGS OR IN THE SPECIFICATIONS.
1.2 QUALITY ASSURANCE
A. CODES AND STANDARDS: CONFORM TO THE FOLLOWING.
a. NATIONAL ELECTRICAL CODE (NEC); COMPLY WITH APPLICABLE LOCAL CODE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION AND NEC.
b. EIA/TIA T58-49 STANDARD.
c. EIA/TIA-568B STANDARD.
d. ALL WIRING SHALL BE INSTALLED USING 'BICSI' CABLING PRACTICES.
e. THIS INSTALLATION MUST BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL SYSTEM SUPPLIER AND THE GENERAL SPECIFICATIONS CONTAINED HEREIN. CONSULT THE SERVING INSTALLERS TO VERIFY ALL REQUIREMENTS.
PART 2 - PRODUCTS
2.1 TELEPHONE AND DATA SYSTEM
2.1.1 GENERAL CONTRACTOR SHALL PROVIDE TELEPHONE, DATA, INTERNET, CCTV, AND CATV TERMINAL BOARD(S) AS SHOWN ON THE DRAWINGS. BOARD SHALL BE 3/4" FIRE RESISTANT PLYWOOD MOUNTED AND SIZED AS SHOWN ON DRAWING E-5. TERMINAL BOARD SHALL BE SECURELY MOUNTED ON WALL AND PAINTED WITH TWO COATS OF FIRE RETARDANT NON-CONDUCTIVE PAINT, COLOR AS SELECTED BY ARCHITECT. GENERAL CONTRACTOR TO CONFIRM OWNER'S ROOM NUMBERING SCHEME WHICH IS THEN TO BE USED BY THE ELECTRICAL CONTRACTOR AND OWNER'S TELECOM VENDOR FOR LABELING PURPOSES.
2.1.2 ELECTRICAL CONTRACTOR SHALL PROVIDE:
A. ENTRANCE CONDUIT: THERE SHALL BE PROVIDED A 3" MINIMUM MAIN SERVICE CONDUIT FROM BELOW THE TELEPHONE TERMINAL BOARD TO THE PROPERTY LINE (UNLESS A LARGER SIZE IS NOTED OTHERWISE ON THE DRAWINGS OR REQUIRED BY THE TELEPHONE COMPANY). CONDUIT SIZING AND ROUTING TO BE PER THE REQUIREMENTS OF THE SERVING TELEPHONE COMPANY.
B. OUTLETS: ALL TELEPHONE AND DATA OUTLET BOXES SHALL BE INSTALLED WITH 4" SQUARE, MINIMUM 2 1/8" DEEP BOX AND TRIM. ALL TELEPHONE AND DATA OUTLET BOXES TO BE LOCATED AS SPECIFIED ON PRINTS. EACH TELEPHONE, DATA, CCTV, AND CATV OUTLET BOX SHALL BE PROVIDED WITH ONE (1) 3/4" STEEL FLEXIBLE TO NEAREST ACCESSIBLE CORRIDOR CEILING CAVITY. PVC FLEXIBLE CONDUIT MAY BE USED IF ALLOWABLE BY LOCAL CODES.
C. FURNISH AND INSTALL EACH TELEPHONE/DATA OUTLET WITH A TELEPHONE JACK AND A DATA JACK. JACKS SHALL CONSIST OF A "RJ11" (COLORED "WHITE") SINGLE PORT INSERT FOR TELEPHONE OUTLET AND A "RJ45" (COLORED BLUE) SINGLE PORT "KEYSTONE FORMAT" INSERTS FOR DATA OUTLET. "RJ11" PORT INSERT SHALL BE TO USOC RJ-14 WIRING. "RJ45" PORT "KEYSTONE FORMAT" INSERT SHALL BE UNIVERSAL T568 B WIRING. PROVIDE SINGLE GANG FACEPLATE AND BLANK INSERTS AS REQUIRED.
