GENERAL REQUIREMENTS FOR MECHANICAL / PLUMBING

GENERAL REQUIREMENTS

1. The following construction drawings and notes are applicable to these specifications and shall form part of the contract. In addition, mechanical and plumbing work is governed by the International Plumbing and International Mechanical Codes, current edition, as administered by the building official, and as per the contract as defined by the contract and the general conditions.
2. The mechanical and plumbing contractor shall verify all field dimensions, existing conditions, and assumptions. Any discrepancies shall be coordinated with the acting engineer of record prior to proceeding with any work related to the deviation.
3. It is agreed that the professional services of the mechanical, plumbing engineer do not extend to or include the review or site observation of the contractors work or performance. It is further agreed that the owner and owners agents (contractors) will defend, indemnify, and hold harmless the mechanical/plumbing engineer from any claim or suit whatsoever, but not limited to all payments, expenses, or costs involved, arisen from the contractor's or sub-contractor's performance or the failure of the contractor's work to conform to the design intent and the contract documents. The mechanical/plumbing engineer agree to be responsible for his own or his employees neglectful acts or omissions.
4. Contractor shall provide mechanical equipment submittals to the Architect of record prior to ordering any equipment.
5. Building codes:
   - International Mechanical Code - 2015 edition
   - International Plumbing Code - 2015 edition
   - International Fuel Gas Code - 2015 edition
   - International Energy Conservation Code - 2015 edition
   - National Electrical Code - 2014 edition
6. Before submitting a proposal for their work, any bidder shall examine the construction documents and the construction site, verified all dimensions, and satisfied themselves as to the conditions under which the work will be performed. Any discrepancy which exists will be brought to the attention of the architect at the time of bidding. Failure to notify the architect will represent an acceptance of the construction drawings as shown within this drawing set.
7. Scaled and figured dimensions are approximate only. Before proceeding with the work carefully check and verify dimensions at the construction site. Contractor is responsible for properly fitting equipment and materials together and to their structure in spaces as provided. notify architect of any conflicts which may exist at the time of bidding.
8. Drawings are essentially schematic and many offsets, bends, special fittings and exact locations are not indicated. carefully study drawings and premises in order to determine the best methods, exact locations, best routes, and building obstructions. Install apparatus and equipment in a manner to avoid obstructions, provide headroom, and maintain openings and passageways clear.
9. Align, level and adjust all equipment for proper operation. Install so that connecting and disconnecting of piping of accessories can be readily done, and so that all parts are readily accessible for inspection, service, and repair. Install all equipment in accordance with the manufacturers recommendations.
10. Cover none of the completed work until tested, inspected, and approved. Where work is covered before inspection and testing, uncover as required for inspections, testing, and approvals. Restore all uncovered work to original, proper conditions.
11. Provide sleeves for all piping passing thru concrete floor slabs and concrete, or masonry stem wall construction.
12. Where sleeves are provided in exterior walls below grade, and slabs on grade, the space between the pipe and the finished floor shall also be sleeved, up to finished floor elevations. where necessary, provide fire protection around pipes and in sleeves.
13. Flashing and counter flashing shall be provided by the mechanical/plumbing contractor or the roofing contractor for all roof penetrations. Coordinated with the general contractor in order to provide roof flashing at all roof penetrations. Provide roof curb and flashings at all duct penetrations.
14. Where equipment requiring service is concealed behind inaccessible surfaces, provide general contractor with the exact location and size of the access panels required. Any access panels which penetrate fire rated walls shall provide the same fire rating as the be furnished and installed by the electrical contractor, as shown in the electoral drawings.

CONNECTIONS FOR CONTROLS

1. All control wiring 100 volts and less shall be furnished and installed by the mechanical contractor. All power wiring 110 volts and above, except as noted or shown on these plans, shall pe completed by the electrical contractor, as shown within the electrical drawings.
2. All motor starters and controls specified to be included in a motor control center are to be furnished and installed by the electrical contractor, as shown in the electoral drawings.
3. All motors, control devices, individually mounted starters, and variable speed controllers are to be furnished by the mechanical contractor, with final connections to be by the electrical contractor. Provide shop drawings complete with wiring diagrams to the electrical contractorss per the shop drawing specifications on this sheet.
4. The mechanical contractor is responsible for the checking and testing of all controls and interlocks for a complete and satisfactory operating system. Additional wiring and devices which may be necessary for the proper operation of the equipment shall be furnished and installed by the mechanical contractor as needed.
5. Prior to ordering or purchasing of any motors, starters, controls, or equipment, verify the available voltage and phase for all equipment with the electrical contractor, and all requirements for motor starters, including all extra circuits, contacts, H.O.A. switches, etc.
6. All field wiring must conform to the requirements of St. George City, Utah and to all applicable sections of the electrical code.

FINAL TESTING AND OPERATION

1. All work to be tested, inspected, and approved before covering, remake all leaking joints.
2. Water system to maintain 150 psi hydrostatic pressure for four hours.
3. Fill waste and vent system with water to the highest point in system, and stand for two hours without loss.
4. Supply flashing for all vent pipe and other types of piping through the roof, to be installed with the roofing. Flash vents with stoneman S1300-4 or equal, or with sheet lead weighing not less than 4 pounds pre square foot or equal. Extend flashing into roofing a min. of 10" from vent and turn over and down into vent piping.
5. Use 20 gauge galvanized steel sleeves around pipes passing through masonry walls and concrete slabs.

PLUMBING RELATED ELECTRICAL NOTES

1. Electrical contractor to provide wiring in all ceiling areas. Electrical contractor to provide contactors/starters at electrical panel and local disconnect for plumbing equipment as required. Electrical contractor to provide all conduit and wiring for plumbing equipment electrical requirements, all conduit and wiring for 120V controls, and conduit only for 24V controls. See plumbing equipment schedule and plumbing fixture schedule description for equipment with electrical requirements. Provide 120V duplex outlet for equipment provided with a power cord. Coordinate with Electrical Contractor.

PIPING INSULATION SCHEDULE

PIPING APPLICATION	PIPE DIA. INCHES	INSULATION INCHES	COMMENTS
HOT WATER PIPE FOR SPACE HEATING	<= 1½"	1½"	INSULATION IS NOT REQUIRED: WHEN FLUID TEMP IS BETWEEN 60°F AND 105°F, WHEN FLUID IS NOT HEATED OR COOLED, WHEN RUNOUT IS LESS THAN 4 FT LONG, ON PIPE UNIONS
	> 1½"	2"	
CHILLED WATER/ REFRIGERANT PIPE	<= 1½"	1½"	INSULATION IS NOT REQUIRED: WHEN FLUID TEMP IS BETWEEN 60°F AND 105°F, WHEN FLUID IS NOT HEATED OR COOLED, WHEN RUNOUT IS LESS THAN 4 FT LONG, ON PIPE UNIONS
	> 1½"	1½"	
DOMESTIC HOT WATER PIPING	<= 1½"	1"	INSULATION IS REQUIRED ON ALL DOMESTIC HOT WATER PIPING AND ON INLET PIPE BETWEEN THE STORAGE TANK AND HEAT TRAP.
	> 1½"	1"	
DOMESTIC COLD WATER PIPING	<= 1½"	½"	INSULATE FOR CONDENSATION PREVENTION IN SPACES WATER DAMAGE COULD OCCUR. INSULATE AND HEAT TRACE IN UNHEATED SPACES FOR FREEZE PROTECTION AS REQUIRED.
	> 1½"	½"	

MECHANICAL NOTES

1. All work is to be performed in accordance with 2015 IBC, 2015 IPC, 2015 IMC, 2015 IFGC, 2015 IECC and 2014 NEC. In addition, work to comply with any other applicable local, state or federal codes and regulations.
2. Ducting fabrication and installation shall comply with SMACNA standards and ASHRAE criteria for low pressure ducting systems. Ducting shall be provided with fixed turning vanes in square or rectangular elbows and tees. Ducting shall be insulated for thermal conservation, sound control and condensation prevention. Provide min. 10ft of acoustical duct liner from unit in supply and return ducts. All insulation shall be compatible for use in return ceiling type and shall meet or exceed minimum fire and smoke spread code requirements. Ducting to be insulated as per duct insulation schedule or as required by local authority having jurisdiction. Flexible ducting may be installed between diffusers and rigid ducting, not to exceed a maximum length of 5 feet. All duct joints and seams be sealed with UL 181A approved mastic or other approved material. Unlisted duct tape or asbestos materials are prohibited. Duct diameter dimensions are for inside diameter and shall be increased in outside diameter based on the thickness of internal insulation.
3. All equipment to be provided with vibration isolation between equipment and ducting. All roof mounted equipment to be provided with curbs. RTU shall be installed with economizer controls designed to take advantage of favorable weather conditions. Curbs to be secured to roof trusses as per curb mfg. Coordinate RTU and curb locations and weights with structural prior to commencement of work.
4. Each zone shall have at least one temperature control device for maintaining the area at 70°F for heating and 75°F for cooling. HVAC systems shall be equipped with automatic controls capable of reducing energy use during facility off-hour or shut down periods. Thermostat must be capable of setting back temperature to 55°F during heating and 85°F during cooling. Thermostat must be capable of maintaining programmed settings for at least 10 hours without power.
5. An operating and maintenance manual shall be provided to the building owner and/or occupant for each piece of equipment.
6. HVAC equipment shall meet or exceed minimum efficiency requirements as determined by ASHRAE/IESNA 90.1.
7. Smoke detectors shall be provided in return air duct for each air handler over 2000 cfm, exhaust air fan inlet duct and as required by applicable codes. Smoke detectors to interlock with RTU. Smoke detectors to connect to building fire system as required, or provided with strobe and audible alarm if no building fire alarm is available.
8. Supply air diffusers shall be provided with a noise rating of NC<30 at the design CFM indicated on the drawings. Office diffusers shall be furnished as per drawing CFM requirements as 4-way, square louvered, flush face, high capacity, round neck type as per register & grille schedule or equal. Diffusers shall be subject to architect's approval prior to installation to ensure compatibility with ceiling finish and type. Diffusers, ducting, supports, return grills, etc., shall be painted by the HVAC contractor, as required, to be compatible with architectural finish requirements.
9. All return air shall be via return air duct. Return air grilles shall be provided with a noise rating of NC<30 at the design CFM indicated on the drawings. Return air grilles shall be furnished as per drawing CFM requirements as, square louvered, flush face, high capacity, round neck type as per register & grille schedule or equal. Diffusers shall be subject to architect's approval prior to installation to ensure compatibility with ceiling finish and type.
10. A Certified third party contractor as per standard codes and procedures shall perform system balancing. Provide a copy of the balance report for MRW Design Associates Inc. and the owner upon completion of system balancing.
11. Bathroom exhaust fans shall be furnished based on the CFM required by the drawing and as industrial or commercial duty with UL approval. Each unit shall be ducted to exterior through roof or sidewall as applicable outside roof locations with discharge hood, damper, and screen. Grilles shall be provided to be consistent with the ceiling design and shall be subject to approval prior to installation, to ensure compatibility with ceiling finish and type.
12. Design based on minimum R-19 wall insulation, R-30 roof insulation and windows with U=0.49 and shade factor of 0.57.
13. Roof repairs for equipment curbs and penetrations to be performed by others.
14. Provide exhaust fans with back draft damper, weather cover/cap and bird screen.
15. Provide transfer air grilles with minimum 12"x12" free space and sound boot for return air from rooms without ceilling transfers to RTU.
16. Owner to provide maintenance and UV equipment if required, to prevent a source for spore and mold growth in all HVAC equipment.
17. Mechanical design drawings are schematic in nature. Reference Architectural & Structural drawings for actual dimensions.
18. Split system line sets not to exceed 150' in length or 50' in rise without consulting mfg. Provide TXV on all liquid lines and insulate with min. 1" closed cell foam insulation. Locate outdoor unit on 4'X4' concrete pad where located on grade. Provide low ambient kit for min 0°F operation where unit can operate at temperatures below 40°F ambient.
19. A UL 508 approved water level detection device shall be installed for equipment that produces condensate. Locate in equipment drain pan higher than the primary drain line connection and below the overflow rim of the pan. Device is to shut off the equipment when primary drain is blocked.
20. Mechanical contractor to affix green sticker to gas appliances stating such appliance has been adjusted, re-calibrated or re-jetted for altitude at this location if required by Utah.
21. Coordinate all work and duct/grill locations with the general contractor and subcontractors, space and layout conflicts with architectural and other trades to be resolved prior to installation. It is the contractor's responsibility to verify site conditions and understand all project plans prior to commencement of work.

MECHANICAL RELATED PLUMBING NOTES

1. Plumbing contractor to route gas line from meter to units as per code and Dominion Gas requirements. Gas line pressure to be provided as per drawings. Gas line material to be schedule 40 black pipe indoor, protected outdoor as per Dominion Gas and code requirements. Support Gas line on roof with unistrut on foam block or as required by roof system mfg. Plumbing contractor to provide indoor/outdoor regulator at each appliance where pressure is above 4 OZ. Coordinate with Plumbing Contractor.

PLUMBING NOTES

1. All plumbing work is to be installed in accordance with building, local, state and federal codes and regulations. In addition, all work shall conform to editions of the 2015 IBC, 2015 IMC, 2015 IPC, 2015 IFGC, 2015 IECC and 2014 NEC. Tie-in, backflow prevention, suction breakers, strainers and traps shall be installed as per local requirements and applicable codes.
2. Hot water sanitary service shall include an electric water heater. Outlet piping from the water heater to the fixtures shall be provided with minimum 1" thick insulation. Temperature must be limited to 110°F maximum. Water heater to be secured as per seismic requirements. Water heater shall be installed with expansion tank, on drip pan, with access space and as per manufacture. Storage water heaters not equipped with integral heat traps and serving a nonrecirculating system, and having vertical pipe risers shall be installed with insulated heat traps on both inlet and outlet. Insulate inlet pipe between storage tank and heat trap with minimum 1" thick insulation.
3. Clean-outs shall be provided at the end of each branch and on 50' centers for all interior sanitary piping. Clean-outs to be provided with ABS or Delrin Plugs. Provide wall clean-outs where piping is concealed in walls, use tapped clean-outs tee or tapped extension to within 4" of the wall face. No-hub type blind plugs are not permissible.
4. Sewer piping shall be installed with a uniform slope of 1/4" per foot and vented as per IPC and building system requirements.
5. Flow rate to each bathroom water fixture must be limited to either a maximum of 0.5 gpm or 0.25 gpm if a device is used to limit the discharge period such as sensing faucet. Water closet to be 1.6 gpf max and urinals to be 1.0 gpf max. Sink faucets other than lavs to be limited to 2.2 gpm. Provide water hammer arrestors where quick closing valves are utilized.
6. Plumbing contractor to provide local outdoor/indoor rated regulator and gas shut off valve at each unit as required. Route gas line from meter to units as per code and Dominion Gas requirements. Gas line pressure to be provided as per drawings. Gas line material to be schedule 40 black pipe indoor, protected outdoor as per Dominion Gas and code requirements. Support Gas line on roof with unistrut on foam block or as required by roof system mfg. Plumbing contractor to provide regulator at each appliance where pressure is above 4 OZ. Coordinate with Plumbing Contractor.
7. Provide plumbing fixtures with drain size as per plumbing fixture schedule or as required by mfg.
8. Route condensate drain lines to nearest mop sink or other allowable location.
9. All fire rated wall or floor penetrations must be provided with appropriate fire stop. All penetration water supply piping to be copper tube Type-L or equal. All penetration drain and vent pipe to be cast iron.
10. Water supply piping not used to penetrate any fire rated structure, may be copper Type L, ABS, Pex, etc., or as per section 605 of the IPC for water distribution. Piping located in ceiling space to be rated for return air duct use with approved smoke/flame spread ratings. All culinary water supply piping to be properly sanitized prior to placement in service.
11. Sewer vent piping not used for penetration of any fire rated structure may be ABS, cast iron, etc., or as per section 702 of the IPC for vent pipe. All pipe in ceiling space to be rated for return air duct use with approved smoke/flame spread ratings.
12. All floor areas with drains to be provided with suitable epoxy or other sealing materials of construction by the general contractor to prevent leaking.
13. Installation of all plumbing systems to be as per sections 305, 307, 308 and 312 of the IPC. All plumbing components shall be secured to the structure to resist movement as per earthquake and wind load requirements.
14. Vent all fixtures to common vent stacks as per code requirements, to minimize roof penetrations. Locate all roof vents minimum 10' away and minimum 2' above any building air inlets, including RTUs. Route all vents outside or of above equipment wells and parapet walls.
15. Provide trap primers to prime floor drains where applicable. Provide trap primer valve under sink in accessible location or behind access panel. Provide maintenance valve upline from primer to allow for removal and repair of primer valve.
16. Contractor to coordinate plumbing fixture selection with owner/architect for approval prior to installation. All fixtures to be provided with shut-off valves at fixture.
17. Plumbing contractor to obtain all required permits for work and provide all tests as required by local building authorities.
18. All piping on exterior walls shall be located on warm side of insulation.
19. Coordinate all work and piping locations with the general contractor and subcontractors, space and layout conflicts with architectural and other trades to be resolved prior to installation.
20. Provide proper provisions for pipe expansion, movement, and shock thrust as required.
21. All ceiling areas are designed for return air duct. Use all ceiling area materials to be rated for return air duct use with approved flame and smoke ratings.
22. Plumbing design drawings are schematic in nature. Reference Architectural and Structural drawings for actual dimensions. Reference Civil drawings for connection requirements once outside structure.

MECHANICAL RELATED ELECTRICAL NOTES

1. Electrical contractor to provide wiring in all ceiling areas. Electrical contractor to provide contactors/starters at electrical panel and all other local disconnects as required. Electrical contractor to provide weather proof duplex 120V convenience outlet at each RTU. Electrical contractor to provide all conduit and wiring for HVAC electrical requirements, all conduit and wiring for 120V controls, and conduit only for 24V controls.

DUCT INSULATION THICKNESS

INSULATION R-VALUE	TYPICAL DUCT INSULATION THICKNESS: LINER	WRAP	BOARD	FLEX
1.9	½"	1"	1"	1"
3.5	1"	1-½"	1"	1"
6	1-½"	2" (2)	1-½"	2-½"
8	2"	3" (.75)	2"	3"

*DENSITY OF MINERAL FIBER DUCT WRAP IN LB/FT³

DUCT INSULATION SCHEDULE

DUCT TYPE	DUCT LOCATION	INSULATION R-VALUE*
SUPPLY & RETURN	WITHIN THERMAL ENVELOPE	NOT REQ'D
SUPPLY & RETURN	IN UNCONDITIONED SPACE	5
SUPPLY & RETURN	OUTSIDE THE BUILDING	8
SUPPLY & RETURN	EXCEPTION: DUCTS WHERE: ΔT <15°F	NOT REQ'D

*R-VALUES LISTED ARE MINIMUMS FOR ENERGY CONSERVATION. ADDITIONAL INSULATION SHALL BE INSTALLED AS REQUIRED FOR CONDENSATION PREVENTION AND SOUND ATTENUATION.

Water for Building Usage Calculations — 31-August-2018

New - Sakura Japanese Steakhouse & Sushi
Near 1100 East & St. George Boulevard
St. George, Utah 84770

Item	Load Value (wsfu)	Qty	Sub-Total (wsfu)
Common Areas			
1. DW-1, Dish Washer	6	1	6
2. IM-1,2,3, Ice Makers	10	3	30
3. L-1, Lavatory Sink	2	4	8
4. L-2, Lavatory Sink	0.7	1	0.7
5. S-1 Hand Sink	2	6	12
6. S-2, Hand Sink	1.4	2	2.8
7. S-3, Pre-Rinse Sink	4	1	4
8. S-4, Mop Sink	3.6	1	3.6
9. S-5, Pot Fill Faucet	12	1	12
10. S-6, (3)-Compartment Sink	4	3	12
11. U-1, Urinal	5	1	5
12. WC-1, Water Closet	5	6	30
Total Estimated Daily Use Gallons (wsfu)			126.1
Estimated Peak Flow Required (gpm) = 0.67 (excludes landscape, must be irrigated in off-peak hours)			50 gpm

Total Estimated Demand per 2015 IPC, Appendix E, Table E103.3(3)*
* Indicates calculation excludes landscape, must be irrigated in off-peak hours

LINEAR SLOT DIFFUSER, RETURN SCHEDULE

MARK, DESCRIPTION	NAMEBRAND	MODEL	CFM	SUPPLY DUCT TO PLENUM DUCT
LDR-1, LINEAR SLOT DIFFUSER, RETURN	MANUFACTURED AIR PRODUCTS	LS10-14'-6"x3 SLOT-C-AW-MM	2000	(3)-9"Ø OR OVAL DUCT OF EQUAL EQUIVALENT

LINEAR SLOT DIFFUSER, SUPPLY SCHEDULE

MARK, DESCRIPTION	NAMEBRAND	MODEL	CFM	SUPPLY DUCT TO PLENUM DUCT
LDS-1, LINEAR SLOT DIFFUSER, SUPPLY	MANUFACTURED AIR PRODUCTS	LS10-14'-6"x3 SLOT-C-AW-MM	2000	(3)-9"Ø OR OVAL DUCT OF EQUAL EQUIVALENT
LDS-2, LINEAR SLOT DIFFUSER, SUPPLY	MANUFACTURED AIR PRODUCTS	LS10-9'-0"x1 SLOT-C-AW-MM	360	(2)-6"Ø OR OVAL DUCT OF EQUAL EQUIVALENT
LDS-3, LINEAR SLOT DIFFUSER, SUPPLY	MANUFACTURED AIR PRODUCTS	LS10-10'-0"x3 SLOT-C-AW-MM	1075	(3)-9"Ø OR OVAL DUCT OF EQUAL EQUIVALENT
LDS-4, LINEAR SLOT DIFFUSER, SUPPLY	MANUFACTURED AIR PRODUCTS	LS50-8'-3"x1 SLOT-C-AW-MM	155	(2)-6"Ø OR OVAL DUCT OF EQUAL EQUIVALENT
LDS-5, LINEAR SLOT DIFFUSER, SUPPLY	MANUFACTURED AIR PRODUCTS	LS50-14'-3"x1 SLOT-C-AW-MM	270	(3)-9"Ø OR OVAL DUCT OF EQUAL EQUIVALENT

EXHAUST VENTILATOR SCHEDULE

MARK, DESCRIPTION	NAMEBRAND MODEL	TOTAL UNIT WEIGHT	EXHAUST AIR FLOW	TOTAL STATIC PRESSURE	REMARKS
EV-1, EXHAUST VENTILATOR	SOLER&PALAU: RCXII-06	7 LBS	95 CFM	0.025 in.WC	PROVIDE BACKDRAFT DAMPER & CEILING GRILLE AT GYP. BOARD CEILING

ROOF TOP UNIT SCHEDULE

MARK, DESCRIPTION	RTU NAMEBRAND	RTU MODEL	REFRIGERANT	UNIT VOLTAGE	FREQ.	UNIT MCA	UNIT MAX FUSE	TOTAL UNIT WEIGHT W/ OPTIONS	SEER	EER	IEER	GROSS SENSIBLE COOLING CAPACITY	SUPPLY AIR FLOW	TOTAL STATIC PRESSURE	HEAT SOURCE	H/E HIGH INPUT	H/E HIGH OUTPUT	THERMAL EFFICIENCY	SOUND RATING	OPTIONS SEE TABLE
RTU-1 3 TON, 15.00 SEER, 12.50 EER	CARRIER	48HCDA04A2M5-6B2C0	PURON (R-410A)	208V 3PH	60 HZ	26.0 AMPS	30 AMPS	756 LBS	15.00	12.50		36.0 MBH	1,200 CFM	0.5 in.WC	NAT. GAS	50.0 MBH	41.0 MBH	82%	76 dB	3,4,6,8
RTU-2,3,4,5 5 TON, 15.20 SEER, 12.45 EER	CARRIER	48HCDA06A2M5-6B2C0	PURON (R-410A)	208V 3PH	60 HZ	34.0 AMPS	45 AMPS	824 LBS	15.20	12.45		57.5 MBH	2,000 CFM	0.5 in.WC	NAT. GAS	50.0 MBH	41.0 MBH	82%	77 dB	3,4,6,8
RTU-6 6 TON, 12.00 EER, 13.00 IEER	CARRIER	48HCDA07B2M6-6B0G0	PURON (R-410A)	208V 3PH	60 HZ	41.0 AMPS	50 AMPS	1,066 LBS		12.00	13.00	73.0 MBH	2,400 CFM	0.5 in.WC	NAT. GAS	50.0 MBH	41.0 MBH	82%	82 dB	3,4,6,8
RTU-7,8 8.5 TON, 12.00 EER, 13.80 IEER	CARRIER	48HCTD09B2M6-6B0G0	PURON (R-410A)	208V 3PH	60 HZ	48.0 AMPS	60 AMPS	1,266 LBS		12.00	13.80	97.0 MBH	3,400 CFM	0.5 in.WC	NAT. GAS	125.0 MBH	103.0 MBH	82%	82 dB	3,4,6,8

