PROJECT INFORMATION

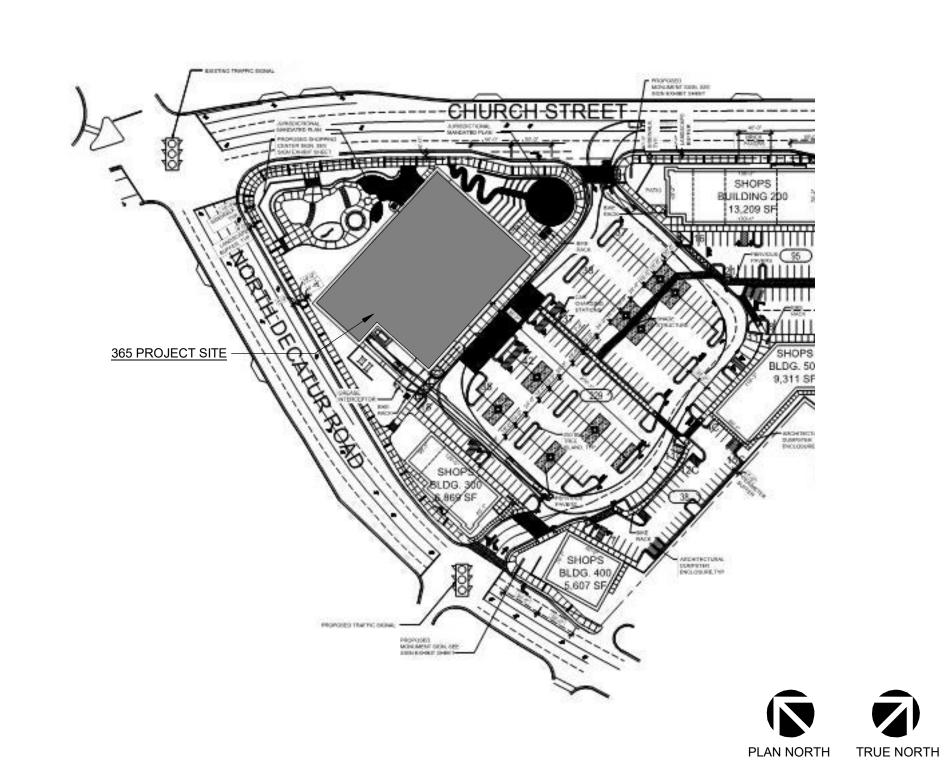
TENANT IMPROVEMENT DECATUR, GA

MARKET

1555 CHURCH STREET, DECATUR, GA 30030

DOCUMENT DATE: 01/29/18

PROJECT SITE



		RE	S	PC	N	SIE	31L —	ITY MATRIX
		FUF	RNIS BY	HED	INS	STAL BY		
CATEGORY SITE WORK /	ITEM / SHELL	365	365 / G.C.	L.L. / G.C.	365	365 / G.C.	L.L. / G.C.	COMMENTS
	SITE WORK - SURVEY / AS BUILTS SITE LIGHTING - BUILDING PERIMETER			X				PER LOCAL CODES AND ORDINANCES
	SITE LIGHTING - FRIENDS OUTDOOR SEATING SITE LIGHTING - POLES & BASES			X				PER LOCAL CODES AND ORDINANCES
	BIKE RACKS CONDUIT AND PULL ROPE FOR FUTURE ELECTRICAL VEHICLE CHARGING SPACES			X			X	CONDUIT STUB INTO 365 SPACE, 2" MIN WITH PULL STRING
	EXTERIOR 365 SIGNAGE	Х			X			GC TO COORDINATE INSTALL SCHEDULE WITH 365 VENDOR; PREFERRED 365 VENDOR:
	DOCK PACKAGE			X				L.L. TO PROVIDE: DOCK LEVELER, DOCK DOOR, BUMPERS, DOCK SEALS DOCK LIGHT, BOLLARD, RECEIVING DOOR & DOOR CHIME/BUZZER, BOLLARDS AND DOCK PLATE TO BE PAINTED OSHA YELLOW
	SKYLIGHTS CART CORRAL, CARTS, AND APPROPRIATE SIGNAGE	X		X		Х	X	365 G.C. TO COORDINATE WITH 365 REPRESENTATIVE FOR CORRAL AND ADDITIONAL SIGNAGE INSTALL REQUIREMENTS
	INTERIOR FURRING AT PERIMETER WALL 6" METAL STUD FRAMING AND INSULATION WITH APPROPRIATE VAPOR BARRIER TO UNDERSIDE OF DECK		X			Х		365 G.C. TO OBTAIN 3 BIDS AND L.L. TO REIMBURSE 365 FOR ALL COSTS INCLUDING G.C. MARK UP AND TESTING ASSOCIATED WITH THE FURRING AND INSULATION. SEE EXHIBIT E FOR SPECIFICATIONS
	PERIMETER WALL GYP BOARD EXTERIOR STOREFRONT WALLS		X	X		X	X	GYP BOARD TO BE FINISHED & PAINTED AS INDICATED IN THIS SET 365 G.C. TO COORDINATE WITH 365 REPRESENTATIVE FOR COORDINATED CONSTRUCTION
	MAIN EXTERIOR ENTRY DOORS AND CONTROLS			X			X	L.L. TO FURNISH POWER TO DOORS AND ROUGH-IN, INCLUDING PREPARATION FOR
	VESTIBULE / INTERIOR ENTRY DOORS			X			X	INSTALLATION BY VENDOR; PROTOTYPE MANUFACTURER: TORMAX. L.L. TO FURNISH POWER TO DOORS AND ROUGH-IN, INCLUDING PREPARATION FOR
	ROOF TOP UNIT			X			X	INSTALLATION BY VENDOR; PROTOTYPE MANUFACTURER: TORMAX. L.L. TO PROVIDE ALL POWER, GAS PIPING AND SIEMENS CONTROL BOARD, SCREENING AS REQUIRED BY LOCAL MUNICIPALITY
	REFRIGERATION EQUIPMENT EXHAUST FANS, UNIT HEATERS, AND KITCHEN HOODS MAIN ELECTRICAL SWITCH GEAR	X	X	X	X	X	X	G.C. TO USE 365 PREFERRED VENDOR: CaptiveAire (1600) AMP, 277/480 VOLT SERVICE WITH APPROPRIATE SUBPANELS FOR LL PROVIDED BUILDING EQUIPMENT
	COMMUNICATIONS CONDUITS			Х				TWO 4" CONDUITS WITH PULL STRINGS TO BE PROVIDED FROM TELEPHONE COMPANY FACILITIES TO 365'S DESIGNATED DEMARC
	FULLY ADRESSABLE FIRE ALARM PANEL AND CONNECTION TO LOCAL FIRE PROTECTION AGENCY			Х				PER NFPA WITH REQUIRED CONNECTIONS TO HVAC EQUIPMENT AND FIRE SUPPRESSION SYSTEM AT NO MORE THAN 50% CAPACITY
	FIRE SUPPRESSION SYSTEM			Х			X	L.L. TO PROVIDE GENERAL FIRE SUPPRESSION SYSTEM IN ACCORDANCE TO THE EXHIBIT E AND GOVERNING BUILDING CODE
	FIRE SUPPRESSION SYSTEMS MODIFICATIONS FOR INTERIOR FIT-OUT CONCRETE SLAB		X			X		365 G.C. TO DESIGN AND INSTALL MODIFICATIONS TO BASE COVERAGE SYSTEM FOR INTERIOR FIT-OUT. SUB BASE AND SLAB AS SPECIFIED IN THESE DOCUMENTS AND IN ACCORDANCE TO THE GEOTECHNICAL REPORT
	// MILLWORK MILLWORK MILLWORK ELECTRICAL AND DATA CHASE		X			X		GC TO USE PREFERRED 365 VENDORS AS OUTLINED IN MILLWORK/FINISH SCHEDULE CHECKSTANDS BY 365
	PRIME AND PAINTING OF WALLS		Х			Х		
	INTERIOR STOREFRONT		X			Х		
	CONCRETE (POLISHED AND SEALED)		X			X		SEE FINISH PLANS AND LEGEND
	EPOXY FLOORING WALL GRAPHICS	X	X		X	X		SEE FINISH PLANS AND LEGEND G.C. TO COORDINATE WITH 365 PREFERRED SIGNAGE VENDOR; PREFERRED 365 VENDOR:
	GLASS VINYL	X			X			DL ENGLIGH GC TO COORDINATE INSTALL SCHEDULE WITH 365 VENDOR; PREFERRED 365 VENDOR: DL ENGLISH
EQUIPMENT	FOLIDMENT SCHEDLILE & ELIDMITURE SOUFDULE			1				G.C. TO COORDINATE DELIVERY AND PROVIDE INSTALLATION FOR SINKS AND
	REFRIGERATION/FREEZER EQUIPMENT INCLUDING ALL DOORS, PASSTHROUGHS AND CONTAINED EQUIPMENT	X			X	X		CHECKSTANDS. G.C. TO COORDINATE WORK PERFORMED BY VENDOR
	JANITORIAL EQUIPMENT AND SUPPLIES BATHROOM ACCESSORIES SS	X	X		X	X		G.C. TO COORDINATE INSTALL SCHEDULE WITH 365 VENDOR; PREFERRED 365 VENDOR: SEALEDAIR DIVERSEY G.C. TO PROVIDE AND INSTALL PER TOILET ACCESSORY SCHEDULE
	FURNITURE (TABLES, SEATING, SYSTEMS FURNITURE)	X			X			GC TO PROVIDE & INSTALL CUSTOMER SEATING COUNTER INCLUDING LEG SUPPORTS; GC TO PROVIDE INTERIOR CUSTOMER SEATING TABLE TOPS & COORDINATE W/ 365 FOR TABLE LEG SUPPORTS
ELECTRICAL	EXTERIOR SIGNAGE ELECTRICAL		Х			Х		G.C. TO COORDINATE WIRING AND CONTROLS WITH 365 REPRESENTATIVE. J-BOX AT SIGN LOCATION BY L.L.
	INTERIOR LIGHT FIXTURE PACKAGE	X				Х		GC TO COORDINATE DELIVERY AND PROVIDE INSTALLATION; PREFERRED 365 VENDOR: BORDER STATES
	IFS ELECTRICAL GEAR EXIT SIGNAGE	X				X	_	DOTAL CONTIES
OW VOLTA	GE HARDWARE P.O.S. SYSTEMS	X	<u> </u>	l	X		 	G.C. TO COORDINATE INSTALLATION WITH 365 VENDOR: SAMGROUP
	TELEPHONE SYSTEM AND HANDSETS	X	V		X	V	<u> </u>	G.C. TO COORDINATE INSTALLATION WITH 365 VENDOR: INSIGHT
	TELECOM: VOICE AND DATA WIRELESS ACCESS POINT ELECTRONIC SHELVING SYSTEM	X	X			X		G.C. TO COORDINATE WITH 365 VENDOR: INSIGHT G.C. TO COORDINATE WITH 365 VENDOR: PRICER
	ELECTRONIC SHELVING SYSTEM CCTV AND SECURITY	X			X	X	<u> </u>	G.C. TO COORDINATE WITH 365 VENDOR: PRICER G.C. TO COORDINATE WITH 365 VENDOR: PROTECTION 1
	SOUND AND PAGING HVAC AND LIGHTING CONTROLS	X			X	X	<u></u>	G.C. TO COORDINATE WITH 365 VENDOR: MOOD MEDIA G.C. TO COORDINATE WITH 365 VENDOR: SIEMENS / HILL PHOENIX
	REFRIGERATION CONTROLS REFRIGERANT LEAK DETECTION/POWER MONITORING	X				X		G.C. TO COORDINATE WITH 365 VENDOR: MICRO THERMO G.C. TO COORDINATE WITH 365 VENDOR: PARASENSE / HILL PHOENIX
	GE CABLING TELECOM: VOICE AND DATA		Х			Х		G.C. TO COORDINATE INSTALLATION WITH 365 VENDOR: INSIGHT
	WIRELESS ACCESS POINT ELECTRONIC SHELVING SYSTEM		X			X	<u> </u>	G.C. TO COORDINATE INSTALLATION WITH 365 VENDOR: INSIGHT G.C. TO COORDINATE INSTALLATION WITH 365 VENDOR: INSIGHT
	CCTV AND SECURITY SOUND AND PAGING		X			X	_	G.C. TO COORDINATE INSTALLATION WITH 365 VENDOR: INSIGHT G.C. TO COORDINATE INSTALLATION WITH 365 VENDOR: MOOD MEDIA
	HVAC AND LIGHTING CONTROLS REFRIGERATION CONTROLS REFRIGERANT LEAK DETECTION/POWER MONITORING GE TERMINATIONS		X X X			X		G.C. TO COORDINATE WITH 365 VENDOR: AMS G.C. TO COORDINATE WITH 365 VENDOR: AMS G.C. TO COORDINATE WITH 365 VENDOR: AMS
	TELECOM: VOICE AND DATA WIRELESS ACCESS POINT ELECTRONIC SHELVING SYSTEM	X	X		X	X		G.C. TO COORDINATE TERMINATIONS BY 365 IT SQUAD G.C. TO COORDINATE TERMINATIONS WITH 365 VENDOR: INSIGHT G.C. TO COORDINATE TERMINATIONS WITH 365 VENDOR: INSIGHT
	CCTV AND SECURITY SOUND AND PAGING	X	Х			X		G.C. TO COORDINATE TERMINATIONS WITH 365 VENDOR: INSIGHT G.C. TO COORDINATE TERMINATIONS WITH 365 VENDOR: MOOD MEDIA
	HVAC AND LIGHTING CONTROLS REFRIGERATION CONTROLS REFRIGERANT LEAK DETECTION/POWER MONITORING V		X X X			X X X		G.C. TO COORDINATE WITH 365 VENDOR: AMS G.C. TO COORDINATE WITH 365 VENDOR: AMS G.C. TO COORDINATE WITH 365 VENDOR: AMS
	INSPECTION COORDINATION		X			X		
	FINAL MUNICIPAL CERTIFICATION SUBCONTRACTOR PERMITS		X			X	<u> </u>	O O TO COORDINATE WITH OVERVENO
	TESTING AND BALANCING STARTUP	X	X		X	X	<u> </u>	G.C. TO COORDINATE WITH SIEMENS G.C. TO COORDINATE WITH AMS
	COMMISSIONING	X	L		X			G.C. TO COORDINATE WITH 365, AMS
MEZZANINE	VERTICAL CIRCULATION		ı	Х	1		X	
	STAIR, ELEVATOR			X			X	

DRAWING INDEX

LIGHTING SCHEDULES AND DETAILS

ELECTRICAL ROOF POWER PLAN

PUBLIC ADDRESS SYSTEM PLAN

ELECTRICAL ONE-LINE DIAGRAM

ELECTRICAL PANEL SCHEDULES

ELECTRICAL PANEL SCHEDULES

ELECTRICAL REFRIGERATION PLAN

EM000 ENERGY MANAGEMENT NOTES AND SYMBOLS

ENERGY MANAGEMENT SCHEDULES

PARASENSE ONE-LINE DIAGRAM

REFRIGERATION EMS CONTROL DETAILS EMS HVAC & LIGHTING ONE-LINE DIAGRAM

EMS REFRIGERATION ONE-LINE DIAGRAM

ENERGY MANAGEMENT PARASENSE DETAILS

ENERGY MANAGEMENT PARASENSE DETAILS

FIRE PROTECTION SYMBOLS, NOTES & DETAILS

ENERGY MANAGEMENT SIEMENS DETAILS **ENERGY MANAGEMENT SIEMENS DETAILS**

ELECTRICAL POWER ENLARGED PLANS

ELECTRICAL SPECIAL SYSTEMS PLAN

ELECTRONIC SHELF LABEL SYSTEM PLAN

ELECTRICAL POWER SCHEDULES AND DETAILS

ELECTRICAL SPECIAL SYSTEMS PLAN - MEZZANINE

ELECTRICAL REFRIGERATION SCHEDULE & DETAILS

ELECTRICAL REFRIGERATION PANEL SCHEDULES

ELECTRICAL SPECIAL SYSTEMS SCHEDULES AND

ELECTRICAL POWER PLAN

CCTV SYSTEMS PLAN

DETAILS

ENERGY MANAGEMENT

FIRE PROTECTION

REFRIGERATION

FP100 FIRE PROTECTION PLAN

FP101 FIRE PROTECTION PLAN - MEZZANINE

REFRIGERATION ROOF PLAN

REFRIGERATION DETAILS

REFRIGERATION SCHEDULES

REFRIGERATION PLAN

REFRIGERATION SYMBOLS & NOTES

EM100 ENERGY MANAGEMENT PLAN

EM101 REFRIGERATION CONTROL PLAN

GENERAL COVER SHEET ELECTRICAL

GENERAL INFORMATION

ELECTRICAL SYMBOLS & NOTES PARTITION TYPES & DETAILS **ELECTRICAL LIGHTING PLAN** G004-A FIRST FLOOR LIFE SAFETY PLAN LIGHTING DIMMING PLAN G004-B MEZZANINE LIFE SAFETY PLAN **ELECTRICAL LIGHTING PLAN - MEZZANINE**

PARTIAL SITE PLAN (FOR REFERENCE ONLY)

ARCHITECTURAL

FIRST FLOOR FIXTURE PLAN **EQUIPMENT SCHEDULE** FIRST FLOOR PLAN SLAB PLAN COOLER & FREEZER PLAN FIRST FLOOR REFLECTED CEILING PLAN

FIRST FLOOR LIGHTING PLAN **ROOF PLAN**

ENLARGED RESTROOM PLANS & ELEVATIONS

WALL SECTIONS FIRST FLOOR FINISH PLAN

INTERIOR ELEVATIONS DOOR & WINDOW SCHEDULE & DETAILS

FINISH AND MATERIALS KEY

INTERIOR DETAILS

INTERIOR DETAILS

ENLARGED PLANS AND DETAILS MEZZANINE FIXTURE PLAN

MEZZANINE FLOOR PLAN MEZZANINE REFLECTED CEILING PLAN AND LIGHTING

MEZZANINE FINISH PLAN

STRUCTURAL

STRUCTURAL NOTES AND DETAILS

SLAB PLAN S200 DETAILS

MEP

MEP000 MEP EQUIPMENT CONNECTION SCHEDULE

MECHANICAL

M000 MECHANICAL SYMBOLS & NOTES

MECHANICAL PLAN

MECHANICAL ROOF PLAN

MECHANICAL SCHEDULES

MECHANICAL DETAILS 1 MECHANICAL DETAILS 2

MECHANICAL DETAILS 3

MECHANICAL DETAILS 4

MECHANICAL DETAILS 5

PLUMBING

PLUMBING SYMBOLS, SCHEDULES & NOTES

PLUMBING WASTE & VENT PLAN

PLUMBING DRAIN DIMENSION PLAN PLUMBING WATER & GAS PLAN

PLUMBING MEZZANINE PLAN

PLUMBING ROOF PLAN

PLUMBING WASTE & VENT RISER DIAGRAM

PLUMBING WATER AND GAS RISER DIAGRAM

PLUMBING DETAILS

RESPONSIBILITY MATRIX GENERAL NOTES

1. THIS RESPONSIBILITY MATRIX DELINEATES

- 365 FURNISHED ITEMS GC FURNISHED/PROVIDED ITEMS

- LANDLORD FURNISHED/PROVIDED ITEMS - ITEMS TO BE PURCHASED THROUGH DESIGNATED NATIONAL SUPPLIERS

DEFINITIONS: - O = OWNER (365)

- G.C. = GENERAL CONTRACTOR - L.L. = LANDLORD

 FURNISH = SUPPLY AND DELIVER TO PROJECT, FREIGHT ON BOARD TRUCK, UNLESS OTHERWISE DEFINED IN GREATER DETAIL - INSTALL = DESCRIBES OPERATIONS AT PROJECT, FROM INSPECTION TO UNLOADING, TO COMPLETION IN PLACE, READY FOR INTENDED USE.

3. SEE MEP-R DRAWINGS FOR ADDITIONAL INFORMATION

4. G.C. TO CONFIRM AND DETERMINE SCOPE OF WORK DURING PRE-CONSTRUCTION MEETING.

5. G.C. IS RESPONSIBLE FOR UNLOADING OWNER FURNISHED CONSTRUCTION ITEMS. REPORT ANY VISIBLE DAMAGE TO 365 REPRESENTATIVE 6. G.C. TO COORDINATE SCHEDULE AND DELIVERY WITH SUPPLIER, STANDARD SHIPPING PROVIDED BY 365.

7. G.C. IS RESPONSIBLE FOR ANY EXPEDITED SHIPPING COSTS. EXCEPT FOR 365 SUPPLIED ITEMS 8. G.C. REQUIRED TO PURCHASE FROM SUPPLIERS WITH WHOM 365 HAS INVENTORY PRICING AGREEMENT. G.C. RESPONSIBLE FOR PURCHASE AND DELIVERY.

9. COORDINATE WITH MEP-R DRAWINGS

FIRE PROTECTION - FUTURE RESTAURANT (ZAK THE BAKER) NEW TENANT IMPROVEMENT HOURLY FIRE-RESISTANCE RATING REQUIREMENTS PER TABLE 601 METAL STUD FRAMING PROVIDED ASSEMBLY

STRUCTURAL FRAME ROOF CONSTRUCTION 0 HOURS 0 HOURS EXTERIOR NONBEARING WALLS 0 HOURS EXTERIOR BEARING WALLS: 0 HOURS INTERIOR BEARING WALLS: 0 HOURS 0 HOURS INTERIOR NONBEARING WALLS 0 HOURS 0 HOURS INTERIOR PARTITIONS: 0 HOURS

REQUIRED NUMBER OF EXITS: 1,137 OCCUPANTS: 4 EXITS PROVIDED NUMBER OF EXITS:

0 HOURS - NEW COOLERS AND FREEZERS

NEW EQUIPMENT

- NEW DINER AND PREP DEPARTMENTS

- NEW SEATING AREAS

- NEW MECHANICAL, PLUMBING, ELECTRICAL, AND REFRIGERATION

5 EXITS

PROJECT TEAM MECHANICAL AND PLUMBING ENGINEER ELECTRICAL ENGINEER

ENERGY SQUARED TEXAS, LLC ENERGY SQUARED TEXAS, LLC

365 BY WHOLE FOODS 601 N. LAMAR BOULEVARD, SUITE 300 AUSTIN, TX 78703 GLEN MOON (CONSTRUCTION MANAGER) - (413) 268-2184 NICK HANSON (CONSTRUCTION COORDINATOR) - (224) 650-1264

OWNER/TENANT

CODE SUMMARY

REF LOCAL CODE AMENDMENTS IN ADDITION TO THE CODES LISTED BELOW:

APPLICABLE CODES

BUILDING CODE:

MECHANICAL CODE:

PLUMBING CODE:

FIRE CODE:

ELECTRICAL CODE

ACCESSIBILITY CODE

FUTURE/SEPARATE SUBMITTALS

TI PERMIT FOR FUTURE USE

EXTERIOR BUILDING SIGNAGE

SPRINKLER/FIRE PROTECTION

ENERGY CODE:

S.J. COLLINS ENTERPRISES 5 SW BROAD STREET, SUITE B P.O. BOX 214 FAIRBURN, GA 30213

LANDLORD/DEVELOPER

2012 IBC - GA STATE AMENDMENTS

2012 IMC - GA STATE AMENDMENTS

2012 IPC - GA STATE AMENDMENTS

2014 NEC - GA STATE AMENDMENTS

2009 IEC - GA STATE AMENDMENTS

2010 DEPARTMENT OF JUSTICE ADA REQ.

2012 IFC - GA STATE AMENDMENTS & THE GEORGIA FIRE SAFETY

USE GROUPS

ALLOWABLE AREA:

ALLOWABLE HEIGHT

ACCESSORY

BRR ARCHITECTURE AOR: BOYD RAU 6700 ANTIOCK PLAZA, SUITE 300 MERRIAM, KS 66204 (913) 262-9095

ARCHITECT

JOHNSTON BULKHOLDER ASSOCIATES BART J. HALVERSON 930 CENTRAL KANSAS CITY, MO 64105

CONSTRUCTION TYPE

TRAVEL DISTANCE

MAX TRAVEL DISTANCE:

EXIT WIDTH REQUIRED:

EXIT WIDTH PROVIDED:

37,500 SF EGRESS WIDTH FACTOR:

ACCESSORY EGRESS WIDTH

REF SHEET G004 FOR ADDITIONAL EGRESS INFORMATION

STRUCTURAL ENGINEER

(816) 421-4200

MERCANTILE - RETAIL SALES

ONE STORY (W/ MEZZANINE)

BUSINESS, KITCHEN, COMMERCIAL

RECEIVING, STOCK, STORAGE, COOLERS

ASSEMBLY(UNCONCENTRATED), KITCHEN, COMMERCIAL

CLIFF TILBURY 7330 SAN PEDRO, SUITE 402 SAN ANTONIO, TX 78216 (210) 510-2300 x101

FULLY SPRINKLERED

SAM RODRIGUEZ 7330 SAN PEDRO, SUITE 402 SAN ANTONIO, TX 78216 (210) 510-2300 x101

ENERGY SQUARED TEXAS, LLC SAM RODRIGUEZ 7330 SAN PEDRO, SUITE 402 SAN ANTONIO, TX 78216 (210) 510-2300 x101

FIRE PROTECTION ENGINEER

- NEW INTERIOR FINISHES NEW TOILET ROOMS **NEW OFFICES AND BREAKROOM**

SCOPE OF WORK

NEW STOCKROOM / BACK OF HOUSE

COVER SHEET

Document date

Template date:

01/29/18

Project No.

brr

ARCHITECT OF RECORD

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 NO.
 DATE
 DESCRIPTION

 1
 03/06/18
 Addendum #1

2 05/21/18 Addendum #2

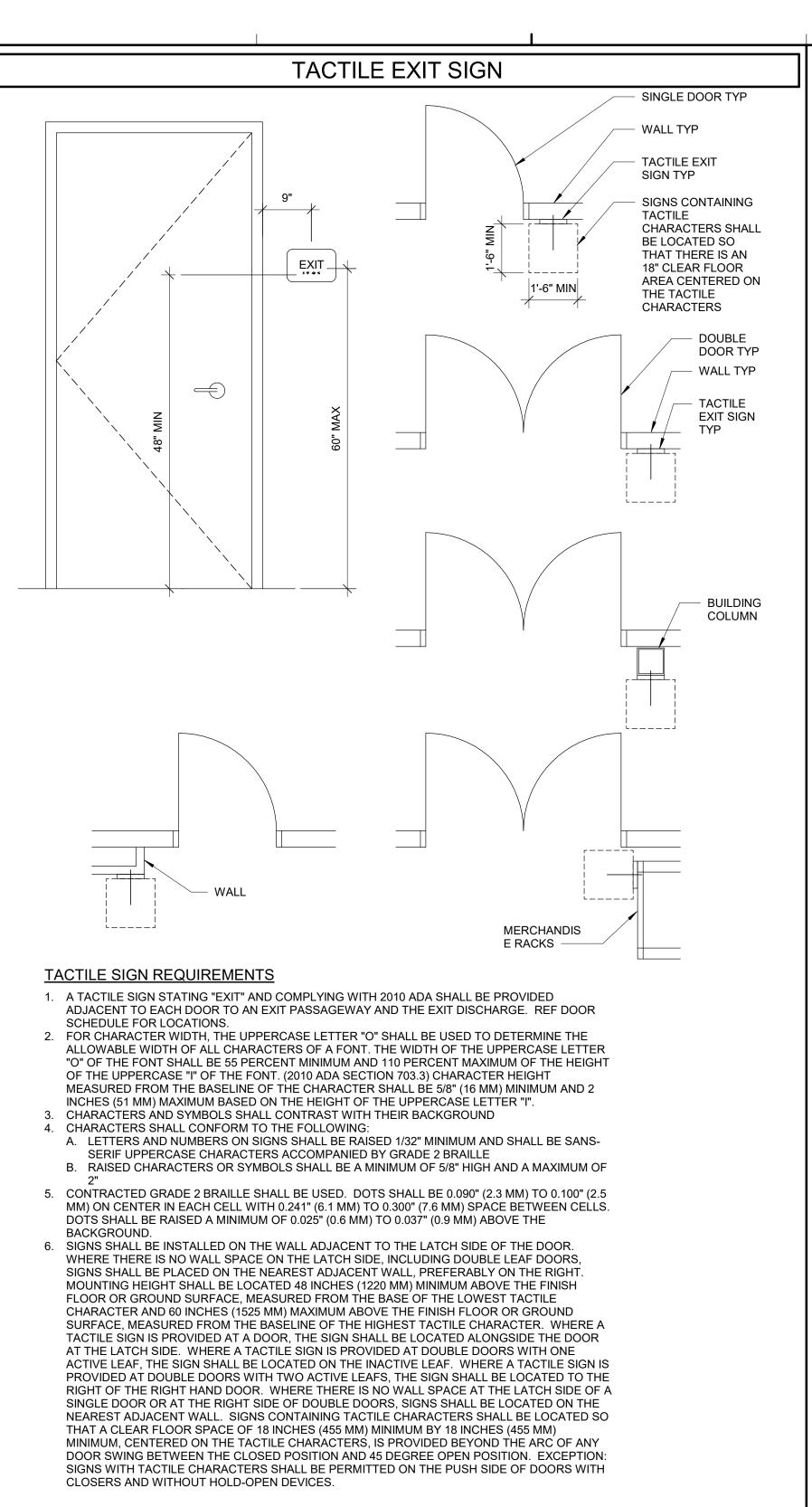
BOYD W. RAU 6700 ANTIOCH PLAZA SUITE 300 MERRIAM, KS 66204

www.brrarch.com

Tel: 913-262-9095 Fax: 913-262-9044

Consultants

MOUNTING LOCATIONS - GENERAL



TACTILE EXIT SIGN LEGEND

SWITCHES, STROBES, AND THERMOSTATS

<u>_</u> - - - -

+

STROBES AND FIRE ALARM PULLS

DIMENSION LINE FOR LOCATION.

LOCATIONS AT FIRE EXTINGUISHER CABINET

LOCATION OF FIRE EXTINGUISHERS ARE DICTATED BY FIRE MARSHAL

ALL DIMENSIONS ARE TO CENTER LINE OF DEVISE OR BOTTOM, REFER TO

SIGNAGE

EXIT

STROBE WHERE

T-STAT WHERE

SWITCH(ES) OR

DIMMER(S) GANG

UNDER ONE PLATE

STROBE WHERE

FIRE ALARM PULL

BETWEEN STUDS

SEMI-RECESSED FIRE

PLANS FOR LOCATIONS.

DIMENSIONS IN PLANS ARE

CABINET TO BE INSTALLED

EXTINGUISHER CABINET, REF

APPROXIMATE. INTENT IS FOR

OCCURS

DOOR IN OPEN POSITION

OCCURS

REF:TACTILE SIGN REQUIREMENTS AND DIMENSIONS

ABOVE FOR ACCESSIBLE SIGNAGE PLACEMENT

SYMBOL

STROBE WHERE

T-STAT WHERE

POWER OUTLET OR

POWER AND TELEPHONE

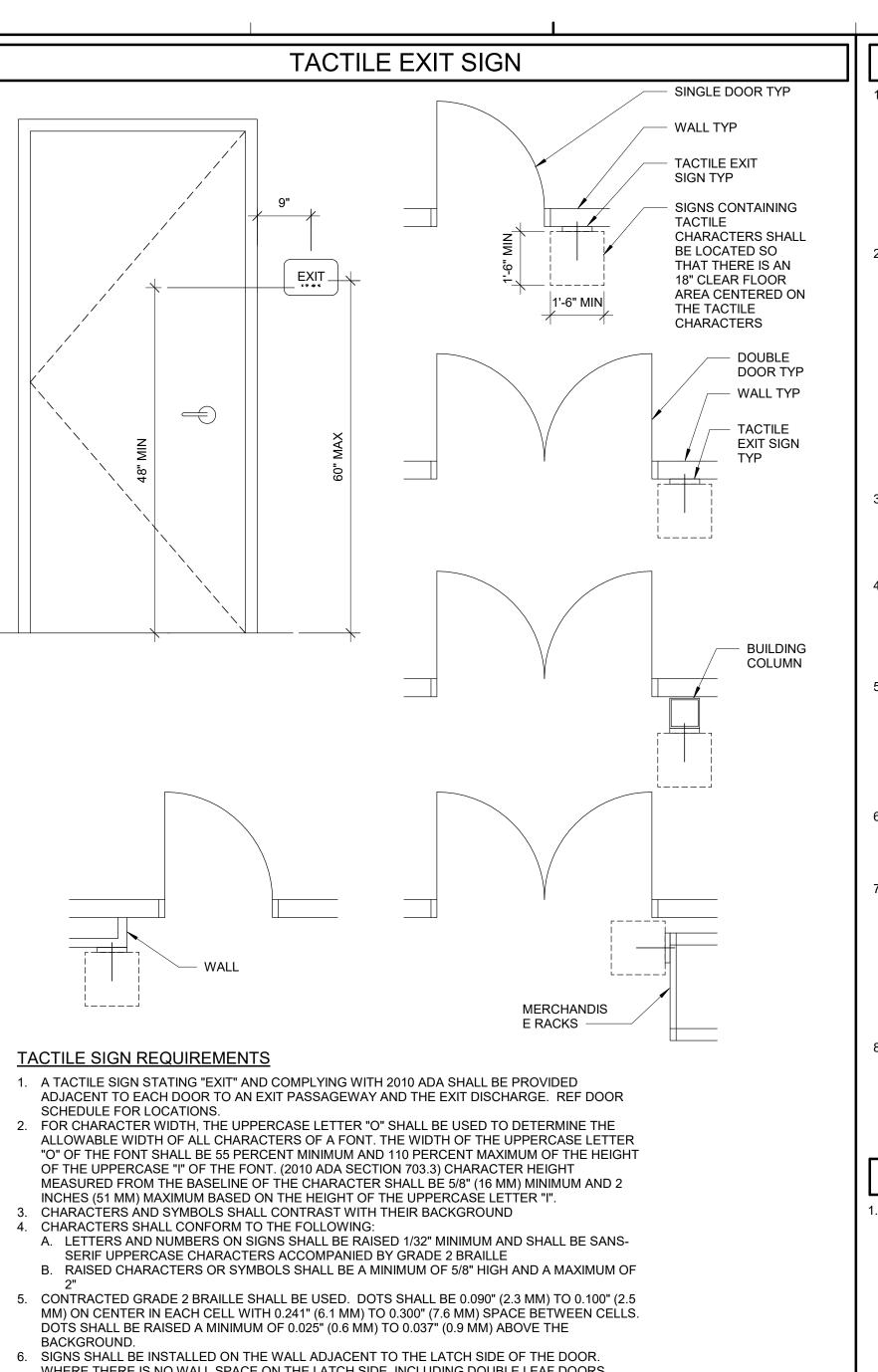
MOUNT HORIZONTALLY

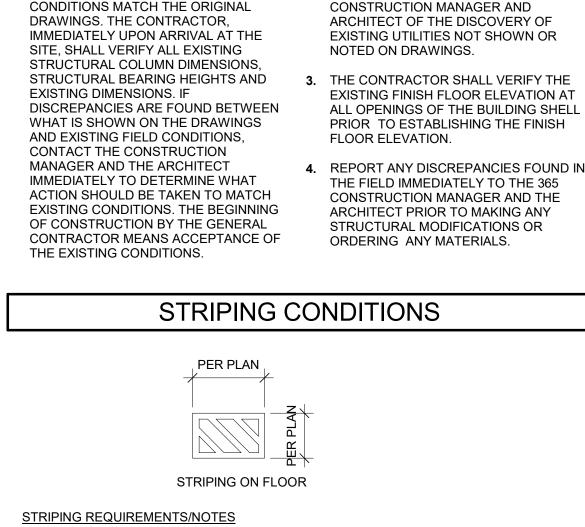
WORK TOP

A/V CLUSTER UNIT

WHERE OCCURS

OCCURS





SITE VERIFICATION REQUIREMENTS

ANY DISCREPANCY WITH THE EXISTING 2. ALL UTILITY LOCATIONS SHOWN ARE

GENERAL REQUIREMENTS

. ALL WORK SHALL BE DONE IN A SAFE 9. THE PROJECT SPECIFICATIONS ARE A

BUILDING CODES, NATIONAL ELECTRIC 10. MUD AND DEBRIS TRACKED ONTO

AND WORKMANLIKE MANNER AND IN

CODE (NEC), ADA-ADAAG (ADOPTED

APPLICABLE CODES, REGULATIONS,

ORDINANCES, AND AUTHORITIES

THE GENERAL CONTRACTOR AND

THOROUGH KNOWLEDGE OF ALL

DRAWINGS AND SPECIFICATIONS IN

THEIR RELATED FIELD. THE FAILURE TO

KNOWLEDGE DOES NOT RELIEVE HIM

PERFORMING WORK PROPERLY. NO

ALLOWED BECAUSE OF CONDITIONS

THAT OCCUR DUE TO FAILURE TO

KNOWLEDGE. IT IS THE ENTENT OF

THESE DRAWINGS TO PROVIDE A

COMPLETE OPERATING BUILDING.

(ADJACENT OR EXISTNG), WHICH

OCCURS DURING THE PROCESS OF

ADDITIONAL COST TO THE OWNER.

FROM THE CONSTRUCTION AREA

LIQUIDS MAY BE STORED IN THE

SERVICES, PIPING, CONDUIT OF

COMPLETE INSTALLATION AND

OPERATIONS OF NEW EQUIPMENT.

NOT SHOWN ON THE DRAWINGS.

VERIFICATIONS, RESPONSES AND

DURING ENTIRE CONSTRUCTION

2A:20BC DRY CHEMICAL FIRE

PERIOD, PROVIDE ONE U.L. LISTED

EXTINGUISHER, OR ONE STANDARD

AND ONE U.L. LISTED 10BC CARBON

TOGETHER IN EACH 3000 SQ. FT. OF

WORK AREA OR FRACTION THEREOF

(MINIMUM OF TWO AVAILABLE IN ALL

LICENSED SPRINKLER CONTRACTOR

CONTRACTOR IS TO SUBMIT SIGNED

AND SEALED SPRINKLER DRAWINGS

FOR APPROVAL PRIOR TO ANY

ALTERATION OF THE AUTOMATIC

DONE UNDER SEPARATE PERMIT

SITE CONDITIONS AND/OR THE

DRAWINGS SHALL BE BROUGHT TO THE

ATTENTION OF THE ARCHITECT FOR

THESE CONSTRUCTION DOCUMENTS

HAVE BEEN DESIGNED AND DRAWN

ASSUMING EXISTING BUILDING

CLARIFICATION AND INSTRUCTION.

SPRINKLER SYSTEM. WORK TO BE

THE CONTRACTOR SHALL HIRE A

CONSTRUCTION AREAS AT ALL TIMES).

U.L. LISTED 2-1/2 GALLON WATER (E-10)

DIOXIDE FIRE EXTINGUISHER MOUNTED

ALL REQUIREMENTS OF THE

ENGINEER/ARCHITECT FOR

SUBMISSIONS.

EXISTING BUILDING

REQUIRED DURING THE

THE CONTRACTOR SHALL KEEP WORK

AREA CLEAN AND FREE OF DEBRIS AND

IS TO REMOVE ALL TRASH AND DEBRIS

DAILY. NO FLAMMABLE MATERIALS OR

REPAIR. RE-ROUTE. AND EXTEND ALL

EXISTING ITEMS AND EQUIPMENT AS

CONSTRUCTION PROCESS FOR THE

THIS INCLUDES ALL ITEMS SHOWN OR

THE CONTRACTOR SHALL RESPOND TO

ANY DAMAGE TO PROPERTY

CONSTRUCTION SHALL BE

REPAIRED/REPLACED AT NO

FAMILIARIZE WORKERS WITH THIS

ADDITIONAL COMPENSATION SHALL BE

AND/OR STATE (IF APPLICABLE)

REQUIREMENTS), OSHA AND ALL

HANDICAP ACCESSIBILITY

HAVING JURISDICTION.

EACH SUBCONTRACTOR IS

RESPONSIBLE FOR HAVING A

ACQUAINT HIMSELF WITH THIS

OF ANY RESPONSIBILITY FOR

STRICT ACCORDANCE WITH THE LOCAL

PART OF THESE CONSTRUCTION

FOR COMPLETE DOCUMENTATION.

CLEANED IMMEDIATELY. GENERAL

CONTRACTOR TO COORDINATE

CONCRETE WASH DOWN AREA.

11. IT IS IMPERATIVE THAT THE ROOF

PER THE WHOLE FOODS LEASE

WITH LANDLORD'S ROOFING

TO COORDINATE ALL SUCH

13. DO NOT SCALE DRAWINGS.

EXTINGUISHER LOCATIONS

OWNER OF QUESTIONS OR

SUBMISSIONS

MATERIALS

DISCREPANCIES PRIOR TO BID

SYSTEM

DOCUMENTS AND MUST BE REFERRED 1

OWNER PAVING OR CITY STREETS TO BE

FRAMING AND ROOFING SYSTEM BE KEPT

INTACT TO ELIMINATE POTENTIAL WATER

DAMAGE OR MOISTURE INFILTRATION.

BUILDING WATERTIGHT AT ALL TIMES AND

MAKE REPAIRS IMMEDIATELY SHOULD

ANY DAMAGE OCCUR TO THE ROOFING

AGREEMENT, GENERAL CONTRACTOR

SHALL BE RESPONSIBLE TO CONTRACT

CONTRACTOR. GENERAL CONTRACTOR

PENETRATIONS WITH THE LANDLORD.

FIRE EXTINGUISHERS IN ACCORDANCE

JURISDICTION WILL APPROVE FINAL FIRE

AND INSTALL ALL EQUIPMENT, MATERIALS,

ETC UNLESS IT IS SPECIFICALLY NOTED

GENERAL CONTRACTOR TO NOTIFY THE

16. GENERAL CONTRACTOR RESPONSIBLE T

WITH ALL TRADES AND THE OWNER.

COMMENCING WORK OR ORDERING

17. GENERAL CONTRACTOR SHALL PROVIDE

GROUNDS, SHEATHING AND OTHER MISC.

APPROXIMATE. THE CONTRACTOR SHAL

FIELD VERIFY THE EXACT LOCATION OF

COMMENCEMENT OF CONSTRUCTION

THE CONTRACTOR SHALL NOTIFY THE

ALL EXISTING UTILITIES (WHETHER

SHOWN OR NOT) PRIOR TO THE

SUBMISSION OF HIS BID OR THE

COMPLETE EXISTING CONDITIONS

CARPENTRY ITEMS SHALL BE FIRE

DOCUMENTS AT COMPLETION OF

18. ALL WOOD BLOCKING, CLEATS.

RETARDENT TREATED.

ARRANGE PRE CONSTRUCTION MEETING

MEETING SHALL TAKE PLACE PRIOR TO

14. GENERAL CONTRACTOR WILL PROVIDE

WITH NFPA 10. AUTHORITY HAVING

15. GENERAL CONTRACTOR WILL FURNISH

AS BEING FURNISHED BY OTHERS.

THE CONTRACTOR SHALL KEEP THE

1. 5" WIDE PAINTED STRIPES AT 12" ON CENTER, AT 45 DEGREE ANGLE TO 5" WIDE EXTERIOR BOUNDARY LINES 2. REF FLOOR FINISH PLAN FOR ADDITIONAL STRIPING LOCATIONS.

ACCESSIBILITY NOTES

- FLOOR SURFACES SPECIFIED ARE SLIP-RESISTANT. ABRUPT CHANGES IN LEVEL ALONG ACCESSIBLE ROUTE DO NOT EXCEED 1/2" IN HEIGHT. CHANGES BETWEEN 1/4" AND 1/2" ARE
- . LATCHING AND LOCKING DOORS ARE SPECIFIED TO BE OPERABLE WITH A SINGLE EFFORT BY HARDWARE THAT DOES NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. DOOR OPENING HARDWARE IS SPECIFIED TO BE MOUNTED BETWEEN 34"

BEVELED WITH A SLOPE NO STEEPER THAN 1:2.

- 4. CLOSERS FOR FIRE-RATED DOORS ARE SPECIFIED TO BE POWER LEVEL 3 FOR INTERIOR DOORS 38" OR LESS IN WIDTH.
- MAXIMUM PULL OR PUSH EFFORT TO OPERATE NON-FIRE-RATED DOORS SHALL NOT EXCEED 8.5 POUNDS FOR EXTERIOR DOORS AND 5 POUNDS FOR INTERIOR DOORS, MEASURED AT RIGHT ANGLES TO HINGED DOORS AND AT CENTER PLANE OF SLIDING OR FOLDING DOORS. SPECIFIED CLOSERS TO BE ADJUSTED TO COMPLY. ALL DOORS ARE SPECIFIED TO BE NOT LESS THAN 3'-0" IN WIDTH AND NOT LESS THAN 6'-8" IN HEIGHT. DOORS ARE CAPABLE OF
- OPENING AT LEAST 90 DEGREES AND CLEAR WIDTH IS NOT LESS THAN 32". FLOOR AREAS ON EACH SIDE OF DOORS ARE SPECIFIED TO BE LEVEL AND CLEAR. THE DIMENSIONS OF THE LEVEL AREAS ARE SPECIFIED TO MEET ANSI A117.3 2009, IAC AND ADA CLEARANCE REQUIREMENTS. 8. FLOOR AREAS ON EACH SIDE OF DOORS ARE SPECIFIED TO BE NOT MORE THAN 1/2" LOWER THAN THE THRESHOLD OF THE
- DOORWAY. CHANGE IN LEVEL BETWEEN 1/4" AND 1/2" IS SPECIFIED TO BE BEVELED WITH A SLOPE NO STEEPER THAN 1:2. NOT USED. 10 NOT USED
- 11. TOILET ROOM ACCESSORIES A. BOTTOM OF MIRROR REFLECTIVE SURFACE IS SPECIFIED TO BE NO HIGHER THAN 40" FROM THE FLOOR. B. TOILET TISSUE DISPENSERS ARE MOUNTED BETWEEN 7" AND 9" FROM THE FRONT EDGE OF THE TOILET SEAT
- MOUNTED NO HIGHER THAN 48" A.F.F. 12. THE HEIGHT OF THE WATER CLOSET (TOP OF SEAT) IS BETWEEN 17" AND 19". 13. FLUSH CONTROLS ARE MOUNTED NO MORE THAN 44" ABOVE THE FLOOR, ON THE SIDE OF THE TOILET WITH THE GREATEST CLEARANCE FROM ADJACENT WALL, TOILET PARTITION OR OTHER SURFACE. 14. GRAB BARS ARE PROVIDED IN COMPLIANCE WITH ANSI A117.1 2009
- A. GRAB BARS TO BE 34" ABOVE AND PARALLEL TO THE FLOOR B. DIAMETER OF GRAB BARS TO BE 1-1/4" TO 1-1/2" PROVIDE 1-1/2" CLEARANCE BETWEEN GRAB BARS AND WALI). GRAB BARS (INCLUDING CONNECTORS, FASTENERS, SUPPOR BACKING, ETC.) SHALL SUPPORT A 250-POUND LOAD.

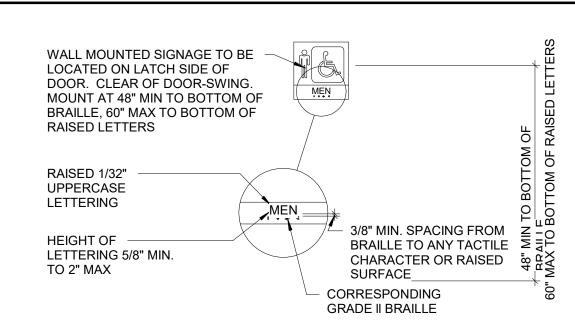
C. DISPENSING AND DISPOSAL FIXTURES (TOWEL, SANITARY NAPKINS, WASTE, COIN SLOTS, ETC.) WITH OPERATING PARTS ARE

- G. EDGES SHALL HAVE A MINIMUM RADIUS OF 1/8" 15. CLEAR FLOOR SPACE 30" x 48" IS PROVIDED IN FRONT OF LAVATORY TO PERMIT A FORWARD APPROACH. 16. SINKS AND LAVATORIES ARE MOUNTED TO COMPLY WITH KNEESPACE REQUIREMENTS OF ANSI A117.1 2009. 17. FAUCET CONTROLS AND OPERATING MECHANISMS ARE TO BE OPERABLE WITH ONE HAND AND NOT REQUIRED TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVEATE CONTROLS SHALL NOT BE GREATER THAN 5 POUNDS.
- SELF CLOSING CONTROLS ARE TO REMAIN OPEN FOR AT LEAST 10 SECONDS. 18. HOT WATER AND DRAIN PIPES UNDER LAVATORIES ARE INSULATED OR OTHERWISE COVERED. 19. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES.

F. GRAB BARS AND ANY ADJACENT SURFACE SHALL BE FREE OF SHARP OR ABRASIVE ELEMENTS.

GRAB BARS SHALL NOT ROTATE WITHIN THEIR FITTINGS.

RESTROOM SYMBOLS



SIGNS & IDENTIFICATION

- 1. THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHALL BE THE STANDARD USED TO IDENTIFY FACILITIES THAT ARE ACCESSIBLE TO AND USABLE BY PHYSICALLY DISABLED PERSONS AS SET FORTH IN TITLE III AND AS SPECIFICALLY REQUIRED IN THIS SECTION
- THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHALL CONSIST OF A WHITE FIGURE ON A BLUE BACKGROUND. THE BLUE SHALL BE EQUAL TO COLOR NO. 15090 IN FEDERAL STANDARD 599B. PICTOGRAMS AND THEIR FIELDS SHALL HAVE A NON-GLARE FINISH. PICTOGRAMS SHALL CONTRAST THEIR FIELDS, WITH EITHER A LIGHT PICTOGRAM ON A DARK FIELD OR A DARK PICTOGRAM ON A
- FOR CHARACTER WIDTH, THE UPPERCASE LETTER "O" SHALL BE USED TO DETERMINE THE ALLOWABLE WIDTH OF ALL CHARACTERS OF A FONT. THE WIDTH OF THE UPPERCASE LETTER "O" OF THE FONT SHALL BE 55 PERCENT MINIMUM AND 110 PERCENT MAXIMUM OF THE HEIGHT OF THE UPPERCASE LETTER "I" OF THE FONT. (2010 ADA SECTION 703.2) CHARACTER HEIGHT MEASURED FROM THE BASELINE OF THE CHARACTER SHALL BE 5/8" (16 MM) MINIMUM AND 2 INCHES (51 MM) MAXIMUM BASED ON THE HEIGHT OF THE UPPERCASE LETTER "I".
- MINIMUM CHARACTER HEIGHT SHALL COMPLY WITH 2010 ADA TABLE 703.5.5. VIEWING DISTANCE SHALL BE MEASURED AS THE HORIZONTAL DISTANCE BETWEEN THE CHARACTER AND AN OBSTRUCTION PREVENTING FURTHER APPROACH TOWARDS THE SIGN. CHARACTER HEIGHT SHALL BE BASED ON THE UPPERCASE LETTER "I".
- CHARACTERS AND SYMBOLS SHALL CONTRAST WITH THEIR BACKGROUND
- 6. WHEN RAISED CHARACTERS OR SYMBOLS ARE USED, THEY SHALL CONFORM TO THE FOLLOWING: A. LETTERS AND NUMBERS ON SIGNS SHALL BE RAISED 1/32" MINIMUM AND SHALL BE SANS-SERIF UPPERCASE CHARACTERS ACCOMPANIED BY GRADE 2 BRAILLE B. RAISED CHARACTERS OR SYMBOLS SHALL BE A MINIMUM OF 5/8" HIGH AND 2" MAXIMUM BASED ON THE HEIGHT OF THE
- UPPERCASE LETTER "I" PICTORIAL SYMBOL SIGNS (PICTOGRAMS) SHALL BE ACCOMPANIED BY THE EQUIVALENT VERBAL DESCRIPTION PLACED DIRECTLY BELOW THE PICTOGRAM. THE BORDER DIMENSION OF THE PICTOGRAM SHALL BE A MINIMUM OF 6" IN HEIGHT.
- CONTRACTED GRADE 2 BRAILLE SHALL BE USED WHEREVER BRAILLE SYMBOLS ARE SPECIFICALLY REQUIRED IN OTHER PORTIONS OF THESE REGULATIONS. DOTS SHALL BE 0.090" (2.3 MM) TO 0.100" (2.5 MM) ON CENTER IN EACH CELL WITH 0.241 (6.1 MM) TO 0.300" (7.6 MM) SPACE BETWEEN CELLS. DOTS SHALL BE RAISED A MINIMUM OF 0.025" (0.6 MM) TO 0.037" (0.9 MM) ABOVE
- WHEN PERMANENT IDENTIFICATION IS PROVIDED FOR ROOMS AND SPACES. RAISED LETTERS SHALL BE ACCOMPANIED BY BRAILLE. SIGNS SHALL BE INSTALLED ON THE WALL ADJACENT TO THE LATCH SIDE OF THE DOOR. WHERE THERE IS NO WALL SPACE ON THE LATCH SIDE, INCLUDING DOUBLE LEAF DOORS, SIGNS SHALL BE PLACED ON THE NEAREST ADJACENT WALL, PREFERABLY ON THE RIGHT. MOUNTING HEIGHT SHALL BE LOCATED 48 INCHES (1220 MM) MINIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASE OF THE LOWEST TACTILE CHARACTER AND 60 INCHES (1525 MM) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE HIGHEST TACTILE CHARACTER, WHERE A TACTILE SIGN IS PROVIDED AT A DOOR, THE SIGN SHALL BE LOCATED ALONGSIDE THE DOOR AT THE LATCH SIDE. WHERE A TACTILE SIGN IS PROVIDED AT DOUBLE DOORS WITH ONE ACTIVE LEAF, THE SIGN SHALL BE LOCATED ON THE INACTIVE LEAF. WHERE A TACTILE SIGN IS PROVIDED AT DOUBLE DOORS WITH TWO ACTIVE LEAFS, THE SIGN SHALL BE LOCATED TO THE RIGHT OF THE RIGHT HAND DOOR. WHERE THERE IS NO WALL SPACE AT THE LATCH SIDE OF A SINGLE DOOR OR AT THE RIGHT SIDE OF DOUBLE DOORS, SIGNS SHALL BE LOCATED ON THE NEAREST ADJACENT WALL SIGNS CONTAINING TACTILE CHARACTERS SHALL BE LOCATED SO THAT A CLEAR FLOOR SPACE OF 18 INCHES (455 MM) MINIMUM BY 18 INCHES (455 MM) MINIMUM, CENTERED ON THE TACTILE CHARACTERS, IS PROVIDED BEYOND THE ARC OF ANY DOOR SWING BETWEEN THE CLOSED POSITION AND 45 DEGREE OPEN POSITION. EXCEPTION: SIGNS WITH TACTILE CHARACTERS SHALL BE PERMITTED ON THE PUSH SIDE OF DOORS WITH CLOSERS AND WITHOUT HOLD-OPEN DEVICES.

ABBREVIATION LEGEND LONGITUDINAL LONG MAX MAXIMUM

MEDIUM DENSITY

MANUFACTURER

MISCELLANEOUS

MASONRY OPENING

NOT IN CONTRACT

NON-FIBERGLASS

REINFORCED PLASTIC

ON CENTER HORIZONTALLY

ON CENTER VERTICALLY

OUTSIDE DIAMETER

OPEN TO STRUCTURE

POWDER ACTUATED

PLASTIC LAMINATE

POUNDS PER CUBIC FOOT

POUNDS PER LINEAR FOOT

POUNDS PER SQUARE FOOT

POUNDS PER SQUARE INCH

PRESSURE TREATED

POLYVINYL CHLORIDE

QUANTITY

REFER TO

REQUIRED

REVERSE

REACH-IN

SCHEDULE

SIMILAR

SPACES

REINFORCING

ROUGH OPENING

SOUND BATT INSULATION

STEEL DECK INSTITUTE

STEEL JOIST INSTITUTE

SECURITY MESH

SPECIFICATIONS

STAINLESS STEEL

TOP AND BOTTOM

TOP OF CONCRETE

TOP OF FOOTING

TOP OF PAVING

STRUCTURAL

THICKNESS

TOP OF

ROOF TOP UNIT

PREMOLDED EXPANSION

OPPOSITE HAND

FIBERBOARD

MECHANICAL

MINIMUM

METAL

NUMBER

NEAR SIDE

ON CENTER

FASTENER

PLATE

NOT TO SCALE

AΒ

ABV

ACI

ASTM

BFF

BLDG

ВО

BOS

BTM

CL

CLR

COL

CONC

CONT

DIA

DM

DS

EIFS

ELEC

EQ

EXT

FDN

FS

FTG

FV

GΑ

GYP BE

HORIZ

HSA

HSS

INFO

J-BOX

ISO

JBE

JST

LB

LLH

LLV

CONST

ANCHOR BOLT

AMERICAN CONCRETE

ABOVE FINISHED FLOOR

AMERICAN INSTITUTE OF

STEEL CONSTRUCTION

AMERICAN SOCIETY FOR

AMERICAN WELDING

TESTING AND MATERIALS

BELOW FINISHED FLOOR

BOTTOM OF STEEL OR

BOTTOM OF STUD

CONTRACTION JOINT

CONCRETE MASONRY UNIT

EXTERIOR INSULATION AND

AIR HANDLING UNIT

ARCHITECTURAL

SOCIETY

BUILDING

BEARING

BOTTOM

CLEAR

COLUMN

CONCRETE

CONTINUOUS

DEMISING WALL

FINISH SYSTEM

EXPANSION JOINT

EQUIPMENT SUPPLIER

EXISTING TO REMAIN

GENERAL CONTRACTOR

HEADED STUD ANCHOR

HOLLOW STRUCTURAL

JOIST BEARING ELEVATION

KIPS PER SQUARE INCH

LONG LEG HORIZONTAL

LONG LEG VERTICAL

DOWNSPOUT

ELEVATION

ELECTRICAL

EACH WAY

EXTERIOR

FAR SIDE

FOOTING

GAUGE

HEIGHT

FOUNDATION

FIELD VERIFY

HORIZONTAL

SECTION

ISOLATION

JOIST

JOINT

LENGTH

POUNDS

INFORMATION

JUNCTION BOX

FINISHED FLOOR

GYPSUM BOARD

FQUAI

DIAMETER

CONSTRUCTION

CENTERLINE

BOTTOM OF

BLOCK LINTEL

BOARD

MDF

MFR

MIN

MTL

NTS

OCV

OD

OH

OTS

PLAM

PMEJ

PLF

PSF

PSI

PVC

QTY

REF

REQD

REV

RO

RTU

SDI

SIM

SM

SPECS

STRUC

TOC/TC

TOGB

TOS

TYP

VERT

VTR

WD

THK

TO

SCHED

ABOVE

INSTITUTE

ARCHITECT OF RECORD BOYD W. RAU 6700 ANTIOCH PLAZA SUITE 300 MERRIAM, KS 66204 www.brrarch.com Tel: 913-262-9095 Fax: 913-262-9044

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Issues & Revisions NO. DATE DESCRIPTION

Project Name

TOP OF GRADE BEAM TOP OF MASONRY TOP OF STEEL OR TOP OF

TRANSVERSE **TYPICAL UNLESS NOTED OTHERWISE** VERTICAL VENT THROUGH ROOF WIDTH WOOD

Document date 01/29/18 Template date: Project No.

62911019

WINDOW FRAME AT KITCHEN WINDOW POWER OUTLET

EXIT SIGN

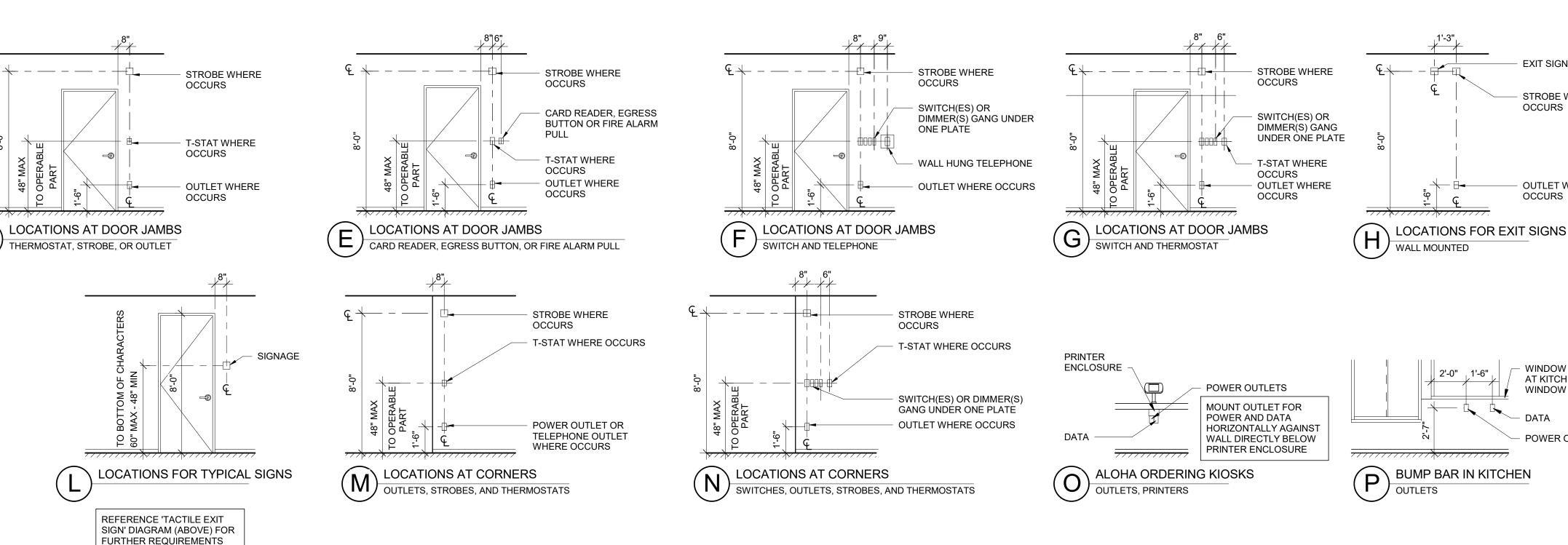
OCCURS

STROBE WHERE

OUTLET WHERE

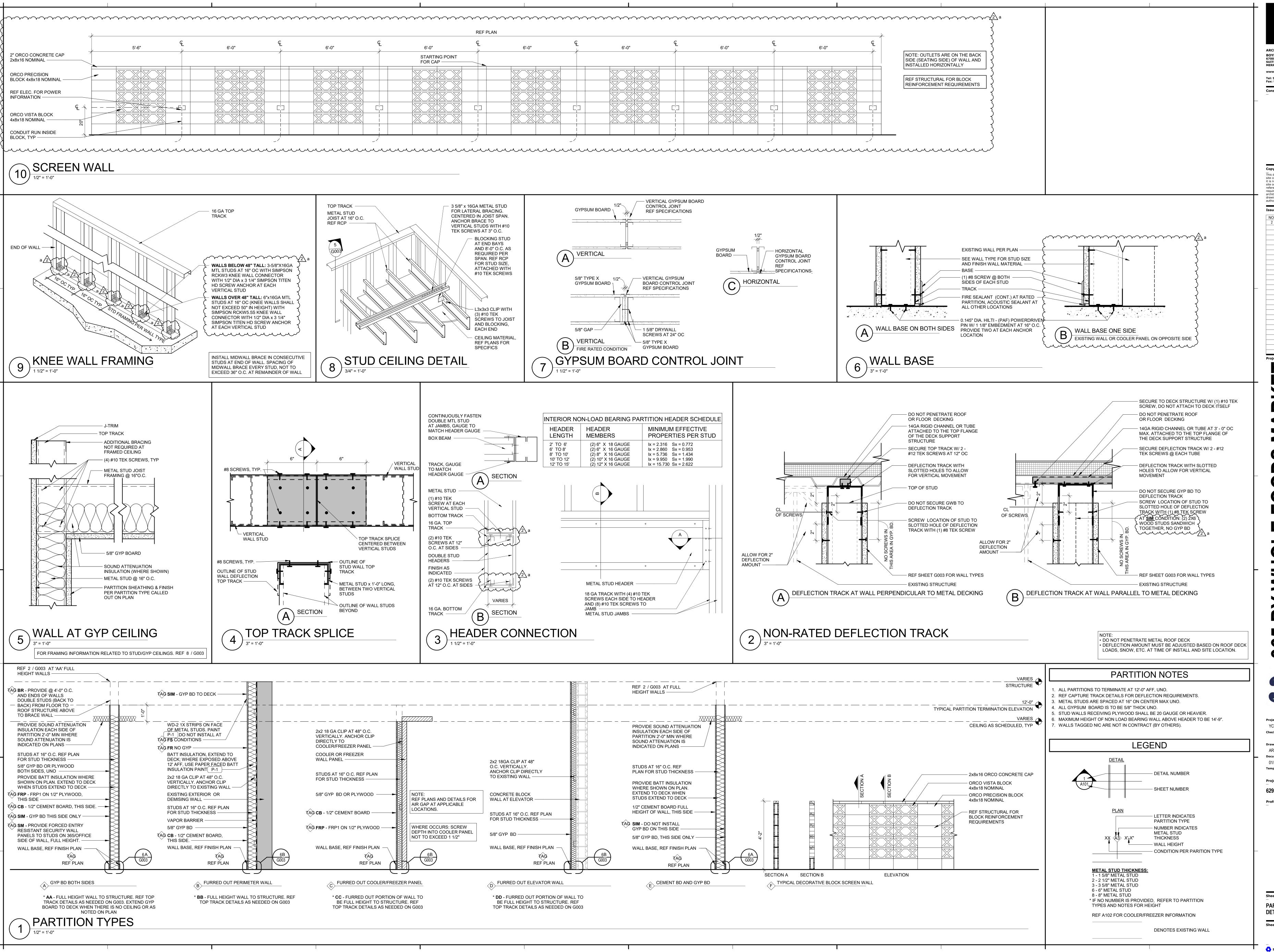
OCCURS

Sheet Title



Project Manager Checked By

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Issues & Revisions 2 05/21/18 Addendum #2

NO. DATE DESCRIPTION

Project Name

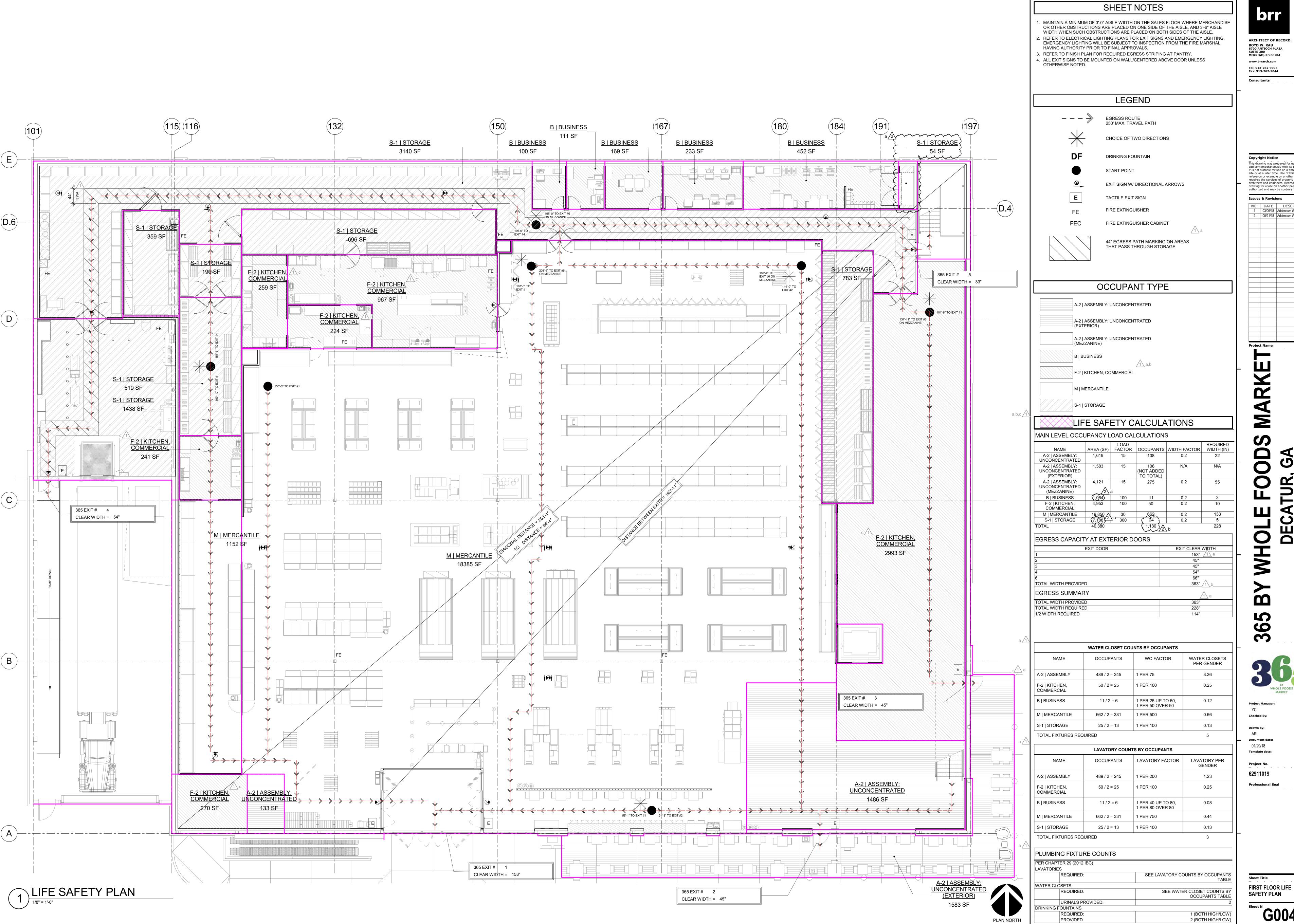
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Project No.

Sheet Title **PARTITION TYPES &**

DETAILS



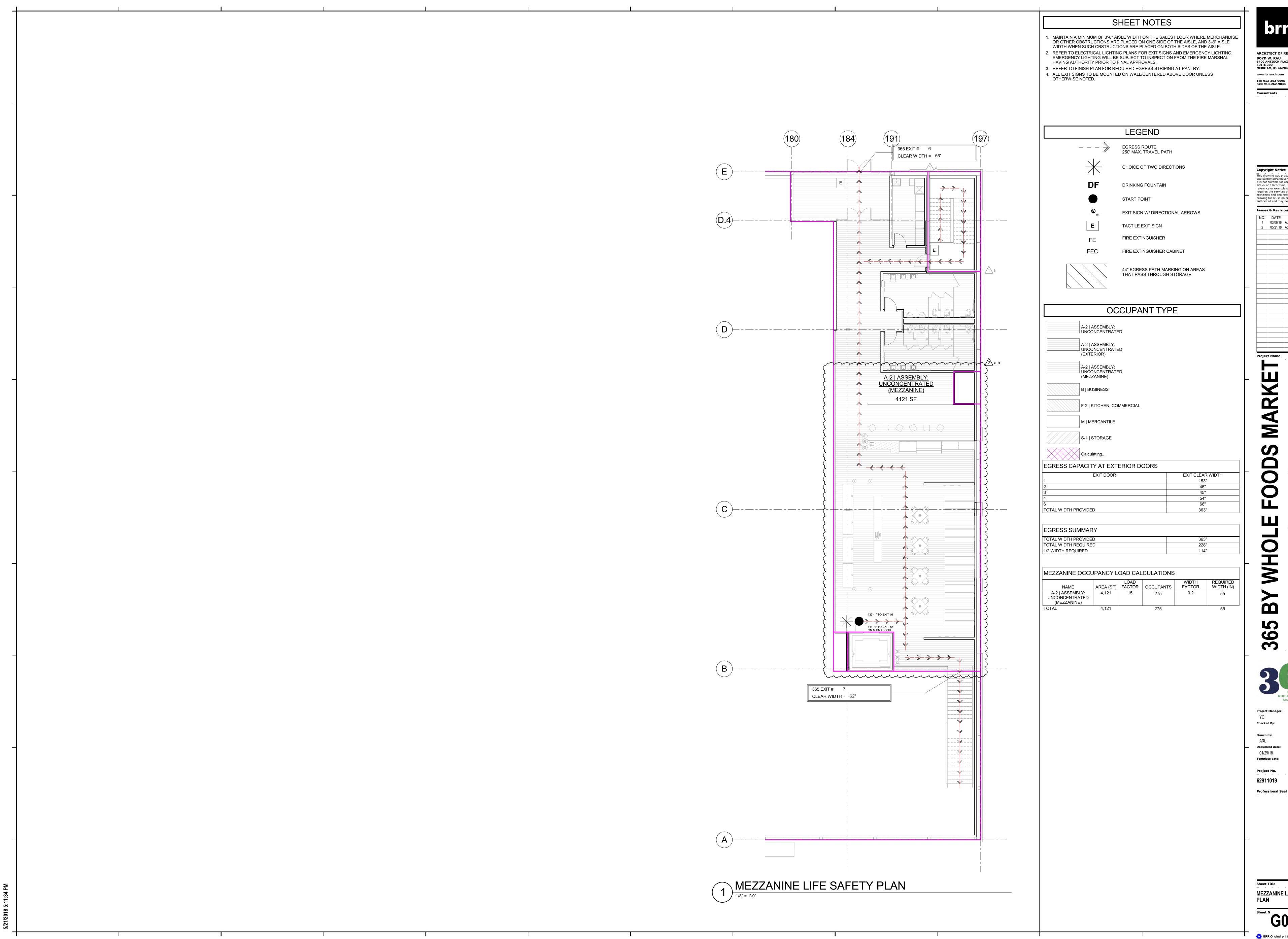
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2 05/21/18 Addendum #2

 NO.
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 1
 03/06/18
 Addendum #1



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 NO.
 DATE
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 1
 03/06/18
 Addendum #1
 2 05/21/18 Addendum #2

Document date: Template date:

Project No.

