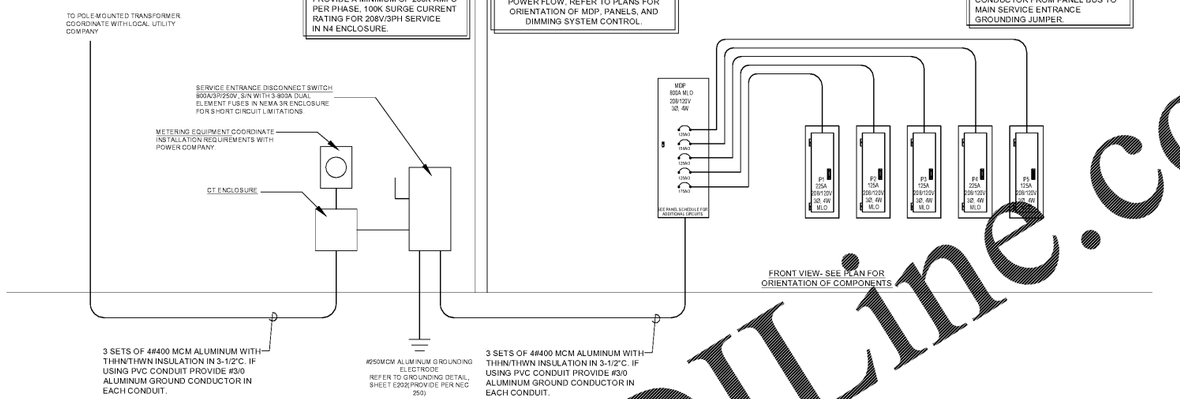
ALTERNATE RESTAURANT SERVICE CALCULATION PER 220.88	
NOT ALL ELECTRIC RESTAURANT	
TOTAL CONNECTED LOAD	275.00
0-200 KVA @ 100%	200.00
201-325 KVA @ 50%	37.50
326-800 KVA @ 45%	0.00
OVER 800 KVA @ 25%	0.00
TOTAL DEMAND LOAD	237.50
MINIMUM AMP SERVICE REQUIRED @ 208V, 3PH	660.02