ROOF TOP/SPLIT SYSTEM UNIT OPTIONS:
1. - CONCENTRIC TERMINATION KIT, MICROMETL: CNKT-HE20-18HD
2. - SMOKE GASKET KIT
3. - CARRIER TP-PRH PROGRAMMABLE THERMOSTAT
4. - ECONOMIZER, PROVIDE FRESH AIR PER ENERGY RECOVERY VENTILATION FRESH AIR CALC. SCHEDULE
5. - POWER EXHAUST WITH BAROMETRIC RELIEF
6. - ROOF CURB
7. - SMOKE DETECTOR
8. - BAROMETRIC RELIEF HOOD

UNIT HEATER SCHEDULE

MARK	FIXTURE	MANUFACTURER/ MODEL	SUPPLY AIR FLOW	HEAT SOURCE	NET HEATING CAPACITY	KW	ELECTRICAL SPECIFICATIONS	MAX FUSE	SOUND RATING	WEIGHT
UH-1	FAN-FORCED WALL HEATER	QMARK - CWH1101DSF		ELECTRIC	3.4/1.7 MBH	1/0.5	120V, 1PH, 9A	20 AMPS		
UH-2, 3	ELECTRIC UNIT HEATER	REZNOR: MODEL EGW-2	300 CFM	ELECTRIC	5.2 MBH	1.5	208V, 1PH, 8A	20 AMPS	51 dB	20 LBS

HOOD SCHEDULE

MARK, DESCRIPTION	NAMEBRAND MODEL	TOTAL EXHUAST	TOTAL SUPPLY	NOMINAL HOOD DIMENSIONS	LIGHTING SPECIFICATIONS	REMARKS
H-1,2,3,4,5,6,7,8,9,10,11,12 TYPE I HOOD	CAPTIVEAIRE: 5424 ND-2TY-PSP-FB-H	1,620 CFM	1,296 CFM	6'-0"w x 6'-0"d x 2'-6"h	(2)-100W LIGHT FIXTURE	PROVIDE ANSUL SYSTEM, ADDITIONAL SUPPLY NOT LOCATED AT HOOD, SEE M2.1 FOR LOCATION & AMOUNT
H-13 TYPE I HOOD	CAPTIVEAIRE: 5424 ND-2-PSP-F	2,200 CFM	2,089 CFM	9'-0"w x 6'-0"d x 2'-6"h	(3)-100W LIGHT FIXTURE	PROVIDE ANSUL SYSTEM
H-14,15,16 TYPE I HOOD	CAPTIVEAIRE: 5424 ND-2-PSP-F	2,640 CFM	2,900 CFM	11'-0"w x 6'-0"d x 2'-6"h	(4)-100W LIGHT FIXTURE	PROVIDE ANSUL SYSTEM
H-17, TYPE II HOOD	CAPTIVEAIRE: 4824 VHB-G	700 CFM	REMARKS	7'-0"w x 4'-0"d x 2'-6"h		SUPPLY AIR PROVIDED BY ROOM HVAC

MAKE-UP AIR UNIT SCHEDULE

MARK, DESCRIPTION	NAMEBRAND MODEL	SUPPLY AIR FLOW	TOTAL STATIC PRESSURE	HEAT SOURCE	HEATER INPUT	HEATER OUTPUT	EFFICIENCY	MOTOR VOLTAGE	MOTOR FLA	UNIT MAX FUSE	SONES	TOTAL UNIT WEIGHT	SUPPLY DUCT
MUA-13,14,15,16,17,18 MAKE-UP AIR UNIT	CAPTIVEAIRE: A2-D.250-20D	3,078 CFM	.5" wc ESP	NAT. GAS	190,472 BTUH	175,234 BTUH	92%	208V, 3PH, 3 HP	9.5	15 AMPS	14	1005 LBS	14"x14"
MUA-23 MAKE-UP AIR UNIT	CAPTIVEAIRE: A2-D.250-20D	4,598 CFM	.5" wc ESP	NAT. GAS	284,532 BTUH	261,770 BTUH	92%	208V, 3PH, 5 HP	15.0	20 AMPS	22	1101 LBS	25"x25"
MUA-24 MAKE-UP AIR UNIT	CAPTIVEAIRE: A2-D.250-20D	5,016 CFM	.5" wc ESP	NAT. GAS	310,399 BTUH	285,567 BTUH	92%	208V, 3PH, 7.5 HP	21.1	30 AMPS	25	1122 LBS	25"x25"

NOTE: VERIFY ALL EQUIPMENT W/ OWNER PRIOR TO PURCHASE AND INSTALLATION

DUCTLESS INDOOR UNIT SCHEDULE

MARK, DESCRIPTION	NAMEBRAND	MODEL	MOUNTING	REFRIGERANT	UNIT VOLTAGE	FREQ.	UNIT MCA	UNIT MAX FUSE	TOTAL UNIT WEIGHT	RATED COOLING CAPACITY	SUPPLY AIR FLOW (HIGH/LOW)	HEAT SOURCE	RATED HEATING CAPACITY	SOUND RATING
MS-1,2,3,4,5 0.75 TON	CARRIER	40MAQB09B--3	HIGH WALL INDOOR UNIT	PER MANUFACTURER	208V 1PH	60 HZ	0.2 AMPS	SEE REMARKS	20 LBS	9,000 BTU/H	210/290/360/380	ELECTRIC	6,950 BUT/H	27/34/42 dB

VARIABLE REFRIGERANT FLOW HEAT PUMP SCHEDULE

MARK, DESCRIPTION	VRF NAMEBRAND	VRF MODEL	REFRIGERANT	UNIT VOLTAGE	FREQ.	UNIT MCA	UNIT MAX FUSE	TOTAL UNIT WEIGHT	RATED COOLING CAPACITY	HEAT SOURCE	RATED HEATING CAPACITY	SOUND RATING	REMARKS
HP-1 1.5 TON, 22.5 SEER, 12.5 EER	CARRIER	38MGRQ18B--3	PURON (R-410A)	208V 1PH	60 HZ	18 AMPS	25 AMPS	106 LBS	18,000 BTU/H	ELECTRIC	19,000 BUT/H	63 dB	MS-1 & MS-2 TO CONNECT TO HP-1
HP-2 2 TON, 23.0 SEER, 12.5 EER	CARRIER	38MGRQ24C--3	PURON (R-410A)	208V 1PH	60 HZ	25 AMPS	35 AMPS	150 LBS	24,000 BTU/H	ELECTRIC	23,000 BUT/H	64 dB	MS-3, MS-4 & MS-5 TO CONNECT TO HP-2

EXHAUST FAN SCHEDULE

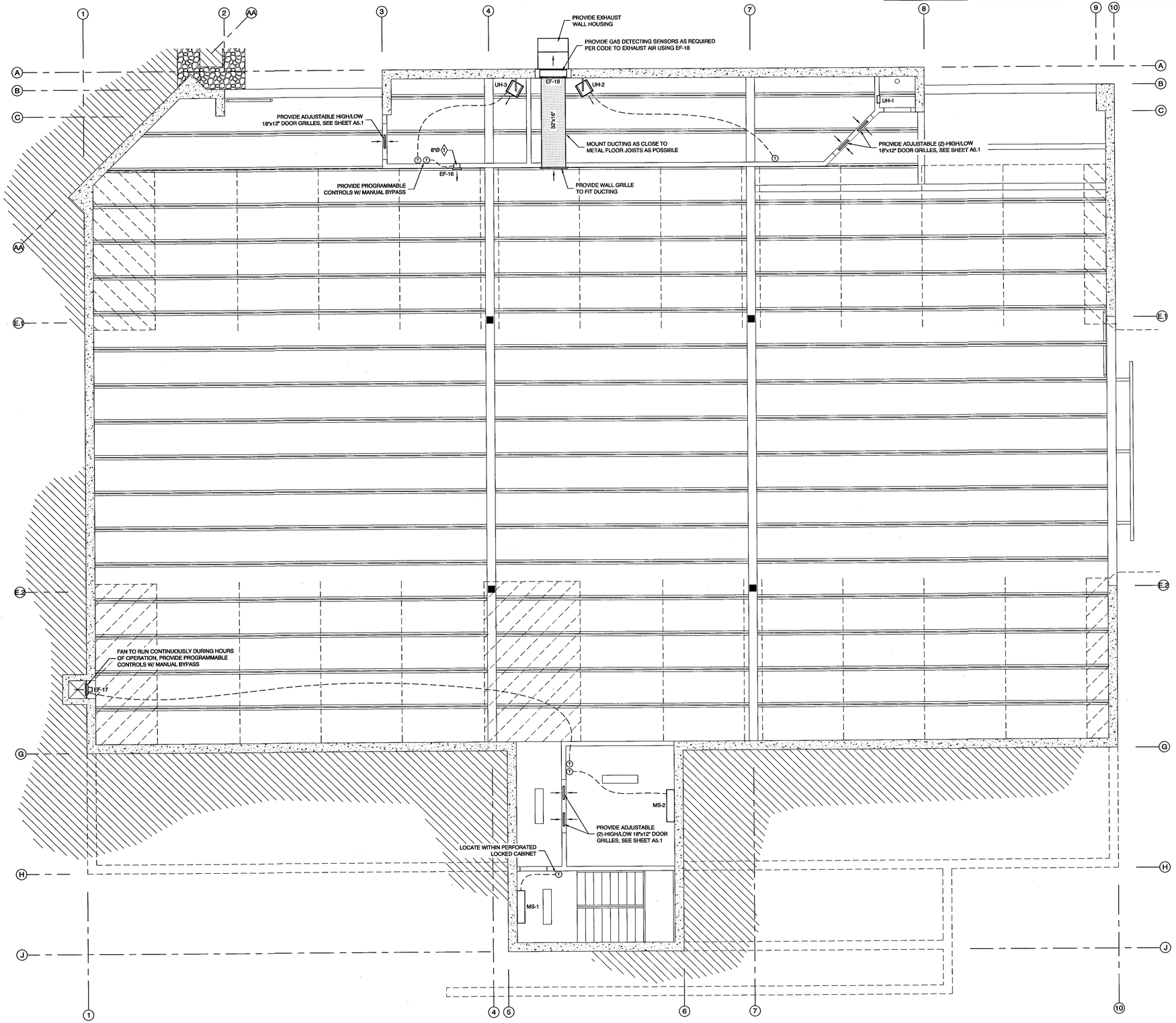
MARK, DESCRIPTION	NAMEBRAND MODEL	EXHAUST AIR FLOW	TOTAL STATIC PRESSURE	VOLTAGE	TOTAL UNIT WEIGHT	SONES	VENT SIZE	REMARKS
EF-1,2,3,4,5,6,7,8,9,10,11,12: EXHAUST FAN - TYPE I HOOD, HIBACHI	CAPTIVEAIRE: DU50HFA	1,820 CFM	0.6" wc ESP	208V, 1PH, 60Hz, 5.2 AMP, 0.75HP	97 LBS	12.5	14"Ø	PROVIDE GREASE CUP, ROOF MOUNTED
EF-13: EXHAUST FAN - EMPLOYEE RESTROOM	PANASONIC: FV-05VQ5	50 CFM	0.1" wc ESP	120V, 1PH, 60Hz, 0.09 AMP	10.4 LBS	0.3	4"Ø	BACK DRAFT DAMPER, V.T.R.
EF-14,15: EXHAUST FAN - PUBLIC RESTROOM	PANASONIC: FV-08VQ5	80 CFM	0.1" wc ESP	120V, 1PH, 60Hz, 0.12 AMP	10.4 LBS	0.3	4"Ø	BACK DRAFT DAMPER, V.T.R., PROVIDE PROGRAMMABLE CONTROLLER
EF-16: SIDEWALL EXHAUST FAN - FISH TANK EQUIPMENT	PANASONIC: FV-08WQ1	70 CFM	0.03" wc ESP	120V, 1PH, 60Hz, 0.2 AMP	12.1 LBS	1.1	8"Ø	BACK DRAFT DAMPER
EF-17: SIDEWALL EXHAUST FAN - PARKING GARAGE	S&P: GED10-1/10	500 CFM	0.125" wc ESP	115V, 1PH, 60Hz, 0.9 AMP, 0.1HP	30 LBS	6.7	10.5"x10.5"	PARKING GARAGE CONTINUOUS VENTILATION
EF-18: SIDEWALL EXHAUST FAN - PARKING GARAGE	S&P: LC30-3/4-E	7500 CFM	0.25" wc ESP	208V, 3PH, 60Hz, 2.5 AMP, 0.8HP	270 LBS	15.8	36"x36"	PARKING GARAGE EMERGENCY VENTILATION
EF-19: EXHAUST FAN - TYPE I HOOD, KITCHEN	CAPTIVEAIRE: DU85HFA	2,200 CFM	0.8" wc ESP	208V, 1PH, 60Hz, 6.1 AMP, 1.0HP	97 LBS	17.5	16"Ø	PROVIDE GREASE CUP, ROOF MOUNTED
EF-20,21,22: EXHAUST FAN - TYPE I HOOD, KITCHEN	CAPTIVEAIRE: DU180HFA	2,640 CFM	1.0" wc ESP	208V, 3PH, 60Hz, 3.8 AMP, 1.0HP	153 LBS	16.0	16"Ø	PROVIDE GREASE CUP, ROOF MOUNTED
EF-25: EXHAUST FAN - TYPE II HOOD, KITCHEN DISHWASHER	CAPTIVEAIRE: DU50HFA	1,050 CFM	0.125" wc ESP	115V, 1PH, 60Hz, 5.6 AMP, 0.5HP	70 LBS	10.9	12"Ø	ROOF MOUNTED

NOTE: VERIFY ALL EQUIPMENT W/ OWNER BEFORE PURCHASE, ALL EQUIPMENT MAY BE SUBSTITUTED FOR EQUIVALENT PER OWNER'S APPROVAL

PLUMBING FIXTURE SCHEDULE

MARK	FIXTURE	MANUFACTURER/ MODEL	WASTE	HOT WATER	COLD WATER	VENT	REMARKS
BC-1	SIX BEER CHILLER, PLAR32	MICRO MATIC: P32-6	---	---	---	---	
BD-1	8 FAUCET BEER TOWER DRAIN	BEER TOWER PER OWNER PERLICK: C18650A	1/2"	---	---	---	
BT-1	BRASS TONGUE DOWNSPOUT	ZURN: ZARB-Z199-3IP-PVC	3"	---	---	---	FOR 3" ROOF DRAIN & 3" OVERFLOW PIPING, SEE ARCHITECTURAL PLANS & MANUFACTURER'S SPECIFICATIONS FOR MORE INFORMATION
D-1	DISPOSAL	THE SALVAJOR COMPANY: 100-SA-3 1/2-MRSS-208V-3PH	---	---	---	---	
DT-1	"U" DISHTABLE	EAGLE GROUP/METAL MASTERS CUSTOM SOILED DISHTABLE	1-1/2"	1/2"	1/2"	2"	
DT-2	DISHTABLE	EAGLE GROUP/METAL MASTERS CUSTOM CLEANED DISHTABLE	1-1/2"	1/2"	1/2"	2"	
DW-1	WAREWASHER, RACK CONVEYOR	HOBART US FOODSERVICE: CL44E-6	1-1/2"	1/2"	---	1-1/2"	208/60/3, 55A, 60A BREAKER, PER CONTRACTOR/OWNER
ES-1	EQUIPMENT STUB	PER CONTRACTOR, VERIFY WITH OWNER	1-1

SEE MP1.1 & M2.1 FOR MECHANICAL LEGEND, KEYED NOTES & SCHEDULES



PARKING GARAGE MECHANICAL PLAN
SCALE: 3/16" = 1'-0"

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7/5/2018
DATE:

JOB NUMBER:

3/16" = 1'-0"
SCALE:

D.R.W.
DRAWN:

J.L.B.
CHECKED:

REGISTERED PROFESSIONAL ENGINEER
No. 317...
JAMES L. BROWNELL
4-12-...
STATE OF UTAH

DESIGN
ASSOCIATES INC.
ARCHITECTURE & CONSULTING ENGINEERS

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P.O. BOX 2775
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PARKING GARAGE MECHANICAL PLAN

SAKURA, NEW JAPANESE STEAKHOUSE & SUSHI
NEAR 1100 EAST & ST. GEORGE BOULEVARD
ST. GEORGE, UTAH 84770

M2.0
OF SHEETS

MECHANICAL LEGEND

- 2'x2' (LAY-IN GRIDS) OR 1'x1' (GYP. BOARD) AIR DIFFUSER (SEE PLAN FOR DUCT SIZE)
- LINEAR DIFFUSER, SEE LINEAR DIFFUSER SCHEDULE FOR MORE INFORMATION
- 2'x2' (LAY-IN GRIDS) OR 20"x20" (GYP. BOARD) AIR INTAKE (SEE PLAN FOR DUCT SIZE)
- RETURN AIR OR FRESH AIR INTAKE GRILLE, (SEE PLANS FOR SIZE & TYPE)
- SUPPLY AIR DIFFUSER (SEE PLAN FOR SIZE)
- EXHAUST FAN
- TH — THERMOSTAT CONTROL (W/ UNIT NUMBER)
- TH — THERMOSTAT SENSOR (W/ UNIT NUMBER)
- HIGH EFFICIENCY TAKE-OFF WITH DAMPER
- DAMPER (SEE PLAN FOR CFM BALANCE DEMAND)
- TURNING VEINS
- INDICATES SUPPLY AIR DUCTING
- INDICATES RETURN AIR DUCTING
- INDICATES EXHAUST VENT DUCTING
- FRESH AIR DUCTING

KEYED NOTES

1. DUCTING TO BE RIGID SMOOTH WALL (SEE PLANS FOR SIZE)
2. BALANCE DAMPER TO CFM & PROVIDE RIGID SMOOTH WALL DUCTING AS INDICATED ON FRESH AIR CALCULATIONS SCHEDULE
3. INTERLOCK EXHAUST FAN W/ ROOM LIGHTING
4. EXHAUST FAN TO RUN CONTINUOUS
5. EXHAUST FAN TO BE CONTROLLED BY SWITCH
6. 14" GREASE DUCT UP TO EXHAUST FAN ABOVE, SEE GENERAL HOOD NOTE 2
7. 16" GREASE DUCT UP TO EXHAUST FAN ABOVE, SEE GENERAL HOOD NOTE 2
8. 10" EXHAUST DUCT
9. WALK-IN COOLER/FREEZER COMPRESSOR
10. ENVIRONMENTAL EXHAUST, PROVIDE CAP PER MECHANICAL PLANS
11. DRYER EXHAUST, PROVIDE CAP & BACK DRAFT DAMPER PER MECHANICAL PLANS

GENERAL NOTES:

1. DIFFUSERS & THERMOSTATS SHOWN FOR GENERAL LOCATION ONLY.
2. PROVIDE 10' MIN. CLEARANCE FROM AIR INTAKES TO EXHAUST FANS & VENTS TYPICAL.
3. PROVIDE 2'x2' RETURN & SUPPLY GRILLES @ LAY-IN GRIDS AND 12"x12" RETURN & SUPPLY GRILLES @ GYP. CEILINGS
4. INSTALL ALL MECHANICAL EQUIPMENT PER MANUFACTURER'S SPECIFICATIONS.
5. SEE P2.0 FOR PLUMBING EQUIPMENT SCHEDULES & NOTES (WH-1).

GENERAL HOOD NOTES:

1. GREASE DUCT (TYPE I HOODS) SHALL BE CONSTRUCTED IN ACCORDANCE WITH 2015 IMC 506.
2. GREASE DUCT (TYPE I HOODS) SHALL RECEIVE 1-HOUR FIRE PROTECTION. INSTALL FIRE INSULATING WRAP TYPE: FYREWRAP INSTALLED AS PER ICC ES REPORT ESR-2224 OR EQUIVALENT.
3. TYPE I HOODS SHALL BE FITTED WITH ANSUL FIRE SUPPRESSION SYSTEMS INSTALLED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING & FIRE CODES AS ADMINISTERED BY THE CITY OF ST. GEORGE
4. HOOD ASSEMBLY DESIGNS PER CAPTIVEAIRE OR EQUIVALENT, VERIFY W/ OWNER/CONTRACTOR SUBSTITUTION.
5. PROVIDE CONTAINMENT, CAPTURE TESTS FOR HOODS AND LIGHT TEST FOR GREASE DUCT PRIOR TO CONCEALMENT.
6. PROVIDE SEISMIC "X" TENSION BRACING AT (4)-CORNERS OF ALL HOOD UNITS PER DETAIL M/MP8.1.
7. THE ACTUATION OF THE HOOD FIRE SUPPRESSION SYSTEM SHALL AUTOMATICALLY SHUT DOWN THE FUEL SUPPLY TO THE COOKING EQUIPMENT.

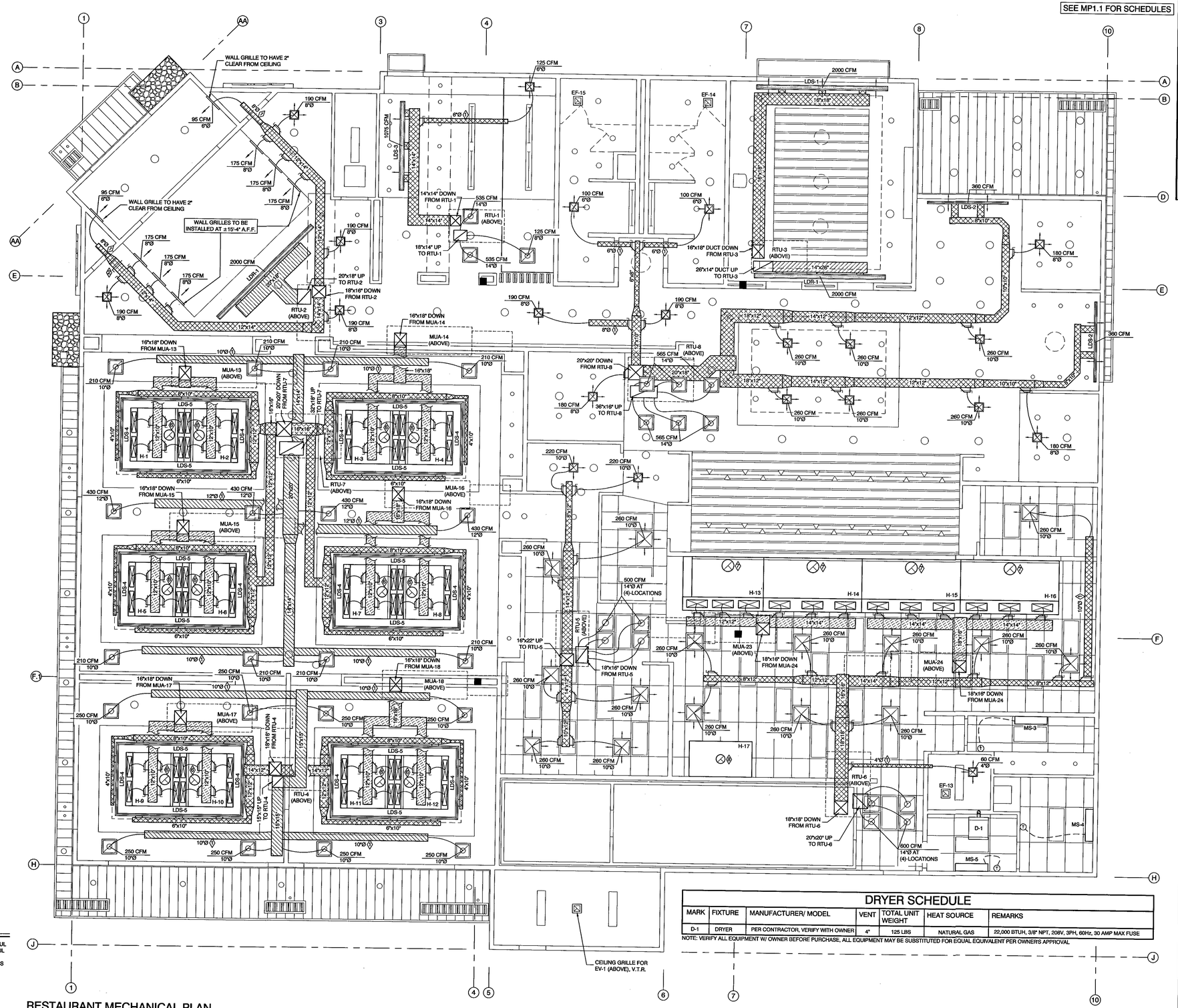
DRYER VENT NOTES:

1. DRYER VENT DUCTING MUST BE RIGID SMOOTH WALL, FLEX DUCT IS NOT PERMITTED.
2. DRYER VENTS SHALL RECEIVE 1 HOUR FIRE PROTECTION. BEGIN PROTECTION AT PENETRATION IN WALL OR CEILING TO EXTERIOR PENETRATION OF EXTERIOR WALL OR ROOF DECK. WRAP DRYER VENT WITH FASTWRAP XL BY THERMAL CERAMICS AS DETAILED IN INSTALLATION REPORT ICC ESR-2213, OR APPROVED EQUAL.