MEZZANINE LIFE SAFETY PLAN

"G004-B

ARCHITECT OF RECORD: BOYD W. RAU 6700 ANTIOCH PLAZA SUITE 300 MERRIAM, KS 66204

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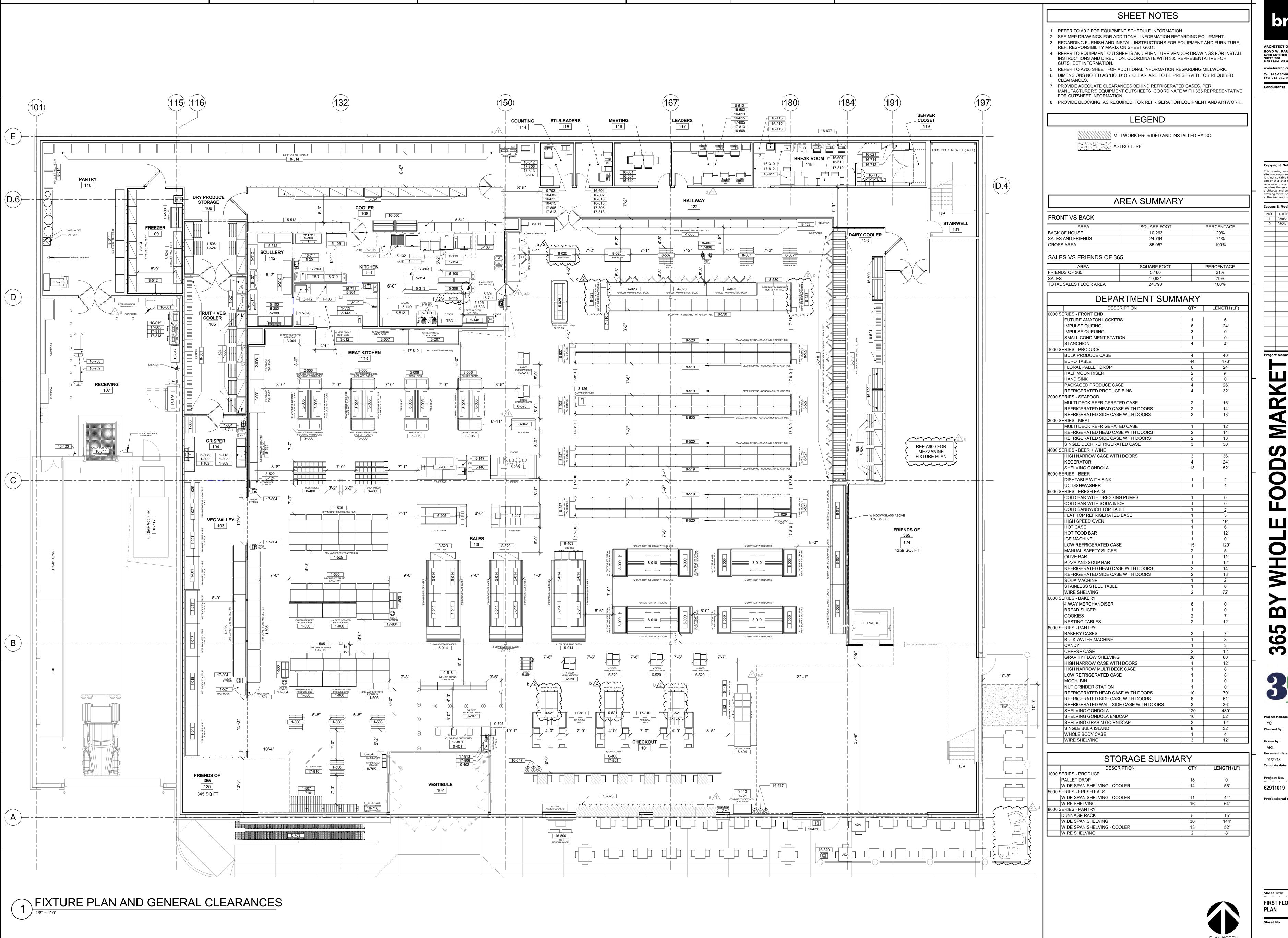
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PARTIAL SITE PLAN (FOR REFERENCE ONLY)

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 NO.
 DATE
 DESCRIPTION

 1
 03/06/18
 Addendum #1

2 05/21/18 Addendum #2

Document date Template date:

TEM NO.		LENGTH	DESCRIPTION	EQUIPI MANUFACTURER	MENT SCHEDULE MODEL	DIMENSION	LOCATION	COMMENTS
000 SERIE	S - FROM		MICROWAVE	PANASONIC	NE-1064	W 20" x D 14" x H 12"	FRONT END	LEET MODULE
1-400	3		CASH LANES	KILLION	CHECKOUT	W 104-1/2" x D 47-1/4" x H 35-1/2"	CHECKOUT	LEFT MODULE
100	3		CASH LANES EXPRESS CHECKSTAND	KILLION	CHECKOUT EXPRESS 46	W 104-1/2" x D 47-1/4" x H 35-1/2" W 46-1/4" x D 26-3/8" x H 36"	CHECKOUT GENERAL STORE	RIGHT MODULE
-402 -518	1		SUPERVISOR STATION IMPULSE QUEING	LAICOR LOZIER	SUPERVISOR COUNTER CUSTOM	W 46-1/2" x D 26-1/2" x H 42" W 48" x D 18" x H 48"	GENERAL STORE FRONT END	
	3		IMPULSE QUEUING DROP SAFE	ONE SOURCE AMERICAN SECURITY	TBD DSF 2014	TBD W 14" x D 14" x H 20"	SALES FLOOR FRONT END	
-702	1		SAFE SHOPPING CART	AMERICAN SECURITY PRECISION	SK2013-016 744 M	W 36" x D 26" x H 59" W 24" x D 40" x H 40"	COUNTING FRONT END	
-704	100		HAND BASKET HAND BASKET CART	VERSACART VERSACART	CUSTOM	W 19" x D 13" x H 9" W 19" x D 13" x H 18"	FRONT END FRONT END	
	15		STANCHION CONDIMENT STATION	UPDATE INTERNATIONAL LAICOR	RS-36BK LARGE CONDIMENT COUNTER	Ø 11" x H 36" W 53-1/2" x D 27-7/8" x H 34"	FRONT END FRONT END	WITH MICROWAVE
	2		SMALL CONDIMENT STATION	LAICOR	CORNER COMPACT CONDIMENT COUNTER	W 26-3/8" x D 26-3/8" x H 36"	FRONT END	WITH MICHONAL
000 SERIE			REFRIGERATED PRODUCE BINS	JSI	RBS048L-CA38-MET-201L-C	W 98-1/4" x D 46" x H 40-3/4"	PRODUCE	
			PACKAGED PRODUCE CASE BULK PRODUCE CASE	HILL PHOENIX HUSSMAN	6DMLH-NRG P4X-EP	W 96" x D 42-3/4" x H 88-7/8" W 96" x D 42" x H 81-3/4"	VEG VALLEY VEG VALLEY	
-018 -026	2		BULK PRODUCE CASE PACKAGED PRODUCE CASE	HUSSMAN HILL PHOENIX	P4X-EP 6DMLH	W 144" x D 42" x H 81-3/4" W 48" x D 42-3/4" x H 88-7/8"	VEG VALLEY VEG VALLEY	
-027 -103	1 2		PACKAGED PRODUCE CASE HOSE REEL	HILL PHOENIX THE SHOPPER INC.	6DMLH HOSE REEL 50'	W 72" x D 42-3/4" x H 88-7/8" W 7 3/4" x D 10" x H 8 1/2"	VEG VALLEY CRISPER	
-118 -300	1		MISTING SYSTEM STAINLESS STEEL TABLE	PRODEW AMTEKCO	CUSTOM CUSTOM	N/A W 48" x D 30" x H 35"	CRISPER CRISPER	WITH SHELF BELOW
-301 -302	7		HAND SINK 3 COMP SINK W LR DRAINBOARDS	AMTEKCO AMTEKCO	DH-19D C-3-1824-24D	W 17" x D 15-1/4" x H 13-1/4" W 100" x D 29-3/4" x H 41"	CRISPER CRISPER	
-303 -309	1		2 COMP SINK W LR DRAINBOARDS STAINLESS STEEL SHELF	AMTEKCO AMTEKCO	C-2-1824-24D CUSTOM	W 84" x D 29-3/4" x H 41" W 24" x D 12" x H 8"	CRISPER CRISPER	
-500 -505			SPILL BOXES EURO TABLE	PACIFIC SOUTHWEST CONTAINER JSI	R 24" OD DISPLAY CASE ET0639	W 23" x D 11" x H 7 3/4" W 48" x D 33" x H 42 3/8"	PRODUCE PRODUCE	4 FINGER
	18 6		PALLET DROP FLORAL PALLET DROP	-	-	W 40" x D 48" x H 4 1/2" W 24" x D 48" x H 4 1/2"	PRODUCE PRODUCE	FULL SIZE HALF SIZE
-521	2	4' - 0"	HALF MOON RISER WIDE SPAN SHELVING - COOLER	- LOZIER	- CUSTOM	W 36" x D 36" x H 12" W 48" x D 24" x H 96"	PRODUCE PRODUCE	5 SHELVES, OPEN BASE, WHITE
-710	6		FLORAL SIGN	RAMBO	DOUBLE SIDED ESL HOLDER W/	W 12" x D 12" x H 60"	SALES FLOOR	O OFFICE OF EN BAGE, WITHE
000 SERIE			REFRIGERATED SIDE CASE WITH DOORS	ARNEG	URANO SIDE	W 82" x D 34" x H 34"	SEAFOOD	·
	2	7' - 0"	REFRIGERATED SIDE CASE WITH DOORS REFRIGERATED HEAD CASE WITH DOORS MULTI DECK REFRIGERATED CASE	ARNEG HILL PHOENIX	URANO HEAD O5MH-NRG	W 74" x D 34" x H 34" W 96" x D 43-3/8" x H 87 5/8"	SEAFOOD SEAFOOD	
000 SERIE		Γ	MULTI DECK REFRIGERATED CASE	HILL PHOENIX	O5MH-NRG	W 144" x D 43-3/8" x H 87 5/8"	MEAT	·
-004 -005 -006	2		REFRIGERATED SIDE CASE WITH DOORS REFRIGERATED HEAD CASE WITH DOORS	ARNEG ARNEG	URANO SIDE URANO HEAD	W 82" x D 34" x H 34" W 74" x D 34" x H 34"	MEAT MEAT	
-006 -007 -012	2	12' - 0"	SINGLE DECK REFRIGERATED CASE SINGLE DECK REFRIGERATED CASE	HILL PHOENIX HILL PHOENIX	OUM-NRG OUM	W 144" x D 34" X H 34" W 144" x D 43-1/4" x H 43" W 72" x D 43-1/4" x H 43"	MEAT MEAT	
-012 -141 -142	1	U - U	MEAT SAW MEAT CHOPPER	HILL PHOENIX HOBART BIRO	6614 MINI-32	W 72" x D 43-1/4" x H 43" W 41-1/4" x D 34" x H 68-3/4" W 25" x D 39" x H 57.5"	MEAT PREP MEAT PREP	
-142 -143 -332	1		FAT TESTER STAINLESS STEEL TABLE	HOBART AMTEKCO	F101 CUSTOM	W 25 X D 39 X H 57.5" W 6.5" X D 12.5" X H 17.5" W 96" X D 30" X H 35"	MEAT PREP MEAT	WITH BACKSPLASH AND SHELF BELOW
-332 000 SERIE -023	L' ES - BEEF 3	R + WINE	HIGH NARROW CASE WITH DOORS	HILL PHOENIX	VNRBH	W 144" x D 37" x H 90"	BEER + WINE	HAND PACKOF LAGIT AND SHELF BELOW
-101		5' - 10 1/2"	KEGERATOR SHELVING GONDOLA	MICRO MATIC LOZIER	MDD68 CUSTOM	W 69-1/2" x D 30" x H 49-1/4" W 48" x D 22" x H 84"	BEER VENUE	STANDARD
-306 000 SERIE -138	S - BEEF	2	UC DISHWASHER	CHAMPION	UH330B	W 24" x D 26-3/4" x H 33-3/4"	BEER VENUE	
-138 -327 000 SERIE	1	4' - 0"	DISHTABLE WITH SINK	ADVANCE TABCO	DTU-U60-48L	W 48" x D 30" x H 39"	BEER VENUE	
-005	2	6' - 8"	REFRIGERATED SIDE CASE WITH DOORS REFRIGERATED HEAD CASE WITH DOORS	ARNEG ARNEG	URANO SIDE URANO HEAD	W 82" x D 34" x H 34" W 74" x D 34" x H 34"	SALES SALES	
		8' - 0"	LOW REFRIGERATED CASE OLIVE BAR	ARNEG ARNEG HILL PHOENIX	SANTIAGO - 105/150-1C SBI-410SC	W 74" X D 34" X H 34" W 96" X D 42" X H 60 1/2" W 48-1/4" X D 126-1/2" X H	FRESH EATS FRESH EATS	
·024 ·100	1		COLD FLIP TOP TABLE	HILL PHOENIX CONTINENTAL	SBI-410SC CPA93	W 48-1/4" x D 126-1/2" x H 33-1/2" W 93" x D 36 7/8" x H 39 1/2"	KITCHEN	
103	1		HOSE REEL ROTISSERIE	THE SHOPPER INC. ALTO SHAAM	HOSE REEL 50' AR-7E	W 7 3/4" x D 10" x H 8 1/2" W 38 1/16" x D 32" x H 36"	SCULLERY KITCHEN	
·106	1		BLAST CHILLER	ALTO SHAAM	QC2-20	W 57" x D 36" x H 42"	KITCHEN	
·108 ·111	2		HOT HOLD CABINET DOUBLE STACK STEAMER	ALTO SHAAM ACCUTEMP	1000-UP N61201E DBL	W 22 5/8" x D 32 3/4" x H 76" W 26 1/2" x D 29" x H 71 1/4"	KITCHEN	
-115 -119	1		HIGH SPEED OVEN PIZZA OVEN	MERRYCHEF BAKER'S PRIDE	EIKON E2S EP-3-8-3836	W 14" x D 23.4" x H 24.4" W 55" x D 43" x H 66"	KITCHEN KITCHEN	
-124 -127	1		DOUBLE STACK CONVECTION OVEN DISHWASHER	BLODGETT CMA	ZEPHAIRE-100-G-ES EST-44TALL	W 38-1/4" x D 36-7/8" x H 70-5/8 W 51" x D 22" x H 78 1/2"	KITCHEN	WITH STAND LEFT TO RIGHT PATH OF TRAVEL
-132 -133	1		GAS GRIDDLE GAS CHAR-BROILER	VULCAN VULCAN	936RX VACB36	W 36" x D 31-1/2" x H 11-1/8" W 36" x D 31" x H 12"	KITCHEN KITCHEN	ON STAND
-146 -147	1		SODA MACHINE ICE MACHINE	LANCER HOSHIZAKI	CED 1500 DCM-500BAH	W 19 3/16" x D 24" x H 25 3/8" W 26" x D 22 1/2" x H 40"	KITCHEN KITCHEN	
-148 -149			COLD SANDWICH TOP TABLE MANUAL SAFETY SLICER	TRAULSEN BIZERBA	UST7230 GSP H SERIES	W 72" x D 34 1/2" x H 34 3/8" W 31.74" x D 35.40" x H 23.46"	KITCHEN KITCHEN	WITH DOORS
-205 -206	1		COLD BAR WITH DRESSING PUMPS COLD BAR WITH SODA & ICE	AMTEKCO AMTEKCO	CUSTOM CUSTOM	W 144" x D 66" x H 56" W 144" x D 71" x H 51-1/2"	FRESH EATS FRESH EATS	
-207 -208	1		HOT FOOD BAR PIZZA AND SOUP BAR	AMTEKCO AMTEKCO	CUSTOM AA0213-27	W 144" x D 69 1/2" x H 51-1/2"" W 144" x D 69 1/2" x H 56"	FRESH EATS FRESH EATS	
-250 -300	1		HOT CASE 2 COMP SINK W LR DRAINBOARDS	PIPER REFLECTIONS AMTEKCO	HOT TOP C-2-1824-24D	W 50" x D 30" x H 36" W 80" x D 29-3/4" x H 45"	BEER VENUE KITCHEN	
-301 -302	3		HAND SINK 3 COMP SINK W LR DRAINBOARDS	AMTEKCO AMTEKCO	DH-19D C-3-1824-24D	W 17" x D 15-1/4" x H 13-1/4" W 100" x D 29-3/4" x H 41"	SCULLERY SCULLERY	
-306 -308			STAINLESS STEEL TABLE STAINLESS STEEL TABLE	AMTEKCO AMTEKCO	CUSTOM CUSTOM	W 48" x D 30" x H 30" W 96" x D 30" x H 35"	KITCHEN KITCHEN	WITH SHELF BELOW WITH SHELF BELOW
-308 -310	2	4' - 0"	WALL SHELF STAINLESS STEEL TABLE	AMTEKCO AMTEKCO	1236 CUSTOM	12"D X 36"W W 48" x D 30" x H 30"	SCULLERY KITCHEN	WITH BACKSPLASH AND SHELF BELOW
311 312	1		STAINLESS STEEL TABLE WITH DRAIN STAINLESS STEEL TABLE	AMTEKCO AMTEKCO	CUSTOM	W 72" x D 30" x H 35" W 72" x D 30" x H 37"	SCULLERY SCULLERY	WITH DRAIN AND BACKSPLASH WITH BACKSPLASH
313	-	8' - 0"	STAINLESS STEEL TABLE STAINLESS STEEL TABLE STAINLESS STEEL TABLE	AMTEKCO AMTEKCO	CUSTOM	W 96" x D 30" x H 35" W 96" x D 30" x H 35"		WITH SHELF ABOVE WITH SHELF ABOVE AND SHELF BELOW
		4' - 0"	WIRE SHELVING	CALIFORNIA COOKING INC	METRO	11.1.2.55 X11.00	SCULLERY/KITCHEN /COOLER	
524	11	4' - 0"	WIDE SPAN SHELVING - COOLER	LOZIER	СИЅТОМ	W 48" x D 24" x H 96"		5 SHELVES, OPEN BASE, WHITE
TBD BD			FLAT TOP REFRIGERATED BASE STAINLESS STEEL TABLE	DELFIELD AMTEKCO	ST4460N FLAT TOP CUSTOM	W 60.13" x D 31.50" x H 36.00" W 72" x D 30" x H 35"	KITCHEN	WITH BACKSPLASH AND SHELF BELOW
000 SERIE 145		RY	BREAD SLICER	JAC	450	W 17 1/4" x D 12 1/2" x H 5 1/4"	SALES	
403		3' - 6"	COOKIES NESTING TABLES	R&D R&D	45483-03 CUSTOM	W 42" x D 24" x H 66" W 36" x D 48" x H 34"	BAKERY BAKERY	SINGLE SIDED
520 000 SERIE	6		4 WAY MERCHANDISER	LOZIER	CUSTOM	W 37" x D 37" x H 54"	BAKERY	
-005	2	6' - 8"	REFRIGERATED SIDE CASE WITH DOORS REFRIGERATED HEAD CASE WITH DOORS	ARNEG ARNEG	URANO SIDE URANO HEAD	W 82" x D 34" x H 34" W 74" x D 34" x H 34"	SALES SALES	
000		7' - 0"	REFRIGERATED HEAD CASE WITH DOORS REFRIGERATED SIDE CASE WITH DOORS	ARNEG ARNEG	TORONTO HEAD TORONTO SIDE	W 77-1/8" x D 40-5/8" x H 36-7/8 W 148" x D 77" x H 36-7/8"		
011	1 30	8' - 0"	HIGH NARROW MULTI DECK CASE GLASS DOORS	HILL PHOENIX ANTHONY	ON5DMH VISTA ELITE	W 96" x D 36" x H 87 5/8" N/A	PANTRY DAIRY COOLER	
		2' - 0"	GRAVITY FLOW SHELVING HIGH NARROW CASE WITH DOORS	ANTHONY ANTHONY HILL PHOENIX	GFS VNRBH	N/A W 24" x D 36" x H 72" W 144" x D 37" x H 90"	DAIRY COOLER PANTRY	
	2)		CHEESE CASE	STRUCTURAL CONCEPTS	MI36R	W 74-1/8" x D 36-3/8" x H 37"	DAIRY	CONFIRM FINAL LOCATION OF CHEESE BINS WITH 365 PRIOR TO ELECTRICAL
029	1	4' - 0"	WHOLE BODY CASE	ARNEG	SWAN H180 SC	W 38-1/2" x D 27" x H 73"	SALES FLOOR	INSTALLATION
	3	12' - 0"	REFRIGERATED WALL SIDE CASE WITH DOORS	ARNEG	ARKA	W 147-5/8" x D 44" x H 36-7/8"	FROZEN	
041 042	1	8' - 0"	LOW REFRIGERATED CASE MOCHI BIN	ARNEG AHT	SANTIAGO - 105/150-1C IBIZA-145	W 96" x D 42" x H 60 1/2" W 72 7/8" x D 33 11/16" x H 32	BEER VENUE FROZEN	
-123	1_		BULK WATER MACHINE	Aqua 9+	#AQ9-2000	13/16" 52"L X 34"W X 78"H	SALES FLOOR	
-124 -126	2		NUT BUTTER GRINDER COFFEE GRINDER	RHINO BUNN	NG2004 G3	W 9" x D 1' 7-1/2" x H 2' 1-3/4" W 7 1/2" x D 16" x H 27 1/4"	PANTRY PANTRY	
400 400		4' - 0"	SINGLE BULK ISLAND SINGLE BULK ISLAND	K&J WOODWORKS K&J WOODWORKS	CUSTOM	W 48" x D 35" x H 50 1/4" W 48" x D 35" x H 50 1/4"	PANTRY PANTRY	WITH BAGGING STATION WITHOUT BAGGING STATION
-401 -402		-	CANDY WINE KIOSK	ABC FABRICATION HILL PHOENIX	CUSTOM CWC-2D	W 36" x D 36" x H 31 1/2" W 24" x D 24" x H 33 1/2"	PANTRY BEER + WINE	
	16		DUNNAGE RACK PALLET DROP	MASONWAYS	DUN 2436	W 36" x D 24" x H 33 1/2" W 36" x D 24" x H 12" W 40" x D 48" x H 4 1/2"	DAIRY COOLER	FULL SIZE
	6	4' - 0"	WIRE SHELVING	- CALIFORNIA COOKING INC	- METRO	VV 70 AD 40 AT 4 I/2	COOLER/PANTRY	EPOXY
-512		4' - 0"	WIDE SPAN SHELVING	LOZIER	CUSTOM	W 48" x D 24" x H 94"		4 SHELVES, FULL HEIGHT
			SHELVING GONDOLA SHELVING GONDOLA	LOZIER LOZIER	CUSTOM CUSTOM	W 48" x D 36" x H 72" W 48" x D 22" x H 72"	PANTRY	DEEP STANDARD
		3' - 6"	BAKERY CASES	R&D	45483-01	W 42" x D 48" x H 66"	PANTRY	DOUBLE SIDED
.1//		6' - 0"	NUT GRINDER STATION SHELVING GONDOLA ENDCAP	LOZIER LOZIER	CUSTOM CUSTOM	W 26" x D 22" x H 84" W 72" x D 16" x H 72"	PANTRY PANTRY	NO SIGNAGE
-523		6' - 0"	SHELVING GRAB N GO ENDCAP	LOZIER	CUSTOM	W 72" x D 19" x H 72"	PANTRY	NO SIGNAGE
-523 -523		4' - 0"	WIDE SPAN SHELVING - COOLER	LOZIER	CUSTOM	W 48" x D 24" x H 96"	BOH/FREEZER/DAIR Y COOLER	

				EQUIP	MENT SCHEDUL	E		
ITEM NO.	QTY.	LENGTH	DESCRIPTION	MANUFACTURER	MODEL	DIMENSION	LOCATION	COMMENTS
8-525	4	4' - 0"	SHELVING GONDOLA	LOZIER	CUSTOM	W 48" x D 22" x H 84"	PANTRY	STANDARD
8-527	8	5' - 0"	SHELVING GONDOLA ENDCAP	LOZIER	CUSTOM	W 60" x D 16" x H 72"	PANTRY	WITH LEFT SIGNAGE
8-530	13	4' - 0"	SHELVING GONDOLA	LOZIER	CUSTOM	W 48" x D 36" x H 84"	PANTRY	DEEP
16000 SER	IES - GEI	NERAL STOR	RE					
16-103	1		HOSE REEL	THE SHOPPER INC.	HOSE REEL 50'	W 7 3/4" x D 10" x H 8 1/2"	RECEIVING	
16-113	1		MICROWAVE	PANASONIC	NE-1064	W 20" x D 14" x H 12"	BREAKROOM	
16-115	1		REFRIGERATOR	FRIGIDAIRE	FFHS2322MS	W 33" x D 32" x H 69 7/8"	BREAKROOM	
16-310	1	4' - 0"	STAINLESS STEEL TABLE	AMTEKCO	CUSTOM	W 48" x D 30" x H 35"	BREAKROOM	WITH BACKSPLASH AND SHELF BELO
16-312	1		HAND SINK	AMTEKCO	DH-30	W 24 3/4" x D 21 7/8" x H 18"	BREAKROOM	
16-500	1	6' - 1"	ICE MERCHANDISER	LEER	60 SLANT	11 2 1 6/1 X B 2 1 1/6 X 11 16	D1 (2) 11 (1 (0 0))	
16-500	7	5' - 3"	MARC CART	NEW AGE INDUSTRIAL	CUSTOM	W 63" x D 27" x H 71"		
16-512	2	4' - 0"	WIRE SHELVING	CALIFORNIA COOKING INC	METRO	VV 00 XBZI XIIII	RECEIVING	EPOXY
	3	7 0	TALL FILE CABINET	HON	H584	W 36" x D 19 1/4" x H 53 1/4"	OFFICES	El OXI
16-602	<u>a</u>		FILE CABINET	HON	H15923R	W 15" x D 23" x H 22"	OFFICES	
16-604	4		TABLE	EMU	JOLLY #855	W 28" x D 28" x H 29 1/2"	CAFE	INTERIOR + EXTERIOR
	30		32" CAFE TABLE	EMUAMERICAS	JOLLY #855	32" x 32" x 29 1/2"H	CAFE	INTENION + EXTERIOR
				HON			BOH	
	16		STACKING CHAIR		H4031	W 21" x D 21 1/2" x H 31"		
16-608	1		PRINTER TABLE	MOORECO	27666	W 27" x D 25" x H 35 1/2"	LEADERS	
16-610	5		TABLE	HON	HMVR-3030-FX-N-B9-C-G	30" X 30" SQUARE	MEETING ROOM/LEADERS	
16-611	1		TABLE	HON	HMVR-4040-FX-N-B9-C-G	40" X 40" SQUARE	MEETING ROOM/LEADERS	
16-612	4		ADJUSTABLE STOOL	INTERION	ERGONOMIC STOOL	Ø 24" x H 48 1/2"	RECEIVING	
	10		DESK	HON	HMVR-2448-FX-G-B9-C-G	2'-0" x 4'-0"	LEADERS	
16-615	10		ROLLING CHAIR	HON	HVL511	W 26" x D 26" x H 40 1/2"	OFFICES	
16-617	12		TRASH/RECYCLING/COMPOST BINS	WITT INDUSTRIES	15RT-1H	Ø 15" x H 32"	SALES FLOOR	2 SETS OF 3 BINS - COLORS: BLACK, BLUE, GREEN
16-620	2		EXTERIOR TRASH/RECYCLING/COMPOST BINS	CLEANRIVER	TIM36-3	23.75"W x 18"D x 37.5"/48.75"H	EXTERIOR	GRAY
16-621	1		FLIP 8 HOOK RACK	UMBRA	318858-660	W 33 1/4" x D 1 1/2" x H 2 3/4"	BREAKROOM	
16-623	11		STOOLS	SMITHHANES/SCHWUNGHOME	DOT	21" X 21-1/2" X 31" H	CAFE	
16-627	88		CAFE CHAIRS	SMITHHANES/SCHWUNGHOME	DOT	-	INDOOR SEATING	
16-627	16		CHAIRS	SCHWUNG	DOT	W 16 1/2" x D 20 1/2" x H 32"	SEATING	
16-706	1		BALER	PTR	2300HD	W 78" x D 41" x H 152"	RECEIVING	
16-708	1		ELECTRIC POWER JACK	CROWN	WP 3045	W 27 7/8" x D 70" x H 47 1/2"	RECEIVING	
16-709	1		MANUAL PALLET JACK	CROWN	PTH 50	W 27" x D 62" x H 47"	RECEIVING	
16-711	5		BUG ZAPPER	GILBERT	2002 GT	W 24 3/4" x D 19 1/2" x H 11 1/2"		
16-712	1		GARMENT BIN	ARAMARK	CE-0096	W 16 1/2" x D 16" x H 77 1/2"	ВОН	
16-713	1		FLOOR SCRUBBER	TENNANT	5400	W 33" x D 53" x H 40"	BOH	
16-714	1		GARMENT RACK	ARAMARK	CE-0169	W 36" x D 18" x H 48"	ВОН	
16-715	3		LOCKERS	INFINITY	16128KD	W 36" x D 12" x H 60"	BOH	
16-716	1		ELECTRIC SHOPPING CART	AMIGO	VALUESHOPPER34	W 24-1/4" x L 54" x H 34-1/2"	FRONT END	
16-717	1		COMPACTOR	MARATHON	RJ-250 SC	W 101 1/4" x D 245" x H 104"	EXTERIOR	30 YD
17000 SERI	I' IES. IT		JOINI AUTOR	IAN AL AZILI I ALA	1.0-200 00	VV 101 1/4 A D 240 A 11 104	LATERION	00 10
	9		REGISTER AND HUB HARDWARE PACKAGE	NCR	N/A	N/A	SALES	T
17-803	3		SCALE	BIZERBA	KH100	W 15" x D 17" x H 7"	KITCHEN	
17-803 17-804	5		WEIGH STATION	BIZERBA	MC 500		SALES	
	J					W 15" x D 22" x H 48"		
17-805 17-806	3		PRINTER STANDARD PRINTER	HP HP	LASERJET PRO M402dn	W 16 1/4" x D 25 1/2" x H 13 1/2" W 16 1/4" x D 25 1/2" x H 13 1/2"	COUNTING & EXPRESS	
17-808	2		DELECTABLE TABLET MOSKS	LILITAB	FLOOR PRO	W 12 1/2" v D 0""	CHECKOUT	COLINTED MOUNTED
	27		DELECTABLE TABLET KIOSKS	SAMSUNG	I LOOK FRO	W 12 1/2" x D 9""	BEER + WINE	COUNTER MOUNTED
	27		DIGITAL INFO SCREEN		WORKAROUT DDC4	NI/A	DECENTALO	
17-811	4		DVO ORDERING GUN	ZEBRA	WORKABOUT PRO4	N/A	RECEIVING	
17-812	1		TIME CLOCK	KRONOS	4500	N/A	BREAKROOM	
17-813	17		DESKTOP	DELL BIZERBA	OPTIPLEX 9030 CUSTOM	N/A W 52" x D 26" x H 53"	BOH MEAT PREP	
17-826			WRAPPER AND LABELER					

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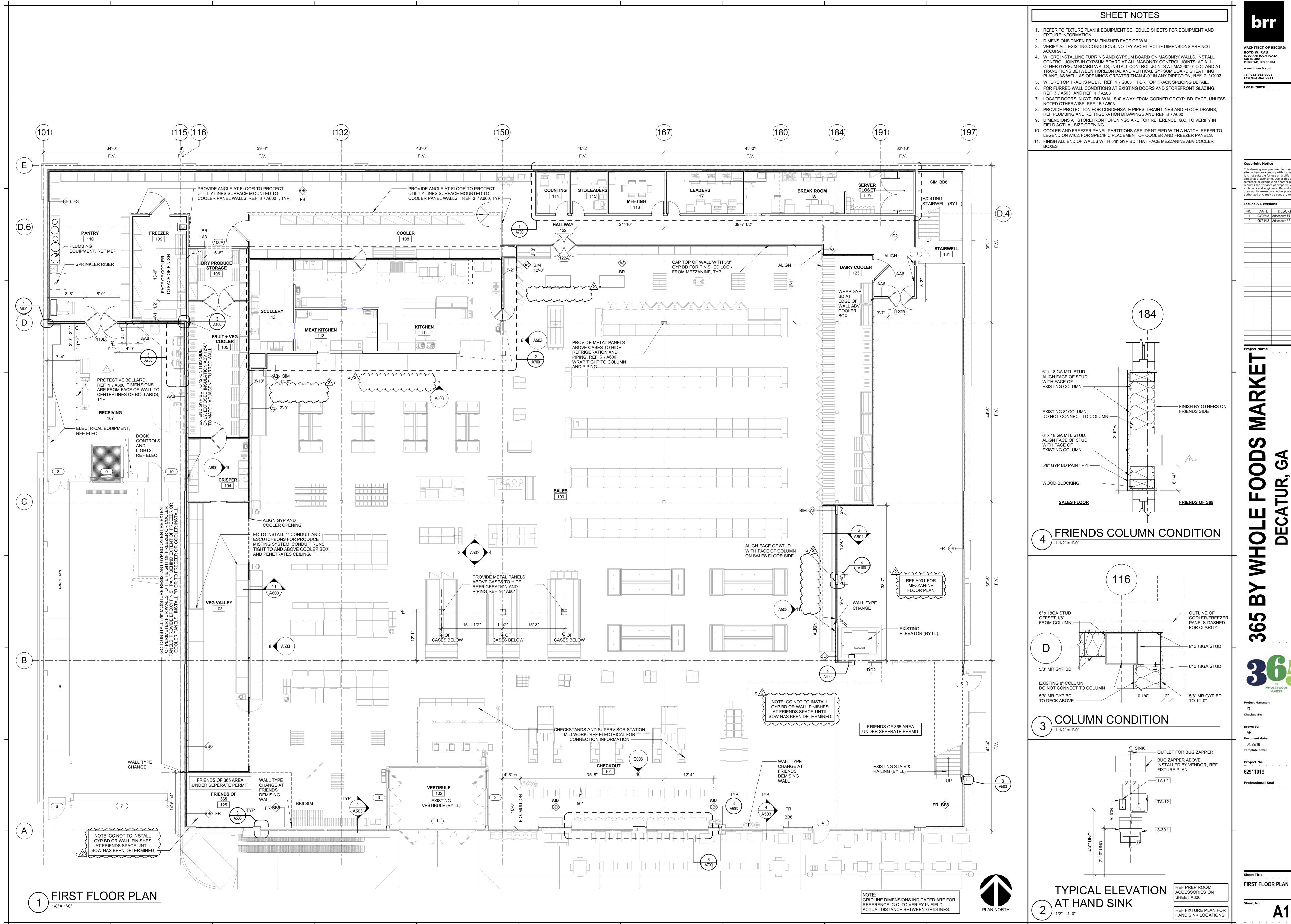
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Project Name

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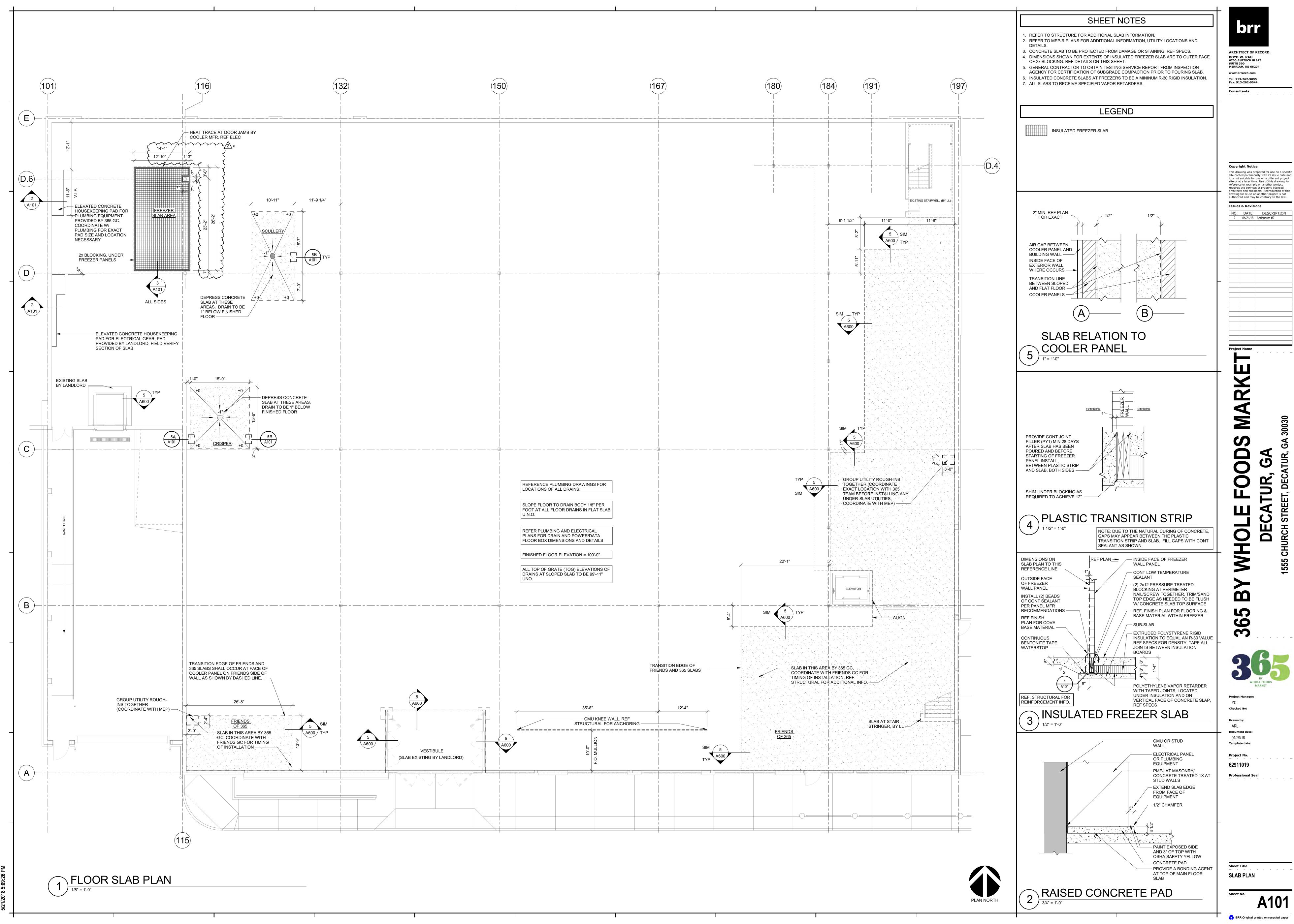
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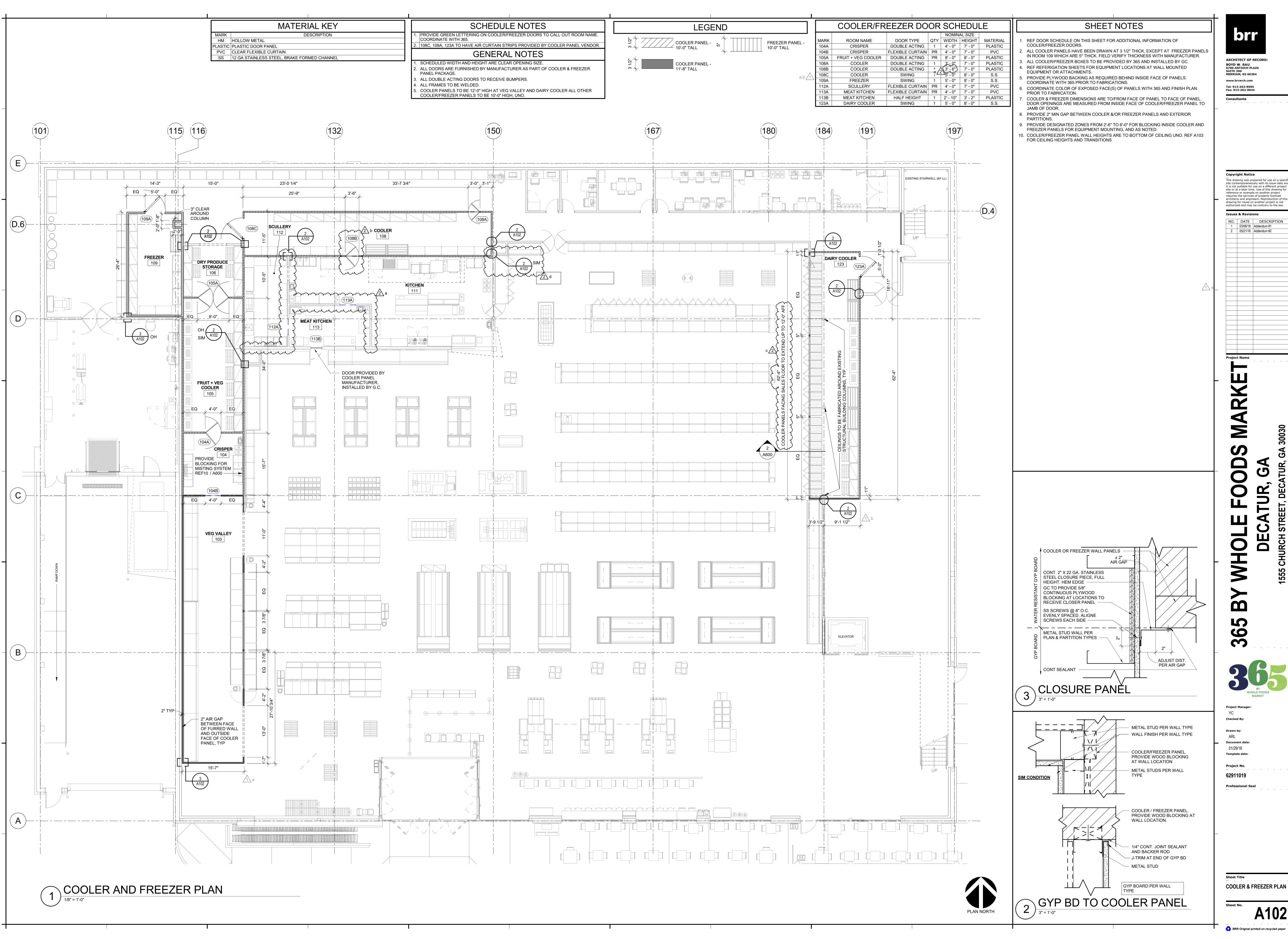
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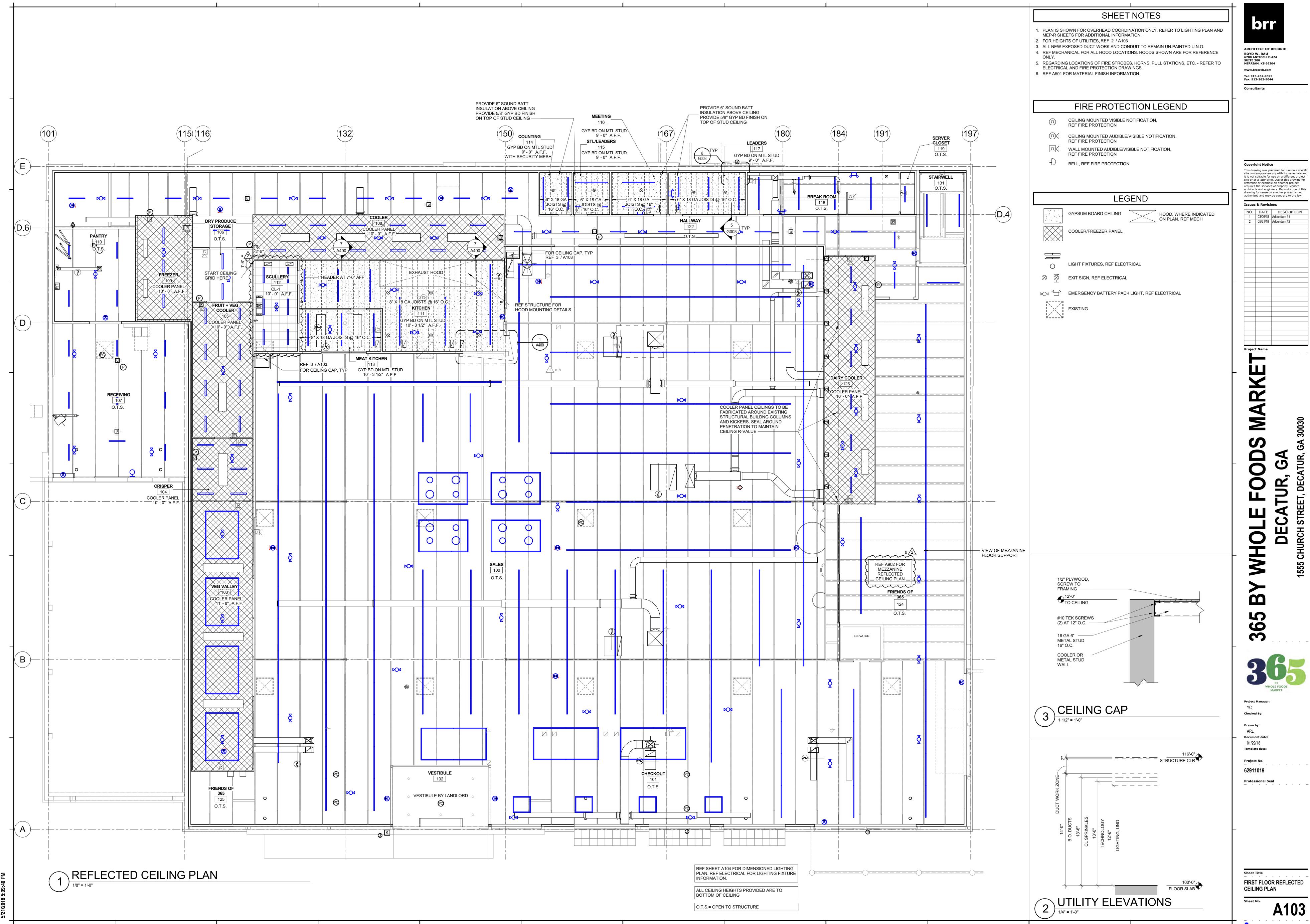
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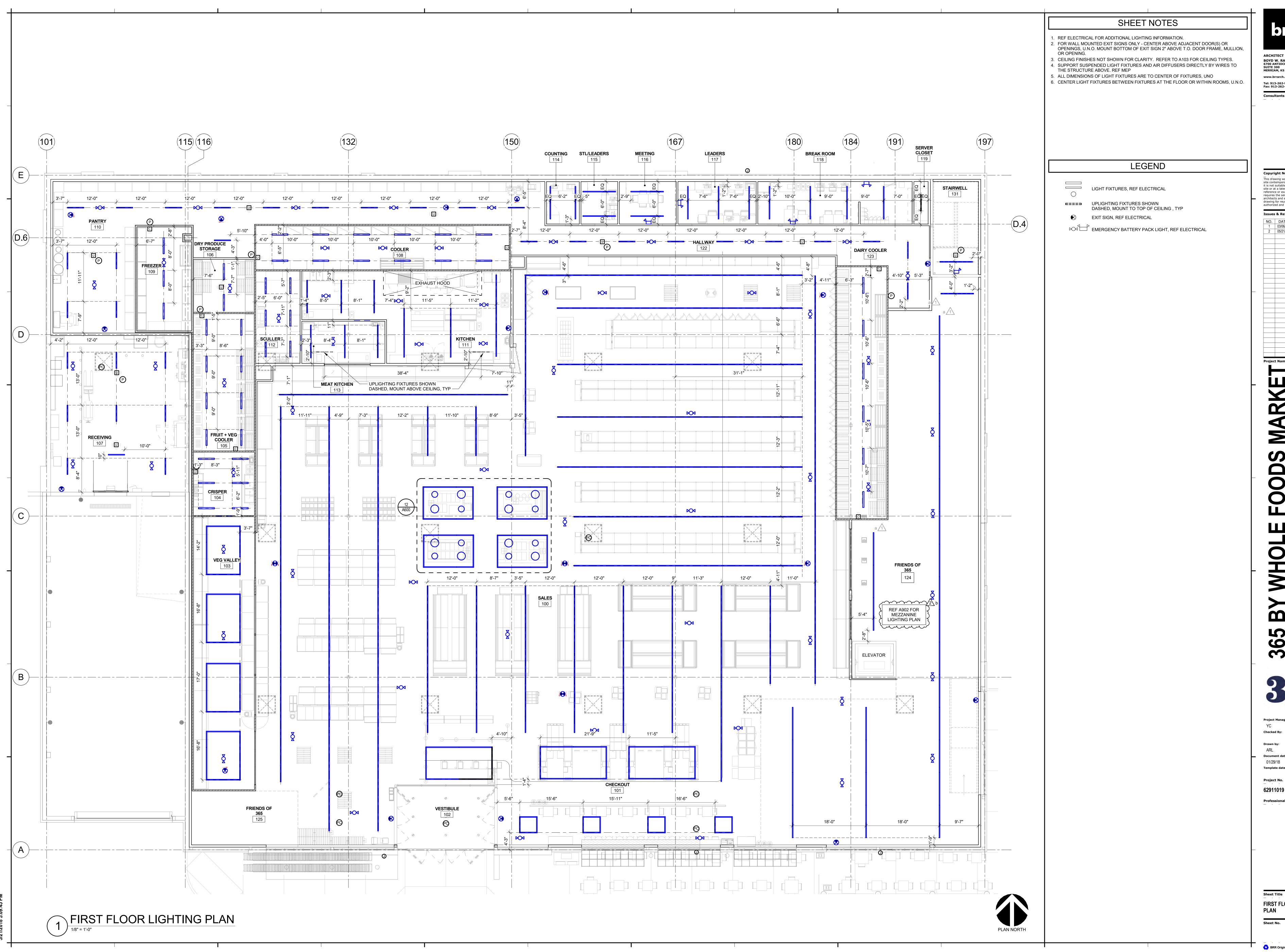
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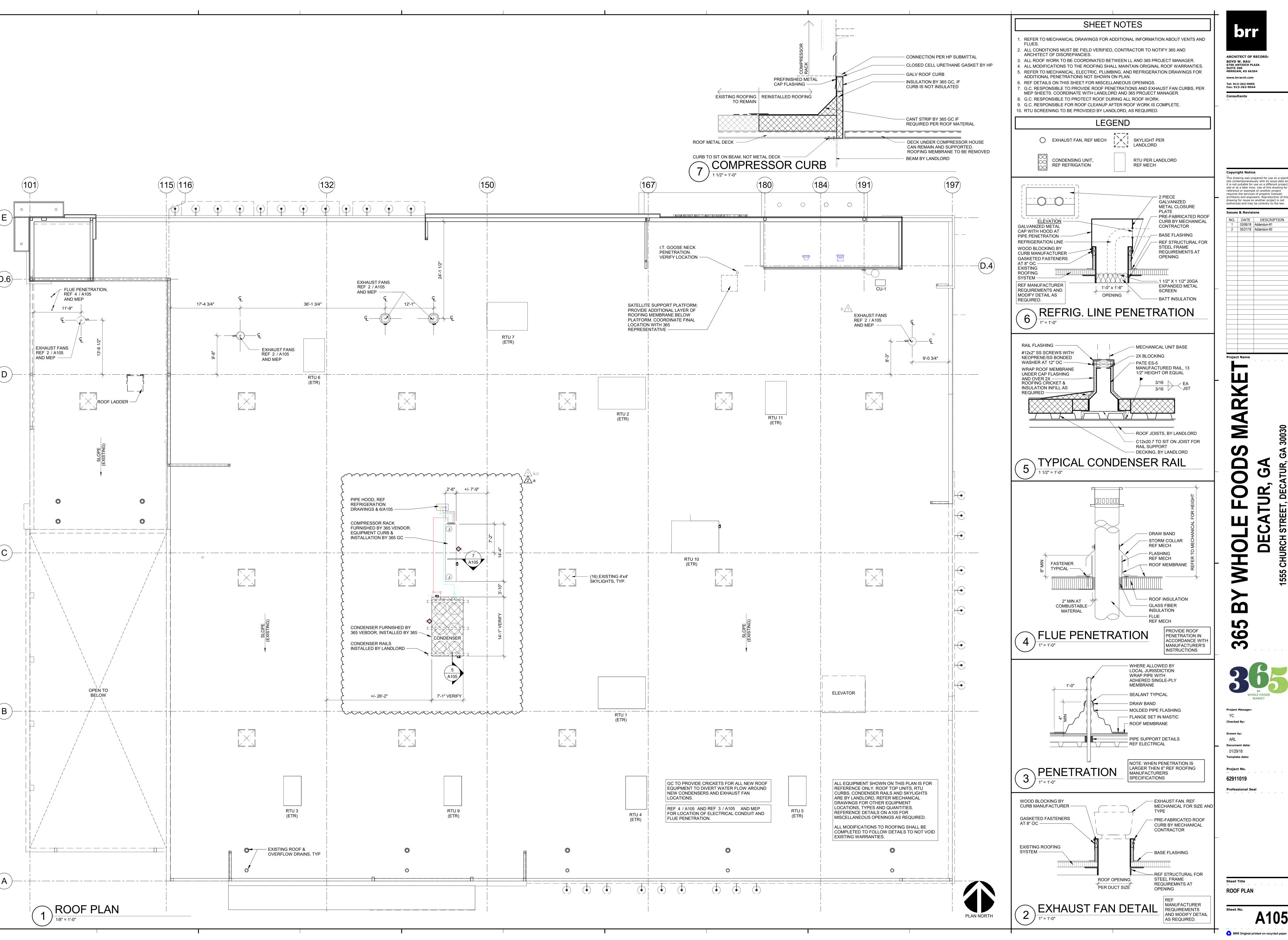
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ROOF PLAN

RESTROOM ACCESSORIES MANUFACTURER RESPONSIBILITY MODEL SOAP DISPENSER DIVERSEY 5374651 SURFACE-MOUNTED FURNISHED BY 365 / GC INSTALLED CHANGING STATION KB200-GREY SURFACE-MOUNTED G.C. FURNISH AND INSTALL KOALA KARE HORIZONTAL STEP STOOL STEP 'N WASH SNW-SS 975 STAINLESS STEEL FLOOR MOUNTED C. FURNISH AND INSTALL SURFACE-MOUNTED SANITARY NAPKIN DISPOSAL BOBRICK WASHROOM B-270 SATIN FINISH G.C. FURNISH AND INSTAL EQUIPMENT, INC. HAND DRYER W/ RECESS KIT XLERATOR XL-SB, 40502 G.C. FURNISH AND INSTALL STAINLESS STEEL RECESSED STAINLESS STEEL HORIZONTAL ORDER ENTIRE RESTROOM PACKAGE OF MATERIALS FROM THE VENDOR LISTED IN THE 42" GRAB BAR, 1-1/4" DIAMETER BOBRICK B-5806-42 G.C. FURNISH AND INSTALL 18" GRAB BAR, 1-1/4" DIAMETER STAINLESS STEEL VERTICAL BOBRICK B-5806-18 S.C. FURNISH AND INSTALL STAINLESS STEEL SATIN STAINLESS 36" GRAB BAR, 1-1/4" DIAMETER BOBRICK G.C. FURNISH AND INSTALL B-5806 - 36 STEEL, HORIZONTAL JUMBO BATH TISSUE DISPENSER, DOUBLE ROLL TANDEM C-233-DIBT D-JRT FURNISHED BY 365 / GC BLACK BLACK INSTALLED G.C. FURNISH AND INSTALL BOBRICK B-165 1836 STAINLESS STEEL | STAINLESS STEEL STAINLESS STEEL RECESSED RECESSED FRAME/ WASTE RECEPTACLE & PAPER BOBRICK B-3942 G.C. FURNISH AND INSTALL TOWEL DISPENSER PAPER TOWEL DISPENSER - FOOD PREP TANDEM C-223-DIHT SURFACE MOUNTED, G.C. FURNISH AND INSTALL BLACK NO-TOUCH PROVIDE AT ALL DEPARTMENTS, SEE FIXTURE PLAN

FIXTURE HEIGHTS AND CLEARANCES

SHEET NOTES

- 1. INTERIOR PLAN DIMENSIONS ARE TO FACE OF FINISH UNO. 2. REF FINISH PLANS FOR TILE AND PAINT INFORMATION.
- 3. REF FIXTURE HEIGHTS AND CLEARANCES. 4. PROVIDE A CONTINUOUS BEAD OF SEALANT IN THE FOLLOWING LOCATIONS:
- PERIMETER OF ALL TOILETS AND URINALS TO WALLS AND FLOORS - PERIMETER OF SINK TO WALL
- PERIMETER OF MIRRORS TO WALL - PERIMETER OF DIAPER CHANGING TABLE TO WALL
- SPECIFICATIONS. 6. PROVIDE 2X BLOCKING BETWEEN STUDS TO SUPPORT ALL WALL MOUNTED ITEMS.
- 7. REF PLUMBING SHEETS FOR FIXTURE SCHEDULE 8. RESTROOM ELEVATIONS ARE REPRESENTATIVE OF TYPICAL FIXTURE MOUNTING HEIGHTS AND CLEARANCES. REFER TO PLAN FOR FIXTURES TO BE INSTALLED

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www.brrarch.com

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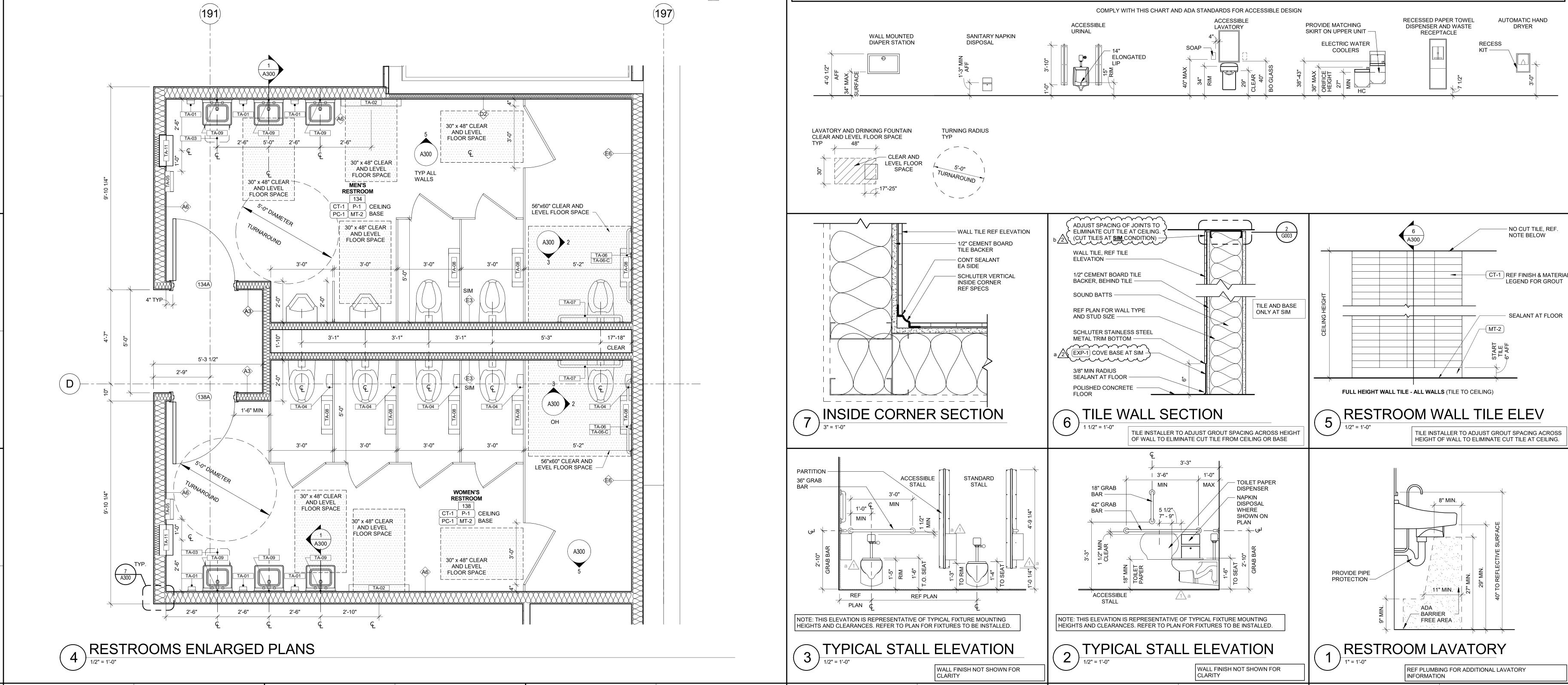
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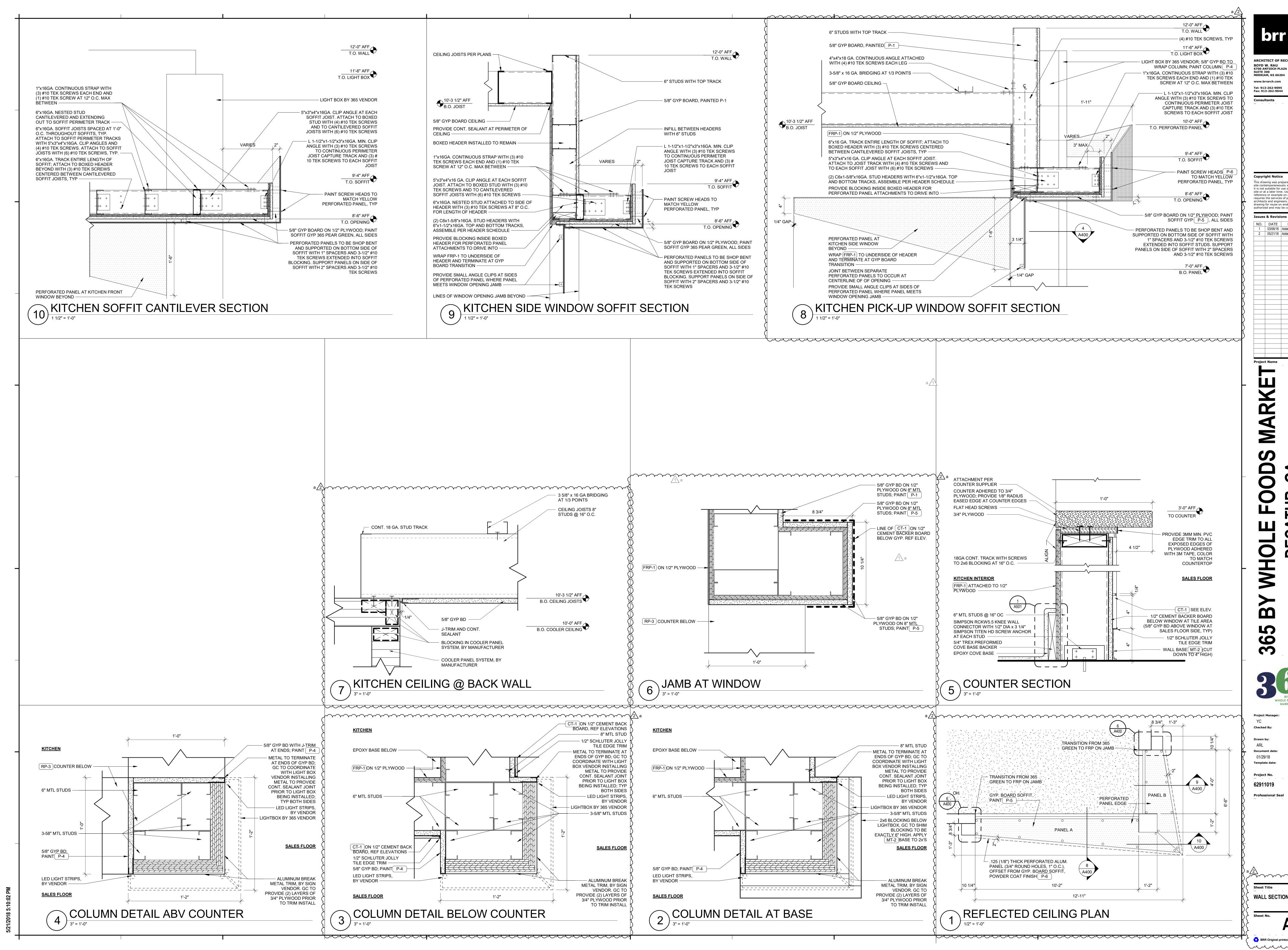
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ENLARGED RESTROOM

PLANS & ELEVATIONS A300





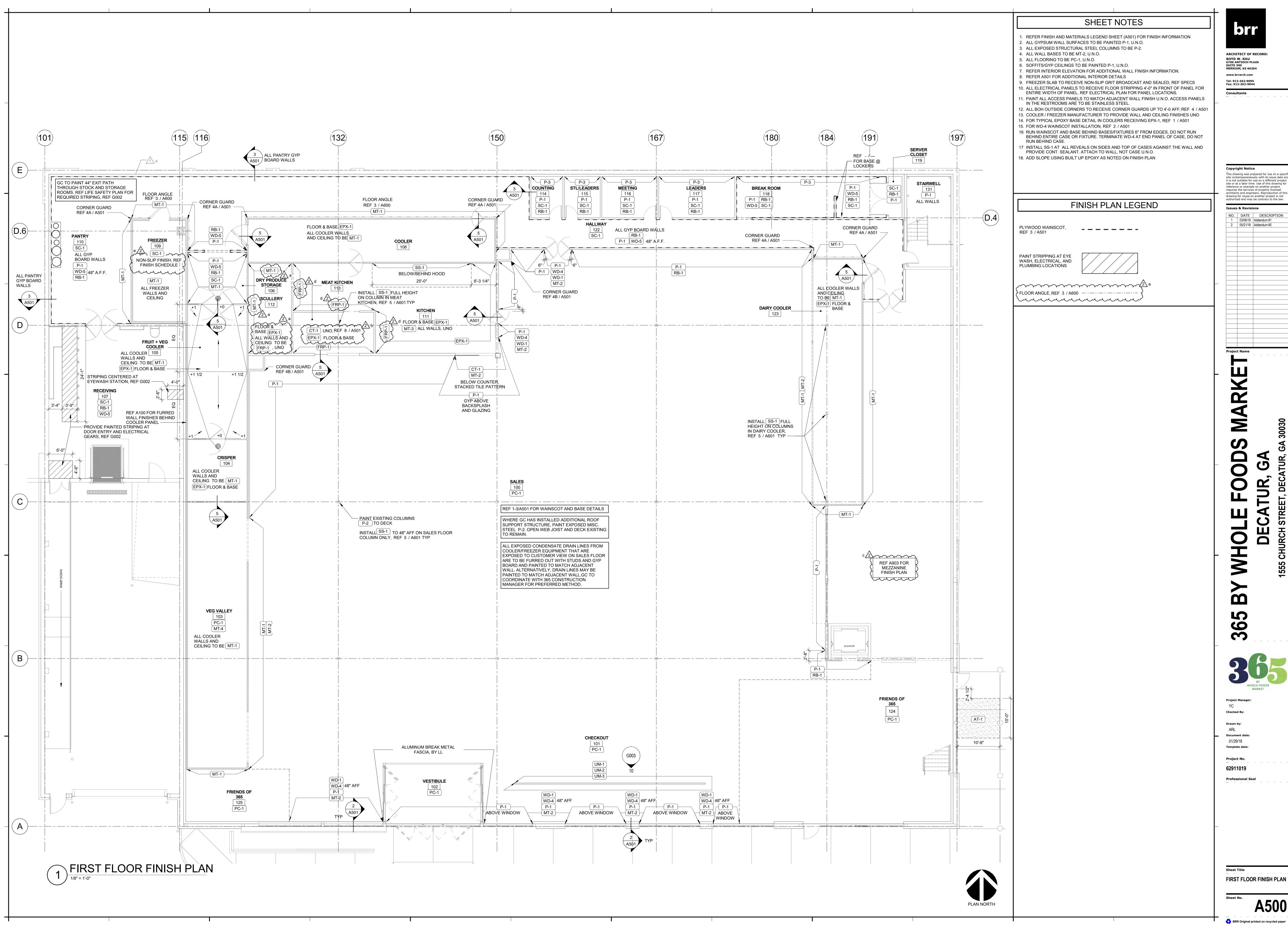
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a/2\ **WALL SECTIONS**



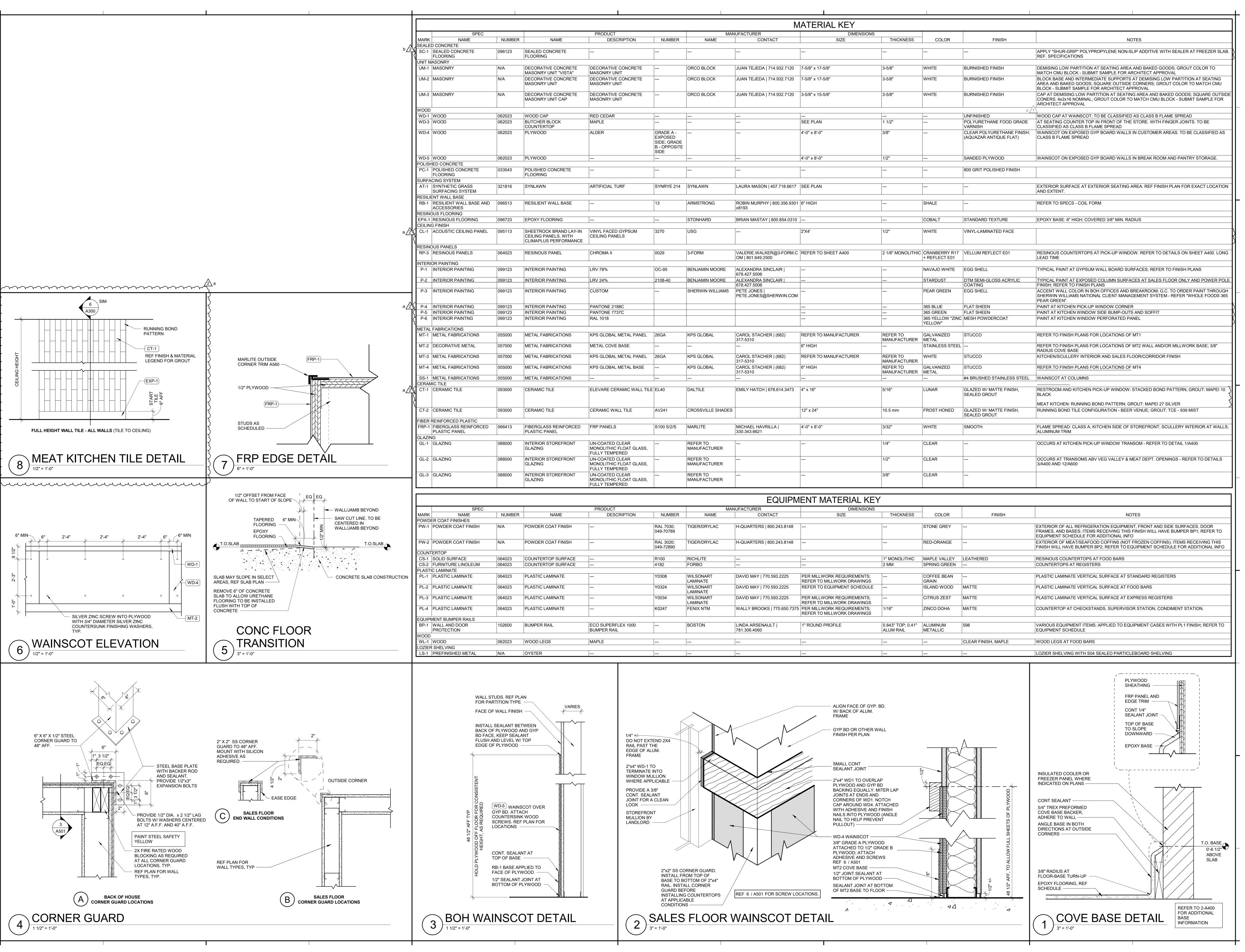
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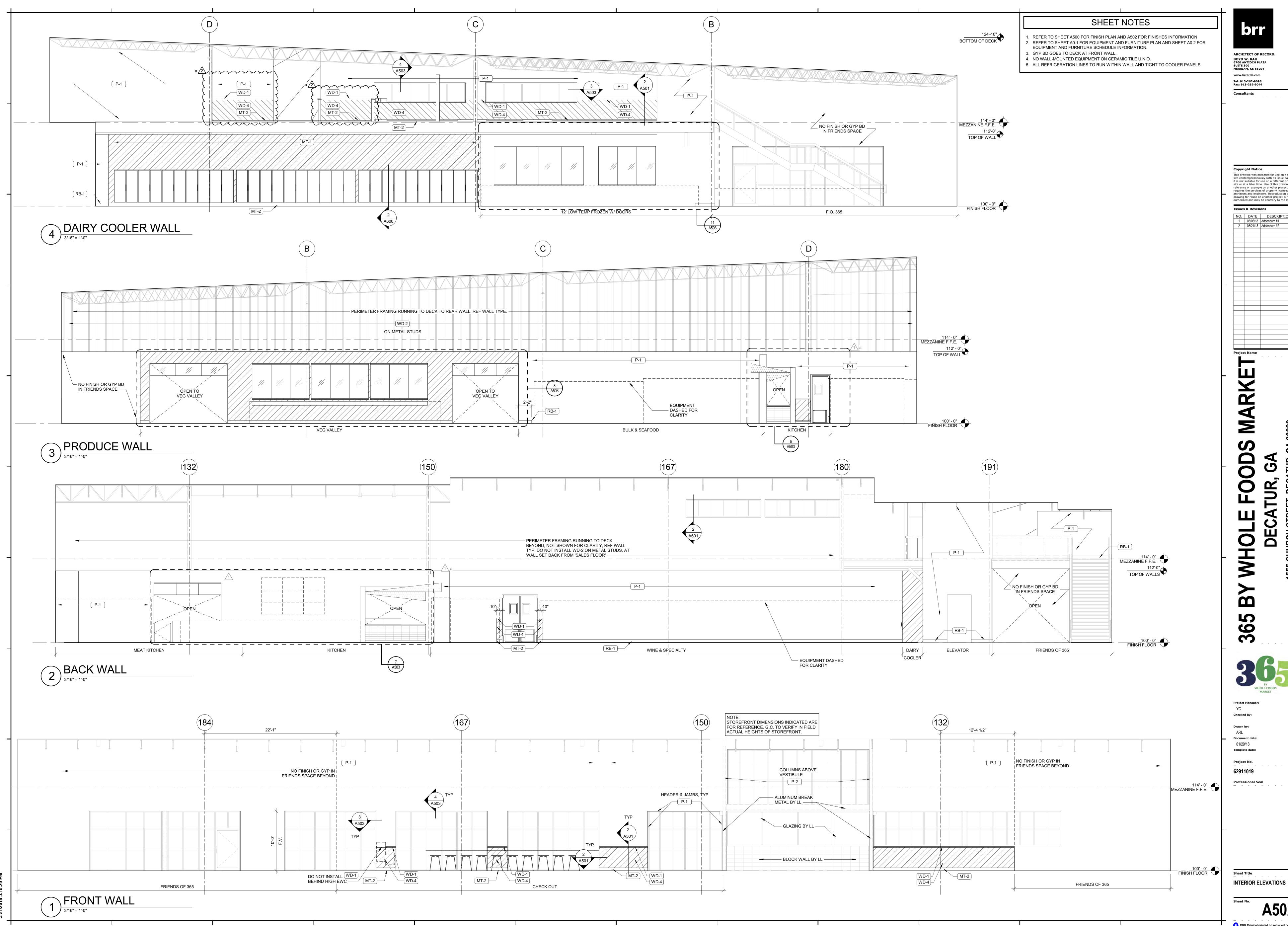
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Project No. 62911019

