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A

SYMBOL LEGEND	
SYMBOL	DESCRIPTION
REFERENCE AND LINE SYMBOLS	
	DETAIL INDICATOR: A5 INDICATES DETAIL NUMBER, E-501 INDICATES DRAWING SHEET WHERE DETAIL IS SHOWN.
	ELEVATION OR SECTION INDICATOR, INTERIOR: A5 INDICATES ELEVATION OR SECTION NUMBER, E-201 INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.
	KEYNOTE INDICATOR.
	REVISION INDICATOR.
	EQUIPMENT INDICATOR.
	MATCH LINE INDICATOR: CENTER, EXTRA WIDE LINE.
	NEW LINE: MEDIUM LINE.
	HIDDEN FEATURES LINE: HIDDEN, THIN LINE.
	EXISTING TO REMAIN LINE: THIN LINE.
	DEMOLITION LINE: DASHED, MEDIUM LINE.
WIRING METHODS	
	BRANCH CIRCUIT HOME RUN TO PANELBOARD: NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. LETTER AND NUMBER NOTATIONS IDENTIFY PANEL AND CIRCUIT NUMBERS. NUMBER IN BOX REFERS TO THE CONDUCTOR AND CONDUIT SCHEDULE. FOR BRANCH WIRING USE #12 CONDUCTORS, EXCEPT #10 CONDUCTORS SHALL BE INSTALLED IF DISTANCES EXCEED THOSE SPECIFIED IN THE ELECTRICAL SPECIFICATIONS.
	PULL BOX.
	JUNCTION BOX, CEILING.
ELECTRICAL POWER AND DISTRIBUTION	
	DISCONNECT, FUSED (ONE-LINE DIAGRAM).
	CIRCUIT BREAKER, MOLDED CASE (ONE-LINE DIAGRAM).
	CIRCUIT BREAKER, SOLID STATE (ONE-LINE DIAGRAM).
	TRANSFORMER (ONE-LINE DIAGRAM).
	PANELBOARD WITH MAIN LUGS ONLY. BUS SIZE AND PHASE AS SHOWN (ONE-LINE DIAGRAM).
	PANELBOARD WITH MAIN AND SUB FEED CIRCUIT BREAKER (ONE-LINE DIAGRAM).
	TRANSFER SWITCH (ONE-LINE DIAGRAM).
	DISCONNECT SWITCH, FUSED.
	PANELBOARD CABINET, FLUSH MOUNTED.
	PANELBOARD CABINET, SURFACE MOUNTED, 1 SECTION.
	DISTRIBUTION PANEL OR SWITCHBOARD.