2.2 OWNERS TELECOM VENDOR SHALL PROVIDE:
A. FURNISH AND INSTALL NECESSARY WALL MOUNTED DATA RELAY RACK, PATCH JACKS, AND WIRE MANAGEMENT HARDWARE WITHIN THE RACK TO TERMINATE THE DATA "DROP" RUNNING CABLES. PROVIDE AND INSTALL THE BACKBOARDS, WIRE MANAGEMENT HARDWARE, AND TERMINAL BLOCKS TO TERMINATE THE TELEPHONE "DROP" RUNNING CABLES FOR USE AS A MAIN DISTRIBUTING FRAME (MDF) FOR THE HOUSE WIRING AND PXX CABLING.
B. FURNISH AND INSTALL APPROPRIATE CABLE ENDS ON CCTV DROPS AT EACH CAMERA LOCATION.
C. ALL WIRING SHALL BE INSTALLED USING TIA/EIA AND 'BICSI' CABLING PRACTICES. WHERE CONNECTIONS OCCUR, UNTWISTING OF CABLE SHALL BE WITHIN EIA/TIA T58-40 STANDARD. FINAL CONNECTIONS OF CABLES AT PATCH PANELS, THE MDF AND FIELD DEVICES WILL BE BY THE OWNER'S TELECOM VENDOR.
D. OWNERS TELECOM TO ROUTE AND SECURE ALL TELEPHONE AND DATA "DROPS" TO THE WALL OR OTHER SUPPORTING STRUCTURE IN THE UTILITY ROOM 240 SO AS TO FORM THEM INTO THE APPROPRIATE TERMINAL BOARD AND DESTINATION TERMINALS.
E. OWNERS TELECOM VENDOR TO DRESS IN AND TERMINATE ALL CATV CABLES USING THE APPROPRIATE WIRING STANDARDS. ALL TERMINATIONS TO BE LABELED WITH THE OWNER'S APPROVED NUMBERING FORMAT.
F. ONCE TERMINATIONS ARE COMPLETED, PERFORM CONTINUITY TESTS ON ALL VOICE AND DATA WIRING. FAULT ISOLATION WILL BE UNDERTAKEN. NECESSARY REPAIRS TO OWNERS TELECOM PROVIDER'S WORK PRODUCT WILL BE COMPLETED AS NECESSARY. NO REPAIR OF FAILED WIRING OR CABLES BY OTHERS WILL BE UNDERTAKEN. NO "LAN CERTIFICATION TESTING" OF THE WIRING WILL BE ATTEMPTED.
G. ALL TERMINATIONS AT THE FRONT DESK FOR TELEPHONE AND INTERNET JACKS WILL BE PROVIDED BY THE OWNER'S TELECOM VENDOR.
2.2 OWNERS TELECOM VENDOR SHALL PROVIDE:
A. FURNISH AND INSTALL NECESSARY WALL MOUNTED DATA RELAY RACK, PATCH JACKS, AND WIRE MANAGEMENT HARDWARE WITHIN THE RACK TO TERMINATE THE DATA "DROP" RUNNING CABLES. PROVIDE AND INSTALL THE BACKBOARDS, WIRE MANAGEMENT HARDWARE, AND TERMINAL BLOCKS TO TERMINATE THE DATA "DROP" RUNNING CABLES FOR USE AS A MAIN DISTRIBUTING FRAME (MDF) FOR THE HOUSE WIRING AND PXX CABLING.
B. ALL WIRING SHALL BE INSTALLED USING TIA/EIA AND 'BICSI' CABLING PRACTICES. WHERE CONNECTIONS OCCUR, UNTWISTING OF CABLE SHALL BE WITHIN EIA/TIA T58-40 STANDARD. FINAL CONNECTIONS OF CABLES AT PATCH PANELS, THE MDF AND FIELD DEVICES WILL BE BY THE OWNER'S TELECOM VENDOR.