QTY	SERVICE TITLE (MODEL NUMBER)	SERVICE DESCRIPTION
		THE QUANTITY OF SERVICES BELOW ARE TO BE INCLUDED AS PART OF THIS PROJECT'S SCOPE OF WORK AND SPECIFIED INTO THE WRITTEN SPEC DOCUMENTS
		PRE-STARTUP SERVICES
	ONSITE PRE-WIRE VISIT (LSC-PREWIRE)	AN ONSITE VISIT WITH THE ELECTRICAL CONTRACTOR TO DISCUSS LOGISTICAL CONSTRUCTION CONSIDERATIONS INCLUDING THE WIRING AND MOUNTING OF SYSTEM DEVICES, THE CONSTRUCTION SCHEDULE, AND LUTRON DOCUMENTATION. QUANTITY DICTATES THE NUMBER OF VISITS PURCHASED.
	SYSTEM & NETWORK INTEGRATION CONSULTATION (LSC-INT-VISIT)	A CONSULTATIVE VISIT WITH THIRD PARTY INTEGRATORS TO CONFIRM THE SPECIFIED SEQUENCE OF OPERATION AND DISCUSS INTEGRATION PROCEDURES NEEDED IN ORDER TO INTEGRATE WITH THE LUTRON EQUIPMENT. THIS MAY INCLUDE ANY OF THE FOLLOWING THIRD PARTY SYSTEMS: BMS, BAS, IT, NON-LUTRON SHADES, BACNET, AV, OR ENERGY DASHBOARDS.
	SENSOR LAYOUT & TUNING (LSC-SENS-LT)	LUTRON WILL TAKE RESPONSIBILITY FOR LUTRON-PROVIDED SENSOR PLACEMENT AND PERFORMANCE BY CREATING SENSOR LAYOUTS AND COORDINATING SENSOR PLACEMENT BEFORE AND AFTER INSTALLATION. ONCE THE BUILDING IS OCCUPIED, LUTRON WILL RETURN UP TO TWO TIMES TO PERFORM SENSOR FINE-TUNING.
		STARTUP SUPPORT SERVICES
	AFTER HOURS STARTUP (LSC-AH-SU)	STARTUP PROVIDED BETWEEN THE HOURS OF 5:00PM – 7:00AM, MONDAY - FRIDAY. THIS SCOPE OF WORK DOES NOT INCLUDE HOLIDAY OR WEEKEND WORK. ADDITIONAL FEES MAY APPLY FOR WORK TO BE COMPLETED ON WEEKENDS (FRIDAY 5:00PM – MONDAY 7:00AM).
	ONSITE SCENE & LEVEL TUNING (LSC-AF-VISIT)	AN ONSITE VISIT WITH THE SPECIFIER OR CUSTOMER REPRESENTATIVE TO REVIEW THE DESIGN INTENT, FINE-TUNE THE SCENE LEVEL PROGRAMMING, AND MAKE ADJUSTMENTS TO TIMECLOCKS.
	ONSITE PERFORMANCE-VERIFICATION WALKTHROUGH (LSC-WALK)	AN ONSITE WALKTHROUGH WITH FACILITY REPRESENTATIVES OR PROJECT COMMISSIONING AGENTS TO DEMONSTRATE THAT THE SYSTEM FUNCTIONALITY MEETS THE DESIGN INTENT. THIS MAY INCLUDE ANY OF THE FOLLOWING ONSITE ACTIVITIES – CONSULTATION/TRAINING DEMOS, FUNCTIONAL TESTING ASSISTANCE, OR INVENTORY OF LUTRON EQUIPMENT.
	SYSTEM PERFORMANCE-VERIFICATION DOCUMENTATION (LSC-SPV-DOC)	COMPLETION OF DOCUMENTATION WHICH PROVIDES PERFORMANCE VERIFICATION CERTIFYING THE LUTRON EQUIPMENT HAS BEEN THOROUGHLY TESTED. IT SUPPORTS THE DOCUMENTATION REQUIREMENTS OF MANY BUILDING STANDARDS.
	TITLE 24 ACCEPTANCE TEST VISIT (LSC-SPV-DOC-T24)	ACCEPTANCE TESTING BY A LUTRON CERTIFIED LIGHTING CONTROL ACCEPTANCE TEST TECHNICIAN (CLCATT) TO FULFILL THE REQUIRED TITLE 24 INTERIOR LIGHTING CONTROL TESTS.
		POST-STARTUP SERVICES
	CUSTOMER-SITE SOLUTION TRAINING (LSC-TRAINING-SP)	A VISIT TO TEACH SYSTEM USERS HOW TO OPERATE AND MAINTAIN THE LIGHTING CONTROL SYSTEM.
	SYSTEM OPTIMIZATION (LSC-SYSOPT-SP)	AN ONSITE CONSULTATIVE VISIT TO IDENTIFY AND IMPLEMENT LIGHTING CONTROL ADJUSTMENTS TO SAVE ADDITIONAL ENERGY AND CREATE A MORE PRODUCTIVE WORK ENVIRONMENT.
		MAINTENANCE & SUPPORT SERVICES
1	COMMERCIAL SYSTEMS 2-YEAR LIMITED WARRANTY (LSC-B2)	A 2-YEAR SYSTEM WARRANTY PROVIDING 100% REPLACEMENT PARTS AND 100% LUTRON DIAGNOSTIC LABOR COVERAGE WITH A FIRST-AVAILABLE RESPONSE TIME.
	ENHANCED SILVER (LSC-E8S)	YEARS 1-2 - 100% REPLACEMENT PARTS AND 100% LUTRON DIAGNOSTIC LABOR COVERAGE WITH A FIRST-AVAILABLE RESPONSE TIME; YEARS 3-5 - 50% PARTS ONLY COVERAGE; YEARS 6-8 - 25% PARTS ONLY COVERAGE.
	ENHANCED GOLD (LSC-E8G)	YEARS 1-2 - 100% REPLACEMENT PARTS AND 100% LUTRON DIAGNOSTIC LABOR COVERAGE WITH A 72-HOUR RESPONSE TIME AND AN ANNUAL (1-DAY) SCHEDULED PREVENTIVE MAINTENANCE VISIT; YEARS 3-5 - 50% PARTS ONLY COVERAGE; YEARS 6-8 - 25% PARTS ONLY COVERAGE.
	ENHANCED PLATINUM (LSC-E8P)	YEARS 1-2 - 100% REPLACEMENT PARTS AND 100% LUTRON DIAGNOSTIC LABOR COVERAGE WITH A 24-HOUR RESPONSE TIME AND AN ANNUAL (1-DAY) SCHEDULED PREVENTIVE MAINTENANCE VISIT; YEARS 3-5 - 50% PARTS ONLY COVERAGE; YEARS 6-8 - 25% PARTS ONLY COVERAGE.
	SILVER TECHNOLOGY SUPPORT PLAN (LSC-SILV-IW)	AN ANNUAL SERVICE PLAN THAT COVERS 100% REPLACEMENT PARTS AND 100% LUTRON DIAGNOSTIC LABOR WITH A FIRST-AVAILABLE ONSITE OR REMOTE RESPONSE TIME.
	GOLD TECHNOLOGY SUPPORT PLAN (LSC-GOLD-IW)	AN ANNUAL SERVICE PLAN THAT COVERS 100% REPLACEMENT PARTS AND 100% LUTRON DIAGNOSTIC LABOR WITH A 72-HOUR ONSITE OR REMOTE RESPONSE TIME. ALSO INCLUDES AN ANNUAL (1-DAY) SCHEDULED PREVENTIVE MAINTENANCE VISIT EACH YEAR.
	PLATINUM TECHNOLOGY SUPPORT PLAN (LSC-PLAT-IW)	AN ANNUAL SERVICE PLAN THAT COVERS 100% REPLACEMENT PARTS AND 100% LUTRON DIAGNOSTIC LABOR WITH A 24-HOUR ONSITE OR REMOTE RESPONSE TIME. ALSO INCLUDES AN ANNUAL (1-DAY) SCHEDULED PREVENTIVE MAINTENANCE VISIT EACH YEAR.
	PREVENTIVE MAINTENANCE VISIT(S) (LSC-SCH-MAINT)	SCHEDULED MAINTENANCE VISIT TO PERFORM PREVENTIVE MAINTENANCE, MINOR PROGRAMMING, AND CONDUCT SYSTEM TRAININGS. QUANTITY IS IN ADDITION TO ANY TWO VISITS SPECIFIED WITH THE ENHANCED WARRANTY OR TECHNOLOGY SUPPORT PLAN.
		PLEASE GO TO WWW.LUTRON.COM/SERVICE FOR FURTHER INFORMATION.