FIRE RATED ASSEMBLY PENETRATION REQUIREMENTS:

1. ALL PENETRATIONS OF FIRE RATED ASSEMBLIES (WALLS, CEILINGS, FLOOR DECKS, ETC.) SHALL BE FIT WITH A UL LISTED FIRESTOP LISTED FOR THE APPLICATION AND INSTALLED ACCORDING TO THE REQUIREMENTS OF THE UL LISTED PENETRATION ASSEMBLY.
2. PENETRATIONS OF WALLS THAT ARE NOT CORRIDOR WALLS OR WALLS SEPARATING DWELLING UNITS MAY PASS THROUGH A PROTECTED OPENING AS PER 4/A8.2 SEE 4/A8.2 FOR RECESSED WALL BOX REQUIREMENTS.

SEE MP1.1 FOR SCHEDULES



RESTAURANT MECHANICAL PLAN

SCALE: 3/16" = 1'-0"

DRYER SCHEDULE

MARK	FIXTURE	MANUFACTURER/ MODEL	VENT	TOTAL UNIT WEIGHT	HEAT SOURCE	REMARKS
D-1	DRYER	PER CONTRACTOR, VERIFY WITH OWNER	4"	125 LBS	NATURAL GAS	22,000 BTUH, 3/8" NPT, 208V, 3PH, 60Hz, 30 AMP MAX FUSE

NOTE: VERIFY ALL EQUIPMENT W/ OWNER BEFORE PURCHASE, ALL EQUIPMENT MAY BE SUBSTITUTED FOR EQUAL EQUIVALENT PER OWNER'S APPROVAL

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7/5/2018
DATE:

JOB NUMBER:

3/16" = 1'-0"
SCALE:

D.R.W.
DRAWN:

J.L.B.
CHECKED:

REGISTERED PROFESSIONAL ENGINEER
No. 3177
JAMES L. BRAMWELL
4-12-23
STATE OF UTAH

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RESTAURANT MECHANICAL PLAN

SAKURA, NEW JAPANESE STEAKHOUSE & SUSHI
NEAR 1100 EAST & ST. GEORGE BOULEVARD
ST. GEORGE, UTAH 84770

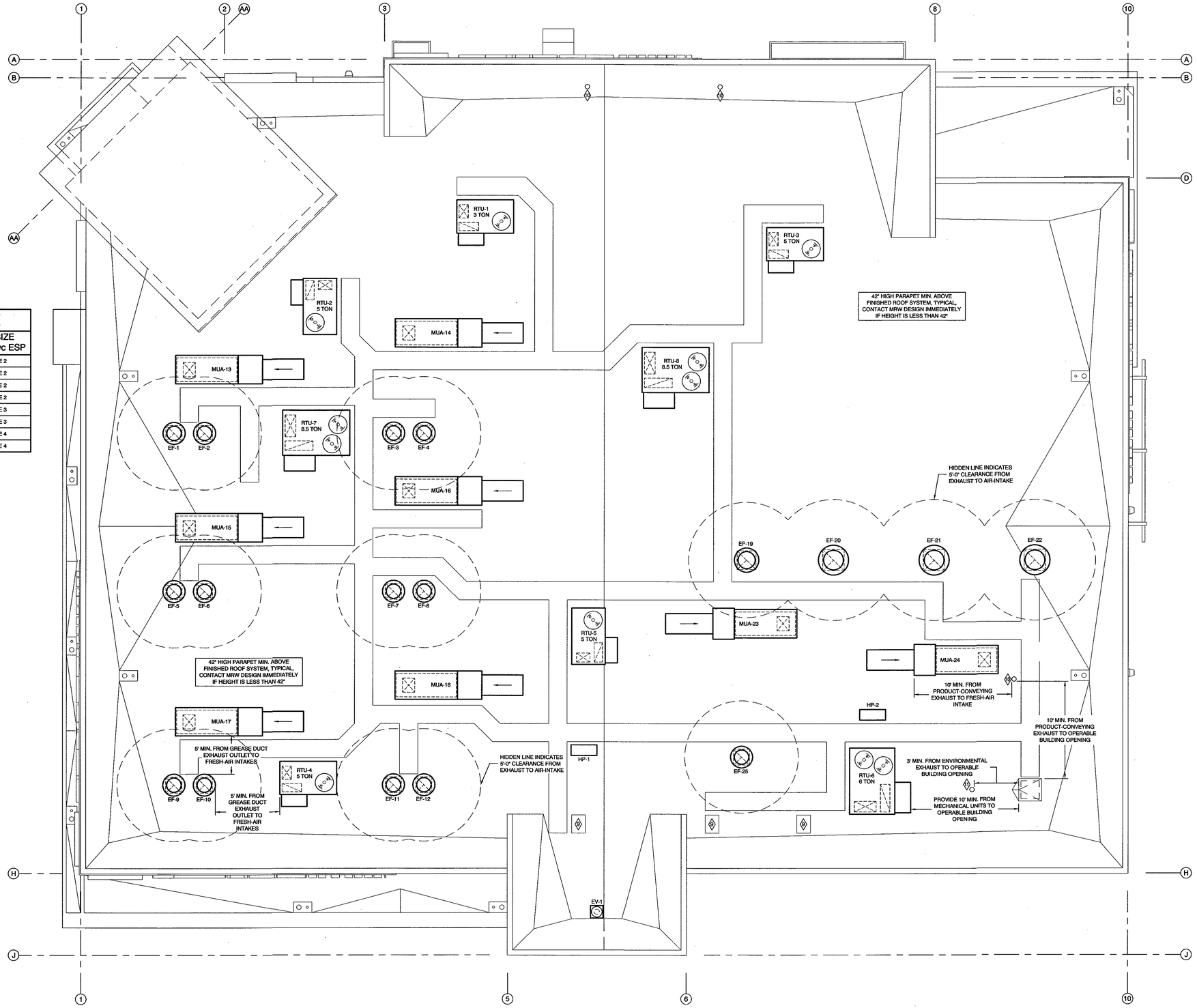
M2.1
OF SHEETS

SEE M2.1 FOR MECHANICAL LEGEND, KEYED NOTES & SCHEDULES

FRESH AIR CALCULATIONS SCHEDULE

MARK	OCCUPANCY CLASSIFICATION	R_p	P_z	+	R_a	A_z	= V_{bz}	TOTAL FRESH AIR	DUCT SIZE @ 0.3 wc ESP
RTU-1	BAR	7.5	20	+	.18	427	234.9 cfm	235 cfm	NOTE 2
RTU-2	RECEPTION/WATING	7.5	20	+	.18	200	186 cfm	190 cfm	NOTE 2
RTU-3	PRIVATE DINING AREA	7.5	33	+	.18	460	330.3 cfm	330 cfm	NOTE 2
RTU-4	PRIVATE HIBACHI DINING	7.5	40	+	.18	540	397.2 cfm	400 cfm	NOTE 2
RTU-5	KITCHEN	-	-	+	0.7	850	595 cfm	595* cfm EXHAUST	NOTE 3
RTU-6	KITCHEN	-	-	+	0.7	630	441 cfm	445* cfm EXHAUST	NOTE 3
RTU-7	HIBACHI DINING	7.5	76	+	.18	1,075	763.5 cfm	765 cfm	NOTE 4
RTU-8	DINING AREA	7.5	59	+	.18	840	593.7 cfm	595 cfm	NOTE 4

NOTES:
1. CALCULATIONS PER IMC 2015 SECTION 402
2. CONTRACTOR TO ADJUST DAMPER TO PROVIDE FRESH AIR THROUGH ROOF TOP UNIT INTAKE
3. EXHAUST REQUIRED, PROVIDED THROUGH HOOD EXHAUST SYSTEM, 1,040 CFM TOTAL
4. FRESH AIR PROVIDED THROUGH MAKE-UP AIR UNITS



MECHANICAL ROOF PLAN
SCALE: 3/16" = 1'-0"

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8/28/2018
DATE:

JOB NUMBER:

3/16" = 1'-0"
SCALE:

D.R.W.
DRAWN:

J.L.B.
CHECKED:

REGISTERED PROFESSIONAL ENGINEER
No. 3177
JAMES L. BRADLEY
9.12.18
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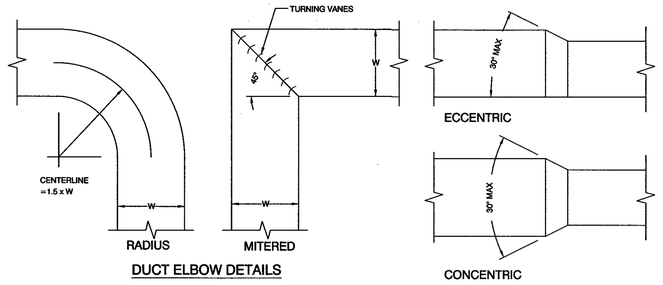
MECHANICAL ROOF PLAN
SAKURA, NEW JAPANESE STEAKHOUSE & SUSHI
NEAR 1100 EAST & ST. GEORGE BOULEVARD
ST. GEORGE, UTAH 84770

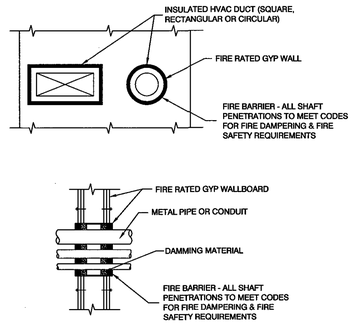
M2.2
OF SHEETS

NOTE:
AIRFLOW IN EITHER DIRECTION

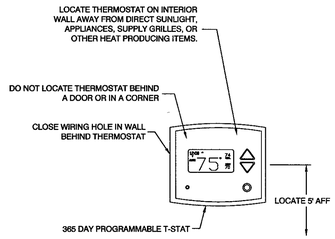


DUCT ELBOW DETAILS

E DUCT TRANSITION DETAIL
SCALE: NONE

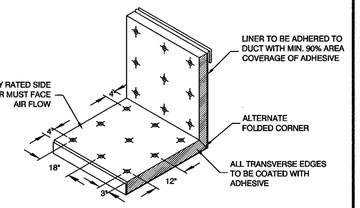


D FIRE RATED WALL PENETRATIONS
SCALE: NONE



C THERMOSTAT
SCALE: NONE

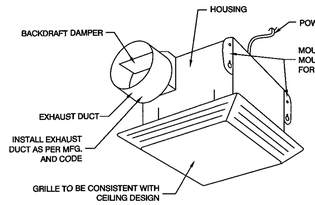
NOTE:
DUCT DIMENSIONS ARE GIVEN IN FREE AREA. INCREASE DUCT SIZE SHOWN BY TWO TIMES THE INSULATION THICKNESS WHERE INTERNAL INSULATION IS USED.



MAXIMUM SPACING FOR FASTENERS

B TYPICAL DUCT LINER
SCALE: NONE

PROVIDE RADIATION DAMPER @ FIRE RATED CEILING PENETRATIONS



A EXHAUST FAN
SCALE: NONE

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9/5/2018
DATE:

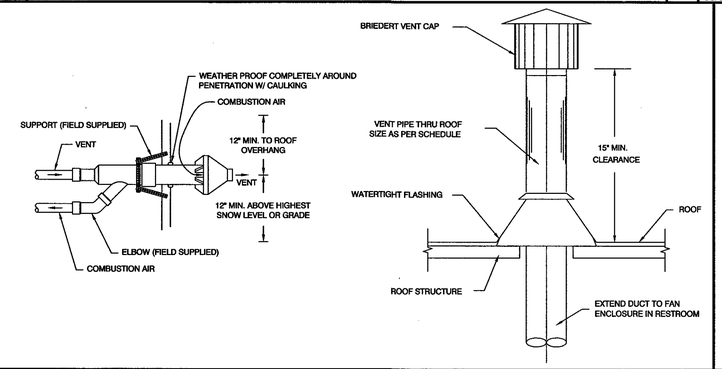
JOB NUMBER:

AS NOTED
SCALE:

K.L.L.
DRAWN:

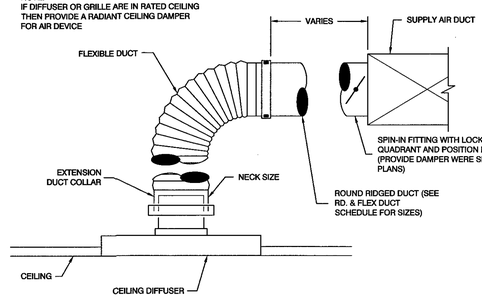
J.L.B.
CHECKED:

REGISTERED PROFESSIONAL ENGINEER
No. 13177
RANDALL L. BROWNELL
4-12-18
STATE OF UTAH

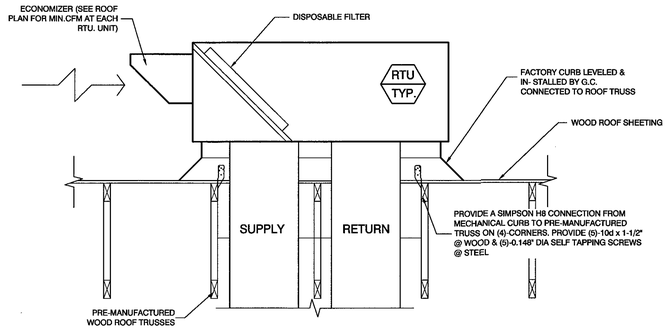


H VENT PIPING THRU ROOF & SIDE WALL
SCALE: NONE

NOTE:
IF DIFFUSER OR GRILLE ARE IN RATED CEILING THEN PROVIDE A RADIANT CEILING DAMPER FOR AIR DEVICE



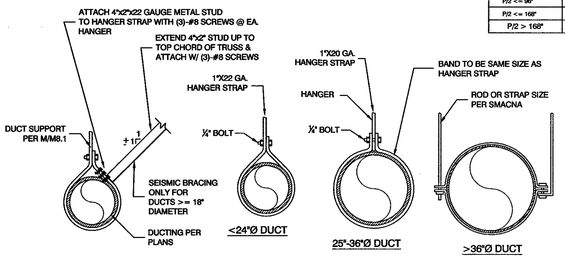
G DIFFUSER CONNECTION DETAIL
SCALE: 3/4"=1'-0"



F ROOF TOP UNIT ELEVATION
SCALE: NONE

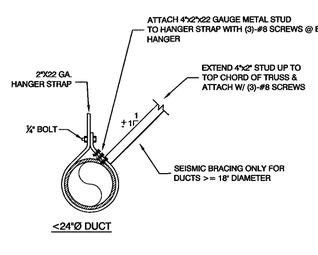
NOTE:
MAXIMUM HANGER SPACING OF 10 FT. DUCT SHAPE SHALL NOT BE DEFORMED FROM SUPPORTS.

HALF OF DUCT PERIMETER	(2) STRAPS AT 10 FT SPACING
P/2 <= 30"	1" X 22 GA
P/2 <= 72"	1" X 18 GA
P/2 <= 96"	1" X 16 GA
P/2 <= 168"	1.5" X 16 GA
P/2 > 168"	SEE SMACNA

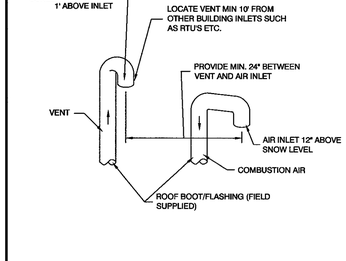


N TYPICAL ROUND DUCT HANGER
SCALE: NONE

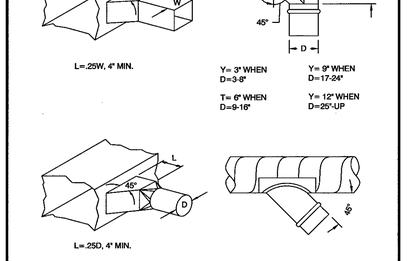
NOTE:
MAXIMUM HANGER SPACING OF 8 FT. DUCT SHAPE SHALL NOT BE DEFORMED FROM SUPPORTS.



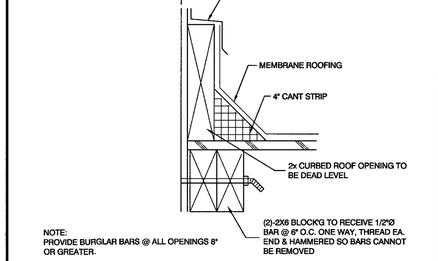
M TYPICAL ROUND DUCT HANGER
SCALE: NONE



L CLOSED COMBUSTION VENT
SCALE: NONE



K TYPICAL BRANCH CONNECTIONS
SCALE: NONE

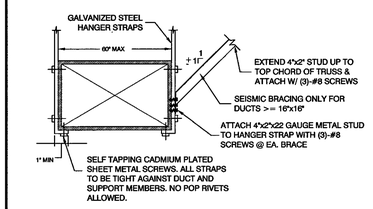


NOTE:
PROVIDE BURGLAR BARS @ ALL OPENINGS 8" OR GREATER.

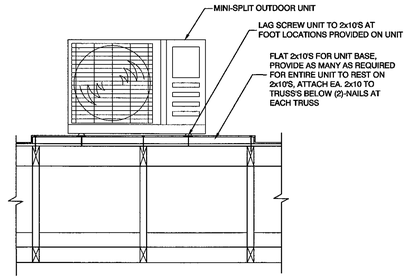
J ROOF AT OPENING
SCALE: 3"=1'-0"

NOTE:
MAXIMUM BRACE SPACING OF 8 FT. DUCT SHAPE SHALL NOT BE DEFORMED FROM SUPPORTS.

HALF OF DUCT PERIMETER	(2) STRAPS AT 10 FT SPACING
P/2 <= 30"	1" X 22 GA
P/2 <= 72"	1" X 18 GA
P/2 <= 96"	1" X 16 GA
P/2 <= 168"	1.5" X 16 GA
P/2 > 168"	SEE SMACNA

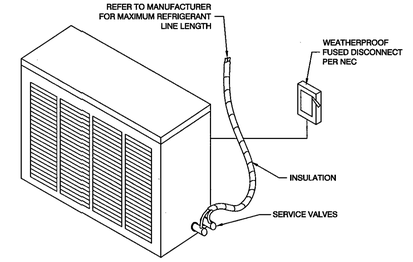


R TYPICAL RECTANGULAR DUCT HANGER
SCALE: NONE



Q MINI-SPLIT ATTACHMENT - OUTDOOR UNIT
SCALE: NONE

NOTE:
MINI SPLIT HEAT PUMP SYSTEM TO BE INSTALLED ACCORDING TO ALL APPLICABLE NATIONAL AND LOCAL ELECTRICAL, MECHANICAL AND BUILDING CODES AND PER MANUFACTURER'S SPECIFICATIONS



P MINI-SPLIT SYSTEM - OUTDOOR UNIT
SCALE: NONE

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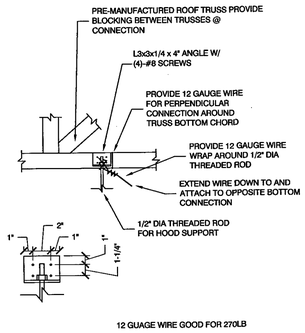
MECHANICAL DETAILS

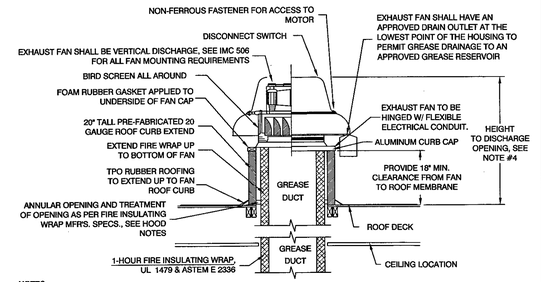
SAKURA, NEW JAPANESE STEAKHOUSE & SUSHI
NEAR 1100 EAST & ST. GEORGE BOULEVARD
ST. GEORGE, UTAH 84770

M8.1
OF SHEETS



C HOOD CONNECTION

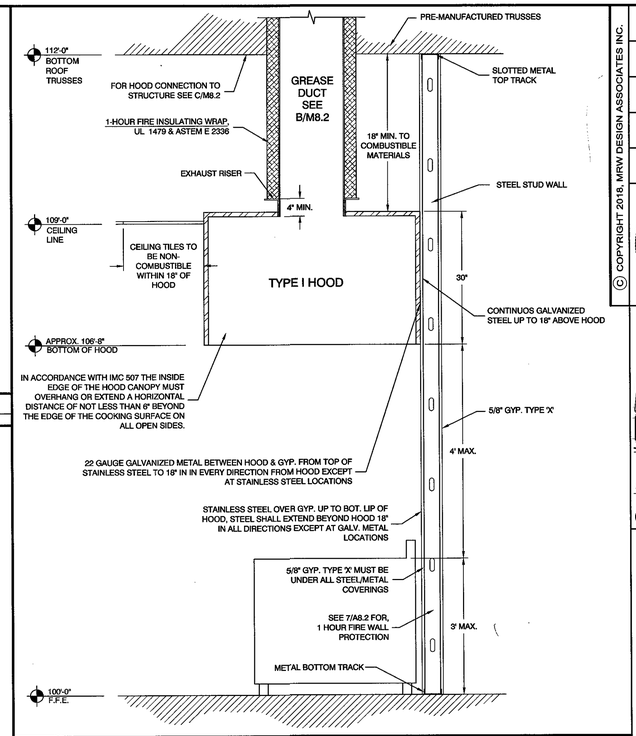
SCALE: NONE



NOTES:
1. GREASE DUCT & DUCT SUPPORTS ATTACHED TO SHAFT MUST COMPLY WITH 2015 IMC, SEC 506
2. THE EXHAUST FAN UNIT SHALL NOT BE PLACED WITHIN 5 FEET OF ANY AIR INTAKE OPENINGS.
3. THE EXHAUST FAN UNIT SHALL NOT BE PLACED CLOSER THAN 2 FEET TO THE BUILDING PARAPET.
4. IF LOCATED WITHIN 5 FEET OF PARAPET, THE TOP OF THE DISCHARGE OPENING SHALL BE HIGHER THAN OR EQUAL TO PARAPET HEIGHT. DISCHARGE SHALL BE 40" MIN. ABOVE ROOF BELOW ROOF FAN.
5. SEE MECHANICAL PLANS FOR GREASE DUCT SIZE.
6. GREASE DUCT TO BE 16 GAUGE STEEL MIN.