C. OWNERS TELECOM VENDOR TO ROUTE AND SECURE ALL TELEPHONE AND DATA "DROPS" TO THE WALL OR OTHER SUPPORTING STRUCTURE IN THE UTILITY ROOM 240 SO AS TO FORM THEM INTO THE APPROPRIATE TERMINAL BOARD AND DESTINATION TERMINALS.
D. OWNERS TELECOM VENDOR TO DRESS IN AND TERMINATE ALL CATV CABLES USING THE APPROPRIATE WIRING STANDARDS. ALL TERMINATIONS TO BE LABELED WITH THE OWNER'S APPROVED NUMBERING FORMAT.
E. ONCE TERMINATIONS ARE COMPLETED, PERFORM CONTINUITY TESTS ON ALL VOICE AND DATA WIRING. FAULT ISOLATION WILL BE UNDERTAKEN. NECESSARY REPAIRS TO OWNERS TELECOM PROVIDER'S WORK PRODUCT WILL BE COMPLETED AS NECESSARY. NO REPAIR OF FAILED WIRING OR CABLES BY OTHERS WILL BE UNDERTAKEN. NO "LAN CERTIFICATION TESTING" OF THE WIRING WILL BE ATTEMPTED.
F. PROVIDE AND INSTALL EACH F81, 3GHZ STYLE JACK WITH BLUE BARREL.
PART 3 - EXECUTION
3.1 PROVIDE AND INSTALL PULL BOXES AT ALL LOCATIONS AS REQUIRED BY NEC AND THE COMMUNICATION SYSTEMS SYSTEM SUPPLIER.
3.2 PROVIDE AND INSTALL CONDUIT SLEEVES THRU FLOORS AND WALLS AS REQUIRED FOR CABLE INSTALLATION.
3.3 ALL CONDUIT ENDS SHALL BE EQUIPPED WITH NON-METALLIC INSULATED BUSHINGS.
3.4 TERMINATE CONDUIT RUNS TO/FROM THE ASSOCIATED TELEPHONE, DATA, OR CATV BACKBOARD IN A CLOSET OR DESIGNATED SPACE AT THE TOP OR BOTTOM OF THE BACKBOARD. CONDUITS SHALL ENTER CLOSETS NEXT TO THE WALL AND BE TERMINATED AND BUSHED 6" ABOVE OR BELOW THE APPROPRIATE BACKBOARD.
3.5 WHERE DRILLING IS NECESSARY FOR VERTICAL CONDUITS, LOCATE HOLES SO AS NOT TO AFFECT STRUCTURAL SECTIONS SUCH AS RIBS OR BEAMS.
3.6 ALL EMPTY CONDUITS LOCATED IN EQUIPMENT CLOSETS OR ON BACKBOARDS SHALL BE SEALED WITH A STANDARD NON-HARDENING DUCT SEAL COMPOUND TO PREVENT THE ENTRANCE OF MOISTURE AND GASES AND TO MEET FIRE RESISTANCE REQUIREMENTS.
3.7 CONDUIT RUNS SHALL CONTAIN NO MORE THAN FOUR QUARTER TURNS (45 DEGREE BENDS) BETWEEN PULL BOXES/BACKBOARDS.
3.8 ALL TELEPHONE, DATA, CCTV, AND CATV CABLE INSTALLATION SHALL BE PROVIDED WITH 3" HOOKS LOCATED A MAXIMUM OF 90" ON CENTER FROM DEVICE LOCATION TO THE RESPECTIVE TERMINAL BOARD.
3.9 CONTRACTOR TO PROVIDE (1) ONE 3" EMPTY CONDUIT WITH PULL STRING FROM EACH CORRIDOR TO THE SECOND FLOOR STORAGE ROOM FOR FUTURE USE.