NOTE:
PROVIDE PSP PRODUCTS, HURRICANE 3000 SERIES #H2C100-04-N TVSS FOR MAIN PANEL PROVIDE A MINIMUM OF 200K AMPS PER PHASE, 100K SURGE CURRENT RATING FOR 208V/3PH SERVICE IN N4 ENCLOSURE.

NOTE:
THE ONE-LINE DIAGRAM IS REPRESENTATIVE OF ELECTRICAL POWER FLOW, REFER TO PLANS FOR ORIENTATION OF MDP, PANELS, AND DIMMING SYSTEM CONTROL.

NOTE:
PROVIDE IG BUSSING IN PANEL P3. CONNECT WITH #6 IG GROUND CONDUCTOR FROM PANEL BUS TO MAIN SERVICE ENTRANCE GROUNDING JUMPER.



4B ELECTRICAL RISER DIAGRAM
N.T.S.

NOTES ON WIRING

QS CONTROL LINK
THE QS CONTROL LINK HAS A FREE WIRING TOPOLOGY (DAISY CHAIN, T-TAP, ETC). THE SYSTEM WIRING ILLUSTRATED BY THIS DRAWING HAS BEEN LAID OUT TO ENSURE APPROPRIATE POWER TO EACH DEVICE. IF FOR ANY REASON THE SYSTEM IS TO BE WIRED DIFFERENTLY THAN WHAT IS SHOWN, PLEASE CONFIRM ALL DEVICE POWER REQUIREMENTS ARE MET (PLEASE REFER TO "QS LINK POWER REQUIREMENTS" FOR INDIVIDUAL DEVICE POWER REQUIREMENTS).
FOR QS CONTROL WIRE LENGTHS TOTALING LESS THAN 500FT (153M), USE LUTRON CABLE GRX-CBL-346S (4 CONDUCTOR NON-PLENUM) OR GRX-PCBL-346S (4 CONDUCTOR PLENUM). OTHERWISE USE 2 #18 AWG (1.0 SQ MM) + 2 #22 AWG (0.5 SQ MM) TWISTED AND SHIELDED OR EQUIVALENT (BELDEN #9461). FOR QS CONTROL WIRE LENGTHS TOTALING UP TO 2,000FT, USE GRX-CBL-46L. TOTAL QS CONTROL WIRE LENGTH MUST NOT EXCEED 2,000FT (600M).