CONDUCTOR AND CONDUIT SCHEDULE									
SCHEDULE NUMBER									
SUBSCRIPT (NOTE 5)		(E.G.) 5 IG							
SYM	AMP	CONDUIT SIZE	QTY	SIZE	G	IG	SE	NOTES	
1	20	.75	2	12	12	12	8	2	
2	20	.75	3	12	12	12	8	2,3	
3	20	.75	4	12	12	12	8	2,3	
4	30	.75	2	10	10	10	8	2	
5	30	.75	3	10	10	10	8	2	
6	30	.75	4	10	10	10	8	2	
7	40	1	2	8	10	8	6	2	
8	40	1	3	8	10	8	6	2	
9	40	1	4	8	10	8	6	2	
10	55	1	2	6	10	8	4	2	
11	55	1	3	6	10	8	4	2	
12	55	1.25	4	6	10	8	4	2	
13	70	1	2	4	8	4	2	2	
14	70	1.25	3	4	8	4	2	2	
15	70	1.25	4	4	8	4	2	2	
16	85	1.25	2	3	8	3	2	2	
17	85	1.25	3	3	8	3	2	2	
18	85	1.25	4	3	8	3	2	2	
19	95	1.25	3	2	8	2	2	2	
20	95	1.50	4	2	8	2	2	2	
21	130	1.50	3	1	6	2	2	2	
22	130	1.50	4	1	6	2	2	2	
23	150	2	3	1/0	6	2	1/0	2	
24	150	2	4	1/0	6	2	1/0	2	
25	175	2	3	2/0	6	2	2/0	2	
26	175	2	4	2/0	6	2	2/0	2	
27	200	2	3	3/0	6	2	2/0	2	
28	200	2.50	4	3/0	6	2	2/0	2	
29	230	2.50	3	4/0	4	2	2/0	2	
30	230	2.50	4	4/0	4	2	2/0	2	
31	255	2.50	3	250	4	1	2/0	2	
32	255	2.50	4	250	4	1	2/0	2	
33	310	3	3	350	3	1/0	3/0	2	
34	310	3	4	350	3	1/0	3/0	2	
35	380	3.50	3	500	3	3/0	3/0	2	
36	380	4	4	500	3	3/0	3/0	2	
37	400	2 EA 2	3	3/0	3	3/0	3/0	2	
38	400	2 EA 2.50	4	3/0	3	3/0	3/0	2	
39	510	2 EA 2.50	3	250	1	4/0	3/0	2	
40	510	2 EA 3	4	250	1	4/0	3/0	2	
41	620	2 EA 3	3	350	1/0	4/0	3/0	2,4	
42	620	2 EA 3	4	350	1/0	4/0	3/0	2,4	
43	760	2 EA 3.50	3	500	1/0	4/0	3/0	2,4	
44	760	2 EA 4	4	500	1/0	4/0	3/0	2,4	
45	855	3 EA 3	3	300	2/0	4/0	3/0	2,4	
46	855	3 EA 3	4	300	2/0	4/0	3/0	2,4	
47	1000	3 EA 3.50	3	400	2/0	4/0	3/0	4	
48	1000	3 EA 3.50	4	400	2/0	4/0	3/0	4	
49	1140	3 EA 4	3	500	3/0	4/0	3/0	4	
50	1140	3 EA 4	4	500	3/0	4/0	3/0	4	
51	1240	4 EA 3	3	350	3/0	4/0	3/0	4	
52	1240	4 EA 3	4	350	3/0	4/0	3/0	4	
53	1675	5 EA 3.50	4	400	4/0	4/0	4/0	4	
54	2010	6 EA 3.50	4	400	250	250	250	4	
55	2660	7 EA 4	4	500	350	350	350	4	
56	3040	8 EA 4	4	500	500	500	500	4	
57	4180	11 EA 4	4	500	500	500	500	4	
58		5 EA 4						6	
59		5						6	
60		10 EA 4						6	
CONDUCTOR AND CONDUIT SCHEDULE NOTES									
1. CONDUCTORS SHOWN ARE SHOWN FOR EACH CONDUIT WITH MODIFICATIONS AS NOTED IN NOTE 5. ALL CONDUCTORS SHOWN ARE THIN UNLESS OTHERWISE NOTED.									
2. PROVIDE EQUIPMENT GROUND CONDUCTORS PER TABLE 250-122 WHEN CIRCUIT BREAKERS ARE SIZED GREATER THAN AMPERE RATING SHOWN IN TABLE.									
3. PROVIDE #10 NEUTRALS FOR MULTIWIRE BRANCH CIRCUITS SERVING COMPUTERS.									
4. GROUND (G) CONDUCTOR MAY BE DELETED ON SERVICE ENTRANCE CONDUCTORS.									
5. WHEN SYMBOL SUBSCRIPT INDICATES "IG", INCLUDE "IG" OR INSULATED GROUND CONDUCTOR SCHEDULED ALONG WITH GROUND OR EQUIPMENT GROUND CONDUCTOR. WHEN SYMBOL SUBSCRIPT INDICATES "SE", SUBSTITUTE "SE" CONDUCTOR FOR "G" CONDUCTOR SHOWN WHICH IS SIZED FOR THE GROUNDING OF THE SECONDARY OF THE SEPARATELY DERIVED SYSTEMS.									
6. RACEWAY ONLY. CONDUCTORS PROVIDED BY UTILITY.									