END OF SECTION

D. DROPS: EACH TELEPHONE AND DATA OUTLET BOX LOCATION REQUIRES TELEPHONE AND DATA CABLES TO BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR, UNLESS NOTED OTHERWISE. TELEPHONE AND DATA CABLES SHALL BE ROUTED TO THE TELEPHONE TERMINAL BOARD OR DATA TERMINAL BOARD AS APPROPRIATE. VERIFY LOCATION AND CONDITIONS OF JOB ROOM TO ROOM-H. THERE ARE SPECIAL REQUIREMENTS FOR THE TELEPHONE CABLES SERVICING THE ELEVATOR CONTROL CABINET AND THE FIRE ALARM CONTROL PANEL AND FOR THE SURVEILLANCE CAMERAS AS INDICATED IN THE ELECTRICAL NOTES ON SHEET E-5.
E. CABLE TELEPHONE, DATA, AND CCTV CABLE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
a. TELEPHONE CABLES SHALL BE ROUTED TO THE TELEPHONE TERMINAL BOARD(S). DATA CABLES SHALL BE ROUTED TO THE DATA TERMINAL BOARD(S) AND CATV CABLES SHALL BE ROUTED TO THE CCTV TERMINAL BOARD(S). SEE DRAWING E-5. ALL TERMINATIONS AT MAIN DISTRIBUTING FRAME (MDF) PUNCH-DOWN BLOCKS AND DATA PATCH PANELS TO BE DONE BY OWNER'S TELECOM VENDOR.
b. ALL TELEPHONE CABLES SHALL BE LEVEL CAT 6 CABLE OR BETTER AND JACKETED IN WHITE. ALL DATA CABLES SHALL BE LEVEL CAT6 CABLE OR BETTER AND JACKETED IN BLUE. CCTV DATA CABLES TO BE LEVEL CAT 6 OR BETTER AND JACKETED IN YELLOW. VERIFY EXACT TYPE OF CABLE WITH OWNER PRIOR TO INSTALLATION. CABLES SHALL BE PLENUM RATED IF ROUTED IN AIR PLENUM CEILING VOIDS.
c. CABLES SHALL BE CONTINUOUS WITHOUT SPLICES OR DAMAGE FROM OUTLET TO APPROPRIATE TERMINAL BOARD IN UTILITY ROOM 240.
d. EACH CABLE TO UNDERGO SYSTEMS TESTING BY CONTRACTOR. ELECTRICAL CONTRACTOR TO REPLACE CABLES DETERMINED TO BE UNACCEPTABLE.
e. ALL CABLES SHALL BE IDENTIFIED ON BOTH ENDS WITH PERMANENT, DURABLE, LEGIBLE, LABELS. LABEL CABLES AT CEILING OF UTILITY ROOM 240 WHERE CABLES ENTER ROOM. LEAVE 25' OF EXTRA CABLE COILED AND PROTECTED FROM DAMAGE AT THE APPROPRIATE TERMINAL BOARD. LABEL THIS SLACK WITH OWNER'S NUMBERING SYSTEM AT EACH OUTLET. LEAVE 18" OF SLACK CABLE AT CONNECTION TO DEVICE. LABEL THIS SLACK WITH OWNER'S NUMBERING SYSTEM ON ALL OUTLETS.
f. DO NOT ROUTE TELEPHONE OR DATA CABLE BESIDE ELECTRICAL POWER CONDUITS. LOCATE AS FAR AWAY AS REASONABLY POSSIBLE. MINIMUM REQUIREMENTS ARE 5' FROM LIGHTING FIXTURES AND 4' FROM ELECTRICAL CONDUITS. ANYTIME CABLES ARE REQUIRED TO CROSS ELECTRICAL CONDUITS, CABLES SHALL BE ROUTED AT 90 DEGREE ANGLE ONLY TO CONDUITS. MAXIMUM RUN FOR ANY CABLE FROM TELEPHONE OR DATA OUTLET TO TERMINAL BOARD SHALL BE 295'. CONDUIT RUNS SHALL NOT EXCEED 100' BETWEEN PULL BOXES. NO MORE THAN (2) 90 DEGREE BENDS SHALL BE ALLOWED BETWEEN PULL BOXES.
a. PROVIDE DOUBLE DUPLEX RECEPTACLE ON SEPARATE 20 AMP CIRCUITS BENEATH EACH TELEPHONE TERMINAL BOARD, DATA TERMINAL BOARD, AND CATV TERMINAL BOARD LOCATION.
b. THERE IS TO BE A #6 AWG STRANDED COPPER WIRE EXTENDED FROM THE GROUND BUS IN THE ELECTRICAL PANEL BOARD TO A COMMON GROUNDING BLOCK ON THE TERMINAL BOARD.