FINISH AND MATERIALS



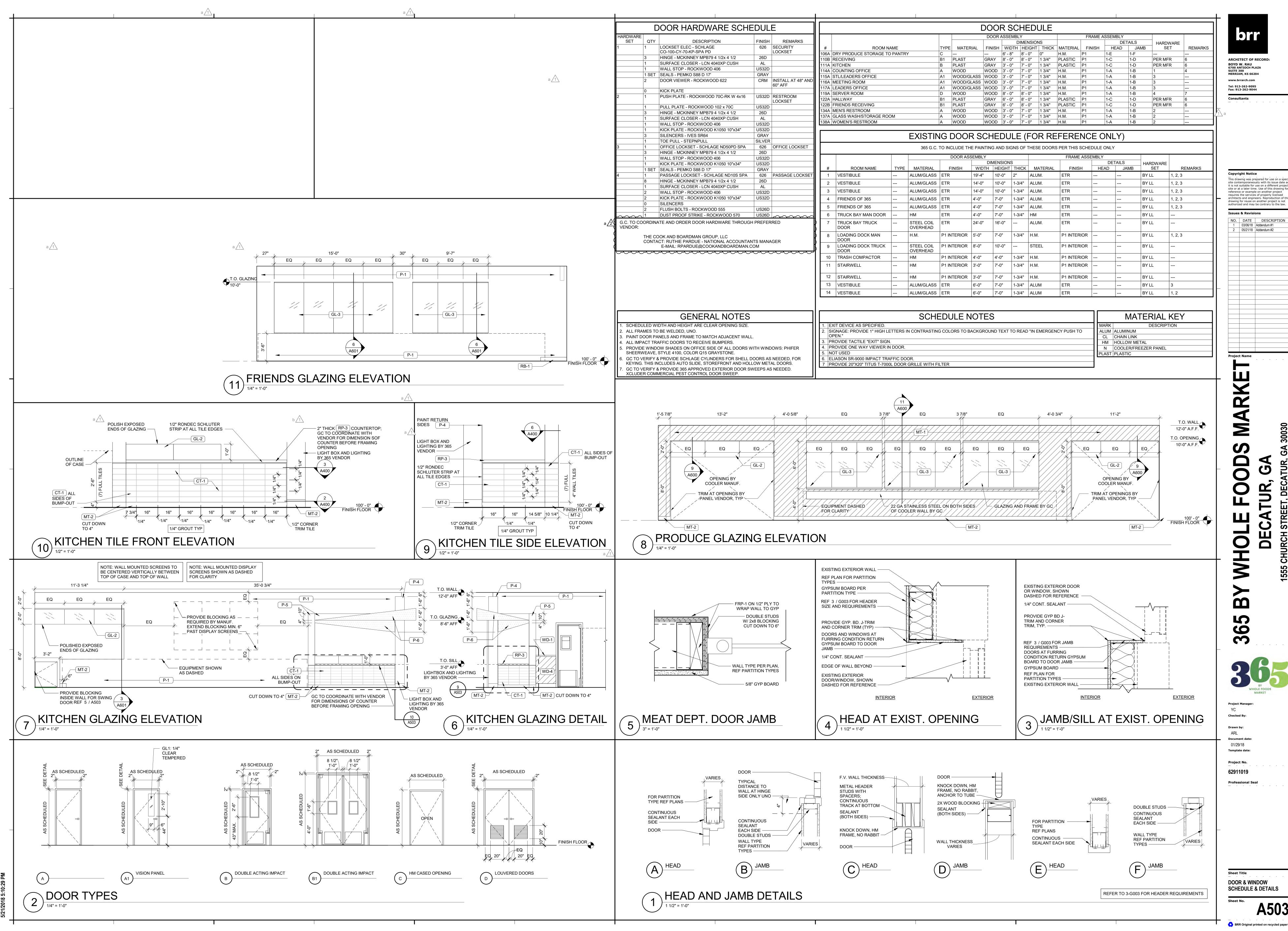
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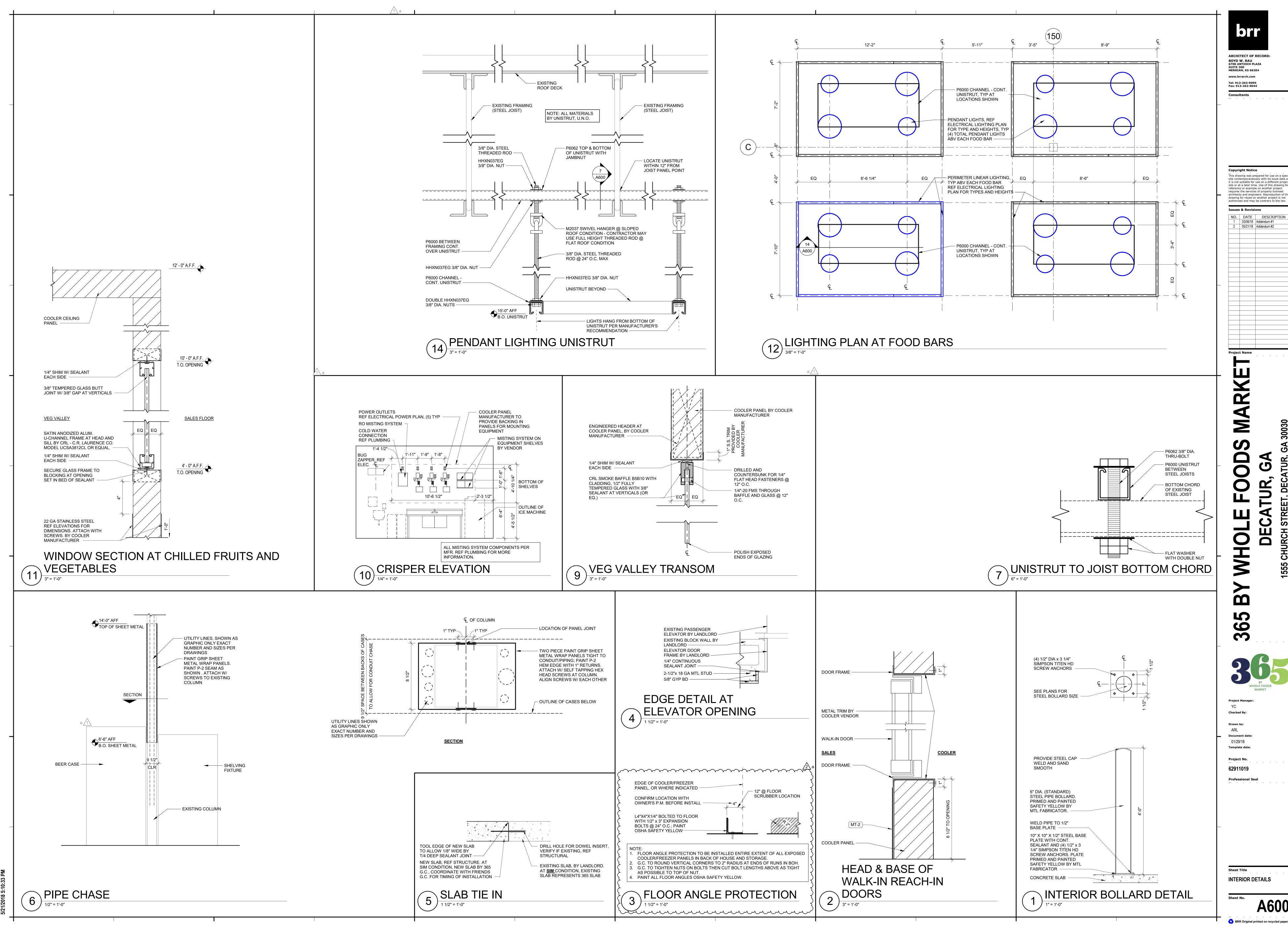
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Project Manager:

Checked By: Document date 01/29/18 Template date:

62911019

DOOR & WINDOW SCHEDULE & DETAILS



ARCHITECT OF RECORD

BOYD W. RAU 6700 ANTIOCH PLAZA SUITE 300 MERRIAM, KS 66204 www.brrarch.com Tel: 913-262-9095 Fax: 913-262-9044

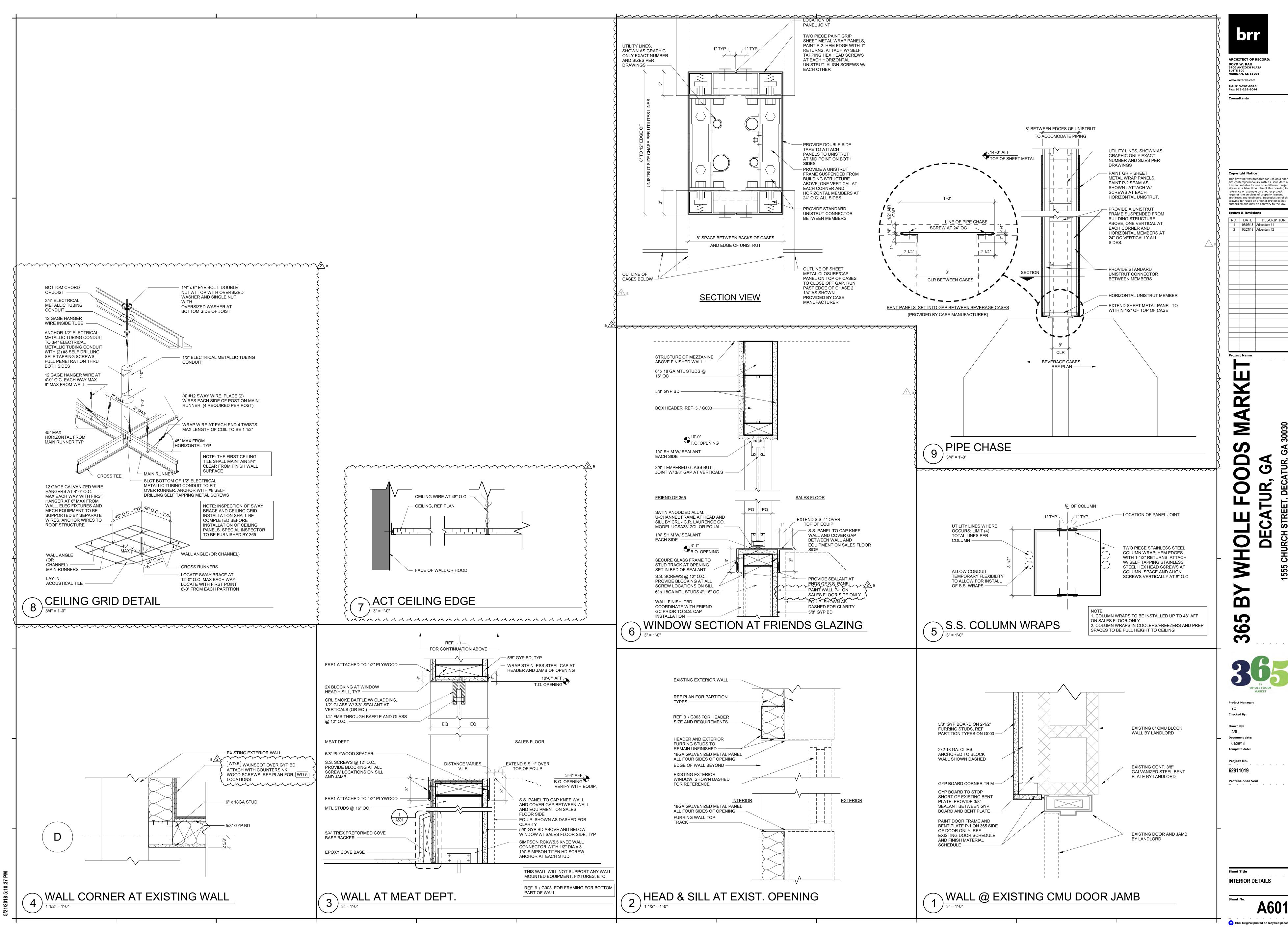
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INTERIOR DETAILS



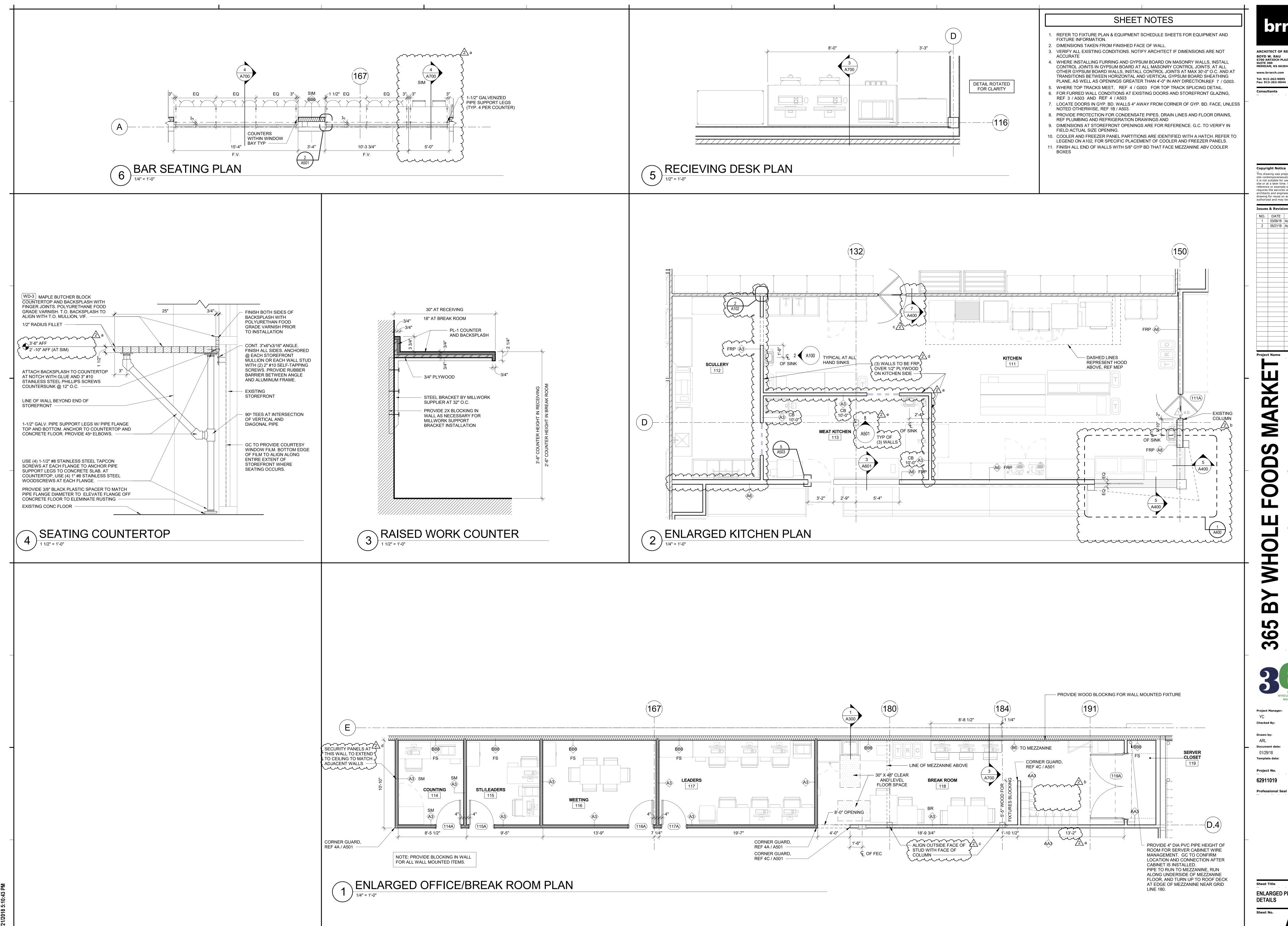
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INTERIOR DETAILS



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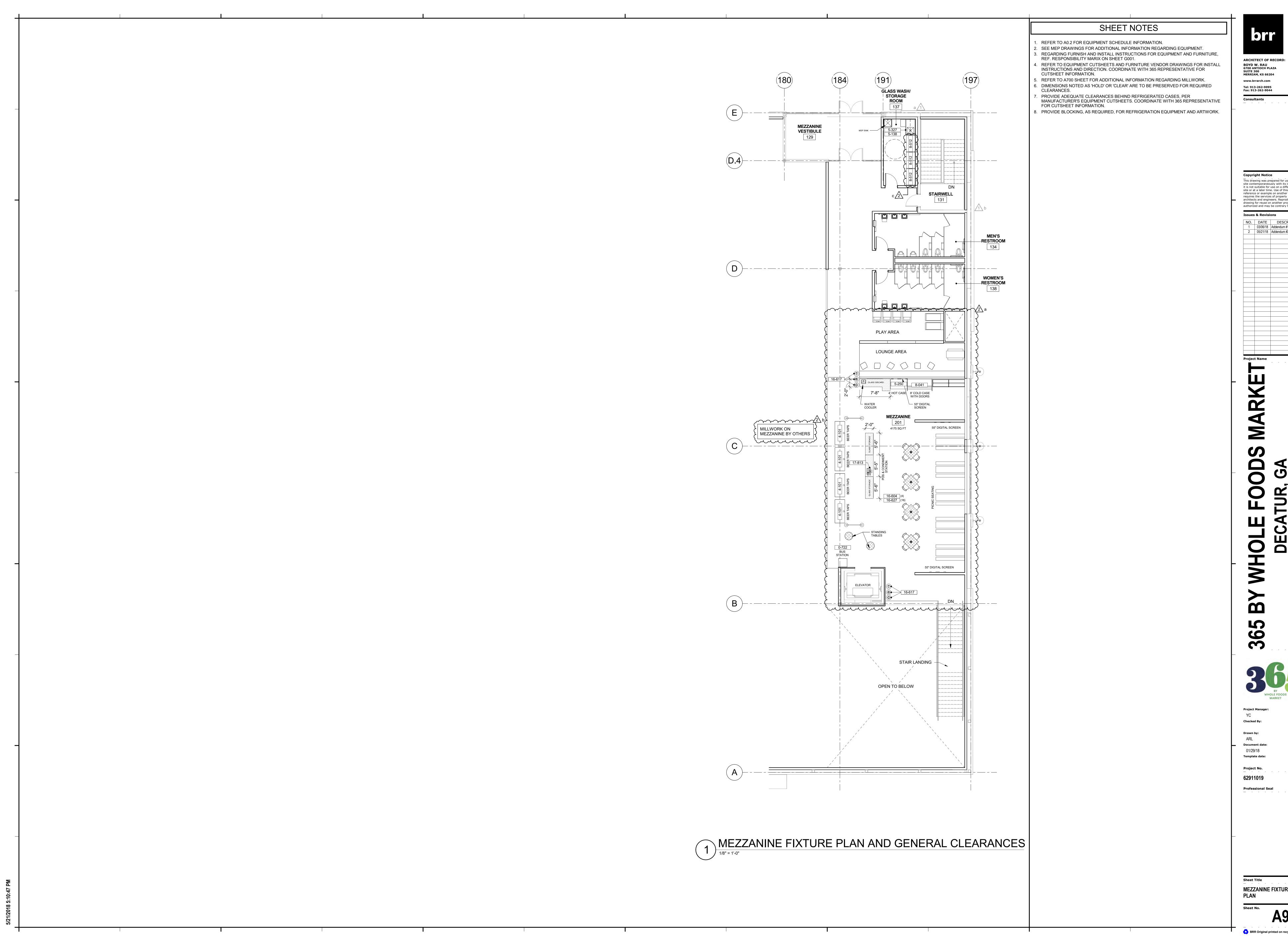
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ENLARGED PLANS AND

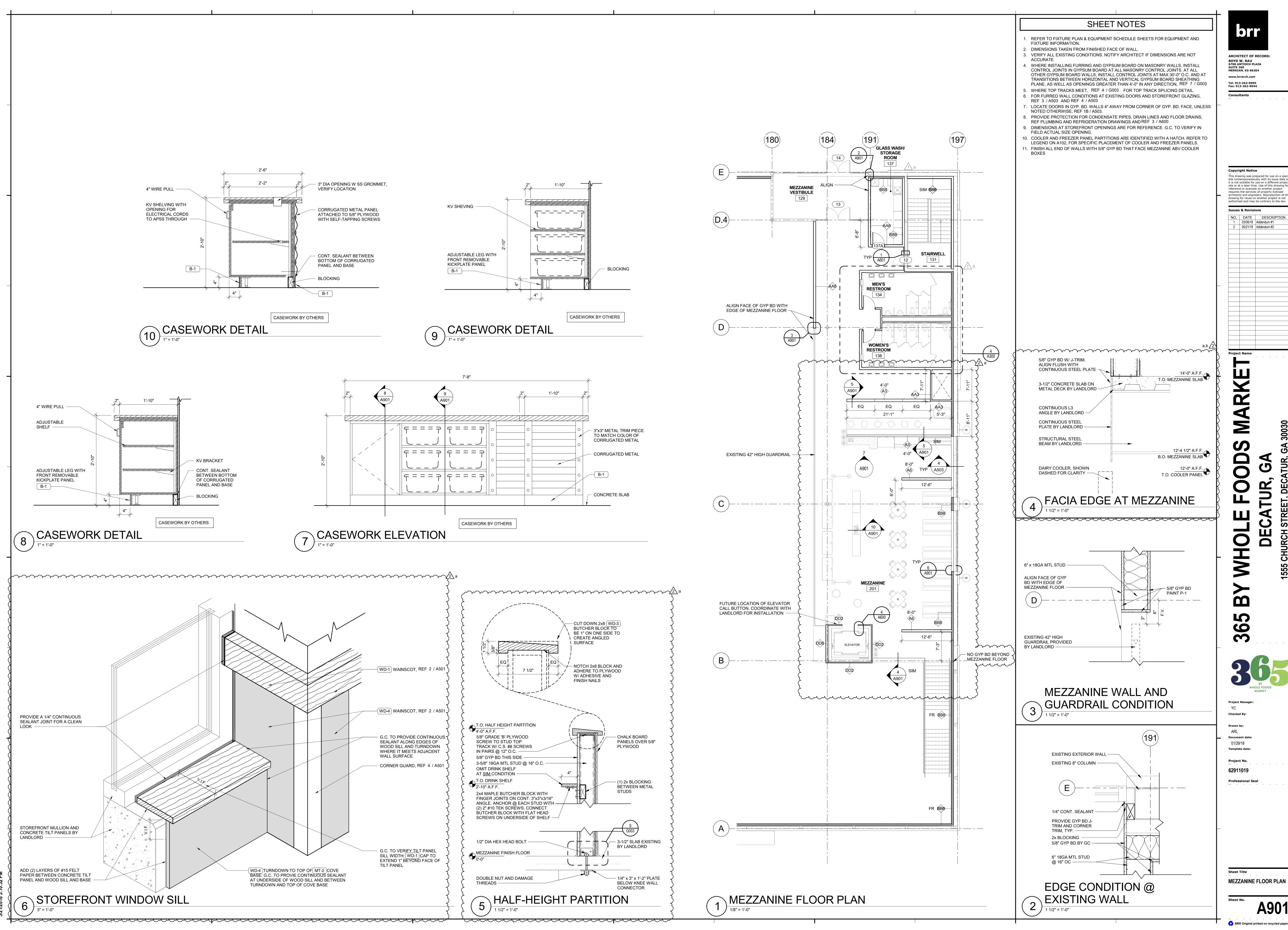
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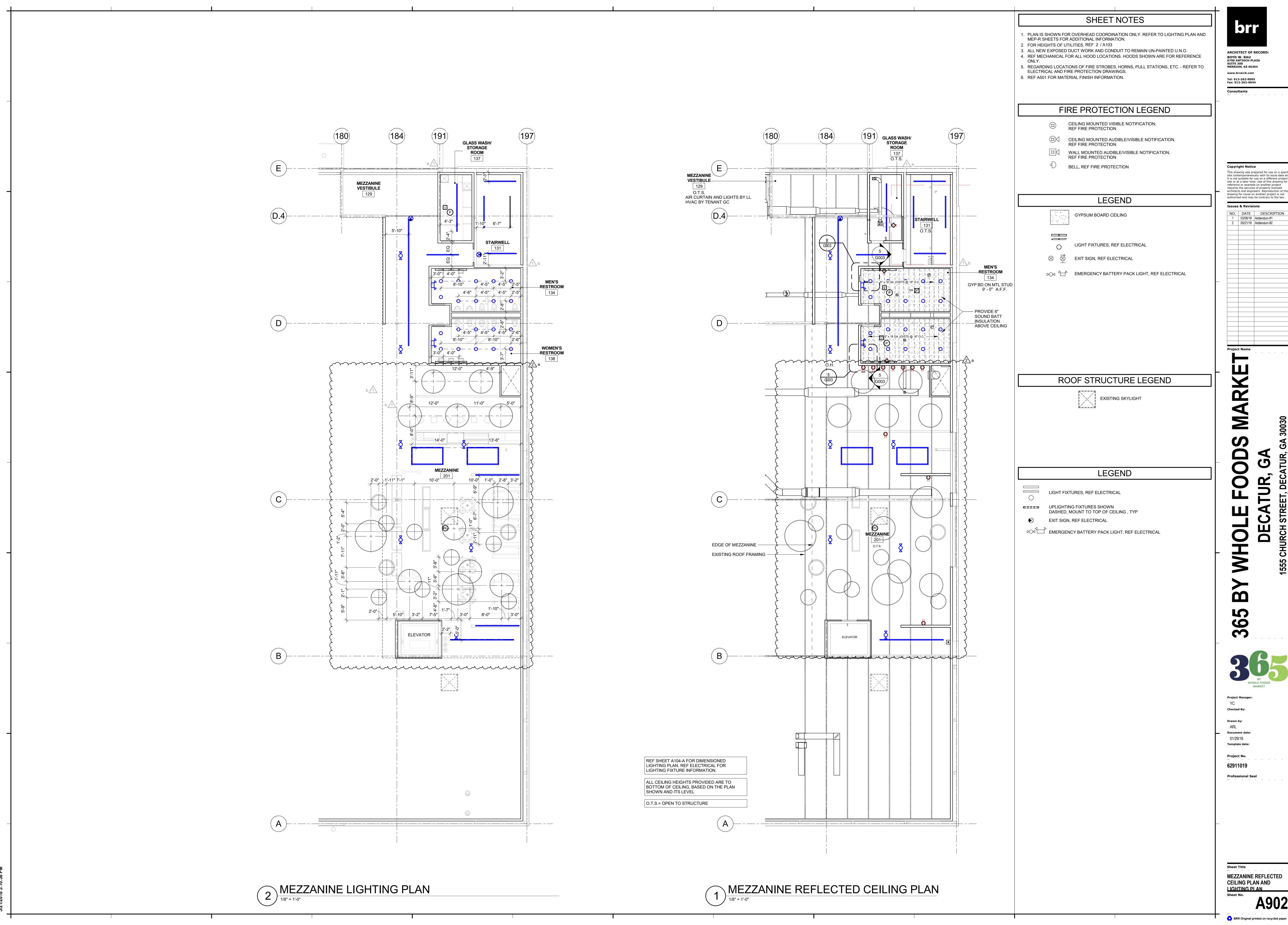
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MEZZANINE FLOOR PLAN



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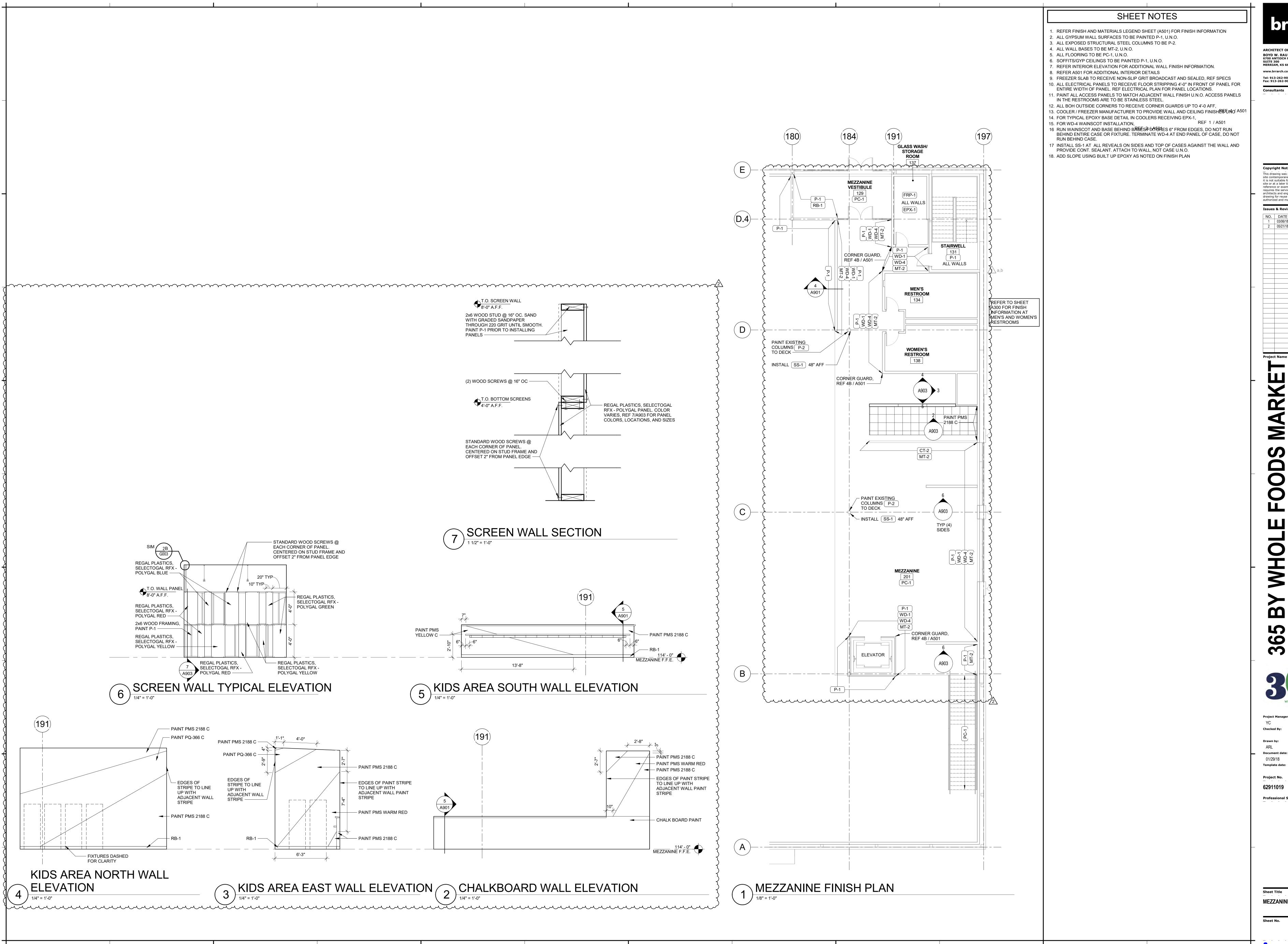
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MEZZANINE REFLECTED CEILING PLAN AND

LIGHTING PLAN



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MEZZANINE FINISH PLAN

S001

Architect of Record:

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BWN BJH Drawn by BWN Document date 01/29/18 Template date

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Sheet Title STRUCTURAL NOTES AND DETAILS



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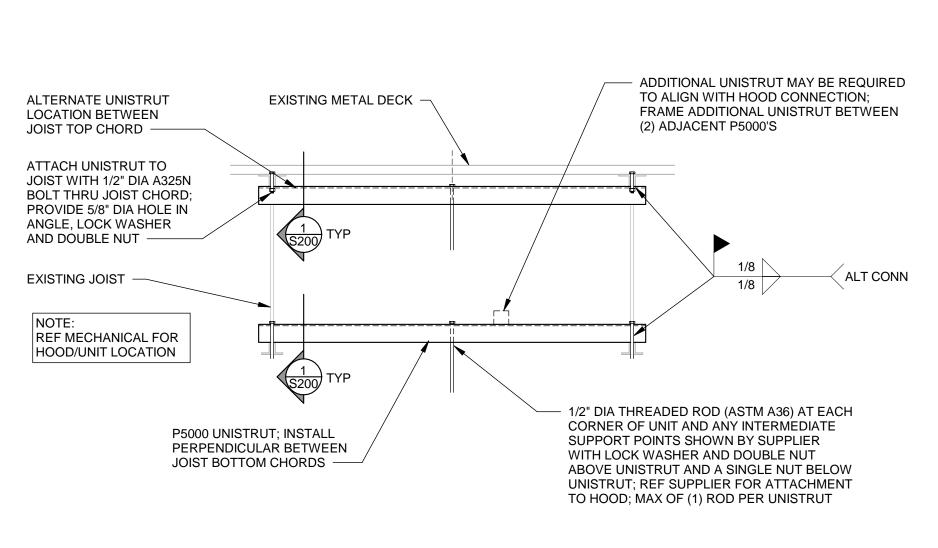
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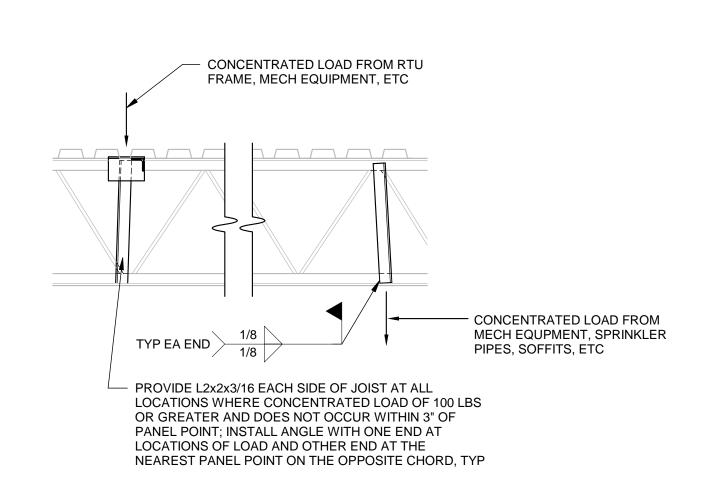
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S100

NOTE: REF MECHANICAL FOR UNIT AND EXHAUST FAN LOCATION **REF MECH** - ATTACH EXISTING METAL FOR CURB — DECK TO ANGLE WITH #12 ATTACH EXISTING **REF MECH** TEK SCREWS AT 6" OC METAL DECK TO FOR CURB -ANGLE WITH #12 TEK ATTACH CURB TO EXISTINGROOF DECK ANGLES WITH #12 TEK SCREWS AT 12" OC — SCREWS AT 6" OC ATTACH CURB TO ANGLES WITH #12 TEK SCREWS AT 12" OC — EXISTINGROOF DECK - CL OF JOIST - L5x3x5/16 (LLH), TYP L5x3x5/16 (LLH), TYP 3B-S200 **PLAN VIEW** 3A-S200





TYP JOIST REINF AT CONCENTRATED LOADS

3/4" = 1'-0"

BJH

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DETAILS

S200

OPENINGS LARGER THAN 10"x10" IN EXISTING ROOF

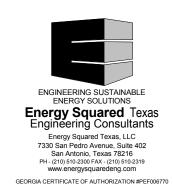
3/4" = 1'-0"

HOOD/MECHANICAL UNIT SUPPORT

365 MEP EQUIPMENT CONNECTION SCHEDULE

PLUMBING

ELECTRICAL



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roject Name

WINCERTUR, GA

B65

WHOLE FOODS

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KJG
Document date:
01/26/18
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62911019
Professional Seal

05/21/2018

Sheet Title

MEP EQUIPMENT

CONNECTION SCHEDULE

Shee MEPOOO

BRR Original printed on recycled paper

17-814

17-815

17-821

17-824

DIGITAL INFO SCREEN

TRAINING TABLET CHARGER

LAPTOP

TRAINING TABLET

MANUAL WRAPPING/LABELING SYSTEM

LG

TRIPP-LITE

DELL

DELL

BIZERBA

43LX341C

CS16USB

LATITUDE E7250

VENUE 8 PRO 3000

BIZ WRAPPING SYSTEM 120/1

300W

2.4A

350W

6.5A

180W

120/1

120/1

120/1

120/1

VARIES - REFER TO SHEEET E200

NEMA 5-20R AT 6" ABOVE COUNTER

NEMA 5-20R AT 6" ABOVE COUNTER

NEMA 5-20R AT 6" ABOVE COUNTER

6' CORD WITH NEMA 5-20P AND GFI 5-20R AT 36" AFF

			C	OUTSIDE AIR REC	QUIREMENTS	, ASHRAE 62.1 (IP)							
Ventilation Zone	Associated System	ASHRAE Space Use Category	People Outdoor Air Rate [Rp]	Default Occupanct Density	Default Zone Population	Actual Population Override	Zone Population [Pz]	Area Outdoor Air Rate[Ra]	Zone Floor Area [Az]	Breathing Zone Outdoor Airflow [Vbz]	Zone Air Distribution Effectiveness [Ez]	People-Based Zone OA Required (Rp*Pz)/Ez	Area-Based Zone OA Required (Ra*Az)/Ez	Zone Outdoor Airflow [Voz]
			(CFM/Person)	(#/1000 ft2)	(people)	(people)	(people)	(cfm/ft2)	(ft2)	(CFM)			(CFM)	(CFM)
SALES	RTU-1/2	Supermarket	7.5	8	129		129	0.06	16186.00	1942.3	0.8	1214	1214	2428
FRIENDS 2	RTU-3	Sales (except as below)	7.5	15	28		28	0.12	1890.00	439.4	0.8	266	283.5	549
SEATING/CHECKOUT	RTU-4	Restaurant dining rooms	7.5	70	70	53	53	0.18	1003.00	578.0	0.8	497	225.675	723
VESTIBULE	RTU-9	Not regularly occupied	0	0	0		0	0	356.00	0.0	0.8	0	0	0
FRIENDS 1	RTU-5	Sales (except as below)	7.5	15	5		5	0.12	338.00	78.6	0.8	48	50.7	98
KITCHEN/SCULLERY	RTU-6	Kitchen (cooking)	7.5	20	24		24	0.12	1220.00	329.4	0.8	229	183	412
вон	RTU-7	Shipping/receiving	10	2	5		5	0.12	2371.00	331.9	0.8	59	355.65	415
RECEIVING	RTU-7	Shipping/receiving	10	2	3		3	0.12	1294.00	181.2	0.8	32	194.1	226
MEETING	RTU-8	Conference/meeting	5	50	7	6	6	0.06	145.00	38.7	0.8	38	10.875	48
LEADERS	RTU-8	Office space	5	5	1	6	6	0.06	199.00	41.9	0.8	38	14.925	52
STL LEADERS	RTU-8	Office space	5	5	0	1	1	0.06	93.00	10.6	0.8	6	6.975	13
COUNTING	RTU8	Office space	5	5	0	1	1	0.06	83.00	10.0	0.8	6	6.225	12
BREAK	RTU-8	Office space	5	5	2	11	11	0.06	377.00	77.6	0.8	69	28.275	97
MEZZANINE	RTU-10	Sales (except as below)	7.5	8	25		25	0.06	3157.00	378.8	0.8	237	236.775	474
RESTROOMS	RTU-10	Not regularly occupied	0	0	0		0	0	337	0.0	0.8	0	0	0

1. SALES FLOOR, SEATING, AND CHECKOUT ARE ALL OPEN TO EACH OTHER. OUTSIDE AIR IS PROVIDED AT RTU-1 AND RTU-2 FOR THESE SPACES.

DUCTWORK MATERIAL SCHEDULE	
DUCTWORK SYSTEM	DUCTWORK MATERIAL
KITCHEN HOOD EXHAUST(EXPOSED)	CARBON STEEL, MINIMUN 16-GAUGE
DISHWASHER HOOD EXHAUST	STAINLESS STEEL, MINIMUM 18-GAUGE
GENERAL RECTANGULAR DUCTWORK	GALV. SHEET STEEL PER SMACNA TABLES 1-3 THROUGH 1-19, MIN. 26-GAUGE
ROUND DUCTWORK	GALVANIZED STEEL SMACNA TABLE 3-2, MINIMUM 26-GAUGE
FACTORY MANUFACTURED ROUND DUCTWORK	GALVANIZED STEEL, SPIROSAFE SYSTEM BY LINDAB OR APPROVED EQUAL
	<u> </u>

2. SEAMS, JOINTS, PENETRATIONS, AND DUCT-TO-HOOD COLLAR CONNECTIONS SHALL HAVE LIQUID-TIGHT CONTINUOUS EXTERNAL WELD PER UMC 510.5.2.

1. REFER TO SPECIFICATIONS FOR JOINTS, SEAMS, FITTINGS, INSTALLATION REQUIREMENTS AND FURTHER INFORMATION.

GENERAL MECHANICAL NOTES:

- 1 PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR 365 OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
- 2. COORDINATE THE INSTALLATION OF THE MECHANICAL SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSTALLATION. INSTALL DUCTWORK AND PIPING AS TIGHT TO STRUCTURE AS POSSIBLE, COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS. COORDINATE INSTALLATION OF DUCTWORK AND PIPING TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES, ETC.
- 3. AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN FOR NEW INSTALLATION DURING WORK. REPAIR DAMAGE CAUSED DURING CONSTRUCTION AT NO EXTRA COST TO 365.
- 4. ALL MECHANICAL EQUIPMENT SHOWN ON THE MECHANICAL PLANS SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR UNLESS OTHERWISE NOTED.
- 5. NEW MECHANICAL EQUIPMENT, DUCTWORK AND PIPING ARE SHOWN AT APPROXIMATE LOCATIONS. FIELD MEASURE FINAL DUCTWORK AND PIPING LOCATIONS PRIOR TO FABRICATION AND MAKE ADJUSTMENTS AS REQUIRED TO FIT THE DUCTWORK AND PIPING WITHIN THE AVAILABLE SPACE. VERIFY THAT FINAL EQUIPMENT LOCATIONS MEET MANUFACTURER'S RECOMMENDATIONS REGARDING SERVICE CLEARANCE AND PROPER AIRFLOW CLEARANCE AROUND EQUIPMENT.
- 6. REFER TO ARCHITECTURAL DRAWINGS FOR RELATED CONSTRUCTION DETAILS AS APPLICABLE TO THE HVAC SYSTEM. VERIFY CHASES AND PENETRATIONS SHOWN ON ARCHITECTURAL DRAWINGS THAT ARE INTENDED FOR DUCTWORK AND PIPING MEET REQUIREMENTS.
- 7. COORDINATE LOCATION OF ROOF MOUNTED HVAC EQUIPMENT AND ROOF PENETRATIONS WITH REFRIGERATION EQUIPMENT AND WITH THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
- 8. INSTALL DUCTWORK AND PIPING PARALLEL TO BUILDING COLUMN LINES UNLESS
- 9. OVERHEAD HANGERS AND SUPPORTS FOR EQUIPMENT, DUCTWORK AND PIPING SHALL BE FASTENED TO BUILDING JOISTS OR BEAMS. DO NOT ATTACH HANGERS AND SUPPORTS TO THE ABOVE FLOOR SLAB OR ROOF.
- 10. COORDINATE LOCATION OF EQUIPMENT SUPPORTS WITH LOCATION OF
- 11. SEAL PENETRATIONS THROUGH THE BUILDING COMPONENTS IN ACCORDANCE FIRE RATED COMPONENTS IN ACCORDANCE WITH U.L. REQUIREMENTS.
- 12. COORDINATE THE EXACT MOUNTING SIZE AND FRAME TYPE OF DIFFUSERS,
- 13. ADJUST LOCATION OF CEILING DIFFUSERS, REGISTERS AND GRILLES AS REQUIRED TO ACCOMMODATE FINAL CEILING GRID AND LIGHTING LOCATIONS.
- 16. PROVIDE A MANUAL BALANCING DAMPER IN EACH BRANCH DUCT TAKEOFF FROM MAIN SUPPLY, RETURN, OUTDOOR AND EXHAUST AIR DUCTS.
- QUADRANT FOR BRANCH DUCT CONNECTIONS AND TAKE-OFFS TO INDIVIDUAL
- 18. BRANCH DUCTWORK TO AIR OUTLETS SHALL BE SAME SIZE AS OUTLET NECK SIZE
- REQUIREMENTS. DUCT SIZES ON MECHANICAL PLANS INDICATE CLEAR INSIDE AIRFLOW DIMENSIONS, INCREASE SHEET METAL SIZES ACCORDINGLY TO ACCOUNT FOR THICKNESS OF DUCT LINER.
- 20. FLEXIBLE DUCTWORK SHALL NOT EXCEED 5'-0" IN LENGTH AND SHALL BE INSTALLED AND SUPPORTED TO AVOID SHARP BENDS AND SAGGING. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- 22. PROVIDE EQUIPMENT VENTS AND FLUES PER EQUIPMENT MANUFACTURERS RECOMMENDATIONS AND EQUIPMENT SPECIFICATIONS. KEEP PENETRATIONS
- TOWARDS HOOD AT MINIMUM OF 1/4" PER LINEAL FOOT MAINTAINING 18"
- 25. PROVIDE A NEW SET OF AIR FILTERS IN UNITS PRIOR TO TESTING, ADJUSTING AND
- 27. INDOOR AIR QUALITY MEASURES: PROTECT INSIDE OF (INSTALLED AND
- DELIVERED) DUCTWORK AND HVAC UNITS FROM EXPOSURE TO DUST, DIRT, PAINT AND MOISTURE. REPLACE INSULATION THAT HAS GOTTEN WET AT ANY TIME DURING CONSTRUCTION, DRYING THE INSULATION IS NOT ACCEPTABLE. SEAL ANY TEARS OR JOINTS OF INTERNAL FIBERGLASS INSULATION. REMOVE DEBRIS FROM CEILING/RETURN AIR PLENUM INCLUDING DUST. AN INDEPENDENT, PROFESSIONAL DUCT CLEANING COMPANY SHALL VACUUM CLEAN ANY DUCTWORK CONNECTED TO HVAC UNITS THAT WERE OPERATED DURING THE CONSTRUCTION PERIOD AFTER NEW FILTERS ARE INSTALLED AND PRIOR TO TURNING SYSTEM OVER TO 365. THE INTERNAL SURFACES AND ASSOCIATED COILS OF ANY HVAC UNITS THAT

MECHANICAL SYMBOLS

THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS, ABBREVIATIONS, ETC. ARE NECESSARILY USED ON THE DRAWINGS.

NOTE: ALL DUCT DIMENSIONS SHOWN ON DRAWINGS ARE INSIDE DIMENSIONS. SEE SECTION 15250 OF THE SPECIFICATION FOR DUCTWORK TO RECEIVE INSULATION OR LINER.

INSULATED FLEXIBLE DUCT (MAX. 5'-0" LONG) BRANCH DUCT WITH 45° RECTANGLE-ROUND BRANCH FITTING AND MANUAL VOLUME DAMPER **ELBOW WITH TURNING VANES**

BRANCH DUCT WITH BELL-MOUTH FITTING & MANUAL VOLUME CONTROL DAMPER

RETURN AIR DUCT UP RETURN AIR DUCT DOWN SUPPLY OR OUTSIDE AIR DUCT UP SUPPLY OR OUTSIDE AIR DUCT DOWN EXHAUST AIR DUCT UP

3-WAY AIR DEVICE

CEG-1

RISER DESIGNATION

FIRE DAMPER

SMOKE DAMPER

(MD) MOTORIZED DAMPER

(VD) VOLUME DAMPER

FIRE SMOKE DAMPER

NECK SIZE

SQUARE TO ROUND TRANSITION

DUCT MOUNTED SMOKE DETECTOR

MANUAL VOLUME DAMPER

(SD=SUPPLY/RD=RETURN)

CFM OF EXHAUST GRILLE

EXHAUST AIR DUCT DOWN EQUIPMENT WITH FLEXIBLE DUCT CONNECTION

NECK SIZE OTHERWISE SHOWN OR NOTED. CSD-1 CFM OF SUPPLY DIFFUSER OR REGISTER

EQUIPMENT ACCESS PANELS/DOORS TO ENABLE SERVICE OF EQUIPMENT AND/OR FILTER REPLACEMENT.

WITH THE CONTRACT SPECIFICATIONS. FIREPROOF PENETRATIONS THROUGH

REGISTERS AND GRILLES WITH THE SUPPLIER TO MEET THE CEILING, WALL AND DUCT INSTALLATION REQUIREMENTS.

14. EMS CONTRACTOR SHALL SET THERMOSTATS AND HUMIDISTATS AT LOCATIONS SHOWN ON PLANS. VERIFY EXACT LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION. INSTALL DEVICES 48" AFF TO MEET ADA REQUIREMENTS UNLESS NOTED OTHERWISE ON PLANS. PROVIDE INSULATED BACKING FOR THERMOSTATS MOUNTED ON EXTERIOR BUILDING WALLS. EMS CONTRACTOR SHALL PROVIDE ALL CONTROL WIRING.

15. COORDINATE THE LOCATION AND ELEVATION OF WALL-MOUNTED DEVICES WITH PRESENTATION BOARDS, DISPLAY CABINETS, SHELVES OR OTHER COMPONENTS SHOWN ON THE ARCHITECTURAL DRAWINGS THAT ARE TO BE INSTALLED UNDER OTHER DIVISIONS. CONTRACTOR WILL NOT BE REIMBURSED FOR RELOCATION OF WALL-MOUNTED DEVICES CAUSED BY A LACK OF COORDINATION.

17. PROVIDE A PREFABRICATED 45 DEGREE, HIGH EFFICIENCY, RECTANGULAR/ROUND BRANCH DUCT TAKEOFF FITTING WITH MANUAL BALANCING DAMPER AND LOCKING DIFFUSERS, REGISTERS AND GRILLES.

UNLESS OTHERWISE NOTED.

19. REFER TO SPECIFICATIONS FOR DUCTWORK AND PIPING INSULATION

21. RIGIDLY SUSPEND UNIT HEATER FROM STRUCTURE WITH SUPPORTING ANGLES AND ALL-THREAD HANGING RODS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

THROUGH ROOF A MINIMUM OF 10'-0" FROM HVAC EQUIPMENT FRESH AIR INLETS AND 3'-0" FROM ROOF PARAPETS.

23. PROVIDE TYPE I GREASE HOOD EXHAUST DUCTWORK WITH ACCESS PANELS FOR GREASE CLEANING AS REQUIRED BY NFPA 96 AND LOCAL CODES. SLOPE DUCT BACK CLEARANCE TO COMBUSTIBLE MATERIALS. IF APPROVED BY LOCAL CODES, PROVIDE AN APPROVED WRAP SYSTEM. DUCT WRAP SYSTEM SHALL MEET UL REQUIREMENTS FOR GREASE DUCT ENCLOSURES.

24. PROVIDE WALL MOUNTED LOUVERS AND DAMPERS WITH SUITABLE MOUNTING FRAME TO MATCH WALL CONSTRUCTION. COORDINATE WITH ARCHITECTURAL DRAWINGS.

BALANCING. AND BEFORE TURNING SYSTEM(S) OVER TO OWNER.

26. INSPECT AND FULLY CHARGE ALL HVAC EQUIPMENT PRIOR TO RELEASE OF

WERE OPERATED SHALL ALSO BE CLEANED.

HVAC EQUIPMENT & DUCTWORK

ENGINEERING SUSTAINABLE ENERGY SOLUTIONS LINEAR SLOT DIFFUSER Energy Squared Texas Engineering Consultants Energy Squared Texas, LLC

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Consultants

Issues & Revisions NO. DATE DESCRIPTION 01/26/18 PERMIT SET

Project Name

FS FLOW SWITCH HS HUMIDITY SENSOR PS PULL STATION

CO CARBON MONOXIDE SENSOR

DPD) IFFERENTIAL PRESSURE SENSOR

CO2 CARBON DIOXIDE SENSOR

(BD) BACKDRAFT DAMPER SP STATIC PRESSURE PORT (H) HUMIDISTAT

TS TEMPERATURE SENSOR

(T) THERMOSTAT

ABBREVIATIONS MC MECHANICAL CONTRACTOR AFF ABOVE FINISHED FLOOR BAS BUILDING AUTOMATION SYSTEM MIN MINIMUM BD BACKDRAFT DAMPER NC NOISE CRITERIA CFM CUBIC FEET PER MINUTE OA OUTSIDE AIR RA RETURN AIR DDC DIRECT DIGITAL CONTROL SA SUPPLY AIR DX DIRECT EXPANSION SD SMOKE DUCT DETECTOR EA EXHAUST AIR FFA FROM FLOOR ABOVE FFB FROM FLOOR BELOW TYP TYPICAL GPM GALLONS PER MINUTE

TFA TO FLOOR ABOVE TFB TO FLOOR BELOW IN WC INCHES OF WATER COLUMN UNO UNLESS NOTED OTHERWISE W/O WITHOUT

MBH 1000 BTU PER HOUR MOUNTING HEIGHTS

MAX MAXIMUM

(AFF, AFG, UNLESS NOTED OTHERWISE) MECHANICAL THERMOSTATS (USER ADJUSTABLE)(TOP OF DEVICE) CONTROLS (TOP OF DEVICE) TEMPERATURE SENSORS (PUBLIC AREAS) TEMPERATURE SENSORS (NON-PUBLIC SPACES) ANNOTATION

MECHANICAL OR FIRE PROTECTION PLAN CALLOUT

PLUMBING PLAN NOTE CALLOUT

1 ELECTRICAL PLAN NOTE CALLOUT

(1) TECHNOLOGY PLAN CALLOUT

PLUMBING EQUIPMENT DESIGNATION. (CONTRACTOR 1 FURNISHED AND INSTALLED). REFER TO PLUMBING FIXTURE OR EQUIPMENT SCHEDULES

EQUIPMENT DESIGNATION (OWNER FURNISHED, CONTRACTOR INSTALLED) MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR

FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE) CONNECTION POINT OF NEW WORK TO EXISTING DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL

NUMBER LOWER NUMBER INDICATES SHEET NUMBER

1 SECTION CUT DESIGNATION

DIVISION 23: SHALL BE RESPONSIBLE FOR RECEIVING FURNISHED EQUIPMENT AT THE JOB SITE, UNLOADING, STORING, AND INSTALLATION DURING CONSTRUCTION OF PROJECT. CONTACT 365 IF EQUIPMENT ARRIVES TO THE SITE DAMAGED.

DIVISION 23: SHALL PROVIDE THE SERVICES OF A FACTORY-AUTHORIZED SERVICE REPRESENTATIVE TO START-UP ALL HEATING, VENTILATING, AND AIR CONDITIONING EQUIPMENT UNITS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN START-UP INSTRUCTIONS. DO NOT OPERATE UNITS WITHOUT FILTERS INSTALLED. TEST CONTROLS AND DEMONSTRATE COMPLIANCE WITH REQUIREMENTS. REPLACE DAMAGED OR MALFUNCTIONING CONTROLS AND EQUIPMENT.

DIVISION 23: SHALL BE RESPONSIBLE FOR TEST AND BALANCE SCOPE OF

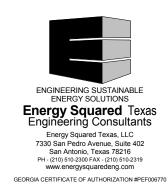
Project Manager: SGP Checked By:

Drawn by: SGP Document date: 01/26/18 Template date:

Project No. 62911019 Professional Seal

Architect of Record: BOYD W. RAU 6700 Antioch Plaza Suite 300 Merriam, KS 66204 www.brrarch.com Tel: 913-262-9095

Consultants



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Issues & Revisions NO. DATE DESCRIPTION 2 05/21/18 Addendum #2

Project Name

SGP

Document date Template date:

05/21/2018 **MECHANICAL PLAN**

KEYNOTES:

- 1 ROOFTOP UNIT PROVIDED BY LANDLORD AS PART OF THE BUILDING SHELL PACKAGE. CONNECT TO FULL SIZE SUPPLY AND RETURN DROPS OFF ROOFTOP UNIT AND MODIFY EXISTING DROPS AS NECESSARY TO INSTALL DUCTWORK AS SHOWN.
- 2 ROUTE DUCTWORK LEVEL, TIGHT TO STRUCTURE, AND ABOVE LIGHTS. COORDINATE
- WITH STRUCTURAL AND ELECTRICAL. PROVIDE FULL SIZE RETURN DUCT DOWN AND OFFSET 36" HORIZONTAL FROM UNIT TIGHT TO STRUCTURE WITH 1" ACOUSTICAL LINER AND 3/4" WIRE MESH SCREEN ON
- 4 DO NOT ROUTE DUCTWORK OR PIPING UNDER SKYLIGHTS.
- 5 ROUTE DUCTWORK FROM RETURN GRILLE UP THROUGH CEILING SUPPORT STRUCTURE ABOVE BEFORE TURNING HORIZONTALLY. SEE DETAIL FOR RETURN GRILLE BOOT.
- 6 MOUNT GRILLE ABOVE JANITOR SINK AT 9'-0".

PROVIDE DUCTWORK LINER FOR ALL DUCTWORK EXCEPT GREASE EXHAUST AND SCULLERY EXHAUST

WHERE DUCTWORK IS LOCATED ABOVE A CEILING, ROUTE DUCTWORK DOWN FROM ROOF TO TIGHT ABOVE CEILING STRUCTURE

Architect of Record: BOYD W. RAU 6700 Antioch Plaza Suite 300 Merriam, KS 66204 www.brrarch.com Tel: 913-262-9095 Fax: 913-262-9044 Consultants



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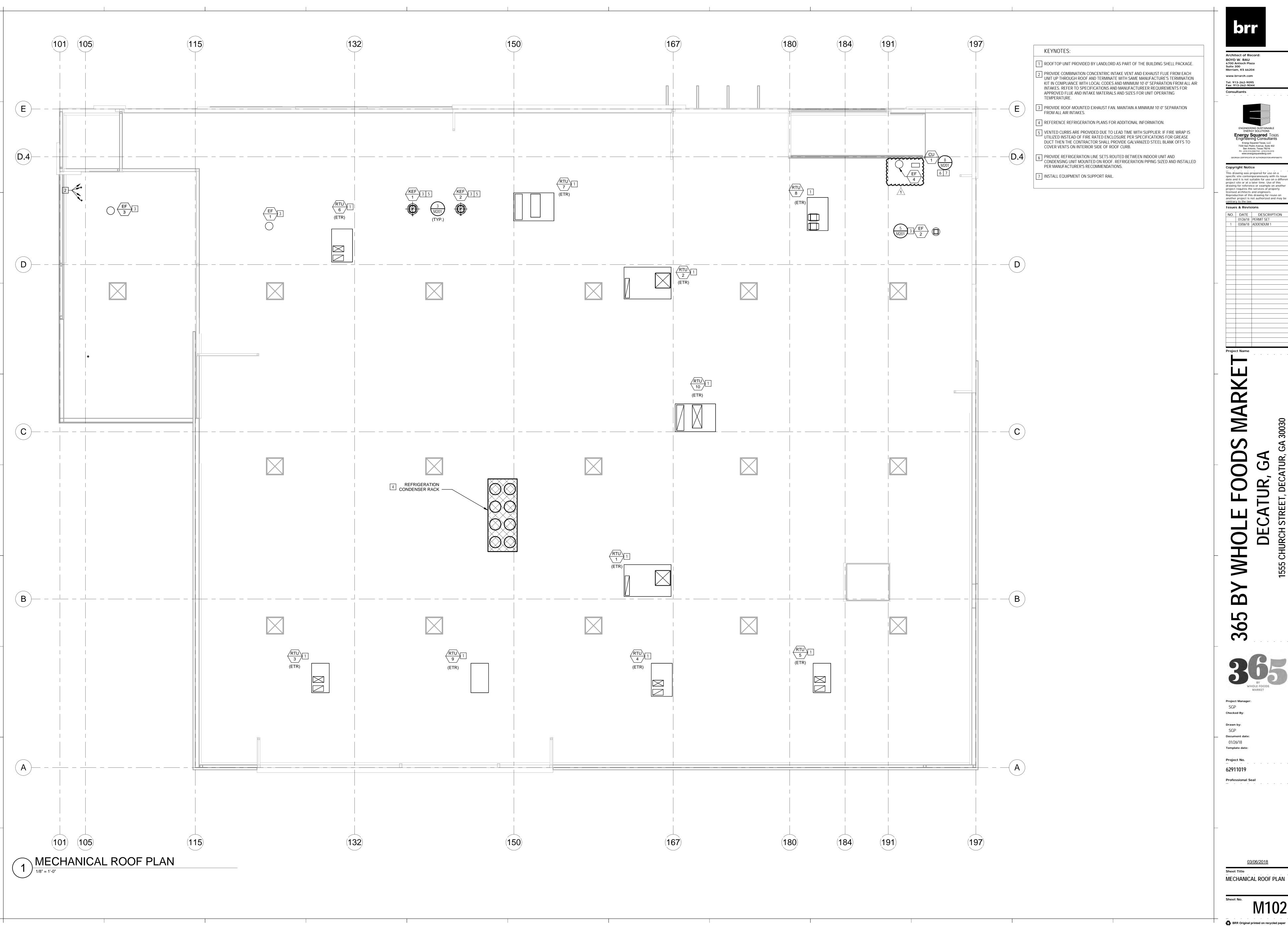
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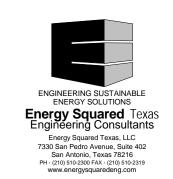
 1
 03/06/18
 Addendum #1

 2
 05/21/18
 Addendum #2





Architect of Record: BOYD W. RAU 6700 Antioch Plaza Suite 300 Merriam, KS 66204 www.brrarch.com Tel: 913-262-9095 Fax: 913-262-9044



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 NO.
 DATE
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 03/06/18
 ADDENDUM 1

MECHANICAL ROOF PLAN

M102

EQUIPMENT FURNISHED AND INSTALLED BY DIVISION 23.

PROVIDE ALL STEEL CONSTRUCTION WITH ENAMEL WHITE FINISH. FRAM TYPE TO MATCH CEILING CONSTRUCTION, COORDINATE WITH ARCHITECTURAL REFLECTED CEILING PLAN.

REFERENCE PLANS FOR NOMINAL REGISTER OR GRILLE FACE SIZE. PROVIDE REGISTER WITH DAMPER AND DOUBLE DEFLECTION BLADES PARALLEL TO LONG DIMENSION.

PROVIDE DUCT COLLAR EQUAL TO BRANCH DUCT SIZE INDICATED ON PLANS.

PROVIDE OPPOSED BLADE DAMPER ADJUSTABLE FROM FACE OF DEVICE. PROVIDE ALL ALUMINUM CONSTRUCTION TO MATCH EXPOSED DUCTWORK.

PROVIDE ALL ALUMINUM CONSTRUCTION WITH ENAMEL WHITE FINISH. PROVIDE 48" LONG, (4) 1" SLOT LINEAR DIFFUSER WITH PRICE MODEL SDB INSULATED PLENUM AND DUCT CONNECTION.

PROVIDE AIR DEVICE FOR 3-WAY THROW (WHERE INDICATED ON THE DRAWINGS) CONTRACTOR SHALL PROVIDE REMOTE CABLE-OPERATED VOLUME DAMPER BY METROPOLITAN AIR TECHNOLOGIES MODEL RT-50 WITH EXTERNAL WORM GEAR OPERATOR OR EQUIVALENT YOUNG REGULATOR BUTTERFLY DAMPER WITH 270-275 CONTROLLER. OPERATOR SHALL HAVE A SQUARE DRIVE FOR 1/4" NUT DRIVER, DAMPER ASSEMBLY SHALL INCLUDE GALVANIZED STEEL DUCT WITH ROLLED BEAD STIFFENERS, REINFORCED BLADE, SELF LUBRICATING BEARING AND WORM GEAR MOUNTING PLATE. DAMPER SHALL

BE INSTALLED IN BRANCH DUCT NOT INLET OF PLENUM DIFFUSER. (RE: M201) PROVIDE DIFFUSER WITH SECTORIZING BAFFLE (SB) IN NECK OF DIFFUSER TO DISCHARGE AIR AWAY FROM KITCHEN HOODS.

			EXISTING AIR	R CURTAIN	SCHEDULE	(ELECTRIC	HEAT)						
							FAN			ELECTRI	C HEATE	R	
				LENGTH	MAX	FAN	MOTOR			HEATING			1
MAR	K AREA SERVED	MANUFACTURER	MODEL	(IN)	AIRFLOW	QUANTITY		VOLTS	PH		VOLTS	PH	NOTES
				, ,						(KW)			
AC-	VESTIBULE	MARS	PH12120-E2-PW	120"	5515	2	1.00	208	1	24.0	480	3	A-E

EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY DIVISION 23.

REFER TO ADDITIONAL MECHANICAL SYSTEMS CONTROLS FOR UNIT CONTROLS. PROVIDE MANUAL TOGGLE OVERRISE SWITCH ON UNIT AND REMOTE DISCONNECT SWITCH FOR INSTALLATION BY DIVISION 26.

MOUNT UNIT PER MANUFACTURERS RECOMMENDATIONS CONCEALED IN CEILING. FURNISH WITH MANUFACTURER'S THERMOSTAT FOR INSTALLATION BY DIVISION 26. DIVISION 26 SHALL INTERLOCK FAN WITH THERMOSTAT. EQUIPMENT SUPPLIED AND INSTALLED BY LANDLORD.

MARS STD260-2U-OB 60" 2700 2 0.50 208 1 A-E

AIR CURTAIN SCHEDULE (NO HEAT) LENGTH | MAX | FAN | MOTOR | ELECTRICAL MARK AREA SERVED MANUFACTURER MODEL (IN) AIRFLOW QUANTITY HP VOLTS PH

EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY DIVISION 23.

REFER TO ADDITIONAL MECHANICAL SYSTEMS CONTROLS FOR UNIT CONTROLS. SUSPEND UNIT FROM STRUCTURE PER MANUFACTURER'S RECOMMENDATIONS.

PROVIDE MANUAL TOGGLE OVERRISE SWITCH ON UNIT AND REMOTE DISCONNECT SWITCH FOR INSTALLATION BY DIVISION 26. PROVIDE AIR CURTAIN WITH NORMALLY CLOSED DOOR LIMIT SWITCH FOR INSTALLATION ON DOOR. THE AIR CURTAIN SHALL ENERGIZE WHEN DOOR OPENS.

ADDITIONAL MECHANICAL SYSTEMS CONTROL:

GENERAL PROVISIONS BY DIVISION 23:

AC-2 RECEIVING DOOR

- ENERGY MANAGEMENT PANEL TO CONTROL ROOFTOP UNITS AND OTHER HVAC EQUIPMENT AS NOTED ON PLANS BY REMOTE TEMPERATURE AND HUMIDITY SENSORS. REFER TO EMS DRAWINGS EM000 FOR LOCATIONS AND MOUNTING HEIGHTS INFORMATION.
- EMS CONTROL PANEL LOCATED IN MAIN ELECTRICAL ROOM.
- EMS CONTRACTOR TO INSTALL ALL CONTROLS FURNISHED BY 365. COORDINATE WITH JUAN CEBRERA WTH SIEMENS juancabrera@siemens.com.

4. REFER TO DIVISION 23 SPECIFICATIONS FOR ADDITIONAL INFORMATION.

VESTIBULE AIR CURTAIN FANS ARE STARTED BY EMS BASED UPON DOOR

- ELECTRIC HEAT IN AIR CURTAIN IS CONTROLLER BY WALL TEMPERATURE SENSOR. HEAT TO ONLY OPERATE DURING FAN OPERATION TO MAINTAIN 65 DEGREES F (ADJUSTABLE).
- RECEIVING DOCK AIR CURTAIN FANS STARTED BY DOOR LIMIT SWITCH.
- ADJUST MULTI-SPEED FAN AND DISCHARGE LOUVER BLADES PER MANUFACTURER

CONTROL INTERIOR FAN COIL UNIT WITH INTEGRAL THERMOSTAT INTERLOCKED WITH EXTERIOR CONDENSING UNIT. CYCLE COOLING TO MAINTAIN ROOM

SERVER ROOM SPLIT SYSTEM:

WHEN THE SEPARATE ROOM TEMPERATURE SENSOR REACHES SETPOINT (80 DEGREES F, ADJUSTABLE), IT SHALL ACTIVATE THE TOWER LIGHT ALARM.

THERMOSTAT SETPOINT (75 DEGREES F COOLING, ADJUSTABLE).

KITCHEN EXHAUST HOOD AND EXHAUST FAN:

- EXHAUST HOOD FAN OR DIRECT EQUIPMENT EXHAUST FANS ARE CONTROLLED BY A TOGGLE SWITCH MOUNTED ON HOOD OR DIRECT INTERCONNECTION WITH EQUIPMENT.
- EXHAUST HOOD FANS (KEF-1 & KEF-2) SHALL ENERGIZE IF TEMPERATURE PROBES MEASURE 95 DEGREES F OR HIGHER (ADJUSTABLE) EVEN IF MANUAL HOOD SWITCH IS OFF TO COMPLY WITH 2012 IMC 507.2.1.1 OR EQUIVALENT LOCAL CODE. CAPTIVE AIRE PROVIDE TEMPERATURE PROBE SENSOR.
- UPON ACTIVATION OF HOOD FIRE SUPPRESSION SYSTEM, EXHAUST HOOD SHALL BE WIRED TO SHUT DOWN RTU-1, RTU-2, AND RTU-6 ROOFTOP UNIT SUPPLY FANS AND HOOD EXHAUST FAN SHAL REMAIN RUNNING PER NFPA 96.
- INTERLOCK EXHAUST HOOD AND FAN SO THAT ROOFTOP UNITS RTU-1 AND RTU-2 ARE ENERGIZED WITH THE OUTSIDE AIR DAMPERS OPEN WHEN KITCHEN EXHAUST HOOD FANS ARE ENERGIZED.

SCULLERY DISHWASHER EXHAUST FAN:

- EXHAUST FAN IS CONTROLLED BY TIME DELAY AND DIRECT INTERCONNECTION WITH
- EXHAUST FAN SHALL ENERGIZE IF DISHWASHER ENERGIZES AND SHALL REMAIN RUNNING FOR 30 MINUTES AFTER DISHWASHER CYCLE COMPLETES.
- EXHAUST FAN LOCAL OVERRISE SWITCH SHALL ENERGIZE EXHAUST FAN ON AND BYPASS TIMER AND DISHWASHER AUTOMATIC CONTROL.

RESTROOM/JANITOR EXHAUST FAN:

EXHAUST FAN STARTED BY EMS FOR OCCUPIED/UNOCCUPIED HOURS OF OPERATION.