ABBREVIATIONS	
NOTE: ALL ABBREVIATIONS MAY NOT BE USED.	
1P SINGLE POLE	KV KILOVOLT
1PH SINGLE-PHASE	KVA KILOVOLT AMPERE
1WAY ONE-WAY	KVAR KILOVOLT AMPERE REACTIVE
2/C TWO-CONDUCTOR	KW KILOWATT
2WAY TWO-WAY	KWH KILOWATT HOUR
3PH THREE-CONDUCTOR	LED LIGHT EMITTING DIODE
3WAY THREE-WAY	LFLMC LIQUID TIGHT FLEXIBLE METAL CONDUIT
4OUT QUADRUPLE RECEPTACLE OUTLET	LFLNC LIQUID TIGHT FLEXIBLE NONMETALLIC CONDUIT
4PDT FOUR-POLE DOUBLE THROW	LPS LOW PRESSURE SODIUM
4PST FOUR-POLE SINGLE THROW	LRA LOCKED ROTOR AMPS
4W FOUR-WIRE	LTC LIGHTING
4WAY FOUR-WAY	LV LOW VOLTAGE
A ABOVE COUNTER	MATV MASTER ANTENNA
AC ARMORED CABLE	MCS TELEVISION SYSTEM
ADA AMERICANS WITH DISABILITIES ACT	MC MAXIMUM
ADJ ADJACENT	MCC MINIMUM CIRCUIT AMPS
AFF ABOVE FINISHED FLOOR	MCB MAIN CIRCUIT BREAKER
AFG ABOVE FINISHED GRADE	MCC MOTOR CONTROL CENTER
AIG AMPERE INTERRUPTING CAPACITY	MCP MOTOR CIRCUIT PROTECTION
ALUM ALUMINUM	MD MAIN DISTRIBUTION
AMP AMPERE	MP PANEL
ANN ANNUNCIATOR	MGP MOTOR GENERATOR
AP ACCESS POINT (WIRELESS DATA)	MH MANHOLE
AS AS REQUIRED	MIN MINIMUM
ASC AMPS SHORT CIRCUIT	MLO MAIN LUGS ONLY
ATS AUTOMATIC TRANSFER SWITCH	MOCP MAXIMUM OVERCURRENT PROTECTION
AV AUDIO VISUAL	NA NOT APPLICABLE
AWG AMERICAN WIRE GAGE	NC NORMALLY CLOSED
BB XFMR BLOCK-BOOST TRANSFORMER	NED NATIONAL ELECTRICAL CODE
C CEILING MOUNTED	NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
CAT COMMUNITY ANTENNA TELEVISION	NFC NATIONAL FIRE CODE
CCBA CIRCUIT BREAKER	NFPA NATIONAL FIRE PROTECTION ASSOCIATION
CB CUSTOM COLOR AS SELECTED BY ARCHITECT	NIL NOT IN CONTRACT
CCVT CLOSED CIRCUIT TELEVISION	NLC NIGHT LIGHT
CFBA CUSTOM FINISH AS SELECTED BY ARCHITECT	NO NORMALLY OPEN
CF/CI CONTRACTOR FINISHED/CONTRACTOR INSTALLED	NNTS NOT TO SCALE
CF/OI CONTRACTOR FINISHED/OWNER INSTALLED	OC ON CENTER
CKT CIRCUIT	OCF OVER CURRENT PROTECTION
CM CONSTRUCTION MANAGER	OF/CI OWNER FURNISHED/CONTRACTOR INSTALLED
CND CONDUIT	OF/OI OWNER FURNISHED/CONTRACTOR INSTALLED
CO CONVENIENCE OUTLET	OPF OBTAIN FROM PLANS
COR CONTRACTING OFFICER'S REPRESENTATIVE	OPH OVERHEAD (COILING) DOOR
CP CONTROL PANEL	OL OVERLOAD
CT CURRENT TRANSFORMER	PB PUSHBUTTON
CTV CABLE TELEVISION	PF POWER FACTOR
CU COPPER	PH PHASE
dBa UNIT OF SOUND LEVEL	PNL PANEL
DPDT DOUBLE POLE DOUBLE THROW	PT POTENTIAL TRANSFORMER
DS DISCONNECT SWITCH	PTZ PAN/TILT/ZOOM
EA EACH	QTY QUANTITY
EMT ELECTRICAL METALLIC TUBING	R REMOVE
ENT ELECTRICAL NONMETALLIC TUBING	RCP REFLECTED CEILING PLAN
EPO EMERGENCY POWER OFF EQUIPMENT	RMC RIGID METAL CONDUIT
EX EXISTING	RNC RIGID NONMETALLIC CONDUIT
F FURNITURE MOUNTED	RPM REVOLUTIONS PER MINUTE
FA FIRE ALARM	RR REMOVE AND RELOCATE
FAC FIRE ALARM CONTROL PANEL	SCA SHORT CIRCUIT AMPS
FLA FULL LOAD AMPS	SCBA STANDARD COLOR AS SELECTED BY ARCHITECT
FMC FLEXIBLE METAL CONDUIT	SF SQUARE FOOT (FEET)
FGB FREIGHT ON BOARD	SFBA STANDARD FINISH AS SELECTED BY ARCHITECT
FVNR FULL VOLTAGE NON-REVERSING	SPDT SINGLE POLE, DOUBLE THROW
FVR FULL VOLTAGE REVERSING	SPEC SPECIFICATION
G GROUND	SPST SINGLE POLE, SINGLE THROW
GEN GENERATOR	S/S START/STOP
GFCI GROUND FAULT CIRCUIT INTERRUPTER	SWB SWITCHBOARD
GFP GROUND FAULT PROTECTION	SWGR SWITCHGEAR
HD HEAVY DUTY	TLR TWIST LOCK
HID HIGH INTENSITY DISCHARGE	TP TELEPHONE POLE
HOA HAND-OFF-AUTOMATIC	TP TWISTED PAIR
HP HORSE POWER	TTB TELEPHONE TERMINAL BOARD
HFF HIGH POWER FACTOR	TV TELEVISION
HPS HIGH PRESSURE SODIUM	TVSS TRANSIENT VOLTAGE SURGE SUPPRESSER
HV HIGH VOLTAGE	TYP TYPICAL
HZ HERTZ	UF UNDERFLOOR
IG ISOLATED GROUND	UGND UNDERGROUND
IMC INTERMEDIATE METAL CONDUIT	UPS UNINTERRUPTIBLE POWER SUPPLY
INS INSULATED/ISOLATED	V VOLTS
I/O INPUT/OUTPUT	VFC/VFD VARIABLE FREQUENCY MOTOR CONTROLLER
IR INFRARED	W/ WITHOUT
J-BOX JUNCTION BOX	WP WEATHERPROOF
	XFMR TRANSFORMER