2.1.3 OWNERS TELECOM VENDOR SHALL PROVIDE:
A. FURNISH AND INSTALL NECESSARY WALL MOUNTED DATA RELAY RACK, PATCH JACKS, AND WIRE MANAGEMENT HARDWARE WITHIN THE RACK TO TERMINATE THE DATA "DROP" RUNNING CABLES. PROVIDE AND INSTALL THE BACKBOARDS, WIRE MANAGEMENT HARDWARE, AND TERMINAL BLOCKS TO TERMINATE THE TELEPHONE "DROP" RUNNING CABLES FOR USE AS A MAIN DISTRIBUTING FRAME (MDF) FOR THE HOUSE WIRING AND PXX CABLING.
B. FURNISH AND INSTALL APPROPRIATE CABLE ENDS ON CCTV DROPS AT EACH CAMERA LOCATION.
C. ALL WIRING SHALL BE INSTALLED USING TIA/EIA AND 'BICSI' CABLING PRACTICES. WHERE CONNECTIONS OCCUR, UNTWISTING OF CABLE SHALL BE WITHIN EIA/TIA T58-40 STANDARD. FINAL CONNECTIONS OF CABLES AT PATCH PANELS, THE MDF AND FIELD DEVICES WILL BE BY THE OWNER'S TELECOM VENDOR.
D. OWNERS TELECOM TO ROUTE AND SECURE ALL TELEPHONE AND DATA "DROPS" TO THE WALL OR OTHER SUPPORTING STRUCTURE IN THE UTILITY ROOM 240 SO AS TO FORM THEM INTO THE APPROPRIATE TERMINAL BOARD AND DESTINATION TERMINALS.
E. OWNERS TELECOM VENDOR TO DRESS IN AND TERMINATE ALL TELEPHONE AND DATA CABLES USING THE APPROPRIATE WIRING STANDARDS. ALL TERMINATIONS TO BE LABELED WITH THE OWNER'S APPROVED NUMBERING FORMAT.
F. ONCE TERMINATIONS ARE COMPLETED, PERFORM CONTINUITY TESTS ON ALL VOICE AND DATA WIRING. FAULT ISOLATION WILL BE UNDERTAKEN. NECESSARY REPAIRS TO OWNERS TELECOM PROVIDER'S WORK PRODUCT WILL BE COMPLETED AS NECESSARY. NO REPAIR OF FAILED WIRING OR CABLES BY OTHERS WILL BE UNDERTAKEN. NO "LAN CERTIFICATION TESTING" OF THE WIRING WILL BE ATTEMPTED.
G. ALL TERMINATIONS AT THE FRONT DESK FOR TELEPHONE AND INTERNET JACKS WILL BE PROVIDED BY THE OWNER'S TELECOM VENDOR.
2.2 CATV (TELEVISION) OUTLET SYSTEM
2.2.1 ELECTRICAL CONTRACTOR SHALL PROVIDE:
A. ENTRANCE CONDUIT: THERE SHALL BE PROVIDED A 3" MINIMUM MAIN SERVICE CONDUIT FROM BELOW THE CATV TERMINAL BOARD TO THE PROPERTY LINE (UNLESS A LARGER SIZE IS NOTED OTHERWISE ON THE DRAWINGS OR REQUIRED BY THE CATV COMPANY). CONDUIT SIZING AND ROUTING TO BE PER THE REQUIREMENTS OF THE SERVING CATV COMPANY.