		BUILDING AIR BALANCE S	SCHEDULE			
EXHAUST	SERVES				EXHAUST	TOTALS
EVUNOSI	SERVES				(CFM)	(CFM)
KEF 1	H 1	KITCHEN			3300	
KEF 2	H 2	KITCHEN			2580 /	//1\
EF 1		SCULLERY			800	1
EF 2		RESTROOMS			750	1/1
~~~EF3~~~	~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~	~~~~	~~~~	<b>\</b>
EF 4		GLASS WASH/STORAGE ROOM			200	1 1
<del>~~~~</del>	<del>~~~~</del>	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	<del>~~~~</del>	<del>~~~~</del>	<del>~~~~</del>	
TOTAL EXHAL	JST		•			7,830
MAKELID AID	SUPPLY AIR	CEDVEC	DESIGN	PERCENT		Time?
MAKEUP AIR	(CFM)	SERVES	OA (CFM)	OA/SA		
RTU 1	5500	SALES FLOOR	3000	58%		
RTU 2	5500	SALES FLOOR	3000	58%		
RTU 3	2000	FRIENDS	250	12.5%		
RTU 4	3000	SEATING	0	0%		
RTU 5	2000	FRIENDS	250	12.5%		
RTU 6	3000	KITCHEN / SCULLERY	375	12.5%		
RTU 7	6000	RECEIVING	650	10.8%		
RTU 8	1600	OFFICES	225	14%		
RTU 9	2000	VESTIBULE	0	0%		
RTU 10	4500	MEZZANINE	550	12%		
TOTAL OUTSIE	DE AIR	1	8,300		ı	8.300
			<u> </u>	SITIVE AIR	FLOW	470
						<b>├</b>
			PERCENT	POSITIVE A	IRFLOW	5%

EXISTING ROOFTOP UNIT SCHEDULE (NATURAL GAS HEAT) SUPPLY FAN COOLING COIL ESP MIN MIN OUTPUT NOM INPUT MIN EFF MIN NO HTG MIN. O/A TONS | CFM | (IN) | HP | REFR TYPE | (MBH) | (MBH) | DB (°F) | WB (°F) | DB (°F) | WB (°F) | MARK SERVICE (MBH) (MBH) | (%) | STAGES | LAT | CFM | EER/SEER| VOLTS | PH | MCA | MOCP | (LBS) | NOTES RTU 1 SALES FLOOR R410A 384.80 174.10 78.8 69.63 65.0 50.9 MUNTERS HCUc6030 480.0 123 3000 RTU 2 SALES FLOOR MUNTERS 1 7.5 R410A 384.80 174.10 78.8 69.63 65.0 50.9 480.0 600.0 80 HCUc6030 R410A 50.95 43.98 78.2 64.1 55.7 54.3 RTU 3 FRIENDS TRANE 60.0 49.8 RTU 4 TRANE 150.0 **SEATING** R410A 80.11 64.19 79.2 64.3 57.0 53.9 120.0 RTU 5 **FRIENDS** TRANE R410A 50.95 43.98 78.2 64.1 55.7 54.3 104.0 130.0 1 3.75 R410A 80.11 64.19 79.2 64.3 57.0 53.9 96.0 RTU 6 TRANE 120.0 80 KITCHEN RTU 7 RECEIVING TRANE YHD180 R410A 162.43 116.03 77.7 66.7 57.1 56.0 203.0 250.0 80 120.0 80 8.5 3200 1 3 R410A 103.00 84.00 79.4 67.6 59.5 57.9 97.2 RTU 8 OFFICES TRANE YHC102 5 | 2000 | 1 | 1 | R410A | 50.95 | 43.98 | 78.2 | 64.1 | 55.7 | 54.3 | 49.8 | 60.0 | 80 | 1 90 0 12 480 3 13.8 20 770 A-F, H, J RTU 9 VESTIBULE TRANE RTU 10 MEZZANINE TRANE 2 90 550 12.1 480 3 30.0 40 2207 A-F, H, J

EQUIPMENT FURNISHED AND INSTALLED BY LANDLORD.

EXISTING UNIT SHALL BE BALANCED TO CFM AS SCHEDULED. MODIFY EXISTING ROOFTOP UNIT DDC TO COMPLY WITH THE ROOFTOP UNIT MATRIX AND ADDITIONAL MECHANICAL SYSTEMS CONTROL. PROVIDE NEW COMPONENTS AS REQUIRED. REFER TO ROOFTOP UNIT CONTROL MATRIX ON THIS SHEET FOR CONTROL FEATURES, MODULES, AND ACCESSORIES THAT SHALL BE PROVIDED WITH THE EQUIPMENT.

REPLACE FILTERS PRIOR TO TEST AND BALANCE AT COMPLETION OF TENANT FINISH. DIVISION 28 TO CONFIRM EXISTING SMOKE DETECTORS AND PROVIDE IF NOT EXISTING. SMOKE DETECTORS SHALL SHUT DOWN UNIT UPON DETECTION OF SMOKE.

TEMPERATURE AND HUMIDITY SENSORS AS SHOWN ON PLANS PROVIDED BY EMS CONTRACTOR. PROVIDE SIEMENS TEMPERATURE SENSOR. INSTALLED BY EMS CONTRACTOR.

ECONOMIZER PROVIDED WITH UNIT TO MODULATE OUTSIDE AIR. DISABLE ECONOMIZER FUNCTION. UNIT SERVES SPACE WITH REFRIGERATED CASES

MANUFACTURER CONTACT INFORMATION: MUNTERS: TODD SMITH, (770) 943-3002, TODD.SMITH@MUNTERS.COM TRANE: ETHAN KINSEY, (469) 758-3102, ETHAN.KINSEY@TRANE.COM

ROOFTO	ONIT CO	ONTROL M	IATRIX										
CONTROL FEATURE	UNITS	RTU-1 SETPOINT OR Y/NO	RTU-2 SETPOINT OR Y/NO	RTU-3 SETPOINT OR Y/NO	RTU-4 SETPOINT OR Y/NO	RTU-5 SETPOINT OR Y/NO	RTU-6 SETPOINT OR Y/NO	RTU-7 SETPOINT OR Y/NO	RTU-8 SETPOINT OR Y/NO	RTU-9 SETPOINT OR Y/NO	RTU-10 SETPOINT OR Y/NO	POINT TYPE INTERFACE WITH DDC (READ/WRITE)	NOTE
ENERGY MANAGEMENT SYSTEM (EMS)				I				1					1
EMS MONITORING AND MANAGEMENT INTERFACE		Υ	Y	Υ	Υ	Υ	Υ	Υ	Υ	Υ	Υ	BACNET	Α
SETPOINTS		!	'	!	!				!	!			-
COOLING - OCCUPIED SETPOINT	°F	72	72	72	72	72	72	72	72	72	72	READ/WRITE	
COOLING - UNOCCUPIED SETPOINT	°F	74	74	74	74	74	74	74	74	74	74	READ/WRITE	
DEAD BAND - MINIMUM HEATING AND COOLING TEMPERATURE SETPOINT DIFFERENCE	°F	4	4	4	4	4	4	4	4	4	4		
HEATING - OCCUPIED SETPOINT	°F	68	68	68	68	68	67	67	70	67	68	READ/WRITE	
HEATING - UNOCCUPIED SETPOINT	°F	66	66	66	66	66	66	66	66	66	66	READ/WRITE	
DEHUMIDIFICATION SETPOINT (OCCUPIED/UNOCCUPIED) - HUMIDITY SENSOR FEEDBACK	DP (°F)	47	47	N	N	N	N	N	N	N	N	READ/WRITE	В
PROGRAMMED CONTROL FEATURES	. ,		1								<b>'</b>		
HVAC SYSTEM OCCUPIED/UNOCCUPIED MODE - PROGRAMMABLE THERMOSTAT		N	N	N	N	N	N	N	N	N	N	READ	В
REMOTE TEMPERATURE SENSOR		Υ	Y	Υ	Y	Υ	Y	Υ	Y	Υ	Y	READ	В
EQUIPMENT ACCESSORIES AND CONTROL MODULES			1								1		1
OUTSIDE AIR DAMPER - MOTOR OPERATED (2-POSITION)		Υ	Υ	Υ	Υ	Υ	N	N	N	N	N	READ STATUS	G
OUTSIDE AIR DAMPER - MOTOR OPERATED (MODULATED)		N	N	N	N	N	Υ	Υ	Υ	Υ	Y	READ POSITION	G
INTEGRATED ECONOMIZER - DIFFERENTIAL ENTHALPY ENABLE (OA ENTHALPY < RA ENTHALPY)	BTU/LB	N	N	N	N	N	Υ	Υ	Υ	Υ	Y	READ	D
ECONOMIZER FAULT DETECTION AND DIAGNOSTICS (FDD) SYSTEM		N	N	N	N	N	Υ	Υ	Υ	Υ	Y	READ	E, F
RELIEF - BAROMETRIC DAMPER		N	N	N	N	N	Υ	Υ	Υ	Υ	Y		,
COOLING COIL (DX - STAGED)		Υ	Y	Υ	Υ	Υ	Υ	Υ	Υ	Υ	Y	READ STATUS	Н
DEHUMIDIFICATION - HOT GAS REHEAT		N	N	N	N	N	N	N	N	N	N	READ STATUS	J
DEHUMIDIFICATION DESICCANT WHEEL		Υ	Y	N	N	N	N	N	N	N	N		J
HEATING COIL (NATURAL GAS)		Υ	Y	Υ	Υ	Υ	Υ	Υ	Υ	Υ	Y	READ STATUS	Н
SUPPLY FAN CONTROL METHOD		<u> </u>	1	Į.			1						1
ON DURING OCCUPIED HOURS		Υ	Y	Υ	Υ	Υ	Υ	Υ	Υ	Υ	Υ		
CYCLE WITH LOADS DURING UNOCCUPIED HOURS		Υ	Y	Υ	Υ	Υ	Υ	Υ	Υ	Υ	Y		
OPTIMUM START SEQUENCE		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
CONSTANT VOLUME FAN CONTROL		N	N	Y	Y	Y	Y	Y	Y	Y	Y	READ STATUS	
VARIABLE VOLUME - MODULATE FAN SPEED FOR PRESSUR BALANCE PURPOSE		Υ	Υ	N	N	N	N	N	N	N	N	READ STATUS	H, K
SAFETIES, INTERLOCKS, AND ALARMS		<u> </u>	· · · · · · · · · · · · · · · · · · ·		1			1	1		1		1,
GAS VALVE SAFETY		Υ	Υ	Υ	Υ	Υ	Υ	Υ	Υ	Υ	Υ	READ	Е
SUPPLY AIR SMOKE DETECTOR - SAFETY SHUTDOWN		N	N	N	N	<u>.</u> N	N	N	N	N	N	READ	E
RETURN AIR SMOKE DETECTOR - SAFETY SHUTDOWN		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	READ	E
FIRE ALARM CONTROL PANEL - SAFETY SHUTDOWN INTERLOCK		Y	Y	Y	Y	<u>·</u> Y	Y	Y	Y	Y	Y	READ	C
KITCHEN EXHAUST SYSTEM INTERLOCK		Y	Y	N N	N	 N	Y	N	N	N	i N	READ	L

HUMIDISTAT(S), AND/OR CO2 SENSOR(S) WHERE SHOWN ON THE DRAWINGS AND AS REQUIRED TO FACILITATE THE SCHEDULED CONTROL MODULES AND SEQUENCES OF OPERATION. EACH UNIT SHALL CONTROL BASED ON ITS OWN INTERNAL SAFETIES, TIME DELAYS, AND SEQUENCES UNLESS NOTED OTHERWISE. COORDINATE WITH OWNER FINAL INTERNAL SAFETIES, TIME DELAYS, AND SEQUENCES UNLESS NOTED OTHERWISE, COORDINATE WITH OWNER FINAL BUILDING AND EQUIPMENT SCHEDULES DURING STARTUP.

A. PROVIDE UNIT WITH TERMINAL STRIP TO RECEIVE CONTROL INPUT(S) COMMUNICATED FROM A CENTRAL DDC CONTROLLER. EMS SHALL PROVIDE REMOTE SETPOINT ADJUSTMENT, SCHEDULING, AND MONITORING OF THE POINTS LISTED IN THE SCHEDULE FOR EACH UNIT.

MUNTERS HUMIDITY AND TEMPERATURE SENSORS ARE PROVIDED BY MANUFACTURE. OTHER RTUS TEMPERATURE SENSORS ARE POVIDED BY SIEMENS. REFER TO SPECIFICATIONS FOR DEVICE REQUIREMENTS.

DIVISION 28 CONTRACTOR SHALL PROVIDE DEVICE. REFERENCE SPECIFICATIONS FOR SENSOR REQUIREMENTS. THE FOLLOWING SENSORS SHALL DETERMINE ECONOMIZER ON POINT. REFERENCE SPECIFICATIONS FOR DEVICE REQUIREMENTS:

RETURN AIR TEMPERATURE; DIVISION 23 PROVIDED AS PART OF ECONOMIZER CONTROL MODULE. OUTSIDE AIR HUMIDITY; DIVISION 23 PROVIDED AS PART OF ECONOMIZER CONTROL MODULE. RETURN AIR HUMIDITY; DIVISION 23 PROVIDED AS PART OF ECONOMIZER CONTROL MODULE.

OUTSIDE AIR TEMPERATURE; DIVISION 23 PROVIDED AS PART OF ECONOMIZER CONTROL MODULE.

- DEVICE SHALL BE FACTORY MOUNTED AND PRE-WIRED FOR OPERATION SUBJECT TO THE ONBOARD CONTROLLER. PROVIDE UNIT WITH AN FDD SYSTEM CONSISTING OF PERMANENTLY INSTALLED OUTSIDE AIR, SUPPLY AIR, AND RETURN AIR TEMPERATURE SENSORS. THE UNIT CONTROLLER SHALL AT A MINIMUM BE CAPABLE OF PROVIDING SYSTEM STATUS ECONOMIZER, COMPRESSOR, HEATING, MIXED AIR LOW LIMIT ALARM, AND SENSOR VALUES. EACH OPERATING MODULE SHALL BE CAPABLE OF INDEPENDENTLY OPERATING FOR TESTING. THE SYSTEM SHALL REPORT FAULTS TO AN APPLICATION ACCESSIBLE BY SERVICE
- DETERMINE MINIMUM DAMPER POSITION IN FIELD DURING BALANCING TO PROVIDE SCHEDULED OUTDOOR AIRFLOW DURING OCCUPIED HOURS. DAMPER SHALL BE CLOSED DURING UNOCCUPIED HOURS. UNITARY CONTROLLER SHALL MODULATE AND/OR CYCLE SUPPLY FAN SPEED SETTING AND COIL CAPACITY STAGES SUBJECT TO THE INTERNAL SAFETIES AND SEQUENCES TO
- MAINTAIN SCHEDULED SETPOINTS. PROGRAM DEHUMIDIFICATION SEQUENCE BASED ON ZONE AIR DEWPOINT.
- PROVIDE MODULATING FAN CONTROL WITH MINIMUM SPEED LESS THAN 50% OF FULL SPEED. AT MINIMUM SPEED THE FAN SHALL DRAW NO MORE THAN 30% OF FULL SPEED POWER. OA DAMPERS SHALL MAINTAIN SCHEDULED VALUES. INTERLOCK RTU WITH KITCHEN EXHAUST HOOD SYSTEM(S) TO SHUT DOWN UPON SIGNAL FROM HOOD FIRE EXTINGUISHING SYSTEM. INTERLOCK RTU WITH KITCHEN EXHAUST

FAN SCHEDULE	1	
	DRIVE MIN ELECTRICAL WEIGHT	

GREENHECK CUE-121 ROOF / UPBLAST 800 0.40 DIRECT

EF 4 GLASS WASH/STORAGE GREENHECK G-070-VG ROOF / DOWNBLAST 200 0.30 DIRECT 0.17 120 1 50

~EFO~~~JANIFORO-GINK~~~~@REDNHECK~~~~@078VG~~~ROOF/DOWNDLACT~~200~~~0:30~~~DIRECT~~1047~~120~~~~~~50~~~~AGE~~

MOUNTING / TYPE CFM ESP (IN) (BELT/DIRECT) HP VOLTS PH (LBS)

ROOF / DOWNBLAST 750 0.35 DIRECT 0.25

EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY DIVISION 23.

RESPECTIVELY, DAMPER NOT MODULATING, AND EXCESS OUTSIDE AIR.

FAN TO ENERGIZE WHEN HOOD SYSTEM IS ENERGIZED FOR PRESSURIZATION.

PROVIDE WITH MINIMUM 12" HIGH ROOF CURB, BIRDSCREEN AND BACKDRAFT DAMPER.

GREENHECK G-099

DIVISION 26 SHALL FURNISH AND INSTALL DISCONNECT SWITCH.

DIVISION 26 SHALL INTERLOCK EXHAUST FAN WITH TIMBER TO REMAIN RUNNING 30 MINUTES AFTER WASH CYCLE. DIVISION 26 SHALL PROVIDE POWER SWITCHING BREAKER VIA EMS TO RUN DURING OCCUPIED HOURS.

SPLIT SYSTEM FAN UNIT SCHEDULE MARKLOCATIONMANUFACTURERMODELUNIT TYPEREFR<br/>TYPECFM<br/>(MAX)<br/>(MBH)COOLING<br/>(MBH)VOLTSPHNOTESFC-1NETWORK CLOSETDAIKINFTKN24NMVJUCOOLING ONLYR410A71322.02081A-F

EQUIPMENT FURNISHED AND INSTALLED BY DIVISION 23. DIVISION 26 CONTRACTOR TO PROVIDE DISCONNECT SWITCH FOR EVAPORATOR SECTION AND CONDENSING SECTION. PROVIDE WALL MOUNTING BRACKET FOR UNIT CONTROLLER WHERE INDICATED ON PLANS. UNIT SHALL HAVE INTEGRAL

TEMPERATURE SENSOR. PROVIDE WALL MOUNTING BRACKET AND INSTALL PER MANUFACTURER'S REQUIREMENTS ON WALL.

CONTRACTOR SHALL VERIFY WITH EQUIPMENT SUPPLIER EXACT ROUTING AND SIZE OF INSULATED REFRIGERANT PIPING INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

INDOOR UNIT IS ELECTRICALLY POWERED THROUGH THE OUTDOOR UNIT.

		SPLI	T SYSTEM CONE	ENSING	UNI	Γ			
				i					
MARK	SERVICE	MANUFACTURER	MODEL	VOLTS	PH	MCA	МОСР	WEIGHT (LBS)	NOTES
								(LDC)	
CU 1	FC 1	DAIKIN	RKN24NMVJU	208	1	18.3	20	20	A-E

A. EQUIPMENT FURNISHED AND INSTALLED BY DIVISION 23. DIVISION 26 CONTRACTOR TO PROVIDE DISCONNECT SWITCH FOR EVAPORATOR SECTION

AND CONDENSING SECTION. CONDENSING UNIT AND FAN UNIT SHALL BE WIRED TOGETHER PER MANUFACTURER'S

INSTALLATION INSTRUCTIONS.

EQUIPMENT SIZED FOR 105°F AMBIENT TEMPERATURE. CONTRACTOR SHALL VERIFY WITH EQUIPMENT SUPPLIER EXACT ROUTING AND SIZE OF INSULATED REFRIGERANT PIPING. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. (KEF-1 & KEF-2) SHALL BE FURNISHED AND INSTALLED BY DIVISION 23. REFER TO SHEETS M300, M302, M303, AND M304.

DESIGN.

KITCHEN EXHAUST HOODS (H-1 & H-2) AND FANS

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORITES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE

NG.	
	GAS FIRED UNIT HEATER SCHEDULE

INPUT OUTPUT TOTAL

AREA SERVED | MANUFACTURER | MODEL | MBH | MBH | CFM | HP | VOLTS | PH | FLA | MOCP | DIA.(IN.) | WITH | LBS

REZNOR UDAP-200 200 166 2562 1/4 115 1 4.5 15 5 EMS 187 1 THRU 7 1 THRU 5 OUTPUT RATINGS ARE FOR UP TO 2000 FT.

BURNERS SHALL BE ALUMINIZED STEEL.

UNIT SHALL BE INSTALLED SO THAT REQUIRED CLEARANCES ARE MAINTAINED. MOTOR SHALL HAVE OVERLOAD PROTECTION. UNIT SHALL BE COMPLETE WITH FACTORY INSTALLED 24-VOLT CONTROL TRANSFORMER. UNIT SHALL BE PROVIDED WITH ELECTRONIC IGNITION.

HEAT EXCHANGERS SHALL BE TYPE 409 STAINLESS STEEL.

ELECTRONIC IGNITION. SINGLE STAGE COMBINATION GAS VALVE. FAN GUARD. 4-POINT SUSPENSION SYSTEM. 30 DEGREE DOWNTURN NOZZLE.

VENT INTERLOCK WEIGHT NOTES ACCESSORIES

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ENGINEERING SUSTAINABLE ENERGY SOLUTIONS

Energy Squared Texa Engineering Consultants

Energy Squared Texas, LLC

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Architect of Record:

BOYD W. RAU

6700 Antioch Plaza

Merriam, KS 66204

www.brrarch.com

Tel: 913-262-9095

Consultants

NO. DATE DESCRIPTION 1 03/06/18 ADDENDUM 1 

Project Name

SGP Checked By: SGP Document date: 01/26/18 Template date:

Project No.

62911019 Professional Seal

**MECHANICAL SCHEDULES** 

- EQUIPMENT SUPPORT LEG

NEOPRENE WASHER

BASE FLASHING

ROOF INSULATION -

ROOF STRUCTURE, SEE ARCHITECTURAL PLANS

- INSTALL CONCENTRIC INTAKE

TERMINAL FURNISHED BY

HEATER MANUFACTURER

PROVIDE ROOF PENETRATION SEALING PER SEPARATE

IF ALLOWED BY CONDITIONS

AND LOCAL AUTHORITIES,

PROVIDE SCHEDULE 40 PVC PIPE AND FITTINGS WITH

SOLVENT WELD JOINTS, PER SPECIFICATIONS, 3" OR 4"

SIZE AS SHOWN ON PLANS.

REFER TO SPECIFICATIONS

INSTALLATION MATERIALS - CONDENSING WATER HEATER

PER SPECIFICATIONS AND

FLOOR WITH CEILING
FLANGE, ALL-THREAD ROD,
AND SPLIT RING PIPE

- SECURELY ATTACH TO

SEPARATE DETAIL ON PLUMBING

ABOVE LOCAL MAXIMUM SNOW DEPTH

AND EXHAUST VENT

ANCHOR EQUIPMENT

WITH LAG SCREWS

COUNTER FLASHING -

**ROOF EQUIPMENT** 

8 SUPPORT RAIL DETAIL

1/8" = 1'-0"

DETAIL SHOWS GENERAL SCHEMATIC REQUIREMENTS. ADJUST TO SUIT FIELD CONDITIONS.

MANUFACTURER'S INSTALLATION MANUAL FOR MORE INFORMATION: MAINTAIN PROPER DISTANCES FROM EACH OTHER, AND FROM OTHER CONSTRUCTION FEATURES; VERIFY PIPE

SIZE FOR MAXIMUM LENGTH OF RUN AND QUANTITY OF FITTINGS. DO NOT INSTALL BARE PVC PIPE IN AIR PATH PLENUMS: WRAP PIPE WITH FIRE-BARRIER INSULATION IF ALLOWED

BY LOCAL AUTHORITIES, OR PROVIDE STAINLESS STEEL VENT PIPE, PER SPECIFICATIONS.

INSTALL THROUGH ROOF OR THROUGH WALL AS SHOWN ON PLANS. REFER TO

SEALED COMBUSTION

WATER HEATER VENTS

1/8" = 1'-0"

BASE PLATE OF

BASE PLATE TO CURB

EQUIPMENT SUPPORT LEG

INSTALL VENTS THROUGH

CONVENIENT OR AS SHOWN

PROVIDE 3/4" FABRICATED PVC P-TRAP WITH MINIMUM 1" TRAP SEAL AND 4" LONG

TAILPIECE FROM ELBOW

FURNISHED WITH WATER

ROOF OR THROUGH

EXTERIOR WALL AS

ON FLOOR PLAN

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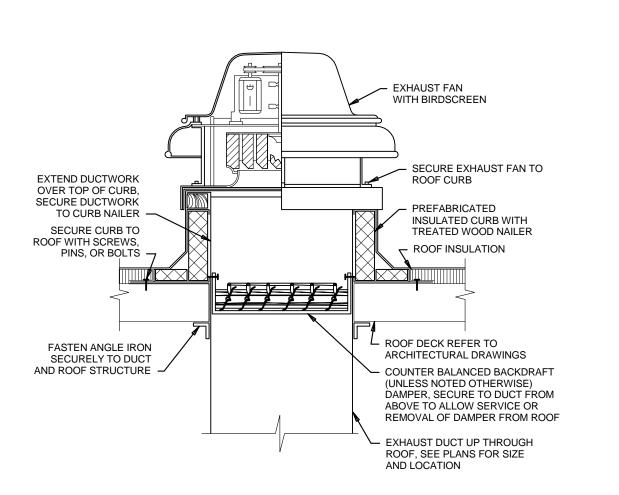
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**MECHANICAL DETAILS 1** 

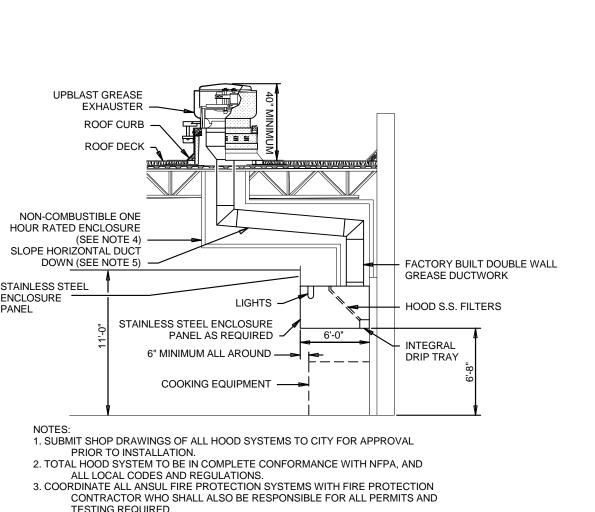
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EXHAUST DUCT — ALUMINUM TRANSITION 4"x16", SEE NOTE 3 — —— ALUMINUM SEE NOTE 2 VENT HOOD — DISHWASHER, SEE NOTE 1 FRONT VIEW SIDE VIEW 1. VENT HOOD AND DAMPER CONTROL PROVIDED WITH DISHWASHER. CONNECT ALUMINUM EXHAUST DUCT AND BALANCE ENTRANCE END TO 200 CFM PER MANUFACTURER'S REQUIREMENTS. 2. VENT HOOD AND DAMPER CONTROL PROVIDED WITH DISHWASHER. CONNECT ALUMINUM EXHAUST DUCT AND BALANCE DISCHARGE END TO 400 CFM PER MANUFACTURER'S REQUIREMENTS.

## 9 DISHWASHER EXHAUST DUCT DETAIL



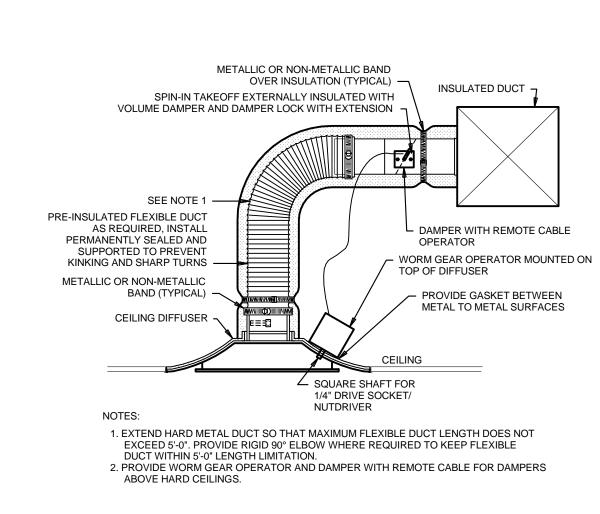
## 5 DOWNBLAST EXHAUST FAN DETAIL



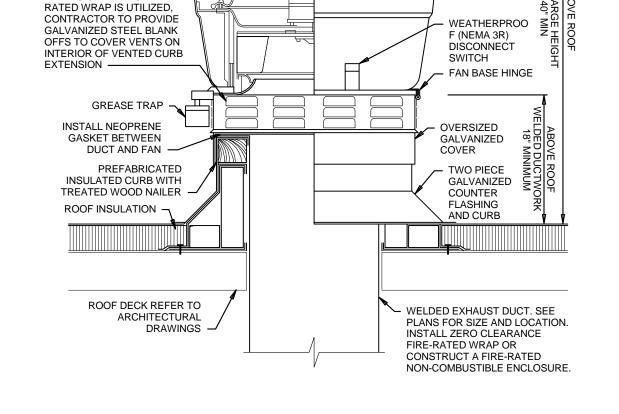
TYPICAL GREASE EXHAUST SYSTEM DETAIL











WSR MOUNTING TO

7 SPIRAL DUCTWORK

1/8" = 1'-0"

EXHAUST FAN

WITH BIRDSCREEN -

IF ZERO CLEARANCE FIRE-

3 UPBLAST GREASE EXHAUST FAN DETAIL

TYPICAL CEILING RETURN GRILLE, SEE PLANS FOR

(SEE NOTE 4) -SLOPE HORIZONTAL DUCT STAINLESS STEEL ENCLOSURE PANEL

> 4. AT CONTRACTORS OPTION, A WRAP SYSTEM AS APPROVED BY LOCAL CODES MAY BE PROVIDED AS ALTERNATE TO RATED ENCLOSURE.

5. PROVIDE ACCESS PANELS AS REQUIRED BY LOCAL CODE.



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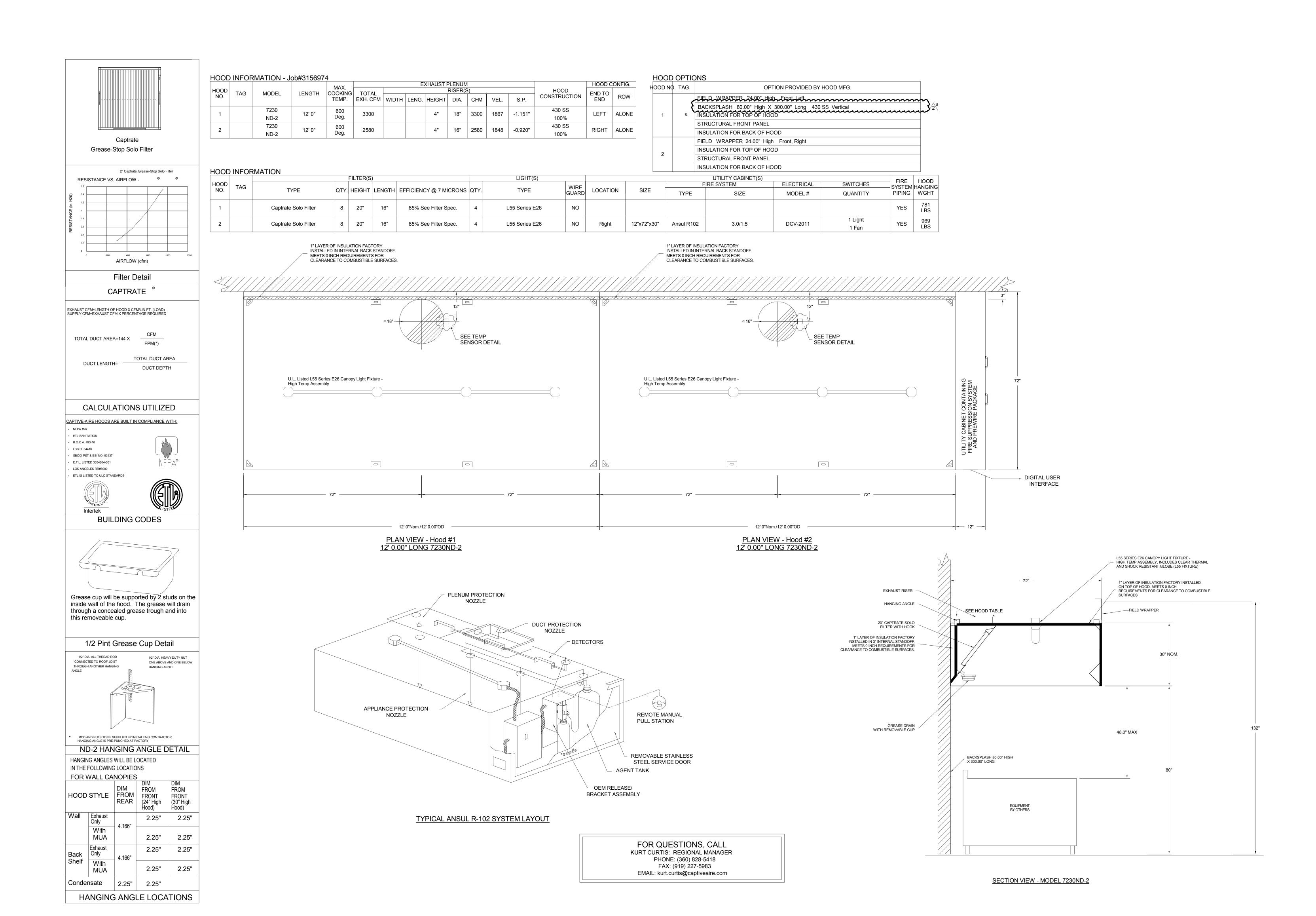
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05/21/2018 **MECHANICAL DETAILS 2** 



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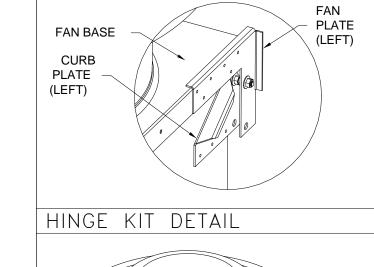
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MECHANICAL DETAILS 3

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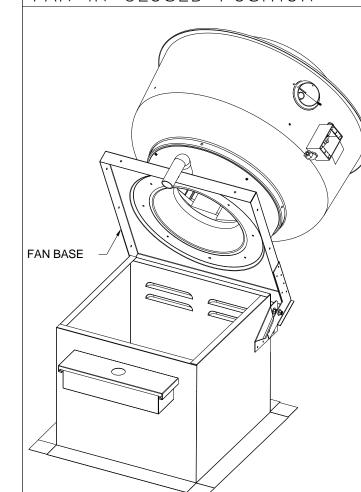


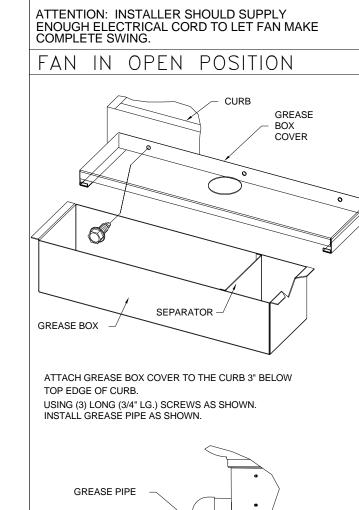
(LEFT)	$\frac{E}{I}$

HINGE KIT DETAIL
DETAIL "A"
CURB

CU
GREASE BOX GREASE (OPTIONAL) PIPE







## GREASE BOX INSTALLATION

#### EXHAUST FAN INFORMATION

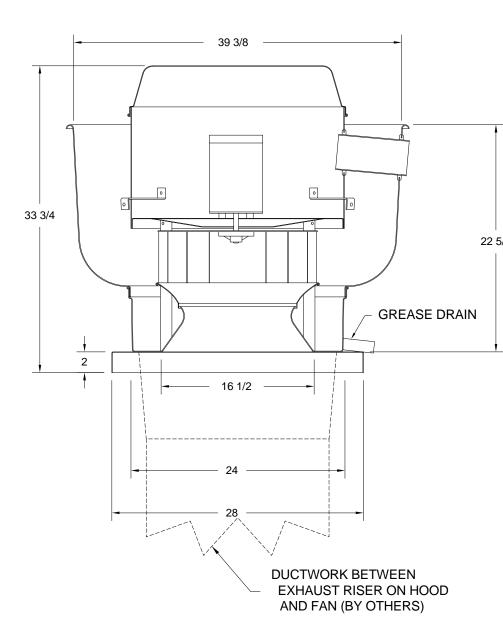
JEAN# S UNIT NO.	³ 1,5,69	74 FAN UNIT MODEL#	CFM	ESP.	RPM	H.P.	B.H.P.		VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS.)	SONES
1	KEF-1	DU180HFA	3300	1.850	1452	3.000	1.6350	3	208	9.5	762 FPM	186	22
2	KEF-2	DU180HFA	2580	1.750	1304	2.000	1.1620	3	208	6.1	596 FPM	161	17.8

FAN						
OFAN'I UNIT NO.	ONS	OPTION (Qty Descr.)				
		1 - Grease Box				
1	KEF-1	1 - 3 Year Extended Motor Warranty				
		1 - Fan Base Ceramic Seal - Ship Loose - For Grease Ducts				
		1 - Grease Box				
2	KEF-2	1 - 3 Year Extended Motor Warranty				
		1 - Fan Base Ceramic Seal - Ship Loose - For Grease Ducts				

#### CURB

ASS NO.	EØNB.	LIES weight	ITEM	SIZE
1	# 1	41 LBS	Curb	26.500"W x 26.500"L x 20.000"H Vented Hinged
2	# 2	41 LBS	Curb	26.500"W x 26.500"L x 20.000"H Vented Hinged

#### FANS #1 (KEF-1), #2 (KEF-2) - DU180HFA EXHAUST FAN



#### FEATURES:

- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS) - ROOF MOUNTED FANS - RESTAURANT MODEL - UL705 AND UL762 - VARIABLE SPEED CONTROL - INTERNAL WIRING - WEATHERPROOF DISCONNECT - THERMAL OVERLOAD PROTECTION (SINGLE PHASE) - HIGH HEAT OPERATION 300°F (149°C)

CURB

CONSTRUCTION

**ROOF OPENING** 

DIMENSIONS

─ 3" FLANGE

PITCHED CURBS ARE AVAILABLE FOR PITCHED ROOFS.

EXAMPLE: 7/12 PITCH = 30° SLOPE

SPECIFY PITCH:

#### NORMAL TEMPERATURE TEST THERMAL EQUILIBRIUM, AND WITHOUT ANY

ABNORMAL FLARE-UP TEST AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING

DAMAGED TO ANY EXTENT THAT COULD CAUSE

DETERIORATING EFFECTS TO THE FAN WHICH

WOULD CAUSE UNSAFE OPERATION.

- GREASE CLASSIFICATION TESTING

#### EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED

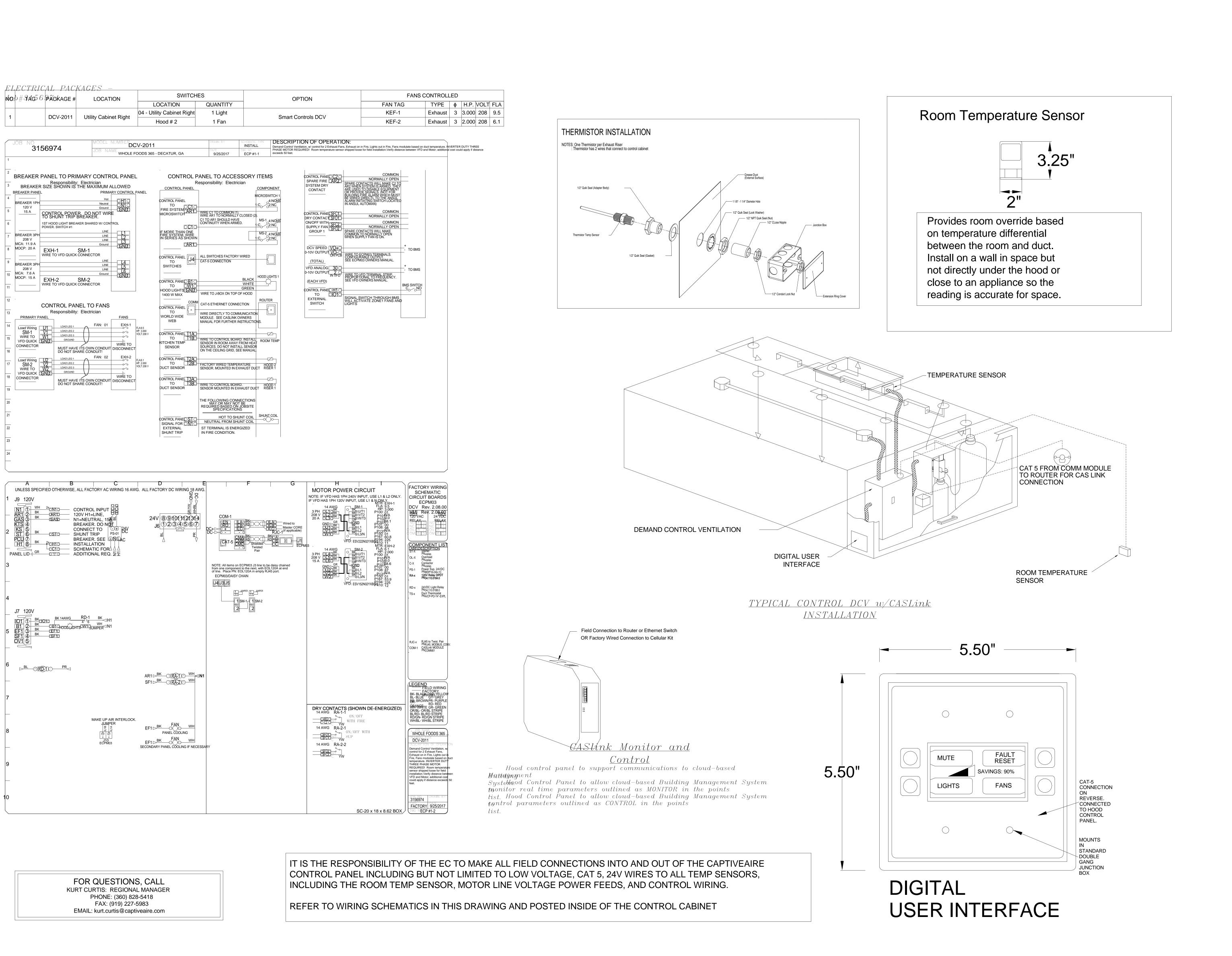
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS

### <u>OPTIONS</u>

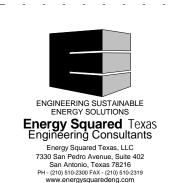
AN UNSAFE CONDITION.

GREASE BOX 3 YEAR EXTENDED MOTOR WARRANTY FAN BASE CERAMIC SEAL - FOR GREASE DUCTS

# FOR QUESTIONS, CALL KURT CURTIS: REGIONAL MANAGER PHONE: (360) 828-5418 FAX: (919) 227-5983 EMAIL: kurt.curtis@captiveaire.com



Architect of Record: BOYD W. RAU 6700 Antioch Plaza Suite 300 Merriam, KS 66204 www.brrarch.com Tel: 913-262-9095 Fax: 913-262-9044 Consultants



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**MECHANICAL DETAILS 4** 

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BREAKER 1PH

BREAKER 3PH 208 V

BREAKER 3PH

FURNISH DOUBLE WALL, FACTORY BUILT GREASE DUCT FOR USE WITH TYPE I KITCHEN HOODS, WHICH CONFORMS TO THE REQUIREMENTS OF NFPA-96. PRODUCTS SHALL BE ETL LISTED TO UL-1978 AND UL-2221 FOR VENTING AIR AND GREASE VAPORS FROM COMMERCIALCOOKING OPERATION. TESTING HAS BEEN EXTENDED TO RECONGNIZE ASTM E2336 AND AC101 DUE TO SIMILAR TESTING CRITERIA. MODELS DW-2R, 3R AND 3Z ARE USED FOR GREASE DUCT APPLICATIONS WHEN INSTALLED IN ACCORDANCE WITH THESE INSTRUCTIONS AND NFPA 96: STANDARD FOR VENTILATION CONTROL AND FIRE PROTECTION OF COMMERCIAL COOKING OPERATIONS. DOUBLE WALL GREASE DUCTS ARE LISTED FOR A CONTINUOUS INTERNAL TEMPERATURE OF 500 DEGREES F AND INTERMITTENT TEMPERATURES OF 2000 DEGREES F. THE DUCT SECTIONS SHALL BE CONSTRUCTED OF AN INNER DUCT WALL AND AN OUTER WALL WITH INSULATION IN BETWEEN. THE INNER DUCT WALL SHALL BE CONSTRUCTED OF .036 INCH THINK, 430 TYPE STAINLESS STEEL AND BE AVAILABLE IN DIAMETERS 8" THROUGH 24". THE OUTER WALL SHALL BE CONSTRUCTED OF STAINLESS STEEL AT A MINIMUM OF .024 INCH THICKNESS. THE DUCT, BASED ON MODEL NUMBER, SHALL INCLUDE LAYERS OF SUPER WOOL 607 PLUS INSULATION BETWEEN THE INNER AND OUTER WALL. GREASE DUCT JOINTS SHALL BE HELD TOGETHER BY MEANS OF FORMED V CLAMPS AND SEALED WITH 3M FIRE BARRIER 2000+. THE DUCT WALL ASSEMBLY SHALL BE TESTED AT 3/4" OR ZERO INCH CLEARANCE, ACCORDING TO CLASSIFICATIONS.

#### CLASSIFICATIONS AND CLEARANCES

UL 2221: STANDARD FOR FIRE RESISTIVE GREASE DUCT ENCLOSURE ASSEMBLIES. CHAPTER 7 OF THIS STANDARD REFERENCES A TEST LABELED INTERNAL FIRE TEST. SECTION 7.1.1 REFERENCES TWO INSTALLATION CONDITIONS, CONDITION A AND CONDITION B. CONDITION A REPRESENTS ALL INSTALLATION CONDITION EXCEPT FOR INSTALLATION WITHIN NON-VENTILATEDCOMBUSTIBLE ENCLOSURES. CONDITION B REPRESENTS INSTALLATION WITHIN A NON-VENTILATED COMBUSTIBLE ENCLOSURE.

MODEL DW-2R IS CLASSIFIED UNDER UL2221 AS AN ALTERNATE TO 2-HR FIRE RESISTIVE SHAFT ENCLOSURES WITH A REDUCED CLEARANCE TO COMBUSTIBLES (SIZES 8" TO 16" DIAMETER). MODEL 2R IS LISTED IN ACCORDANCE WITH THE REQUIREMENTS FOR DUCT ENCLOSURE CONDITION B.

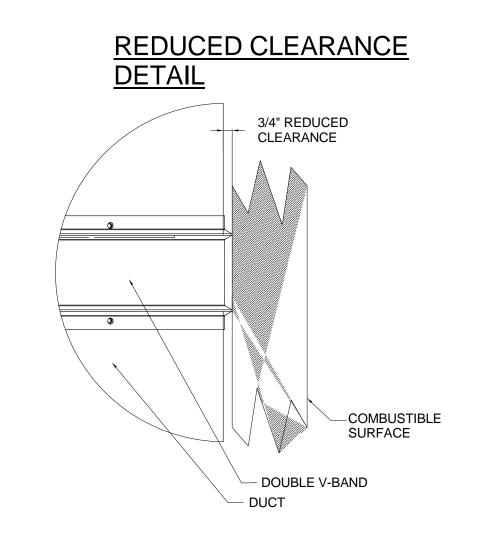
MODEL DW-2R: 3/4" CLEARANCE TO COMBUSTIBLES FROM THE SURFACE OF THE DUCT OUTER SHELL; ZERO INCH CLEARANCE FROM COMBUSTIBLES FROM THE TIP OF THE OUTER V BAND.

DOUBLE WALL GREASE DUCT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S "INSTALLATION, OPERATION AND MAINTENANCE MANUAL," ETL LISTING, STATE AND LOCAL CODES. FANS SHALL BE SUPPORTED INDEPENDENTLY FROM THE GREASE DUCT SECTIONS. PROTECT GREASE DUCT FROM TWISTING OR MOVEMENT CAUSED BY FAN TORQUE OR VIBRATION.

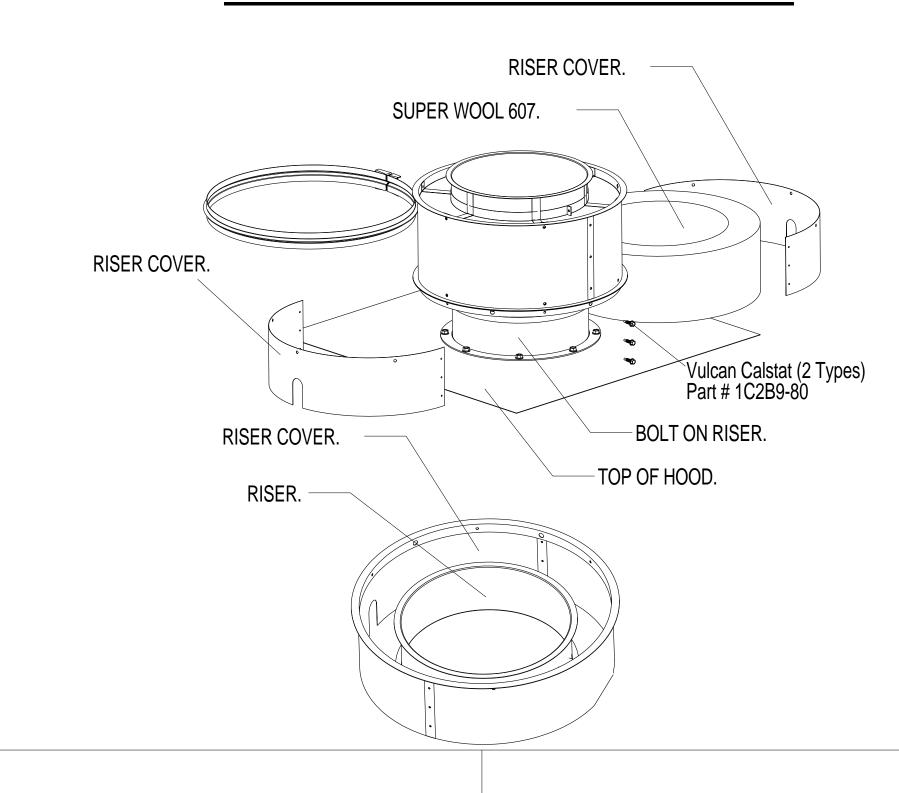
#### CERTIFICATIONS:

THE DW-2R SERIES HAS BEEN CERTIFIED BY ITS. THIS CERTIFICATION MARK INDICATES THAT THE PRODUCT HAS BEEN TESTED TO AND HAS MET THE MINIUM REQUIREMENTS OF A WIDELY RECOGNIZED (CONSENSUS) U.S. AND CANADIAN PRODUCTS SAFETY STANDARD, THAT THE MANUFACTURING SITE HAS BEEN AUDITED, AND THAT THE APPLICANT HAS AGRRED TO A PROGRAM OF PERIODIC FACTORY FOLLOW-UP INSPECTIONS TO VERIFY CONTINUED PERFORMANCE.

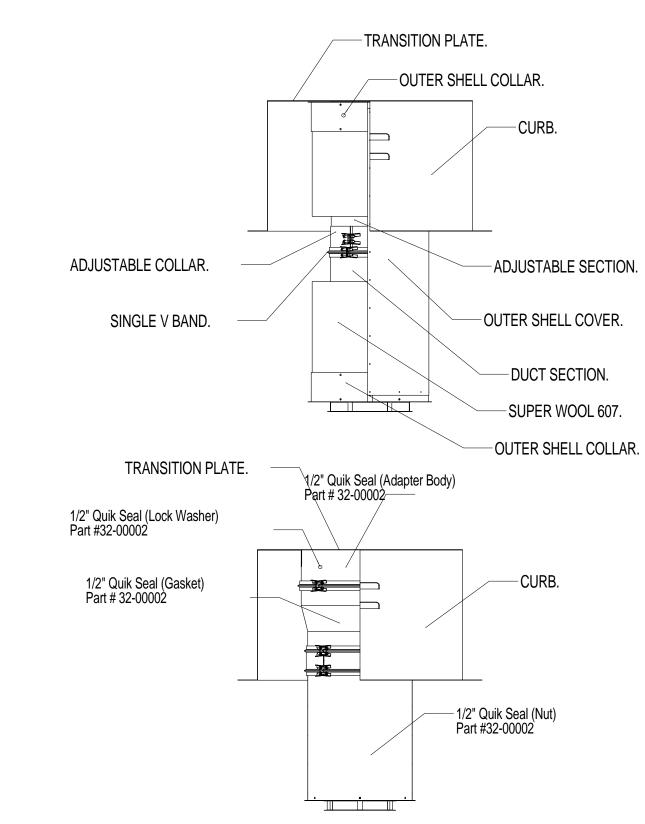
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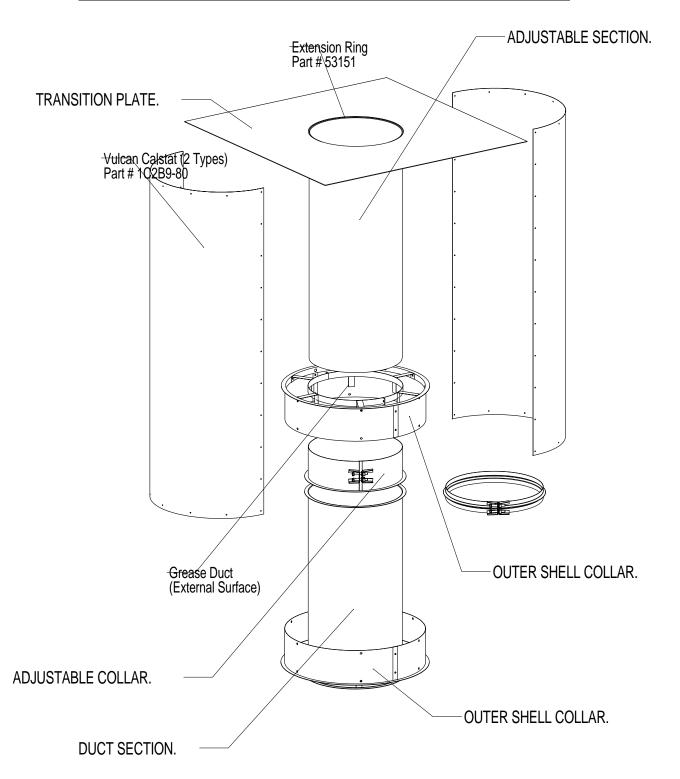
#### DOUBLE WALL DUCT RISER COVER



#### DOUBLE WALL DUCT TRANSITION PLATE

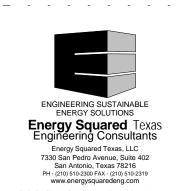


#### DOUBLE WALL DUCT ADJUSTABLE SECTION



brr

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**MECHANICAL DETAILS 5** 

REDUCED PRESSURE ZONE BACKFLOW PREVENTER: WATTS # LF009QT, MEETING ASSE 1013, LEAD FREE CAST BRONZE BODY, QUARTER TURN TEST COCKS, QUARTER TURN BALL VALVES, BRONZE STRAINER AND # 909AG AIR GAP

REDUCED PRESSURE ZONE BACKFLOW PREVENTER: WATTS # 009QT, MEETING ASSE 1013, CAST BRONZE BODY, QUARTER TURN TEST COCKS, QUARTER TURN BALL VALVES, BRONZE STRAINER AND # 909AG AIR GAP FITTING.

DOUBLE CHECK VALVE BACKFLOW PREVENTER; WATTS # LF719QT, MEETING ASSE 1015, LEAD FREE CAST BRONZE

BODY, QUARTER TURN TEST COCKS, STRAINER AND QUARTER TURN BALL VALVES.

WALL-MOUNTED EMERGENCY EYE / FACE WASH: GUARDIAN # G1724-T, 11-1/2" DIAMETER STAINLESS STEEL BOWL AND STAY-OPEN BALL VALVE, EPOXY COATED ALUMINUM FLAG HANDLE, CAST ALUMINUM WALL BRACKET, FOUR FILTERED SPRAY HEADS WITH SELF REGULATING FLOW CONTROL AND DUST COVERS, 1-1/2" CHROME PLATED BRASS TAIL PIECE AND McGUIRE # B8912CF 1-1/2" 17 GAUGE CAST CHROME PLATED BRASS ADJUSTABLE P-TRAP WITH BRASS CLEANOUT AND ESCUTCHEON., AND 1/2" INLET.

EMERGENCY MIXING VALVE: POWERS # ES150-AF05012, BRONZE BODY WITH ROUGH BRONZE FINISH, MEETING ASSE 1071, CORROSION RESISTANT INTERNAL PARTS, CHECK STOPS WITH REMOVABLE STRAINERS, DUAL INTERNAL COLD WATER BYPASS, PARAFFIN FILLED TEMPERATURE ELEMENT, DIAL THERMOMETER ON OUTLET, CAPABLE OF 4 GPM WITH A 5 PSI DIFFERENTIAL AND A MINIMUM FLOW RATE OF 1.0 GPM, AND STAINLESS STEEL WALL-MOUNTED CABINET. MAXIMUM TEMPERATURE STOP SET FOR 90°F.

ELECTRIC WATER COOLER (ADA ACCESSIBLE): ELKAY # LVRCGRNT8WSK WALL-MOUNTED. STAINLESS STEEL. DUAL HEIGHT, FRONT PUSH ACTUATOR BARS, ANTI-MICROBIAL SURFACE, FILTERED COOLER AND BOTTLE FILLING STATION FILTER, CHILLER WITH CAPACITY OF 8 GALLONS PER HOUR, 50°F DRINKING WATER AT 80°F INLET TEMPERATURES 90°F ROOM TEMPERATURE WITH ELECTRONIC SENSOR FOR NO TOUCH ACTIVATION AND 30 SECOND SHUT-OFF AT FILLING UNIT. INSTALL BOTTLE FILLING STATION ON LOW SIDE OF COOLER FOR ADA ACCESS. TRIM: McGUIRE # 2165CC COMPRESSION ANGLE STOP VALVE WITH RISER AND ESCUTCHEON, McGUIRE # B8872CF 1-1/4" 17 GAUGE CAST CHROME PLATED BRASS ADJUSTABLE P-TRAP AND WASTE ARM WITH CLEANOUT PLUG AND ESCUTCHEON, AND SUITABLE CARRIER WITH STANCHIONS TO FLOOR. ELECTRICAL REQUIREMENTS: EQUIPPED WITH ELECTRIC CORDS AND THREE PRONG MOLDED RUBBER PLUGS FOR USE WITH 15 AMP MINIMUM DUAL RECEPTACLE RATED AT 115V, 60HZ, SINGLE PHASE.

FAUCET: T&S BRASS #B-2342 8" WALL MOUNTED FAUCET WITH 10" SWING SPOUT, COMPRESSION CARTRIDGES, LEVER HANDLES AND 2.2 GPM AERATOR. TRIM: McGUIRE # LF2165CC LEAD FREE BRASS WHEEL HANDLE ANGLE STOP VALVES WITH RISERS AND ESCUTCHEONS.

FAUCET: T&S BRASS #B-2187-01 8" WALL MOUNTED FAUCET WITH 14" SWING SPOUT WITH HAND SPRAYER, COMPRESSION CARTRIDGES, LEVER HANDLES AND 2.2 GPM AERATOR. TRIM: McGUIRE # LF2165CC LEAD FREE BRASS WHEEL HANDLE ANGLE STOP VALVES WITH RISERS AND ESCUTCHEONS.

FAUCET: T&S BRASS #B-0133-B 8" WALL MOUNTED FAUCET WITH HAND SPRAYER, COMPRESSION CARTRIDGES, LEVER HANDLES AND 1.42 GPM AERATOR. TRIM: McGUIRE # LF2165CC LEAD FREE BRASS WHEEL HANDLE ANGLE STOP VALVES WITH RISERS AND ESCUTCHEONS.

FLOOR CLEANOUT: JAY R. SMITH, CAST IRON BODY, FLASHING FLANGE WITH CLAMPING COLLAR, ABS PLUG, AND ADJUSTABLE, ROUND, SECURED, NICKEL BRONZE, TOP. # 4031L (-F-C), SCORIATED TOP FOR EXPOSED, FLUSH WITH FINISHED FLOOR, APPLICATION(S), # 4031L (-F-C-Y), , 1/8" RECESS FOR INSTALLATION IN TILED FLOOR AREA(S), # 4191 (-F-C), 1/2" RECESS FOR INSTALLATION IN TERRAZZO AND SIMILAR POURED FLOOR AREA(S). REFER TO SPECIFICATIONS FOR INSTALLATION.

FCOH FLOOR CLEANOUT – HEAVY DUTY: JAY R. SMITH # 4111L CAST IRON BODY. FLASHING FLANGE WITH CLAMPING COLLAR. ABS PLUG, AND ADJUSTABLE, ROUND, SECURED, HEAVY DUTY SCORIATED NICKEL BRONZE TOP. REFER TO SPECIFICATIONS FOR INSTALLATION.

FLOW CONTROL VALVE: FLOWDESIGN # ICSS "AUTOFLOW", SERIES 300, STAINLESS UNION BODY WITH NICKEL PLATED UNION NUT. STAINLESS STEEL PRESSURE COMPENSATING CARTRIDGE, MEETING NSF 61 ANNEX G. NAMEPLATE AND 1/2" VALVE BODY AND STRAINER SIZE UNLESS SHOWN OTHERWISE ON PLANS. PROVIDE 0.5 GPM FLOW RATE CARTRIDGE UNLESS SHOWN OTHERWISE ON PLANS.

FLOOR DRAIN: JAY R .SMITH # 2005L (-A), CAST IRON BODY AND CLAMPING COLLAR, ADJUSTABLE 6" ROUND NICKEL BRONZE STRAINER. PROVIDE TRAP PRIMER PORT IF TRAP PRIMER IS PROVIDED ON THE DRAWINGS. USE PUSH- ON JOINT OF OUTLET SIZE AS SHOWN ON PLANS.

FUNNEL FLOOR DRAIN: JAY R. SMITH # 3510L (-B), CAST IRON BODY, ADJUSTABLE, SIX INCH ROUND, NICKEL BRONZE STRAINER WITH 4" HIGH FUNNEL, SEDIMENT BUCKET, BOTTOM OUTLET, SEEPAGE PAN, AND MEMBRANE FLASHING CLAMP. USE PUSH-ON JOINT OF OUTLET SIZE AS SHOWN ON PLANS.

EQUIPMENT FLOOR DRAIN: JAY R. SMITH # 2233L (-M), CAST IRON BODY, 12" ROUND. LOOSE. HEAVY DUTY. DUCTILE IRON GRATE. SEDIMENT BUCKET. BOTTOM OUTLET. SEEPAGE PAN. AND MEMBRANE FLASHING CLAMP. PROVIDE TRAP PRIMER PORT IF TRAP PRIMER IS PROVIDED ON THE DRAWINGS. USE PUSH-ON JOINT OF OUTLET SIZE AS SHOWN ON

EQUIPMENT FLOOR DRAIN: JAY R. SMITH # 2131L (-B), 5"DEEP CAST IRON BODY, 12" ROUND, LOOSE, MEDIUM DUTY, CAST IRON GRATE, SEDIMENT BUCKET, BOTTOM OUTLET, SEEPAGE PAN, AND MEMBRANE FLASHING CLAMP. PROVIDE TRAP PRIMER PORT IF TRAP PRIMER IS PROVIDED ON THE DRAWINGS. USE PUSH-ON JOINT OF OUTLET SIZE AS SHOWN ON PLANS.

FLOOR DRAIN: JAY R. SMITH # 2141L (-B-M), 5"DEEP CAST IRON BODY, 12" ROUND, LOOSE, HEAVY DUTY, DUCTILE IRON

GRATE, SEDIMENT BUCKET, BOTTOM OUTLET, SEEPAGE PAN, AND MEMBRANE FLASHING CLAMP, PROVIDE TRAP

PRIMER PORT IF TRAP PRIMER IS PROVIDED IN DRAWINGS. USE PUSH-ON JOINT OF OUTLET SIZE AS SHOWN ON FLOOR SINK: JAY R. SMITH # 320-Y03 (12" SQUARE BODY LESS FLANGE), 6" DEEP CAST IRON BODY WITH ACID RESISTING ENAMELED INTERIOR, ANCHOR FLANGE WITH SEEPAGE HOLES, CLAMP COLLAR, ALUMINUM SEDIMENT BUCKET, AND 8-1/2" SQUARE PORCELAIN ENAMEL, ACID RESISTANT, COATED RIM AND HALF GRATE. USE PUSH-ON

FLOOR SINK: JAY R. SMITH # 330-Y03 (12" SQUARE SQUARE BODY LESS FLANGE). 8" DEEP CAST IRON BODY WITH ACID RESISTING ENAMELED INTERIOR, ANCHOR FLANGE WITH SEEPAGE HOLES, CLAMP COLLAR, ALUMINUM SEDIMENT BUCKET, AND 12" SQUARE PORCELAIN ENAMEL, ACID RESISTANT, COATED RIM AND HALF GRATE. USE PUSH-ON JOINT OF OUTLET SIZE AS SHOWN ON PLANS.

JOINT OF OUTLET SIZE AS SHOWN ON PLANS.

& MODEL NUMBER

MAXITROL 325-5L-48

MAXITROL 325-7A210D

MAXITROL 325-9L210E

DROOP = 1" WATER COLUMN MAXIMUM

MANUFACTURER

& MODEL NUMBER

RHFFM #GHF 100FS-200

RHEEM #GHE 100ES-200

& MODEL NUMBER

AMTROL ST-25V

GPR2

GPR3

NOTES:

**NOTES** 

ET

NOTES:

HOSE BIBB: PRIER PRODUCTS # C-255CP.75, POLISHED CHROME PLATED BRASS 3/4" FEMALE INLET, 3/4" THREADED HOSE CONNECTION, LOOSE KEY HANDLE, AND ASSE 1011 INTEGRAL VACUUM BREAKER.

VALVE | VALVE BODY

C = SELF CONTAINED "DIRECT ACTING" DIAPHRAGM TYPE WITH INTERNAL VENT LIMITER

LISTED TO MEET ANSI Z21.80 / CSA 6.22 WITH CSA LISTING STAMP ON REGULATOR BODY

SERVED

GROCERY

FURNISH WITH RHEEM 3" CONCENTRIC COMBUSTION AIR INTAKE AND EXHAUST KIT.

(GALLONS)

10.3

CHARGE TANK WITH AIR TO IDENTICAL PRESSURE AS STATIC DOMESTIC WATER PRESSURE

5 PSI MAXIMUM INI ET PRESSURE & 1 PSI MINIMUM INI ET PRESSURE.

8. PROVIDE WITH SEPARATE OVERPRESSURE PROTECTION DEVICE (OPD)

100° TEMPERATURE RISE WITH 140° (F) OPERATING TEMPERATURE.

65# ALUMINUM BODY, SCREWED CONNECTIONS AND OVERPRESSURE PROTECTION TO 25#

GAS PRESSURE REGULATOR INLET PRESSURE - OPERATING PRESSURE - DESIGN FRICTION LOSS

TYPE | SIZE (INCHES)

1/2"

1-1/4"

1-1/2"

GAS PRESSURE REGULATOR SCHEDULES FOR 5 PSI SYSTEMS

MAXIMUM FLOW RATE SCHEDULED, MATCH BODY SIZE AND MAXIMUM FLOW RATE TO EQUIPMENT FLOW RATE. REFER TO EQUIPMENT SHOP DRAWINGS.

(GALLONS)

RATE (CFH)

1,250

2,250

WATER HEATER SCHEDULE

SOURCE

**EXPANSION TANK SCHEDULE** 

VOLUME (GALLONS)

GROCERY | NATURAL GAS

MAX. FLOW | INLET PRESSURE

(PSI)

1.5

1.5

1.5

**GROCERY** 

OUTLET PRESSURE

INCHES WATER COLUMN

7"

7"

NOTES

1,2

1,2

NOTES

1

NOTES

1 ~ 8

1 ~ 8

1 ~ 8

WASTE PIPE HEAT TAPE: RAYCHEM # 5XL1-CR. 5 WATTS PER FOOT WITH POLYOLEFIN OUTER JACKET, REFER TO SPECIFICATIONS FOR MORE INFORMATION. ELECTRICAL REQUIREMENTS: XXX WATT TOTAL CONNECTED LOAD AT 120V SINGLE PHASE.

ICE MAKER BOX: GUY GRAY MODEL # BIM875, 20 GAUGE GALVANIZED STEEL BOX, 18 GAUGE STEEL FACEPLATE, BOTTOM INLET WATER SUPPLY WITH LEAD FREE 1/2" x 1/4" COMPRESSION ANGLE STOP VALVE. TRIM: LOOP 4 FEET OF 1/4" TYPE "K" SOFT COPPER TUBING AND PROVIDE EQUIPMENT CONNECTION.

JANITOR'S SINK: FIAT # MSB-2424, 24" x 24" x 10" HIGH MOLDED STONE BASIN WITH FACTORY INSTALLED STAINLESS STEEL DOME STRAINER AND SEDIMENT BASKET. FAUCET: CHICAGO FAUCET # 897-CP FAUCET WITH WALL BRACE, INTEGRAL VACUUM BREAKER, PAIL HOOK, AND 3/4" MALE HOSE THREADED OUTLET. SECURE FAUCET IN WALL WITH BACKBOARD. TRIM: # BP TYPE 304, 20 GAUGE, STAINLESS STEEL WALL SURROUNDS, # T-35 THREE FOOT LONG REINFORCED HOSE WITH 3/4" CHROME COUPLING AND WALL HOOK, # V-70 EXTRUDED VINYL BUMPER GUARD, AND # T-40 24" STAINLESS STEEL MOP HANGER.

WALL-MOUNTED LAVATORY (ADA ACCESSIBLE): AMERICAN STANDARD # 0355.012 "LUCERNE" 20-1/2" X 18-1/4" RECTANGULAR WALL MOUNTED WHITE VITREOUS CHINA FIXTURE WITH FAUCET LEDGE AND FRONT OVERFLOW. FAUCET: PROVIDE WITH SLOAN # EAF-275, CHROME-PLATED. SOLAR POWERED WITH BATTERY BACKUP SENSOR OPERATED FAUCET MAGNETIC SOLENOID VALVE, 0.5 GPM AERATOR AND ETF-312-A TRIM PLATE. TRIM: McGUIRE # 155A GRID DRAIN WITH TAILPIECE, McGUIRE # LF2165CCLK LEAD FREE BRASS LOOSE KEY COMPRESSION ANGLE STOP VALVES WITH RISERS AND ESCUTCHEONS, McGUIRE # B8872CF 1-1/4" 17 GAUGE CAST CHROME PLATED BRASS ADJUSTABLE P-TRAP AND WASTE ARM WITH CLEANOUT PLUG AND ESCUTCHEON, CONCEALED ARM CARRIER WITH STANCHIONS TO FLOOR, PLUMBEREX "PRO-EXTREME" # X-4222 INSULATION KIT FOR WATER AND WASTE

NON-FREEZE WALL HYDRANT: PRIER PRODUCTS # C-634NBX1, SATIN NICKEL PLATED BRASS 1" MALE INLET BY 3/4" FEMALE INLET. 3/4" THREADED HOSE CONNECTION, LOOSE KEY HANDLE. HYDRANT LENGTH AS REQUIRED FOR INSTALLED WALL THICKNESS. ADJUSTABLE WALL CLAMP, BRASS BOX WITH SATIN NICKEL PLATED FINISH AND INTEGRAL ASSE 1052 DOUBLE CHECK VACUUM BREAKER.

ROOF NON-FREEZE POST HYDRANT: MAPA PRODUCTS # MPH-24FP FREEZE PROOF POST HYDRANT MEETING ASSE #1057 WITH BLACK POWDER COATED CAST ALUMINUM WEATHER-GUARD DOME HANDLE, STAINLESS STEEL SHROUD WITH WELDED STAINLESS STEEL FLANGE, UNDER DECK CLAMP, BRONZE GLOBE ANGLE VALVE, 3/4" HOSE CONNECTION. QUICK DISCONNECT WITH BUILT-IN VACUUM BREAKER, STAINLESS STEEL RESERVOIR.

T-1 THERMOSTAT: RAYCHEM # AMC-F5 LINE TEMPERATURE SENSING THERMOSTAT AND NEMA 4X ENCLOSURE FOR ON-OFF CONTROL OF HEAT TAPE CIRCUIT. FACTORY SET TO TURN ON AT 40°F. CAPILLARY AND SENSIN

THERMOSTATIC MIXING VALVE: POWERS # LFG480, SOLID LEAD FREE BRASS BODY, THERMOSTATIC WAX ELEMENT, CORROSION RESISTANT INTERNAL PARTS, AND INTEGRAL CHECKS, ASSE 1070 COMPLIANT, CAPABLE OF 2.2 GPM WITH A 20 PSI DIFFERENTIAL AND A MINIMUM FLOW RATE OF 0.35 GPM. SET TEMPERATURE TO 110F FOR DUAL TEMPERATURE LAVATORIES AND HAND SINKS. 100F FOR SINGLE TEMPERATURE LAVATORIES AND HAND SINKS AND 120F FOR SINKS. MOUNT BELOW THE PLUMBING FIXTURE WHERE INDICATED ON PLAN(S).

TRAP PRIMER: PRECISION PLUMBING PRODUCTS # PR-500 "PRIME RITE", CORROSION RESISTANT BRASS BODY, "O" RING SEALS, 1/2" INLET AND OUTLET, AND INTEGRAL VACUUM BREAKER. INSTALL THE VALVE AT A MINIMUM OF 12" ABOVE FINISHED FLOOR.

TRAP SEAL: ProSet SYSTEMS "TRAP GUARD" INSERT FOR ACTUAL FLOOR DRAIN MODEL AND SIZE PROVIDED, FLEXIBLE ELASTOMERIC PVC MATERIAL MOLDED INTO SHAPE OF DUCK'S BILL, OPEN ON TOP WITH CURL CLOSURE AT BOTTOM. ALLOWS WASTEWATER TO OPEN AND ADEQUATELY DISCHARGE FLOOR DRAIN THROUGH ITS INTERIOR. CLOSES AND RETURNS TO ORIGINAL MOLDED SHAPE AFTER WASTEWATER DISCHARGE IS COMPLETE.

TIME SWITCH: INTERMATIC #ET1705CSPST, 7 DAY, ONE CIRCUIT-SINGLE POLE SINGLE RATED (1 H.P. @ 120 VOLT, SINGLE PHASE), MINIMUM OF 20 SET POINTS (14 ON/OFF CYCLES AND BATTERY BACK UP. COORDINATE WITH DIVISION 26 FOR INSTALLATION AND INTERLOCK OF TIME SWITCH IN SERIES WITH THE AQUASTAT AND RECIRCULATION PUMP.

URINAL (ADA ACCESSIBLE): AMERICAN STANDARD # 6590.001 "WASHBROOK" WHITE VITREOUS CHINA FIXTURE WITH FLUSHING RIM, 3/4" TOP SPUD, AND WASHOUT FLUSH ACTION. VALVE: SLOAN "SOLIS" # 8186-0.125 EXPOSED, CHROME-PLATED, SOLAR POWERED WITH BATTERY BACK-UP, WITH OVERRIDE BUTTON, SENSOR OPERATED, DIAPHRAGM TYPE, FLUSH VALVE WITH CHLORAMINE RESISTANT DIAPHRAGM AND PROTECTED ORIFICE, OSCILLATING HANDLE, ESCUTCHEON, INTEGRAL SCREWDRIVER STOP WITH VANDAL RESISTANT CAP, VACUUM BREAKER AND 3/4" FLUSH TUBE, AND SWEAT ADAPTER KIT. TRIM: SUITABLE CARRIER WITH STANCHIONS TO FLOOR.

WALL-MOUNTED WATER CLOSET (ADA ACCESSIBLE): AMERICAN STANDARD # 2257.001 "AFWALL" WHITE VITREOUS CHINA FIXTURE WITH ELONGATED UNIVERSAL BOWL AND DIRECT-FED SIPHON JET ACTION. VALVE: SLOAN "SOLIS" # 8111 1.6/1.1 GALLON PER FLUSH, EXPOSED, CHROME-PLATED, SOLAR POWERED WITH BATTERY BACKUP, SENSOR OPERATED, DIAPHRAGM TYPE, FLUSH VALVE WITH CHLORAMINE RESISTANT DIAPHRAGM AND PROTECTED ORIFICE, MANUAL OVERRIDE, ESCUTCHEON, INTEGRAL SCREWDRIVER STOP. VACUUM BREAKER, AND SWEAT ADAPTER KIT, INSTALL FLUSH VALVE HANDLE ON THE WIDE SIDE OF THE STALL. TRIM: CHURCH # 9500SSC WHITE OPEN-FRONT CONTOURED, SOLID PLASTIC, HEAVY DUTY, SEAT LESS COVER WITH SELF-SUSTAINING CHECK HINGES AND STAINLESS STEEL BOLTS. PROVIDE SUITABLE FIXTURE CARRIER.

WALL-MOUNTED WATER CLOSET: AMERICAN STANDARD # 2257.001 "AFWALL" WHITE VITREOUS CHINA FIXTURE WITH ELONGATED UNIVERSAL BOWL AND DIRECT-FED SIPHON JET ACTION. VALVE: SLOAN "SOLIS" # 8111 1.6/1.1 GALLON PER FLUSH, EXPOSED, CHROME-PLATED. SOLAR POWERED WITH BATTERY BACKUP, SENSOR OPERATED, DIAPHRAGM TYPE, FLUSH VALVE WITH CHLORAMINE RESISTANT DIAPHRAGM AND PROTECTED ORIFICE, MANUAL OVERRIDE, ESCUTCHEON, INTEGRAL SCREWDRIVER STOP, VACUUM BREAKER, AND SWEAT ADAPTER KIT. INSTALL FLUSH VALVE HANDLE ON THE WIDE SIDE OF THE STALL. TRIM: CHURCH # 9500SSC WHITE OPEN-FRONT CONTOURED, SOLID PLASTIC, HEAVY DUTY, SEAT LESS COVER WITH SELF-SUSTAINING CHECK HINGES AND STAINLESS STEEL BOLTS. PROVIDE SUITABLE FIXTURE CARRIER.

WALL CLEANOUT: JAY R. SMITH # 4530S, CAST IRON CLEANOUT TEE, COUNTER SUNK PLUG, STAINLESS STEEL ROUND COVER AND SCREW, AND IRON PLUG WITH GASKET SEAL. REFER TO SPECIFICATIONS FOR INSTALLATION

#### KITCHEN GENERAL NOTES

- 1. REFERENCE THE KITCHEN EQUIPMENT PLUMBING CONNECTION SCHEDULEFOR ITEMS TO BE FURNISHED AND / OR INSTALLED AS REQUIRED TO COMPLETE THE INSTALLATION OF PLUMBING SYSTEMS FOR KITCHEN EQUIPMENT. COORDINATE WITH THE ARCHITECT FOR THE EXACT LOCATION OF EQUIPMENT AND ROUGH-IN. REFERENCE THE KITCHEN EQUIPMENT SHOP DRAWINGS AND COORDINATE WITH 365 FOR EXACT REQUIREMENTS PRIOR TO THE START OF INSTALLATION.