B TYPE I HOOD EXHAUST FAN MOUNTING DETAIL

SCALE: NONE



A TYPE 1 HOOD ADJACENT TO NON-COMUBUSTIBLE WALL

SCALE: NONE

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9/5/2018
DATE:

JOB NUMBER:

AS NOTED
SCALE:

K.L.L.
DRAWN:

J.L.B.
CHECKED:

REGISTERED PROFESSIONAL ENGINEER
No. 3377
JAMES L. BROWNELL
9-12-18
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MECHANICAL DETAILS

SAKURA, NEW JAPANESE STEAKHOUSE & SUSHI
NEAR 1100 EAST & ST. GEORGE BOULEVARD
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M8.2
OF SHEETS

SEE P2.1 & MP1.1 FOR PLUMBING FIXTURE, SCHEDULES, LEGENDS, & NOTES

PLUMBING LEGEND

- HOT WATER
- COLD WATER
- WASTE LINES
- BEER TRUNK LINE
- SHUT OFF BALL VALVE
- INDICATES DIRECTION OF FLOW (PLACED ALONG LINE)
- 3" ROOF DRAIN, W/ GRATE AND 3" OVERFLOW, SEE 12/A8.1 FOR MORE INFORMATION
- 3" PVC DRAINAGE COLLECTION PIPE FROM ROOF DRAIN
- OVERFLOW SCUPPER THROUGH PARAPET

FIRE RATED ASSEMBLY PENETRATION REQUIREMENTS:

1. ALL PENETRATIONS OF FIRE RATED ASSEMBLIES (WALLS, CEILINGS, FLOOR DECKS, ETC.) SHALL BE FIT WITH A UL LISTED FIRESTOP LISTED FOR THE APPLICATION AND INSTALLED ACCORDING TO THE REQUIREMENTS OF THE UL LISTED PENETRATION ASSEMBLY.
3. SEE SHEET A0.1 FOR DEFERRED SUBMITTAL REQUIREMENTS OF ALL FIRE STOPPING ASSEMBLIES.
4. SEE 4/A8.2 FOR RECESSED WALL BOX REQUIREMENTS.

NOTES

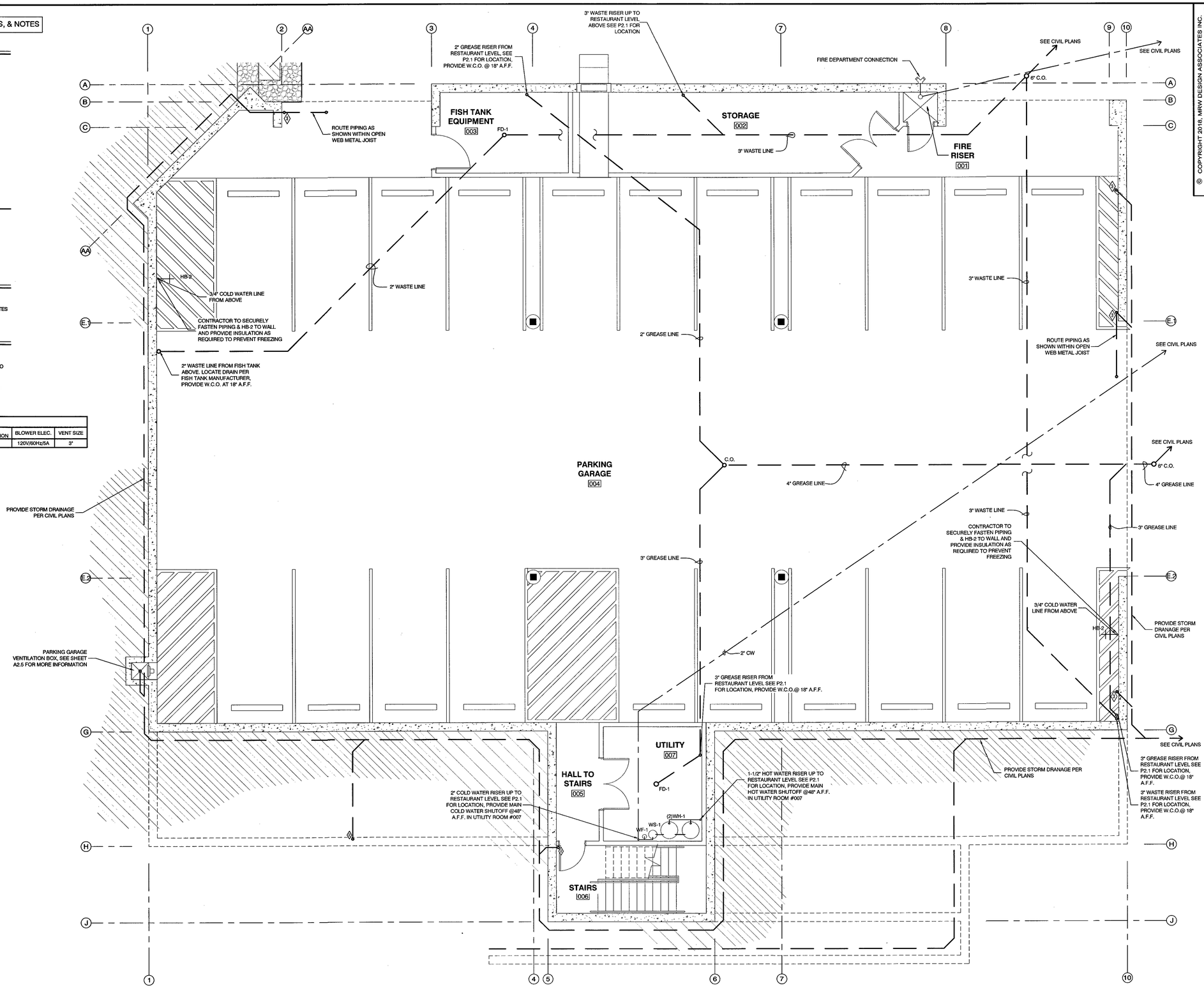
1. FOR MORE EQUIPMENT INFORMATION SEE MECHANICAL PLANS.
2. SEE SHEET P8.1 FOR PLUMBING DETAILS.
3. VERIFY BACKWATER VALVE W/ CLEANOUTS IS EXISTING, CONTACT MRW DESIGN ASSOCIATES INC. IMMEDIATELY IF BACKWATER VALVE W/ CLEANOUTS IS NOT EXISTING.

KEYED NOTES

1. 3" ROOF DRAIN & OVERFLOW LINES DOWN FROM ROOF TO PARKING GARAGE, CONNECT TO OVERFLOW LINE TO STORM WATER DRAINAGE SYSTEM PER CIVIL PLANS
2. 3" ROOF DRAIN LINES DOWN FROM ROOF TO PARKING GARAGE, CONNECT OVERFLOW LINE TO STORM WATER DRAINAGE SYSTEM PER CIVIL PLANS
3. RUN DRAIN LINE DOWN INTO STORM WATER DRAINAGE. DRAIN LINE TO BE 3" CAST IRON OR METAL EQUIVALENT, PAINT EXPOSED PIPE TO MATCH EXTERIOR FINISH 8. DARIN LINE TO MISS RAILING FOR OUTDOOR DINING (WHERE APPLICABLE)

WATER HEATER SCHEDULE

SYMBOL	BRANDNAME	GAL	TEMP SETTING	EFFICIENCY	FUEL	INPUT BTUH	GAS CONNECTION	BLOWER ELEC.	VENT SIZE
WH-1	A.O. SMITH BTH-199	100	120	97%	NAT. GAS	199,000	3/4"	120V/60Hz/5A	3"



PARKING GARAGE PLUMBING PLAN

SCALE: 3/16" = 1'-0"

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REGISTERED PROFESSIONAL ENGINEER No. 187 JAMES L. BROWNELL 9-17-18 STATE OF UTAH

7/5/2018 DATE:

JOB NUMBER:

3/16" = 1'-0" SCALE:

K.L.L. DRAWN:

J.L.B. CHECKED:

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PARKING GARAGE PLUMBING PLAN

SAKURA, NEW JAPANESE STEAKHOUSE & SUSHI
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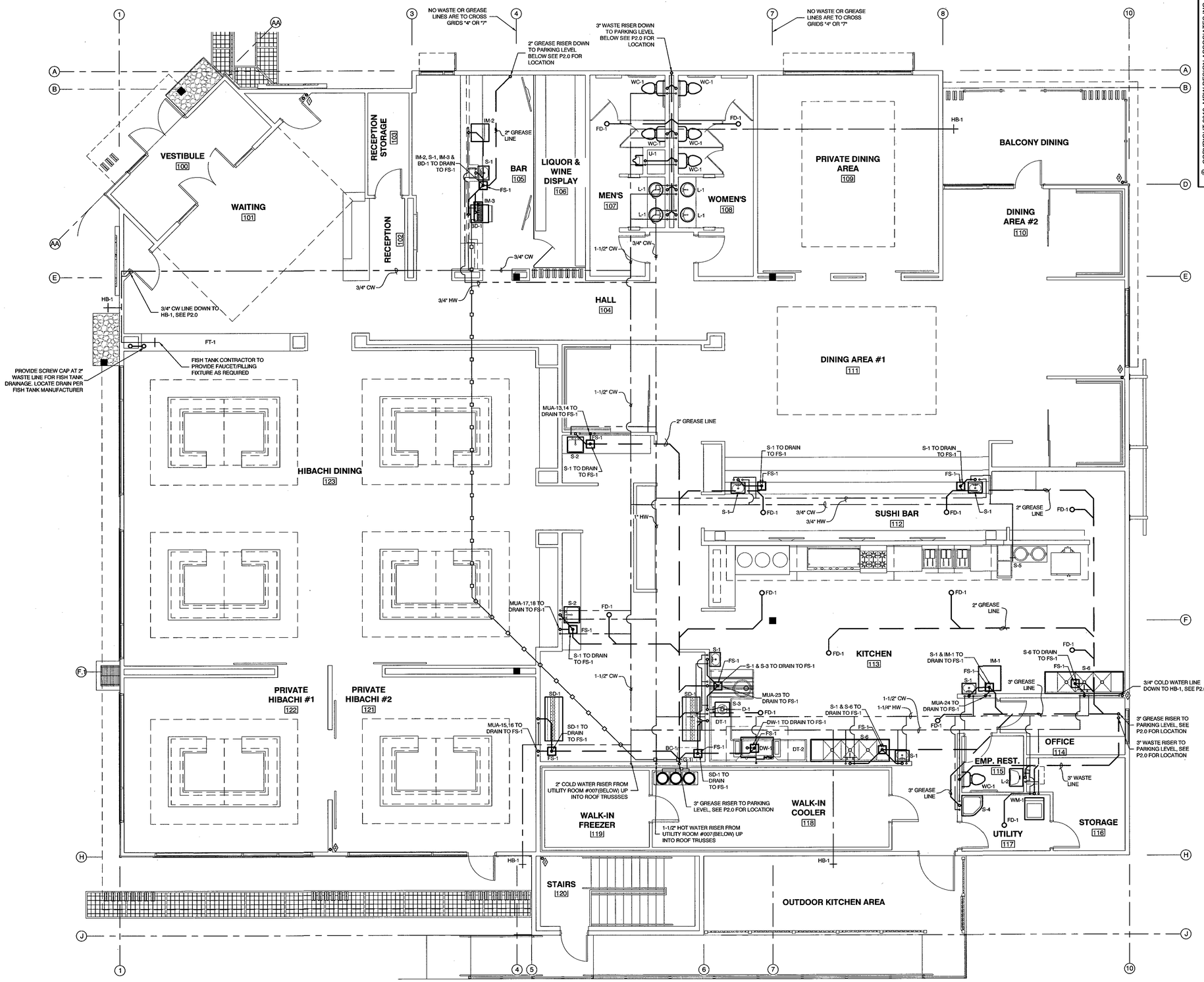
P2.0
OF SHEETS

KEYED NOTES

◊ 3" ROOF DRAIN & OVERFLOW LINES DOWN FROM ROOF TO PARKING GARAGE, CONNECT TO OVERFLOW LINE TO STORM WATER DRAINAGE SYSTEM PER CIVIL PLANS

◊ 3" ROOF DRAIN LINES DOWN FROM ROOF TO PARKING GARAGE, CONNECT OVERFLOW LINE TO STORM WATER DRAINAGE SYSTEM PER CIVIL PLANS

◊ RUN DRAIN LINE DOWN INTO STORM WATER DRAINAGE, DRAIN LINE TO BE 3" CAST IRON OR METAL EQUIVALENT, PAINT EXPOSED PIPE TO MATCH EXTERIOR FINISH & DARIN LINE TO MISS RAILING FOR OUTDOOR DINING (WHERE APPLICABLE)



RESTAURANT PLUMBING PLAN
SCALE: 3/16" = 1'-0"

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7/5/2018
DATE:

JOB NUMBER:

3/16" = 1'-0"
SCALE:

K.L.L.
DRAWN:

J.L.B.
CHECKED:

REGISTERED PROFESSIONAL ENGINEER
No. 317
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RESTAURANT PLUMBING PLAN

SAKURA, NEW JAPANESE STEAKHOUSE & SUSHI
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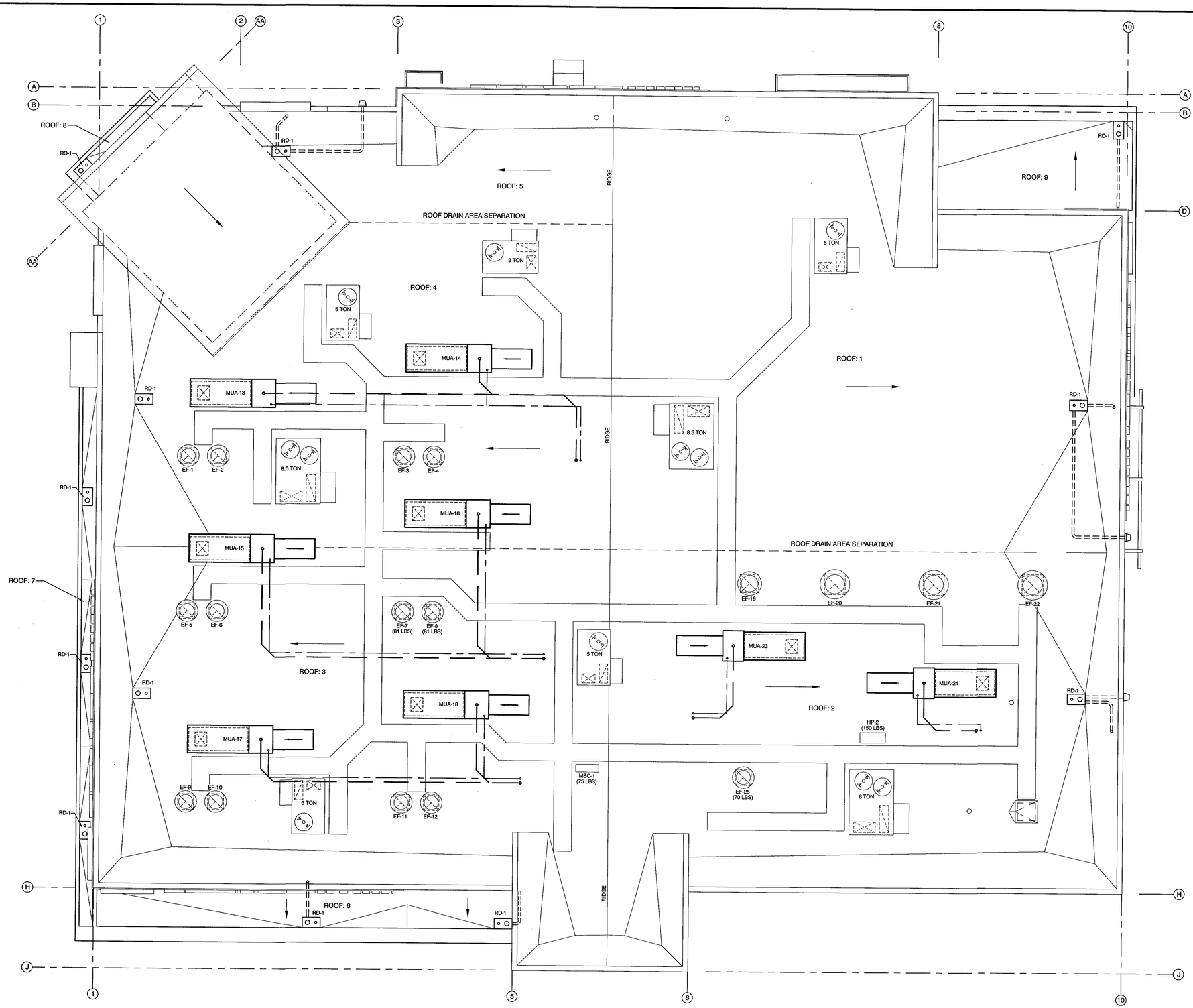
P2.1
OF SHEETS

SEE P2.1 & MP1.1 FOR PLUMBING FIXTURE, SCHEDULES, LEGENDS, & NOTES

ROOF DRAIN CALCULATIONS

LOCATION	AREA SQFT.	AVG. RAINFALL MULTIPLIER PER HOUR	GPM REQUIRED	# OF 3" DRAINS PROVIDED	GPM PER DRAIN
ROOF-1	2,663	1.75"	77.7	1	77.7
ROOF-2	2,273	1.75"	66.3	1	66.3
ROOF-3	2,276	1.75"	66.4	2	33.2
ROOF-4	2,388	1.75"	69.7	1	69.7
ROOF-5	514	1.75"	15.0	1	15.0
ROOF-6	276	1.75"	8.1	2	4.0
ROOF-7	122	1.75"	3.6	3	1.2
ROOF-8	59	1.75"	1.7	1	1.7
ROOF-9	257	1.75"	7.5	1	7.5

2015 IPC TABLE 1106.2 INDICATES A 3" VERTICAL PIPE ALLOWS 87 GPM



ROOF PLUMBING PLAN
SCALE: 3/16" = 1'-0"

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7/5/2018 DATE:

JOB NUMBER:

3/16" = 1'-0" SCALE:

K.L.L. DRAWN:

J.L.B. CHECKED:

REGISTERED PROFESSIONAL ENGINEER No. 377 JAMES L. BROWNHILL 9-12-18 STATE OF UTAH

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ROOF PLUMBING PLAN

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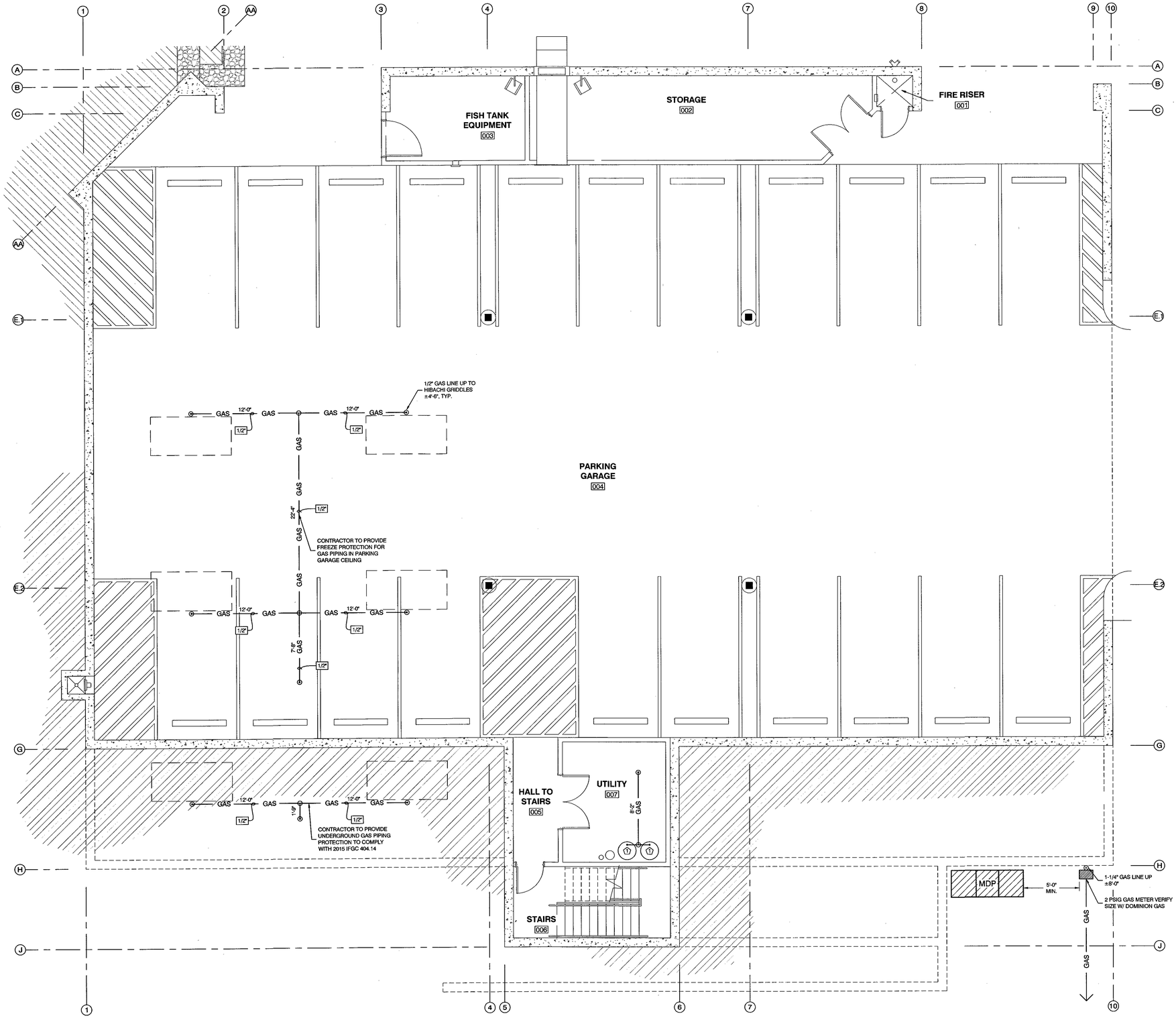
ST. GEORGE, UTAH 84770

P2.2
OF SHEETS



PARKING GARAGE GAS PIPING PLAN
SCALE: 3/16" = 1'-0"

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7/5/2018
DATE:

JOB NUMBER:

3/16" = 1'-0"
SCALE:

M.H.
DRAWN:

J.L.B.
CHECKED:

REGISTERED PROFESSIONAL ENGINEER
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PARKING GARAGE GAS PIPING PLAN

SAKURA, NEW JAPANESE STEAKHOUSE & SUSHI
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P2.3
OF SHEETS

NATURAL GAS CALCULATIONS

LONGEST LENGTH	MARK	QUANTITY	EQUIPMENT	INDIVIDUAL BTUS	TOTAL BTUS
105 FEET	(1)	2	WATER HEATER	199,000	398,000
	(2)	12	GAS GRIDDLE	30,000	360,000
	(3)	1	DOUBLE CONVECTION OVEN	88,000	88,000
	(4)	2	RICE COOKER	35,000	70,000
	(5)	1	STOCKPOT RANGE	22,000	22,000
	(6)	3	FRYERS	120,000	360,000
	(7)	1	RANGE	140,000	140,000
	(8)	1	GRIDDLE	162,000	162,000
	(9)	1	CHINESE RANGE	300,000	300,000
	(10)	1	DRYER	20,000	20,000
	(11)	6	MUA-13,14,15,16,17,18	179,457	1,077,282
	(12)	1	MUA-23	284,532	284,532
	(13)	1	MUA-24	310,399	310,399
	(14)	1	RTU-1	50,000	50,000
	(15)	4	RTU-2,3,4,5	50,000	200,000
	(16)	1	RTU-6	50,000	50,000
	(17)	2	RTU-7,8	125,000	250,000
	TOTAL BTUS				4,122,213
	CUBIC FEET PER HOUR (CFH)				3,993
	REQUIRED MIN. PRESSURE				2 psi

FOR (1) EQUIPMENT SPECIFICATIONS SEE PLUMBING EQUIPMENT SCHEDULES ON P2.1

FOR (2)-(10) EQUIPMENT SPECIFICATIONS, VERIFY W/ OWNER.