B. OUTLETS: ALL CATV OUTLET BOXES SHALL BE INSTALLED WITH 4" SQUARE, MINIMUM 2 1/8" DEEP BOX AND TRIM. WITH SEPARATELY MOUNTED 20 AMP 125 VOLT DUPLEX RECEPTACLE ADJACENT TO CATV OUTLET. EACH CATV OUTLET BOX SHALL BE PROVIDED WITH (1) 3/4" STEEL FLEXIBLE CONDUIT TO NEAREST ACCESSIBLE CORRIDOR CEILING CAVITY. PVC FLEXIBLE CONDUIT MAY BE USED IF ALLOWABLE BY LOCAL CODES. WHITE CATV COVER PLATES AS REQUIRED BY CATV SYSTEM SUPPLIER. PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. ALL CATV OUTLET BOXES TO BE LOCATED AS SPECIFIED ON PRINTS. CATV OUTLET BOXES NOT USED SHALL BE PROVIDED WITH BLANK COVER PLATES TO MATCH SWITCH AND RECEPTACLE PLATES.
C. CABLE: CATV CABLES TO BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
a. CATV CABLES SHALL BE ROUTED TO THE CATV TERMINAL BOARD(S). SEE DRAWING E-5. ALL TERMINATIONS AT MAIN DISTRIBUTING FRAME (MDF) PUNCH-DOWN BLOCKS AND DATA PATCH PANELS TO BE DONE BY OWNER'S TELECOM VENDOR.
b. ALL CATV CABLES SHALL BE RG-6U CABLE OR BETTER AND JACKETED IN BLACK. VERIFY EXACT TYPE OF CABLE WITH OWNER PRIOR TO INSTALLATION. CABLES SHALL BE PLENUM RATED IF ROUTED IN AIR PLENUM CEILING VOIDS.
c. CABLES SHALL BE CONTINUOUS WITHOUT SPLICES OR DAMAGE FROM OUTLET TO APPROPRIATE TERMINAL BOARD IN UTILITY ROOM 240.
d. EACH CABLE TO UNDERGO SYSTEMS TESTING BY OWNER'S TELECOM VENDOR. ELECTRICAL CONTRACTOR TO REPLACE CABLES DETERMINED TO BE UNACCEPTABLE.
e. ALL CABLES SHALL BE IDENTIFIED ON BOTH ENDS WITH PERMANENT, DURABLE, LEGIBLE, LABELS. LABEL CABLES AT CEILING OF UTILITY ROOM 240 WHERE CABLES ENTER ROOM. LEAVE 25' OF EXTRA CABLE COILED AND PROTECTED FROM DAMAGE AT THE APPROPRIATE TERMINAL BOARD. LABEL THIS SLACK WITH OWNER'S NUMBERING SYSTEM. AT EACH OUTLET, LEAVE 18" OF SLACK CABLE AT CONNECTION TO DEVICE. LABEL THIS SLACK WITH OWNER'S NUMBERING SYSTEM ON ALL OUTLETS.
2.2.2 OWNERS TELECOM VENDOR SHALL PROVIDE:
A. FURNISH AND INSTALL NECESSARY WALL MOUNTED DATA RELAY RACK, PATCH JACKS, AND WIRE MANAGEMENT HARDWARE WITHIN THE RACK TO TERMINATE THE DATA "DROP" RUNNING CABLES. PROVIDE AND INSTALL THE BACKBOARDS, WIRE MANAGEMENT HARDWARE, AND TERMINAL BLOCKS TO TERMINATE THE DATA "DROP" RUNNING CABLES FOR USE AS A MAIN DISTRIBUTING FRAME (MDF) FOR THE HOUSE WIRING AND PXX CABLING.
B. ALL WIRING SHALL BE INSTALLED USING TIA/EIA AND 'BICSI' CABLING PRACTICES. WHERE CONNECTIONS OCCUR, UNTWISTING OF CABLE SHALL BE WITHIN EIA/TIA T58-40 STANDARD. FINAL CONNECTIONS OF CABLES AT PATCH PANELS, THE MDF AND FIELD DEVICES WILL BE BY THE OWNER'S TELECOM VENDOR.