- 2. PROVIDE ITEMS AND WORK AS REQUIRED FOR A COMPLETE AND WORKING PLUMBING INSTALLATION FOR EACH PIECE OF KITCHEN EQUIPMENT. PROVIDE ROUGH-INS AND CONNECT TO THE KITCHEN EQUIPMENT WITH TRAPS, SUPPLIES, SHUTOFF VALVES, PIPES TO THE WALL, ESCUTCHEONS, ETC AS SHOWN, SPECIFIED AND REQUIRED.
- 3. WHERE "FLEX" TUBING IS CALLED FOR, PROVIDE A FOUR FOOT COILED LENGTH OF TYPE "K" SOFT COPPER TUBING FROM WATER SHUT-OFF VALVE TO THE EQUIPMENT CONNECTION OF SAME SIZE AS CONNECTION TO KITCHEN EQUIPMENT WITH 1/4" BEING MINIMUM SIZE. PROVIDE CONNECTORS AND ADAPTERS AS REQUIRED.
- 4. VERIFY GAS LOADS AND GAS ROUGH-IN OF KITCHEN EQUIPMENT WITH THE KITCHEN EQUIPMENT SHOP DRAWINGS PRIOR TO INSTALLING GAS PIPING. PROVIDE GAS COCKS, UNIONS, ETC. AS SPECIFIED AND REQUIRED. INSTALL GAS QUICK DISCONNECTS WHERE FURNISHED WITH THE KITCHEN EQUIPMENT.
- 5. PROVIDE INDIRECT WASTE LINES OF SAME SIZE AS CONNECTION TO EQUIPMENT WITH 3/4" BEING MINIMUM SIZE. ROUTE FROM EQUIPMENT CONNECTION POINTS INDICATED TO FLOOR DRAIN OR FLOOR SINK. PROVIDE

AIR GAP OF TWO PIPE DIAMETERS MINIMUM PER CODE.

- 6. COMPLY WITH HEALTH DEPARTMENT REGULATIONS. PROVIDE CLEARANCE FOR CLEANING BEHIND AND UNDER EXPOSED PIPING AS REQUIRED BY HEALTH DEPARTMENT. CONFORM TO HEALTH DEPARTMENT REQUIREMENTS FOR LOCATIONS OF FLOOR SINKS.
- 7. NO PLUMBING ROOF PENETRATIONS SHALL BE INSTALLED THROUGH GREASE FILTER PANS ON THE ROOF. REFER TO MECHANICAL DRAWINGS PRIOR TO START OF INSTALLATION.
- 8. PROVIDE AIRTIGHT SEAL AROUND PIPING PENETRATIONS THROUGH WALK-IN COOLER OR FREEZER WALLS OR CEILINGS.
- 9. DO NOT INSTALL PIPING IN COOLER OR FREEZER WALLS. INSTALL EXPOSED PIPING IN A NEAT APPEARING MANNER.
- 10. INSTALL RIM OF FLOOR DRAINS AND FLOOR SINKS BELOW FINISHED FLOOR LEVEL. SLOPE FLOOR TO DRAINS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION.
- 11. COORDINATE LOCATION OF VENT, WATER, AND GAS PIPING TO AVOID CONFLICT WITH OTHER TRADES.
- 12. CLEAN INSTALLED PLUMBING FIXTURES AND EQUIPMENT.
- 13. PROVIDE WALL BACKING OR SPECIFIED CARRIERS FOR THE PROPER SUPPORT OF INSTALLED WALL HUNG FIXTURES AND EQUIPMENT.
- 14. PROVIDE VERTICAL LIFT SPRING LOADED CHECK VALVES IN HOT AND COLD WATER SUPPLIES FOR 3-COMPARTMENT SINKS, PRE-RINSE UNITS, JANITOR SINKS, MIXING HOSE BIBBS & MIXING WALL HYDRANTS DOWNSTREAM OF SHUTOFF VALVES.
- 15. SEAL AROUND INSTALLED FIXTURES AND KITCHEN EQUIPMENT WITH CAULK. 16. PROVIDE APPROPRIATE BACKFLOW PREVENTION DEVICES FOR KITCHEN EQUIPMENT REQUIRING THEM PER LOCAL AUTHORITIES REQUIREMENTS. INSTALL BACKFLOW PREVENTION DEVICES FURNISHED WITH KITCHEN **EQUIPMENT**

#### TOTAL CONNECTED NATURAL GAS LOAD

DEVELOPER INSTALLED GAS SERVICE TO ACCOMODATE UP TO 7,000 MBH AT 2 PSI AND A DEVELOPED LENGTH OF 550'-0". TOTAL USAGE 3,041. EXISITNG GAS SESRVICE WILL ACCOMODATE NEW LOAD.

<u>KITCHEN EQUIPMENT</u>

EQUIPMENT DESIGNATION	QUANTITY	DESCRIPTION	CFH (EACH)	TOTAL CFH	
5-111	2	DOUBLE STACK STEAMER	60	120	
5-124	1	DOUBLE STACK CONVECTION OVEN	90	90	
5-132	1	GRIDDLE	81	81	
5-133	1	CHAR-BROILER	102	102	
			TOTAL =	393	
MECHANICAL EQUIPMENT					
EQUIPMENT DESIGNATION	QUANTITY	DESCRIPTION	CFH (EACH)	TOTAL CFH	
WH	2	WATER HEATER	199	398	
			TOTAL =	398	
MISC. LOAD :					
FUTURE FRIENDS OF 365	1		1500	1500	
FUTURE FRIENDS OF 365	1		750	750	
		TOTAL	CONNECTED LOAD =	3041	

### FIXTURE BRANCH CONNECTION SCHEDULE

COLD WATER	HOT WATER	WASTE	VENT
1-1/4"		4"	2"
1"		2"	2"
1/2"	1/2"	2"	1-1/2"
1/2		2"	1-1/2"
1/2"	1/2"	3"	2"
		3"	2"
1/2"	1/2"	2"	2"
	1-1/4"  1"  1/2"  1/2  1/2"	1-1/4"  1"  1/2" 1/2"  1/2  1/2"	1-1/4" 4"  1" 2"  1/2" 1/2" 2"  1/2 2"  1/2" 3"  3"

#### 

1. PIPE SIZES SHOWN ARE MINIMUM.

ľ	RECIRCULA	4 I IC	ו מוכ	PUMP	20HED	ULE	_		
MARK	MANUFACTURER & MODEL NUMBER	GPM	HEAD (FT.)	CONNECTION SIZE	IMPELLER SIZE (IN.)	ELECTF	RICAL DA	TA	NOTES
	a model nomber		(1.1.)	OIZL	(114.)	VOLTS	PHASE	HP	
RP	BELL & GOSSETT # NBF-36	2.5	19	3/4"	N/A	120	1	1/6	1,2,3
NOTES	S:							•	

ALL LEAD FREE CAST BRONZE BOOSTER PROVIDE WITH STRAINER UPSTREAM OF PUMP PROVIDE ADJUSTABLE, SURFACE MOUNTED AQUASTAT - HONEYWELL L6006C

#### **GENERAL NOTES**

- 2. 1. DRAWINGS ARE DIAGRAMMATIC ONLY AND REPRESENT THE GENERAL SCOPE OF THE WORK. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND PLANS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY THE ARCHITECT OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
- 2. FURNISH A CONSTRUCTION RECORD SET OF "AS-BUILT" DOCUMENTS TO THE ARCHITECT REFLECTING ANY VARIANCES OF INSTALLED PIPING LOCATIONS OR EQUIPMENT CONTRARY TO THE CONSTRUCTION DOCUMENTS PREPARED BY THE ENGINEER-OF-RECORD AFTER FINAL INSPECTION OF INSTALLED PLUMBING
- 3. FURNISH TO THE ARCHITECT A COPY OF INSPECTION REPORTS AND APPROVAL CERTIFICATES FROM LOCAL AND STATE INSPECTIONS. INSTALLATION SHALL COMPLY WITH LEGALLY CONSTITUTED CODES AND THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
- 4. PLANS AND SPECIFICATIONS GOVERN WHERE THEY EXCEED CODE REQUIREMENTS.
- 5. UTILITY INSTALLATIONS SHALL COMPLY WITH ALL LEGALLY CONSTITUTED UTILITY COMPANIES SERVICE REQUIREMENTS HAVING JURISDICTION.
- 6. VERIFY LOCATION AND DEPTH OF UTILITIES AT ALL POINTS OF CONNECTION INDICATED ON DRAWINGS BEFORE START OF PROJECT.
- 7. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF PLUMBING FIXTURES.
- 8. DO NOT SCALE FLOOR PLANS FOR EXACT HORIZONTAL LOCATION OF PIPE
- 9. VALVES SHALL BE LINE SIZE UNLESS OTHERWISE NOTED.
- 10. PIPING IN FINISHED AREAS SHALL BE ROUTED CONCEALED; EXPOSED PIPING, WHERE NECESSARY, SHALL BE ROUTED AS HIGH AS POSSIBLE AND TIGHT TO
- 11. COORDINATE ALL WORK WITH OTHER TRADES AND CONTRACTORS. COORDINATE PIPING INSTALLATION WITH STRUCTURAL GRADE BEAMS, FOOTINGS, COLUMN PIERS, REFRIGERATION PIT AND TUNNEL SYSTEMS, ETC. SLEEVE PIPING THROUGH GRADE BEAMS, FOOTING, ETC. WHERE REQUIRED AND AS NOTED ON PLANS. COORDINATE SLEEVE INSTALLATIONS WITH THE ARCHITECT. STRUCTURAL ENGINEER, STRUCTURAL CONTRACTOR AND GENERAL CONTRACTOR BEFORE CONCRETE IS INSTALLED. REFRIGERATION PIT AND TUNNEL SYSTEM INSTALLED BY GENERAL CONTRACTOR. PIPING INVERTS AND SLOPE SHALL BE CLOSELY COORDINATED TO AVOID CONFLICTS WITH ALL OTHER TRADES BELOW SLAB WORK.
- 12. CLEAN FAUCET AERATORS AND PIPE STRAINERS PRIOR TO TURNING BUILDING OVER TO THE OWNER.
- 13. PROVIDE TRAP PRIMERS WHERE REQUIRED BY LOCAL AUTHORITIES.
- 14. COORDINATE PIPE ROUTING AWAY FROM ELECTRICAL PANELS. DO NOT ROUTE PIPING OVER ELECTRICAL PANELS.
- 15. COORDINATE THE PAINTING OF ALL EXPOSED GAS AND WATER PIPING WITH A RUST INHIBITOR PAINT PER THE ARCHITECT'S SPECIFICATIONS.
- 16. COORDINATE ALL ROOF PENETRATIONS WITH OTHER TRADES. MAINTAIN 10' MINIMUM CLEARANCE FROM ALL ROOF TOP AIR INTAKES AND ROOF EDGES AND/OR PARAPETS. MAINTAIN 2' CLEARANCE FROM ALL OTHER ROOF TOP
- 17. INSULATE PIPING ROUTED IN EXTERIOR BUILDING WALLS WITH MINIMUM 2" BATT INSULATION TO PREVENT FREEZING.
- 18. COORDINATE AND INSTALL ALL FLOOR AND WALL CLEANOUTS IN FREE AND ACCESSIBLE LOCATIONS FOR MAINTENANCE PER ARCHITECTURAL DRAWINGS. CLEANOUTS INSTALLED BENEATH OR BEHIND EQUIPMENT OR CASES SHALL BE RELOCATED AT CONTRACTOR'S EXPENSE WITH NO EXTRA COST TO 365.
- 19. COORDINATE AND INSTALL ALL FLOOR DRAINS, TRENCH DRAINS, AND FLOOR CLEANOUTS TO BE SET AND PLUMB FLUSH WITH FINISH FLOOR ELEVATIONS INDICATED ON ARCHITECTURAL DRAWINGS. NO CRACKS, RISE OR FALLS IN FINISH FLOOR AROUND DRAINS TOPS SHALL BE PERMITTED. CORRECTIONS SHALL BE AT CONTRACTOR'S EXPENSE WITH NO EXTRA COST TO 365.
- 20. ALL FLOOR DRAINS SHALL HAVE DEEP SEAL TRAPS INSTALLED TO PREVENT EVAPORATION BREAKING THE COMBINATION WASTE AND VENT SYSTEM.
- 21. INSTALL FLOOR DRAINS AS INDICATED ON DRAWINGS. IF CONFLICTS ARE FOUND. NOTIFY ARCHITECT AS SOON AS POSSIBLE TO RESOLVE ISSUE SO NOT TO DELAY WORK SCHEDULE. DRAINS NOT INSTALL AS INDICATED OR DAMAGE TO DRAIN BODIES OR GRATES DUE TO REMOVAL OF DRAIN PROTECTIVE COVERINGS DURING CONSTRUCTION SHALL BE REPLACED AT CONTRACTOR'S EXPENSE WITH NO EXTRA COST TO 365.
- 22. COORDINATE AND VERIFY ALL REFRIGERATION CASE DRAIN LOCATIONS WITH THE ARCHITECT AND THE REFRIGERATION CONTRACTOR PRIOR TO ROUGH-IN AND FINAL INSTALLATIONS. PIPING SHALL TERMINATE ABOVE DRAIN'S FLOOD RIM WITH CODE REQUIRED AIR GAP. CASE DRAINS SHALL BE ALIGNED AND INSTALLED IN A PROFESSIONAL MANOR TO BE STRAIGHT. PARALLEL AND EQUALLY SPACE ON THE FRONT FACE OF THE CASE KICKPLATES. ANY CASE DRAINS NOT MEETING ABOVE REQUIREMENTS UPON FINAL INSPECTION SHALL BE CORRECTED AT THE PLUMBING CONTRACTOR'S EXPENSE WITH NO EXTRA COST
- 23. BELOW SLAB PLUMBING SYSTEMS ARE PROHIBITED BENEATH FREEZER UNITS. PLUMBING SYSTEMS INSTALLED NEAR FREEZER UNITS SHALL BE WRAPPED WITH 3/4" ARMAFLEX PIPE INSULATION.
- 24. NO PIPING SHALL BE INSTALL WITHIN REFRIGERATED PANEL WALLS OF FREEZER/COOLER UNITS. ANY PIPING INSTALLED ON EXTERIOR FACE OF REFRIGERATED PANEL WALLS SHALL BE INSTALLED IN A NEAT AND PROFESSIONAL WORKMAN LIKE MANNER, PIPING SHALL BE PROPERLY SUPPORTED.
- 25. ALL PLUMBING FIXTURE SHUT-OFF AND/OR BALANCING VALVES INSTALLED IN PIPE CHASES SHALL BE ACCESSIBLE FROM JUST ABOVE THE CEILING LINE OR ACCESS DOORS PROVIDED LOW IN CHASE WALL.
- 26. PROVIDE PROPER FREE STANDING INTERNAL WALL SUPPORTS FOR ALL PLUMBING WALL HUNG FIXTURES TO PREVENT PULLOUT FROM WALL.
- 27. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ALL FINAL CLEANING AND GUARANTEE PROPER WORKING OPERATIONS OF INSTALLED FIXTURES FURNISHED BY CONTRACTOR AND/OR 365. CAULK ALL PLUMBING FIXTURES TO WALLS AND FLOORS WITHIN FOOD PREP AREAS IN ACCORDANCE WITH LOCAL HEALTH DEPARTMENT CODES AND REGULATIONS.
- 28. FURNISH AND INSTALL ESCUTCHEONS AT ALL PIPE PENETRATIONS THROUGH
- 29. PROVIDE FINAL CONNECTIONS TO ALL EQUIPMENT SPECIFIED IN PLUMBING FIXTURE SCHEDULE AND 365 FURNISHED EQUIPMENT SCHEDULE IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS. INSTALL OR PROVIDE ALL REQUIRED SHUT-OFFS, BACKFLOW PREVENTERS, PRESSURE REGULATORS, FILTERS, AND CONDENSATE DRAINS AS INDICATED ON THE SCHEDULES AND/OR ASREQUIRED BY ALL STATE OR LOCAL CODES AND REGULATIONS. REFERENCE EQUIPMENT CUT-SHEETS FOR ADDITIONAL FINAL CONNECTION REQUIREMENTS NOT SHOWN ON THESE DRAWINGS.
- 30. INSTALL ENTIRE GAS PIPING SYSTEM ON BUILDING ROOF AS INDICATED ON DRAWINGS. MINIMIZE GAS PIPING INSTALLED INSIDE THE BUILDING SHELL SERVING INTERIOR EQUIPMENT. PROVIDE ALL REQUIRED REGULATORS, GAS COCK SHUT-OFFS, AND SUPPORTS AS REQUIRED FOR A COMPLETE WORKING
- 31. REFRIGERATION CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDENSATE DRAINAGE PIPING FROM REFRIGERATION SYSTEM FREEZER AND COOLER EVAPORATOR UNITS TO FLOOR DRAINS WHERE INDICATED ON DRAWINGS. PROVIDE CLEANOUTS AT ALL MAJOR CHANGE OF DIRECTION IN PIPING SYSTEMS. PIPE HANGERS, AND FITTINGS AS REQUIRED FOR A COMPLETE DRAIN SYSTEM INSTALLATION. MINIMUM SIZE OF PIPING SHALL BE 3/4" COPPER TUBING. CONNECTIONS MADE AT EVAPORATOR UNIT SHALL BE INCREASED AS MULTIPLE EVAPORATORS ARE ADDED TO CONDENSATE MAIN. INSTALL ALL DRAINAGE PIPING HIGH AS POSSIBLE, WHILE MAINTAINING A PROPER FALL OF 1/8" PER 1'-0" MINIMUM. INSTALL DRAIN PIPING DOWN EXTERIOR FACE OF FREEZER OR COOLER BOX WALL TO CONDENSATE DRAIN WITH FUNNEL. TERMINATE PIPING OVER FLOOR RIM OF FUNNEL WITH CODE APPROVED AIR GAP. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL HEAT TRACE ON ALL INTERIOR FREEZER STORAGE CONDENSATE PIPING. ALL FREEZER/COOLER CASE CONDENSATION PIPING SHALL HAVE PIPING INSULATION INSTALLED BY REFRIGERATION CONTRACTOR. ALL PIPE PENETRATIONS THROUGH REFRIGERATED PANEL WALLS SHALL BE SEALED AIRTIGHT. ANY EVAPORATO DRAIN SYSTEM NOT MEETING THESE REQUIREMENTS UPON FINAL INSPECTION. SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE WITH NO EXTRA COST

32. PLUMBING CONTRACTOR SHALL PROVIDE TRENCHING AND BACKFILLING FOR REFRIGERATION

**Architect of Record:** BOYD W. RAU 6700 Antioch Plaza Merriam, KS 66204 www.brrarch.com Tel: 913-262-9095

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PLUMBING SYMBOLS.

**SCHEDULES & NOTES** 

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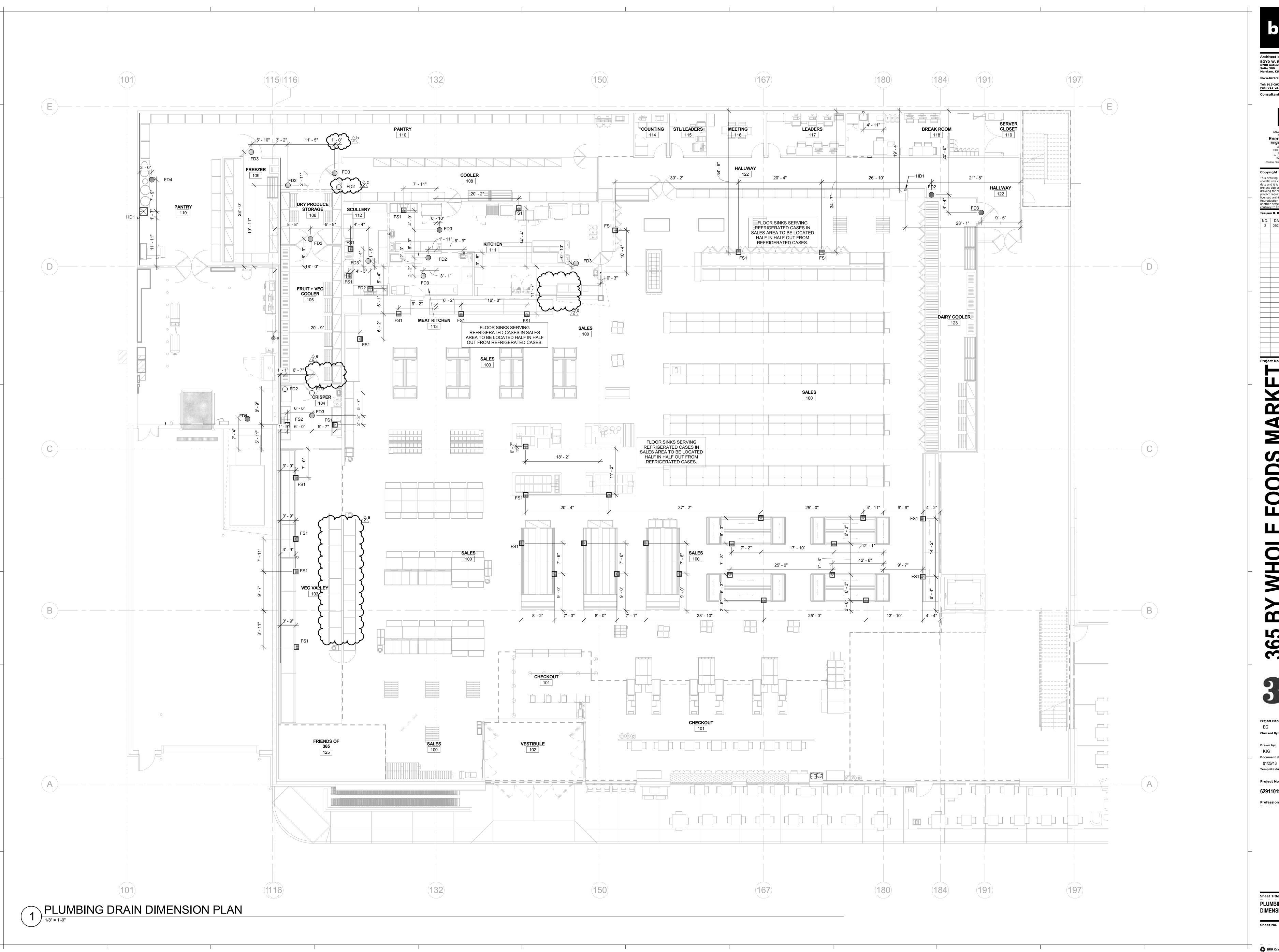
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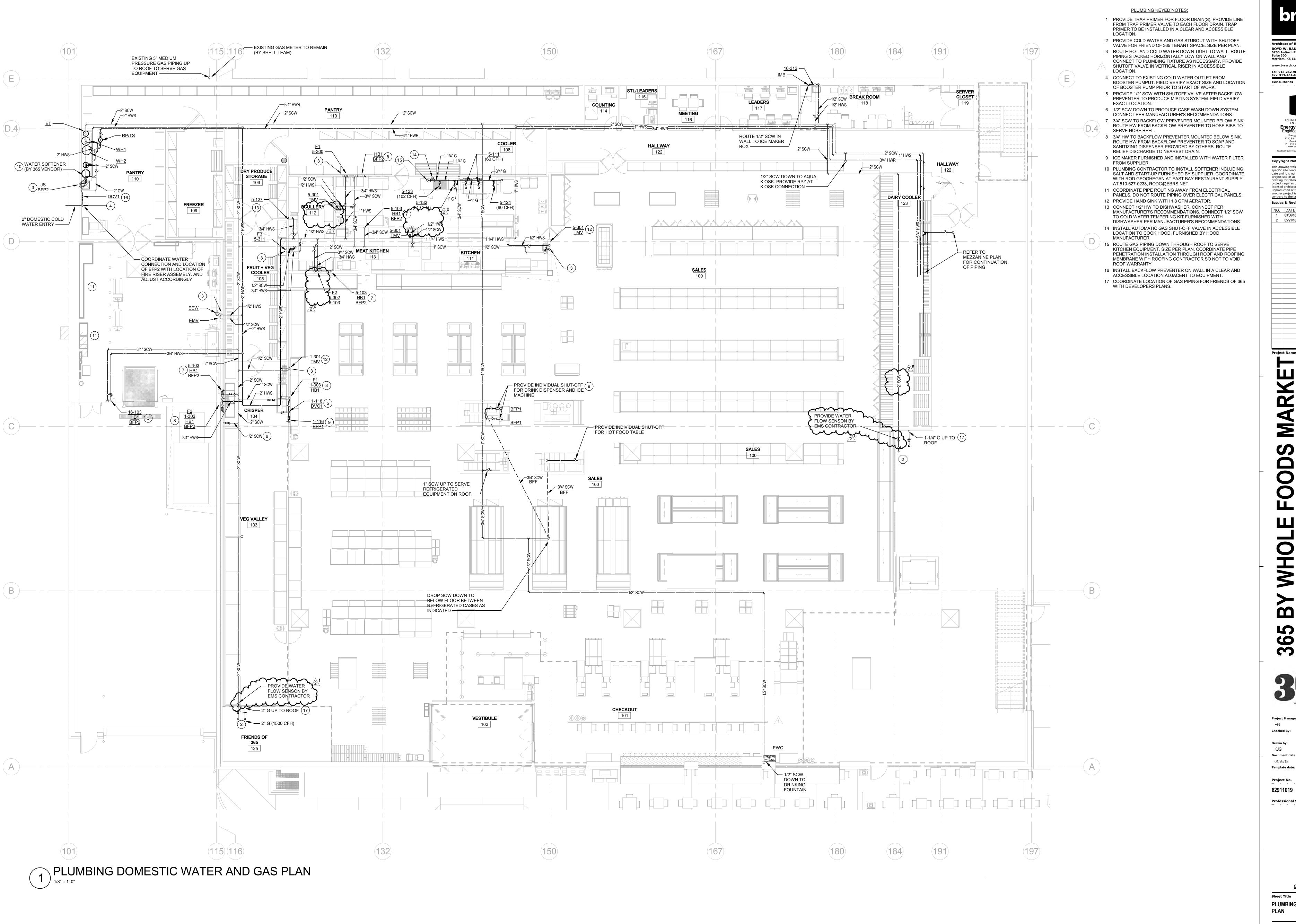
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PLUMBING DRAIN DIMENSION PLAN



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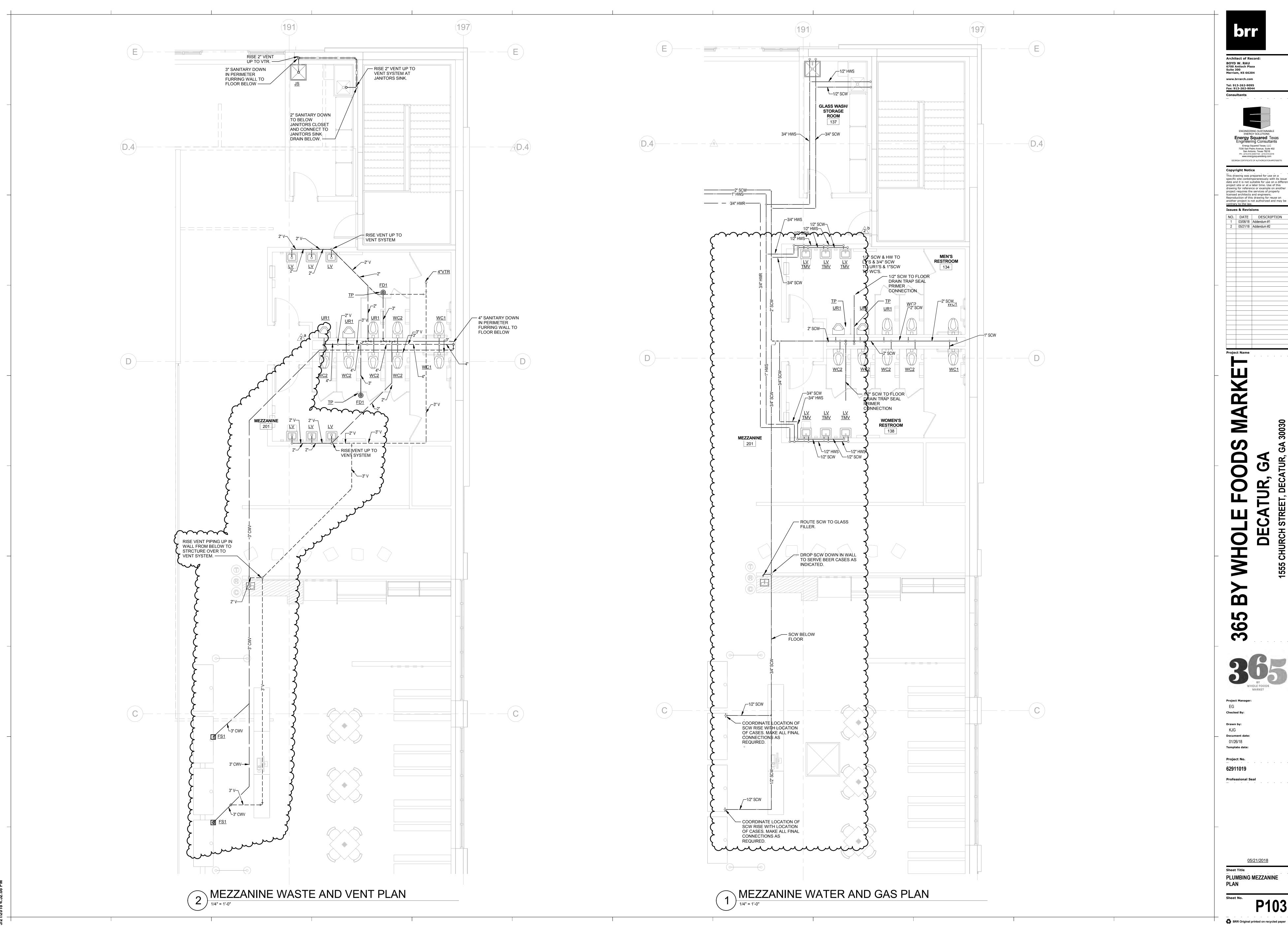


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P102



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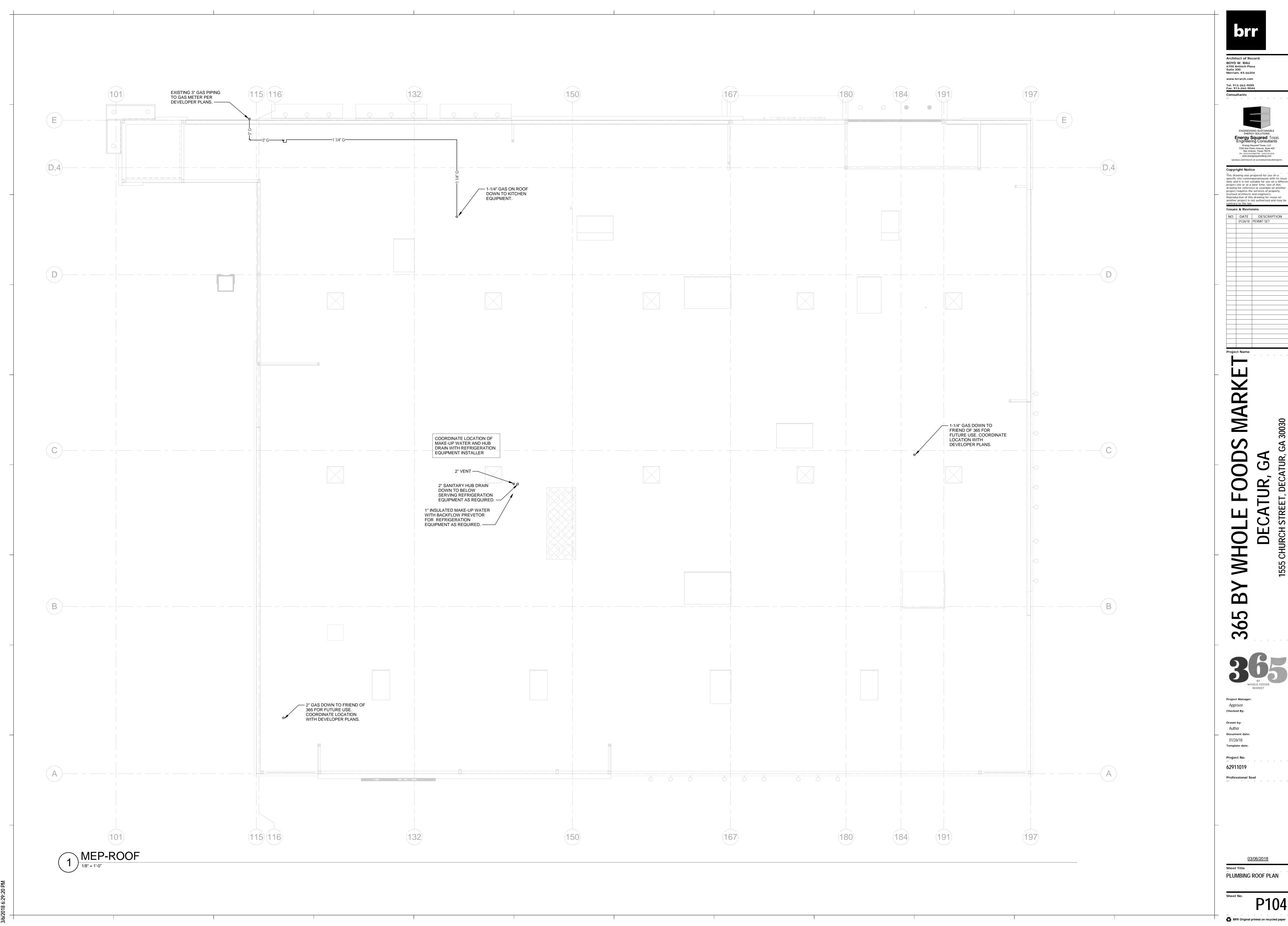
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P103





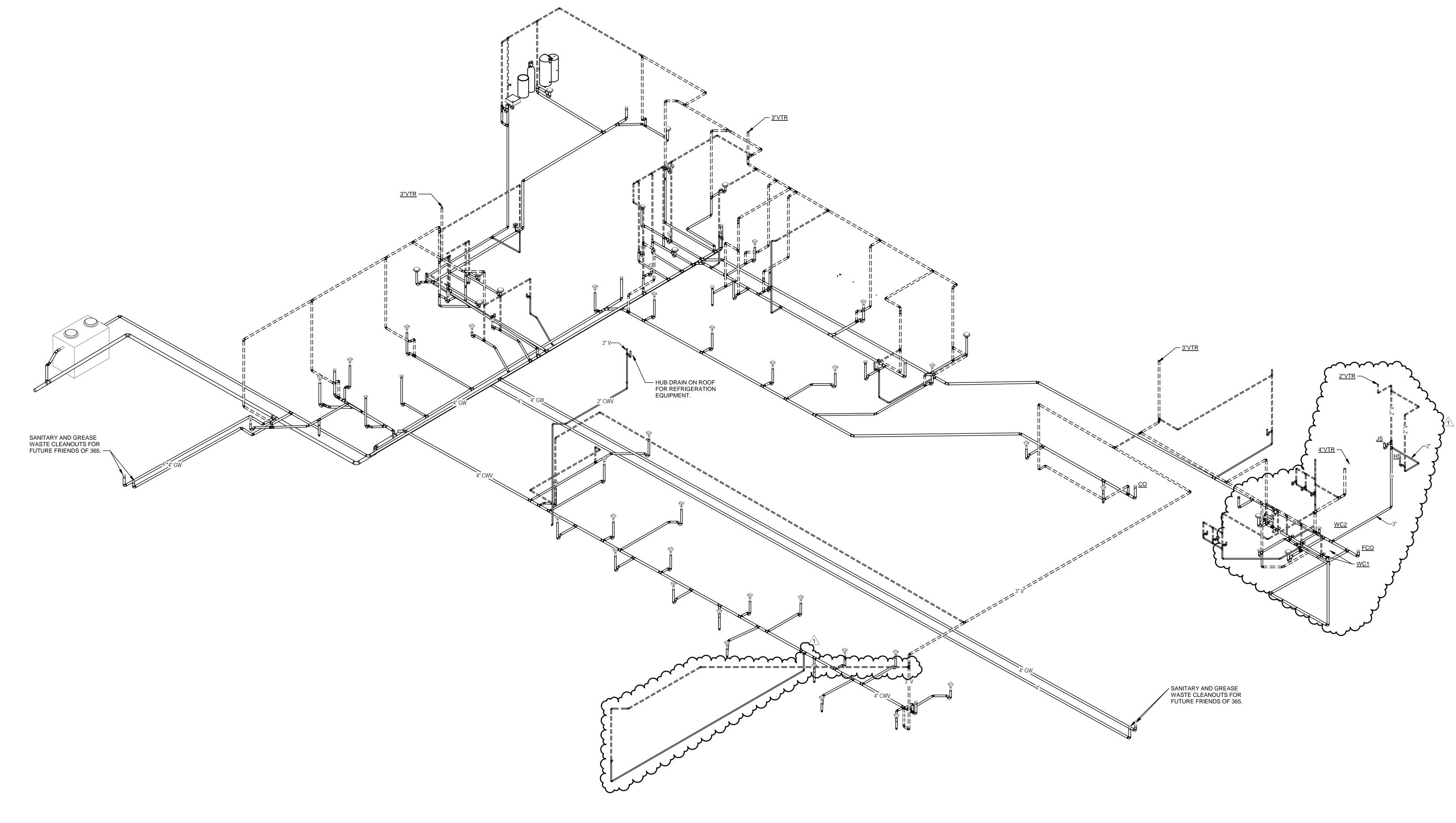
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PLUMBING WASTE & VENT RISER DIAGRAM



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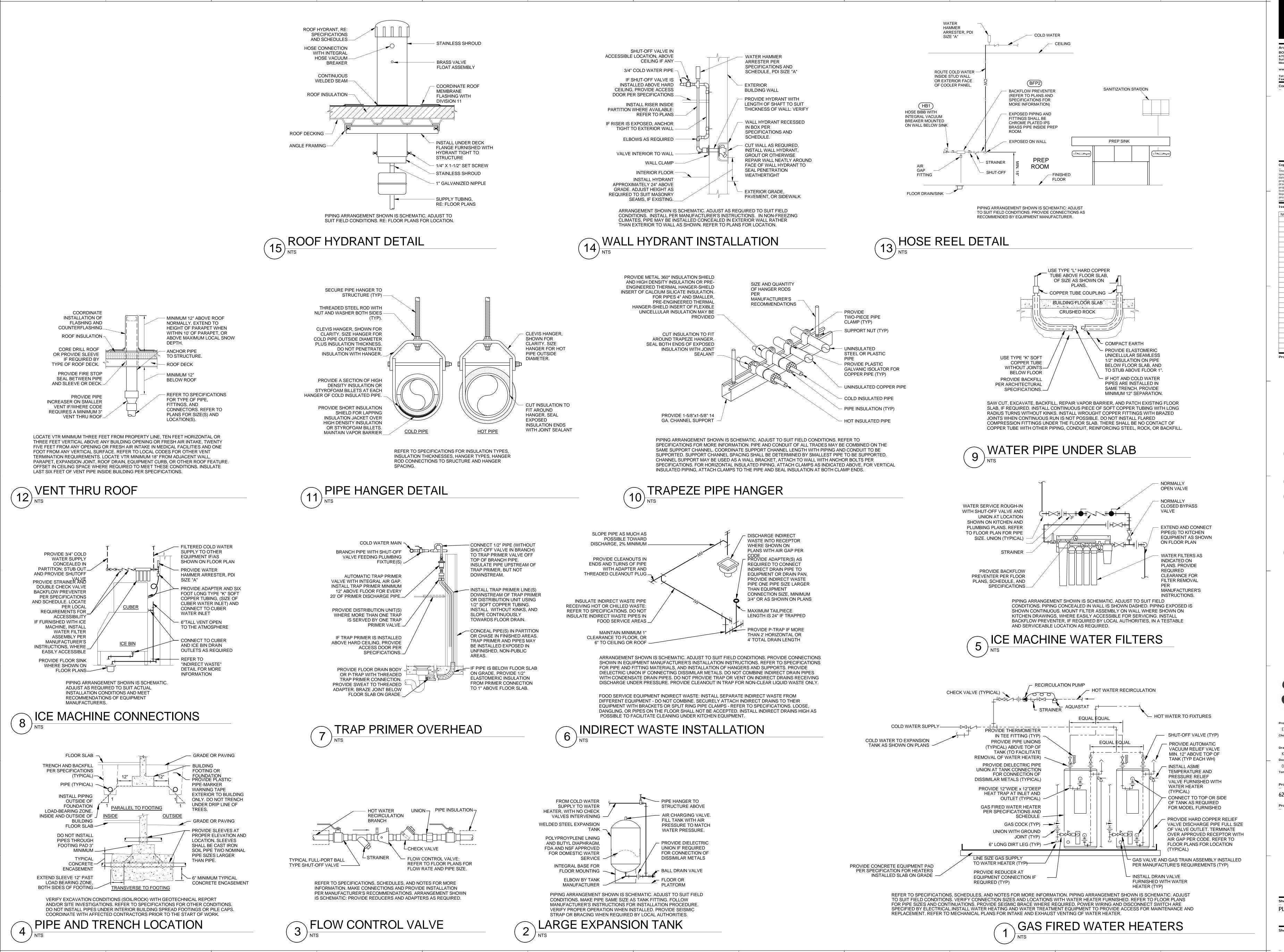
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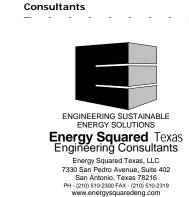
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PLUMBING WATER AND GAS RISER DIAGRAM



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**Professional Seal** 

**PLUMBING DETAILS** 

P300

25. ELECTRICAL CONTRACTOR TO ENSURE PANELBOARD BRANCH | ELECTRICAL SYMBOLS CIRCUITS BETWEEN THE PHASES ARE PROPERLY BALANCECD AFTER ANY REVISION TO CIRCUITRY. 26 LIGHT FIXTURES SHALL BE SUPPORTED FROM THE BUILDING

STRUCTURAL VIA ALL THREAD AND UNI-STRUT AND NOT SUPPORTED BY CEILING SYSTEM. 27. THE LOCATION OF OUTLETS AND EQUIPMENT SHOWN ON THE DRAWINGS ARE APPROXIMATE AND THE ARCHITECT/TENANT

SHALL HAVE THE RIGHT TO RELOCATE ANY OUTLETS OR

ADDITIONAL COST. 28. ELECTRICAL CONTRACTOR SHALL RECORD ALL FIELD CHANGES IN THE WORK AS THE JOB PROGRESSES AND TURN THIS "AS BUILT" INFORMATION OVER TO THE OWNER AT THE COMPLETION OF THE PROJECT.

FIXTURES BEFORE THEY ARE INSTALLED WITHOUT

ALL CONDUIT ABOVE GRADE SHALL BE STEEL.

30. UNDERGROUND CONDUITS SHALL BE SCHEDULE 40 PVC. MINIMUM SIZE TO BE 1" UNLESS NOTED OTHERWISE.

31. ALL CONDUITS PENETRATING SLAB IN EXPOSED LOCATIONS SHALL BE RIGID STEEL 32. USE OF MC CABLE IS ALLOWABLE AS PERMITTED BY THE PROJECT SPECIFICATIONS. INSTALLATION OF MC CABLE SHALL

BE OF NEAT WORKMANSHIP AND SHALL RUN PARALLEL AND PERPENDICULAR TO BUILDING STRUCTURE. 33. LABEL ALL RECETPACLE COVERPLATES WITH PANEL # AND

CIRCUIT # USING TYPED PRINTED STICK-ON TAPE. 34. LABEL ALL JUNCTION BOX COVERPLATES WITH PANEL # AND CIRCUIT #. USING TYPED PRINTED STICK ON TAPE.

35. ALL ELECTRICAL WORK SHALL BE LAID OUT WITH DUE CONSIDERATION FOR THE WORK OF OTHER TRADES. ANY CONFLICTS WHICH OCCUR DUE TO LACK OF COOPERATION OF THE ELECTRICAL CONTRACTOR WITH THE OTHER TRADES SHALL BE CORRECTED BY THE ELECTRICAL CONTRACTOR WITH ABSOLUTELY NO EXPENSE TO THE OWNER.

LIGHTING FIXTURES AND LAMPS SHALL BE FURNISHED BY 365. RECEIVED AND INSTALLED BY CONTRACTOR AS SCHEDULED ON THE LIGHTING FIXTURE SCHEDULE.

37. ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY SERVICE AS REQUIRED TO FACILITATE APPLICABLE TEMPORARY NEEDS. ANY TEMPORARY WIRING, FUSES, ETC SHALL BE REMOVED UPON COMPLETION OF THE PROJECT. PROVIDE GROUND FAULT PROTECTION AS REQUIRED BY NEC AND LOCAL CODES.

8. ALL CONDUIT RUNS IN WALLS SHALL BE RAN VERTICALLY, MINIMUM SIZE IS 3/4".

39. ELECTRICAL CONTRACTOR SHALL PROTECT ALL FIXTURES/EQUIPMENT AGAINST DAMAGE FROM LEAKS, ABUSE, ETC., AND PAY COST OF REPAIR OR REPLACEMENT OF FIXTURES OR EQUIPMENT MADE NECESSARY BY FAILURE TO PROVIDE SUITABLE SAFEGUARDS OR PROTECTION.

0. ELECTRICAL CONTRACTOR SHALL MAKE ALL FINAL ELECTRICAL CONNECTIONS AS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM. AFTER ALL EQUIPMENT HAS BEEN INSPECTED AND APPROVED. THOROUGHLY CLEAN ALL EQUIPMENT PROVIDED UNDER THIS WORK JUST PRIOR TO COMPLETION OF PROJECT.

41. THE ELECTRICAL CONTRACTOR, AS FAR AS THE WORK IS CONCERNED, SHALL AT ALL TIMES KEEP THE PREMISES IN A NEAT AND ORDERLY CONDITION AND AT THE COMPLETION OF THE WORK, SHALL PROPERLY CLEAN UP AND CART AWAY ANY DEBRIS AND EXCESS MATERIAL.

42. ALL ELECTRICAL WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATING, SERVICING, MAINTAINING, AND REPAIRING. HANGERS SHALL INCLUDE ALL MISCELLANEOUS STEEL SUCH AS CHANNELS, RODS, ETC. NECESSARY FOR THE INSTALLATION OF WORK AND SHALL BE FASTENED TO BUILDING STEEL, CONCRETE OR MASONRY, BUT NOT PIPING OR DUCTWORK. ALL CONDUIT AND MC CABLES SHALL BE CONCEALED WHEREVER POSSIBLE. ROUTE CONDUITS ALONG EXTERIOR WALLS, DIRECTLY ABOVE CEILINGS, OR IN PLENUM SPACES TO BE OUT OF VIEW FROM SALES FLOOR SIGHT LINES. EXPOSED CONDUITS AND MC CABLES SHALL BE IN STRAIGHT LINES PARALLEL OR PERPENDICULAR TO COLUMN LINES OR BEAMS AND SEPARATED AT LEAST 3 INCHES FROM WATER LINES WHEREVER THEY RUN ALONG SIDE OR ACROSS SUCH LINES. ALL CONDUCTORS SHALL BE IN CONDUIT OR OTHER CODE APPROVED RACEWAYS.

43. ALL 120V RECEPTACLES 50A OR LESS, 208V AND 240V RECEPTACLES 100A OR LESS, SHALL BE GFCI PROTECTED IN LOCATIONS REQUIRED BY CODE: THIS INCLUDES BATHROOMS. KITCHENS/FOOD PREP AREAS, EXTERIOR LOCATIONS AND RECEPTACLES WITHIN 6' OF A SINK. GFCI RECEPTACLES SHALL BE READILY ACCESSIBLE AND SHALL NOT BE LOCATED BEHIND STATIONARY EQUIPMENT. GFCI PROTECTION MAY BE VIA A GFCI CIRCUIT BREAKER OR GFCI RECEPTACLE, UNO. WHERE NECESSARY, GFCI PROTECTION MAY BE ACHIEVED VIA A BLANK FACE GFCI DEVICE LOCATED IN A READILY ACCESSIBLE LOCATION NEAR RECEPTACLE BEING PROTECTED. FOR DOWNSTREAM WIRING DEVICES LOCATED ON THE SAME BRANCH CIRCUIT, THE GFCI PROTECTION MAY BE PROVIDED FOR BY A SINGLE UPSTREAM DEVICE IF ALL PROTECTED

B SIGNALING BUZZER

LV TRANSFORMER

DEVICES ARE LABELED PER CODE. 44. PROVIDE TAMPER-RESISTANT, (TR), TYPE RECEPTACLES AT ALL CODE REQUIRED LOCATIONS, INCLUDING THOSE ACCESSIBLE BY CHILDREN/CUSTOMERS/PUBLIC MOUNTED

LESS THAN 5'-6" AFF, UNO.

STANDARD MOUNTING HEIGHTS ANNOTATION UNLESS NOTED OTHERWISE, MOUNTING HEIGHTS LISTED BELOW ARE MECHANICAL OR FIRE PROTECTION PLAN CALLOUT ABOVE FINISHED FLOOR (AFF) OR ABOVE FINISHED GRADE (AFG) TO PLUMBING PLAN NOTE CALLOUT CENTER OF OUTLET BOX. ALL DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH CURRENT ADA REQUIREMENTS. ELECTRICAL PLAN NOTE CALLOUT **TECHNOLOGY PLAN CALLOUT** CONTROLS (TOP OF DEVICE) PLUMBING EQUIPMENT DESIGNATION. (CONTRACTOR EXIT SIGNS (WALL MOUNTED) FURNISHED AND INSTALLED). REFER TO PLUMBING FIXTURE INTERCOMS (TOP OF DEVICE) OR EQUIPMENT SCHEDULES RECEPTACLES EQUIPMENT DESIGNATION (OWNER FURNISHED. RECEPTACLES (EXTERIOR) CONTRACTOR INSTALLED) 6" ABOVE COUNTER RECEPTACLES (ABOVE COUNTER) RECEPTACLES (BELOW COLINTER) 8" BELOW COUNTER MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR REMOTE INDICATING LIGHT (FINISHED AREAS) FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE) SAFETY SWITCHES (TOP OF DEVICE) CONNECTION POINT OF NEW WORK TO EXISTING STARTERS (TOP OF DEVICE) SWITCHES DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL TELEPHONE. DATA OUTLETS NUMBER LOWER NUMBER INDICATES SHEET NUMBER TELEPHONE TERMINAL BOARD (BOTTOM) SECTION CUT DESIGNATION **ELECTRICAL ONE-LINE & RISER** POWER EQUIPMENT & DEVICES **☆ 400A** DRAWOUT CIRCUIT **ELECTRICAL SERVICE PANELBOARD** BREAKER, RATINGS 3P RATING AS SHOWN (SURFACE OR FLUSH MOUNT) AS SHOWN TERMINAL CABINET (SURFACE OR FLUSH MOUNT), TYPE AS NOTED 200AS FUSED SWITCH 200AS COMBINATION FUSED PLYWOOD TERMINAL BOARD FOR TELEPHONE 3P RATING, POLES AND SWITCH/STARTER SYSTEM, UNO. SIZE AS NOTED. 200AF 200AF FUSE TYPE AS SHOWN **ELECTRICAL DISTRIBUTION PANELBOARD** FRS STARTER SIZE NEMA 1 SWITCHBOARD OR MOTOR CONTROL 225A CIRCUIT BREAKER 225A COMBINATION CENTER ON HOUSEKEEPING PAD RATINGS AS SHOWN CIRCUIT NEMA 1 BREAKER/STARTER AND STARTER SIZE MULTI-SECTION PANELBOARD PANELBOARD 200/3/150/3R DISCONNECT SWITCH - "200/3/150/3R" DENOTES SCHEDULES) (SEE AMPERES/POLE/FUSE/NEMA ENCL RATING NF= NON-FUSED, SCHEDULES) CB= CIRCUIT BREAKER (200/3/CB), NO VALUE (200/3/150) FOR NEMA ENCL RATING MEANS STANDARD PANELBOARD W/ NEMA 1 ENCL RATING. INTEGRAL TRANSFORMER (SEE SCHEDULES) COMBINATION DISCONNECT (SAFETY) SWITCH AND MOTOR 30/3/15/1/3R STARTER "30/3/15/1/3R" DENOTES AMPERES/POLE/FUSE/NEMA STARTER SIZE/NEMA ENCL ¬TX# TRANSFORMER TX# SHIELDED RATING. NF= NON-FUSED, CB= CIRCUIT BREAKER TYPE AND RATINGS **TRANSFORMER** (30/3/CB/1), NO VALUE (200/3/150/1) FOR NEMA TYPE AND RATINGS AS SHOWN ENCL RATING MEANS STANDARD NEMA 1 ENCL RATING. AS SHOWN MAGNETIC MOTOR STARTER, NEMA (W/BYPASS SIZE AS NOTED. 3-POLE, UNO. AUTOMATIC AUTOMATIC TRANSFER ° 200A TRANSFER SWITCH WITH BYPASS. MOTOR STARTING SWITCH SWITCH. RATINGS AS RATINGS AS SHOWN FRACTIONAL HORSEPOWER MANUAL CONTROLLER 500KW GENERATOR 500KW GENERATOR 480Y/277V, 3Ø, 4W GENERATOR. INTEGRAL HORSEPOWER MANUAL CONTROLLER 480Y/277V, 3Ø, 4W GENERATOR M/G | NON-SEPARATELY SEPARATELY VFD VARIABLE FREQUENCY DRIVE. DERIVED SOURCE ???A DERIVED SOURCE.  ot RATINGS AS RATINGS AS RELAY OR CONTACTOR (IN SCHEMATICS) SHOWN SHOWN SWITCHBOARD ELEC ROOM MAGNETIC CONTACTOR, SIZE, COIL VOLTAGE SWITCHGEAR, SWITCHBOARD 480Y/277V, 3Ø, 4W NUMBER OF POLES AS INDICATED AND/OR DISTRIBUTION PANELBOARD, TYPE, RATING. TIME SWITCH **DEVICES AND ACCESSORIES** PHOTOCELL AS SHOWN. INDICATING LIGHT VM AM COMBINATION DIGITAL VOLT METER/AMMETER PUSH BUTTON ### CIRCUIT IDENTIFICATION - SEE CIRCUIT SCHEDULE •• STOP-START PUSH BUTTON CONTROL STATION GFR GROUND FAULT RELAY HAND-OFF-AUTO PUSH BUTTON CONTROL STATION PFR PHASE FAULT RELAY KK3 KIRK-KEY INTERLOCK MUSHROOM-TYPE PUSH BUTTON ST SHUNT TRIP OVERHEAD PADDLE FAN AMMETER, RANGE AS SPECIFIED OR REQUIRED VOLTMETER, RANGE AS SPECIFIED OR REQUIRED | UTILITY | M | UTILITY METER (AS REQUIRED BY UTILITY) (AS) AMMETER SWITCH SIGNALING **VOLTMETER SWITCH** B SIGNALING BELL D WATT-HOUR METER, "D" DENOTES DEMAND REGISTER,

WH/15 "15" DENOTES MINUTES OF DEMAND INTERVAL

CURRENT TRANSFORMER RATING AS

POTENTIAL TRANSFORMER RATING AS

*F# FAULT POINT REFERENCED IN SHORT CIRCUIT

**CURRENT AND VOLTAGE DROP SPREADSHEET** 

TVSS TRANSIENT VOLTAGE SURGE SUPPRESSOR

• (I) GROUND CONNECTION WITH TEST WELL

SPECIFIED OR REQUIRED

SPECIFIED OR REQUIRED

GROUND CONNECTION

→ ⊶ | LIGHTNING ARRESTER

 $\equiv \neq$  CONTACT (OPEN OR CLOSED)

## BLOCK LOAD KW OR KVA

• GROUND ROD

- CAPACITOR

-\\\\ HEATER

(HP)/ MOTOR

NOTE: THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS, ABBREVIATIONS ETC. ARE NECESSARILY USED ON THE DRAWINGS. LIGHTING BOXES, LIGHTING CONTROL AND WIRING DEVICES SINGLE POLE WALL SWITCH (NO LETTER DESIGNATION) LIGHT FIXTURE SEE LIGHT FIXTURE SCHEDULE SWITCH LETTER DESIGNATIONS AS FOLLOWS: = TWO POLF B = THREE-WAY4 = FOUR-WAY a = SWITCHED BY SWITCH "a" D = DIMMER A = LIGHT FIXTURE TYPE "A" F = FAN SPEED CONTROL NL = NIGHT LIGHT _____ K = KEYED= WALL MOUNT P = SPST PILOT LIGHT = ARROW INDICATES AIMING DIRECTION WP = WEATHER PROOF ALC AUTOMATIC LOAD CONTROL RELAY BTS BRANCH CIRCUIT TRANSFER SWITCH LIGHT FIXTURE WITH NIGHT LIGHT REFER TO LIGHTING CONTROL DEVICE SCHEDULE FOR ADDITIONAL DEVICE SYMBOLS EMERGENCY LIGHT FIXTURE WITH EMERGENCY LIGHTING AND DEFINITIONS SPECIFIC TO THIS PROJECT BATTERY PACK OR CONNECTED TO EMERGENCY SOURCE SIMPLEX RECEPTACLE - NEMA 5-20R, UNO NIGHT LIGHT/EMERGENCY LIGHT FIXTURE WITH EMERGENCY DUPLEX RECEPTACLE - NEMA 5-20R, UNO BATTERY PACK OR CONNECTED TO EMERGENCY SOURCE DOUBLE DUPLEX RECEPTACLE - NEMA 5-20R, UNO LIGHT FIXTURE WITH DUAL BALLASTS CIRCUITED SEPARATELY. (SHADING IMPLIES EMERGENCY LIGHT FIXTURE) SPECIAL RECEPTACLE - NEMA TYPE AS NOTED TWIST-LOCK TYPE RECEPTACLE  $^{
abla 
abla 
abla}$  LIGHTING TRACK WITH LIGHT FIXTURE TYPES AS INDICATED OR GFCI TYPE RECEPTACLE* •••• MIRROR LIGHTS ISOLATED GROUND TYPE RECEPTACLE SITE LIGHTING FIXTURE OR DEMERGENCY RECEPTACLE* RECEPTACLE INSTALLED ABOVE COUNTER OR BACKSPLASH* EXIT SIGN - CEILING / WALL MOUNTED, ARROWS AS INDICATED. RECEPTACLE INSTALLED IN CEILING* EMERGENCY BATTERY PACK LIGHT FIXTURE - CEILING/WALL RECEPTACLE INSTALLED IN FLOOR* AFEA (AREA FOR EVACUATION ASSISTANCE) SIGN -RECEPTACLE INSTALLED VIA DROP CORD* CEILING/WALL MOUNTED, ARROWS AS INDICATED. RECEPTACLE LETTER DESIGNATIONS AS FOLLOWS C = CONTROLLED CH = CLOCK HANGER TYPE WR = WEATHER RESISTANT CIRCUITING & WIRING = DEMOLISHED E/EX = EXISTING EM = EMERGENCY POWER REFER TO BRANCH CIRCUIT CONDUCTOR TABLE FOR REQUIRE H = HORIZONTALLY MOUNTED QUANTITIES OF CONDUCTORS IN BRANCH CIRCUITRY. REFER TO IG = ISOLATED GROUND ALL PLANS, NOTES, WIRING AND CONTROL DIAGRAMS FOR R = RELOCATEDADDITIONAL CIRCUITING REQUIREMENTS. S = SWITCHEDTR = TAMPER RESISTANT HOMERUN TO PANELBOARD INFORMATION AT ARROWS TV = TELEVISION ARE CIRCUIT NUMBERS AND PANELBOARD FOR USB = USB/DUPLEX TERMINATION. REFER TO PANELBOARD SCHEDULES ····· MULTI-OUTLET ASSEMBLY FOR BRANCH CIRCUIT CONDUCTOR SIZES. WHERE TICK MARKS ARE SHOWN, THE FOLLOWING SHALL GOVERN: FLOOR WALL SWITCHED HOT (PHASE) CONDUCTORS (SHOWN TRAILING NFLITRAL) NEUTRAL (GROUNDED) CONDUCTOR ▼ MULTI-SERVICE OUTLET; TELEPHONE AND DATA UNSWITCHED HOT (PHASE) CONDUCTORS (SHOWN LEADING NEUTRAL) ABOVE COUNTER HASH MARKS INDICATE QUANTITY OF CONDUCTORS. ▼ TELEPHONE OUTLET DATA OUTLET EQUIPMENT GROUNDING CONDUCTOR IN CONDUIT (GREEN INSULATION OR BARE) MULTI-SERVICE OUTLET; TELEPHONE AND DATA ISOLATED GROUNDING CONDUCTOR IN CONDUIT MULTI-SERVICE POWER POLE WITH TELEPHONE, DATA AND (GREEN INSULATION WITH YELLOW TRACER) POWER OUTLETS A = TYPE, SEE PLANS, SCHEDULES OR SPECIFICATIONS CONDUIT CONCEALED MULTI-SERVICE FLOOR BOX WITH TELEPHONE, DATA AND CONDUIT IN/UNDER FLOOR/GROUND CONSTRUCTION POWEROUTLETS A = TYPE, SEE PLANS, SCHEDULES OR SPECIFICATIONS --- EXPOSED CONDUIT A POKE THROUGH, A = TYPE, SEE PLANS, SCHEDULES OR SPECIFICATIONS FLEXIBLE CONDUIT (T) THERMOSTAT LOW VOLTAGE CABLE (NOT ROUTED IN CONDUIT) J JUNCTION BOX/OUTLET BOX CONDUIT TURNING DOWN BLANK FACE GFCI FEED THROUGH DEVICE CONDUIT TURNING UP CONNECTION POINT OR EQUIPMENT TERMINATION *SYMBOL DEMONSTRATED WITH DUPLEX RECEPTACLE, WHEN USED IN COMBINATION WITH OTHER DEVICES MEANING IS SIMILAR FOR THOSE ■ EQUIPMENT TERMINATION BRANCH CIRCUIT CONDUCTOR TABLE HOT **GROUNDING***** NEUTRAL (PHASE)* (GROUNDED)** 1P (1)U.N.O.

(1)U.N.O.

(1)U.N.O.

* PROVIDE ADDITIONAL CONDUCTORS THROUGH ENTIRE CIRCUIT

(SWITCHED, UNSWITCHED/EM, ETC.) AS INDICATED THROUGHOUT

REFER TO SPECIFICATIONS FOR LIMITATIONS ON SHARING NEUTRAL

* PROVIDE ADDITIONAL ISOLATED GROUNDING CONDUCTORS WHERE

CONSTRUCTION DOCUMENTS AND AS REQUIRED FOR A COMPLETE

3P

AND WORKING SYSTEM

INDICATED

(GROUNDED) CONDUCTORS.

**AMPERES** AIR (COMPRESSED) AIR CONDITIONING FLOW LINE AIR COOLED CHILLER ACCU AIR COOLED CONDENSING UNIT FLR FLOOR ADA ADA AMERICANS WITH FURNACE DISABILITIES ACT AMPERE FUSE ABOVE FINISHED CEILING AFCI ARC FAULT CIRCUIT INTERRUPTER AFEA AREA FOR EVACTUATION ASSISTANCE ABOVE FINISHED FLOOR ABOVE FINISHED GRADE AUTHORITY HAVING JURISDICTION GROUND AHU AIR HANDLING UNIT GND GROUND ANALOG INPUT AMPERE INTERRUPTING CURRENT ALUMINUM ANALOG OUTPUT ACCESS PANEL ACCESS POINT HEAD ACROSS-THE-LINE HD HUB DRAIN AUTOMATIC TRANSFER SWITCH ATS AUDIO VISUAL HTG HEATING AWG AMERICAN WIRE GAUGE HTR HEATER HZ HERTZ BOILER **BUILDING AUTOMATION** SYSTEM BACKBONE BACKDRAFT DAMPER **BLOWDOWN** BUILDING DISTRIBUTOR WP = WEATHER PROOF COVER CONDUIT BOARD BUILDING DISTRIBUTION FRAME BELOW FINISHED FLOOR BELOW FINISHED GRADE BOILER FEED PUMP BINARY INPUT BKR BREAKER BO BINARY OUTPUT BOTTOM OF BOD BOTTOM OF DUCT BOP BOTTOM OF PIPE BOS BOTTOM OF STRUCTURE BOS BOTTOM OF STEEL/STUD BTU BRITISH THERMAL UNIT KK KIRK KEY C CONDUIT kV KILOVOLT CAT CATEGORY CATV CABLE TELEVISION SYSTEM kW KILOWATT CD CANDELA CD CAMPUS DISTRIBUTOR CT CURRENT TRANSFORMER CCTV CLOSED CIRCUIT TELEVISION LENGTH CH CHILLER LOUVER CFM CUBIC FEET PER MINUTE CKT CIRCUIT CMP COMMUNICATIONS PLENUM CABLE CMR COMMUNICATIONS RISER CABLE CP CONDENSATE PUMP LINEAR FEET CPT CONTROL POWER TRANSFORMER CPVC CHLORINATED POLYVINYL CHLORIDE CRAC COMPUTER ROOM AIR CONDITIONING UNIT CRU COMPUTER ROOM UNIT CT COOLING TOWER M-M MULTIMODE CWP COOLING TOWER PUMP CU COPPER NETWORK CU CONDENSING UNIT CVD CUMULATIVE VOLTAGE DROP CHP CHILLED WATER PUMP MAX MAXIMUM DB DECIBELS DDC DIRECT DIGITAL CONTROL DFU DRAINAGE FIXTURE UNIT DI DIGITAL INPUT DI DUCTILE IRON DN DOWN DPI DIFFERENTIAL PRESSURE INDICATOR

EM EMERGENCY

SYSTEM

ER EQUIPMENT ROOM

RESPONSE

EWT ENTERING WATER

ETR EXISTING TO REMAIN

EWB ENTERING WET BULB

TEMPERATURE

FCA FAULT CURRENT AMPS

FD FLOOR DISTRIBUTOR

FFA FROM FLOOR ABOVE

FCU FAN COIL UNIT

FD FLOOR DRAIN

EMI ELECTROMAGNETIC

INTEFERENCE

EMS ENERGY MANAGEMENT

EPO EMERGENCY POWER OFF

ESFR EARLY SUPPRESSION FAST

EWC ELECTRIC WATER COOLER

FACP FIRE ALARM CONTROL PANEL

FBO FURNISHED BY OTHERS/OWNER

EMT ELECTRICAL METALLIC TUBING

FEB FROM FLOOR BELOW PDI PLUMBING DRAINAGE INSTITUTE FINISHED FLOOR PDU POWER DISTRIBUTION UNIT FHC FIRE HOSE CABINET PHASE FLA FULL LOAD AMPS PHASE POST INDICATOR VALVE PANEL FVNR FULL-VOLTAGE. PNLBD PANELBOARD NON-REVERSING POE POWER OVER ETHERNET POTS STANDARD ANALOG TELEPHONE LINE GC GENERAL CONTRACTOR POTS PLAIN OLD TELEPHONE SERVICE GROUNDING EQUALIZER PROVIDE FURNISH AND INSTALL GFCI GROUND FAULT CIRCUIT PRV PRESSURE REDUCING VALVE INTERRUPTER PSTN PUBLIC SWITCHED GFR GROUND FAULT RELAY TELELPHONE NETWORK POTENTIAL TRANSFORMER PRESSURE THREAD GPM GALLONS PER MINUTE PTP POINT-TO-POINT GRS GALVANIZED RIGID STEEL PTZ PAN, TILT, ZOOM PVC POLYVINYL CHLORIDE GYPBD GYPSUM BOARD QTY QUANTITY HC HORIZONTAL CROSS-CONNECT RETURN AIR HOA HAND-OFF-AUTOMATIC ROOM CRITERIA RCP REINFORCED CONCRETE HVU HEATING AND VENTILATING UNIT RCPT RECEPTACLE HWP HEATING WATER PUMP RD **ROOF DRAIN** RETURN DUCT REV REVISION REVERSE REV INTERMEDIATE RETURN FAN RF CROSS-CONNECT RELATIVE HUMIDITY INVERT ELEVATION ROOF HOOD ISOLATED GROUND RHG REFRIGERANT HOT GAS IMC INTERMEDIATE METAL RLA RUNNING LOAD AMPS RMC RIGID METAL CONDUIT IN WC INCHES OF WATER COLUMN RPM REVOLUTIONS PER MINUTE INTERNET PROTOCOL RTU ROOFTOP UNIT ISC SHORT CIRCUIT CURRENT RACK UNIT ISDN INTEGRATED SERVICES DIGITAL NETWORK ISP INTERNET SERVICE PROVIDER SUPPLY AIR ISP INSIDE PLANT CABLE SATV SYNCHRONOUS OPTICAL NETWORK STEAM CONDENSATE PUMP JB JUNCTION BOX SMOKE DUCT DETECTOR SD J-BOX JUNCTION BOX SUPPLY DUCT SEER SEASONAL ENERGY **EFFICIENCY RATIO** SQUARE FEET kcmil 1000 CIRCULAR MILS SUPPLY FAN SPDT SINGLE-POLE. DOUBLE-THROW kVA KILOVOLT-AMPS SPST SINGLE-POLE. kVAR KILOVOLT-AMPS REACTIVE SINGLE-THROW STATIC PRESSURE kWH KILOWATT-HOUR SLIMP PLIMP SPACES STAINLESS STEEL SANITARY SEWER SS SOIL STACK LAN LOCAL AREA NETWORK SHUNT TRIP LEAVING AIR TEMPERATURE STEAM TRAP LCC LIMITED COMBUSTIBLE CABLE STC SOUND TRANSMISSION CLASS LDB LEAVING DRY BULB STM STEAM LEC LOCAL EXCHANGE CARRIER SWBD SWITCHBOARD LED LIGHT-EMITTING DIODE LOW PRESSURE TBB TELECOMMUNICATIONS LRA LOCKED ROTOR AMPS BONDING BACKBONE LEAVING WET BULB TO BE DETERMINED LWT LEAVING WATER TC/C TEMPERATURE CONTROLS TEMPERATURE CONTRACTOR TOTAL DYNAMIC HEAD TO FLOOR ABOVE TFA TO FLOOR BELOW MAN METROPOLITAN AREA TGB TELECOMMUNICATIONS GROUND BUS BAR MATV MASTER ANTENNA TELECOMMUNICATIONS TELEVISION SYSTEM INDUSTRY ASSOCIATION MAU MAKE-UP AIR UNIT TWISTLOCK TMGB TELECOMMUNICATIONS MAIN MBH 1000 BTU PER HOUR GROUND BUS BAR MC MAIN CROSS-CONNECT NETWORK TR TAMPER RESISTANT MCA MINIMUM CIRCUIT AMPACITY TELECOMMUNICATIONS ROOM MCB MAIN CIRCUIT BREAKER TEMPERATURE TRANSMITTER MCC MOTOR CONTROL CENTER TWU THROUGH WALL AIR MD MOTORIZED DAMPER CONDITIONING UNIT MDF MAIN DISTRIBUTION FRAME TRANSFORMER MDF MEDIUM DENSITY FIBERBOARD TYPICAL DPDT DOUBLE-POLE, DOUBLE-THROW | MDP | MAIN DISTRIBUTION PANEL MFR MANUFACTURER MG MOTOR GENERATOR UNDERFLOOR DPST DOUBLE-POLE, SINGLE-THROW MH MAINTENANCE HOLE U/G UNDERGROUND DS DOWNSPOUT MH MANHOLE UNDERSLAB MIN MINIMUM DS DUCT SILENCER UNIT HEATER MLO MAIN LUGS ONLY DX DIRECT EXPANSION **UNDERWRITERS** MOCP MAXIMUM OVERCURRENT LABORATORIES, INC. PROTECTION UNLESS NOTED OTHERWISE (E) EXISTING MPOE MAIN POINT OF ENTRANCE UNINTERRUPTIBLE POWER EA EXHAUST AIR MPOP MAIN POINT OF PRESENCE EAT ENTERING AIR TEMPERATURE MSB MAIN SWITCHBOARD UTP UNSHIELDED TWISTED PAIR EDB ENTERING DRY BULB MSWB MAIN SWITCHBOARD MS/TP MASTER SLAVE/TOKEN PASSING -EER ENERGY EFFICIENCY RATIO COMMUNICATION TRUNK EF EXHAUST FAN VOLT(S) MTD MOUNTED EIA ELECTRONIC INDUSTRIES VAC VOLTS ALTERNATING MU MAKE-UP ASSOCATIONS CURRENT ELECTRIFIED LOCK OR VOLTAGE DROP LATCH VOLTS DIRECT CURRENT N/A NOT APPLICABLE VARIABLE AIR VOLUME EL ELEVATION N/C NORMALLY CLOSED

VCP

VFD

W

WR

WT

W WIREWIRE

WIDTH

WITH

WB WET BULB

W/O WITHOUT

N/O NORMALLY OPEN

NEC NATIONAL ELECTRICAL CODE

NFPA NATIONAL FIRE PROTECTION

OVERFLOW ROOF DRAIN

HEALTH ADMINISTRATION

OSHA OCCUPATIONAL SAFETY AND

PBX PRIVATE BRANCH EXHANGE

PCR PUMPED CONDENSATE

OS OCCUPANCY SENSOR

ASSOCIATION, INC.

NC NOISE CRITERIA

NF NON-FUSED

NIC IN CONTRACT

METER

OA OUTSIDE AIR

OC ON CENTER

OSP OUTSIDE PLANT

RETURN

P POLE

NM

NIGHT LIGHT

VITRIFIED CLAY PIPE

VENT STACK

VTR VENT THROUGH ROOF

WAN WIDE AREA NETWORK

WATER COLUMN

WATER GONG

WASTE STACK

WT WATERTIGHT

WEIGHT

WAP WIRELESS ACCESS POINT

WATER PRESSURE DROP

WEATHER RESISTANT

WSFU WATER SUPPLY FIXTURE UNIT

EXPLOSION-PROOF

WEATHER PROOF COVER

VARIABLE FREQUENCY DRIVE

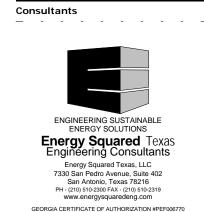
(ALL ABBREVIATIONS SHOWN ARE NOT

NECESSARILY USED ON THE DRAWINGS.)

Architect of Record: BOYD W. RAU 6700 Antioch Plaza Merriam, KS 66204 www.brrarch.com

Tel: 913-262-9095

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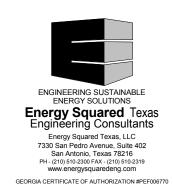
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Consultants



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AREAS, UNLESS NOTED OTHERWISE. DO NOT DIRECTLY MOUNT FIXTURES TO ANY SOFFITS. 16. LIGHTING UNDERNEATH THE EXHAUST HOODS IS BY HOOD SUPPLIER. COORDINATE ELECTRICAL REQUIREMENTS WITH THE EXHAUST HOOD SUPPLIER AND MECHANICAL CONTRACTOR.

17. COORDINATE ALL FIXTURE LOCATIONS WITH ARCHITECTURAL

REFLECTED CEILING PLAN. 18. COORDINATE ALL FIXTURE MOUNTING HEIGHTS WITH LIGHT

FIXTURE SCHEDULE.

**GENERAL LIGHTING NOTES:** 

EXCEED CODE REQUIREMENTS.

IN ALL RACEWAYS.

STRUCTURE OR MILLWORK.

INFORMATION.

PRIOR TO ROUGH-IN.

1. DRAWINGS AND SPECIFICATIONS GOVERN, WHERE THEY

2. VERIFY ROUGH-IN REQUIREMENTS, LOCATIONS, MOUNTING

LIGHTING EQUIPMENT BEFORE PROVIDING ROUGH-IN.

HEIGHTS, VOLTAGE, PHASE, AMPS, HP, KW, ETC. FOR ALL

BRANCH CIRCUIT DROPS TO FIXTURES. USE CONDUIT AND WIRE FOR ALL BRANCH CIRCUIT HOMERUNS. MC CABLE SHALL NOT BE

INFORMATION ON LIGHT FIXTURE TYPES AND RESPONSIBILITIES.

PARALLEL TO BUILDING LINES WHERE POSSIBLE. COORDINATE

CONDUIT ROUTING AND INSTALLATION WITH OTHER TRADES

COORDINATION AND CONFLICT ISSUES BE RESOLVED BY 365 CONSTRUCTION MANAGER PRIOR TO INSTALLATION OF LIGHT FIXTURES. CONTRACTOR SHALL BE HELD FINANCIALLY

PROVIDED BY 365.THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECEIVING, INSPECTING, STORING AND INSTALLING ALL

LIGHTING FIXTURES. THE CONTRACTOR SHALL CONTACT 365 IF

ANY FIXTURES ARE DAMAGED BEFORE INSTALLATION.

JUNCTION BOX CONNECTING POWER TO LIGHT FIXTURES.

SUSPENDED CEILINGS, IS NOT PERMITTED. CONNECT EACH LIGHT FIXTURE BY A WHIP TO A JUNCTION BOX. PROVIDE CABLE WHIPS OF SUFFICIENT LENGTHS TO ALLOW FOR RELOCATING

EACH LIGHT FIXTURE WITHIN A 5-FOOT RADIUS OF ITS INSTALLED LOCATION, BUT NOT EXCEEDING 6 FEET IN UNSUPPORTED

AND FOOD PREP AREAS SHALL BE PROVIDED WITH PROTECT-A-LAMP COVERS OR EQUIVALENT SHIELDED OR SHATTERPROOF

LAMPS. CONTRACTOR SHALL VERIFY THAT ALL AREAS ARE

DOOR FRAME WHEREVER PRACTICAL. CEILING/PENDANT

PROPERLY PROTECTED AFTER STORE SETUP IS COMPLETED.

MOUNTED EXIT SIGNS SHALL BE SUSPENDED TO 12'-6" ON SALES FLOOR IN AREAS OPEN TO STRUCTURE, AT BOTTOM OF BAR JOISTS IN BACKROOM AREAS AND ON FINISHED CEILING IN PREP

RESPONSIBLE FOR ANY CONFLICTS WITH LIGHTING POSITIONS AS INDICATED ON THIS SHEET AND WITH ANY OTHER TRADES.

RUN IN CEILING SPACE IN LENGTHS EXCEEDING SIX FEET.

FIXTURES TO MEET SPECIFIED MOUNTING HEIGHTS.

E110 FOR OCCUPANCY SENSOR TYPE AND CONTROL

19. ALIGN ROWS OF LIGHTS ON SALES FLOOR TO AVOID CONFLICTS WITH STRUCTURAL BRIDGING AND DUCTWORK TO MAINTAIN CONTINUITY AND ALIGNMENT OF ENTIRE ROW WHEREVER PRACTICAL. ALL LIGHTING SHALL BE INSTALLED IN A STRAIGHT. PLUMB AND WORKMANLIKE MANNER UTILIZING APPROPRIATE MEANS AND METHODS.

20. VERIFY CEILING CONSTRUCTION WITH ARCHITECT IN ALL AREAS CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING FIXTURES WITH CORRECT TRIMS, FLANGES, MOUNTING HARDWARE, ETC. TO ASSURE COMPATIBILITY WITH CEILING STRUCTURE. COORDINATE PROCUREMENT OF DIFFERENT MOUNTING ACCESSORIES WITH 365 CONSTRUCTION MANAGER.

21. KEEP PENETRATIONS THROUGH COOLER AND FREEZER BOXES TO A MINIMUM. ROUTE ALL CONDUITS SERVING FREEZERS AND COOLERS DIRECTLY OUT OF THE BOX. PROVIDE A PENETRATION AT EACH LIGHT FIXTURE THROUGH CEILING. AVOID ROUTING CONDUIT INSIDE OF THE BOX.IF POSSIBLE, ROUTE DIRECTLY OUT THE REAR OF THE BOX IN AN ORDERLY MANNER. SEAL ALL PENETRATIONS THROUGH BOX WITH SILICONE SEALANT AND FILL CONDUIT FITTINGS/SEAL OFFS WITH EXPANDING FOAM SEALANT.