FOR (11)-(17) EQUIPMENT SPECIFICATIONS SEE MECHANICAL EQUIPMENT SCHEDULES ON M2.1 & M2.2

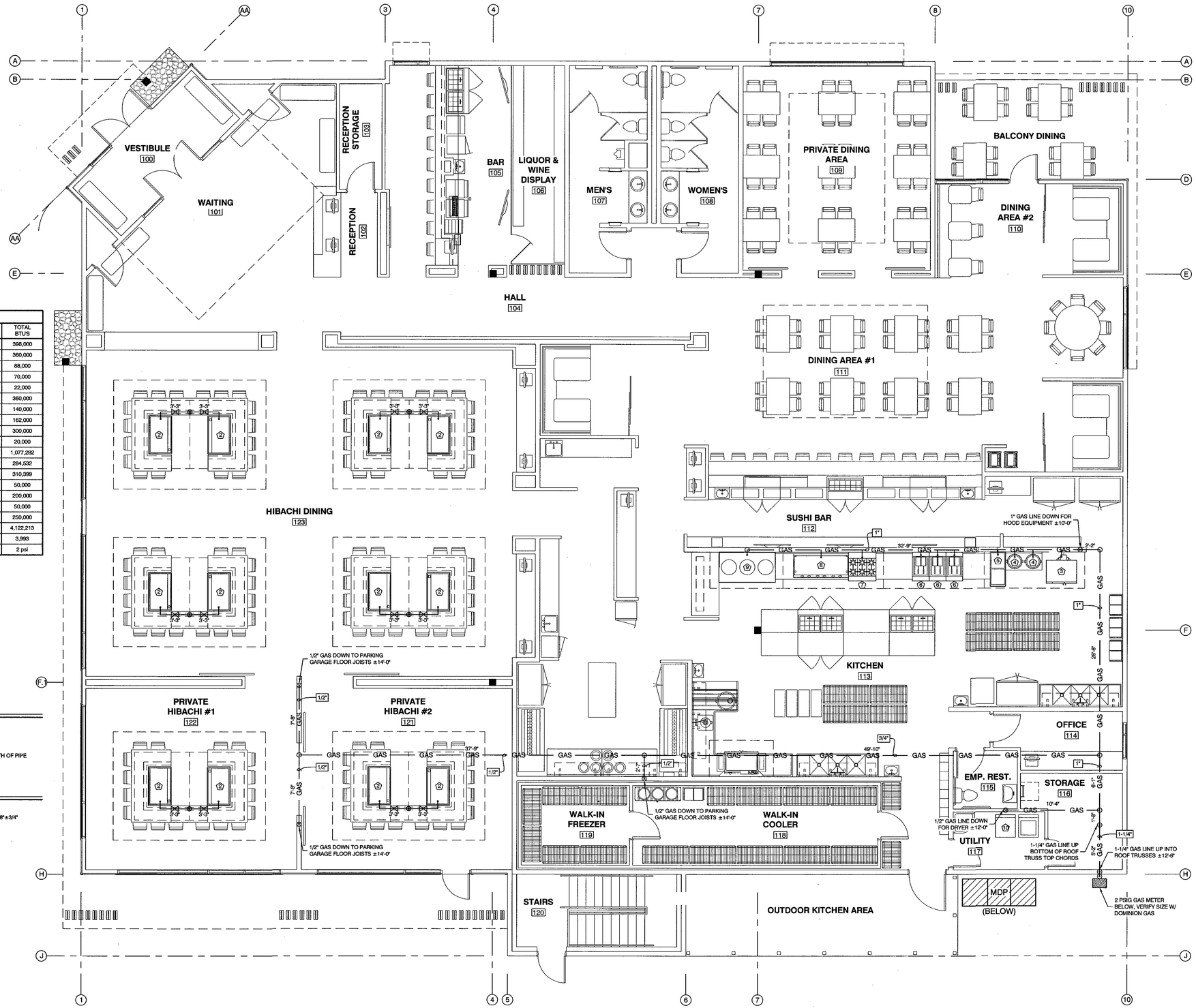
GAS PIPING LEGEND

GAS — GAS — GAS — GAS LINES

HORIZONTAL CONTINUATION ○ | UP ⊙ | DOWN ⊗ — DENOTES BEGINNING AND OR END OF DEVELOPED LENGTH OF PIPE

NATURAL GAS PIPING NOTES

1. PIPING FOR NATURAL GAS LINE TO BE SCHEDULE 40 BLACK PIPE
2. PIPING TO BE LAID AT A DEPTH OF 24", EXCPET FOR AROUND EMBBEDDING THEN PIPING IS TO BE LAID AT A DEPTH OF 8"±3/4"
3. NATURAL GAS PIPING SHALL NOT PENETRATE THE FOUNDATION.
4. NATURAL GAS PIPING SHALL NOT BE WITHIN A 45° ANGLE OF ANY CONCRETE FOUNDATION OR FOOTING.



RESTAURANT GAS PIPING PLAN
SCALE: 3/16" = 1'-0"

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7/5/2018
DATE:

JOB NUMBER:

3/16" = 1'-0"
SCALE:

D.R.W.
DRAWN:

J.L.B.
CHECKED:

REGISTERED PROFESSIONAL ENGINEER
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JAMES L. BROWNSBERGER
4-13-18
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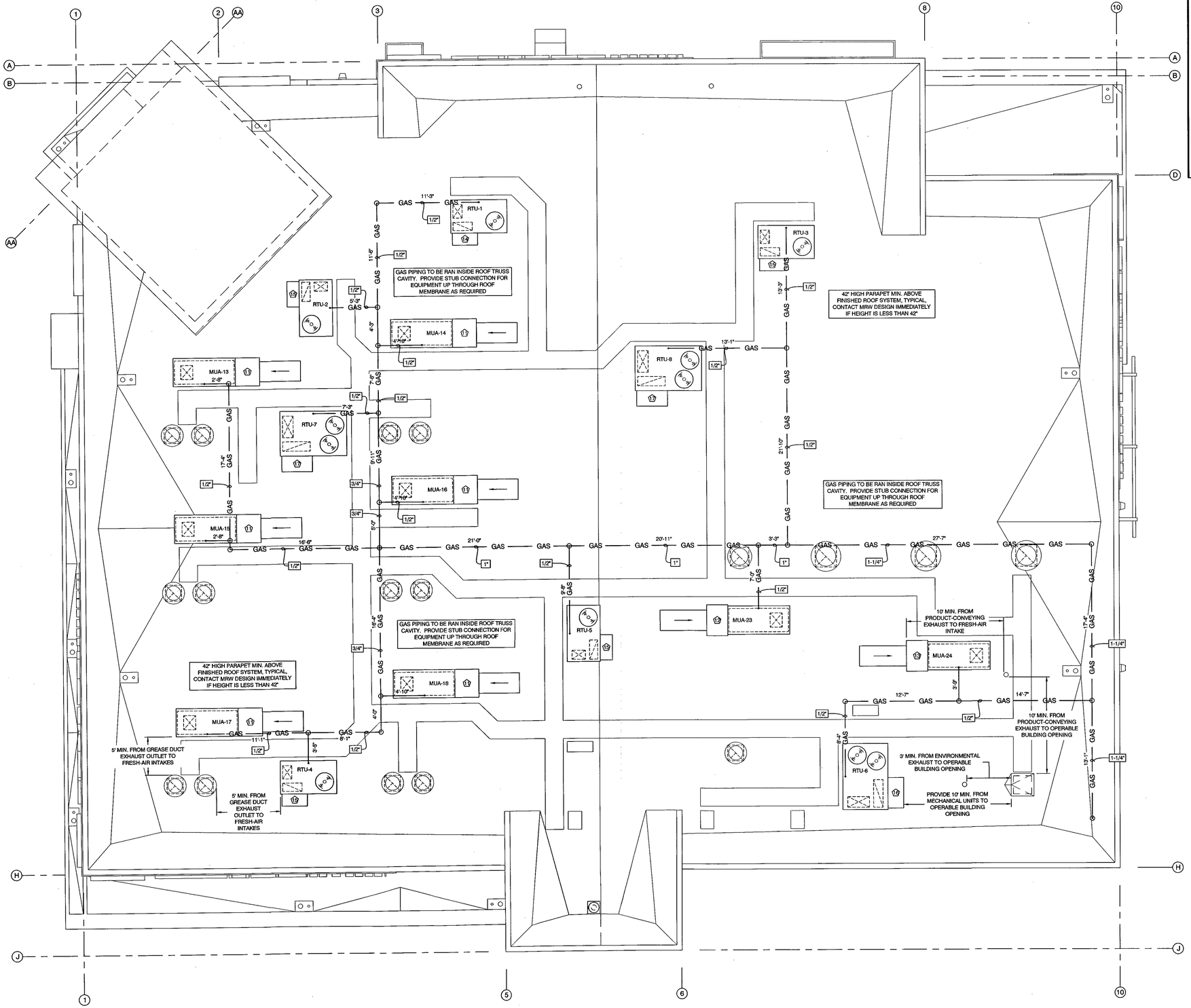
RESTAURANT GAS PIPING PLAN

SAKURA, NEW JAPANESE STEAKHOUSE & SUSHI
NEAR 1100 EAST & ST. GEORGE BOULEVARD
ST. GEORGE, UTAH 84770

P2.4
OF SHEETS



ROOF GAS PIPING PLAN

SCALE: 3/16" = 1'-0"

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7/5/2018
DATE:

JOB NUMBER:

3/16" = 1'-0"
SCALE:

M.H.
DRAWN:

J.L.B.
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REGISTERED PROFESSIONAL ENGINEER
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JAMES L. BROWNER
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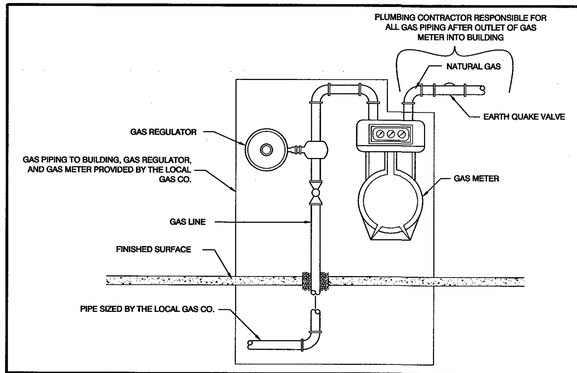
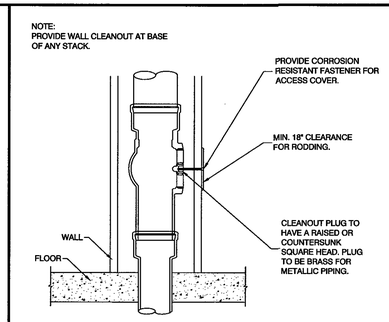
ROOF GAS PIPING PLAN

SAKURA, NEW JAPANESE STEAKHOUSE & SUSHI
NEAR 1100 EAST & ST. GEORGE BOULEVARD
ST. GEORGE, UTAH 84770

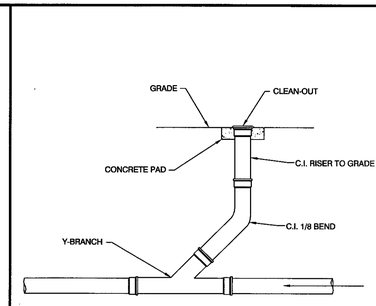
P2.5
OF SHEETS



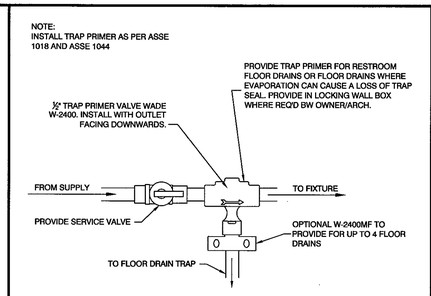
E GAS CONNECTION DETAIL



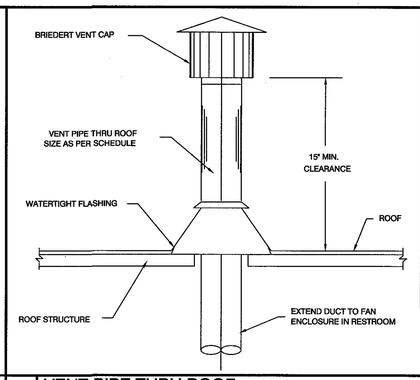
D WALL CLEANOUT
SCALE: NONE



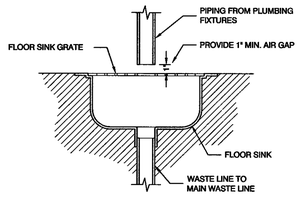
C SURFACE CLEANOUT DETAIL
SCALE: NONE



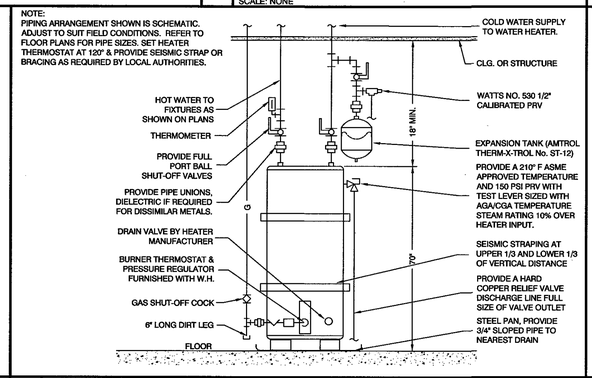
B TRAP PRIMER DETAIL
SCALE: NONE



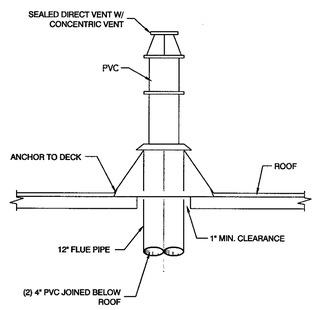
A VENT PIPE THRU ROOF
SCALE: NONE



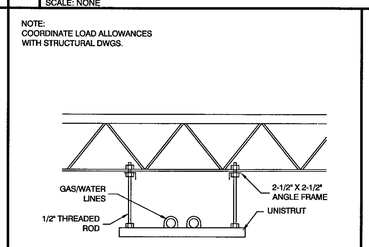
K FLOOR SINK DETAIL
SCALE: NONE



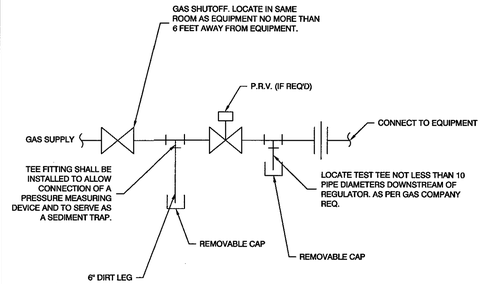
J GAS WATER HEATER PIPING DETAIL
SCALE: NONE



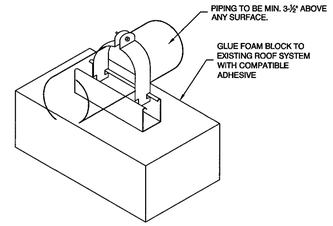
H WATER HEATER VENT
SCALE: NONE



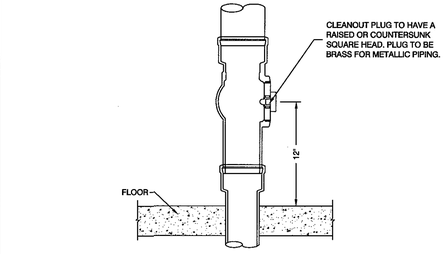
G GAS/WATER LINE SUPPORT
SCALE: NONE



F GAS CONNECTION DETAIL
SCALE: NONE



M GAS LINE ROOF SUPPORT
SCALE: NONE



L WALL CLEANOUT @ PARKING GARAGE
SCALE: NONE

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04/21/17
DATE:

JOB NUMBER:

AS NOTED
SCALE:

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PLUMBING DETAILS

SAKURA, NEW JAPANESE STEAKHOUSE & SUSHI
NEAR 1100 EAST & ST. GEORGE BOULEVARD
ST. GEORGE, UTAH 84770

P8.1
OF SHEETS

ELECTRICAL SPECIFICATIONS

SCOPE:
FURNISH ALL LABOR & FURNISH & INSTALL ALL MATERIALS & EQUIPMENT FOR A COMPLETE & OPERATING ELECTRICAL SYSTEM AS SHOWN ON THE DRAWINGS AND/OR SPECIFIED HEREINAFTER.

CODES:
ALL WORK & MATERIALS SHALL COMPLY WITH APPLICABLE NATIONAL, STATE & LOCAL CODES & ORDINANCES HAVING JURISDICTION.

PERMITS & INSPECTIONS:
OBTAIN & PAY FOR ANY & ALL PERMITS & INSPECTIONS REQUIRED FOR THE INSTALLATION OF THE ELECTRICAL WORK. DELIVER CERTIFICATES OF INSPECTION TO OWNER.

CLEANING PREMISES:
KEEP ALL PARTS OF THE BUILDING & SITE FREE FROM ANY ACCUMULATIONS OF RUBBISH OR WASTE MATERIALS, REMOVE SUCH ACCUMULATIONS FROM THE BUILDING SITE & PROPERTY. JOB SITE SHALL BE CLEANED AT THE END OF EACH WORKING DAY.

RECORD DRAWINGS:
KEEP UP TO DATE A COMPLETE SET OF AS-BUILT PRINTS TO INDICATE ANY CHANGES FROM THE ORIGINAL DRAWINGS.

PROTECTION AND SAFEGUARDS:
THE CONTRACTOR SHALL ERECT & MAINTAIN SUITABLE BARRIERS, PROTECTIVE DEVICES, LIGHTS & WARNING SIGNS WHERE REQUIRED FOR THE PROTECTION OF THE PUBLIC & EMPLOYEES ABOUT THE JOB SITE. HE SHALL BE FULLY RESPONSIBLE FOR ANY LOSS OR INJURY TO PERSONS OR PROPERTY RESULTING FROM HIS NEGLECT OF THESE PRECAUTIONS, HIS OWN CARELESSNESS, OR THE CARELESSNESS OR NEGLECT OF HIS EMPLOYEES.

IDENTIFICATIONS & LABELS:
UPDATE ALL PANEL DIRECTORIES TO REFLECT REMOVAL OF EXISTING & ALL NEW WORK. PROVIDE TYPEWRITTEN SCHEDULE ON ALL NEW PANEL DOORS.

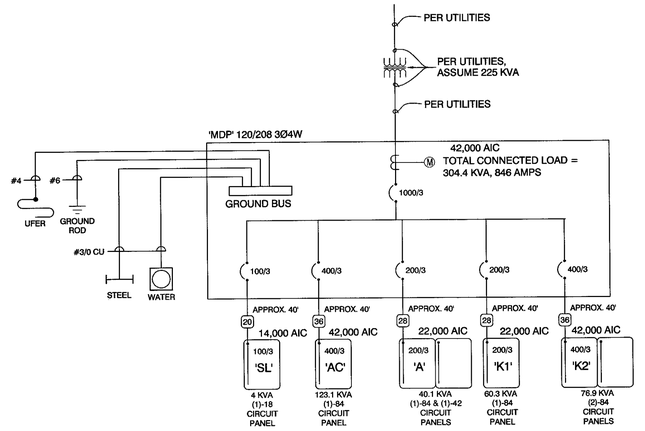
MATERIALS:
ANY MISCELLANEOUS MATERIAL NOT CALLED FOR, BUT REQUIRED FOR A COMPLETE & SAFE INSTALLATION, SHALL BE PROVIDED. PROVIDE ALL NECESSARY SUPPORTS & HANGERS FOR ALL EQUIPMENT.
ALL MATERIALS AND EQUIPMENT SHALL BE NEW, UNLESS SPECIFICALLY NOTED & SHALL HAVE U.L. LISTING LABELS AS REQUIRED.
ALL MATERIALS & WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE OF THE PROJECT. REFER TO SYMBOL LIST FOR WIRING DEVICE TYPES. CONCEALED CONDUIT SHALL BE E.M.T., MC, AC, OR FLEXIBLE ALUMINUM. CONDUIT EXPOSED SHALL BE E.M.T. UNLESS NOTED OTHERWISE. CONDUIT BELOW GRADE SHALL BE PVC "40" UNLESS NOTED OTHERWISE. ALL CONDUCTORS SHALL BE COPPER WITH THWN OR THW INSULATION UNLESS NOTED OTHERWISE.
FURNISH AND INSTALL ALL LIGHTING FIXTURES AS INDICATED ON FIXTURE SCHEDULE.
PANELBOARDS SHALL BE SQUARE-D NQOB OR EQUAL. EQUIPMENT INSTALLED OUTDOORS SHALL BE RATED NEMA 3R UNLESS NOTED OTHERWISE. ALL DISCONNECT SWITCHES SHALL BE HORSEPOWER RATED. ALL PROTECTIVE DEVICES SHALL HAVE A SHORT CIRCUIT RATING TO EXCEED THE MAXIMUM AVAILABLE FAULT CURRENT.

COMMISSIONING & TESTING:
ELECTRICAL POWER & LIGHTING CONTROLS SYSTEMS TO BE COMMISSIONED PER 2015 IECC C408.

FAULT CURRENT TABLE

BUS	FAULT CURRENT
MDP	31,250- SCA
SL	11,480- SCA
AC	22,486- SCA
A	17,882- SCA
K1	17,882- SCA
K2	22,486- SCA

PROVIDE FULLY RATED CIRCUIT BREAKERS IN PANELBOARDS FOR THE FAULT CURRENT SHOWN. SERIES RATINGS WITH NEXT LEVEL UPSTREAM OVERCURRENT PROTECTIVE DEVICES ARE PERMITTED SUBJECT TO FACTORY UL DOCUMENTAION OF SERIES RATING SUBMITTED TO ENGINEER.