PANEL LINK RULES
PANELS ARE DAISY CHAINED ON ONE OF THE CONFIGURABLE LINKS PER LUTRON'S DRAWING, HOWEVER THEY DO NOT HAVE TO BE IN THE ORDER SHOWN. DO NOT HOME-RUN OR T-TAP THIS WIRING LINK. ALL CIRCUITS NEED TO BE LANDED IN THESE PANELS PER LUTRON'S PANEL SCHEDULES. THE MAXIMUM WIRE LENGTH OF A PANEL LINK IS 2,000FT (600M). AN MX-RPTR IS USED TO EXTEND THE LENGTH OF A LINK BY ANOTHER 2,000FT (600M). A MAXIMUM OF 3 MX-RPTRS MAY BE USED PER LINK FOR A MAXIMUM LENGTH OF 8,000FT (2,430 M) PER LINK. IF A PANEL IS MOVED TO ANOTHER LINK, OR THE LOADS ARE NOT WIRED AS SHOWN IN LUTRON'S PANEL SCHEDULES, LUTRON MUST BE NOTIFIED AS THIS INFORMATION IS IMPORTANT FOR PROGRAMMING THE SYSTEM. NO LINE TERMINATORS ARE NEEDED ON EACH END OF THE LINK.
USE LUTRON CABLE GRX-CBL-46L (5 CONDUCTOR NON-PLENUM) OR GRX-PCBL-46L (5 CONDUCTOR PLENUM RATED). OTHERWISE, USE 2 #12 AWG (4 SQ MM)+ 2 #22 AWG (0.5 SQ MM) TWISTED AND SHIELDED AND CONNECT THE PANELS ADD 1 #18 AWG (1.0 SQ MM) FOR EMERGENCY SENSING CABLE TO OTHER PANELS.

DMX CABLE
DMX LINK WIRING REQUIRES ONE BELDON #9729 (NON-PLENUM) OR ONE BELDON #89729 (PLENUM) OR DURA-TEK 22/4 WA CABLE.

ECOSYSTEM BUS/LOOP
THIS IS A TOPOLOGY-FREE AND POLARITY-FREE WIRING (DAISY CHAIN, T-TAP, HOME-RUN ETC.). KEEP ALL THE BALLASTS/MODULES IN ONE ROOM AS MUCH AS POSSIBLE. ECOSYSTEM LOOPS ARE SHOWN ON THE LIGHTING PLANS. IF THERE IS A DISCREPANCY, AND IF ROOMS ARE WIRED ON A DIFFERENT LOOP THAN THE ONE SHOWN, LUTRON NEEDS TO BE NOTIFIED AS THIS INFORMATION IS IMPORTANT FOR PROGRAMMING THE SYSTEM.
USE LUTRON CABLE C-CBL-216-GR1 (2 #16 CONDUCTOR NON-PLENUM) OR C-PCBL-216-CL-1 (2 #16 CONDUCTOR PLENUM RATED). OTHERWISE USE 2 #16 AWG (1.5 SQ MM) BY OTHERS.
LOOP LENGTH IS LIMITED BY THE WIRE GAUGE USED FOR E1 AND E2 AS FOLLOWS:

WIRE GAUGE	MAX LOOP LENGTH
16 AWG (1.5 SQ MM)	550 FT (167M)
14 AWG (2.5 SQ MM)	900 FT (274M)
12 AWG (4 SQ MM)	1,400 FT (426 M)
10 AWG (6 SQ MM)	2,200 FT (670M)

NOTE TO CONTRACTOR

ALL WORK SHALL COMPLY WITH THE CODES, LAWS, ORDINANCES, RULES AND REGULATIONS OF AUTHORITIES GOVERNING THE WORK.

QUANTUM SYSTEM ONLY
PANELS, QS DEVICES, AND ECOSYSTEM BUS SUPPLIES CANNOT BE WIRED ON THE SAME LINK.