DEFINITIONS	
NOTE: ALL DEFINITIONS MAY NOT BE USED.	
INDICATED: THE TERM "INDICATED" REFERS TO GRAPHIC REPRESENTATIONS, NOTES, OR SCHEDULES ON THE DRAWINGS, OTHER PARAGRAPHS OR SCHEDULES IN THE SPECIFICATIONS, AND SIMILAR REQUIREMENTS IN THE CONTRACT DOCUMENTS. WHERE TERMS SUCH AS "SHOWN", "NOTED", "SCHEDULED", AND "SPECIFIED" ARE USED, IT IS TO HELP THE READER LOCATE THE REFERENCE, NO LIMITATION ON LOCATION IS INTENDED.	
DIRECTED: TERMS SUCH AS "DIRECTED", "REQUESTED", "AUTHORIZED", "SELECTED", "APPROVED", "REQUIRED", AND "PERMITTED" MEAN "DIRECTED BY THE ENGINEER", "REQUESTED BY THE ENGINEER", AND SIMILAR PHRASES.	
APPROVED: THE TERM "APPROVED", WHERE USED IN CONJUNCTION WITH THE ENGINEER'S ACTION ON THE CONTRACTOR'S SUBMITTALS, APPLICATIONS, AND REQUESTS, IS LIMITED TO THE ENGINEER'S DUTIES AND RESPONSIBILITIES AS STATED IN GENERAL AND SUPPLEMENTARY CONDITIONS.	
FURNISH: THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS."	
INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS."	
PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."	
INSTALLER: AN "INSTALLER" IS THE CONTRACTOR OR AN ENTITY ENGAGED BY THE CONTRACTOR, EITHER AS AN EMPLOYEE, SUBCONTRACTOR, OR SUB-SUBCONTRACTOR, FOR PERFORMANCE OF A PARTICULAR CONSTRUCTION ACTIVITY, INCLUDING INSTALLATION, ERECTION, APPLICATION, AND SIMILAR OPERATIONS. INSTALLERS ARE REQUIRED TO BE EXPERIENCED IN THE OPERATIONS THEY ARE ENGAGED TO PERFORM.	
TECHNOLOGY SYSTEMS: THE TERM "TECHNOLOGY SYSTEMS" IS USED TO DESCRIBE ALL LOW VOLTAGE SYSTEMS GENERALLY REFERRED TO AS "SPECIAL SYSTEMS". THESE SYSTEMS INCLUDE BUT ARE NOT NECESSARILY LIMITED TO ALL SYSTEMS WHICH UTILIZE VOLTAGES OF LESS THAN 71 VOLTS SUCH AS SOUND SYSTEMS, VIDEO SYSTEMS, TV SYSTEMS, SECURITY SYSTEMS, VOICE AND DATA CABLING SYSTEMS, ETC...	