ONE LINE DIAGRAM

CONDUCTOR & CONDUIT SCHEDULE

(**) SCHEDULE NUMBER — SUBSCRIPT (NOTE 5) — (E.G.) (5) IG

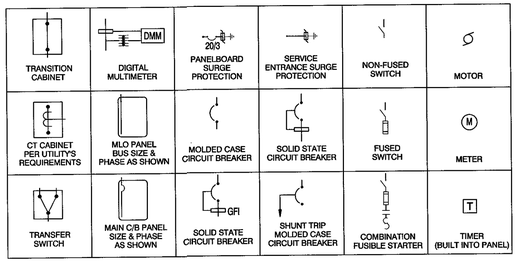
SYM	AMP	CONDUIT SIZE	CONDTR (NOTE 1) QTY	SIZE	GR	IG	SE	NOTES
1	20	3/4	2	12	12	12	8	2
2	20	3/4	3	12	12	12	8	2,3
3	20	3/4	4	12	12	12	8	2,3
4	30	3/4	2	10	10	10	8	2
5	30	3/4	3	10	10	10	8	2
6	30	3/4	4	10	10	10	8	2
7	40	1	2	8	10	8	6	2
8	40	1	3	8	10	8	6	2
9	40	1	4	8	10	8	6	2
10	55	1	2	6	10	8	4	2
11	55	1	3	6	10	8	4	2
12	55	1 1/4	4	6	10	8	4	2
13	70	1	2	4	8	4	2	2
14	70	1	3	4	8	4	2	2
15	70	1 1/4	4	4	8	4	2	2
16	85	1 1/4	2	3	8	3	2	2
17	85	1 1/4	3	3	8	3	2	2
18	85	1 1/2	4	3	8	3	2	2
19	95	1 1/4	3	2	8	2	2	2
20	95	1 1/4	4	2	8	2	2	2
21	130	1 1/2	3	1	6	2	2	2
22	130	1 1/2	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 1/2	4	3/0	6	2	2/0	2
29	230	2 1/2	3	4/0	4	2	2/0	2
30	230	2 1/2	4	4/0	4	2	2/0	2
31	255	2 1/2	3	250	4	1	2/0	2
32	255	2 1/2	4	250	4	1	2/0	2
33	310	3	3	350	4	1/0	3/0	2
34	310	3	4	350	4	1/0	3/0	2
35	380	3 1/2	3	500	3	3/0	3/0	2
36	380	4	4	500	3	3/0	3/0	2
37	475	4	3	750	2	4/0	3/0	2
38	475	4	4	750	2	4/0	3/0	2
39	620	2EA 3	3	350	1	4/0	3/0	2,4
40	620	2EA 3	4	350	1	4/0	3/0	2,4
41	760	2EA 3 1/2	3	500	1/0	4/0	3/0	2,4
42	760	2EA 4	4	500	1/0	4/0	3/0	2,4
43	1240	4EA 3	3	350	3/0	4/0	3/0	4
44	1240	4EA 3	4	350	3/0	4/0	3/0	4
45	1675	5EA 3 1/2	4	400	4/0			4
46	2010	6EA 3 1/2	4	400	250			4
47	2660	7EA 4	4	500	350			4
48	3040	8EA 4	4	500	500			4
49	4180	11EA 4	4	500	500			4
50		5EA 4						6
51		5						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 THWN UNLESS OTHERWISE NOTED.
2. PROVIDE EQUIPMENT GROUND CONDUCTORS PER TABLE 250-95 WHEN CIRCUIT BREAKERS ARE SIZED GREATER THAN AMPERE RATING SHOWN IN TABLE.
3. PROVIDE #10 NEUTRALS FOR MULTIWIRE BRANCH CIRCUITS SERVING COMPUTERS.
4. GROUND (GR) CONDUCTOR MAY BE DELETED ON SERVICE ENTRANCE CONDUCTORS.
5. WHEN SYMBOL SUBSCRIPT INDICATES "IG" INCLUDE "IG" OR INSULATED GROUND CONDUCTOR SCHEDULED ALONG WITH GR OR EQUIPMENT GROUND CONDUCTOR . WHEN SYMBOL SUBSCRIPT INDICATES "SE", SUBSTITUTE "SE" CONDUCTOR FOR "GR" 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.

"A"	AMP OR AMPS	"EQUIP"	EQUIPMENT	"N.C."	NORMALLY CLOSED
"ADJ"	ADJACENT	"EX"	EXISTING	"N.I.C."	NOT IN CONTRACT
"AFF"	ABOVE FINISHED FLOOR	"FA"	FIRE ALARM	"N.O."	NORMALLY OPEN
"AL"	ALUMINUM	"FACP"	FIRE ALARM CONTROL PANEL	"O.C."	ON CENTER
"C"	CONDUIT	"FLA"	FULL LOAD AMPS	"OCP"	OVER CURRENT PROTECTION
"CB","C/B"	CIRCUIT BREAKER	"F.O.B."	FREIGHT ON BOARD	"QTY"	QUANTITY
"CKT"	CIRCUIT	"GR"	GROUND	"R"	REMOVE
"CO"	CONVENIENCE OUTLET	"HOA"	HAND-OFF-AUTO	"RR"	REMOVE AND RELOCATE
"C.O.R."	CONTRACTING OFFICER'S REPRESENTATIVE	"HP"	HORSE POWER	"TYP"	TYPICAL
		"IN/IS"	INSULATED/ISOLATED	"UF"	UNDER FLOOR
"CU"	COPPER	"KVA"	KILO VOLT AMPERES	"UG"	UNDER GROUND
"EA"	EACH	"KW"	KILOWATTS	"W"	WITH
"ELEC"	ELECTRICAL	"MCA"	MINIMUM CIRCUIT AMPS	"WP"	WEATHER PROOF
"EM"	EMERGENCY	"MLO"	MAIN LUGS ONLY	"XFMR"	TRANSFORMER



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7/5/2018
DATE:

JOB NUMBER: N/A

SCALE:

DRAWN: M.H.

CHECKED: J.M.D.

LICENSED PROFESSIONAL ENGINEER
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220C
JAMES M. DOUGLASS
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ELECTRICAL ONE-LINE DIAGRAM, DETAILS & NOTES

NEW JAPANESE STEAKHOUSE & SUSHI
NEAR 1100 EAST & ST. GEORGE BOULEVARD
ST. GEORGE, UTAH 84770

E1.1
OF SHEETS

PANEL ID: K-2

MOUNT: FLUSH | TYPE: BOLT ON | 120/208 VOLT 3 PHASE 4 WIRE | JOB: SAKURA STEAK HOUSE & SUSHI | 8/9/2018

400 AMPERE MAIN MLO | LOCATION: SEE PLANS | PANEL SIZE: 20" W x 6.5"D

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, SUBFEED LUGS

CIR #	O/C PROT AMP	O/C PROT POLE	OUTLETS LTG	OUTLETS CO'S	OUTLETS PWR	DESCRIPTION	LCL KVA	PHASE LOAD A	PHASE LOAD B	PHASE LOAD C	LCL KVA	DESCRIPTION	OUTLETS LTG	OUTLETS CO'S	OUTLETS PWR	O/C PROT AMP	O/C PROT POLE	CIR #
1	20	1		3		SERVER COUNTER	0.8	1.2			0.6	KITCHEN OUTLETS		3		20	1	2
3	20	1		3		SERVER COUNTER	0.6		1.2		0.6	SERVER COUNTER		3		20	1	4
5	20	1		3		SERVER COUNTER	0.6			1.0	0.4	1 DOOR REFRIGERATOR		1		20	1	6
7	20	1		1		CONVENIENCE	0.2	0.6			0.4	1 DOOR REFRIGERATOR		1		20	1	8
9	20	1		1		CONVENIENCE	0.2		0.9		0.7	2 DOOR REFRIGERATOR		1		20	1	10
11	20	1		1		SOUP COOKER	1.0			1.8	0.8	SODA DISPENSER		1		20	1	12
13	20	1		1		SOUP COOKER	1.0	1.8			0.8	SODA DISPENSER		1		20	1	14
15	20	1		1		SOUP COOKER	1.0		1.2		0.2	ECONO BOOST		1		20	1	16
17	20	1		1		SOUP COOKER	1.0			1.2	0.2	ECONO BOOST		1		20	1	18
19	20	1		1		SOUP COOKER	1.0	1.2			0.2	ECONO BOOST		1		20	1	20
21	20	1		1		SOUP COOKER	1.0		1.2		0.2	ECONO BOOST		1		20	1	22
23	20	1		1		CONVENIENCE	0.2			1.0	0.8	SODA DISPENSER		1		20	1	24
25	20	1		1		GLYCOL POWER PACK	0.8	1.6			0.8	SODA DISPENSER		1		20	1	26
27	20	3			1	DISPOSAL	0.6		1.3		0.7	2 DOOR REFRIGERATOR		1		20	1	28
29	-	-				I	0.6			1.8	1.2	ICE CUBE MACHINE			1	20	2	30
31	-	-				I	0.6	1.8			1.2	I		-	-	-	-	32
33	60	3			1	DISH WASHER	6.6		6.8		0.2	CONVENIENCE		1		20	1	34
35	-	-				I	6.6			6.8	0.2	CONVENIENCE		1		20	1	36
37	-	-				I	6.6	7.1			0.5	UNDER COUNTER REFER.		1		20	1	38
39	20	1		1		CONVENIENCE	0.2		0.4		0.2	CONVENIENCE		1		20	1	40
41	20	1		1		PREP TABLE REFER.	1.1			2.9	1.8	HOOD LIGHTS	8			20	1	42
43	20	1		1		CONVENIENCE	0.2	1.1			0.9	CONVECTION OVEN		1		20	1	44
45	20	1		1		PREP TABLE REFER.	1.1		2.0		0.9	I				20	1	46
47	20	1		1		CONVENIENCE	0.1			1.0	0.9	CONVECTION OVEN		1		20	1	48
49	20	1				I	0.1	1.0			0.9	I				20	1	50
51	20	1				CONVENIENCE	0.1		0.2		0.1	CONVENIENCE		1		20	1	52
53	20	1				I	0.1			0.2	0.1	I				20	1	54
55	20	1			1	HEAT LAMP	2.0	2.1			0.1	CONVENIENCE		1		20	1	56
57	20	1		1		CONVENIENCE	0.2		0.3		0.1	I				20	1	58
59	20	1		2		SUSHI BAR T.V.	0.4			1.2	0.8	HOOD LIGHTS	8			20	1	60
61	20	1		2		SUSHI BAR T.V.	0.4	2.0			1.6	TOASTER OVEN		1		20	1	62
63	20	1		3		SUSHI BAR T.V.	0.6		2.2		1.6	TOASTER OVEN				20	1	64
65	20	1		3		SUSHI BAR COUNTER	0.6			1.7	1.1	2 DOOR FREEZER		1		20	1	66
67	20	1		3		SERVER COUNTER	0.6	1.3			0.7	2 DOOR REFRIGERATOR		1		20	1	68
69	20	1		1		CONVENIENCE	0.2		0.7		0.5	UNDER COUNTER REFER.		1		20	1	70
71	20	1		1		SUSHI DISPLAY	0.4			1.2	0.8	PREP TABLE REFER		1		20	1	72
73	20	1		1		SUSHI DISPLAY	0.4	0.9			0.5	UNDER COUNTER REFER.		1		20	1	74
75	20	1		1		CONVENIENCE	0.2		1.0		0.8	WASHER		1		20	1	76
77	20	1		4		OFFICE	0.8			2.0	1.2	DRYER			1	20	2	78
79	20	1		4		R.R./UTILITY/STORAGE	0.8	2.0			1.2	I				-	-	80
81	20	1		1		SODA/SYRUP PUMP	0.8		1.6		0.8	SODA/SYRUP PUMP		1		20	1	82
83	20	1		1		I	0.8			1.6	0.8	I		1		20	1	84
85	20	1		1		I	0.8	1.6			0.8	I		1		20	1	86
87	20	1		1		I	0.8		1.6		0.8	I		1		20	1	88
89	20	1		1		I	0.8			1.6	0.8	I		1		20	1	90
91	20	1		1		I	0.8	1.6			0.8	I		1		20	1	92
93	20	1		1		I	0.8		1.6		0.8	I		1		20	1	94
95	20	1		1		I	0.8			1.6	0.8	I		1		20	1	96
97	20	1		1		I	0.8	1.6			0.8	I		1		20	1	98
99	20	1		1		I	0.8		1.6		0.8	I		1		20	1	100
101	20	1		1		I	0.8			1.6	0.8	I		1		20	1	102
103	20	1		1		I	0.8	1.6			0.8	I		1		20	1	104
105	20	1		1		I	0.8		1.6		0.8	I		1		20	1	106
107	20	1		1		I	0.8			1.6	0.8	I		1		20	1	108
109	20	1		1		I	0.8	1.6			0.8	I		1		20	1	110
111	20	1		1		I	0.8		1.6		0.8	I		1		20	1	112
113	20	2	1			HOT WATER DISPENSER	2.0			2.2	0.2	CONVENIENCE		1		20	1	114
115	-	-				I	2.0	2.2			0.2	I		1		20	1	116
117	20	2	1			HOT WATER DISPENSER	2.0		2.2		0.2	I		1		20	1	118
119	-	-				I	2.0			2.7	0.7	2 DOOR REFRIGERATOR		1		20	1	120
121	20	1			9	KITCHEN LIGHTS	0.4	0.6			0.2	HALL LIGHTS	5			20	1	122
123	20	1			19	I	0.8		1.1		0.3	BAR LIGHTS	14			20	1	124
125	20	1			9	R.R./UTILITY/STORAGE	0.2			0.5	0.3	I	14			20	1	126
127	20	1				CONVENIENCE	0.2	0.2				SPACE						128
129	20	1				I	0.2		0.2			I						130
131						SPACE						I						132
133						I						I						134
135						I						I						136
137						I						I						138
139						I						I						140
141						I						I						142
143						I						I						144
145						I						I						146
147						I						I						148
149						I						I						150
151						I						I						152
153						I						I						154
155						I						I						156
157						I						I						158
159						I						I						160
161						I						I						162
163						I						I						164
165						I						I						166
167						I						I						168
TOTALS:						KVA PER PHASE		27.3	22.6	27.0		TOTAL KVA						76.9
						AMPS PER PHASE		227.5	188.3	225.0		AVERAGE AMPS PER PHASE						213.6

WIRING: ① ACUITY BRANDS: FRESCO CONTROLS — 42,000 AIC

PANEL ID: K-1

MOUNT: FLUSH | TYPE: BOLT ON | 120/208 VOLT 3 PHASE 4 WIRE | JOB: SAKURA STEAK HOUSE & SUSHI | 8/9/2018

200 AMPERE MAIN MLO | LOCATION: SEE PLANS | PANEL SIZE: 20" W x 6.5"D

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, SUBFEED LUGS

CIR #	O/C PROT AMP	O/C PROT POLE	OUTLETS LTG	OUTLETS CO'S	OUTLETS PWR	DESCRIPTION	LCL KVA	PHASE LOAD A	PHASE LOAD B	PHASE LOAD C	LCL KVA	DESCRIPTION	OUTLETS LTG	OUTLETS CO'S	OUTLETS PWR	O/C PROT AMP	O/C PROT POLE	CIR #
1	20	3			1	MUA 13	1.2	2.4			1.2	MAU 14			1	20	3	2
3	-	-				I	1.2		2.4		1.2	I				-	-	4
5	-	-				I	1.2			2.4	1.2	I			1	-	-	6
7	20	3			1	MUA 15	1.2	2.4			1.2	MUA 16				20	3	8
9	-	-				I	1.2		2.4		1.2	I			1	-	-	10
11	-	-				I	1.2			2.4	1.2	I				-	-	12
13	20	3			1	MUA 17	1.2	2.4			1.2	MUA 18			1	20	3	14
15	-	-				I	1.2		2.4		1.2	I				-	-	16
17	-	-				I	1.2			2.4	1.2	I				-	-	18
19	20	3			1	MUA 23	1.8	4.4			2.6	MUA 24			1	30	3	20
21	-	-				I	1.8		4.4		2.6	I				-	-	22
23	-	-				I	1.8			4.4	2.6	I				-	-	24
25	20	2			1	EF-1	0.6	1.2			0.6	EF-2			1	20	2	26
27	-	-				I	0.6		1.2		0.6	I				-	-	28
29	20	2			1	EF-3	0.6			1.2	0.6	EF-4			1	20	2	30
31	-	-				I	0.6	1.2			0.6	I				-	-	32
33	20	2			1	EF-5	0.6		1.2		0.6	EF-6			1	20	2	34
35	-	-				I	0.6			1.2	0.6	I				-	-	36
37	20	2			1	EF-7	0.6	1.2			0.6	EF-8			1	20	2	38
39	-	-				I	0.6		1.2		0.6	I				-	-	40
41	20	2			1	EF-9	0.6			1.2	0.6	EF-10			1	20	2	42
43	-	-				I	0.6	1.2			0.6	I				-	-	44
45	20	2			1	EF-11	0.6		1.2		0.6	EF-12			1	20	2	46
47	-	-				I	0.6			1.2	0.6	I				-	-	48
49	20	2			1	EF-19	0.7	1.2			0.5	EF-20			1	20	3	50
51	-	-				I	0.7		1.2		0.5	I				-	-	52
53	20	3			1	EF-21	0.5			1.0	0.5	I				-	-	54
55	-	-				I	0.5	1.0			0.5	EF-22			1	20	3	56
57	-	-				I	0.5		1.0		0.5	I				-	-	58
59	20	1			1	EF-25	0.7			1.2	0.5	I				-	-	60
61	20	2			1	FREEQER COIL	0.2	0.5			0.3	COOLER COIL			1	20	1	62
63						I	0.2		1.2		1.0	COOLER CONDENSER			1	20	3	64
65	30	3			1	FREEQER CONDENSER	1.8			2.8	1.0	I				-	-	66
67	-	-				I	1.8	2.8			1.0	I				-	-	68
69	-	-				I	1.8		2.1		0.3	COOLER COIL			1	20	1	70
71	20	1			2	FREEZER LIGHTS	0.3			1.3	1.0	COOLER CONDENSER			1	20	3	72
73						SPACE		1.0			1.0	I				-	-	74
75						I			1.0		1.0	I				-	-	76
77						I				0.5	0.5	COOLER LIGHTS	4			20	1	78
79						I						SPACE						80
81						I						I						82
83						I						I						84
TOTALS:						KVA PER PHASE		19.1	19.8	21.4		TOTAL KVA						60.3
						AMPS PER PHASE		159.2	165.0	178.3		AVERAGE AMPS PER PHASE						167.5

WIRING: ① SEE E1.3 FOR INTERLOCK CONTROLS — 22,000 AIC

PANEL ID: A

MOUNT: FLUSH | TYPE: BOLT ON | 120/208 VOLT 3 PHASE 4 WIRE | JOB: SAKURA STEAK HOUSE & SUSHI | 8/9/2018

200 AMPERE MAIN MLO | LOCATION: SEE PLANS | PANEL SIZE: 20" W x 6.5"D

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, SUBFEED LUGS

CIR #	O/C PROT AMP	O/C PROT POLE	OUTLETS LTG	OUTLETS CO'S	OUTLETS PWR	DESCRIPTION	LCL KVA	PHASE LOAD A	PHASE LOAD B	PHASE LOAD C	LCL KVA	DESCRIPTION	OUTLETS LTG	OUTLETS CO'S	OUTLETS PWR	O/C PROT AMP	O/C PROT POLE	CIR #
1	20	1		4		WAITING	0.8	1.0			0.2	WEST AWNING	5			20	1	2
3	20	1		3		RECEPTION	0.6		0.8		0.2	NORTH AWNING	6			20	1	4
5	20	1			1	FISH TANK	1.0			1.1	0.1	ENTRY AWNING	1			20	1	6
7	20	1			1	FISH TANK	1.0	1.2			0.2	VESTIBULE/ENTRY	5			20	1	8
9	20	1		4		RECEPTION	0.8		1.2		0.4	ENTRY CHANDELIER	14			20	1	10
11	20	1		5		HIBACHI DINING	1.0			1.1	0.1	RECEPTION	3			20	1	12
13	20	1		3		PRIVATE HIBACHI #1	0.6	0.7			0.1	RECEPTION	3			20	1	14
15	20	1		3		PRIVATE HIBACHI #2	0.6		0.7		0.1	RECEPTION STORAGE	1			20	1	16
17	20	1		3		P.O.S.	0.6			0.9	0.3	HIBACHI DINING	8			20	1	18
19	20	1		3		I	0.6	0.8			0.2	HIBACHI #1 SHELF	4			20	1	20
21	20	1		2		BAR P.O.S.	0.4		0.6		0.2	HIBACHI #1 SOFFIT	18			20	1	22
23	20	1		2		BAR T.V.	0.4			0.6	0.2	HIBACHI #2 SHELF	4			20	1	24
25	20	1		1		BAR - CONVENIENCE	0.2	0.4			0.2	HIBACHI #2 SOFFIT	18			20	1	26
27	20	1		1		BAR -GLASS CHILLER	0.7		0.9		0.2	HIBACHI #3 SHELF	4			20	1	28
29	20	1		1		BAR - WINE RESERVE	0.3			0.5	0.2	HIBACHI #3 SOFFIT	18			20	1	30
31	20	1		1		BAR - BLENDER	0.2	0.4			0.2	HIBACHI #4 SHELF	4			20	1	32
33	20	1			1	BAR - ICE MACHINE	1.7		1.9		0.2	HIBACHI #4 SOFFIT	18			20	1	34
35	20	1		1		BAR - CONVENIENCE	0.2			0.3	0.1	PRIVATE HIBACHI #1	2			20	1	36
37	20	1		1		BAR - PREP TABLE	1.1	1.3			0.2	PRIVATE HIBACHI #1 SHELF	4			20	1	38
39	20	1			1	FIRE PLACE	1.5		1.7		0.2	PRIVATE HIBACHI #1 SOFFIT	18			20	1	40
41	20	1		2		RESTROOMS	0.4			0.5	0.1	PRIVATE HIBACHI #2	2			20	1	42
43	20	1		3		HALL	0.6	0.8			0.2	PRIVATE HIBACHI #2 SHELF	4			20	1	44
45	20	1		3		PRIVATE DINING	0.6		0.8		0.2	PRIVATE HIBACHI #2 SOFFIT	18			20	1	46
47	20	1			1	PROJECTOR	1.0			1.1	0.1	P.O.S.	6			20	1	48
49	20	1			1	PROJECTOR SCREEN	1.0	1.2			0.2	HALL	5			20	1	50
51	20	1		3		DINING AREA #2	0.6		0.7		0.1	BAR ACCENT WALL	5			20	1	52
53	20	1		2		OUTDOOR OUTLETS	0.4			0.6	0.2	BAR COUNTER	10			20	1	54
55	20	1		2		OUTDOOR OUTLETS	0.4	0.7			0.3	BAR	6			20	1	56
57	20	1			1	FISH TANK EQUIPMENT	1.0		1.5		0.5	RESTROOM CHANDELIER	10			20	1	58
59	20	1			1	I	1.0			1.4	0.4	RESTROOMS	14			20	1	60
61	20	1			1	I	1.0	1.1			0.1	DINING AREA #1	4			20	1	62
63	20	1		3		PARKING STORAGE OUTLETS	0.6		1.1		0.5	DINING AREA #1	17			20	1	64
65	20	1		4		PARKING GARAGE OUTLETS	0.8			1	0.2	DINING AREA #1 SHELF	4			20	1	66
67	20	1		2		HALL/UTILITY	0.4	0.6			0.2	DINING AREA #1 SOFFIT	6			20	1	68
69	20	1		3		WATER HEATER	0.6		0.7		0.1	DINING AREA #1	4			20	1	70
71	20	1		2		T.B.B.	0.4			0.5	0.1	DINING AREA #1	6			20	1	72
73	20	1	3			DRIVE LIGHTS	0.2	0.7			0.5	DINING AREA #1 CHANDELIER	10			20	1	74
75	20	1	6			STORAGE LIGHTS	0.3		0.4		0.1	DINING AREA #2	4			20	1	76
77	20	1	15			PARKING GARAGE LIGHTS	0.9			1	0.1	DINING AREA #2	3			20	1	78
79	20	1	6			I	0.4	0.6			0.2	BALCONY DINING	6			20	1	80
81	20	1	2			UTILITY LIGHTS	0.1		0.5		0.4	FUTURE SOAP			2	20	1	82
83	20	1	3			STAIRS	0.2			0.3	0.1	FUTURE AIR FRESHENER			1	20	1	84
85	20	1	4			OUTDOOR LIGHTING	0.1	1.1			1.0	FUTURE HAND DRYER			1	20	1	86
87	20	1			1	SIGN	1.0		1.1		0.1	FUTURE AIR FRESHENER			1	20	1	88
89	20	1			1	I	1.0			2.0	1.0	FUTURE HAND DRYER			1	20	1	90
91	20	1			1	I	1.0	1.3			0.3	HIBACHI HOOD LIGHTS	3			20	1	92
93	20	1			1	I	1.0		1.3		0.3	I	3			20	1	94
95	20	1			1	I	1.0			1.3	0.3	I	3			20	1	96
97	20	1	3			HIBACHI HOOD LIGHTS	0.3	0.6			0.3	I	3			20	1	98
99	20	1	3			I	0.3		0.6		0.3	I	3			20	1	100
101	20	1	3			I	0.3			0.6	0.3	I	3			20	1	102
103	20	1	3			I	0.3	0.6			0.3	I	3			20	1	104
105						SPACE			0.3		0.3	I	3			20	1	106
107						I						SPACE						108
109						I						I						110
111						I						I						112
113						I						I						114
115						I						I						116
117						I						I						118
119						I						I						120
121						I						I						122
123						I			1.0		1.0	EMERGENCY LIGHTING	14			20	1	124
125						I				1.0	1.0	EMERGENCY LIGHTING	18			20	1	126
TOTALS:						KVA PER PHASE		12.6	14.6	12.9		TOTAL KVA						40.1
						AMPS PER PHASE		105.0	121.7	107.5		AVERAGE AMPS PER PHASE						111.4