C. OWNERS TELECOM VENDOR TO ROUTE AND SECURE ALL TELEPHONE AND DATA "DROPS" TO THE WALL OR OTHER SUPPORTING STRUCTURE IN THE UTILITY ROOM 240 SO AS TO FORM THEM INTO THE APPROPRIATE TERMINAL BOARD AND DESTINATION TERMINALS.
D. OWNERS TELECOM VENDOR TO DRESS IN AND TERMINATE ALL CATV CABLES USING THE APPROPRIATE WIRING STANDARDS. ALL TERMINATIONS TO BE LABELED WITH THE OWNER'S APPROVED NUMBERING FORMAT.
E. ONCE TERMINATIONS ARE COMPLETED, PERFORM CONTINUITY TESTS ON ALL VOICE AND DATA WIRING. FAULT ISOLATION WILL BE UNDERTAKEN. NECESSARY REPAIRS TO OWNERS TELECOM PROVIDER'S WORK PRODUCT WILL BE COMPLETED AS NECESSARY. NO REPAIR OF FAILED WIRING OR CABLES BY OTHERS WILL BE UNDERTAKEN. NO "LAN CERTIFICATION TESTING" OF THE WIRING WILL BE ATTEMPTED.
F. PROVIDE AND INSTALL EACH F81, 3GHZ STYLE JACK WITH BLUE BARREL.
PART 3 - EXECUTION
3.1 PROVIDE AND INSTALL PULL BOXES AT ALL LOCATIONS AS REQUIRED BY NEC AND THE COMMUNICATION SYSTEMS SYSTEM SUPPLIER.
3.2 PROVIDE AND INSTALL CONDUIT SLEEVES THRU FLOORS AND WALLS AS REQUIRED FOR CABLE INSTALLATION.
3.3 ALL CONDUIT ENDS SHALL BE EQUIPPED WITH NON-METALLIC INSULATED BUSHINGS.
3.4 TERMINATE CONDUIT RUNS TO/FROM THE ASSOCIATED TELEPHONE, DATA, OR CATV BACKBOARD IN A CLOSET OR DESIGNATED SPACE AT THE TOP OR BOTTOM OF THE BACKBOARD. CONDUITS SHALL ENTER CLOSETS NEXT TO THE WALL AND BE TERMINATED AND BUSHED 6" ABOVE OR BELOW THE APPROPRIATE BACKBOARD.
3.5 WHERE DRILLING IS NECESSARY FOR VERTICAL CONDUITS, LOCATE HOLES SO AS NOT TO AFFECT STRUCTURAL SECTIONS SUCH AS RIBS OR BEAMS.
3.6 ALL EMPTY CONDUITS LOCATED IN EQUIPMENT CLOSETS OR ON BACKBOARDS SHALL BE SEALED WITH A STANDARD NON-HARDENING DUCT SEAL COMPOUND TO PREVENT THE ENTRANCE OF MOISTURE AND GASES AND TO MEET FIRE RESISTANCE REQUIREMENTS.
3.7 CONDUIT RUNS SHALL CONTAIN NO MORE THAN FOUR QUARTER TURNS (45 DEGREE BENDS) BETWEEN PULL BOXES/BACKBOARDS.
3.8 ALL TELEPHONE, DATA, CCTV, AND CATV CABLE INSTALLATION SHALL BE PROVIDED WITH 3" HOOKS LOCATED A MAXIMUM OF 90" ON CENTER FROM DEVICE LOCATION TO THE RESPECTIVE TERMINAL BOARD.
3.9 CONTRACTOR TO PROVIDE (1) ONE 3" EMPTY CONDUIT WITH PULL STRING FROM EACH CORRIDOR TO THE SECOND FLOOR STORAGE ROOM FOR FUTURE USE.
END OF SECTION

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