LUTRON WILL PROGRAM THE QUANTUM SYSTEM DATABASE BY THE FACTORY PER THIS SUBMITTAL PACKAGE. IF THE SYSTEM CANNOT BE WIRED AS SHOWN, THE LUTRON PROJECT MANAGER (LISTED ON THE TITLE PAGE) MUST BE CONTACTED AT THE TIME OF RELEASE TO ENSURE ACCURATE SYSTEM PROGRAMMING.

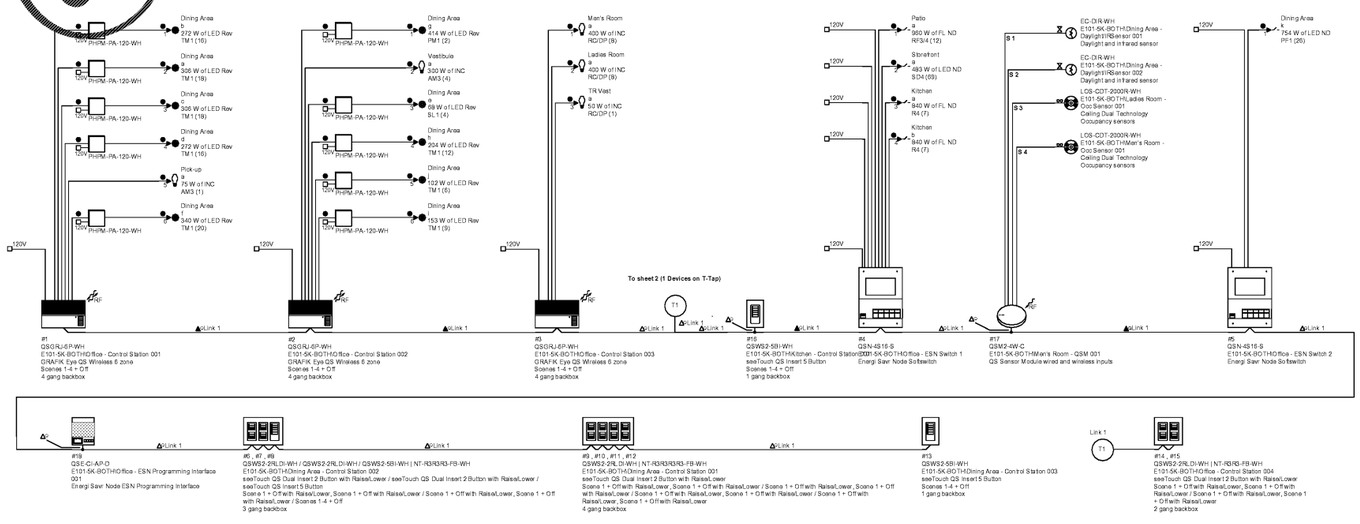
THE ELECTRICAL CONTRACTOR MUST PROVIDE:
1. MARKED UP LOOP LAYOUTS SHOWING ALL DIGITAL BALLAST LOOPS FOR ALL FLOORS.
2. MARKED UP FIXTURE SCHEDULE.
3. MARKED UP PANEL SCHEDULES FOR ALL LUTRON DIMMING AND SWITCHING PANELS.
4. MARKED UP ONE-LINES THAT DETAIL THE QS LINK WIRING FOR ALL FLOORS.

FAILURE TO PROVIDE THIS INFORMATION WILL RESULT IN ADDITIONAL CHARGES FOR ON-SITE PROGRAMMING AS WELL AS ADDITIONAL FIELD SERVICE TIME ON THE JOBSITE AND MAY AFFECT THE BUILDING TURNOVER DATE.

IF ANY FORM OF REVERSE PHASE, 3-WIRE, 0-10V AND SWITCHING LED DRIVERS, PLEASE VERIFY THE NUMBER OF DRIVERS SUPPORTED ON EACH DEVICE. FOR MORE INFORMATION, PLEASE VISIT LUTRON'S LED CENTER OF EXCELLENCE (WWW.LUTRON.COM/LEDS).