WIRING: ① ACUITY BRANDS: FRESCO CONTROLS — 22,000 AIC

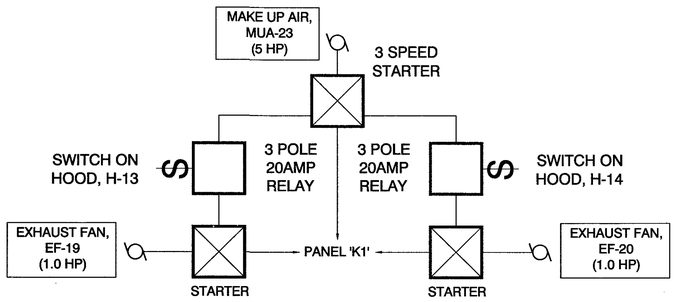
PANEL ID: AC

MOUNT: FLUSH | TYPE: BOLT ON | 120/208 VOLT 3 PHASE 4 WIRE | JOB: SAKURA STEAK HOUSE & SUSHI | 8/9/2018

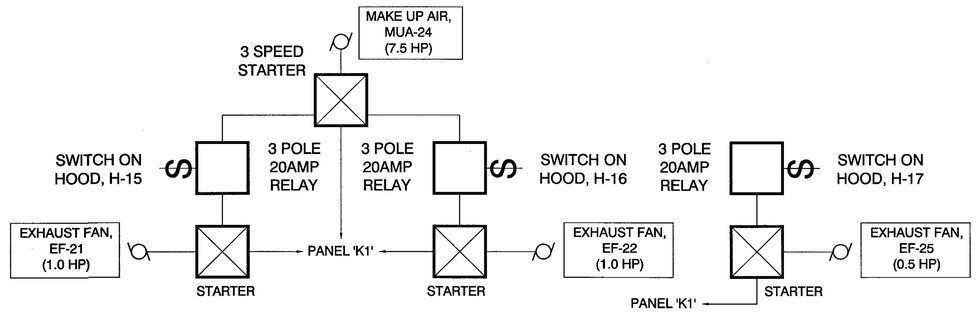
400 AMPERE MAIN MLO | LOCATION: SEE PLANS | PANEL SIZE: 20" W x 6.5"D

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR

CIR #	O/C PROT AMP	O/C PROT POLE	OUTLETS LTG	OUTLETS CO'S	OUTLETS PWR	DESCRIPTION	LCL KVA	PHASE LOAD A	PHASE LOAD B	PHASE LOAD C	LCL KVA	DESCRIPTION	OUTLETS LTG	OUTLETS CO'S	OUTLETS PWR	O/C PROT AMP	O/C PROT POLE	CIR #
1	30	3			1	RTU-1	3.1	7.2			4.1	RTU-2			1	45	3	2
3	-	-				I	3.1		7.2		4.1	I				-	-	4
5	-	-				I	3.1			7.2	4.1	I				-	-	6
7	45	3			1	RTU-3	4.1	8.2			4.1	RTU-4			1	45	3	8
9	-	-				I	4.1		8.2		4.1	I				-	-	10
11	-	-				I	4.1			8.2	4.1	I				-	-	12
13	45	3			1	RTU-5	4.1	9.1			5.0	RTU-6				50	3	14
15	-	-				I	4.1		9.1		5.0	I				-	-	16
17	-	-				I	4.1			9.1	5.0	I				-	-	18
19	60	3				RTU-7	5.8	11.6			5.8	RTU-8				60	3	20
21	-	-				I	5.8		11.6		5.8	I				-	-	22
23	-	-				I	5.8			11.6	5.8	I				-	-	24
25	20	1		4		RTU OUTLETS	0.8	1.2			0.4	DUCT DECTECTOR				20	1	26
27	20	3		4		I	0.8		1.2		0.4	I				20	1	28
29	20	1				EF-16	0.1			2.0	1.9	HP-1				25	2	30
31	20	1				EF-17	0.1	2.0			1.9	I				-	-	32
33	20	3				EF-18	0.1		2.7		2.6	HP-2				35	2	34
35	-	-				I	0.1			2.7	2.6	I				-	-	36
37	-	-				I	0.1	1.2			1.1	UNIT HEATER 1				20	1	38
39						SPACE			0.9		0.9	UNIT HEATER 2				20	2	40
41						I				0.9	0.9	I				-	-	42
43						I		0.9			0.9	UNIT HEATER 3				20	2	44
45						I			0.9		0.9	I				-	-	46
47						I						SPACE						48
49						I						I						50
51						I						I						52
53						I						I						54
55						I						I						56
57						I						I						58
59						I						I						60
61						I						I						62
63						I						I						64
65						I						I						66
67						I						I						68
69						I						I						70
71						I						I						72
73						I						I						74
75						I						I						76
77						I						I						78
79						I						I						80
81						I						I						82
83						I						I						84
TOTAL

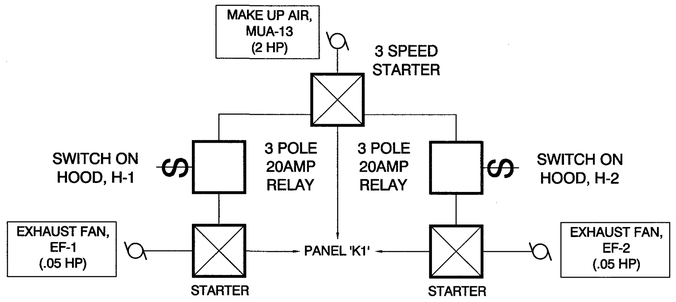


KITCHEN HOODS - LEFT

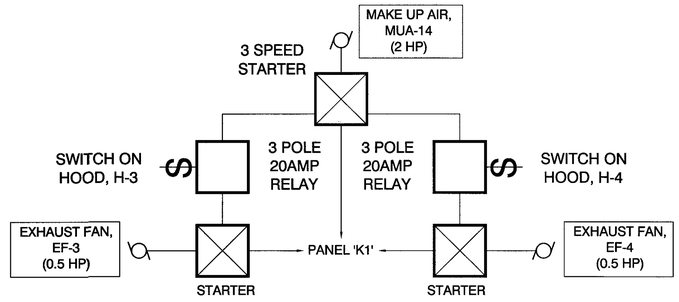


KITCHEN HOODS - RIGHT

DISHWASHER HOOD



HIBACHI HOODS



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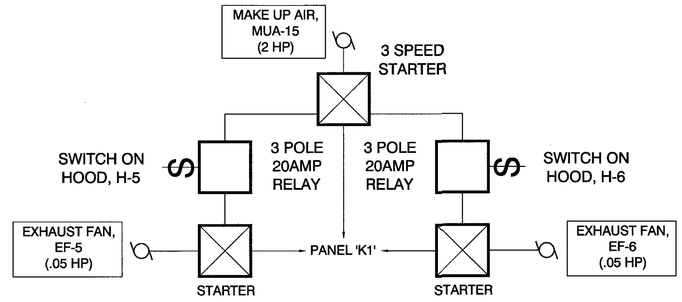

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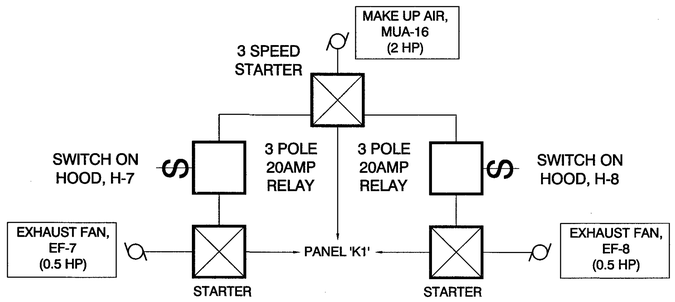

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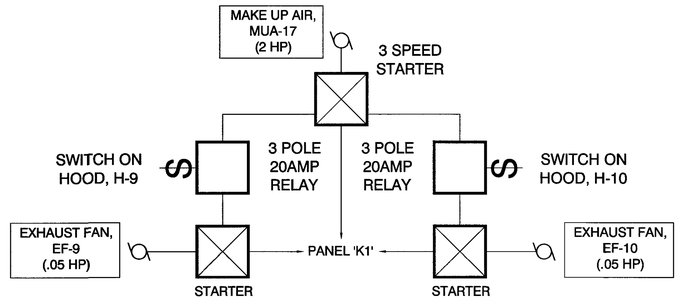
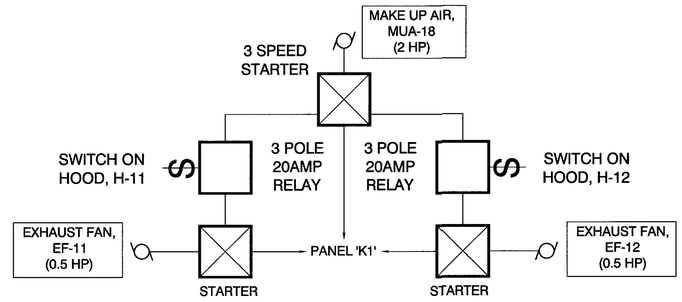


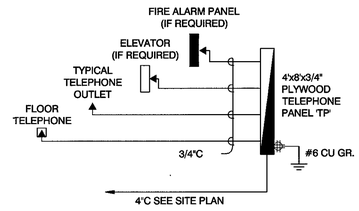
HIBACHI HOODS



HIBACHI HOODS

1 H-1-17 INTERLOCK CONTROL
SCALE: N.T.S.

NOTES:
1. ALL CONDUIT 3/4" UNLESS SPECIFIED OTHERWISE.
2. TELEPHONE WIRING MAY BE RUN EXPOSED IN ACCESSIBLE, NON-PLENUM CEILINGS, WHERE APPROVED BY TELEPHONE CO., AND LOCAL AUTHORITIES.



2 TELEPHONE RISER DIAGRAM
SCALE: N.T.S.

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7/5/2018
DATE:

JOB NUMBER:

N/A
SCALE:

M.H.
DRAWN:

J.M.D.
CHECKED:

LICENSED PROFESSIONAL ENGINEER
22-127182-2202
JAMES M. DOUGLAS
9-20-18
STATE OF UTAH

MRW DESIGN ASSOCIATES INC.
ARCHITECTURE & CONSULTING ENGINEERS
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P.O. BOX 2775
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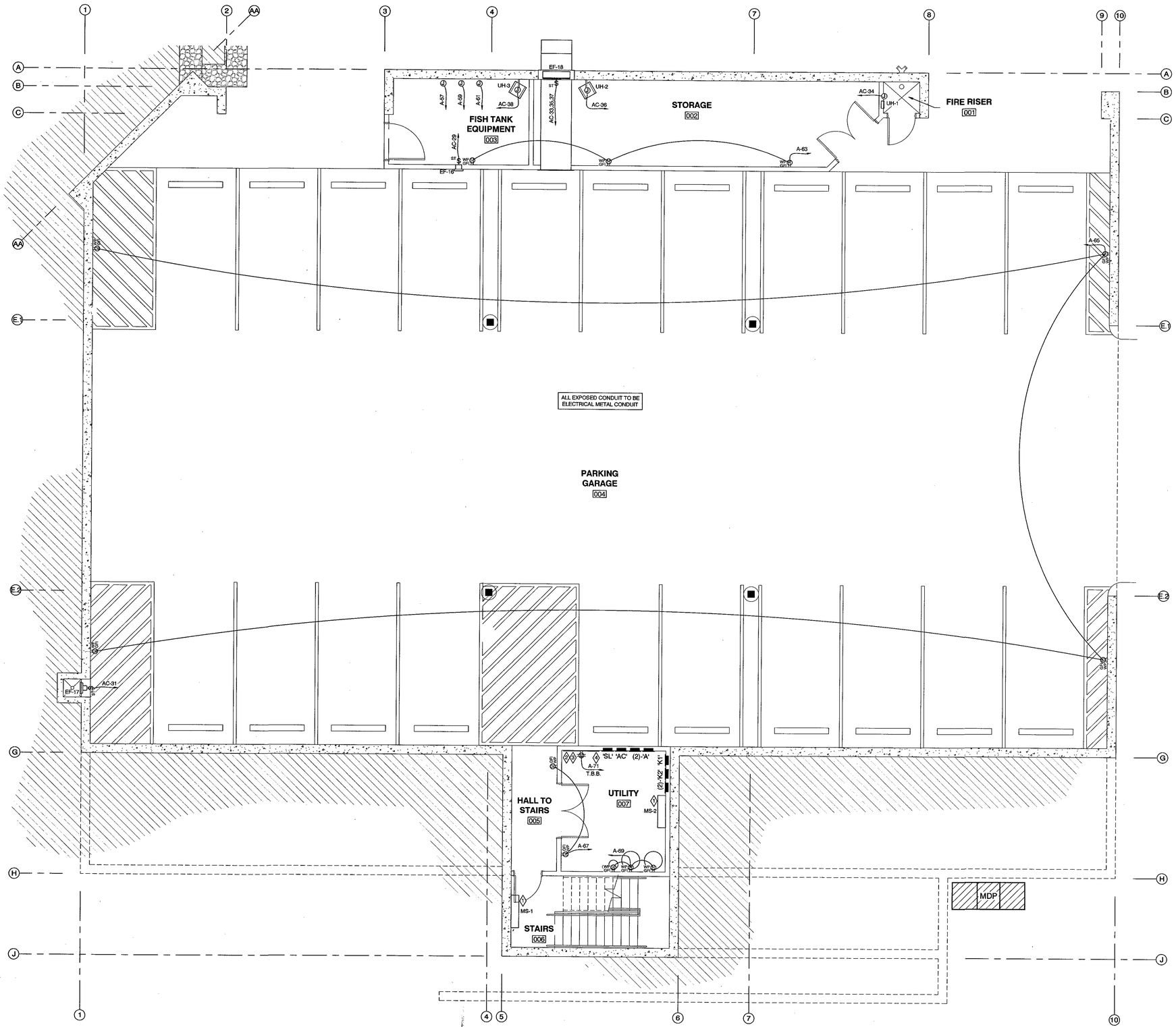
(435) 628-2377 (435) 673-3580 fax
www.mrwdesign.com

ELECTRICAL NOTES & DETAILS

NEW JAPANESE STEAKHOUSE & SUSHI
NEAR 1100 EAST & ST. GEORGE BOULEVARD
ST. GEORGE, UTAH 84770

E1.3
OF SHEETS



PARKING GARAGE ELECTRICAL POWER PLAN
SCALE: 3/16" = 1'-0"

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7/5/2018
DATE:

JOB NUMBER:

3/16" = 1'-0"
SCALE:

M.H.
DRAWN:

J.M.D.
CHECKED:

LICENSED PROFESSIONAL ENGINEER
22-127182-2202
JAMES M. DOUGLAS
4-20-18
STATE OF UTAH

DESIGN ASSOCIATES INC.
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PARKING GARAGE ELECTRICAL POWER PLAN

NEW JAPANESE STEAKHOUSE & SUSHI
NEAR 1100 EAST & ST. GEORGE BOULEVARD
ST. GEORGE, UTAH 84770

E2.0
OF SHEETS

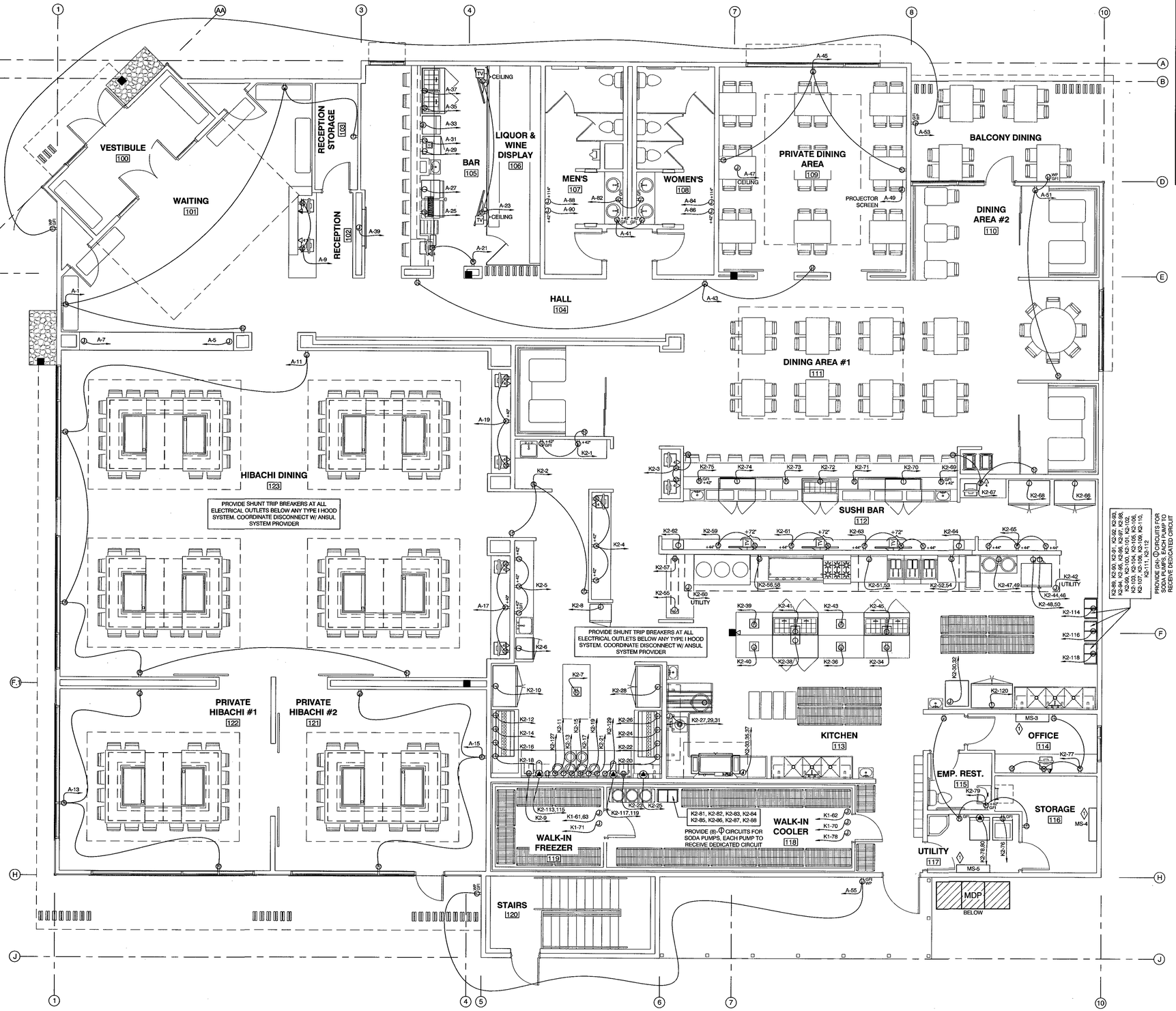
POWER & DATA SYMBOL SCHEDULE

SYMBOL	MOUNTING	DESCRIPTION
		SINGLE PHONE TRIPLE CAT 6 OUTLET
	18", U.N.O.	DOUBLE CAT 6 OUTLET
4	18", U.N.O.	QUADRUPLE CAT 6 OUTLET
TV	18", U.N.O.	T.V. OUTLET
	18", U.N.O.	SINGLE RECEPTACLE OUTLET, GFI: NEMA 5-20R
GFI	18", U.N.O.	SINGLE RECEPTACLE OUTLET, GFI: NEMA 5-20R
	18", U.N.O.	DUPLEX RECEPTACLE OUTLET: NEMA 5-20R
GFI	18", U.N.O.	DUPLEX RECEPTACLE OUTLET, GFI: NEMA 5-20R.
GFI WP	AS NOTED	WEATHER PROOF DUPLEX RECEPTACLE OUTLET, GFI: NEMA 5-20R.
	18", U.N.O.	FOURPLEX RECEPTACLE OUTLET: NEMA 5-20R.
	FLOOR	SPECIAL PURPOSE OUTLET
	FLOOR	SINGLE RECEPTACLE OUTLET: NEMA 5-20R.
	FLOOR	DUPLEX RECEPTACLE OUTLET: NEMA 5-20R.
	AS NOTED	SPECIAL PURPOSE OUTLET
	60"	FLUSH MOUNT PANEL BOARD WITH CABINET.
	60"	PROGRAMMABLE TIME CLOCK W/ BATTERY BACKUP
MUSIC	60"	PROGRAMMABLE MUSIC CONTROLS, SEE E2.3 FOR LOCATION
	AS NOTED	JUNCTION BOX
$	48"	SINGLE POLE SWITCH, SEE E2.3 ELECTRICAL LIGHTING PLAN FOR LOCATION
$ ST	AS NOTED	TOGGLE MOTOR STARTER SWITCH WITH OVERLOAD PROTECTION
	AS NOTED	DISCONNECT SWITCH: "U" INDICATES NON-FUSED DISCONNECT
DD	DUCT	DUCT DETECTOR
	AS REQUIRED	MOTOR OUTLET, SEE E2.3 ELECTRICAL LIGHTING PLAN FOR LOCATION
(T)	@ TIME CLOCK	SEE E2.3 ELECTRICAL LIGHTING PLAN FOR LOCATION

* = INDICATES: VERIFY ALL OUTLETS FOR EQUIPMENT, SEE KITCHEN EQUIPMENT SCHEDULE ON A2.3 FOR MORE INFORMATION.

KEYED NOTES:

1. POWER SUPPLIED FROM HP-X
2. COM. AND TV EQUIP. BOARD 4'Hx4'Wx 3/4" PLYWOOD W/ #6 GRND.
3. PROVIDE (1)-1/2"C TO ELECTRIC ON 4'Hx4'Wx 3/4" PLYWOOD W/ #6 GRND.
4. PROVIDE GAS AND WATER METER ON T.B.B. W/ #6 GRND.