22. OCCUPANCY SENSORS SHALL NOT BE INSTALLED DIRECTLY TO LIGHT FIXTURE BODY. PROVIDE WEATHERPROOF JUNCTION BOX AT ALL OCCUPANCY SENSOR LOCATIONS INSIDE COOLER AND FREEZER BOXES.

23. PROVIDE GRAY SWITCHES, RECEPTACLES AND OUTLETS WITH STAINLESS STEEL COVER PLATES IN KITCHEN AND WET LOCATIONS. PROVIDE GRAY SWITCHES, RECEPTACLES AND OUTLETS WITH GRAY COVER PLATES IN ALL OTHER LOCATIONS.

#### **ELECTRICAL LIGHTING PLAN NOTES**

PROVIDE BACKBOX AND CONDUIT ROUTED TO ACCESSIBLE LOCATION FOR LIGHTING OVERRIDE SWITCH INSTALLED BY EMS CONTRACTOR. REFER TO LIGHTING CONTROL SCHEDULE ON E110 AND EM300 FOR ADDITIONAL INFORMATION. REFER TO SHEET E200 FOR CIRCUITING OF RECEPTACLE FOR DOCK LIGHT.

4 STEM MOUNT EMERGENCY LIGHTS IN AREAS WITH NO CEILING. REFER TO DETAIL 7 SHEET E210. 5 LIGHTING FIXTURE TO BE MOUNTED DIRECTLY ABOVE

LEASE SPACE IS THE RESPONSIBILITY OF THE LANDLORD. REMOTE BATTERY PACK FOR EMERGENCY FIXTURE IN COOLER/FREEZER. CONNECT TO LOCAL LIGHTING CIRCUIT AHEAD OF ANY SWITCHING. MOUNT BATTERY PACK HIGH ON WALL. ROUTE LOW VOLTAGE CABLE TO Y4 FIXTURE. SEAL PENETRATIONS

8 STEM MOUNT EXIT SIGNS IN AREAS WITH NO CEILING. REFER TO DETAIL 8 SHEET E210. 9 FIXTURES ARE ALIGNED WITH AND CONNECTED TO ADJACENT

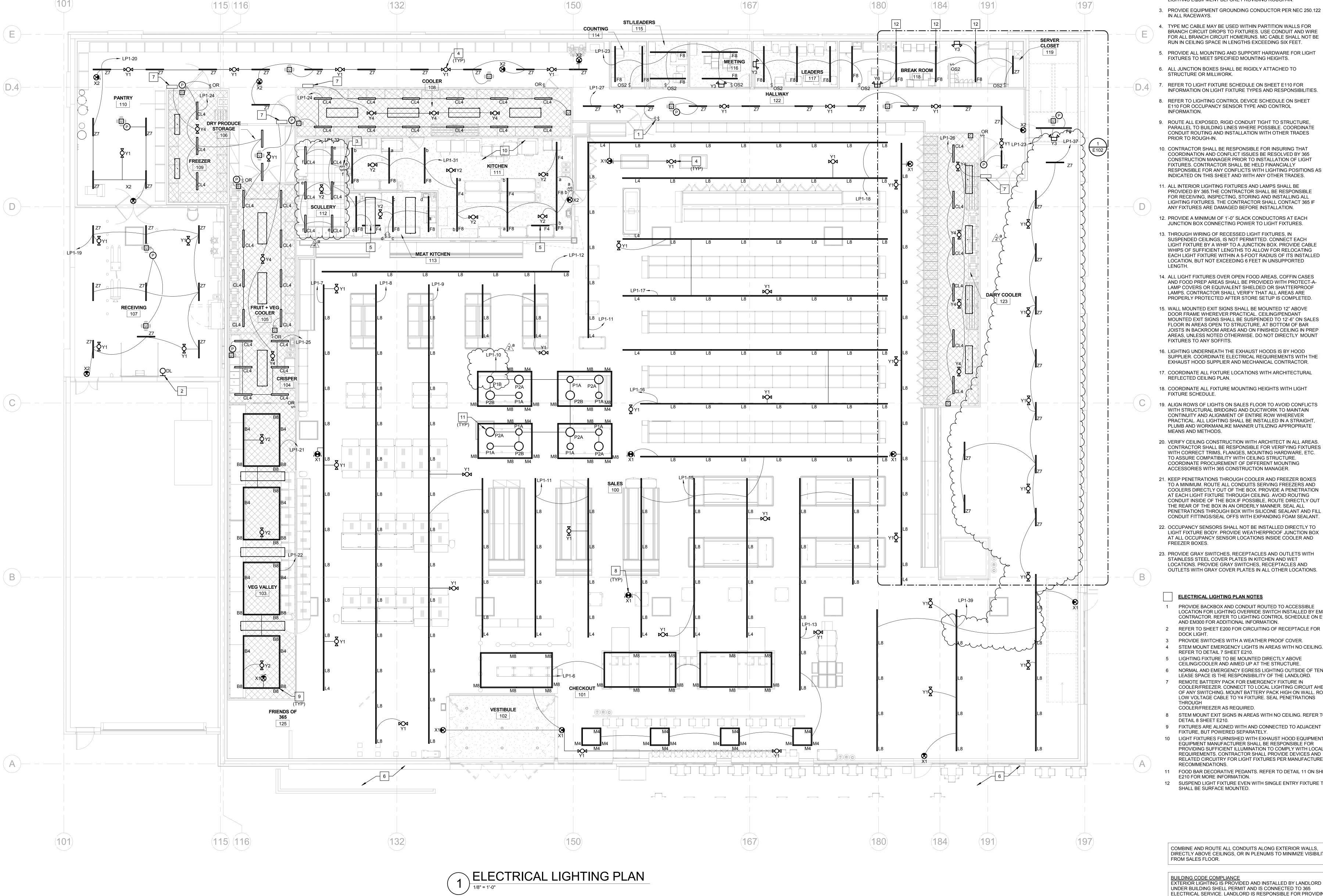
FIXTURE, BUT POWERED SEPARATELY. 10 LIGHT FIXTURES FURNISHED WITH EXHAUST HOOD EQUIPMENT. EQUIPMENT MANUFACTURER SHALL BE RESPONSIBLE FOR PROVIDING SUFFICIENT ILLUMINATION TO COMPLY WITH LOCAL REQUIREMENTS. CONTRACTOR SHALL PROVIDE DEVICES AND RELATED CIRCUITRY FOR LIGHT FIXTURES PER MANUFACTURER'S

RECOMMENDATIONS. 11 FOOD BAR DECORATIVE PEDANTS. REFER TO DETAIL 11 ON SHEET E210 FOR MORE INFORMATION.

12 SUSPEND LIGHT FIXTURE EVEN WITH SINGLE ENTRY FIXTURE THAT

COMBINE AND ROUTE ALL CONDUITS ALONG EXTERIOR WALLS, DIRECTLY ABOVE CEILINGS, OR IN PLENUMS TO MINIMIZE VISIBILITY

BUILDING CODE COMPLIANCE
EXTERIOR LIGHTING IS PROVIDED AND INSTALLED BY LANDLORD UNDER BUILDING SHELL PERMIT AND IS CONNECTED TO 365 ELECTRICAL SERVICE. LANDLORD IS RESPONSIBLE FOR PROVIDING ADEQUATE EXTERIOR EMERGENCY PATH OF EGRESS LIGHTING IN ACCORDANCE WITH BUILDING CODE.



PROVIDE SWITCHES WITH A WEATHER PROOF COVER. CEILING/COOLER AND AIMED UP AT THE STRUCTURE.

6 NORMAL AND EMERGENCY EGRESS LIGHTING OUTSIDE OF TENANT COOLER/FREEZER AS REQUIRED.

SHALL BE SURFACE MOUNTED.

FROM SALES FLOOR.

**ELECTRICAL LIGHTING** 

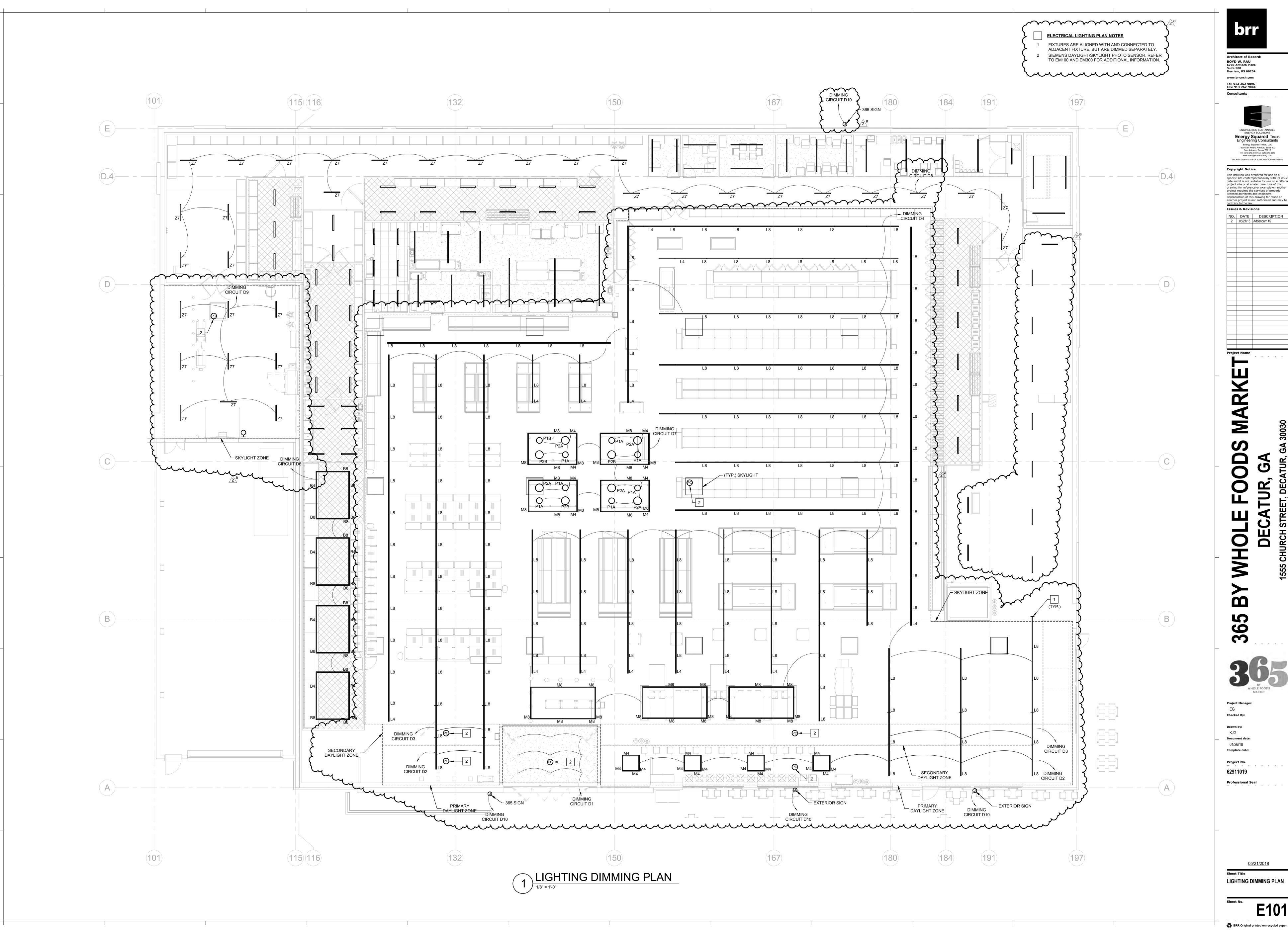
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Architect of Record: BOYD W. RAU 6700 Antioch Plaza Suite 300 Merriam, KS 66204 www.brrarch.com Tel: 913-262-9095 Fax: 913-262-9044



Energy Squared Texas
Engineering Consultants
Energy Squared Texas, LLC
7330 San Pedro Avenue, Suite 402
San Antonio, Texas 78216
PH-(210) 510-2300 FAX - (210) 510-2319
www.energysquaredeng.com

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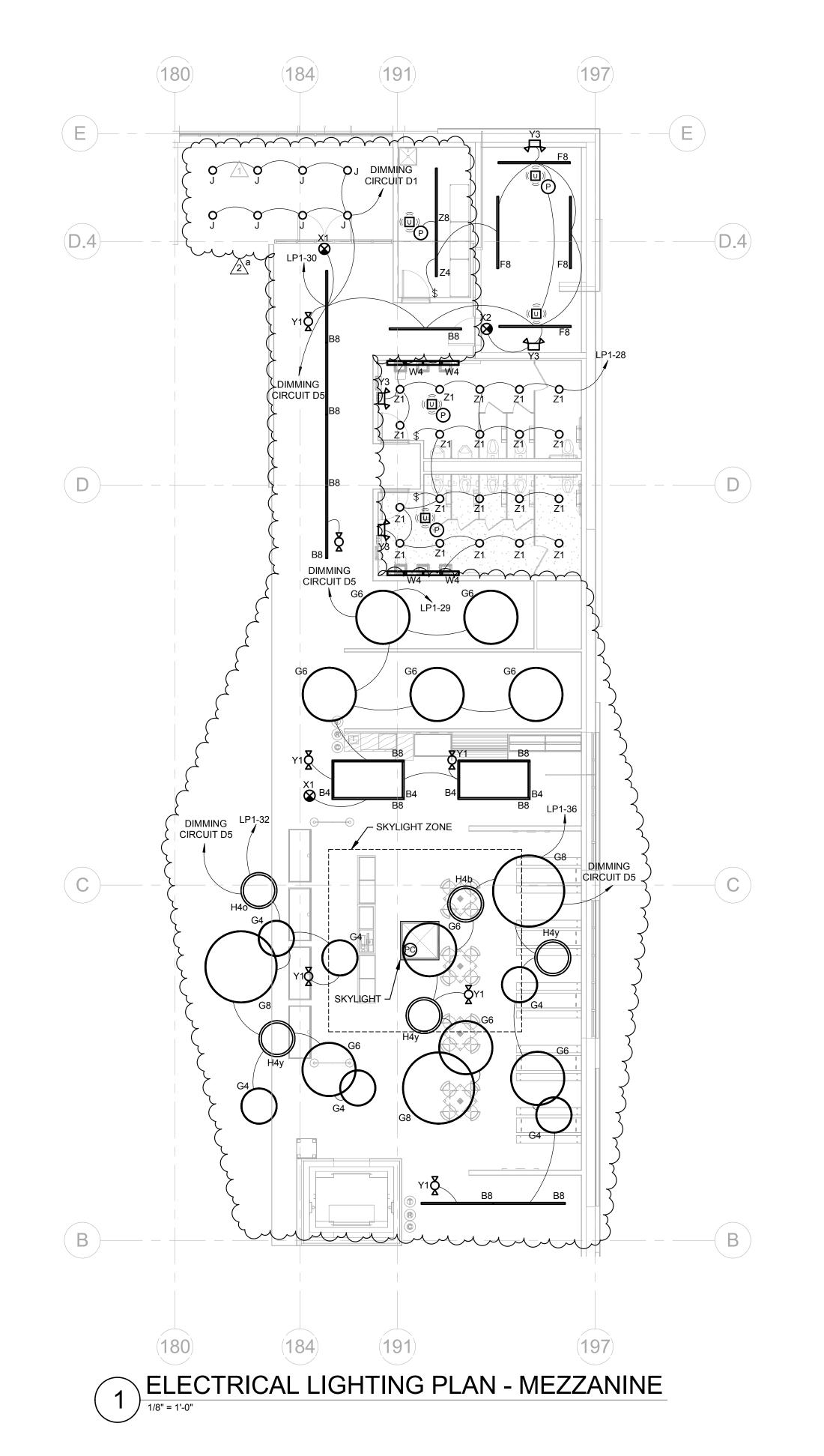
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ELECTRICAL LIGHTING PLAN - MEZZANINE



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LIGHTING SCHEDULES AND DETAILS

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SMART BREAKER CONTROL SCHEDULE									
CONTROL SCHEME #	LOAD DESCRIPTION	"ON" CONTROL	"ON" SETTING	"OFF" CONTROL	"OFF" SETTING	CONTROL SCHEME DESCRIPTION			
L1	SALES LIGHTING	TIMED	6:00 AM	TIMED	12:00AM				
L2	FOOD BAR PENDANT LIGHTING	TIMED	6:00 AM	TIMED	12:00AM				
L3	BACK OF HOUSE LIGHTING	TIMED	6:00 AM	TIMED	12:00AM				
L4	FUIT & VEG LIGHTING	TIMED	6:00 AM	TIMED	12:00AM				
L5	PANTRY LIGHTING	TIMED	6:00 AM	TIMED	12:00AM				
L6	EXTERIOR SIGNS	TIMED	6:00 AM	TIMED	12:00AM				
L7	EXTERIOR SAFETY LIGHTING	PHOTOCELL	PHOTOCELL ON	PHOTOCELL	PHOTOCELL OFF				
L8	EXHAUST FANS	TIMED	8:00 AM	TIMED	10:00 PM				
L9	DE-STRATIFICATION FANS	TEMP	BELOW 55 DEGREES	TEMP	ABOVE 55 DEGREES	OPPERATE BASED ON OUTDOOR AIR TEMPERATURE SET-POINT OF LESS THAN 55 DEGREES			
L10	AIR CURTAIN	TIMED	8:00 AM	TIMED	10:00 PM				
			DIMMING CON	NTROL SCHED	ULE				
NANAINIO	OIDOLUT DECODIDION				NON OCCU	DIED CONTROL COLIEME DECORIDATION			

 $2^{\circ}$ 

		DIMMI	NG CONTROL SCHED	ULE	
DIMMING CIRCUIT #	CIRCUIT DESCRIPTION	OCCUPIED DIMMING SETTINGS	STOCKING DIMMING SETTINGS	NON-OCCUPIED DIMMING SETTINGS	CONTROL SCHEME DESCRIPTION
D1	VESTIBULE DIMMING	6:00 AM FIX DIM TO 90%	11:00 PM FIX DIM TO 40%	12:00 AM FIX DIM TO 40%	DIM PER PHOTOCELL DURING OOCCUPIED HOURS TO MAINTAIN 100FC AT FLOOR; MINIMUM DIMMING TO BE SET AT 60%
D2	SALES PRIMARY DIMMING	6:00 AM FIX DIM TO 90%	11:00 PM FIX DIM TO 40%	12:00 AM OFF VIA POWER SWITCHING BREAKER	DIM PER PHOTOCELL DURING OOCCUPIED HOURS TO MAINTAIN 100FC AT FLOOR; MINIMUM DIMMING TO BE SET AT 60%
D3	SALES SECONDARY DIMMING	6:00 AM FIX DIM TO 90%	11:00 PM FIX DIM TO 40%	12:00 AM OFF VIA POWER SWITCHING BREAKER	DIM PER PHOTOCELL DURING OOCCUPIED HOURS TO MAINTAIN 100FC AT FLOOR; MINIMUM DIMMING TO BE SET AT 60%
D4	SALES SKYLIGHT DIMMING	6:00 AM FIX DIM TO 90%	11:00 PM FIX DIM TO 40%	12:00 AM OFF VIA POWER SWITCHING BREAKER	DIM PER PHOTOCELL DURING OOCCUPIED HOURS TO MAINTAIN 100FC AT FLOOR; MINIMUM DIMMING TO BE SET AT 60%
D5	MEZZANINE SKYLIGHT DIMMING	6:00 AM FIX DIM TO 90%	11:00 PM FIX DIM TO 40%	12:00 AM OFF VIA POWER SWITCHING BREAKER	NO PHOTOCELL CONTROL
D6	FRUIT & VEG DIMMING	6:00 AM FIX DIM TO 90%	11:00 PM FIX DIM TO 40%	12:00 AM OFF VIA POWER SWITCHING BREAKER	NO PHOTOCELL CONTROL
D7	FOOD BAR DIMMING	6:00 AM FIX DIM TO 90%	11:00 PM FIX DIM TO 40%	12:00 AM OFF VIA POWER SWITCHING BREAKER	NO PHOTOCELL CONTROL
D8	PANTRY DIMMING	6:00 AM FIX DIM TO 90%	11:00 PM FIX DIM TO 40%	12:00 AM OFF VIA POWER SWITCHING BREAKER	NO PHOTOCELL CONTROL
D9	RECEIVING DIMMING	6:00 AM FIX DIM TO 90%	11:00 PM FIX DIM TO 40%	CONTROLLED VIA OCCUPANCY SENSOR	DIM PER PHOTOCELL DURING OOCCUPIED HOURS TO MAINTAIN 100FC AT FLOOR; MINIMUM DIMMING TO BE SET AT 60%
D10	EXTERIOR SIGNS	DIM PER PHOTOCELI	LDIM PER PHOTOCELL	12:00 AM OFF VIA POWER SWITCHING BREAKER	DIM PER EXTERIOR PHOTOCELL DUF OCCUPIED HOURS

SHALL PROVIDE COMPLETELY FUNCTIONING SYSTEM IN ACCORDANCE WITH DESIGN INTENT, 365 REQUIREMENTS, LOCAL ENERGY CODES AND

EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.

B. COORDINATE ALL CONTROL SCHEMES AND TIME SETTINGS WITH 365 AND EMS CONTRACTOR AND PROVIDE INSTRUCTIONS TO OPERATIONS TEAM PERTAINING TO REPROGRAMMING OR ALTERING CONTROL SCHEMES.

FERTAINING TO REFROGRAMMING OR ALTERING CONTROL SCHEMES.	
C. PHOTOCELL IS FURNISHED BY 365 AND INSTALLED BY EMS CONTRACTOR.	
D. INTERIOR LIGHT SENSING PHOTOCELLS ARE FURNISHED BY 365 AND INSTALLED BY EMS	CONTRACTOR.

		LIGHTING CON	ITROL DEVICE SCHEDUL	E 			
TYPE	MANUFACTURER MODEL/SERIES		COVERAGE (WXD)	VOLTAGE	ON MODE	TIME DELAY	NOTES
WALL SWI	TCH OCCUPANCY						
OS1 \$	WATTSTOPPER DW-100	SINGLE RELAY DUAL-TECHNOLOGY DETECTION WALL SWITCH WITH MANUAL OVERRIDE SWITCH	PIR MAJOR 30' x 35' PIR MINOR 15' x 20' ULT MAJOR 20' x 20' ULT MINOR 15' x 15'	120V	MANUAL	15 MIN	1,3
\$ \$	WATTSTOPPER DW-200	DUAL RELAY DUAL-TECHNOLOGY DETECTION WALL SWITCH WITH MANUAL OVERRIDE SWITCHES	PIR MAJOR 30' x 35' PIR MINOR 15' x 20' ULT MAJOR 20' x 20' ULT MINOR 15' x 15'	120V	1: MANUAL 2: MANUAL	1: 15 MIN 2: 15 MIN	1
CEILING M	OUNTED OCCUPA	NCY SENSORS					
$((\widehat{\widehat{\square}}))$	WATTSTOPPER DT-300	CEILING MOUNT DUAL TECHNOLOGY OCCUPANCY SENSOR. 360° COVERAGE LOW VOLTAGE. ISOLATED RELAY.	PIR MAJOR 44' Ø PIR MINOR 25' Ø ULT MAJOR 40' X 40' ULT MINOR 30' X 30'	24V	AUTO	30 MIN	2
((H))	WATTSTOPPER WT-2250	CEILING MOUNT ULTRASONIC OCCUPANCY SENSOR. 180° COVERAGE LOW VOLTAGE. ISOLATED RELAY.	MAJOR 90LF	24V	AUTO	10 MIN	
OVERRIDE	SWITCH						
OR \$		WALL MOUNT LOW VOLTAGE OVERRIDE SWITCH FOR USE WITH 24V OCCUPANCY SENSOR ONE BUTTON	-	24V	-	-	
EXTERIOR	AND LOW TEMPE	RATURE SENSORS					
(C))		EXTERIOR WEATHERPROOF, LOW/HIGH TEMP PASSIVE INFRARED OCCUPANCY SENSOR. 270° COVERAGE WITH ADJUSTABLE LIGHT LEVEL SETTINGS, LOW VOLTAGE	MAJOR 50' RADIUS MINOR 25' RADIUS	24V	AUTO	15 MIN	
POWER PA	ACK						
P	WATTSTOPPER BZ-150	POWER PACK FOR LOW VOLTAGE SENSORS WITH 20A LOAD RELAY AND INTEGRAL TRANSFORMER MANUAL- AND AUTO-ON MODES, HOLD-ON AND HOLD-OFF INPUTS	- -	120/277V	-	-	

1	GENERAL NOTES:
	A. SENSOR LAYOUT BASED ON WATT-STOPPER COVERAGE PATTERNS. ADJUST QUANTITIES AND LOCATIONS FOR ALTERNATE MANUFACTURERS LISTED BELOW

- PER MANUFACTURER SPECIFIC SPACING CRITERIA B. COOPER-GREENGATE, HUBBELL BUILDING AUTOMATION, AND LEVITON ARE CONSIDERED EQUIVALENT MANUFACTURERS FOR SUBMISSION AS AN APPROVED
- ALTERNATE. DURING SHOP DRAWINGS, PROVIDE LIGHTING PLANS SHOWING LOCATION, MOUNTING HEIGHT, ORIENTATION AND COVERAGE AREAS FOR EACH OCCUPANCY SENSOR FOR REVIEW AND APPROVAL BY ENGINEER. ALSO INCLUDE ON PLANS OTHER CEILING MOUNTED SYSTEMS, SHOWING COORDINATION WITH
- CEILING DEVICES INCLUDING BUT NOT LIMITED TO HVAC SUPPLY AND RETURN GRILLES, SPRINKLERS, AND LIGHT FIXTURES.
- C. PROVIDE ALL SENSORS BY THE SAME MANUFACTURER. D. VERIFY COLOR(S) FOR WALL SWITCH SENSORS WITH THE ARCHITECT.
- E. PROVIDE COPIES OF SENSOR AND POWER SUPPLY OPERATION INSTRUCTIONS TO OWNER.
- F. ALL WALL SWITCH AND CEILING SENSORS SHALL HAVE AN ADJUSTABLE TIME DELAY RANGE OF 0-30 MIN, UNO. G. DO NOT INSTALL LINE VOLTAGE SENSORS ON GFCI PROTECTED CIRCUITS.
- H. ADJUST SENSOR LOCATION TO AVOID SHELVING AND OTHER OBSTRUCTIONS TO PROVIDE PROPER OPERATION. I. ADJUST SENSOR SENSITIVITY TO PROVIDE PROPER OPERATION.

#### SCHEDULED NOTES:

 GEED ING LEG.
1. WALL SWITCH SENSOR REQUIRES A NEUTRAL CONDUCTOR FOR OPERATION.
2. SET DIP SWITCHES TO PROVIDE INITIAL AND MAINTAIN SETTING BY EITHER PIR OR ULTRASONIC.
3. SET DIP SWITCHES TO PROVIDE INITIAL OCCUPANCY TO TURN ON BY ONLY PIR DETECTION.

COU NT	TYPE	MANUFACTURER/MODEL #	NO. TYPE	VOLT	WATTS	VA	DESCRIPTION	MOUNTING	NC
12	B4	WILLIAMS 75-4-L50-830	INTEGRAL LED 0-10V DIMMING DIMMING 5500 LUMENS INTEGRAL LED	120/277	40 W	42 VA	4' LED STANDARD STRIP	SUSPEND 9'-0" A.F.F.	
27	B8	WILLIAMS 75-8-L100-830	0-10V DIMMING DIMMING 11000 LUMENS	120/277	75 W	79 VA	8' LED STANDARD STRIP	SUSPEND 9'-0" A.F.F.	
43	CL4	COLUMBIA LIGHTING LXEM4-35HL-RFA-EU	- INTEGRAL LED 6000 LUMENS	120/277	55 W	59 VA	4' LED ENCLOSED AND GASKETED WET LOCATION LISTED FIXTURE	SURFACE	
1	DL	LDPI DL-INC-LH W/ DL-42-ARM	1 LIGHTING SCIENCE DFN38 WW V2 NL 120 24W PAR38 LED	120	24 W	25 VA	32" FLEXIBLE LED DOCK LIGHT. PROVIDE 3' CORD WITH NEMA 5-15P.	WALL 4'-0" A.F.F.	
5	F4	WILLIAMS 75-4-L50-830	INTEGRAL LED 0-10V DIMMING DIMMING 5500 LUMENS	120/277	40 W	42 VA	4' LED STANDARD STRIP	SURFACE	
28	F8	WILLIAMS 75-8-L100-830	INTEGRAL LED 0-10V DIMMING DIMMING 11000 LUMENS	120/277	75 W	79 VA	8' LED STANDARD STRIP	SURFACE	
6	1 G4	LUMIUM LIGHTING #OS2-CD-4'-30K-LO-UNV-1D-PCS(POWDER COAT SILVER)-SW-50-SW-PSS-TBD	INTEGRAL LED 0-10V DIMMING DIMMING 5000 LUMENS	120/277	75 W	79 VA	4' DIAMETER PENDANT MOUNTED RING, DIRECT, 3000K, 0-10V 1% DIM, LOW OUTPUT, FROSTED LENS, 5" POWERFEED CANOPY, SILVER POWDERCOAT FINISH	SUSPEND 11'-6" TO 12'-6" A.F.F.	
9		LUMIUM LIGHTING #OS2-CD-6'-30K-LO-UNV-1D-PCS(POWDER COAT SILVER)-SW-50-SW-PSS-TBD	INTEGRAL LED 0-10V DIMMING DIMMING 10000 LUMENS	120/277	113 W		6' DIAMETER PENDANT MOUNTED RING, DIRECT, 3000K, 0-10V 1% DIM, LOW OUTPUT, FROSTED LENS, 5" POWERFEED CANOPY, SILVER POWDERCOAT FINISH	SUSPEND 11'-6" TO 12'-6" A.F.F.	
3	G8	LUMIUM LIGHTING #OS2-CD-4'-30K-LO-UNV-1D-PCS(POWDER COAT SILVER)-SW-50-SW-PSS-TBD	INTEGRAL LED 0-10V DIMMING DIMMING 10000 LUMENS	120/277	151 W		8' DIAMETER PENDANT MOUNTED RING, DIRECT, 3000K, 0-10V 1% DIM, LOW OUTPUT, FROSTED LENS, 5" POWERFEED CANOPY, SILVER POWDERCOAT FINISH	SUSPEND 11'-6" TO 12'-6" A.F.F.	
1	H4b	LUMIUM LIGHTING #OS2-CD-4'-30K-LO-UNV-1D-CP(CUSTOM POWDER COAT)-SW-50-SW-PSS-TBD	INTEGRAL LED 0-10V DIMMING DIMMING 5000 LUMENS	120/277	75 W		4' DIAMETER PENDANT MOUNTED RING, DIRECT, 3000K, 0-10V 1% DIM, LOW OUTPUT, FROSTED LENS, 5" POWERFEED CANOPY, BLUE POWDERCOAT FINISH	SUSPEND 11'-6" TO 12'-6" A.F.F.	
1	H4o	LUMIUM LIGHTING #OS2-CD-4'-30K-LO-UNV-1D-CP(CUSTOM POWDER COAT)-SW-50-SW-PSS-TBD	INTEGRAL LED 0-10V DIMMING DIMMING 5000 LUMENS	120/277	75 W	79 VA	4' DIAMETER PENDANT MOUNTED RING, DIRECT, 3000K, 0-10V 1% DIM, LOW OUTPUT, FROSTED LENS, 5" POWERFEED CANOPY, YELLOW POWDERCOAT FINISH	SUSPEND 11'-6" TO 12'-6" A.F.F.	
3	H4y	LUMIUM LIGHTING #OS2-CD-4'-30K-LO-UNV-1D-CP(CUSTOM POWDER COAT)-SW-50-SW-PSS-TBD	INTEGRAL LED 0-10V DIMMING DIMMING 5000 LUMENS	120/277	75 W		4' DIAMETER PENDANT MOUNTED RING, DIRECT, 3000K, 0-10V 1% DIM, LOW OUTPUT, FROSTED LENS, 5" POWERFEED CANOPY, ORANGE POWDERCOAT FINISH	SUSPEND 11'-6" TO 12'-6" A.F.F.	
8	J	CONTECH #CYL6-6-30K-MVD-P-M-PL-S CSK36-S  COOPAR (MATALMA)  PDR69535-4SKBLED-R-LD1-5-W-UNV-L830-CD1-PL1WG-U	- INTEGRAL LED 3000 LUMENS INTAGRANLED	120/277	43 W	45 VA	6" DIAMETER PENDANT CYLINDER, 3000K, 36" STEM KIT, MEDIUM BEAM DISTRIBUTION, SILVER FINISH  4-LINEARLED RENDANT MATURAL ALAMINUM FINISH PROVIDE WITH  196" AIRCRAFT SUSPENSION CABLE. FIXTURES FAILS TO 100%	PENDANT 17'-6" A.F.F.	بر
16 <b>~~</b>	L4	-0-10VQUICKCONN / Y-TOGGLE-30 PENDANT SYSTEMS #MGR-SE-1-4-20-EXT-M	0-10V DIMMING DIMMING 5000 LUMENS	120/277	46 W	48 VA	BRIGHTNESS ON DIMMING FAILURE OR LOSS OF POWER. CONTRACTOF TO FURNISH CORD.	SUSPEND 12'-6" A.F.F.	
159	L8	COOPER (METALUX) PDR69352-8SKBLED-R-LD1-10-W-UNV-L830-CD1-PL1WG-U -0-10VQUICKCONN / Y-TOGGLE-30 PENDANT SYSTEMS #MGR-SE-1-4-20-EXT-M	INTEGRAL LED 0-10V DIMMING DIMMING 10000 LUMENS	120/277	65 W	CO \ / A	8' LINEAR LED PENDANT. NATURAL ALUMINUM FINISH. PROVIDE WITH 196" AIRCRAFT SUSPENSION CABLE. FIXTURES FAILS TO 100% BRIGHTNESS ON DIMMING FAILURE OR LOSS OF POWER. CONTRACTOF TO FURNISH CORD.	SUSPEND 12'-6" A.F.F.	
24	M4	WILLIAMS 75-4-L50-830	INTEGRAL LED 0-10V DIMMING DIMMING 5500 LUMENS INTEGRAL LED	120/277	40 W	42 VA	4' LED STANDARD STRIP	SUSPEND 11'-6" A.F.F.	
34	M8	WILLIAMS 75-4-L50-830	0-10V DIMMING DIMMING 11000 LUMENS	120/277	75 W	79 VA	8' LED STANDARD STRIP	SUSPEND 11'-6" A.F.F.	
7	P1A	MIO BENDANT MINI	1 12W LED E12 BASE	120	12 W	13 VA	20" CUSTOMIZABLE DECORATIVE PENDANT SILVER FINISH	SUSPEND 8'-6" A.F.F.	<b>X</b>
1	P1B	MIO BENDANT MINI	1 12W LED E12 BASE	120	12 W	13 VA	20" CUSTOMIZABLE DECORATIVE PENDANT CHARTREUSE FINISH	SUSPEND 8'-6" A.F.F.	$\prec$
5	P2A	MIO BENDANT MIO	1 12W LED E26 BASE 1 12W LED	120	12 W	13 VA	33" CUSTOMIZABLE DECORATIVE PENDANT CHARTREUSE FINISH  33" CUSTOMIZABLE DECORATIVE PENDANT	SUSPEND 9'-6" A.F.F. SUSPEND	Ų
3	P2B	BENDANT TECH LIGHTING	1 E26 BASE  INTEGRAL LED	120	12 W	13 VA	FLUORESCENT RED FINISH	9'-6" A.F.F.	
13	W4 X1	700BCGIAR648CS-LED830-120 ASTRALITE	2400 LUMENS - INTEGRAL LED	120 120/277	30 W		4' LED WALL MOUNT  EDGE LIT LED EXIT SIGN. SINGLE/DOUBLE FACE. VERIFY MOUNTING CONFIGURATION AND CHEVRONS PER PLANS. RED LIGHT ON MIRROR	7'-0" A.F.F.	
9	X2	ASTRALITE TP-U-R-W-EM	- INTEGRAL LED	120/277	3 W	3 VA	SURFACE.  THERMOPLASTIC LED EXIT SIGN. SINGLE/DOUBLE FACE. VERIFY MOUNTING CONFIGURATION AND CHEVRONS PER PLANS. RED LIGHT O	N VARIES	
53	Y1	LITHONIA ELMLT-W-LP06VS-LTP	2 INTEGRAL LED	120/277	5 W	5 VA	WHITE SURFACE. THERMOPLASTIC ADJUSTABLE LED EMERGENCY LIGHT WITH INTEGRAL BATTERY BACK-UP AND SELF DIAGNOSTICS		
10	Y2	LITHONIA ELMLT-W-LP06VS-LTP	2 INTEGRAL LED	120/277	5 W	5 VA	THERMOPLASTIC ADJUSTABLE LED EMERGENCY LIGHT WITH INTEGRAL BATTERY BACK-UP AND SELF DIAGNOSTICS	SURFACE	
16	Y3	LITHONIA ELMLT-W-LP06VS-LTP	2 INTEGRAL LED	120/277	5 W	5 VA	THERMOPLASTIC ADJUSTABLE LED EMERGENCY LIGHT WITH INTEGRAL BATTERY BACK-UP AND SELF DIAGNOSTICS	8'-0" A.F.F.	
10	Y4	ASTRALITE DCNH-W-60-6 / REM-1-2H-6	2 6W INC	120/277	6 W	6 VA	TWIN HEAD REMOTE BATTERY FIXTURE CEILING MOUNTED IN COOLER OR FREEZER. MOUNT REMOTE BATTERY PACK OUTSIDE COOLER OR FREEZER.	SURFACE	
<b>∕</b> 2 <b>%</b>	~\\	LITHONIA	INTEGRAL LED 3000 LOWIENS	1201277	<b>₹8₩</b>	29VA	RECESSED LED DOWNLIGHT	RECESSED	•
1	Z4	LITHONIA #ZL1N-L48-7000LM-FST-MVOLT-35K-80CRI-GALV-ZACVH AIRCRAFT CABLE SUSPENSION KIT	- INTEGRAL LED	120/277	52 W	55 VA	4' LED STANDARD STRIP	SUSPEND 10'-0" A.F.F.	
45	<b>Z</b> 7	VILLIANS 704-1-06-635	INTEGRAL LED CONFLUMENS	**************************************		TO THE	**************************************	SUSPEND	
1	Z8	LITHONIA #ZL1N-L96-14000LM-FST-MVOLT-35K-80CRI-GALV-ZACVH AIRCRAFT CABLE SUSPENSION KIT	- INTEGRAL LED	120/277	104 W		8' LED STANDARD STRIP	SUSPEND 10'-0" A.F.F.	
	1. LIG 2. CA FIR ANI 3. REI INF 4. CO 5. ALL SHI 6. REI	HT FIXTURES AND LAMPS ARE FURNISHED BY 365 AND RECTALOG NUMBERS SHALL NOT BE CONSIDERED COMPLETE ST READ THE COMPLETE DESCRIPTION, NOTES AND SPECT ACCESSORIES TO BE ORDERED. THE MANUFACTURERS IN FER TO LIGHTING PLANS AND ARCHITECTURAL DRAWINGS ORMATION PRIOR TO ROUGH-IN.  NTRACTOR SHALL SUPPLY A COMPLETE AND OPERATIONAL LIGHT FIXTURES OVER OPEN FOOD AREAS, COFFIN CASE ELDED OR SHATTERPROOF LAMPS. CONTRACTOR SHALL SER TO LIGHTING CONTROL NOTES AND PANELBOARD SCHE QUANTITY AND MAXIMUM RATED WATTAGE OF THE LIGHT	CEIVED AND INSTALLED BY AND MATERIAL SHALL NO CIFICATIONS IN CONJUNC LISTED ARE THE BASIS FO AND DETAILS FOR EXACT AL SYSTEM TO COMPLY WI S AND FOOD PREP AREAS VERIFY THAT ALL AREAS A HEDULES FOR CONTROL IN	Y E.C. T BE ORDE TION WITH OR DESIGN. LOCATION OR DESIGN S SHALL BE ARE PROPE	RED BY N THE CAT IS, MOUN INTENT. PROVIDE RLY PRO ON.	MANUFAI ALOG NI TING HE ED WITH TECTED	CTURER AND CATALOG NUMBERS ONLY.  JMBER TO DETERMINE THE EXACT MATERIAL  IGHTS AND ADDITIONAL MOUNTING  PROTECT-A-LAMP COVERS OR EQUIVALENT  AFTER STORE SET-UP IS COMPLETE.		

DIMMING SET VIA TIME SCHEDULE WITH

PRESET RANGES VIA LIGHT LEVEL SENSOR. 0-10V CONTROL OF DRIVERS.

LIGHT FIXTURE SCHEDULE

TYPICAL SPACE	CONTROL DEVICE	"ON" CONTROL	"OFF" CONTROL	"OFF" SETTING	MANUAL CONTROL	LIGHTING REDUCTION	ADDITIONAL CONTROLS	CONTROL DESCRIPTION
RESTROOMS	OCCUPANCY SENSOR	AUTO ON - 100%	TIMED	REFER TO OCC SENSOR SCHEDULE		NOT REQUIRED RESTROOM	FULL AUTO	AUTOMATICALLY TURN ON ALL FIXTURES TO 100% LIGHTING LEVEL WITH OCCUPANCY SENSOR.
OFFICES	OCCUPANCY SENSOR	MANUAL ON	TIMED	REFER TO OCC SENSOR SCHEDULE	"ON"	YES	MANUAL ON OCC SENSOR BI LEVEL	TURN ON ALL FIXTURES TO 100% LIGHTING LEVEL WITH MANUAL BUTTON ON OCCUPANCY SENSOR.
BREAKROOM/ MEETING ROOM	OCCUPANCY SENSOR	MANUAL ON	TIMED	REFER TO OCC SENSOR SCHEDULE	"ON"	YES	MANUAL ON OCC SENSOR BI LEVEL	TURN ON ALL FIXTURES TO 100% LIGHTING LEVEL WITH MANUAL BUTTON ON OCCUPANCY SENSOR.
COOLER AND FREEZER	OCCUPANCY SENSOR	AUTO ON - 100%	TIMED	REFER TO OCC SENSOR SCHEDULE		NOT REQUIRED STORAGE RM	OCC SENSOR	AUTOMATICALLY TURN ON ALL FIXTURES TO 100% LIGHTING LEVEL WITH OCCUPANCY SENSOR.
BOH CORRIDOR/ RECEIVING	OCCUPANCY SENSOR	AUTO ON - 100 %	TIMED	REFER TO OCC SENSOR SCHEDULE	"OFF"	NOT REQUIRED CORRIDOR	OCC SENSOR	AUTOMATICALLY TURN ON ALL FIXTURES TO 100% LIGHTING LEVEL WITH OCCUPANCY SENSOR. 100% ON - PER STORAGE ROOM EXEMPTION FROM LIGHTING REDUCTION
KITCHEN	AUTOMATIC TIME SWITCH	TIMED	TIMED	REFER TO LIGHTING CONTROL	"OFF"	MULTI-LEVEL SWTICHING	TIME SWITCH	CONTROLLED BY TIME OF DAY, WITH LOCAL OVERRIDE "OFF" SWITCH

REFER TO "OFF" VIA

LIGHTING CENTRAL

CONTROL OVERRIDE

SALES FLOOR

GENERAL LIGHTING

AUTOMATIC TIME SWITCH

1. ANY ADDITIONAL HARDWARE REQUIRED TO BE STAINLESS STEEL AND INSTALLED IN A CLEAN, PROFESIONAL MANNER.

ROUTE ALL EXPOSED, RIGID CONDUIT TIGHT TO STRUCTURE NEAR TOP CHORD OF BAR JOISTS, PARALLEL TO BUILDING LINES WHERE POSSIBLE COORDINATE CONDUIT ROUTING AND INSTALLATION WITH OTHER TRADES PRIOR TO ROUGH- IN. SUPPORT CONDUIT FROM STRUCTURE NOT ROOF DECK. MAINTAIN 2" MIN SPACING FROM BOTTOM OF ROOF DECK TO PREVENT ROOFING SCREWS FROM PENETRATING CONDUITS. AVOID ROUTING CONDUIT

THROUGH SKYLIGHTS. MC CABLE IS ALLOWED TO BE USED. MC CABLE NOT ALLOWED FOR HOMERUNS OR WHERE SPECIFICALLY DISALLOWED BY AHJ. REFER TO SPECIFICATIONS

FOR ADDITIONAL INFORMATION.

3. ALL EMPTY CONDUITS SHALL BE INSTALLED WITH PULL WIRES 4. AT THE CONTRACTORS OPTION, ALL POWER AND COMMUNICATION/DATA CONDUITS MAY BE ROUTED BELOW SLAB. COORDINATE ROUTING WITH ALL

PRIOR TO ROUGH-IN OF COMMUNICATION AND ELECTRICAL OUTLETS, COORDINATE WITH 365 AND/OR ARCHITECT FOR FINAL LOCATIONS.

6. PROVIDE GROUND FAULT PROTECTION FOR PERSONAL FOR ALL 120V, 15 AMP AND 20 AMP CIRCUITS IN SCULLERY AND MEAT PREP KITCHEN PER NEC 210.8 (B). PROVIDE GFI RECEPTACLES, GFCI FEED-THRU DEVICES OR GFCI

PROVIDE RED-DOT CK SERIES WEATHERPROOF IN-USE COVERS FOR ALL RECEPTACLES UNDER THE KITCHEN HOOD. PROVIDE ADEQUATE INTERNAL DEPTH TO ALLOW FOR COVER TO BE COMPLETELY SHUT WITH DEVICE

8. PROVIDE GRAY SWITCHES, RECEPTACLES AND OUTLETS WITH STAINLESS STEEL COVER PLATES IN KITCHEN AND WET LOCATIONS. PROVIDE GRAY SWITCHES, RECEPTACLES AND OUTLETS WITH GRAY COVER PLATES IN ALL

9. ALL BRANCH CIRCUITS SHALL INCLUDE AN INSULATED EQUIPMENT GROUNDING

10. COORDINATE ALL WORK WITH OTHER TRADES AND EXISTING CONDITIONS AS REQUIRED TO PROPERLY INSTALL ALL SYSTEMS AS INTENDED, WITHIN THE CONFINES OF THE SPACE AVAILABLE, AND WITHOUT INTERFERENCES.

11. VERIFY EXACT ELECTRICAL REQUIREMENTS FOR ALL TENANT FURNISHED EQUIPMENT PRIOR TO ROUGH-IN AND ADJUST ELECTRICAL PROVISIONS AS NECESSARY INCLUDING, BUT NOT LIMITED TO: CONDUIT, CONDUCTOR(S), DISCONNECT, RECEPTACLE, CIRCUIT BREAKER AND TERMINATION. SUBMIT ALL VARIANCES FROM PLAN TO ENGINEER FOR VERIFICATION. ALL EXTERIOR AND INTERIOR WP COVERS, WHEREVER PRACTICAL, SHALL BE METALLIC IN-USE TYPE. LARGE BUBBLE COVERS SHALL NOT BE USED ON THE EXTERIOR OF THE BUILDING OR BEHIND EQUIPMENT IN ORDER TO PREVENT DAMAGE TO THE COVER AND TO ALLOW THE EQUIPMENT TO BE LOCATED CLOSE TO THE WALL.

12. ALL EXTERIOR AND INTERIOR WP COVERS, WHEREVER PRACTICAL, SHALL BE METALLIC IN-USE TYPE. LARGE BUBBLE COVERS SHALL NOT BE USED ON THE EXTERIOR OF THE BUIDLING OR BEHIND EQUIPMENT IN ORDER TO PREVENT DAMAGE TO THE COVER AND TO ALLOW THE EAUIPMENT TO BE LOCATED CLOSE TO THE WALL. REFER TO SPECIFICATIONS FOR ADDITIONAL

13. CONTRACTOR TO PROVIDE UPDATED AND FINAL ELECTRICAL PANEL SCHEDULES FOR ALL PANELBOARDS UPON COMPLETEION OF THE PROJECT.

14. REFER TO FIRE ALARM PLANS FOR ADDITIONAL BACKBOX AND CONDUIT REQUIREMENTS FOR FIRE ALARM SYSTEM. PROVIDE ALL NECESSARY BACKBOXES AND CONDUITS FOR FIRE ALARM SYSTEM. CONFIRM WITH FIRE ALARM CONTRACTOR.

15. REFER TO MEP EQUIPMENT CONNECTION SCHEDULE FOR ALL OWNER PROVIDED EQUIPMENT CONNECTIONS.

16. ALL EQUIPMENT UNDER KITCHEN HOOD SHALL BE CONNECTED TO SHUNT- TRIP CIRCUIT BREAKERS TO OPEN CIRCUIT BY HOOD FIRE SUPRESSION SYSTEM.

17. SURFACE MOUNT BACKBOXES TO FREEZER AND COOLER WALLS. REFER TO ARCHITECTURAL PLANS FOR COOLER WALL LOCATIONS. UTILIZE DIE-CAST (METALLIC) WEATHERPROOF BACKBOXES SURFACE MOUNTED BOXES WITH THREADED HUBS (EQUAL TO HUBBELL "BELL" BOX. ALL EXPOSED POWER AND CONTROLS WIRING SHALL BE INSTALLED IN CONDUIT.

18. COORDINATE MOUNTING, INSTALLING AND WIRING OF ALL COMPONENTS IN WALK-IN COOLER WITH EQUIPMENT SUPPLIER AND INSTALLATION CONTRACTOR. PROVIDE INTERNAL AND EXTERNAL SEALS (BY LINKSEAL OR APPROVED EQUAL) AT CONDUIT PENETRATIONS THROUGH COOLER CEILING AND/OR WALLS. INSTALL CONDUIT PER MANUFACTURE'S SPECIFICATIONS.

19. INSTALL ALL CONDUIT, WIRING, AND CONTROL CABLING TIGHT TO BOTTOM OF ALL ELEVATED CASES (CASES ON LEGS) TO CONCEAL FROM SIGHT.

20. ALL DESK RECEPTACLES IN OFFICES AND BREAKROOM SHALL BE MOUNTED 8" ABOVE DESK SURFACE. COORDINAT EXACT HEIGHT WITH PROVIDED

**ELECTRICAL POWER PLAN NOTES** 

1 CONNECT TO FACTORY INSTALLED INTEGRAL LOADCENTER. ROUTE CONDUIT UNDERGROUND AND UP TO NEAREST COLUMN OR WALL, OR DIRECTLY TO PANELBOARD INDICATED. 2 PROVIDE SPARE 1-1/2" CONDUIT FROM UNDER BAR TO ACCESSIBLE AREA FOR

3 MOUNT RECEPTACLE WITHIN CASEWORK. REFER TO ARCHITECTURAL DETAILS FOR MORE INFORMATION. 4 DELIVERY BUZZER SYSTEM. PROVIDE EDWARDS 55 SERIES DOORBELL,

TRANSFORMER, AND EDWARDS 1786-B WEATHERPROOF PUSHBUTTON, OR EQUAL 5 RECEPTACLE FOR MOTORIZED PALLET JACK CHARGING STATION. PROVIDE KH INDUSTRIES RTBB3LW-1DD520-J12F WITH 25' OF 12/3 BLACK SO CABLE RATED AT 120V. PROVIDE WITH END TO MATCH EQUIPMENT. PROVIDE WITH BALL STOP TO KEEP OUTLET WITHIN EASY REACH FROM RECEIVING FLOOR.

7 PROVIDE RECEPTACLE AT SHELVING DISPLAY. DROP CONDUIT DOWN FROM STRUCTURE TO A JUNCTION BOX ON TOP OF GONDOLA. SURFACE MOUNT BACKBOX TO SPINE OF GONDOLA. NOTCH SHELVES AS REQUIRED.

8 RECEPTACLE FOR BUG ZAPPER. CONFIRM LOCATION AND MOUNTING HEIGHT WITH ARCHITECTURAL ELEVATIONS AND MANUFACTURER RECOMMENDATIONS PRIOR

9 SURFACE MOUNT BACKBOX AND CONDUIT ON COOLER WALL. COORDINATE CONDUIT ROUTING IN FIELD. SEAL ALL PENETRATIONS AS REQUIRED BY COOLER MANUFACTURER. 10 MOUNT RECEPTACLES WITHIN CHECK STAND MILLWORK. DEVICE WITH "POS"

DESIGNATION IS DEDICATED FOR CASH REGISTER. QUAD RECEPTACLE IS FOR UTILITY POWER. ROUTE CIRCUITING DOWN THROUGH POWER/TELECOM POLE. COORDINATE INSTALLATION WITH CASH REGISTER MILLWORK. 11 PROVIDE DUPLEX RECEPTACLE FOR DIGITAL DISPLAY AT GONDOLA ENDCAP. DROP

CONDUIT DOWN FROM STRUCTURE TO A JUNCTION BOX ON TOP OF GONDOLA. SURFACE MOUNT BACKBOX TO BACK OF SHELVES OF ENDCAP. NOTCH SHELVES IN GONDOLA AS REQUIRED. COORDINATE INSTALLATION WITH DIGITAL DISPLAY

12 DUPLEX RECEPTACLES FOR MISTING SYSTEM. REFER TO ARCHITECTURAL

13 RECEPTACLE FOR DIGITAL DISPLAY SCREEN. CONFIRM LOCATION IN FIELD PRIOR 17 ROUTE FLOOR BOX CONDUITS UNDERSLAB AND UP NEARBY WALL TO ABOVE

CEILING OR TRUSS SPACE ABOVE. PROVIDE (1) 1" CONDUIT WITH PULL STRING REFRIGERATION CONTROL WIRING. REFER TO SHEET EM101 FOR ADDITIONAL `\MFORMATIQM.COØRDIMATIFEONDUTTRØUTIMGTIVFÆLDP: \/ /// 18 PROVIDE KH INDUSTRIES RTBB3LW-1DD520-J12F WITH 25' OF 12/3 BLACK SO CABLE RATED AT 120V. PROVIDE WITH END TO MATCH EQUIPMENT. PROVIDE WITH BALL STOP TO KEEP OUTLET WITHIN EASY REACH FROM SALES FLOOR. VERIFY FINAL

LOCATION WITH 365. Ý PROVIDE WIREMOLD #RFB4-CH WITH FLOORPORT SERIES COVER #FPBTAL. PROVIDE (2) #CIHT-D INTERNAL DUPLEX RECEPTACLE BRACKETS AND (2) DUPLEX RECEPTACLES FOR POWER. PROVIDE (2) #CIH/LT-B INTERNAL BLANK BRACKETS FOR USE BY EMS CONTRACTOR AND REFRIGERATION CONTROLS NETWORK WIRING. PROVIDE ALL NECESSARY ACCESSORIES FOR A COMPLETE FINISHED ASSEMBLY. ENSURE FLOOR BOX IS ADJUSTED PROPERLY AND IS FLUSH WITH THE

21 COMBINATION POWER AND TELECOM POLE WITH TWO COMPARTMENTS FOR POWER AND DATA CONNECTIONS TO CASH REGISTERS. ROUTE POWER AND DATA CABLES THROUGH POLE, PROVIDE WIREMOLD #25DTC-415 OR EQUIVALENT POWER POLÉ TO BE PRÉ-PRIMED AND PAINTABLE BY GENERAL CONTRACTOR! 24 PROVIDE SJTO BLACK CORD DROP FOR EQUIPMENT BELOW. PROVIDE PLUG TO

MATCH EQUIPMENT RECEPTACLE. VERIFY FINAL LOCATION WITH 365. 25 PROVIDE (2) 4" CONDUIT SLEEVES THROUGH CEHUNG ROB CABLING, ROUTE ALON 28 ROUTE (1) 2" CONDUIT OVERHEAD FROM MAIN BREAKER IN POWER WALL FOR FRIEND'S SPACE. TERMINATE CONDUIT IN JUNCTION BOX, LOCATED IN STRUCTURE

ABOVE FRIENDS SPACE AND PROVIDE PULLSTRING IN CONDUIT 29 ROUTE (1) 4" CONDUIT OVERHEAD FROM MAIN BREAKER IN POWER WALL FOR FRIEND'S SPACE. TERMINATE CONDUIT IN JUNCTION BOX, LOCATED IN STRUCTURE ABOVE FRIENDS SPACE AND PROVIDE PULLSTRING IN CONDUIT. 30 SURPACE MOUNT CONDUIT AND PLECEPTACLE BACKBOX TO COOLER PANEL WALL. ROUTE ALL CONDUITS ON THE INTERIOR OF THE COOLER PANEL WALL. DROP CONDUITS FROM STRUCTURE AND MINIMIZE VISIBILITY OF ALL CONDUIT

ROUTING FROM SALES FLOOR. COORDINATE CONDUIT ROUTING IN FIELD. 31 PROVIDE RECEPTACLE FOR DIGITAL DISPLAY SCREEN AT SAME ELEVATION AS MOUNTING BRACKET. COORDINATE INSTALLATION WITH DISPLAY MONITOR

35 PROVIDE CONNECTION TO ASSOCIATED CONDENSING UNIT ON ROOF. REFER TO MECHANICAL SCHEDULE FOR ADDITIONAL INFORMATION. 36 PROVIDE SPECIAL RECEPTACLE HUBBELL #USB20XGY. DUPLEX RECEPTACLE WITH (2) USB CHARGING RECEPTACLES. CONFIRM EXACT LOCATION AND MOUNTING HEIGHT WITH ARCHITECTURAL ELEVATIONS PRIOR TO ROUGH-IN. 38 PROVIDE DEVICE AND CIRCUITRY FOR FUTURE CASE LOCATIONS.

DEVICE TO MATCH EQUIPMENT. PROVIDE ALL NECESSARY ACCESSORIES FOR A COMPLETE FINISHED ASSEMBLY. ENSURE FLOOR BOX IS ADJUSTED PROPERLY AND IS FLUSH WITH THE FINISHED FLOOR. PROVIDE WITH BRUSHED ALUMINUM EINISH ROUTE ROWER CONDUIT BELOW SLAB, UP WEARBY WALL TO TRUSS SPACE.

COORDINATE CONDUIT ROUTING IN FIELD.

40 SIEMENS "RIO" PANEL FOR FRIENDS OF 365. COORDNIATE FINAL LOCATION WITH FRIENDS OF 365 PRIOR TO ROUGH-IN. REFER TO EM300.

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**ELECTRICAL POWER** 

PLAN

Document date:

**Architect of Record:** BOYD W. RAU 6700 Antioch Plaza

**Energy Squared** Texas Engineering Consultants

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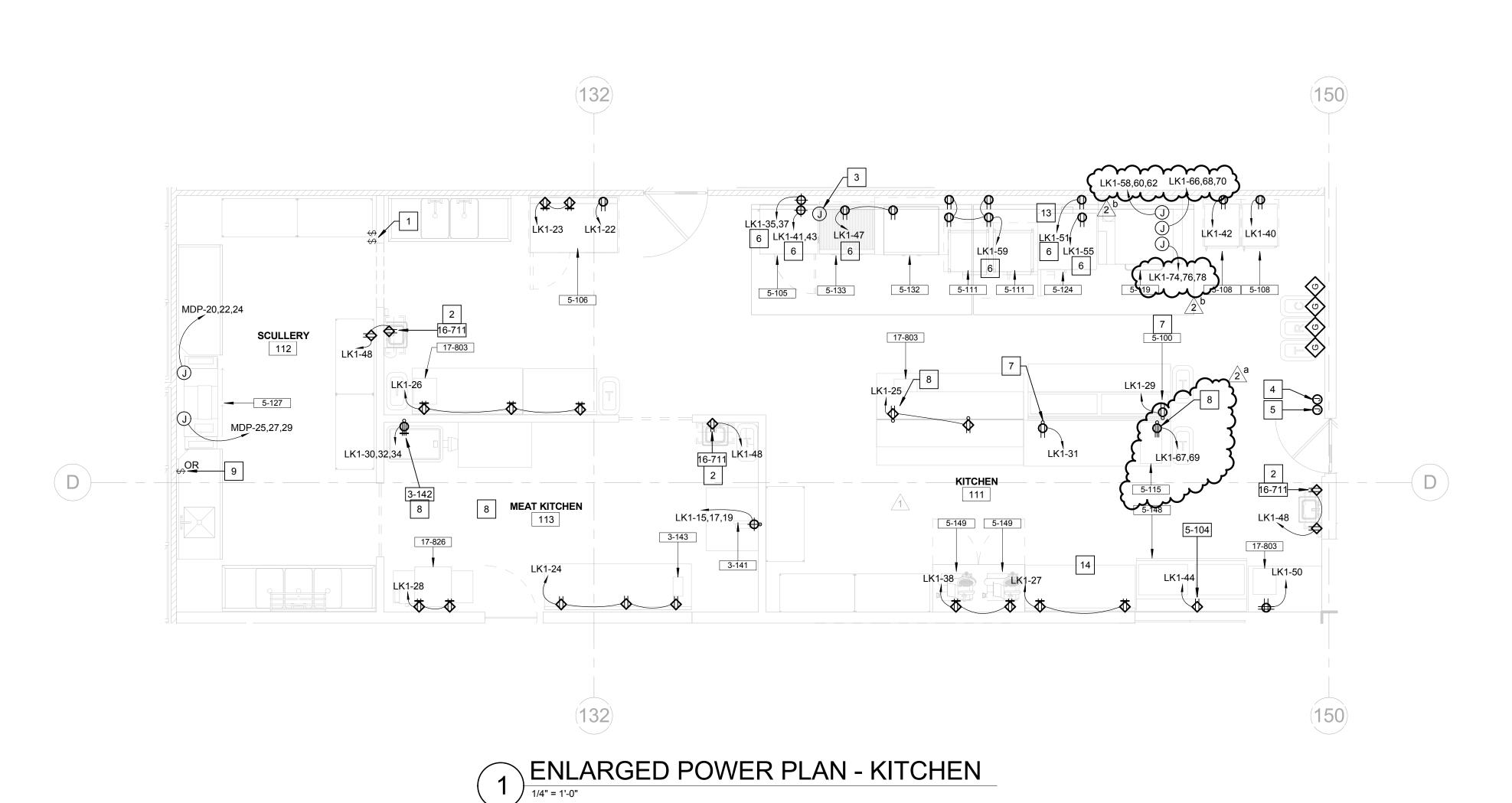
03/06/18 Addendum #1 2 05/21/18 Addendum #2

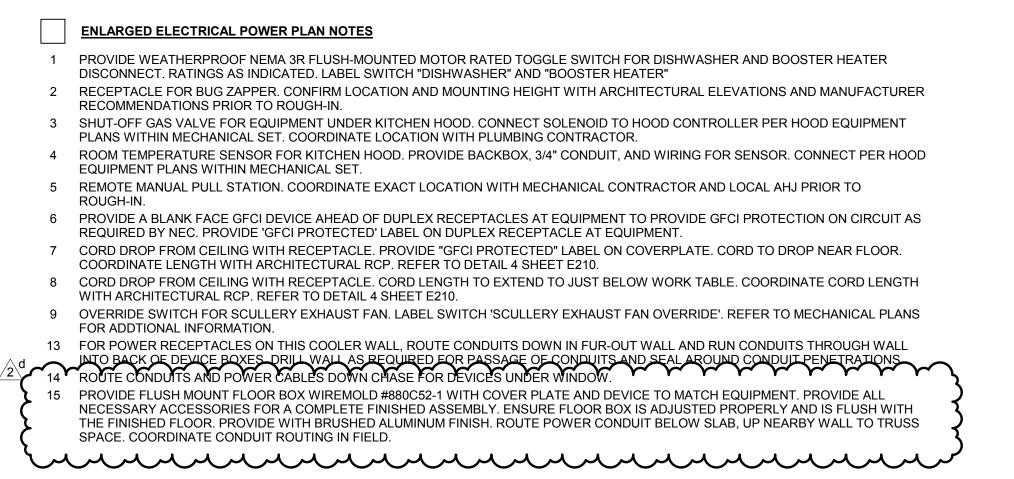
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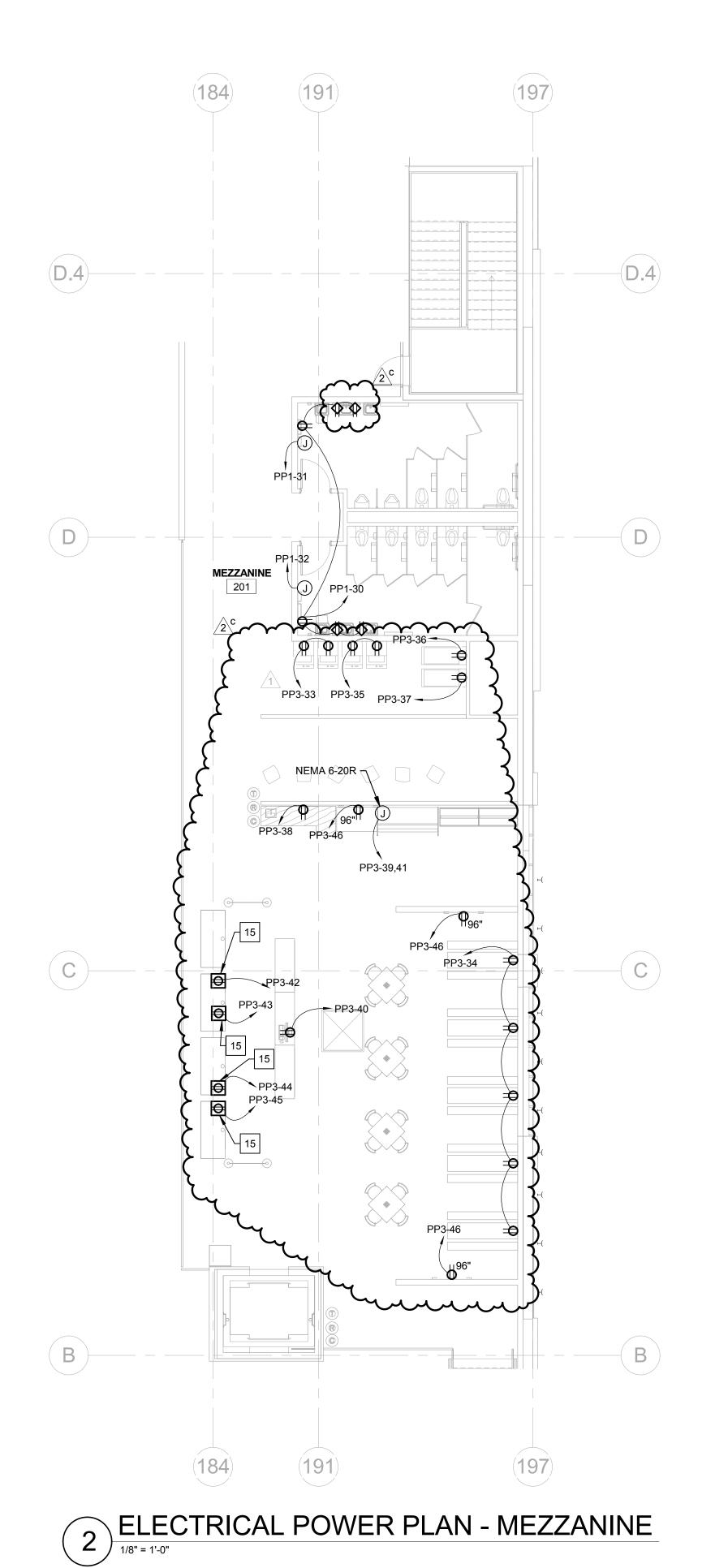
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Tel: 913-262-9095

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COMBINE AND ROUTE ALL CONDUITS ALONG EXTERIOR WALLS, DIRECTLY ABOVE CEILINGS, OR IN PLENUMS TO MINIMIZE VISIBILITY FROM SALES FLOOR.

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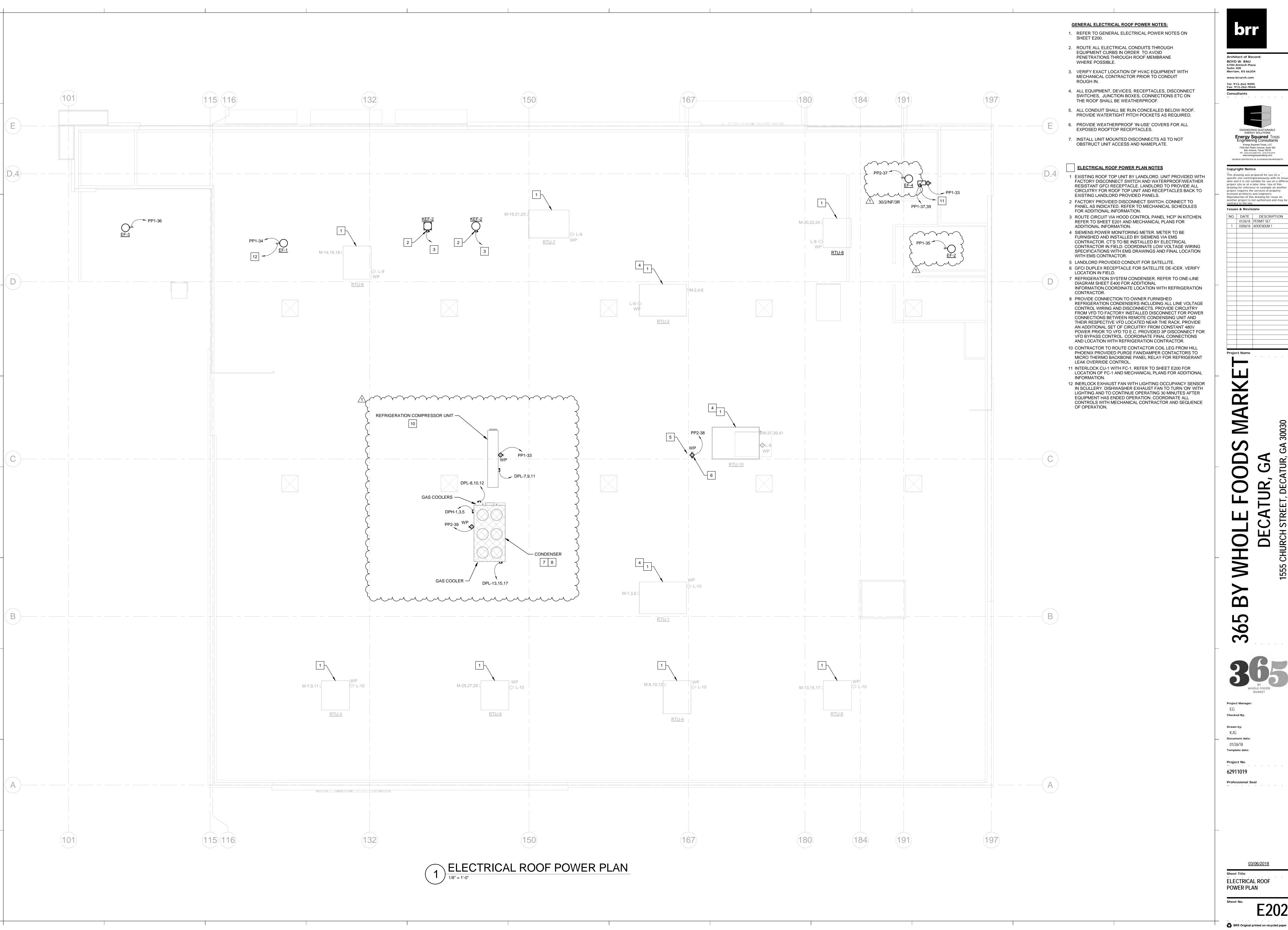
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01/26/18 Template date:

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05/21/2018 **ELECTRICAL POWER** ENLARGED PLANS



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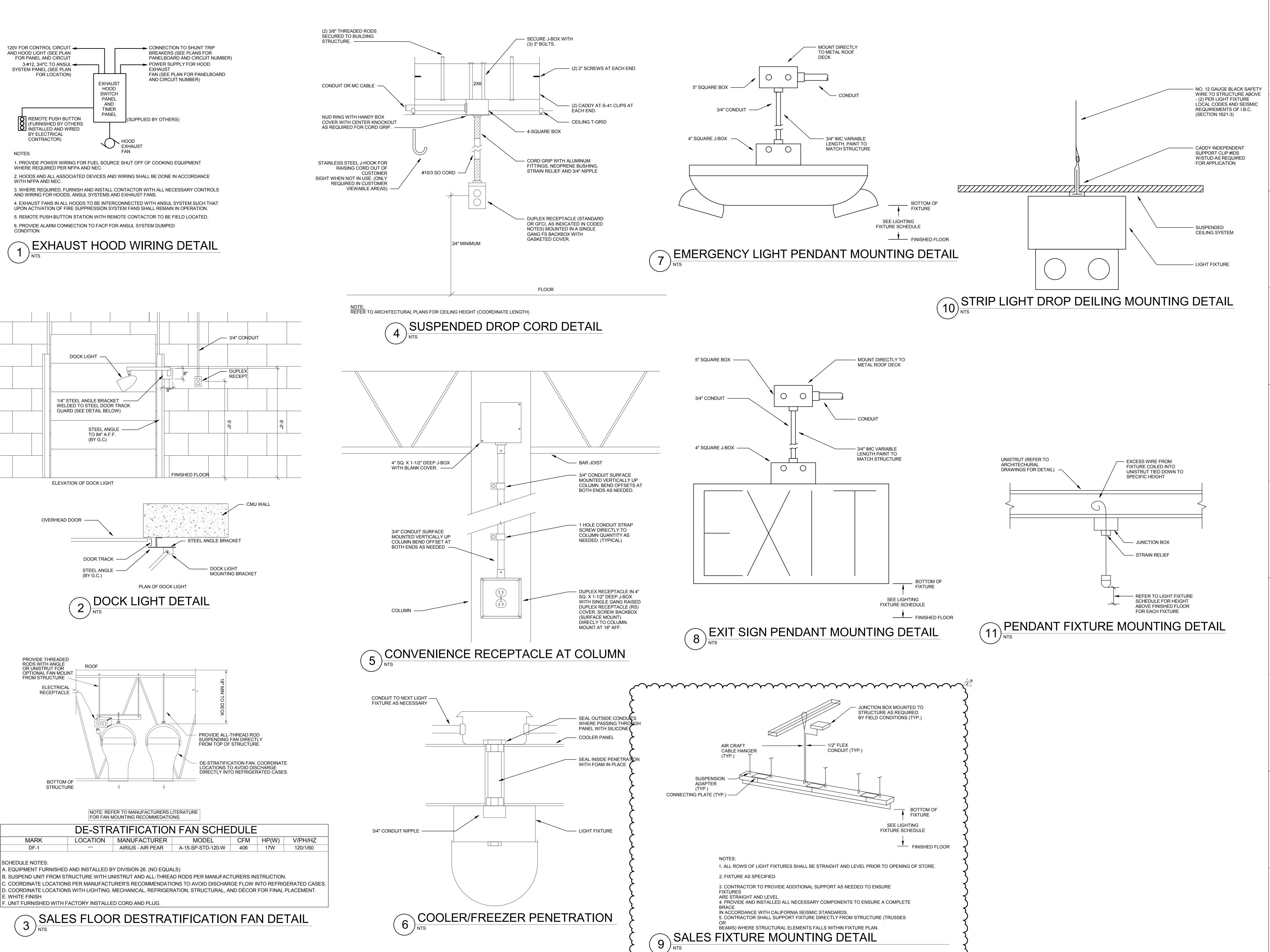
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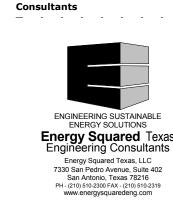
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ELECTRICAL ROOF POWER PLAN



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**ELECTRICAL POWER SCHEDULES AND DETAILS** 

**GENERAL ENERGY MANAGEMENT NOTES:** 

1. WORK SHOWN ON THIS SHEET IS SEPARATE FROM ENERGY MANGEMENT SCOPE OF WORK. REFER TO "EM" SERIES SHEETS FOR ADDITIONAL INFORMATION.

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**GENERAL SPECIAL SYSTEMS NOTES:** 

- 1. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF ALL CEILING MOUNTED DEVICES SHOWN ON
- 2. ELECTRICAL CONTRACTOR TO COORDINATE WITH ARCHITECTURAL, FIRE PROTECTION, PLUMBING & HVAC PLANS PRIOR TO ROUGH-IN TO AVOID ANY CONFLICTS OF ROUTING OR
- 3. SEE SYMBOLS LEGEND ON SHEET E000.
- 4. SEE TECHNOLOGY FACEPLATE DETAILS AND SCHEDULE ON
- 5. ALL TECHNOLOGY CABLING AND DEVICES SHALL BE INSTALLED IN A MANNER THAT CONFORMS WITH ALL CODES AND STANDARDS AS SET FORTH BY BICSI, NEC, TIA AND OTHER WIRING
- 6. CLOSELY COORDINATE AND CONFIRM INSTALLATION OF ALL VOICE/DATA AND OTHER TECHNOLOGY EQUIPMENT WITH OWNER'S CONSTRUCTION REPRESENTATIVE PRIOR TO COMMENCING WORK. THIS INCLUDES LAYOUT OF NETWORK
- 7. ALL CAT6 CABLES INSTALLED BY OTHER TRADES MUST BE OF DIFFERENT COLORS FROM THE CABLES SPECIFIED HERE AND ON
- 8. LABEL EACH CABLE WITHIN 12" OF TERMINATION AT FACEPLATE AND AT PATCH PANEL. REFER TO SHEET E310 FOR LABELING
- 9. COORDINATE WITH ARCHITECT TO PROVIDE PLYWOOD WALL BACKBOARD IN NETWORK CLOSET WHERE SHOWN ON DRAWINGS. BACKBOARD SHALL BE PAINTED AS REQUIRED PRIOR TO INSTALLATION ON WALL. PROVIDE 4-SCREW D-RINGS ON THE
- 10. APPROPRIATELY SIZED J-HOOKS PER MANUFACTURER MINIMUM FOR ALL NEW CABLING AND PATHWAYS. DO NOT SHARE J-HOOK PATHWAYS FOR TECHNOLOGY HORIZONTAL CABLING VOICE/DATA, BACKBONE AND COAXIAL CABLES WITH OTHER LOW
- 11. WIRELESS ACCESS POINTS (WAP) ARE TENANT FURNISHED AND CONTRACTOR INSTALLED. CONFIRM FINAL LOCATIONS AND REQUIREMENTS WITH WAP VENDOR PRIOR TO INSTALLATION. WAP VENDOR CONTACT: TBDCOORDINATE THE LOCATION OF THE VOLUME CONTROLS WITH 365 PROJECT MANAGER TO
- 12. ALL DEVICES IN OFFICES AND BREAKROOM SHALL BE MOUNTED 8" ABOVE DESK SURFACE. FIELD COORDINATE WITH PROVIDED

**ELECTRICAL SPECIAL SYSTEMS PLAN NOTES** 

1 DATA DEVICE LOCATION FOR TIME CLOCK.

2 MOUNT DATA DEVICE WITHIN POS CASEWORK. 3 LEAVE A 15 FOOT SERVICE LOOP IN CABLING FOR WAP'S FOR ADJUSTMENTS AND TUNING. NEATLY COIL LOOPS AT WAP'S. PENDANT MOUNT WAP IN AREAS WITH OPEN CEILINGS AT 15'-0" AFF. MOUNT FROM 3/4" RIGID CONDUIT STEM SECURED TO

SWIVEL COVER RATED FOR LOAD OF DEVICE. MOUNT DATA OUTLET ADJACENT TO JUNCTION BOX. LEAVE A 15 FOOT SERVICE LOOP IN CABLING FOR WAP'S FOR ADJUSTMENTS AND TUNING. NEATLY COIL LOOPS AT WAP'S. PENDANT MOUNT WAP IN AREAS WITH OPEN CEILINGS AT 15'-0" AFF. MOUNT FROM 3/4" RIGID CONDUIT STEM SECURED TO BUILDING STRUCTURE BY A 4" SQUARE JUNCTION BOX WITH 3/4" BALL SWIVEL COVER RATED FOR LOAD OF DEVICE. MOUNT DATA OUTLET

- 4 WEATHERIZED MERAKU MR72. MOUNT ACCESS POINT ON COOLER INTERIOR WALL. DRY FIT WITH ANTENNAS CONNECTED IN VERTICAL
- ORIENTATION AND TERMINATE TIGHT TO CEILING. 5 PROVIDE DATA OUTLET FOR DIGITAL DISPLAY SCREEN AT SAME ELEVATION AS MOUNTING BRACKET. COORDINATE INSTALLATION WITH DIGITAL DISPLAY SCREEN MOUNTING BRACKETS.
- 8 PROVIDE (1) CAT6 CABLE FROM KITCHEN HOOD CONTROL PANEL TO DATA NETWORKING RACK FOR NETWORK CONNECTION. 10 DATA OUTLET FOR SIEMENS CONTROLS (LOCATED IN POWERWALL)
- 11 DATA OUTLET TO BE MOUNTED HORIZONTALLY DIRECTLY BELOW PRINTER ENCLOSURE WITH TOP OF BOX AT 2'-3" AFF. 12 DATA OUTLET FOR DIGITAL DISPLAY SCREEN. CONFIRM LOCATION
- 13 365 LV CONTRACTOR TO PROVIDE (2) CAT6 CABLES FROM FRIENDS SPACE TO DEMARC LOCATION AND TERMINATE IN A SURFACE MOUNTED BOX (BISCUIT JACK). TERMINATION ON FRIENDS SIDE AND
- ALL ADDITIONAL CABLING BY FRIENDS GC. 14 DATA OUTLET FOR SECURITY ALARM PANEL. CONFIRM LOCATION
- WITH VENDOR PRIOR TO INSTALLATION. 15 WEATHERIZED MERAKU MR72. MOUNT ACCESS POINT ON BUILDING
- EXTERIOR WALL.TERMINATE TIGHT TO UNDERSIDE OF AWNING. 16 EXISTING FIRE ALARM CONTROL PANEL LOCATION. ALL REQUIRED FIRE ALARM ACCESS PHONE LINES EXISTING TO REMAIN BY
- 17 VOICE/NETWORK EQUIPMENT RACK. SEE DETAILS ON SHEET E310. 18 PLYWOOD BACKBOARD. MOUNT QUAD RCEPTACLES FOR TELECOMMUNICATIONS EQUIPMENT TO BACKBOARD. REFER TO SYSTEMS PLANS AND ELEVATIONS FOR MORE
- INFORMATION. 19 EXISTING (2) 4" CONDUITS FOR TELECOMMUNICATIONS SERVICE

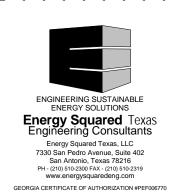
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**ELECTRICAL SPECIAL** 

SYSTEMS PLAN

Architect of Record: BOYD W. RAU 6700 Antioch Plaza Suite 300 Merriam, KS 66204 www.brrarch.com Tel: 913-262-9095 Fax: 913-262-9044



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03/06/2018 **ELECTRONIC SHELF** 

LABEL SYSTEM PLAN

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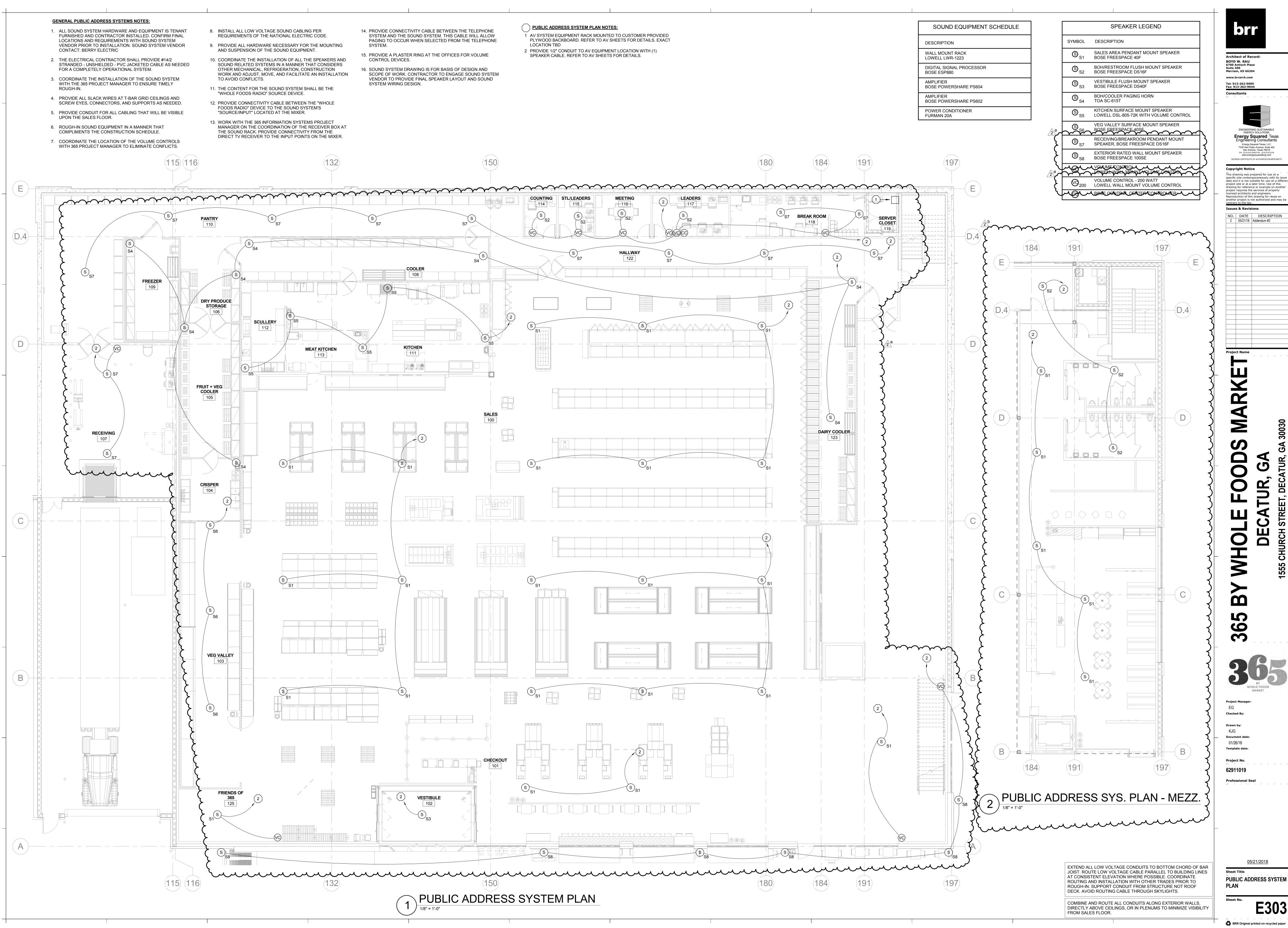


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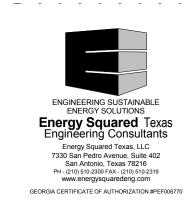
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ELECTRICAL SPECIAL SYSTEMS PLAN - MEZZANINE

ELECTRICAL SPECIAL SYSTEMS PLAN NOTES

1 LEAVE A 15 FOOT SERVICE LOOP IN CABLING FOR WAP'S FOR ADJUSTMENTS AND TUNING. NEATLY COIL LOOPS AT WAP'S.
PENDANT MOUNT WAP IN AREAS WITH OPEN CEILINGS AT 15'-0" AFF. MOUNT FROM 3/4" RIGID CONDUIT STEM SECURED TO

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 2
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ELECTRICAL SPECIAL SYSTEMS PLAN - MEZZANINE
Sheet No.

**Project Name** 

K. CABLING CONTRACTOR SHALL FURNISH / INSTALL CAT6 CABLING FOR THE CAMERA SYSTEM. SEE SHEET EC1.01 FOR CAMERA LOCATIONS. IT SHALL UTILIZE A POWER OVER ETHERNET (POE) CABLING METHODOLOGY. L. 365 WILL PROVIDE A 16" WIDE BY 18" TALL BY 4" DEEP STAINLESS STEEL NICHE TYPE TIMECLOCK STRUCTURE. THIS WALL-MOUNTED TIMECLOCK HOLDER'S INSTALLATION SHALL BE COORDINATED WITH

**GENERAL TECHNOLOGY NOTES:** 

CONFLICT WITH SWITCHES, ETC.

CONFLICTS (TYPICAL).

TELEPHONE SERVICES.

SHALL BE FORWARDED TO 365.

DATA JACK.

COMPLETE INSTALLATION.

WITH THE FRAMING AND WALL FINISHES.

A. LOCATE WALL TELEPHONE OUTLETS IN A MANNER THAT DOES NOT

C. THE DATA CABLING, AS WELL AS THE TELEPHONE CABLING

F. 365 MARKET WILL DETERMINE AND ORDER ALL NECESSARY

G. COORDINATION WITH THE TELEPHONE UTILITY SHALL BE THE

RESPONSIBILITY OF 365 MARKETS INFORMATION TECHNOLOGY

WFM PROJECT MANAGER THAT IS OBTAINED FROM TELEPHONE

PROJECT MANAGER. ELECTRICAL CONTRACTOR SHALL PARTICIPATE

UTILITYS' FIELD PERSONNEL. ALL INFORMATION REGARDING STATUS

GROUNDING, DATES OF FIELD VISITS, EQUIPMENT DELIVERY AND

INSTALLATION. ACCOMPLISHMENTS OF THE UTILITY'S PERSONNEL

H. 365 MARKET WILL PROVIDE A 14" WIDE BY 14" TALL BY 4" DEEP

STAINLESS STEEL NICHE TYPE STRUCTURE. THIS WALL PHONE

I. THE TELEPHONE HAND SET'S CABLING SHALL EXTEND THRU THE

BACK OF THE STAINLESS STEEL NICHE AND CONNECT TO THE VOIP

J. ELECTRICAL CONTRACTOR SHALL PHYSICALLY MOUNT THE VOIP

TELEPHONE MECHANISM ONTO THE STAINLESS STEEL NICHE, FOR A

HOLDER'S INSTALLATION SHALL BE COORDINATED WITH THE GENERAL

CONTRACTOR AND THE PROJECT MANAGER TO INSURE COMPATIBILITY

SUPPORT, AND COMMUNICATE ANY AND ALL INFORMATION TO THE

D. 365 MARKETS WILL UTILIZE A TELEPHONE SYSTEM CALLED VOIP

THIS VOICE OVER INTERNET PROTOCOL SYSTEM WILL UTILIZE CAT6

CABLING. THE ACTUAL TELEPHONE CABLING SYSTEM SHALL UTILIZE

E. LABLING IS CRITICAL TO THE ENTIRE SYSTEM AND IS REQUIRED TO

TERMINATE AT THE NETWORK RACK ON THE DATA RACK.

A DIFFERENT COLOR JACK FROM THE DATA SYSTEM.

BE FOLLOWED PER 365'S IT DEPARTMENT DRAWING.

B. COORDINATE SOUND SYSTEM COMPONENTS TO ELIMINATE POSSIBLE