WHERE APPLICABLE, IT IS STRONGLY RECOMMENDED THAT REMOTE NETWORK ACCESS BE PROVIDED TO THE LUTRON SYSTEM SO THAT LUTRON SERVICES CAN QUICKLY ASSIST IN RESPONDING TO REQUESTS. WITH AN INTERNET CONNECTION, LUTRON SUPPLIED SOFTWARE WILL ALLOW LUTRON SERVICES TO ESTABLISH A CONNECTION TO THE SYSTEM IN ORDER TO DIAGNOSE ISSUES OR MANAGE VARIOUS TYPES OF REQUESTS. THIS REMOTE ACCESS CAN BE ENABLED BY THE CUSTOMER ON A CASE-BY-CASE BASIS IF DESIRED. ALTERNATIVELY, LUTRON CAN USE CUSTOMER-SUPPLIED REMOTE ACCESS SOFTWARE. IF REMOTE ACCESS TO A SYSTEM IS NOT AVAILABLE, LUTRON SERVICES MAY REQUIRE ONSITE VISITS TO RESPOND TO SERVICE REQUESTS. DEPENDING ON THE CUSTOMER'S WARRANTY STATUS AND SERVICE AGREEMENT, THESE VISITS MAY INCUR ADDITIONAL COST.

QS LINK POWER REQUIREMENTS	
DEVICE	PDUS
QS DEVICES THAT SUPPLY PDU	
DIN RAIL POWER SUPPLY	+75
MYROOM DIN RAIL POWER SUPPLY	+30
QS PLUG-IN POWER SUPPLY, QS J-BOX POWER SUPPLY	+8
ENERGI SAVR NODE WITH ECOSYSTEM, ENERGI SAVR NODE WITH DALI	+30
ENERGI SAVR NODE FOR 0-10V, ENERGI SAVR NODE WITH SOFTSWITCH, ENERGI SAVR NODE FOR 0-10V (DIN RAIL), ENERGI SAVR NODE WITH SOFTSWITCH (DIN RAIL)	+14
ENERGI SAVR NODE PHASE ADAPTIVE (DIN RAIL), 1A MYROOM DIN RAIL POWER MODULE SWITCHING, 1A MYROOM DIN RAIL POWER MODULE PHASE ADAPTIVE	+4
ENERGI SAVR NODE WITH DALI (DIN RAIL), ENERGI SAVR NODE WITH ECOSYSTEM (DIN RAIL)	+3
QS MOTOR GROUP CONTROLLER (DIN RAIL), HOMEWORKS QS DIN RAIL POWER MODULES	0
GRAFIK EYE QS (ALL MODELS EXCEPT GRAFIK EYE QS DALI WITH KNX), QS TIMECLOCK	+3
QP2 QUANTUM LIGHTING HUB	LINK A : 0 LINKS B,C,D : +33 EACH
QP3 QUANTUM LIGHTING HUB	LINKS A,B : +33 EACH
QS DEVICES THAT CONSUME PDU	
QS WALLSTATION (SEETOUCH, ARCHITRAVE, SIGNATURE SERIES, QS PICO, KEYSWITCH, SINGLE COLUMN PALLADIOM), QS SLIDER, GRAFIK T SLIDER, QS INFRARED (IR) EYE, WALLBOX INPUT CLOSURE INTERFACE	-1
QS NETWORK INTERFACE, QS DMX INTERFACE, ENERGI SAVR NODE PROGRAMMING INTERFACE, QS WALLSTATION (DOUBLE COLUMN PALLADIOM)	-2
QS SENSOR MODULE (QSM), NOT INCLUDING ATTACHED WIRED SENSORS (SEE SECTION BELOW FOR MORE INFORMATION), QS CONTACT CLOSURE INTERFACE, PALLADIOM ROOM THERMOSTAT	-3
GUESTROOM CONTROL UNIT	-8
SENSORS & DEVICES THAT CONSUME PDUS WHEN WIRED TO A QSM	
LUTRON DAYLIGHT SENSOR, LUTRON INFRARED (IR) RECEIVER, PICO WIRED CONTROLLER	-0.5
ECOSYSTEM WALLSTATION	-1
LOS C SERIES OCCUPANCY SENSOR, HIGH BAY OCCUPANCY SENSOR	-2



3E LIGHTING CONTROL WIRING SCHEMATIC
N.T.S.

CERTIFICATION

PRANGER GROUP INC.
PROJECT MANAGER

PROJECT NUMBER
5748

BUFFALO WILD WINGS
BIRMINGHAM
1416 4th AVENUE SOUTH,
BIRMINGHAM, AL 35233

BUFFALO WILD WINGS

DRAWING ISSUE

NO	DESCRIPTION	DATE
1		
2		
3		
4		
5		
6		
7		

Drawing Title
RISER DIAGRAM AND LIGHTING DETAILS

E302