RESTAURANT ELECTRICAL POWER & DATA PLAN
SCALE: 3/16" = 1'-0"

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7/5/2018
DATE:

JOB NUMBER:

3/16" = 1'-0"
SCALE:

M.H.
DRAWN:

J.M.D.
CHECKED:

LICENSED PROFESSIONAL ENGINEER
22-127182-2202
JAMES M. DOUGLAS
STATE OF UTAH

MRW DESIGN ASSOCIATES INC.
ARCHITECTURE & CONSULTING ENGINEERS
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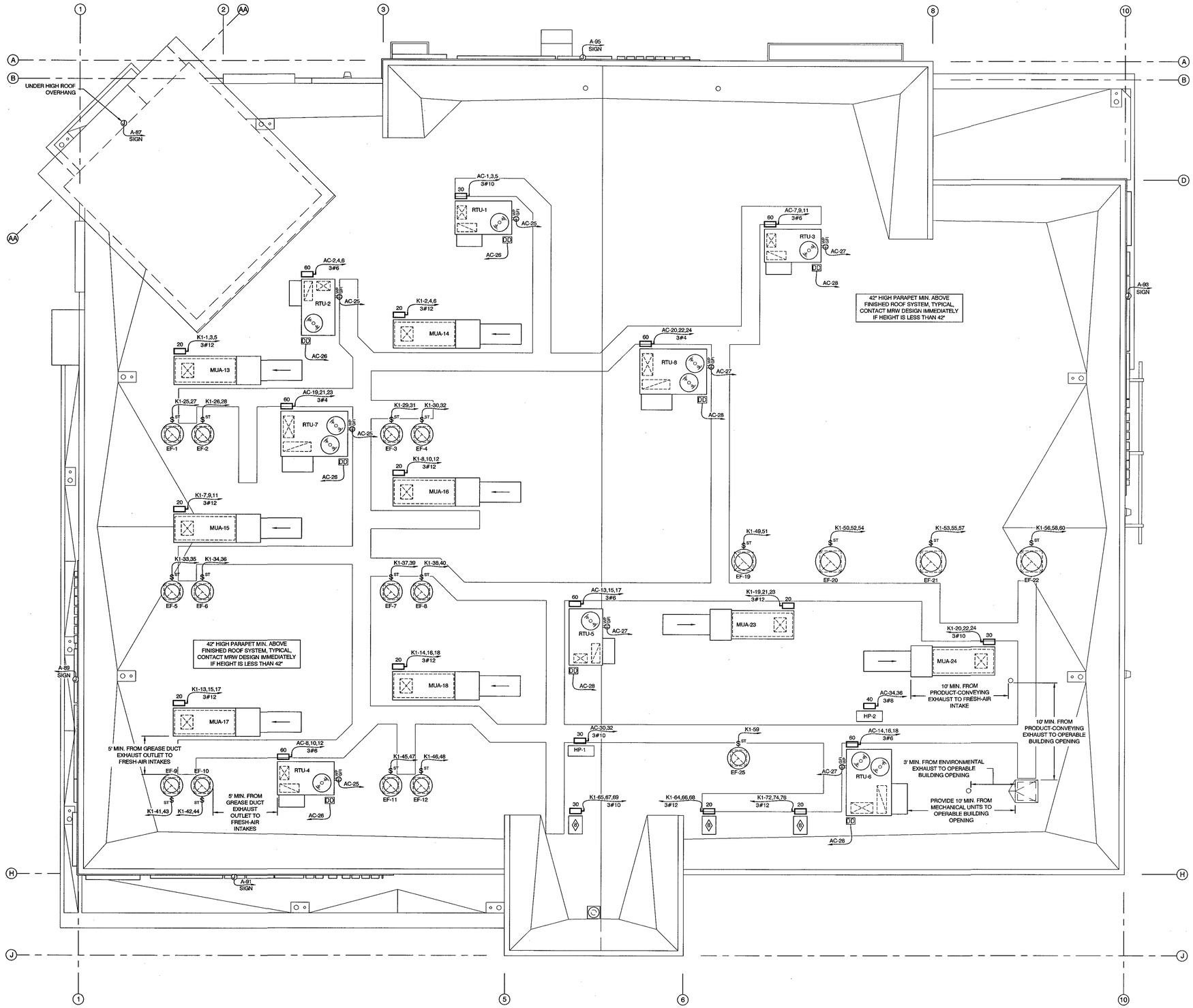
RESTAURANT ELECTRICAL POWER & DATA PLAN

NEW JAPANESE STEAKHOUSE & SUSHI
NEAR 1100 EAST & ST. GEORGE BOULEVARD
ST. GEORGE, UTAH 84770

E2.1
OF SHEETS



ROOF ELECTRICAL POWER PLAN
SCALE: 3/16" = 1'-0"

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7/5/2018
DATE:

JOB NUMBER:

3/16" = 1'-0"
SCALE:

M.H.
DRAWN:

J.M.D.
CHECKED:

LICENSED PROFESSIONAL ENGINEER
22-127192-2202
JAMES M. DOUGLAS
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ROOF ELECTRICAL POWER PLAN

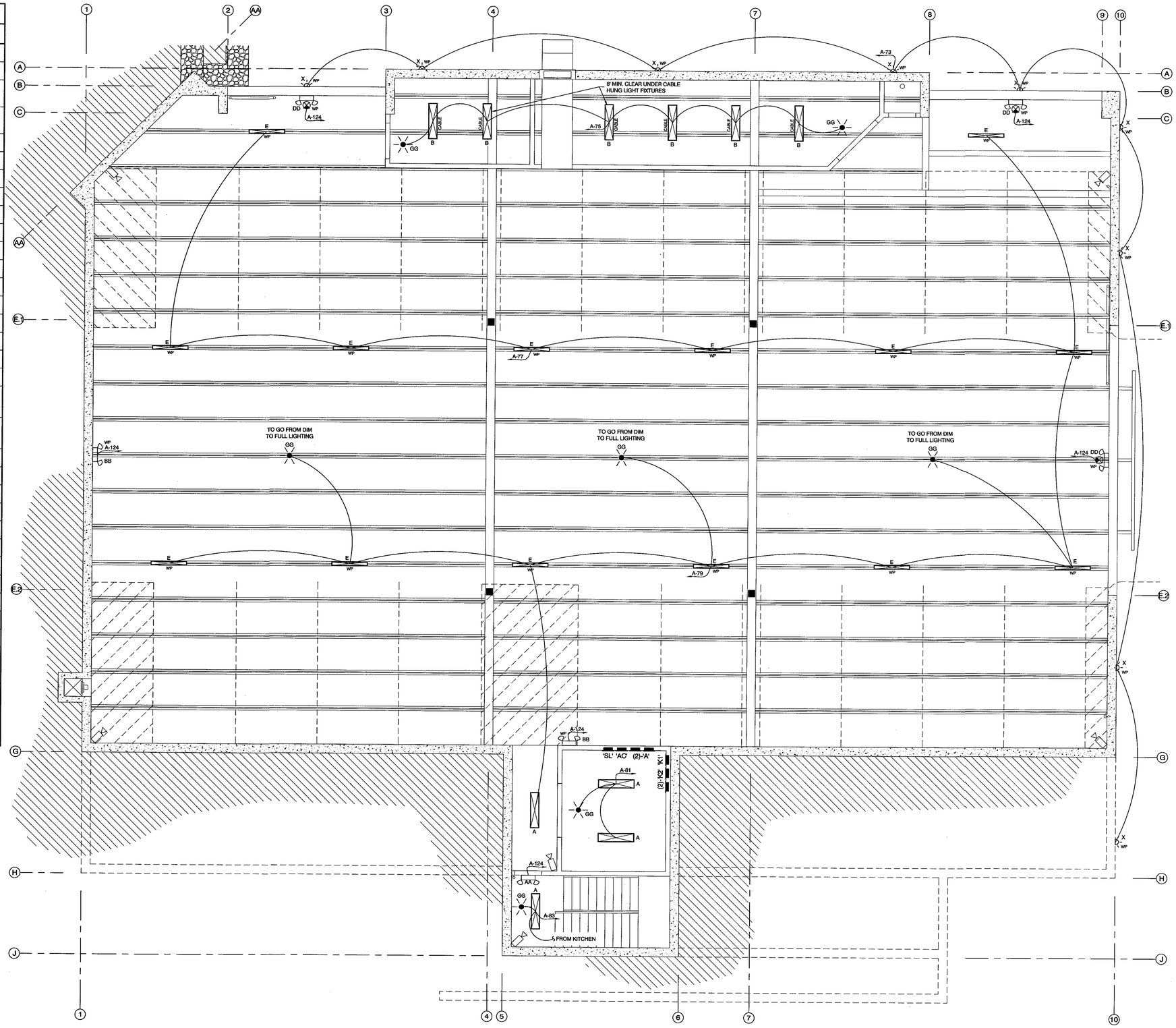
NEW JAPANESE STEAKHOUSE & SUSHI
NEAR 1100 EAST & ST. GEORGE BOULEVARD
ST. GEORGE, UTAH 84770

E2.2
OF SHEETS

LIGHTING FIXTURE LEGEND

SYMBOL	TYPE	WATTAGE	LUMENS	DESCRIPTION
	A	35	3834	SURFACE MOUNTED 1x4, LED, LENSED LITHONIA: STL4 40L EZ1 LP835
CABLE	B	35	3834	CABLE HUNG 1x4, LED, LENSED LITHONIA: STL4 40L EZ1 LP835
	C	32	3,919	RECESSED 2x4 LAY-IN TROFFER, LED, LENSED LITHONIA: 2TL4 40L FW A19 EZ1 LP835 N80
	D	32	3,919	RECESSED 2x4 LAY-IN TROFFER, LED, LENSED LITHONIA: 2TL4 40L FW A19 EZ1 LP835 N80 EL7L
WP	E	45	4,106	SURFACE MOUNTED 4' LINEAR, LED, LENSED MAXLITE: LSP480SSU44DV50PKG 75175 38
	F	37	2,600	SURFACE MOUNTED 4' LINEAR, LED, LENSED NEO-RAY: S23DS-2L35-SR-4-UDD-SI-S93W
(SHELF, X'-X")	G	1.44 / FT	1,305	TAPE LIGHT, LED, LENGTH SHOWN ABOVE SYMBOL DIODE LED: DI-24V-FV30-90
	H	12	1,007	TRACK LIGHTING, LED, HALO: L80808SP9035AH
	J	7	500	RECESSED 2" DOWNLIGHT, LED GOTHAM: ICO 35/05 2AR LD 30D 120 UGZ
	K	7	500	RECESSED 2" DIRECTIONAL DOWNLIGHT, LED GOTHAM: ICO ADJ 35/05 2AR LD 30D 120 UGZ
	L	18	1500	RECESSED 4" DOWNLIGHT, LED GOTHAM: EVO 35/15 4AR MD LD 120 GZ1
WP	M	18	1000	RECESSED 4" DOWNLIGHT, LED GOTHAM: EVO4SH 35/10 4DFR SMO 120 EZ1
	N	24	2000	RECESSED 6" DOWNLIGHT, LED GOTHAM: EVO 35/20 6AR MD LD 120 GZ1
WP	P	24	1000	RECESSED 6" DOWNLIGHT, LED GOTHAM: EVO 35/10 6DFR 120 GZ1
	Q	8	435	PENDANT LIGHT, LED, FIXTURE TO BE ±7'-6" A.F.F.E. TECH LIGHTING: BLK 700 F/ L (RR OR SS, VERIFY) LED930
	R	8	300	PENDANT LIGHT, LED, FIXTURE TO BE ±8'-6" A.F.F.E. TECH LIGHTING: TLS 700 F/ L K S LED5930
	S	19	1680	PENDANT LIGHT, LED, FIXTURE TO BE ±8'-0" A.F.F.E. TECH LIGHTING: BMLGP TD 700 Y S LED827
	T	19	1680	PENDANT LIGHT, LED, FIXTURE TO BE ±8'-0" A.F.F.E. TERON LIGHTING: PD-6790 102 SN 136-33 GUA
	U	(10)-40 TOTAL = 400	4800	PENDANT LIGHT, G9 DIMMABLE LAMPS ELAN LIGHTING: 83681, BRUSHED NICKEL
	V	19	3500	PENDANT ORIENTAL PAPER LIGHT PER OWNER
	W	100	1600	PER HOOD & WALK-IN COOLER/FREEZER MANUFACTURER INCANDESCENT BULB RATED FOR LOCATION
WP	X	17	1300	WALL MOUNTED SONCE, LED INDESSA LIGHTING: S20-1LED16-BLK-BL
	Y	134	15975	POLE MOUNTED LIGHTS, LED LITHONIA: DSX0 LED P6 40K T3M MVOLT
	Z	15	1350	BOLLARD LIGHT, LED LOUIS POULSEN: FLINDT-B, 31.5", CORTEN COLOR
	AA	0.1		EMERGENCY LIGHTING (90 MINUTE MINIMUM)
WP	BB	0.1		WEATHER PROOF EMERGENCY LIGHTING (90 MINUTE MINIMUM)
	CC	0.1		INTEGRATED LIGHTED EXIT SIGN WITH BATTERY BACKUP & EMERGENCY LIGHTING (90 MINUTE MINIMUM)
WP	DD	0.1		WEATHER PROOF INTEGRATED LIGHTED EXIT SIGN WITH BATTERY BACKUP & EMERGENCY LIGHTING (90 MINUTE MIN.)
	EE	0.1		CEILING MOUNT EXIT SIGN, FACES & DIRECTIONAL ARROWS AS SHOWN ON PLANS (IF ANY)
	FF	5		SECURITY DOME CAMERA, CEILING MOUNTED, PROVIDE J-BOX AND 3/4" CONDUIT BACK TO SECURITY STATION
	GG	.1		OCCUPANCY SENSOR, CEILING MOUNTED OR WALL SWITCH, VERIFY W/ CONTRACTOR. PROVIDE OVERRIDE CAPABILITIES IN NON-PUBLIC ROOMS, RATED FOR 1000W MIN.
	HH	150		SPEAKER SYSTEM, VERIFY TYPE W/ OWNER. CONTRACTOR TO PROVIDE WIRE & CONDUIT TO SPEAKERS, OWNER TO PROVIDE SPEAKERS
OR	JJ	PER MECH. PLANS		SEE MECHANICAL PLANS FOR MORE INFORMATION
$	KK			SINGLE POLE SWITCH LOCATED AT 46" A.F.F.E., U.N.O. LOWER CASE LETTERS INDICATE LIGHTS CONTROLLED BY SWITCH, SEE ELECTRICAL LIGHTING PLANS FOR LOCATIONS
	LL	4	330	SURFACE MOUNTED 3' LED STRIP HALO HU1036D930P

NOTE: IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL FIXTURES W/ OWNER PRIOR TO PURCHASE. FIXTURES MAY BE SUBSTITUTED FOR EQUAL W/ OWNER'S APPROVAL



PARKING GARAGE ELECTRICAL LIGHTING PLAN
SCALE: 3/16" = 1'-0"

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7/5/2018
DATE:

JOB NUMBER:

3/16" = 1'-0"
SCALE:

M.H.
DRAWN:

J.M.D.
CHECKED:

LICENSED PROFESSIONAL ENGINEER
22-127182-2201
JAMES M. DOUGLAS
STATE OF UTAH

DESIGN ASSOCIATES INC.
ARCHITECTURE & CONSULTING ENGINEERS
251 W. HILTON DR # 202
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(435) 628-2377 (435) 673-3580 fax
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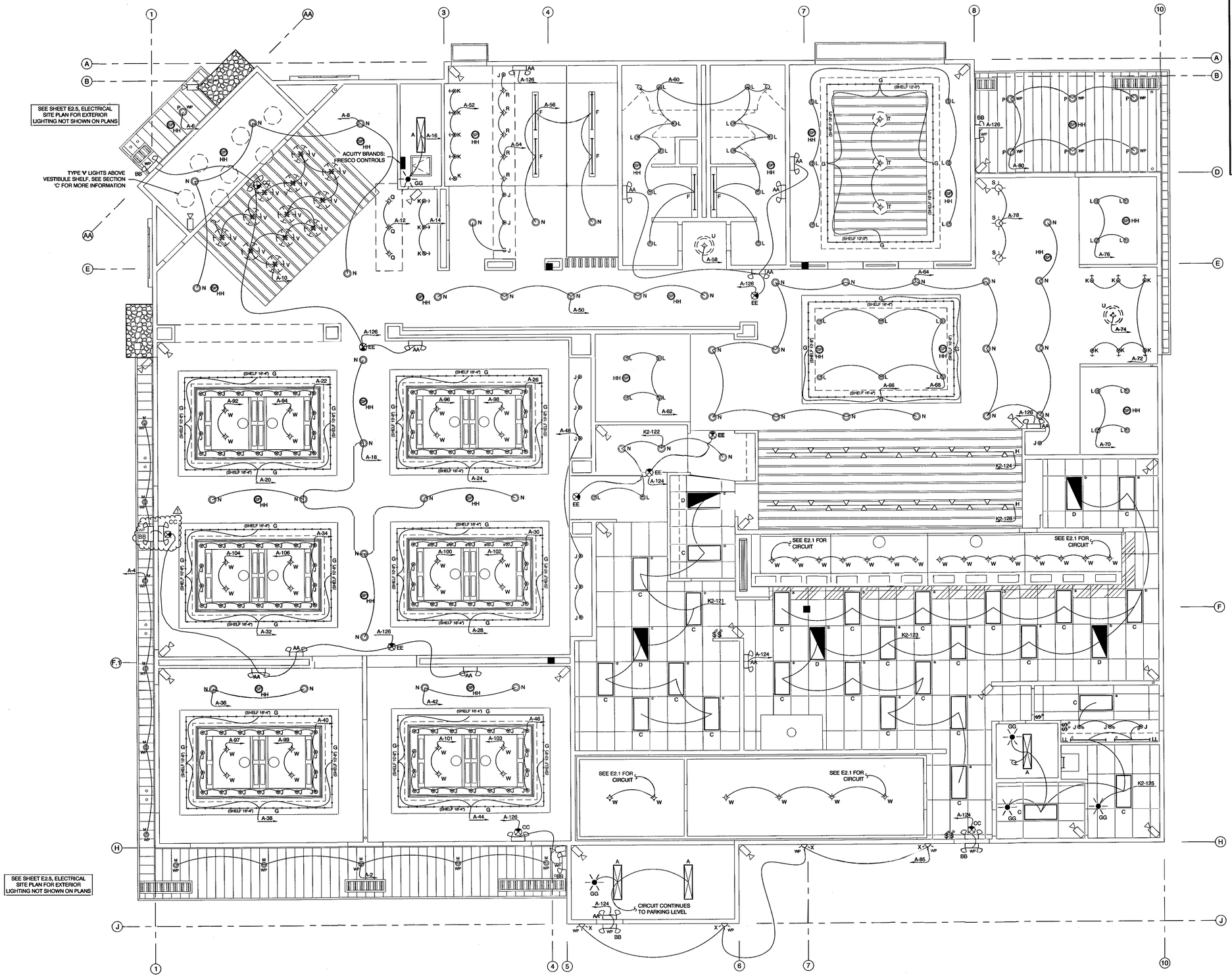
PARKING GARAGE ELECTRICAL LIGHTING PLAN

NEW JAPANESE STEAKHOUSE & SUSHI
NEAR 1100 EAST & ST. GEORGE BOULEVARD
ST. GEORGE, UTAH 84770

E2.3
OF SHEETS

SEE E2.0 FOR LIGHTING FIXTURE LEGEND



RESTAURANT ELECTRICAL LIGHTING PLAN

SCALE: 3/16" = 1'-0"

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7/5/2018
DATE:

JOB NUMBER:

3/16" = 1'-0"
SCALE:

M.H.
DRAWN:

J.M.D.
CHECKED:

LICENSED PROFESSIONAL ENGINEER
22-12/182-2002
JAMES M. DOUGLAS
STATE OF UTAH

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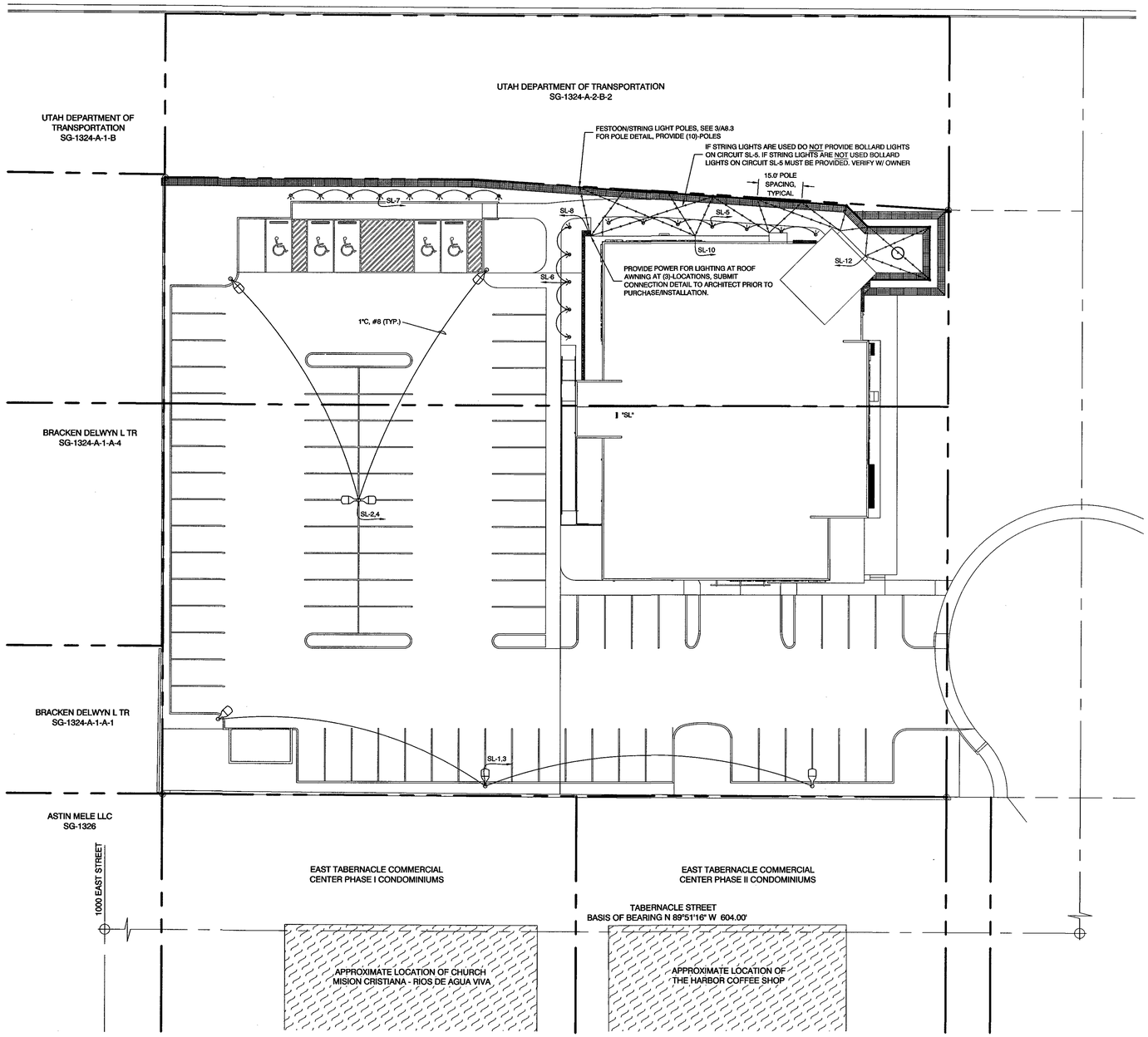
RESTAURANT ELECTRICAL LIGHTING PLAN

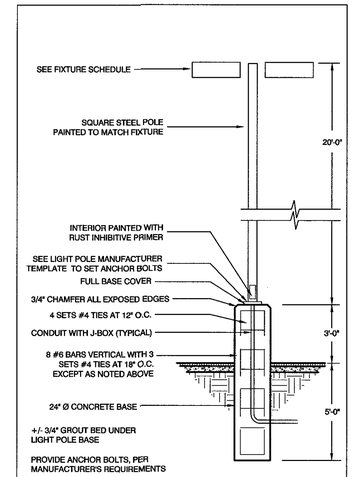
NEW JAPANESE STEAKHOUSE & SUSHI
NEAR 1100 EAST & ST. GEORGE BOULEVARD
ST. GEORGE, UTAH 84770

1-28-2019
BUILDING DEPARMENT REVIEW

E2.4
OF SHEETS



ELECTRICAL SITE PLAN
SCALE: 1" = 20'



PARKING LOT LIGHT
POLE BASE DETAIL TYPE 'SB'

NO SCALE

FIXTURE SCHEDULE		
SYMBOL	WATTAGE	DESCRIPTION
	134	POLE MOUNTED LIGHTS, LED LITHONIA: DSXO LED P6 40K T3M MVOLT
	268	TWO POLE MOUNT LIGHT, LED LITHONIA: DSXO LED P6 40K T3M MVOLT
	15	BOLLARD LIGHT, LED LOUIS POULSEN: FLINDT-B, 31.5", CORTEN COLOR SEE 10/A8.2 FOR BOLLARD DETAIL
	14	EXTERIOR JAPANESE STRING LANTERN LIGHTS, (1)-14W LED OR LESS

NORTH
SCALE 1" = 20'

CALL BEFORE YOU DIG!

NOTICE!
EXISTING UTILITIES ARE SHOWN ON PLANS FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL UTILITIES. THE ENGINEER BEARS NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR SHOWN INCORRECTLY.

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7/5/2018
DATE:

JOB NUMBER:

1" = 20'
SCALE:

M.H.
DRAWN:

J.M.D.
CHECKED:

LICENSED PROFESSIONAL ENGINEER
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ELECTRICAL SITE PLAN

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E2.5
OF SHEETS