- ### GENERAL ELECTRICAL NOTES
1. CLARIFICATION METHODS: AT THE TIME OF BIDDING, BIDDERS SHALL FAMILIARIZE THEMSELVES WITH THE DRAWINGS AND SPECIFICATIONS. ANY QUESTIONS, MISUNDERSTANDINGS, CONFLICTS, DELETIONS, DISCONTINUED PRODUCTS, CATALOG NUMBER DISCREPANCIES, DISCREPANCIES BETWEEN THE EQUIPMENT SUPPLIED AND THE INTENT OR FUNCTION OF THE EQUIPMENT, ETC. SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER IN WRITING FOR CLARIFICATION PRIOR TO ISSUANCE OF THE FINAL ADDENDUM AND BIDDING OF THE PROJECT. WHERE DISCREPANCIES OR MULTIPLE INTERPRETATIONS OCCUR, THE MOST STRINGENT (WHICH IS GENERALLY RECOGNIZED AS THE MOST COSTLY) THAT MEETS THE INTENT OF THE DOCUMENTS SHALL BE ENFORCED.
  2. OWNER FURNISHED ITEMS: THE OWNER WILL FURNISH MATERIAL AND EQUIPMENT AS INDICATED IN THE CONTRACT DOCUMENTS TO BE INCORPORATED INTO THE WORK. THESE ITEMS ARE ASSIGNED TO THE INSTALLER AND COSTS FOR RECEIVING, HANDLING, STORAGE, IF REQUIRED, AND INSTALLATION ARE INCLUDED IN THE CONTRACT SUM.
    - A. THE INSTALLER'S RESPONSIBILITIES ARE THE SAME AS IF THE INSTALLER FURNISHED THE MATERIALS OR EQUIPMENT.
    - B. THE OWNER WILL ARRANGE AND PAY FOR DELIVERY OF OWNER FURNISHED ITEMS FREIGHT ON BOARD JOB SITE AND THE INSTALLER WILL INSPECT DELIVERIES FOR DAMAGE. IF OWNER FURNISHED ITEMS ARE DAMAGED, DEFECTIVE OR MISSING, DOCUMENT DAMAGED ITEMS WITH THE TRANSPORT COMPANY AND THE OWNER WILL ARRANGE FOR REPLACEMENT. THE OWNER WILL ALSO ARRANGE FOR MANUFACTURER'S FIELD SERVICES, AND THE DELIVERY OF MANUFACTURER'S WARRANTIES AND BONDS TO THE INSTALLER.
    - C. THE INSTALLER IS RESPONSIBLE FOR DESIGNATING THE DELIVERY DATES OF OWNER FURNISHED ITEMS AND FOR RECEIVING, UNLOADING AND HANDLING OWNER FURNISHED ITEMS AT THE SITE. THE INSTALLER IS RESPONSIBLE FOR PROTECTING OWNER FURNISHED ITEMS FROM DAMAGE, INCLUDING DAMAGE FROM EXPOSURE TO THE ELEMENTS, AND TO REPAIR OR REPLACE ITEMS DAMAGED AS A RESULT OF HIS OPERATIONS.
  3. EXPOSED STRUCTURE AREAS (EXCLUDING MECHANICAL, ELECTRICAL, AND COMMUNICATION SPACES): INSTALL RACEWAYS BETWEEN DECK AND STRUCTURE WHEREVER POSSIBLE IN EXPOSED STRUCTURE CEILING AREAS. ROUTE RACEWAYS IN CONCEALED AREAS WHEREVER POSSIBLE. REFER ALL CONDITIONS WHERE RACEWAYS MUST BE INSTALLED WHICH CANNOT COMPLY WITH THESE REQUIREMENTS TO THE ARCHITECT.
  4. SUBMITTALS: PROVIDE SUBMITTALS IN THREE RING BINDERS WITH JOB NAME, SUBCONTRACTOR, AND VOLUME ON THE BINDING. PREPARE TABS FOR EACH SPECIFICATION SECTION REQUIRING SUBMITTALS. PREPARE INDEX OF EQUIPMENT SUBMITTED IN EACH TAB.
  5. REFLECTED CEILING PLANS: COORDINATE THE LOCATION OF LIGHT FIXTURES WITH THE ARCHITECTURAL REFLECTED CEILING PLANS. REFER ALL DISCREPANCIES TO THE ARCHITECT AND ENGINEER.

ELECTRICAL SHEET INDEX	
SHEET NO	SHEET TITLE
EE001	SYMBOL LEGEND, SHEET INDEX
EP103	OVERALL THIRD LEVEL POWER PLAN
EP401	ENLARGED O.R. POWER PLAN
EP601	ONE LINE DIAGRAMS

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FOR ZEGO O.R.

MARK	DATE	DESCRIPTION
ISSUE:		
DATE:	05/09/14	
PROJECT NO:	20130607	
DRAWN BY:	STS	
CHECKED BY:	PEJ	
DESIGNED BY:	PEJ	
RECORD DRAWING DATE:		
SIGNATURE:		
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SHEET TITLE		
SYMBOL SCHEDULE, SHEET INDEX		

EE001

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