THE GENERAL CONTRACTOR AND THE PROJECT MANAGER TO INSURE COMPATABILITY WITH THE FRAMING AND WALL FINISHES. M. THE TIMECLOCK'S CABLING AND 120 VOLT POWER SHALL EXTEND THRU THE BACK OF THE STAINLESS STEEL NICHE AND CONNECT IN A MANNER THAT IS COMPATIBLE WITH THE KRONOS TIME CLOCK. N. ELECTRICAL CONTRACTOR SHALL PHYSICALLY MOUNT THE KRONOS EMPLOYEE TIMECLOCK DEVICE ONTO THE STAINLESS STEEL NICHE FOR A COMPLETE INSTALLATION.

ALL CONTROLS CABLING, TERMINATION, AND HARDWARE INSTALL SCOPE IS THE RESPONSIBILITY OF GC. THIS SCOPE IS TO BE BID BY QUALIFIED LV CONTROLS CONTRACTOR. GC TO COORDINATE TERMINATIONS BETWEEN HVAC/REFRIGERATION/LV CONTRACTORS.

- 4'x8'x3/4" PLYWOOD BACKER BOARD WITH (2) COATS OF FIRE-RETARDANT  $\overline{\phantom{a}}$ MAXIMUM DEPTH FOR EQUIPMENT MOUNTED TO PLYWOOD SECTIONS A AND B - NETWORKING PLAN VIEW CLEARANCE AT -EQUIPMENT **EQUIPMENT** RACK (PIVOTING, FLOOR MOUNTED) - QUAD RECEPTACLES MOUNTED ABOVE UPS (TYPICAL)

RESERVATION FOR TELCO SECTION A CAT6 CABLING FOR PRICER ESL SYSTEM. NEATLY PASS CABLING THROUGH CABLE SUPPORT RINGS ATTACHED TO THE BAR (TGB)¬ BACK BOARD — 2'X8' EQUIPMENT I CLEARANCE RACK (SWING | FOR SWING OUT FLOOR OUT RACK. MOUNTED). LEAVE ELECTRONIC SHELF SEE RACK |CONT|| PS **ELEVATION**, SPACE LABELS SYSTEM THIS SHEET. CLEAR. BASE CONTROLLER AND POWER WFM) SUPPLY. TERMINATE CAT6 CABLES ONTO BASE CONTROLLER PER VENDOR'S -REQUIREMENTS RESERVATION 88 FOR 365 **EQUIPMENT** DUPLEX RECEPTACLE, EACH ON DEDICATED CIRCUIT, INSTALLED QUAD RECEPTACLES

**ELEVATION VIEW** PLYWOOD BACKER BOARD ELEVATION

NTS

MOUNTED ABOVE UPS _

IN ENCLOSURE BACKPAN AT

LOWEST POSITION

**ELEVATION VIEW** 

365 SW1

PP#2

PP#3

365 SW2

PP#4

PP#5

365 SW3

PP#6

PP#7

365 SW4

Reserved Space for 365 Gear

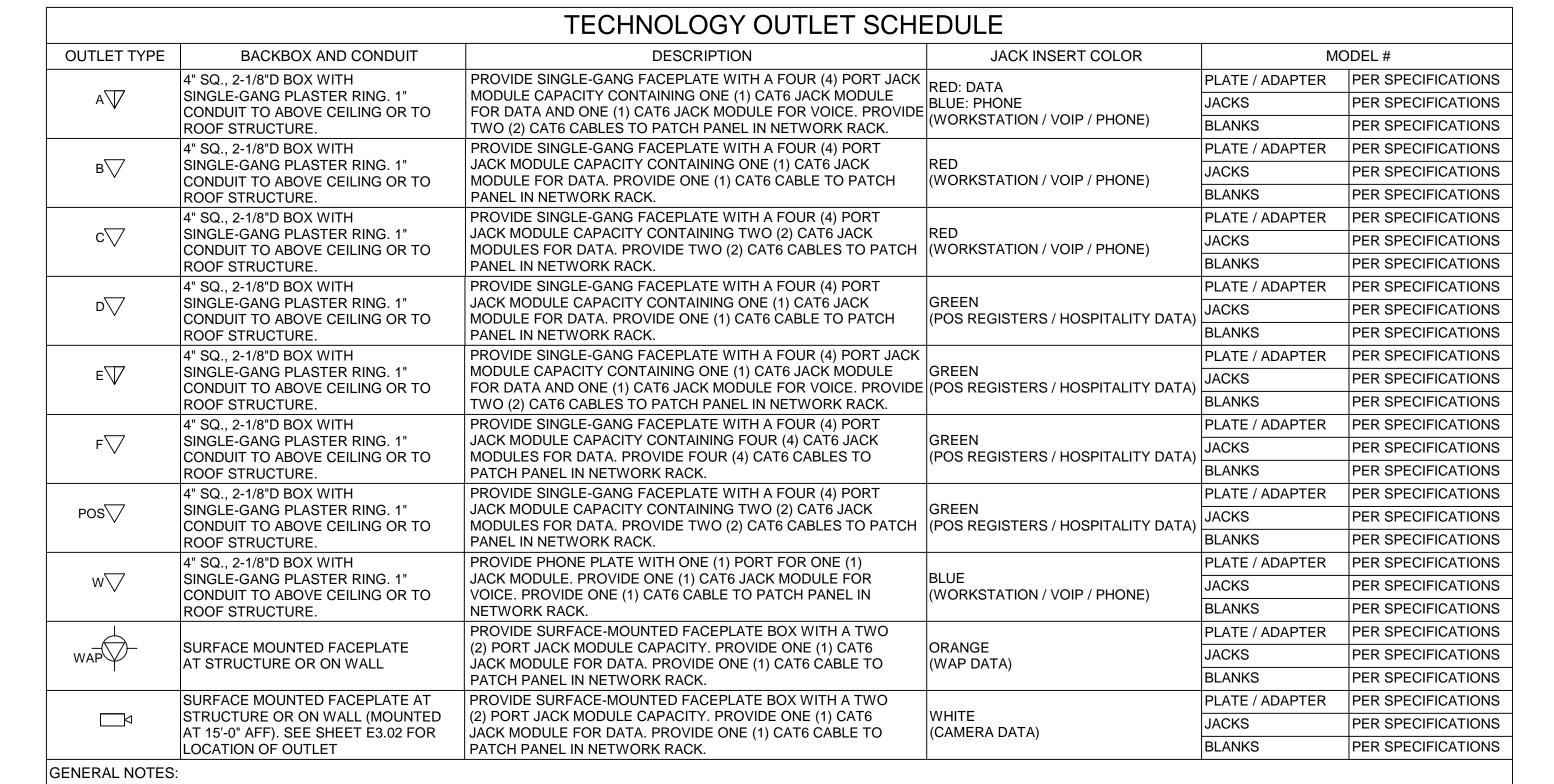
Reserved Space for Security System

Reserved Space for 365 Gear

1. CONTRACTOR TO PROVIDE NETWORK RACK. RACK TO BE MIDDLE ATLANTIC (MA) #SR-40-32 PIVOTING RACK ENCLOSURE WITH 40U MOUNTING SPACE AND BACK PLATE. RACK TO BE PROVIDED WITH VENTED DOOR MA #LVFD-40, REAR RACK RAILS MA #DWR- RR440, MINIMUM CLEARANCE LATCH MA #DWRSR-ZL AND SUBPLATE MOUNTING KIT MA #SR-SUM.

	RACK E	LEVATION EQUIPMENT SCHEDULE
TAG	RACK UNITS (RU)	DESCRIPTION
1	-	SPACE ALLOWANCE FOR EQUIPMENT (OWNER FUNISHED/INSTALLED)
2	1U	SPACE FOR 24-PORT PATCH PANEL (CONTRACTOR FURNISHED/INSTALLED)
3	1U	SPACE FOR 48-PORT SWITCH (OWNER FURNISHED/INSTALLED)
4	4U	SPACE FOR SECURITY NVR (OWNER FURNISHED/INSTALLED)





Α	PROVIDE BLANK INSERTS, MATCHING FACEPLATE OR MODULE FRAME COLOR, FOR ALL UNUSED PORTS. FACEPLATE COLOR AS SELECTED BY OWNER'S IT DEPARTMENT.
B	ALL HORIZONTAL CABLING SHALL BE PLENUM RATED IN PLENUM AREAS. CABLES IN NON-PLENUM AREAS MAY BE NON-PLENUM RATED. ALL CABLING FOR VOICE AND DATA SHALL BE CAT6 UNLESS

- NOTED OTHERWISE. C VOICE / DATA CABLES ARE TO TERMINATE ON PATCH PANELS IN IDF.
- D FOR ANY LOCATIONS WITHIN MODULAR FURNITURE, USE APPROPRIATE FURNITURE PLATE ADAPTER UNLESS OPENINGS ARE UNAVAILABLE THEN USE MODULAR SURFACE MOUNTED BOXES. RED FOR DATA, BLUE FOR PHONE, ORANGE PROVIDE JACK MODULES AT BOTH ENDS OF CABLES (NETWORK RACK PATCH PANEL AND FACEPLATE). COLOR AS SELECTED BY OWNER'S IT
- DEPARTMENT. INSTALL PER OWNER'S STANDARDS. FOR WAP, GREEN FOR POS, GREEN FOR ALOHA/HOSPITALITY, AND WHITE FOR CAMERA). F PHONE SYSTEM IS VOICE OVER INTERNET (VOIP). THIS VOIP SYSTEM SHALL UTILIZE CAT6 CABLING.

**GROUNDING GENERAL NOTES:** 

A. ALL GROUNDING CONDUCTORS SHALL BE TAGGED AT THE TELECOMMUNICATION BUSBAR.

B. USE PAINT PIERCING HARDWARE ON ALL RACKS, CABLE TRAY, AND MOUNTING RAILS.

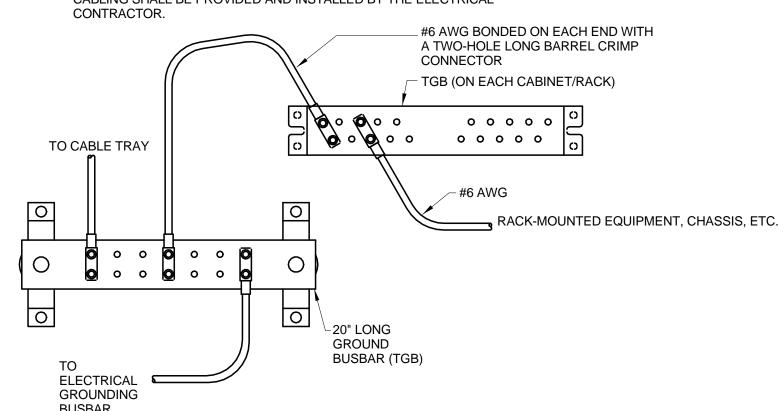
C. ALL CONNECTORS SHALL BE TWO-HOLE, COMPRESSION STYLE

D. BUSBARS SHOWN ARE FOR ILLUSTRATION PURPOSES ONLY. ACTUAL SIZE IS DETERMINED BY THE SPECIFICATIONS AND INDIVIDUAL PROJECT REQUIREMENTS.

E. ALL MATERIALS AND TERMINATIONS FROM THE TELECOMMUNICATION GROUNDING BUSBARS TO THE DEVICES WITHIN

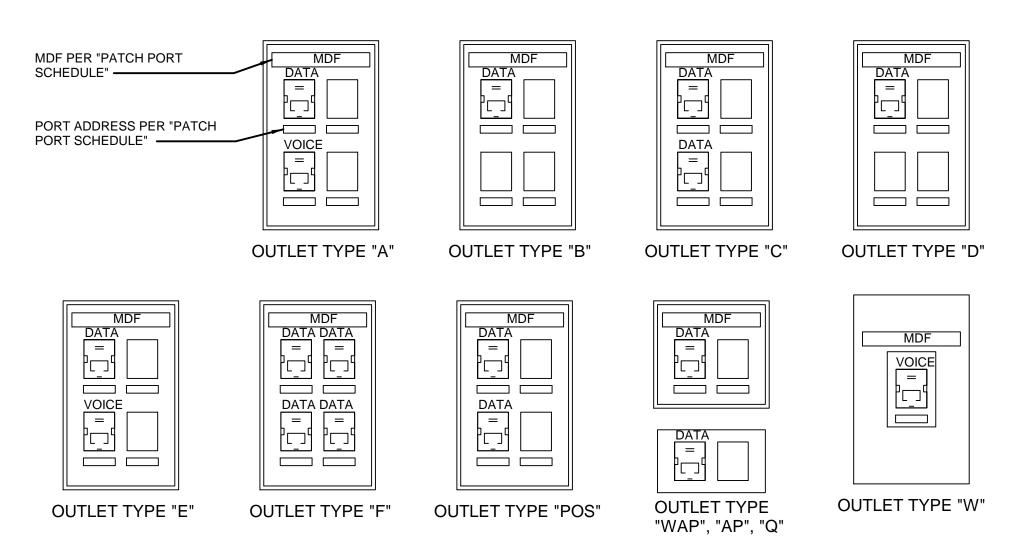
THE TECHNOLOGY ROOM ARE THE RESPONSIBILITY OF THE INDIVIDUAL SYSTEMS CONTRACTOR.

F. ALL GROUNDING BUSBARS AND TELECOMMUNICATIONS BACKBONE CABLING SHALL BE PROVIDED AND INSTALLED BY THE ELECTRICAL

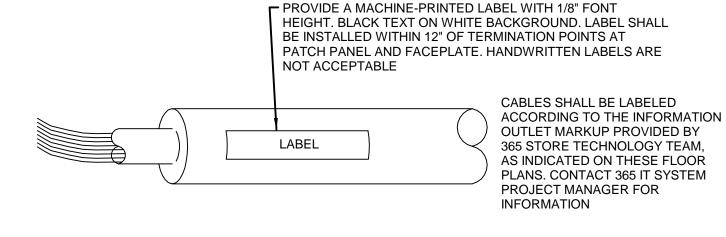


GROUNDING BAR DETAIL

											<b>PATCH</b>	PORT :	SCHED	ULE										
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
P#1																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
P#2	A01	A08	A15	P201-A	P204-B	P208-A	H111-01	D101-01	D102-02	D108-02	D1119-01	D115-04	D117-06	V111-01	C01	C08	C15	C22	C29	C36	C43			
	Orange	Orange	Orange	Green	Green	Green	Green	Red	Red	Red	Red	Red	Red	Blue	White									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
P#3	A02	A09		P201-B	P205-A	P208-B	H111-02	D101-02	D107-01	D108-03	D113-01	D116-01	D118-01		C02	C09	C16	C23	C30	C37	C44			
	Orange	Orange		Green	Green	Green	Green	Red	Red	Red	Red	Red	Red		White									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
P#4	A03	A10		P202-A	P205-B	P276-A	H111-03	D101-03	D107-02	D111-01	D114-01	D117-01	D118-02		C03	C10	C17	C24	C31	C38	C45			
	Orange	Orange		Green	Green	Green	Green	Red	Red	Red	Red	Red	Red		White									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
P#5	A04	A11		P202-B	P206-A	P276-B	H111-04	D101-04	D107-03	D111-02	D114-02	D117-02	D118-03		C04	C11	C18	C25	C32	C39				
	Orange	Orange		Green	Green	Green	Green	Red	Red	Red	Red	Red	Red		White	White	White	White	White	White				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
P#6	A05	A12		P203-A	P206-B	P631-A	H117-01	D101-05	D107-04	D111-03	D115-01	D117-03	D118-04		C05	C12	C19	C26	C33	C40				
	Orange	Orange		Green	Green	Green	Green	Red	Red	Red	Red	Red	Red		White	White	White	White	White	White				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
PP#7	A06	A13		P203-B	P207-A	P631-B		D101-06	D107-05	D111-04	D115-02	D117-04	D118-05		C06	C13	C20	C27	C34	C41				
	Orange	Orange		Green	Green	Green		Red	Red	Red	Red	Red	Red		White	White	White	White	White	White				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
P#8	A07	A14		P204-A	P207-B	P631-C		D102-01	D108-01	D111-05	D115-03	D117-05	D118-06		C07	C14	C21	C28	C35	C42				
	Orange	Orange		Green	Green	Green		Red	Red	Red	Red	Red	Red		White	White	White	White	White	White				



TECHNOLOGY FACEPLATE DETAILS



CABLE LABELING DETAIL

Checked By: Drawn by: KJG Document date: 01/26/18

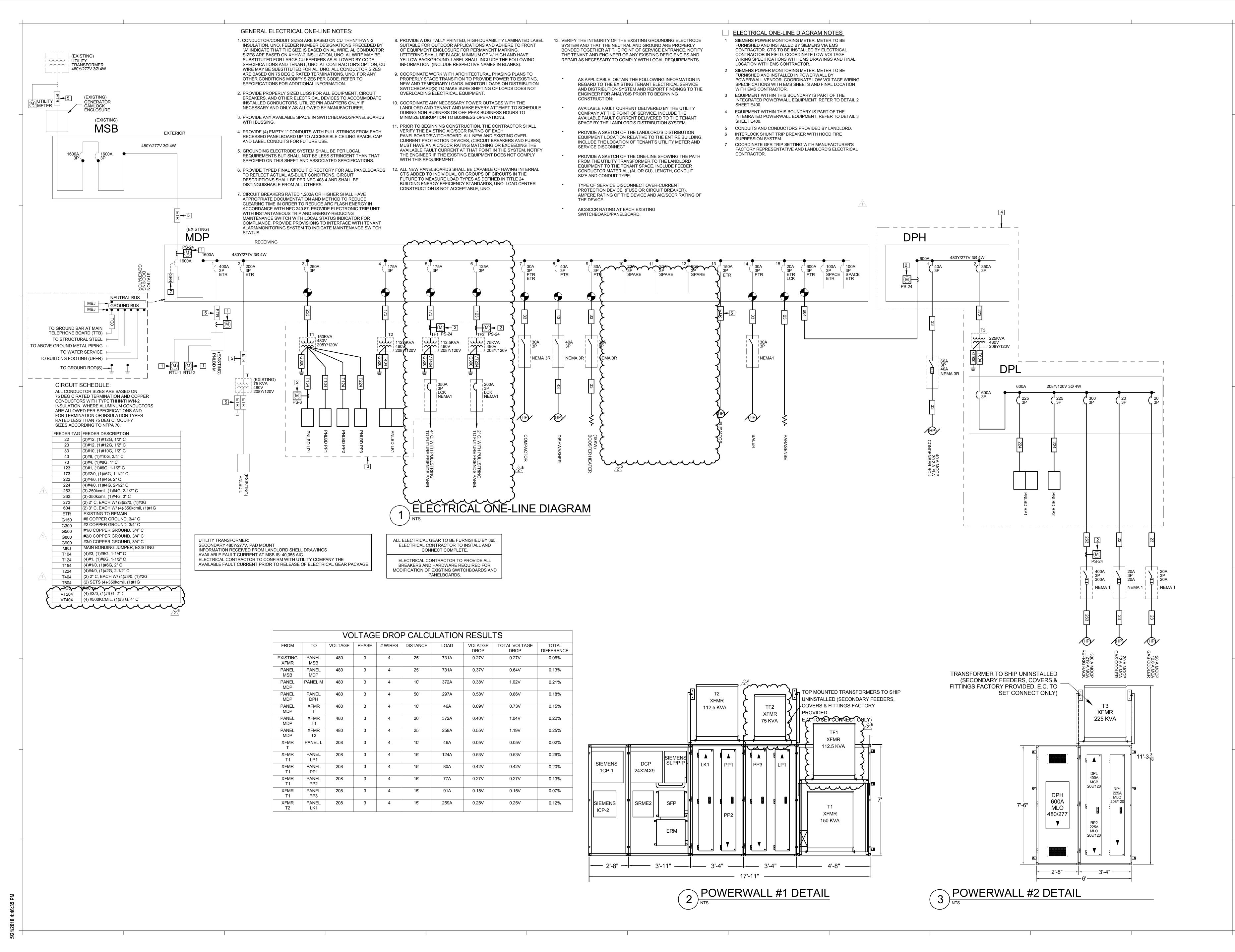
Project Manager:

Template date: Project No.

62911019 **Professional Seal** 

**ELECTRICAL SPECIAL** 

SYSTEMS SCHEDULES AND DETAILS



Architect of Record: BOYD W. RAU 6700 Antioch Plaza Suite 300 Merriam, KS 66204 www.brrarch.com Tel: 913-262-9095

Consultants



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03/06/18 Addendum #1 2 05/21/18 Addendum #2

Project Manager: Checked By:

KJG Document date: 01/26/18 Template date:

Project No. 62911019

ELECTRICAL ONE-LINE DIAGRAM

BRR Original printed on recycled paper

E400

POWER-SWITCHING PANELBOARD NOTES:

POWER-SWITCHING PANELBOARDS ON THIS SHEET ARE INTENDED TO BE REMOTELY CONTROLLED BY SIEMENS CONTROLLER. CONTROL METHOD TO BE BY BACNET IP FROM SIEMENS CONTROLLER. CONFIRM INTEGRATION BETWEEN SIEMENS AND POWER-SWITCHING BREAKER CONTROLLER. REFER TO "EM" SERIES DRAWINGS FOR ADDITIONAL INFORMATION.

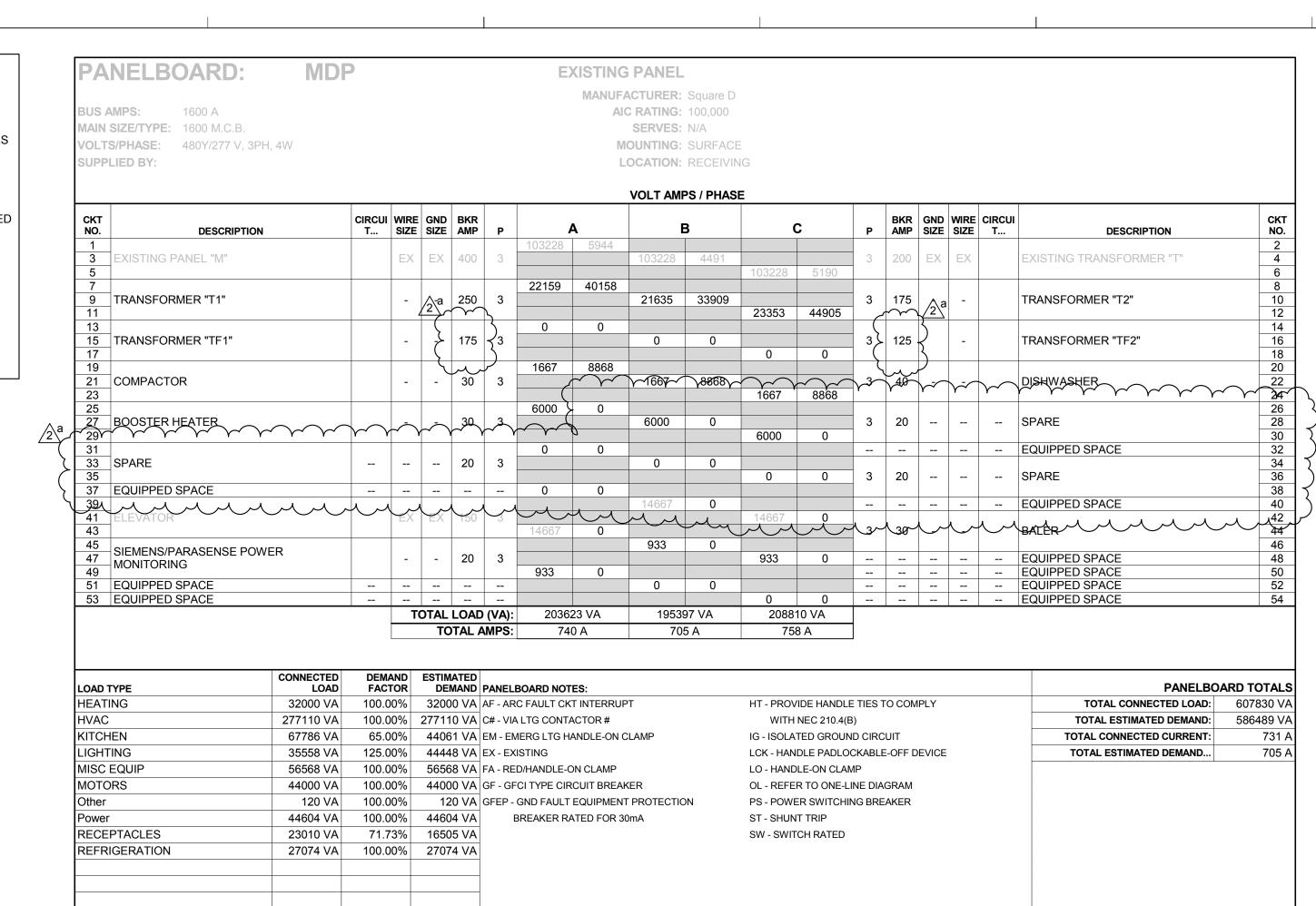
NOTE: POWER-SWITCHING PANELBOARD CONTROLLER TO BE FACTORY PROGRAMMED TO FAIL TO LIGHTS ON.

NOE: POWER-SWITCHING BREAKERS TO BE FACTORY PROGRAMMED PER DETAILS ON SHEET E110.

NOTE: CONTRACTOR TO INCLUDE FACTORY STARTUP IF CONTRACTOR HAS NOT PREVIOUSLY PROGRAMMED POWERSWITCHING PANELBOARDS.

EATON CUTLER HAMMER NOTES:
• MINIMUM OF POW-R-COMMAND 2000E SERIES

SQUARE D NOTES:
• MINIMUM OF POWER LINK G3000 SERIES



									VOLT AMI	PS / PHASE									
CT O.	DESCRIPTION	CIRCUI T			BKR AMP	P		A	E	3	(		P		GND SIZE		CIRCUI T	DESCRIPTION	C
							22974	22974											
	RTU-1 (EXISTING)		EX	EX	90	3			22974	22974	22074	00074	3	90	EX	EX		RTU-2 (EXISTING)	
,							3824	5737			22974	22974							
	RTU-3 (EXISTING)		EX	EX	20	3	3024	3737	3824	5737			3	25	FX	EX		RTU-4 (EXISTING)	
1									0021	0101	3824	5737							
3							3824	5737											
	RTU-5 (EXISTING)		EX	EX	20	3			3824	5737			3	15	EX	EX		RTU-6 (EXISTING)	
7							0000	05.47			3824	5737							
9 1 ⊩	RTU-7 (EXISTING)		EX	EX	45	3	9699	3547	9699	3547			3	25	EV	EX		RTU-8 (EXISTING)	
3	KTO-7 (EXISTING)				45	3			9099	3347	9699	3547	3	25				KTO-6 (EXISTING)	-
5							3824	8000			0000	0017							
	RTU-9 (EXISTING)		EX	EX	20	3			3824	8000			3	20	EX	EX		AIR CURTAIN HEATER	
9											3824	8000							
1							2667	2107											
	IR CURTAIN HEATER		EX	EX	20	3			2667	2107	2667	2107	3	20	EX	EX		BP-1	<u> </u>
5 7							8314	0			2667	2107						EQUIPPED SPACE	
	RTU-10 (EXISTING)				40	3	0017		8314	0								EQUIPPED SPACE	
1									0011		8314	0						EQUIPPED SPACE	

**EXISTING PANEL** 

MANUFACTURER: Square D

SERVES: N/A

AIC RATING: 42,000 SERIES RATED

LOAD TYPE	CONNECTED LOAD	DEMAND FACTOR	_	PANELBOARD NOTES:		PANELBO	ARD TOTALS
HEATING	32000 VA	100.00%	32000 VA	AF - ARC FAULT CKT INTERRUPT	HT - PROVIDE HANDLE TIES TO COMPLY	TOTAL CONNECTED LOAD:	309683 VA
HVAC	271362 VA	100.00%	271362 VA	C# - VIA LTG CONTACTOR #	WITH NEC 210.4(B)	TOTAL ESTIMATED DEMAND:	309683 VA
MISC EQUIP	6321 VA	100.00%	6321 VA	EM - EMERG LTG HANDLE-ON CLAMP	IG - ISOLATED GROUND CIRCUIT	TOTAL CONNECTED CURRENT:	372 A
				EX - EXISTING	LCK - HANDLE PADLOCKABLE-OFF DEVICE	TOTAL ESTIMATED DEMAND	372 A
				FA - RED/HANDLE-ON CLAMP	LO - HANDLE-ON CLAMP		
				GF - GFCI TYPE CIRCUIT BREAKER	OL - REFER TO ONE-LINE DIAGRAM		
				GFEP - GND FAULT EQUIPMENT PROTECTION	PS - POWER SWITCHING BREAKER		
				BREAKER RATED FOR 30mA	ST - SHUNT TRIP		
					SW - SWITCH RATED		

PANELBOARD: L

BUS AMPS: 225 A

MAIN SIZE/TYPE: 225A M.C.B.

VOLTS/PHASE: 208Y/120 V...

SUPPLIED BY: T

PANELBOARD:

BUS AMPS: 400 A

MAIN SIZE/TYPE: MLO

EXISTING...

MANUFACTURER: Square D
AIC RATING: 10,000
SERVES: N/A
MOUNTING: SURFACE
LOCATION: RECEIVING

								VOL	TAMPS / P	PHASE								
CKT NO.	DESCRIPTION	CIRCUI TNOT				Р		A		В		С	Р	BKR AMP	GND SIZE	WIRE CIRCUI SIZE TNOT	DESCRIPTION	CK
1	TELEPHONE BOARD		EX	EX	20	1	380	200					1	20	EX	EX	TIME CLOCK	2
3	FACP		EX	EX	20	1			200	915			0	20	EX	EX	AID CUIDTAIN FAN	4
5	AID CLIDTAIN FAN		EV	EV	20	0					915	915	2	20	巨人		AIR CURTAIN FAN	6
7	AIR CURTAIN FAN		EX	EX	20	2	915	949					1	20	EX	EX	EXTERIOR LIGHTING	8
9	ROOF RECEPTACLES		EX	EX	20	1			900	900			1	20	EX	EX	RECEPTACLES	10
11	OUTER DOCK DOOR		EX	EX	20	1					500	500	1	20	EX	EX	INNER DOCK DOOR	12
13	DOCK LEVELER		EX	EX	20	1	500	500					1	20	EX	EX	AUXILIARY ELEVATOR POWER	14
15	SP-1		EX	EX	20	1			500	396			1	20	EX	EX	EXTERIOR LIGHTING	16
17	ELEVATOR PIT OUTLET		EX	EX	20	1					180	500	1	20	EX	EX	VESTIBULE LIGHTING	18
19	AUTOMATIC DOORS		EX	EX	20	1	1500	500					1	20	EX	EX	ADDITIONAL VESTIBULE LIGHTING	20
21	VESTIBULE OUTLET		EX	EX	20	1			180	500			1	20	EX	EX	VESTIBULE LIGHTING	22
23	AUTOMATIC DOORS		EX	EX	20	1					1500	180	1	20	EX	EX	VESTIBULE OUTLET	24
25	ADDITIONAL VESTIBULE LIGHTING		EX	EX	20	1	500	0					1	20			SPARE	26
27	SPARE				20	1			0	0			1	20			SPARE	28
29	SPARE				20	1					0	0	1	20			SPARE	30
31	SPARE				20	1	0	0					1	20			SPARE	32
33	SPARE				20	1			0	0			1	20			SPARE	34
35	SPARE				20	1					0	0	1	20			SPARE	36
37	EQUIPPED SPACE						0	0									EQUIPPED SPACE	38
39	EQUIPPED SPACE								0	0							EQUIPPED SPACE	40
41	EQUIPPED SPACE										0	0					EQUIPPED SPACE	42
			Т	OTAL	LOAD	(VA):	594	4 VA	449	1 VA	519	0 VA						
				TC	TAL A	MPS:	5(	) A	37	7 A	4	4 A	1					

LIGHTING 3345 VA 125.00% 418 RECEPTACLES 2340 VA 100.00% 234	O VA AF - ARC FAULT CKT INTERRUPT O VA EM - EMERG LTG HANDLE-ON CLAMP O VA EX - EXISTING	HT - PROVIDE HANDLE TIES TO COMPLY WITH NEC 210.4(B) IG - ISOLATED GROUND CIRCUIT LCK - HANDLE PADLOCKABLE-OFF DEVICE	TOTAL CONNECTED LOAD: TOTAL ESTIMATED DEMAND: TOTAL CONNECTED CURRENT:	15625 VA 16461 VA 43 A
RECEPTACLES 2340 VA 100.00% 234	0 VA EM - EMERG LTG HANDLE-ON CLAMP	IG - ISOLATED GROUND CIRCUIT		
			TOTAL CONNECTED CURRENT:	43 /
MISC EQUIP 6280 VA 100.00% 628	0 VA EX - EXISTING	LCK - HANDLE PADLOCKABLE-OFF DEVICE		.0,
		2011 12 11 12 12 13 12 12 13 12 12 13 13 14 15 15 15 15 15 15 15 15 15 15 15 15 15	TOTAL ESTIMATED DEMAND	46 A
	FA - RED/HANDLE-ON CLAMP	LO - HANDLE-ON CLAMP		
	GF - GFCI TYPE CIRCUIT BREAKER	OL - REFER TO ONE-LINE DIAGRAM		
	GFEP - GND FAULT EQUIPMENT PROTECTION	PS - POWER SWITCHING BREAKER		
	BREAKER RATED FOR 30mA	ST - SHUNT TRIP		
		SW - SWITCH RATED		

	150 A MCB 208Y/120 V, 3PH, 4W T1			∆a					Al ⁽	C RATING: SERVES: OUNTING: OCATION:	N/A SURFACI								a 2a	
1		$ \leftarrow $		$\frac{\langle 2 \rangle}{\langle 2 \rangle}$						VOLT AM	PS / PHAS	E		I				$\sim$		
CKT NO.	DESCRIPTION	CIRC T	UI	NIRE C	SND	BKR AMP	P		4		В		;	P	BKR AMP	GND SIZE	WIRE SIZE	CIRCU T	DESCRIPTION	CKT NO.
1 DESTRAT FA		C2,L		$\rightarrow$	10	20	1	470	350					1	20	10	19		DESTRAT FANS 2	2
3 DESTRAT FA	ANS 3	C2,L			10	20	1			350	1200			1	20	10	6	L6	EXTERIOR SIGNAGE 1	4
5 EXTERIOR S	SIGNAGE 2	L6		Ø	10	20	1					1200	1438	1	20	12	12	L1	SÉATING LIGHTING	6
	OR LIGHTING	L1			12	20	1	814	889					1	20	12	12	L1	CHECKSTAND/SEATING LIGHTING	8
9 SALES FLOO		L1			12	20	1			1214	1808	4000	740	1	20	12	1(2	L2	FOOD BAR LIGHTING	10
11 SALES FLOO	2	L1			12	20	1	1000	005			1033	713	1	20	12	12	L1	SALES FLOOR LIGHTING	12
13 SALES FLOO		L1		$\rightarrow$	12	20	1	1289	885	1450	1010			1	20	12 12	12	L1	SALES FLOOR LIGHTING SALES FLOOR LIGHTING	14
	OR LIGHTING OR LIGHTING	<u>L1</u>		_	10 12	20	1			1452	1010	1058	1129	1	20	12	18 12	L1 L1	SALES FLOOR LIGHTING SALES FLOOR LIGHTING	16 18
19 RECEIVING		LI			12	20	1	527	865			1036	1129	1	20	12	12	L5	PANTRY LIGHTING 1	20
21 VEG VALLE		L4		12	12	20	1	021	000	810	808			1	20	12	12			22
	D BREAKROOM LIGHTING	L3			12	20	1			010	000	1187	1457	1	20	12	12		COOLER AND FREEZER LIGHTING	24
25 CRISPER LI		.	1.		12	20	1	354	372					1	20	12	12		DAIRY COOLER LIGHTING	26
27 PANTRY LIG		L5			12	20	1			563	718			1	20	12	12		LÍGHTING	28
29 LIGHTING - I	MEZZANINE			<b>1</b> 0	10	20	1					1092	1256	1	20	12	123		MEZZANINE/STAIRWELL LIGHTING	30
31 KITCHEN LIC	GHTING	L3		12	12	20	1	749	757					1	20		$\geq$		LtGHTING	32
	MEAT KITCHEN LIGHTING 🔪			1)2	12	20	1			638	1200			1	20	12	12,	L6	EXTERIOR SIGNAGE 3	34
35 EXTERIOR S		L6		-	12	20	1					1200	1238	1	20				LIGHTING	36
37 FRIENDS LIC		L1	_	<del>.,</del>	12	20	1	585	0	005				1	20		<u> </u>		SRARE	38
39 FRIENDS LIG		<u>L1</u>		₹2	12	20	1			905	0	0	0	1	20				SPARE	40 42
41   EQUIPPED S	SPACE			)		 L O A D	 (\/A\).	000	⊥ 6 VA	4007	′6 VA	1400		I	20		<del>\                                    </del>		STARE	42
OAD TYPE	CONNECTED DEMAND ESTIMATION LOAD FACTOR DEM							74 BOARD NOT	122	2 A						PANELBOA				
IGHTING	32013 VA	125	5.00	%4	1001	6 VA	AF - ARG	C FAULT CK	T INTERRUF	PT		HT - PROV	IDE HANDLE	TIES 7	O COM	PLY			TOTAL CONNECTED LOAD:	35583 VA
ISC EQUIP	2400 VA	100	0.00	%	240	0 VA	C# - VIA	LTG CONTA	ACTOR#			WITH	NEC 210.4(E	3)					TOTAL ESTIMATED DEMAND:	43586 VA
ther	120 VA	100	0.00	%	12	0 VA I	EM - EM	ERG LTG H	ANDLE-ON (	CLAMP		IG - ISOLA	TED GROUN	D CIRC	UIT				TOTAL CONNECTED CURRENT:	99 A
ECEPTACLES	1050 VA	100	0.00	%	105	0 VA I	EX - EXI	STING				LCK - HAN	DLE PADLO	CKABLE	-OFF D	EVICE			TOTAL ESTIMATED DEMAND	121 A
							A - REI	)/HANDLE-C	ON CLAMP			LO - HAND	LE-ON CLAN	1P						
							GF - GF	CI TYPE CIR	CUIT BREAK	KER			R TO ONE-L		GRAM					
	+									T PROTECTION	)N		R SWITCHII							
		1							ATED FOR 3		•	ST - SHUN		. U DINL						
							D	TALCINEIN IN	VIED I OIL O	OHIA.		SW - SWIT								
												3VV - 3VVII	OIT RATED							

CKT NO.											: SURFACE : RECEIVIN								
			QUDQUU	<b>148</b> 55	av.p	DI/D				VOLT AM	IPS / PHAS	E			DICE	OND	14400	QUDQUU.	
	DESCRIPTION		CIRCUI T	SIZE	SIZE	AMP	Р		Α		В		С	Р	AMP	SIZE	SIZE	CIRCUI T	DESCRIPTION
$\frac{1}{3}$ RE	EFRIG. PRODUCE BINS 1 (F	UTURE)		10	10	20	2	1331	1331	1331	1331			2	20	10	10		REFRIG. PRODUCE BINS 2 (FUTURE)
5 7 RE	EFRIG. PRODUCE BINS 3			10	10	20	2	1331	1331			1331	1331	2	20	10	10		REFRIG. PRODUCE BINS 4
9 Ri	EFRIG. PRODUCE BIMS 5-	~~~		10	10,	<del>/2</del> 0,	<u></u>	~~		1331	1331			~2	20	10	10		REPRIS. PRODUCE BINS 6
	PARE	· ·				20	1 1	0	323	γ · γ ·	γ · γ ·	<b>Y33</b> 1	1331	Y	<u>'</u>		<u>'</u>	Y Y	, , , , , , , , , , , , , , , , , , , ,
151				کیر	کیر		77	M		1117	323	444=	1000	2	20	10	10		COLD BAR (2 HOTS + 1 NEUTRAL)
17 MI	1EAT SAW			10	10	20	3	1117	1383			1117	1383	2	20	10	10		COLD BAR (2 HOTS + 1 NEUTRAL)
21 SF	PARE					20	1	1117	1.4	0 ,	1920		A . A	, 1	<b>2</b> 0	<b>,</b> 10		1,	BLAŞT CHIĻLER , , , , ,
	ITCHEN SCALE			12	12	20	1	400				420~	960	14/	20	12	42		FAT TESTER RCPTS
	REP TABLE 2 REP TABLE 3			12 12	12 12	20	1	420	600	360	800			1	20	12 12	12		KITCHEN COUNTER RCPTS MEAT WRAP/LABEL SYSTEM
	OLD FLIP TOP TABLE 1			10	10	20	1			300	800	1728	1033	I	20	12	12		WEAT WRAP/LABEL STSTEW
	OLD FLIP TABLE 2			10	10	20	1	1728	1033			1120		3_	20	12	12_		MEAT CHOPPER
	PARE					20	1			0	1033	_	~ ~ `	Υ `	Υ `	Υ `	Υ	γ~ γ	
35 37	OTISSERIE 1			6	8	50	2	5944	720			5944	0	1	20	4 12		   A A	SPARE SLIPERS A A A A A A
	HUNT TRIP SPACE							5944	720	0	1920	\			20 20	10	\12\ 10		HOT HOLD CABINET 1
11	OTISSERIE 2			6	8	50	2					5944	1920	1	20	10	10		HOT HOLD CABINET 2
43				0		50		5944	900					1	20		12		COLD TABLE PREP
	HUNT TRIP SPACE GRIDDLE/BROILER			12	12	20	 1			0	0	360	900	1	20 20	12	12		SPARE KITCHEN BUG ZAPPER
	HUNT TRIP SPACE								360	~~~		360		$\sqrt{1}$	Y 20		12 712	<b>\</b>	SCACE Y Y Y
51 C0	ONVENTION OVEN 1			10	10	20	1,			960	2402					'-	_ ·-		
	HUNT TRIP SPACE						ځ-					0	2402	3	80	4	2		HOT BAR (3 HOTS + 1 NEUTRAL)
	ONVENTION OVEN 2 HUNT TRIP SPACE			10	10	20	_}_	960	2402	0	2667								
	OUBLE STACK STEAMER			 -12_	12_	20~	$\overline{a}$			0	2007	720	2667	3	30	10	8		PIZZA OVEN 1
61Y SI	HONT THE SPACE Y	~ ~ \	<u> </u>	Y `	^V			0	2667										-
63 PI	IZZA SOUP BAR (2 HOTS + 1	NEUTRAL)		6	10	50	2			6750	0	0750	2007						SHUNT TRIP SPACE
67		,						3000	2667			6750	2667	3	30	10	8		PIZZA OVEN 2
69 HI	IIGH SPEED OVEN			8	10	30	2	3000	2001	3000	2667			3	30	10			I IZZA OVLIN Z
74 5	QUIPPED SPACE ~	~ ~ ~	1 =1	=-1	=1		70					0	0						SHUNT TRIP SPACE
	QUIPPED SPACE		<u> </u>		`		7	0	2667		0007					40			DIZZA OVENIO
	QUIPPED SPACE QUIPPED SPACE						<u></u>			0	2667	0	2667	3	30	10	8		PIZZA OVEN 3
	QUIPPED SPACE							ρ	0,				2007						SHUNT TRIP SPACE
	QUIPPED SPACE							$\mathcal{I}$	$\sim$		More						igwedge		EQUIPPEDSPACE
83 E0	QUIPPED SPACE											0	0						EQUIPPED SPACE
				TC		LOAD	` ′		58 VA		09 VA		05 VA	_					
					10	TAL A	IMPS:	34	3 A	28	33 A	38	32 A	]					
		CONNECTED	DEM		ESTIM														DANEL BOARD
LOAD TYP		67786 VA	<b>FAC</b> 65.0					G FAULT CK	<b>TES:</b> (T INTERRUI	эт		HT DDO	VIDE HANDLE	TIFS	TO CO*	⁄IDI ∨			PANELBOARD TOTAL CONNECTED LOAD: 11
MISC EQ		24537 VA	100.0					LTG CONT.		•			I NEC 210.4(B		. 5 501	1			TOTAL ESTIMATED DEMAND: 9
RECEPT		4400 VA	100.0						ACTOR# IANDLE-ON (	CLAMP			ATED GROUN	•	CUIT				TOTAL CONNECTED CURRENT:
REFRIGE		22248 VA	100.0			8 VA E							NDLE PADLO			DEVICE			TOTAL ESTIMATED DEMAND
1.2				2,0				D/HANDLE-(	ON CLAMP				DLE-ON CLAM		J. 1 L				
									RCUIT BREA	KER			ER TO ONE-LI		GRAM				
										T PROTECTION	ON		ER SWITCHIN						
							Е	BREAKER R	ATED FOR 3	0mA		ST - SHUI	NT TRIP						
												SW - SWI	TCH RATED						

PANELBOARD:

EM -EMERG LTG HANDLE-ON CLAMP
EX -EXISTING BY LANDLORD
F -FUTURE CONNECTION
FA -RED/HANDLE-ON CLAMP
GF -GFCI TYPE CIRCUIT BREAKER
L# -LIGHTING CONTROL SCHEME, REF SHEET E110
LCK-HANDLE PADLOCKABLE-OFF DEVICE
LO -HANDLE-ON CLAMP
OL -REFER TO ONE-LINE DIAGRAM
PS -POWER SWITCHING BREAKER
PSE-POWER SWITCHING EMERGENCY BREAKER
ST -SHUNT TRIP

PANEL NOTES LEGEND:

ALL ELECTRICAL GEAR TO BE FURNISHED BY 365.
ELECTRICAL CONTRACTOR TO INSTALL AND
CONNECT COMPLETE.

brr

Architect of Record:
BOYD W. RAU
6700 Antioch Plaza
Suite 300
Merriam, KS 66204
www.brrarch.com
Tel: 913-262-9095
Fax: 913-262-9044

Consultants



Engineering Consultants

Energy Squared Texas, LLC
7330 San Petor Avenue, Suite 402
San Antonio, Texas 78216
PPI - (210) 510-2300 FAX - (210) 510-2319
www.energysquaredeng.com

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Issues & Revisions

NO. DATE DESCRIPTION
1 03/06/18 Addendum #1
2 05/21/18 Addendum #2

Project Name

HOLE FOODS MARK DECATUR, GA

BG5

BY
WHOLE FOODS

WHOLE FOO MARKET

Project Manager:
EG
Checked By:

Drawn by:
KJG
Document date:
01/26/18
Template date:

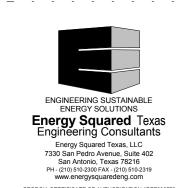
Project No.
62911019
Professional Seal

Professional Seal

05/21/2018
Sheet Title
ELECTRICAL PANEL

Sheet No.

Architect of Record: BOYD W. RAU 6700 Antioch Plaza Suite 300 Merriam, KS 66204 www.brrarch.com Tel: 913-262-9095 Consultants



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**Issues & Revisions** NO. DATE DESCRIPTION 1 03/06/18 Addendum #1 2 05/21/18 Addendum #2

**Project Name** 

KJG Document date 01/26/18

Template date: Project No.

62911019

**PANEL NOTES LEGEND:** 

EX -EXISTING BY LANDLORD

F -FUTURE CONNECTION FA -RED/HANDLE-ON CLAMP

LO -HANDLE-ON CLAMP

ST -SHUNT TRIP

EM -EMERG LTG HANDLE-ON CLAMP

GF -GFCI TYPE CIRCUIT BREAKER

OL -REFER TO ONE-LINE DIAGRAM

PS -POWER SWITCHING BREAKER

LCK-HANDLE PADLOCKABLE-OFF DEVICE

L# -LIGHTING CONTROL SCHEME, REF SHEET E110

PSE-POWER SWITCHING EMERGENCY BREAKER

ALL ELECTRICAL GEAR TO BE FURNISHED BY 365. ELECTRICAL CONTRACTOR TO INSTALL AND CONNECT COMPLETE.

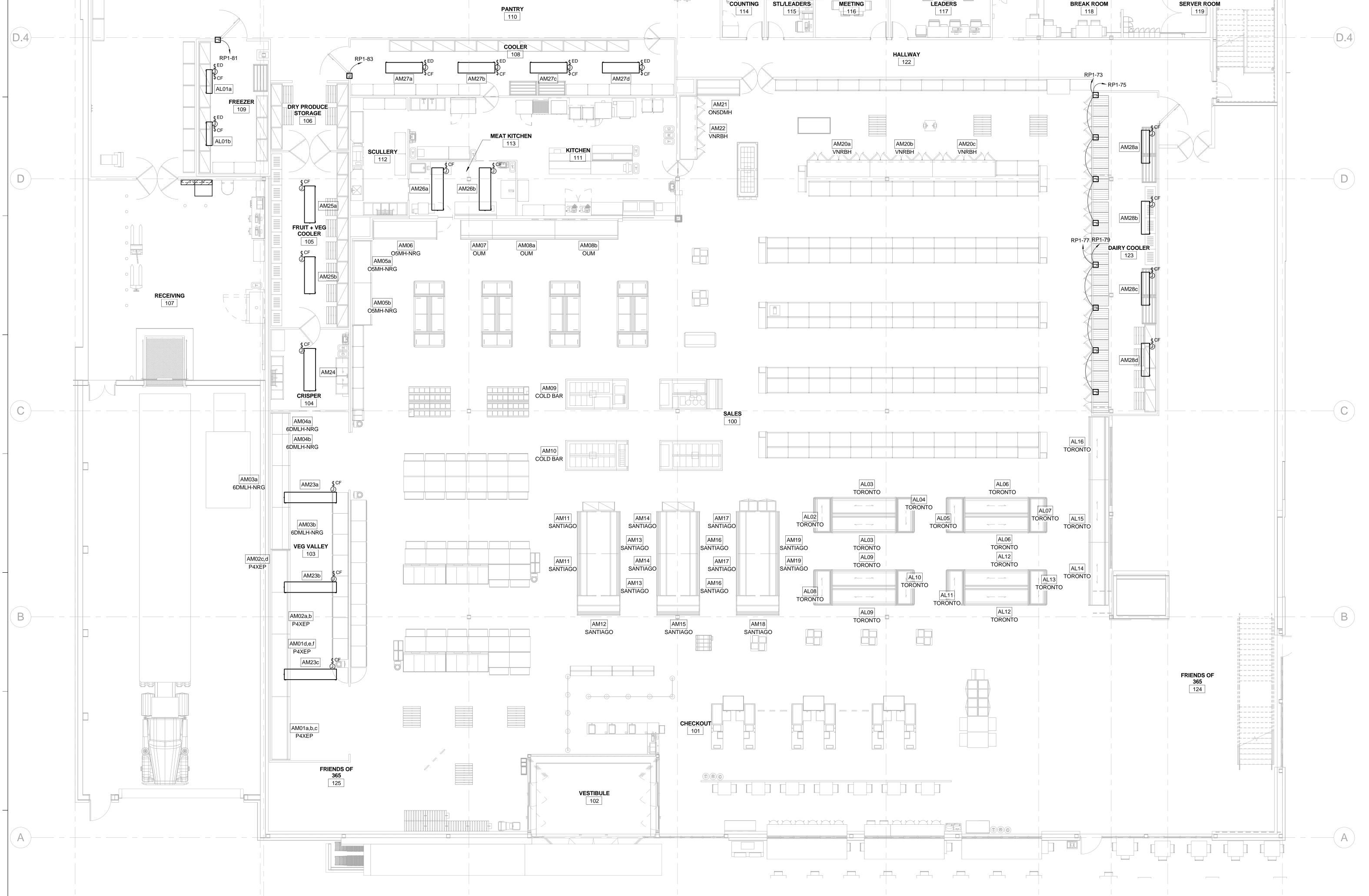
05/21/2018

**ELECTRICAL PANEL SCHEDULES** 

(197)

(191)

- 1. COORDINATE ALL WORK WITH REFRIGERATION CONTRACTOR PRIOR TO INSTALLATION. VERIFY ALL REFRIGERATION SYSTEM NUMBERS, CASE MODEL NUMBERS, AND STUB UPLOCATIONS SHOWN ON THIS DRAWING WITH REFRIGERATION INSTALLATION INSTRUCTIONS AND DRAWINGS.
- 2. PROVIDE CONNECTION OF ALL CASE FANS, ANTI-SWEAT HEATERS, CASE LIGHTING, ELECTRIC DEFROST AND CONTROL WIRING TO ALL CASES ON SYSTEM AS REQUIRED AND DIRECTED BY REFRIGERATION CONTRACTOR. THIS INCLUDES ALL LINE VOLTAGE WIRING FROM REFRIGERATION RACKS OR PANELBOARDS, THRU CONDUIT TO CASE/COIL LEVEL. WIRING BETWEEN CASES AND CONNECTION TO EACH CASE/ COIL IN THE LINEUP IS BY ELECTRICAL CONTRACTOR. COORDINATE STUB-UP LOCATIONS WITH REFRIGERATION CONTRACTOR PRIOR TO ROUGH-IN.
- 3. PROVIDE ALL CONDUIT AND WIRE AS INDICATED ON DRAWING. NEATLY BUNDLE CIRCUITS AND CLEARLY TAG AND LABEL EACH CIRCUIT WITH PANELBOARD AND BRANCH CIRCUIT DESIGNATION AND REFRIGERATION SYSTEM NUMBER.
- 4. ROUTE REFRIGERATED CASE AND COIL FANS, LIGHTS, AND ANTI-SWEAT CIRCUITS TO THEIR RESPECTIVE REFRIGERATION PANELBOARD AS INDICATED.
- 5. KEEP PENETRATIONS THROUGH COOLER AND FREEZER BOXES TO A MINIMUM. ROUTE ALL CONDUITS SERVING FREEZERS AND COOLERS DIRECTLY OUT OF THE BOX. CONDUIT PENETRATIONS SHALL HAVE A CONDULET AS CLOSE AS POSSIBLE ON THE EXTERIOR SIDE OF THE COOLER OR FREEZER. AVOID ROUTING CONDUIT INSIDE OF THE BOX. IF POSSIBLE, ROUTE DIRECTLY OUT THE REAR OF THE BOX IN AN ORDERLY MANNER. SEAL ALL PENETRATIONS THROUGH BOX WITH SILICON SEALANT AND FILL CONDUIT FITTINGS/SEAL OFFS WITH EXPANDING FOAM SEALANT.
- 6. ROUTE CONDUITS ADJACENT TO REFRIGERATION PIPING WHEREVER PRACTICAL, UNLESS NOTED OTHERWISE.
- 7. PROVIDE ALL UNISTRUT SUPPORTS FOR OVERHEAD REFRIGERATION ELECTRICAL CONDUIT WHERE REQUIRED. COORDINATE EXACT QUANTITIES, LOCATIONS AND REQUIREMENTS WITH REFRIGERATION EQUIPMENT INSTALLER.
- 8. RECTANGLE NOTES INDICATE THE REFRIGERATED CIRCUIT NUMBER AND ASSOCIATED REFRIGERATION UNIT FOR THE REFRIGERATED CASE.
- 9. ANTI-SWEAT CIRCUITS WILL BE CONTROLLED AT THE CASE BY CONTROLS FURNISHED BY MICRO THERMO. COORDINATE INSTALLATION WITH 365 CONSTRUCTION MANAGER AND MICRO
- FURNISHED EQUIPMENT PRIOR TO ROUGH-IN AND ADJUST ELECTRICAL PROVISIONS AS NECESSARY INCLUDING, BUT NOT LIMITED TO: CONDUIT, CONDUCTOR(S), DISCONNECT, RECEPTACLE, CIRCUIT BREAKER AND TERMINATION.
- 11. ALL EMPTY CONDUITS SHALL BE INSTALLED WITH PULL WIRES.
- 12. ALL POWER AND LOW VOLTAGE CONDUITS MAY BE ROUTED BELOW SLAB. COORDINATE ROUTING WITH ALL OTHER TRADES PRIOR TO ROUGH-IN. GENERALLY THE CONDUIT ROUTING SHOULD FOLLOW REFRIGERATION PIPING. REFER TO DETAILS 2 AND 3 ON SHEET E501 FOR ADDITIONAL INFORMATION ON ROUGH-IN DETAILS.
- 13. PRIOR TO ROUGH-IN OF COMMUNICATION AND ELECTRICAL OUTLETS, COORDINATE WITH WHOLE FOODS AND/OR ARCHITECT FOR FINAL LOCATIONS.
- 14. ALL BRANCH CIRCUITS SHALL INCLUDE AN INSULATED EQUIPMENT GROUNDING CONDUCTOR.
- 15. COORDINATE ALL WORK WITH OTHER TRADES AND EXISTING CONDITIONS AS REQUIRED TO PROPERLY INSTALL ALL SYSTEMS AS INTENDED, WITHIN THE CONFINES OF THE SPACE AVAILABLE, AND WITHOUT INTERFERENCES.



1 ELECTRICAL REFRIGERATION PLAN

1/8" = 1'-0"

(167)

(180)

(180)

(191)

(197)

FRC = =

(115) (116)

(115) (116)

(101)

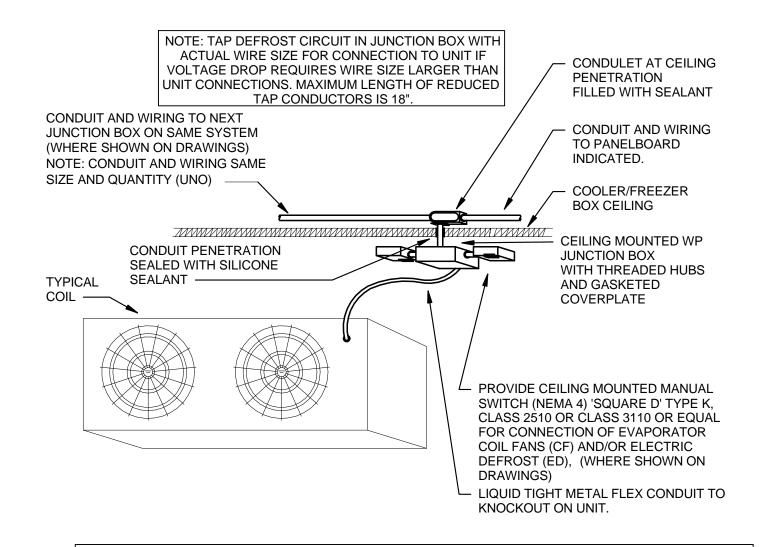
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ELECTRICAL REFRIGERATION PLAN

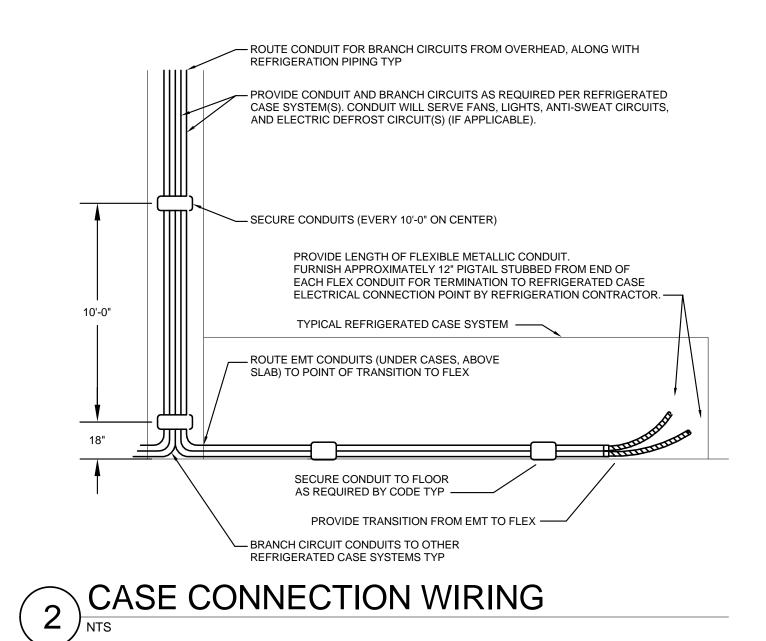
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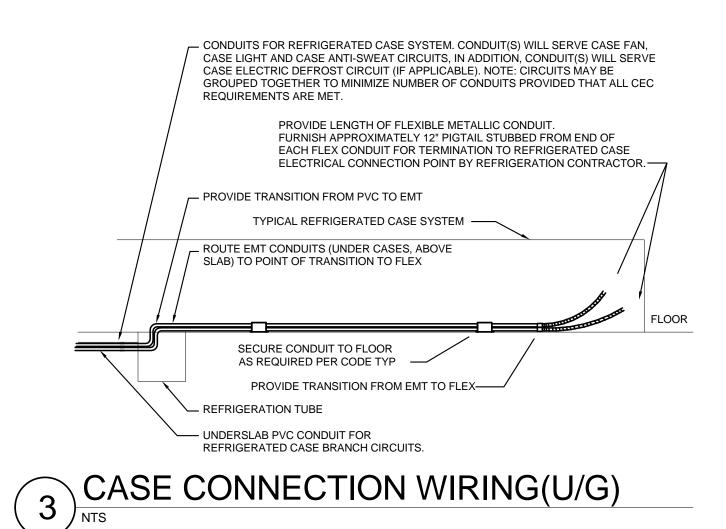
E500



**EVAPORATOR COIL CONNECTION DETAIL** 

NOTE: DO NOT LOCATE WP JUNCTION BOX DIRECTLY IN FRONT OF EVAPORATOR COIL, OFFSET TO SIDE.





# ELECTRICAL REFRIGERATION CIRCUIT CALCULATION SCHEDULE - (CASE CONTROLLER MODULE DESIGN)

	TION CASE/COIL INFO						CASE/COIL FAN			NTROLLER TO						DEFROST (ELECTRIC)
	DESCRIPTION FREEZER	MFR RUSSELL	MODEL# AE54-180B	SIZE -	FT/DRS	0.00	0.00	0.00	CKT (FT)	TOTAL AMPS 0.00	VOLTS PI		<b>VA/PH</b> 0	WIRE 10	PNLBD-CKT#	# CKT (FT) AMPS VOLTS PH VA VA/PH WIRE PNLBD-CKT# SYSTE 19.60 208 1 4077 2038 - AL01a
	FREEZER	RUSSELL	_		DWER FEED		0.00	0.00		19.60	208 1	4077	2038	10	RP1-2,4	19.60 208 1 4077 2038 AL01b
	FROZEN BUNKER	ARNEG		SYSTEM P	WER FEED		0.60	1.20		19.60 1.90	208 1 120 1	4077	2038	10	RP1-6,8	5.61 208 1 1167 583 12 RP1-10,12 AL02
				SYSTEM P	WER FEED					1.90	120 1	228	228	12	RP1-5	
	FROZEN BUNKER	ARNEG			FT OWER FEED		1.80	2.70		5.00 5.00	120 1 120 1	600	600 600	12 12	- RP1-7	23.58 208 1 4905 2452 10 RP1-14,16 AL03
04	FROZEN BUNKER	ARNEG	TORONTO	6 SYSTEM P	FT OWER FEED	0.10	0.60	1.20		1.90 1.90	120 1 120 1	228	228 228	12 12	- RP1-9	5.61 208 1 1167 583 12 RP1-18,20 AL04
05	FROZEN BUNKER	ARNEG	TORONTO	6 SYSTEM P	FT OWER FEED	0.10	0.60	1.20		1.90 1.90	120 1 120 1	228	228 228	12 12	- RP1-11	5.61 208 1 1167 583 12 RP1-22,24 AL05
06	FROZEN BUNKER	ARNEG	TORONTO		FT OWER FEED	0.50	1.80	2.70		5.00 5.00	120 1 120 1	600	600 600	12 12	- RP1-13	23.58 208 1 4905 2452 10 RP1-26,28 AL06
07	FROZEN BUNKER	ARNEG	TORONTO	6	FT	0.10	0.60	1.20		1.90	120 1	228	228	12	-	5.61 208 1 1167 583 12 RP1-30,32 AL07
.08	FROZEN BUNKER	ARNEG	TORONTO	6	FT FT	0.10	0.60	1.20		1.90 1.90	120 1 120 1	228	228 228	12 12	RP1-15 -	5.61 208 1 1167 583 12 RP1-34,36 AL08
09	FROZEN BUNKER	ARNEG	TORONTO	SYSTEM PO	FT FT	0.50	1.80	2.70		1.90 5.00	120 1 120 1	600	600	12	RP1-17 -	23.58 208 1 4905 2452 10 RP1-38,40 AL09
10	FROZEN BUNKER	ARNEG	TORONTO	SYSTEM P	FT FEED	0.10	0.60	1.20		5.00 1.90	120 1 120 1	600	600 228	12 12	RP1-19 -	5.61 208 1 1167 583 12 RP1-44,46 AL10
11	FROZEN BUNKER	ARNEG	TORONTO	SYSTEM P	FT	0.10	0.60	1.20		1.90 1.90	120 1 120 1	228	228 228	12 12	RP1-21	5.61 208 1 1167 583 12 RP1-48,50 AL11
	FROZEN BUNKER	ARNEG	_		WER FEED		1.80	2.70		1.90 5.00	120 1 120 1	228	228 600	12 12	RP1-23	23.58 208 1 4905 2452 10 RP1-52,54 AL12
				SYSTEM P	WER FEED					5.00	120 1	600	600	12	RP1-25	
	FROZEN BUNKER	ARNEG			WER FEED		0.60	1.20		1.90 1.90	120 1 120 1	228	228 228	12 12	RP1-27	5.61 208 1 1167 583 12 RP1-56,58 AL13
14	FROZEN BUNKER	ARNEG	TORONTO	SYSTEM P	FT OWER FEED	0.50	1.80	2.70		5.00 5.00	120 1 120 1	600	600 600	12 12	RP1-29	23.58 208 1 4905 2452 10 RP1-60,62 AL14
15	FROZEN BUNKER	ARNEG	TORONTO	12 SYSTEM P	FT OWER FEED	0.50	1.80	2.70		5.00 5.00	120 1 120 1	600	600 600	12 12	- RP1-31	23.58 208 1 4905 2452 10 RP1-64,66 AL15
16	FROZEN BUNKER	ARNEG	TORONTO	12 SYSTEM P	FT OWER FEED	0.50	1.80	2.70		5.00 5.00	120 1 120 1	600	600 600	12 12	- RP1-33	23.58 208 1 4905 2452 10 RP1-68,70 AL16
	PRODUCE CASES PRODUCE CASES	HUSSMANN HUSSMANN	P4X-EP P4X-EP	12 12	FT FT	0.70 0.70	1.80 1.80	0.00		2.50 2.50	120 1 120 1	300	300 300	12 12	-	AM01a,k AM01d,e
				SYSTEM P	WER FEED					5.00	120 1	600	600	12	RP2-2	
	PRODUCE CASES PRODUCE CASES	HUSSMANN	P4X-EP P4X-EP	8	FT FT	0.45 0.45	1.20 1.20	0.00 0.00		1.65 1.65	120 1 120 1	198 198	198 198	12	-	AM02a,k AM02d,e
	PRODUCE CASES	HILL PHOENIX	6DMLH-NRG	8	DWER FEED FT	0.45	0.90	0.00		3.30 1.35	120 1 120 1	396 162	396 162	12 12	RP2-4 -	AM03a
103b	PRODUCE CASES	HILL PHOENIX	6DMLH-NRG		FT OWER FEED	0.45	0.90	0.00		1.35 2.70	120 1 120 1	162 324	162 324	12 12	- RP2-5	AM03b
	PRODUCE CASES PRODUCE CASES	HILL PHOENIX HILL PHOENIX	6DMLH-NRG 6DMLH-NRG		FT FT	0.20 0.30	0.44 0.66	0.00		0.64 0.96	120 1 120 1	77 115	77 115	12 12	-	AM04a AM04b
	SEAFOOD CASES	HILL PHOENIX	_		OWER FEED		0.95	0.00		1.60	120 1 120 1	192	192 156	12	RP2-6	AM05a
	SEAFOOD CASES	HILL PHOENIX	O5MH-NRG	8	FT	0.35	0.95	0.00		1.30	120 1	156	156	12	-	AM05b
106	MEAT CASES	HILL PHOENIX	O5MH-NRG	12		0.50	1.40	0.00		2.60 1.90	120 1 120 1	312	312 228	12 12	RP2-7	AM06
107	MEAT CASES	HILL PHOENIX	OUM	SYSTEM P	DWER FEED FT	0.30	0.20	0.20		1.90 0.70	120 1 120 1	228	228 84	12 12	RP2-8 -	AM07
/108а	MEAT CASES	HILL PHOENIX	OUM	SYSTEM PO	FT FT	0.55	0.30	0.40		0.70 1.25	120 1 120 1	150	84 150	12 12	RP2-9 -	AM08a
M08b	MEAT CASES	HILL PHOENIX	OUM	12 SYSTEM P	FT OWER FEED	0.55	0.30	0.40		1.25 2.50	120 1 120 1	150 300	150 300	12 12	- RP2-10	AM08b
/109	COLD BAR	HILL PHOENIX	SBI-512R	12 SYSTEM PO	FT OWER FEED	0.50	1.20	0.00		1.70 1.70	120 1 120 1	204	204 204	12 12	- RP2-11	AM09
M10	COLD BAR	HILL PHOENIX	SBI-512R	12	FT OWER FEED	0.70	2.20	0.00		2.90 2.90	120 1 120 1		348 348	12 12	- RP2-12	AM10
И11	BEVERAGE	ARNEG	SANTIAGO	16	FT	1.00	0.70	0.00		1.70	120 1	204	204	12	-	AM11
И12	BEVERAGE	ARNEG	SANTIAGO	8		0.50	0.30	0.00		1.70 0.80	120 1 120 1	96	204 96	12	RP2-13	AM12
И13	BEVERAGE	ARNEG	SANTIAGO		FT FEED	1.00	0.70	0.00		1.70	120 1 120 1	96	96 204	12	RP2-14 -	AM13
И14	BEVERAGE	ARNEG	SANTIAGO	SYSTEM PO	FT FEED	1.00	0.70	0.00		1.70 1.70	120 1 120 1	204	204 204	12 12	RP2-15	AM14
И15	BEVERAGE	ARNEG	SANTIAGO	SYSTEM PO	OWER FEED	0.50	0.30	0.00		1.70 0.80	120 1 120 1	204 96	204 96	12 12	RP2-16	AM15
	BEVERAGE	ARNEG			WER FEED		0.70	0.00		0.80	120 1 120 1	96	96 204	12	RP2-17	AM16
	BEVERAGE			SYSTEM P	WER FEED					1.70	120 1	204	204	12	RP2-18	
		ARNEG			WER FEED		0.70	0.00		1.70	120 1 120 1	204	204	12	RP2-19	AM17
	BEVERAGE	ARNEG			WER FEED		0.30	0.00		0.80	120 1 120 1	96 96	96 96	12 12	RP2-20	AM18
119	BEVERAGE	ARNEG	SANTIAGO	SYSTEM PO	FT OWER FEED	1.00	0.70	0.00		1.70 1.70	120 1 120 1	204	204 204	12 12	- RP2-21	AM19
	BEER AND WINE BEER AND WINE	HILL PHOENIX HILL PHOENIX	VNRBH VNRBH	6 6	DR DR	0.60 0.60	0.67 0.67	2.07 2.07		3.33 3.33	120 1 120 1	400	400 400	12 12	-	AM20a AM20b
/120c	BEER AND WINE	HILL PHOENIX	VNRBH	6 SYSTEM P	DR DWER FEED	0.60	0.67	2.07		3.33 10.00	120 1 120 1	400 1200	400 1200	12 12	- RP2-22	AM20c
И21	CHILLED SPECIALTY	HILL PHOENIX	ON5DMH	8		4.20	0.90	0.00		5.10	120 1	612 612	612	12	- RP2-23	AM21
122	CHILLED SPECIALTY	HILL PHOENIX	VNRBH	6	DR	0.60	0.70	2.10		5.10 3.40	120 1 120 1	408	408	12	-	AM22
	VEG VALLEY	RUSSELL	RWF340		OWER FEED -	0.00	3.60	0.00		3.40	120 1 120 1	408	408	12	RP2-24 -	AM23a
	VEG VALLEY VEG VALLEY	RUSSELL RUSSELL	RWF340 RWF340	-	-	0.00	3.60 3.60	0.00 0.00		3.60 3.60	120 1 120 1	432 432	432 432	12 12	-	AM23b AM23c
124	CRISPER	RUSSELL	RWF190	SYSTEM P	OWER FEED	0.00	2.40	0.00		10.80 2.40	120 1 120 1	1296 288	1296 288	12 12	RP2-25	AM24
	FRUIT AND VEGETABLE COOLER	RUSSELL	_	SYSTEM P	OWER FEED		2.40	0.00		2.40	120 1 120 1	288	288	12	RP2-26	AM25a
	FRUIT AND VEGETABLE COOLER	RUSSELL	RWF220	SVCTFNA D		0.00	2.40	0.00		2.40	120 1	288	288	12	PD2 27	AM25b
/126	OPEN MEAT KITCHEN	RUSSELL	RWF190	-	OWER FEED	0.00	4.80	0.00		2.40 4.80	120 1 120 1	288 576	288 576	12	RP2-27	AM26
	GROCERY COOLER	RUSSELL	RWF130	SYSTEM P	OWER FEED -	0.00	0.00	0.00		4.80 0.00	120 1 120 1	576	576 0	12	RP2-28	10.40 208 1 2163 1082 - AM27a
	GROCERY COOLER GROCERY COOLER	RUSSELL RUSSELL	RWF130 RWF130	-	-	0.00	0.00	0.00 0.00		0.00	120 1 120 1	0	0		-	10.40   208   1   2163   1082   -   -   AM27b     10.40   208   1   2163   1082   -   -   AM27c
	GROCERY COOLER	RUSSELL	RWF130	SYSTEM P	- OWER FEED	0.00	0.00	0.00		0.00 41.60	120 1 208 1	0 8653	0 4326	6	- RP2-29,31	10.40 208 1 2163 1082 AM27d
	DAIRY COOLER DAIRY COOLER	RUSSELL RUSSELL	ITA36-240 ITA36-240	-	-	0.00	3.60 3.60	0.00		3.60 3.60	120 1	432 432	432		-	AM28a AM28b
/126с	DAIRY COOLER	RUSSELL	ITA36-240	-	-	0.00	3.60	0.00		3.60	120 1 120 1	432	432		-	AM28c
126d	DAIRY COOLER	RUSSELL	ITA36-240	SYSTEM P	-	0.00	3.60	0.00		3.60 14.40	120 1 120 1	432 1728	432 1728	10	- RP2-30	AM28d

GENERAL NOTES:

A. "PNLBD-CKT#" REFERS TO BRANCH CIRCUIT POWER SOURCE. SOURCE MAY BE VIA PANELBOARD OR A BUSSBAR TERMINATION CABINET AT THE REFRIGERATION EQUIPMENT. THE CIRCUIT NUMBERS SHOWN HERE ARE PRELIMINARY AND

MAY BE SUBJECT TO CHANGE. COORDINATE THE EXACT CIRCUIT TERMINATION LOCATION WITH THE EQUIPMENT SUPPLIER AND OTHER TRADES PRIOR TO INSTALLATION. B. BRANCH CIRCUIT LENGTHS ARE SHOWN FOR CALCULATION PURPOSES ONLY AND SHALL NOT BE USED FOR CONTRACTOR TAKEOFFS OR BIDDING. NOTIFY ENGINEER IF ACTUAL INSTALLED LENGTH DIFFERS SIGNIFICANTLY FROM THAT SHOWN.

OVER-CURRENT PROTECTION FOR EACH CASE BRANCH CIRCUIT. THIS TOOL/SCHEDULE IS USED TO SUM UP THE TOTAL LOAD PER CASE TO THE ASSOCIATED CONTROLLER.

C. REFER TO THE GENERAL NOTES, PLAN NOTES AND SPECIFICATIONS FOR MORE INFO. D. THE CIRCUIT LENGTH FOR THE CASE/COIL IS ONLY THE DISTANCE FROM THE LOCAL JB/CONTROLLER TO THE NEARBY CASE. THE DISTANCE SHOWN FOR THE MAIN POWER FEED IS FROM THE SOURCE PANELBOARD/BUSSBAR TO THE JB/CONTROLLER NEAR THE CASE/COIL.

E. FOR CASES/COILS WITH SHARED BRANCH CIRCUITS: RUN THE LARGEST WIRE SIZE INDICATED FROM THE PANELBOARD/BUSSBAR TO THE NEAREST CASE/COIL. SMALLER WIRE SIZE MAY THEN BE RUN TO ADJACENT EQUIPMENT AS INDICATED; #12 MINIMUM.

F. SIZE CONDUITS AS REQUIRED PER CODE FOR CONDUIT TYPE AND NUMBER OF CONDUCTORS, 1/2" MINIMUM. IF ALLOWED BY TENANT, CONDUCTORS MAY BE COMBINED INTO A SINGLE CONDUIT, BUT CONTRACTOR MUST DERATE CONDUCTOR AMPACITY AND ADJUST WIRE SIZE PER CODE.

G. CONDUITS SHALL BE ROUTED WITH REFRIGERATION PIPING WHEREVER PRACTICABLE IN ACCORDANCE WITH TENANT REQUIREMENTS. UNLESS NOTED OTHERWISE, CONDUITS/RACEWAY SHALL BE CONCEALED FROM CUSTOMER VIEW WHEREVER PRACTICABLE.

H. ALL CONDUCTOR SIZES ARE BASED ON 75 DEG C RATED TERMINATION AND COPPER CONDUCTORS WITH TYPE THHN/THWN-2 INSULATION; FOR TERMINATION OR INSULATION TYPES RATED LESS THAN 75 DEG C, MODIFY SIZES PER CODE.

I. SELECT CIRCUIT WIRE SIZES HAVE BEEN UPSIZED IN ORDER TO MAINTAIN VOLTAGE DROP TO LESS THAN 3%. J. IN SOME INSTANCES, SUPPLMENTARY HTR LOADS MAY BE ON THE SAME CIRCUIT AS THE FANS OR A/S HTRS. CIRCUIT LOADS ARE EITHER NON-COINCIDENT (MAX) OR SIMULTANEOUS (TOTAL). INFO SHOWN IS BASED ON MFR INFO AVAILABLE DURING THE DESIGN PHASE AND MAY BE SUBJECT TO CHANGE.

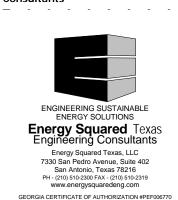
K. REFRIGERATED CASES MUST HAVE CODE REQUIRED APPLIANCE DISCONECTING MEANS EITHER VIA A LOCAL DISCONNECT OR LOCK-OFF STYLE CIRCUIT BREAKER/SWITCH. L. EACH REFRIGERATED CASE/COIL CIRCUIT SHALL HAVE AN UPSTREAM OVER-CURRENT PROTECTION DEVICE SIZED TO PROPERLY PROTECT THE INTERNAL EQUIPMENT MFR. CONTRACTOR SHALL PROVIDE LOCAL FUSE PROTECTION AT THE CASE IF REQUIRED

FOR CIRCUITS CONNECTED TO MULTIPLE CASES WITH AN UPSTREAM OCPD SIZE GREATER THAN 20A: PROVIDE FUSES INSTALLED AT EACH CASE WIRING. COORDINATE FUSE SIZE WITH MANUFACTURER'S RECOMMENDED MAXIMUM OVER-CURRENT PROTECTION (MOCP) DEVICE SIZE. M. FOR EACH EVAPORATOR COIL, PROVIDE WP CEILING MOUNTED JB AND MANUAL SWITCH(ES) (NEMA 4) FOR CONNECTION OF EVAPORATOR COIL FANS (CF) AND/OR ELECTRIC DEFROST THAT EXCEED 30 AMPS PROVIDE CONDUIT AND WIRING BETWEEN JB, SWITCH(ES) AND COIL. DO NOT LOCATE WP JB OR SWITCHES DIRECTLY IN FRONT OF EVAPORATOR COIL. REFER TO DETAIL ?/E-? FOR MORE INFORMATION.

N. IN SOME INSTANCES, 208/1 CASE DEFROST MAY BE FIELD CONNECTED TO 208/3 CIRCUIT. COORDINATE THE EXACT CIRCUITING REQUIREMENTS WITH TENANT AND OTHER TRADES PRIOR TO INSTALLATION. REFER TO DETAIL ?/E-? FOR FIELD WIRING INFORMATION. O. THIS SCHEDULE IS INTENDED FOR USE WHEN THE REFRIGERATED CASES/COILS ARE POWERED VIA A NEARBY CASE CONTROLLER THAT HAS A SINGLE LARGE FEED SERVING ONE OR MORE CASES/COILS. THE CONTROLLER THAT HAS A SINGLE LARGE FEED SERVING ONE OR MORE CASES/COILS.

1. THE ELECTRICAL REQUIREMENTS FOR THIS CASE/COIL ARE SUBJECT TO CHANGE. COORDINATE THE EXACT REQUIREMENTS WITH TENANT AND EQUIPMENT NAMEPLATE PRIOR TO INSTALLATION AND ADJUST ELECTRICAL PROVISIONS AS NEEDED.

Architect of Record: BOYD W. RAU 6700 Antioch Plaza Suite 300 Merriam, KS 66204 www.brrarch.com Tel: 913-262-9095 Fax: 913-262-9044



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Issues & Revisions NO. DATE DESCRIPTION

01/26/18 PERMIT SET

Project Name

Document date:

01/26/18 Template date: Project No.

Professional Seal

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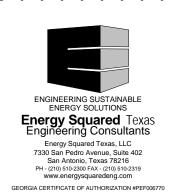
REFRIGERATION SCHEDULE & DETAILS

VOLTS/	MPS: 600 A  IZE/TYPE: 600A M.C.B.  IPHASE: 208Y/120 V, 3PH  ED BY: T3	, 4W							Al M	ACTURER: C RATING: SERVES: IOUNTING: .OCATION:	SURFACI									
СКТ			CIRCUI	WIRE	GND	BKR			_	VOLT AMI					BKR	GND	WIRE	CIRCUI		
NO.	DESCRIPTION		Т	SIZE	SIZE	AMP	Р		4		В	(		Р	AMP	SIZE	SIZE	Т	DESCRIPTION	
1	ANEL IDDAI			4/0		005		24730	8209	20005	0004				005		4/0		DANEL IIDDOII	
	PANEL "RP1"			4/0	4	225	3			23225	3924	10000	0040	3	225	4	4/0		PANEL "RP2"	
5 7								26299	1513			16023	8816							
•	COMPRESSOR RACK			350	4	300	3	20299	1513	26299	1513			3	20	12	12		GAS COOLER	
11	JOWII- NEGOON RACK			330	4	300	3			20299	1313	26299	1513	- 3	20	12	12		OAG GOOLLIN	-
13								1513	0			20233	1010						EQUIPPED SPACE	
	GAS COOLER			12	12	20	3	1010		1513	0								EQUIPPED SPACE	
17					· <del>-</del>					.510		1513	0						EQUIPPED SPACE	
	QUIPPED SPACE							0	0										EQUIPPED SPACE	
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Architect of Record: BOYD W. RAU 6700 Antioch Plaza Suite 300 Merriam, KS 66204 www.brrarch.com Tel: 913-262-9095 Fax: 913-262-9044 Consultants



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Issues & Revisions 
 NO.
 DATE
 DESCRIPTION

 01/26/18
 PERMIT SET

 1
 03/06/18
 ADDENDUM 1
 

Project Name

ELECTRICAL
REFRIGERATION PANEL
SCHEDULES
Sheet No.

#### **DISCIPLINE - ELECTRICAL**

THE FOLLOWING CONNECTIONS;

#### FOR THE ATTENTION OF INSTALLING ELECTRICAL CONTRACTORS

SCOPE OF WORK: STORE FUSION PLATFORM (SFP), DEMAND LIMITING, ENERGY RESOURCE MANAGER (ERM2) AND INDOOR AND OUTDOOR ENVIRONMENTAL SENSORS THIS LOCATION SHALL HAVE ONE STORE FUSION PLATFORM (SFP) WHICH SHOULD BE LOCATED NEAR THE MAIN DISTRIBUTION PANEL. THE INSTALLATION WILL COMPRISE OF

THE SFP REQUIRES A 3 PHASE SUPPLY ON THE SAME POTENTIAL AS THE STORES MAIN FEED, FED FROM THE EMERGENCY PANEL.

THE INSTALLATION OF A NEW WAN CONNECTION FROM THE STORE'S NETWORK NEEDS TO BE INSTALLED AND CONNECTED TO THE LABELED PC WAN PORT LOCATED ON THE INSIDE OF THE SFPS DOOR. PARASENSE MUST BE CONTACTED WHEN THE SFP IS POWERED AND CONNECTED TO ENSURE REMOTE COMMUNICATIONS ARE ESTABLISHED. PATCH CABLES WILL NEED TO BE RUN FROM THE HUB IN THE SFP TO ALL

PARASENSE RM EQUIPMENT ONSITE. A NEW RS485 NETWORK FOR THE INTERNAL & EXTERNAL SENSORS WILL NEED TO

BE INSTALLED. THIS NETWORK CAN BE RUN AS ONE CONTINUOUS NETWORK FROM 1 SENSOR TO THE NEXT. OR WIRED WITH INDIVIDUAL HOME RUNS CONNECTED TO THE SRME2 PCB WITHIN SFP. THE MOST EFFICIENT ROUTE SHOULD BE UTILIZED DEPENDENT ON THE LOCATION OF ALL THE EQUIPMENT WITHIN THE STORE. PLEASE REFER TO ATTACHED CABLE SPEC DOCUMENTATION FOR FURTHER INFORMATION.

THE SENSORS SHOULD BE INSTALLED IN THE OPTIMAL LOCATIONS WITHIN THE STORE. INTERNAL: COLUMN OVER FROZEN FOODS CASES 6.5 TO 8FT FROM FLOOR LEVEL AND ACCESSIBLE IN THE FUTURE IF REQUIRED. EXTERNAL: SHIELDED FROM DIRECT SUN ON NORTH FACING SURFACE, 6 FT. ABOVE ROOF SURFACE. NEITHER SENSOR SHOULD BE LOCATED NEAR AN ARTIFICIAL HEAT SOURCE, I.E. HVAC VENT, EXHAUST STACK.

THE MAIN FEED ENERGY MONITORING SART CABLING WILL NEED TO BE RUN FROM THE MAIN FEED SARTS TO THE TERMINALS ON THE SRME2 PCB WITHIN THE SFP. CARE MUST BE TAKEN TO ENSURE THE ORIENTATION AND ROTATION OF THE PHASES. PLEASE REFER TO ATTACHED CABLE SPEC DOCUMENTATION FOR FURTHER INFORMATION. TECHNICIAN ONSITE MUST CONTACT PARASENSE INFORMATION CENTER TO CONFIRM THAT THE DATA IS VISIBLE ON THE SFP AND THEREFORE THE ORIENTATION AND ROTATIONS OF THE PHASES ARE CORRECT. IF THIS IS NOT THE CASE ALL DATA FOR THE CLIENT WILL BE UNUSABLE.

THE ERM2 ENERGY MONITOR SHOULD BE MOUNTED IN THE VICINITY OF THE LOADS TO BE MONITORED AND REQUIRES A THREE PHASE SUPPLY ON THE SAME POTENTIAL AS THE CIRCUITS TO BE MONITORED, FED FROM THE EMERGENCY PANEL. THE ERM2 ENERGY MONITOR IS AVAILABLE AS EITHER A 12 OR 6 CIRCUI MONITORING DEVICE. IF CIRCUITS ON DIFFERING POTENTIALS ARE TO BE MONITORED. PARASENSE WILL SUPPLY ERM2 TO MONITOR BOTH VOLTAGES. THE INSTALLATION WILL COMPRISE OF THE FOLLOWING CONNECTIONS:

UP TO 12#, 3-PHASE ENERGY MONITORING CIRCUITS WILL BE IDENTIFIED AND COVER MEASUREMENT OF EACH RACK / REFRIGERATION SYSTEM INDIVIDUALLY, STORE MAIN LIGHTING CIRCUITS AND MAIN HVAC UNIT(S) ONLY. REFER TO THE T0007 DOCUMENT FOR THE ENERGY CONFIGURATION SUPPLIED WITH THE MONITOR FOR NUMBER OF CIRCUITS TO BE MEASURED.

THE DEMAND LIMITING MANAGEMENT FEATURE OF THE SFP WILL MODIFY THE LOAD WHEN DEMAND IS HIGH BY SWITCHING OFF THE AGREED STRATEGIC LOADS FOR A SPECIFIED PERIOD IN CONJUNCTION WITH A SET OF RULES. FOR THE DEMAND MANAGEMENT TO OPERATE A PARASENSE SFP IS REQUIRED WITH COMMUNICATIONS TO THE ONSITE BUILDING CONTROL SYSTEM (BMS / FMS), SUCH AS EMERSON, DANFOSS, MICRO THERMO, ETC.

A. EC TO RUN AND CONNECT 8# TWISTED PAIR 18AWG - BELDEN 8461 CONTROL WIRING FROM THE 8 RELAYS IN THE SFP TO 8 INPUTS ON THE BMS / FMS CONTROL SYSTEM TO CONTROL ALL MODIFICATIONS.

B COMMISSIONING AGENT / REFRIGERATION CONTRACTOR TO PROGRAM ALTERNATIVE CONTROL STRATEGY FOR LOAD MODIFICATION AS PER PARASENSE AND CUSTOMER AGREED STRATEGY. THE DEMAND MANAGEMENT WILL MODIFY THE LOAD ON AN AS REQUIRED BASIS BY MODIFYING UP TO A MAXIMUM OF EIGHT STRATEGIC LOADS, WHICH WILL BE SELECTED BASED ON STORE SPECIFICS.

11. UP TO 4# DIGITAL PULSE INPUTS WILL BE INDENTIFIED AND COVER MEASUREMENT OF WATER METERS. GAS METERS OR OTHER SYSTEMS. REFER TO THE T0007 DOCUMENT FOR THE ENERGY CONFIGURATION SUPPLIED WITH THE MONITOR FOR SPECIFIC SYSTEMS

12. ACCESS INTEGRATION FOR 3RD PARTY IP CONTROLLERS VIA REAL TIME ON PARASENSE DASHBOARD PER WHOLE FOODS MARKET SPECIFICATION **GENERAL REQUIREMENTS:** 

TO COORDINATE ALL WORK WITH PARASENSE AND STORE MANAGEMENT. WHERE APPLICABLE INSTALLATION OF EQUIPMENT MUST NOT INTERFERE WITH STORE OPERATIONS. IN THE EVENT OF A SYSTEM FAILURE, CONTACT THE PROJECT MANAGER. REMAIN ON SITE AND FOLLOW THE PROJECT MANAGERS DIRECTIONS. ADDITIONALLY, CONTACT PARASENSE AND LEAVE STATUS REPORTS OF THE INCIDENT.

TO COORDINATE PARASENSE OEM COMMISSIONING WITH INSTALLATION TEAM AVAILABLE ON SITE AT THE SAME TIME TO MAKE GOOD ANY DEFICIENCIES FOUND DURING OEM COMMISSIONING. CONTACT PARASENSE TECHNICAL SUPPORT ON TEL. 540-948-9919 FOR INSTALLATION RELATED QUESTIONS AND TO SCHEDULE OEM COMMISSIONING AT THE COMPLETION OF THE INSTALLATION.

ALL WIRING IS TO BE INSTALLED PER NEC, STATE AND LOCAL REQUIREMENTS AND THE CLIENTS BEST PRACTICE SPECIFICATIONS. ALL POWER CONNECTIONS SHALL BE INSTALLED IN EMT CONDUIT. ALL CONNECTIONS TO PARASENSE EQUIPMENT SHALL BE WATER TIGHT AND ENTER INTO THE BASE OF THE MONITOR. INSTALLATION INSTRUCTIONS ARE CONTAINED WITHIN THE ATTACHED DOCUMENTATION TO ASSIST IN THE INSTALLATION PROCESS. ALL CABLING IS TO BE INSTALLED ACCORDING TO CABLE MANUFACTURERS SPECIFICATIONS.

REFER TO THE ATTACHED DOCUMENTATION FOR ALL POWER AND CABLE SPEC REQUIREMENTS. **NO CABLE SUBSTITUTIONS ARE APPROVED.** 

AGREED WITH THE STORE MANAGER IN ADVANCE, AS NIGHT WORK MAY BE REQUIRED. 6. COMPLETED INSTALLATION CHECKLIST TO BE PROVIDED AT TIME OF OEM COMMISSIONING TO ONSITE PARASENSE TECHNICIAN.

ANY WORK ON THE SALES FLOOR REQUIRING A LIFT MUST BE COORDINATED AND

#### PARASENSE INSTALLATION SCOPE OF WORK:

FMS / EMS INTEGRATION & LIQUID LINE SHUTDOWN

GENERAL GUIDELINES FOR THE GRM2 REFRIGERANT MONITOR CONTINUED

2# RELAYS OUTPUTS WILL BE INSTALLED FROM THE GRM2 TO DEDICATED INPUTS ON THE FMS/EMS SYSTEM. THESE WILL BE WIRED FROM THE DUAL PILOT RELAY LOCATED AT THE BOTTOM LEFT HAND CORNER OF THE REFRIGERANT MONITOR ABOVE THE POWER INPUT MODULE. FOR OPTIONAL ADC-104 MONITOR FMS/EMS CONNECTIONS WILL NEED TO BE LANDED IN THE REMOTE TERMINAL CONNECTION ENCLOSURE - DUAL PILOT RELAY NOT AVAILABLE IN ADC-104 MONITOR CONFIGURATION.

RELAY #1 (ALARM) - TO BE CONFIGURED ON THE FMS/EMS SYSTEM TO APPEAR AS A REFRIGERANT LEAK.

RELAY #2 (CRITICAL) - TO BE CONFIGURED ON THE FMS/EMS SYSTEM TO APPEAR AS A REFRIGERANT LEAK - CRITICAL ALARM: SHOULD ACTIVATE REMOTE BEACON AND SOUNDER(S), PLUS ANY VENTILATION SYSTEMS WITHIN THE MACHINE ROOM IF APPLICABLE.

4. FOR THE IMPLEMENTATION OF LIQUID LINE SHUTDOWN WITH THE ADC-104 MONITOR. CABLING WILL NEED TO BE RUN FROM THE REMOTE TERMINAL CONNECTION ENCLOSURE TO AVAILABLE DIGITAL INPUTS ON THE FMS/EMS CONTROLS AND PROGRAMMED TO CLOSE THE LL SOLENOID. NOTE - OUTPUT FROM THE GRM2 WILL BE 24V DC, IF THE FMS/EMS CONTROLS ARE UNABLE TO ACCEPT A 24V DC INPUT, AN ISOLATION ICE CUBE RELAY WILL NEED TO BE INSTALLED TO PROVIDE A DRY CONTACT.

ACCESS INTEGRATION TO FMS VIA REAL TIME ON PARASENSE DASHBOARD PER WHOLE FOODS MARKET SPECIFICATION FREEWAY RUNS - PIPEWORK

THE FREEWAY IS TO BE RUN FROM THE GRM2 MONITOR TO THE SITE SPECIFIC LOCATIONS DETAILED ON THE MONITOR CONFIGURATION.

THE END OF THE FREEWAY WILL BE INSERTED INTO THE MANIFOLD SUPPLIED WITH THE SPUR KIT. THE MANIFOLD SHOULD BE LOCATED IN A POSITION WHERE IT CAN BE ACCESSED FOR FUTURE VERIFICATION OF PIPEWORK INTEGRITY. WHERE MULTIPLE AREAS ARE BEING COVERED ON ONE CHANNEL, THE FREEWAY MANIFOLD IS TO BE POSITIONED CENTRALLY BETWEEN THE MULTIPLE LOCATIONS.

3. CARE MUST BE TAKEN DURING THE INSTALLATION PHASE TO ENSURE THE FREEWAY IN NOT FLATTENED OR KINKED AS THIS WILL RESULT IN REDUCED AIRFLOW WHICH MAY RESULT IN A FAULT ON THE SYSTEM, OR DISCOVERED AT THE COMMISSIONING STAGE.

PARASENSE INSTALLATION SCOPE OF WORK:

**DISCIPLINE - REFRIGERATION** 

FOR THE ATTENTION OF INSTALLING REFRIGERATION CONTRACTORS SCOPE OF WORK: REFRIGERANT LEAK DETECTION (GRM2)

THE SCOPE OF WORK WILL BE FOR THE INSTALLATION OF A COMPLETELY NEW 16 CHANNEL MONITOR, PIPEWORK AND FINAL COMMISSIONING. THE PARASENSE MATERIAL WILL BE PROVIDED TO YOU FOR INSTALL ONLY. PROCUREMENT WILL NOT BE NECESSARY. CABLING, WIRING AND ROUTINE INSTALLATION MATERIAL WILL NEED TO BE PROVIDED BY THE INSTALLING CONTRACTOR.

THIS STORE SHALL HAVE ONE TWELVE CHANNEL GRM2 REFRIGERANT MONITOR, AND ASSOCIATED PIPEWORK AND LOCAL CONNECTION(S) TO EXISTING EMS/FMS CONTROL SYSTEM FOR IN-STORE NOTIFICATION OF A LEAK EVENT AND ACTIVATION OF VENTILATION IN MECHANICAL ROOM. PARASENSE WILL PROVIDE THE CONFIGURATION WITH THE EQUIPMENT AND THE CONTRACTOR WILL BE RESPONSIBLE FOR HIGHLIGHTING ANY REQUIRED CONFIGURATION CHANGES FOR APPROVAL AND IMPLEMENTING THE APPROVED CHANGES TO STORE CONFIGURATION. INSTALLER WILL NEED TO HAVE LOCAL CONNECTIVITY TO THE EMS/FMS CONTROL SYSTEM FOR COMMISSIONING AND VERIFICATION OF INSTALLATION COMPLETION.

#### SPECIFIC REQUIREMENTS:

TO INSTALL AND COMMISSION THE GRM2 REFRIGERANT MONITOR WITH THE SCREEN AT APPROXIMATELY 5FT ABOVE FLOOR LEVEL, TYPICALLY IN THE MACHINE ROOM, ALONG WITH THE OPTIONAL ADC-104 EXPAGNSION PANEL. THIS INSTALLATION INCLUDES ALL 6MM PIPEWORK, SPUR KITS, BEACON SOUNDERS (OPTIONAL), RELAY CONNECTION, CONDUIT RUNS AND POWER FEED. THE MONITOR WILL REQUIRE ONE FUSED 5 AMP SINGLE PHASE 120 VOLT INPUT THAT IS ALWAYS LIVE, WITH A DEDICATED 20A CIRCUIT BREAKER. ALL WIRING IS TO BE INSTALLED PER NEC, STATE AND LOCAL REQUIREMENTS AND THE CLIENTS BEST PRACTICE SPECIFICATIONS.

TO IMPLEMENT LOCAL ALARMING CAPABILITY FOR A LEAK EVENT(S) TO THE ONSITE EMS/FMS SYSTEM VIA DIGITAL INPUT SIGNAL FROM, THE PILOT RELAYS WITH THE GRM2. WIRE TERMINATIONS ON THE RELAY FROM "C" TO "NC" AS PER THE SCHEMATIC AND SHOULD BE CONFIGURED WITH THE EMS/FMS CONTROL EQUIPMENT AS NOTED ON THE T0010 CONFIGURATION SUPPLIED WITH THE MONITOR.

WHERE APPLICABLE. TO IMPLEMENT VENTILATION OVERRIDE FOR THE COMPRESSOR ROOMS VIA DIGITAL INPUT TO THE VENTILATION CONTROL SYSTEM OR BY INSTALLING THE PARASENSE PILOT RELAY AS A BYPASS CIRCUIT AROUND THE VENTILATION THERMOSTAT. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING THE METHOD REQUIRED TO DRIVE THE VENTILATION OVERRIDE AND PARASENSE IS TO BE NOTIFIED.

SPUR KITS WILL BE UTILIZED AT ALL LOCATIONS TO ENHANCE THE COVERAGE AREA. THE SAMPLE POINT LOCATIONS WILL BE SELECTED BY PARASENSE AND NOTED IN THE SUPPLIED T0010 CONFIGURATION. SPUR KIT NUMBER WILL BE BASED ON NUMBER OF EVAPORATORS AND AREAS OF COVERAGE.

CONTRACTOR IS RESPONSIBLE FOR INSTALLING EQUIPMENT IN ACCORDANCE WITH SYSTEM CONFIGURATION. HOWEVER SHOULD CHANGES BE REQUIRED PARASENSE TECHNICAL SUPPORT SHOULD BE CONTACTED PRIOR TO PROCEEDING AND ANY SUBSEQUENT APPROVED CHANGES DOCUMENTED ON THE "INSTALLATION CHECKLIST" FOR RECORD - TEL. 540-948-9919 / EMAIL. TECHSUPPORT@PARASENSE.COM

UPON COMPLETION OF THE INSTALLATION. THE INSTALLATION CHECKLIST WILL NEED TO BE COMPLETED AND TURNED IN TO THE PARASENSE OFFICE IN VIRGINIA. A PARASENSE TECHNICIAN WILL CARRY OUT ON-SITE COMMISSIONING OF THE SYSTEM AND PROVIDE A CERTIFICATE OF COMPLIANCE.

SPECIFIC RELEVANT GUIDE LINES FROM THE PARASENSE INSTALLATION MANUAL WILL NEED TO BE FOLLOWED FOR ALL ASPECTS OF THE INSTALLATION.

#### **GENERAL REQUIREMENTS:**

TO COORDINATE ALL WORK WITH PARASENSE AND STORE MANAGEMENT. WHERE APPLICABLE INSTALLATION OF EQUIPMENT MUST NO INTERFERE WITH STORE OPERATIONS. IN THE EVENT OF A SYSTEM FAILURE, CONTACT THE PROJECT MANAGER. REMAIN ON SITE AND FOLLOW THE PROJECT MANAGER'S DIRECTIONS. ADDITIONALLY, CONTACT PARASENSE AND LEAVE STATUS REPORTS OF THE INCIDENT.

TO COORDINATE PARASENSE OEM COMMISSIONING WITH INSTALLATION TEAM AVAILABLE ON SITE AT THE SAME TIME TO MAKE GOOD ANY DEFICIENCIES FOUND DURING OEM COMMISSIONING. CONTACT PARASENSE TECHNICAL SUPPORT ON TEL. 540-948-9919 FOR INSTALLATION RELATED QUESTIONS AND TO SCHEDULE OEM COMMISSIONING AT THE COMPLETION OF THE INSTALLATION.

ALL WIRING IS TO BE INSTALLED PER NEC, STATE AND LOCAL REQUIREMENTS AND THE CLIENTS BEST PRACTICE SPECIFICATIONS. ALL POWER CONNECTIONS SHALL BE INSTALLED IN EMT CONDUIT. ALL CONNECTIONS TO PARASENSE EQUIPMENT SHALL BE WATER TIGHT AND ENTER INTO THE BASE OF THE MONITOR. INSTALLATION INSTRUCTIONS ARE CONTAINED WITHIN THE ATTACHED DOCUMENTATION TO ASSIST IN THE INSTALLATION PROCESS. ALL CABLING IS TO BE INSTALLED ACCORDING TO CABLE MANUFACTURES SPECIFICATIONS.

REFER TO THE ATTACHED DOCUMENTATION FOR ALL POWER AND CABLE SPEC REQUIREMENTS. NO CABLE SUBSTITUTIONS ARE APPROVED.

ANY WORK ON THE SALES FLOOR REQUIRING A LIFT MUST BE COORDINATED AND AGREED WITH THE STORE ANAGER IN ADVANCE, AS NIGHT WORK MAY BE REQUIRED.

COMPLETED INSTALLATION CHECKLIST TO BE PROVIDED AT TIME OF OEM COMMISSIONING TO ONSITE PARASENSE TECHNICIAN. GENERAL GUIDELINES FOR THE GRM2 REFRIGERANT MONITOR AND ACCESSORIES

TRAFFIC. GRM2 REFRIGERANT MONITOR MUST BE ACCESSIBLE AND AT EYE LEVEL

INSTALLATION: THE GRM2 MONITOR TO BE MOUNTED IN THE COMPRESSOR OR ELECTRICAL ROOM TO A SOLID VERTICAL SURFACE CAPABLE OF SUPPORTING THE LOAD AND WHERE THE MONITOR CANNOT BE DAMAGED BY PASSING

ALL POWER, COMMUNICATIONS AND FMS/EMS SIGNAL WIRING TO BE INSTALLED TO CODE AND CUSTOMERS BEST PRACTICE; PLUS NEATLY RUN IN CONDUIT AND INSTALLED INTO THE BASE OF THE REFRIGERANT MONITOR. PENETRATIONS INTO THE SIDE OR TOP OF THE MONITOR ARE NOT APPROVED AND MAY VOID MONITOR WARRANTY.

FOR THE REFRIGERATION CONTRACTOR TO INTERROGATE IT.

#### PARASENSE INSTALLATION SCOPE OF WORK:

GENERAL GUIDELINES FOR THE GRM2 REFRIGERANT MONITOR CONTINUED

4. DO NOT RUN THE FREEWAY FROM WARM AREAS THROUGH

REFRIGERATED SPACES AS THIS WILL CAUSE MOISTURE TO BUILD UP IN THE THE SUPPLIED 5300-P FREEWAY IDENTIFICATION MARKERS SHOULD BE

FITTED TO BOTH ENDS OF THE FREEWAY, ADJACENT TO THE SPUR MANIFOLD AND THE CONNECTORS AT THE BASE OF THE MONITOR.

SPUR KIT INSTALLATION - PIPEWORK SPUR KITS ARE FACTORY SUPPLIED AT EITHER 15FT OR 25FT LENGTHS

POSSIBLE TO THE HIGH PROBABLE LEAK POINTS IN THE LOCATIONS

SAMPLE POINT SECURED POINTING DIRECTLY DOWNWARDS.

AND COME IN 1, 2, 3 OR 4 WAY SPUR KIT VERSIONS. THE SPECIFIC SPUR KIT REQUIRED FOR A LOCATION WILL BE SPECIFIED ON THE CONFIGURATION DEPENDENT ON THE APPLICATION. THE SPUR KIT SAMPLE POINTS SHOULD ALWAYS BE LOCATED AS CLOSE AS

SPECIFIED. EXAMPLE OF WHICH ARE OUTLINE BELOW. THE INDIVIDUAL SPUR KIT RUNS SHOULD BE NEATLY RUN FROM THE MANIFOLD INSTALLED ONTO THE FREEWAY TO THE DESIRED LOCATION FOLLOWING EXISTING CABLE RUNS OR FRAMEWORK AND SECURED EVERY 12-18". THE SPURS SHOULD NEVER BE CUT. ALL EXCESS SPUR KIT PIPEWORK

DO NOT SECURE THE FREEWAY TO A SURFACE THAT IS EITHER TOO HOT TO TOUCH OR WHERE THERE IS A PROBABILITY OF ICE BUILDUP.

SHOULD BE NEATLY COILED (8" DIAMETER) AT THE SAMPLE LOCATION WITH THE

BE ABLE TO DRAW LIQUID INTO THE SYSTEM. 6. SPURS SHOULD NOT MAKE LARGE JUMPS UNSUPPORTED AS IT LEAVES THE PIPING VULNERABLE TO DAMAGE.

INDIVIDUAL SPUR LOCATIONS - PIPEWORK MULTI-POINT TECHNIQUE EVENLY SPREAD TO TARGET MOST LIKELY SOURCE OF LEAKAGE AND IN ORDER OF PRIORITY:

RACKS AND HEADERS - (4-WAY SPUR KIT) LOCATE ALL THE SHUT OFF VALVES, SCHRAEDERS, PRESSURE REGULATORS, SOLENOID VALVES, FLARE AND JOINT AND AREAS OF HIGH VIBRATION, PRESSURE AND TEMPERATURE CHANGES. DISTRIBUTE THE SAMPLE POINTS EVENLY AMONGST THE EQUIPMENT IN DOWNWARD POINTING POSITION AND NEATLY TIE. THE SPUR KIT SAMPLE POINTS SHOULD NOT BE LOCATED AT FLOOR LEVEL ON ALL CORNERS OF THE RACK.

PARASENSE INSTALLATION SCOPE OF WORK:

**DISCIPLINE - REFRIGERATION** 

FOR THE ATTENTION OF INSTALLING REFRIGERATION CONTRACTORS

FREEWAY (THE PARASENSE SUPPLIED 6MM TUBING) SHOULD BE RUN IN CONDUIT VERTICALLY DOWN THE WALL ADJACENT TO THE GRM2 AND THEN RUN HORIZONTALLY 12" BELOW THE BASE OF THE GRM2. THE FREEWAY SHOULD THEN BE NEATLY LOOPED INTO THE RESPECTIVE CHANNEL FITTING. CARE SHOULD BE TAKEN NOT TO CUT THE FREEWAY TOO SHORT, THE FREEWAY SHOULD ENTER INTO THE CHANNEL FITTING AT 90° TO ENSURE AN AIR TIGHT SEAL.

4. THE CUTTING OF THE FREEWAY IS ONLY TO BE CARRIED OUT USING THE SUPPLIED CUTTING TOOL, TO ENSURE A STRAIGHT CLEAN CUT.

VISUAL AND AUDIBLE INDICATION - REMOTE BEACON AND SOUNDERS (OPTIONAL)

LOCAL AND STATE CODE DICTATES THE NEED FOR ADDITIONAL VISUAL AND AUDIBLE INDICATION OF REFRIGERANT CONCENTRATION IN AIR AND CONTROL OF REFRIGERANT FLOW TO CONFINED SPACES. IN THE EVENT MULTIPLE REMOTE BEACON AND SOUNDERS ARE REQUIRED PARASENSE WILL INCLUDE AN ADDITIONAL TERMINAL CONNECTION ENCLOSURE (ADC-104) FOR THE PURPOSE OF INTEGRATING ON-SITE FMS/EMS WITH REFRIGERANT DETECTION AND THE ANNUNCIATION OF SPACE SPECIFIC REMOTE BEACON AND SOUNDERS.

1. THE SUPPLIED OPTIONAL ADC-104 TERMINAL CONNECTION ENCLOSURE IS TO BE MOUNTED ADJACENT TO THE GRM2 WHERE THE SUPPLY WIRING LOOM CAN BE DIRECTLY WIRED TO THE ENCLOSURE. DO NOT POWER GRM2 OR ADC-104 UNTIL THE CONNECTIONS HAVE BEEN TERMINATED.

THE ADC-104 WILL REQUIRE ONE FUSED 5 AMP SINGLE PHASE 120 VOLT INPUT THAT IS ALWAYS LIVE WITH A DEDICATED 20 AMP CIRCUIT BREAKER. ALL WIRING IS TO BE INSTALLED PER NEC, STATE AND LOCAL REQUIREMENTS AND THE CLIENTS BEST PRACTICE SPECIFICATIONS

3. TO IMPLEMENT LOCAL ALARMING CAPABILITY FOR A LEAK EVENT(S) TO THE ONSITE EMS/FMS SYSTEM VIA GRM2 RELAYS OR OPTIONAL ADC-104 TERMINAL CONNECTION ENCLOSURE. WIRE TERMINATIONS IN THE SUPPLIED ENCLOSURE SHOULD BE AS PER THE SCHEMATIC SUPPLIED AND SHOULD BE CONFIGURED. WITH THE EMS/FMS CONTROL EQUIPMENT AS NOTED ON THE T0010 CONFIGURATION SUPPLIED WITH THE MONITOR.

TO INSTALL BEACON SOUNDERS NEXT TO ENTRANCES OF MONITORED SPACES AS DETAILED IN CONFIGURATION. ALL CONNECTIONS TO BE RUN BACK TO EITHER THE GRM2 RELAYS OR OPTIONAL ADC-104 TERMINAL CONNECTION ENCLOSURE AND TERMINATED AS INDICATED.

SIEMENS ENERGY MONITORING SCOPE OF WORK:

TRANSFORMERS, UNLESS NOTED OTHERWISE

GENERAL GUIDELINES FOR THE ENERGY MONITORING PLATFORM AND ACCESSORIES INSTALLATION:

THE DENT POWERSCOUT (ENERGY MONITOR) TO BE MOUNTED IN THE POWERWALL TO A SOLID VERTICAL SURFACE CAPABLE OF SUPPORTING THE LOAD AND WHERE THE MONITOR CANNOT BE DAMAGED BY PASSING TRAFFIC. ERM2 ENERGY MONITOR MUST BE ACCESSIBLE AND AT EYE LEVEL FOR THE CONTRACTOR TO INTERROGATE IT. ALL POWER. COMMUNICATIONS AND EMS SIGNAL WIRING TO BE NEATLY RUN AND INSTALLED INTO THE BASE OF THE MONITORS. PENETRATIONS INTO THE SIDE OR TOP OF THE MONITOR ARE NOT APPROVED AND MAY VOID MONITOR WARRANTY. VERIFY ALL LOADS TO BE MONITORED WITH SCHEDULE ON SHEET EM200. ALL LOADS TO BE MONITORED VIA SIEMENS (DENT) SUPPLIED CURRENT

MAIN BUILDING ELECTRICAL SERVICE: THE INCOMING FEED FROM THE UTILITY COMPANY WILL BE MONITORED FOR

2. COORDINATE WITH ELECTRICAL CONTRACTOR THE INSTALLATION OF ART/SART AUTO RANGING CURRENT TRANSFORMERS. IF APPLICABLE, COORDINATE WITH PARASENSE FIELD TECHNICIAN IF MAIN SERVICE ENTRY HAS EXISTING FACTORY INSTALLED ENERGY MONITOR WITH OUTPUTS TO PARASENSE.

3. MAIN STORE ENERGY WILL BE CONNECTED TO STORE FUSION PLATORM, RATHER THAN ERM2.

REFRIGERATION:

1. ENERGY USAGE WILL BE MONITORED FOR THE COMPRESSORS AND CONDENSERS OF THE REFRIGERATION RACK.

2. CASE LIGHTING, FANS, DEFROST, AND ANTI-SWEATS WILL NOT NEED TO BE MONITORED.

1. ENERGY USAGE WILL BE MONITORED FOR EACH OF THE TWO MAIN ROOFTOP UNITS. 2. ENERGY USAGE FOR AUXILIARY HVAC UNITS MAY BE MONITORED IF MAJORITY OF HVAC EQUIPMENT IS FEED FROM A SINGLE POINT. REFER TO POWER MONITORING SCHEDULE ON SHEET EM200 FOR ADDITIONAL INFORMATION.

1. ENERGY USAGE WILL BE MONITORED FOR THE GENERAL SALES LIGHTING. 2. TRACK LIGHTING AND OTHER ADDITIONAL LIGHTING NOT REQUIRED TO BE MONITORED UNLESS IT IS FEED FROM THE PANELBOARD FEEDING GENERAL

PARASENSE INSTALLATION SCOPE OF WORK:

GENERAL GUIDELINES FOR THE GRM2 REFRIGERANT MONITOR CONTINUED REMOTE HEADERS- (4-WAY SPUR KIT) HEADERS WILL USUALLY BE MONITORED WITH THE COOLER/FREEZER THEY ARE MOUNTED ON (UNLESS FLOOR MOUNTED), WITH 2 SPUR KIT SAMPLE POINTS BEING LOCATED AT THE CONTROL SOLENOIDS AND THE OTHER 2 SPUR KIT SAMPLE POINTS DEDICATED TO THE EVAPORATOR(S) WITHIN THE WALK-IN.

WALK-IN FREEZERS - (TYPICALLY 1 - 3 -WAY SPUR KIT) AS PER WALK-IN COOLERS. EXISTING PENETRATIONS SHOULD BE UTILIZED WHERE AVAILABLE. WHERE AN EXISTING PENETRATION IS NOT AVAILABLE, THE IDEAL LOCATION FOR THE SAMPLE POINT IS BEHIND THE EVAPORATOR MIDWAY BETWEEN THE BACK WALL, SECURED 8" DOWN FROM THE CEILING PANEL IN THE AIR FLOW, AND PROPERLY SEALED ON BOTH SIDES OF THE CEILING PANEL. ALL SAMPLE POINTS MUST BE MOUNTED IN THE DOWNWARD POSITION CLEAR OF STANDING WATER AND DEBRIS WITH EXCESS SPUR KIT PIPEWORK TO BE COILED ABOVE THE FREEZER.

WALK-IN COOLERS - (TYPICALLY 1 - 4 -WAY SPUR KIT) SPUR KITS WILL GENERALLY BE SUPPLIED ALLOWING 1 SPUR KIT SAMPLE POINT PER EVAPORATOR WITHIN THE COOLER AND 1 SPUR KIT SAMPLE POINT TO BE POSITIONED ON TOP OF THE COOLER. THE SPUR KIT SAMPLE POINT LOCATED ON TOP SHOULD BE POSITIONED NEAR ANY CONTROL VALVES OR SOLENOIDS. WHERE AVAILABLE, EXISTING PENETRATIONS INTO THE COOLER SHOULD BE UTILIZED WITH THE SAMPLE POINT BEING SECURED POINTING DIRECTLY DOWNWARDS IN THE AIRFLOW BEHIND THE EVAPORATOR. WHERE AN EXISTING PENETRATION IS NOT AVAILABLE, THE IDEAL LOCATION FOR THE SAMPLE POINT IS 3FT IN FRONT OF THE EVAPORATOR SECURED 8" DOWN FROM THE CEILING PANEL IN THE AIR FLOW. AND PROPERLY SEALED ON BOTH SIDES OF THE CEILING PANEL. ALL SAMPLE POINTS MUST BE MOUNTED IN THE DOWNWARD POSITION CLEAR OF STANDING WATER AND DEBRIS WITH EXCESS SPUR KIT PIPEWORK TO BE COILED ABOVE THE SPURS MUST ALWAYS BE SECURED IN A LOCATION WHERE THEY WILL NOT COOLER.

SALES FLOOR CASE RUNS:- (2 OR 4-WAY SPUR KIT) 25FT SPUR KITS WILL BE SUPPLIED FOR THESE LOCATIONS. THE FREEWAY SHOULD BE RUN TO THE CENTER OF THE CASE RUN AND THE SUPPLIED MANIFOLD FITTED, THEN 2 SPURS SHOULD THEN RUN AS FAR AS POSSIBLE TOWARDS EITHER END. THE OTHER 2 SPURS SHOULD BE POSITIONED MIDWAY BETWEEN THESE POINTS WITH THE EXCESS COILED AT THE SAMPLE POINT END. ALL SAMPLE POINTS MUST BE SECURED SO THAT THEY ARE NOT IN CONTACT WITH THE FLOOR WHERE THE INGRESS OF LIQUID MAY OCCUR. WHERE TXVS ARE UTILIZED, THE SAMPLE POINTS SHOULD BE INSTALLED AT THESE LOCATIONS.

1. ENERGY MANAGEMENT CONTRACTOR (E.M.C.) IS RESPONSIBLE FOR PROCURING AND INSTALLATION OF A FULLY FUNCTIONAL REFRIGERATION, LIGHTING, AND HVAC ENERGY MANAGEMENT SYSTEM REFER TO MECHANICAL PLANS FOR EXTENT OF STAND-ALONE HVAC EQUIPMENT TO BE INSTALLED, WIRED, AND FUNCTIONAL BY MECHANICAL CONTRACTOR.

INCLUDING BUT NOT LIMITED TO GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR, DATA/TELEPHONE CONTACTOR, PLUMBING CONTRACTOR, REFRIGERATION CONTRACTOR, MECHANICAL CONTRACTOR AND 365.

COORDINATION AND CONFLICT ISSUES BE RESOLVED BY 365 PROJECT MANAGER PRIOR TO INSTALLATION.

4. ALL LOOSE HVAC SIEMENS EQUIPMENT IS FURNISHED BY 365 AND INSTALLED BY E.M.C. SIEMENS CONTACT FOR HVAC EQUIPMENT IS AARON MOORE, 512-421-6298.

E.M.C. PARASENSE CONTACT IS MICHELLE COLLIER (p)1-540-948-9919. 7. COMPLY WITH ALL BUILDING CODES IN ACCORDANCE WITH

8. E.M.C. IS RESPONSIBLE FOR: * INSTALLATION OF ANY REFRIGERATION CASE TEMPERATURE SENSORS. DEFROST TERMINATION SENSORS. EVAPORATOR COIL TEMPERATURE SENSORS, AND ANY OTHER FIELD REQUIRED SENSORS SUPPLIED BY REFRIGERATION RACK VENDOR. * INSTALLATION OF ALL HVAC TEMPERATURE SENSORS, HUMIDITY SENSORS, INTERLOCKS, AND LIGHTING SENSORS * INSTALLATION AND PROCUREMENT OF LOOSE MICRO THERMO EQUIPMENT INCLUDING BUT NOT LIMITED TO INPUT/OUTPUT (I/O) BOARDS,

MAIN CONTROLLERS, ANCILLARY CONTROLLERS, AND OVERRIDE SWITCHES. * INSTALLATION OF 365 FURNISHED PARASENSE EQUIPMENT INCLUDING BUT NOT LIMITED TO MAIN CONTROLLERS, AND REFRIGERATION LEAK DETECTION EQUIPMENT * PROVIDING ALL RELAYS AND TRANSFORMERS NOT FURNISHED BY 365

COORDINATE ALL LINE VOLTAGE REQUIREMENTS WITH ELECTRICAL CONTRACTOR, ALL ADDITIONAL LINE VOLTAGE CIRCUITRY, DEVICES. CONDUIT, AND CONDUCTORS IN EXCESS OF E.C. SUPPLIED POWER IS THE RESPONSIBILITY OF E.M.C.

ALREADY INDICATED ON ELECTRICAL DRAWINGS AS REQUIRED. SIZE CONDUIT RACEWAYS PER MANUFACTURER'S RECOMMENDATIONS AND NOT TO EXCEED A 40% FILL RATIO. 11. AVOID RUNNING CABLE NEXT TO NOISE-GENERATING DEVICES, SUCH AS

MOTOR STARTERS, CONTACTORS, INVERTERS, FLUORESCENT LIGHT BALLASTS, ARC WELDERS, ETC. IF POSSIBLE, KEEP CABLE MORE THAN 1 FOOT AWAY FROM NOISE-GENERATING DEVICES (IDEALLY, MORE THAN 5

AMOUNT OF NOISE INDUCED ON THE NETWORK. 13. ENSURE GROUNDING AT EACH INPUT DEVICE'S 0V POWER TERMINAL

TO A SEPARATE EARTH GROUND. TAPS FOR INDIVIDUAL EQUIPMENT. PROVIDE WIRING BETWEEN

15. COORDINATE PROGRAMMING WITH FACTORY PRE-PROGRAMMED CONTROLLERS FROM MICRO THERMO AND REFRIGERATION EQUIPMENT SUPPLIER. PROVIDE REPROGRAMMING AND PROPER SETUP AS NECESSARY TO OBTAIN FINAL CONTROL POINT SETTINGS. CONTACT

TEMPERATURE AND CO2 SENSOR MOUNTING: INSTALL EMS CABLE FROM SENSOR TO I/O BOARD. MOUNT SENSOR ON BOX.SENSORS ON SALES FLOOR SHALL BE MOUNTED ON THE FRONT OF THE COLUMN. DO NOT INSTALL SENSORS IN HVAC SUPPLY AIR PATH OR IN DIRECT SUNLIGHT. GANG PLASTER RING -BLOCK WALLS AND COLUMNS: PROVIDE A 2"x4" BOX SURFACE MOUNTED VERTICALLY. INSULATE BEHIND SENSORS MOUNTED ON EXTERIOR WALL WITH 1/2" POLYSTYRENE SPACER.

19. E.M.C. TO PROVIDE ALL NECESSARY LOW VOLTAGE CABLING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION AND

WIRING SCHEDULES. 20. COORDINATE PROCUREMENT OF REFRIGERATION "FREEWAY" PIPING AND SPUR KITS FROM PARASENSE FOR LEAK DETECTION EQUIPMENT. E.M.C TO INSTALL ALL FREEWAY PIPING IN ACCORDANCE WITH PARASENSE STANDARDS. COORDINATE SPUR KITS AND SAMPLING PORTS WITH PARASENSE FIELD TECHNICIAN. GENERAL GUIDELINES PROVIDED UNDER PARASENSE REFRIGERATION LEAK DETECTION SCOPE OF WORK.

SUPPLIED LOOSE FROM PARASENSE FOR INSTALLATION. TURN OVER FOR INSTALLATION.

22. ALL EXPOSED EMS WIRING TO BE INSTALLED AT TOP CHORD OF

SYMBOLS LEGEND GENERAL ENERGY MANAGEMENT SYSTEM (EMS) NOTES:

2. COORDINATE ALL WORK WITH CORRESPONDING CONTRACTORS

3. CONTRACTOR SHALL BE RESPONSIBLE FOR INSURING THAT ALL

5. ALL REFRIGERATION MICRO THERMO EQUIPMENT IS FURNISHED BY REFRIGERATION RACK VENDOR FOR INSTALLATION BY E.M.C. COORDINATE

ANY MISSING, DAMAGED, OR UN-FUNCTIONAL EQUIPMENT TO REFRIGERATION CONTACTOR AND 365 FOR RESOLUTION. 6. ALL PARASENSE EQUIPMENT IS FURNISHED BY 365 AND INSTALLED BY

LOCAL AUTHORITY HAVING JURISDICTION (AHJ).

FOR PROPER OPERATION OF EQUIPMENT.

10. LOW VOLTAGE WIRING IS ALLOWED TO BE RAN OUTSIDE OF CONDUIT IF ALLOWED BY AHJ AND NOT UNDERGROUND. PROVIDE CONDUIT IF NOT

12. DO NOT RUN LOW VOLTAGE CABLING IN THE SAME CONDUIT AS

WITH HIGH-VOLTAGE WIRING, CROSS THEM PERPENDICULAR - RUNNING LOW VOLTAGE AND HIGH-VOLTAGE WIRE IN PARALLEL INCREASES THE

14. COORDINATE TRANSFORMERS WITH MICRO THERMO FOR PROPER EQUIPMENT TO SHARE TRANSFORMERS IF POSSIBLE FOR GROUPED EQUIPMENT WITH PROPER VOLTAGES.

MICRO THERMO AT EVAN.ASCHOW@PARKER.COM.

-GYPSUM BOARD WALLS: PROVIDE A 2"X4" RECESSED BOX WITH A SINGLE

17. E.M.C. SHALL PROVIDE ASSISTANCE TO THE ELECTRICIAN ON PERFORMING EQUIPMENT TESTS ON POWER SWITCHING PANELS

18. E.M.C. SHALL CALIBRATE ALL CO2 SENSORS PER THE SENSOR MANUFACTURER'S INSTRUCTIONS IMMEDIATELY PRIOR TO LEAVING THE

COORDINATE INSTALLATION OF REFRIGERATION PRESSURE TRANSDUCERS WITH REFRIGERATION CONTRACTOR. PRESSURE TRANSDUCERS ARE

**ABBREVIATIONS** 

FLOW LINE FLA FULL LOAD AMPS **AMPERES** FIR FLOOR AIR (COMPRESSED) AIR CONDITIONING FU FURNACE PNLBD ACC AIR COOLED CHILLER FVNR FULL-VOLTAGE, NON-REVERSING POE ACCU AIR COOLED COND UNIT ADA AMERICANS WITH DISABILITIES PROVIDE FURNISH AND INSTALL AMPERE FUSE GC GENERAL CONTRACTOR GE GROUNDING EQUALIZER AFC ABOVE FINISHED CEILING PSTN GFCI GROUND FAULT CIRCUIT AFCI ARC FAULT CIRCUIT INTERRUPTER INTERRUPTER GFR GROUND FAULT RELAY AFEA AREA FOR EVACUATION GROUND ASSISTANCE GND GROUND AFF ABOVE FINISHED FLOOR GPM GALLONS PER MINUTE AFG ABOVE FINISHED GRADE GRS GALVANIZED RIGID STEEL

(ALL ABBREVIATIONS SHOWN ARE NOT

NECESSARILY USED ON THE DRAWINGS.)

PHASE (Ø)

PANELBOARD

PHASE POST INDICATOR VALVE

PLAIN OLD TELEPHONE SERVICI

PRESSURE REDUCING VALVE

TELELPHONE NETWORK

POTENTIAL TRANSFORMER

REINFORCED CONCRETE PIPE

POWER OVER ETHERNET

STANDARD ANALOG

TELEPHONE LINE

PUBLIC SWITCHED

POINT-TO-POINT

PAN, TILT, ZOOM

QUANTITY

RETURN AIR

RECEPTACLE

ROOF DRAIN

REVISION

RETURN DUCT

RETURN FAN

ROOF HOOD

**ROOFTOP UNIT** 

**RACK UNIT** 

SUPPLY AIR

**NETWORK** 

SUPPLY DUCT

SQUARE FEET

SUPPLY FAN

SUMP PUMP

SOIL STACK

SHUNT TRIP

STEAM TRAP

SWITCHBOARD

TELECOMMUNICATIONS

TOTAL DYNAMIC HEAD

**TELECOMMUNICATIONS** 

**TELECOMMUNICATIONS** 

INDUSTRY ASSOCIATION

**TELECOMMUNICATIONS** 

MAIN GROUND BUS BAR

TELECOMMUNICATIONS ROOM

TEMPERATURE TRANSMITTER

TAMPER RESISTANT

THROUGH WALL AIR

CONDITIONING UNIT

TRANSFORMER

UNDERFLOOR

UNDERSLAB

UNIT HEATER

UNDERGROUND

UNDERWRITERS

VOLTAGE DROP

LABORATORIES, INC.

**UNLESS NOTED OTHERWISE** 

UNINTERRUPTIBLE POWER

**UNSHIELDED TWISTED PAIR** 

VOLTS ALTERNATING CURRENT

TYPICAL

TEMPERATURE CONTROLS

BONDING BACKBONE

TO BE DETERMINED

TO FLOOR ABOVE

TO FLOOR BELOW

GROUND BUS BAR

TWISTI OCK

CONTRACTOR

STEAM

STM

SWBD

SEASONAL ENERGY

EFFICIENCY RATIO

STATIC PRESSURE

STAINLESS STEEL

SANITARY SEWER

RELATIVE HUMIDITY

REFRIGERANT HOT GAS

RUNNING LOAD AMPS

RIGID METAL CONDUIT

REVOLUTIONS PER MINUTE

SYNCHRONOUS OPTICAL

SMOKE DUCT DETECTOR

STEAM CONDENSATE PUMP

SINGLE-POLE, DOUBLE-THROW

SINGLE-POLE, SINGLE-THROW

SOUND TRANSMISSION CLASS

RCPT

ROOM CRITERIA

POLYVINYL CHLORIDE

**Architect of Record:** 

**BOYD W. RAU** 

6700 Antioch Plaza

Merriam, KS 66204

www.brrarch.com

Tel: 913-262-9095

**Energy Squared** Texas Engineering Consultants

Energy Squared Texas, LLC

San Antonio, Texas 78216 (210) 510-2300 FAX - (210) 510-23

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2 05/21/18 Addendum #2

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**Project Name** 

Consultants

JURISDICTION AHU AIR HANDLING UNIT ANALOG INPUT AMPERE INTERRUPTING ALUMINUM ANALOG OUTPUT ACCESS PANEL

ACROSS-THE-LINE I AV AUDIO VISUAL AWG AMERICAN WIRE GAUGE

CD CANDELA

CONTRACTOR INSTALLED) MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE) | BB

DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL M1 NUMBER LOWER NUMBER INDICATES SHEET NUMBER

**ENERGY MANAGEMENT** 

CIRCUITING & WIRING

CONDUIT CONCEALED

———— CONDUIT TURNING DOWN

EQUIPMENT TERMINATION

PLUMBING PLAN NOTE CALLOUT

ELECTRICAL PLAN NOTE CALLOUT

PLUMBING EQUIPMENT DESIGNATION.

EQUIPMENT DESIGNATION (365 FURNISHED,

TECHNOLOGY PLAN CALLOUT

———O CONDUIT TURNING UP

ANNOTATION

——— EXPOSED CONDUIT

FLEXIBLE CONDUIT

P1 HOMERUN TO MAIN EQUIPMENT.

CONDUIT IN/UNDER FLOOR/GROUND CONSTRUCTION

LOW VOLTAGE CABLE (NOT ROUTED IN CONDUIT)

_____ CONNECTION POINT OR EQUIPMENT TERMINATION

MECHANICAL OR FIRE PROTECTION PLAN CALLOUT

(CONTRACTOR FURNISHED AND INSTALLED). REFER

O PLUMBING FIXTURE OR EQUIPMENT SCHEDULES.

REFRIGERATION CIRCUIT MTCP MICRO THERMO CONTROL PANEL LIGHTING RELAY

RETURN AIR TEMP SENSOR **TEMP SENSOR** 

PRESSURE SENSOR DEFROST TERMINATION HIGH-VOLTAGE WIRING. SUCH AS 120VAC OR 208VAC POWER WIRING. KEEF MICRO THERMO HORN STROBE LOW VOLTAGE CABLE A MINIMUM OF 3 INCHES AWAY FROM HIGH-VOLTAGE WIRING (IDEALLY, AT LEAST 12 INCHES), IF NETWORK MUST CROSS PATHS

> SLSV SUCTION LINE SOLENOID VALVE DOOR SWITCH

FFV VAI VE

EEV

DTS DUAL-TEMP SWITCH REMOTE BEACON SOUNDER LLS LIGHT LEVEL SENSOR

MT500 MICRO THERMO 8UI BOARD MT504 MICRO THERMO 8UI / 4RO BOARD MICRO THERMO 8UI / 8RO / 4DI BOARD

MT512 MICRO THERMO 8UI / 12RO / 8DI BOARD MICRO THERMO 2UI POWER FOR MT716 MT716 MICRO THERMO 16UI

DT-EEPR MICRO THERMO 6 EEPR **HUMIDITY SENSOR** CARBON DIOXIDE SENSOR

TEMPERATURE SENSOR HUMIDISTA7 THERMOSTAT

THERMOSTATS (TOP OF DEVICE)

CONTROLS (TOP OF DEVICE)

STANDARD MOUNTING HEIGHTS MECHANICAL

TEMPERATURE SENSORS (PUBLIC AREAS)

TEMPERATURE SENSORS (NON-PUBLIC SPACES)

AUTHORITY HAVING GYP GYPSUM BOARD HORIZONTAL CROSS-CONNECT HD HEAD HUB DRAIN HOA HAND-OFF-AUTOMATIC HTG HEATING HTR HEATER ACCESS POINT HVU HEATING AND VENTILATING UNIT HWP HEATING WATER PUMP AUTOMATIC TRANSFER SWITCH HZ HERTZ INTERMEDIATE CROSS-CONNECT INVERT ELEVATION ISOLATED GROUND BAS BUILDING AUTOMATION SYSTEM IMC INTERMEDIATE METAL CONDUIT BACKBONE IN WC INCHES OF WATER COLUMN BACKDRAFT DAMPER INTERNET PROTOCOL BI OWDOWN ISC SHORT CIRCUIT CURRENT BUILDING DISTRIBUTOR ISDN INTEGRATED SERVICES DIGITAL BDF BUILDING DISTRIBUTION FRAME NFTWORK BFF BELOW FINISHED FLOOR ISP INTERNET SERVICE PROVIDER BFG BELOW FINISHED GRADE ISP INSIDE PLANT CABLE BFP BOILER FEED PUMP BINARY INPUT I BKR BREAKER BINARY OUTPUT IB JUNCTION BOX BOD BOTTOM OF DUCT J-BOX JUNCTION BOX BOP BOTTOM OF PIPE

BOS BOTTOM OF STRUCTURE BTU BRITISH THERMAL UNIT kcmil 1000 CIRCULAR MILS KK KIRK KFY kV KILOVOLT CC CONDUIT CAT CATEGORY kVA KILOVOLT-AMPS CATV CABLE TELEVISION SYSTEM **KVAR KILOVOLT-AMPS REACTIVE** kW KII OWATT CAMPUS DISTRIBUTOR KWh KILOWATT-HOUR CURRENT TRANSFORMER CCTV CLOSED CIRCUIT TELEVISION

MCB MAIN CIRCUIT BREAKER

MD MOTORIZED DAMPER

MG MOTOR GENERATOR

| MOCP MAXIMUM OVERCURRENT

MPOE MAIN POINT OF ENTRANCE

MPOP MAIN POINT OF PRESENCE

MSB MAIN SWITCHBOARD

MS/TP MASTER SLAVE/TOKEN

PASSING - COMMUNICATION

MSWB MAIN SWITCHBOARD

MH MAINTENANCE HOLE

MFR MANUFACTURER

MLO MAIN LUGS ONLY

PROTECTION

MH MANHOLF

MIN MINIMUM

MTD MOUNTED

N/O NORMALLY OPEN

NIC NOT IN CONTRACT

NF NON-FUSED

NL NIGHT LIGHT

NM NANO METER

OA OUTSIDE AIR

OS OCCUPANCY SENSOR

PDU POWER DISTRIBUTION UNIT

LOC ON CENTER

NOISE CRITERIA

NEC NATIONAL ELECTRICAL CODE

NFPA NATIONAL FIRE PROTECTION

ASSOCIATION, INC

MCC MOTOR CONTROL CENTER

MDF MAIN DISTRIBUTION FRAME

I CH CHILLER CFM CUBIC FEET PER MINUTE LOUVER LCKT CIRCUIT LAN LOCAL AREA NETWORK CMP COMMUNICATIONS LAT LEAVING AIR TEMPERATURE PLENUM CABLE LCC LIMITED COMBUSTIBLE CABLE CMR COMMUNICATIONS RISER CABLE LDB LEAVING DRY BULB CP CONDENSATE PUMP LEC LOCAL EXCHANGE CARRIER CPT CONTROL POWER LED LIGHT-EMITTING DIODE LINEAR FEET CPVC CHLORINATED POLYVINYL LOW PRESSURE CHI ORIDE LRA LOCKED ROTOR AMPS CRAC COMPUTER ROOM AIR LWB LEAVING WET BULB CONDITIONING UNIT LWT LEAVING WATER TEMPERATURE CRU COMPUTER ROOM UNIT

CT COOLING TOWER CWP COOLING TOWER PUMP LCU COPPER M-M MULTIMODE MAN CU CONDENSING UNIT MAN METROPOLITAN AREA NETWORK CVD CUMULATIVE VOLTAGE MATV MASTER ANTENNA TELEVISION CHP CHILLED WATER PUMP MAU MAKE-UP AIR UNIT MAX MAXIMUM MBH 1000 BTU PER HOUR I DB DECIBELS MC MAIN CROSS-CONNECT NETWORK | TR MCA MINIMUM CIRCUIT AMPACITY

DDC DIRECT DIGITAL CONTROL DFU DRAINAGE FIXTURE UNIT DIGITAL INPUT DUCTILE IRON DPDT DOUBLE-POLE, DOUBLE-THROW | MDP MAIN DISTRIBUTION PANEL DPI DIFFERENTIAL PRESSURE

DPST DOUBLE-POLE, SINGLE-THROW DOWNSPOUT DUCT SILENCER DIRECT EXPANSION

FXISTING

EXHAUST AIR ENTERING AIR TEMPERATURE EDB ENTERING DRY BULB EER ENERGY EFFICIENCY RATIO EXHAUST FAN EIA ELECTRONIC INDUSTRIES

ELECTRIFIED LOCK OR LATCH MU MAKE-UP (AFF, AFG, UNLESS NOTED OTHERWISE) | EMI | ELECTROMAGNETIC INTERFERENCE

EMS ENERGY MANAGEMENT SYSTEM N/A NOT APPLICABLE EMT ELECTRICAL METALLIC TUBING N/C NORMALLY CLOSED EPO EMERGENCY POWER OFF EQUIPMENT ROOM

ESFR EARLY SUPPRESSION FAST RESPONSE ETR EXISTING TO REMAIN EWB ENTERING WET BULB EWC ELECTRIC WATER COOL FR EWT ENTERING WATER

TEMPERATURE FACP FIRE ALARM CONTROL PANEL FBO FURNISHED BY OTHERS/OWNER | ORD OVERFLOW ROOF DRAIN FCA FAULT CURRENT AMPS FCU FAN COIL UNIT FLOOR DISTRIBUTOR

FLOOR DRAIN

FFB FROM FLOOR BELOW

FHC FIRE HOSE CABINET

FROM FLOOR ABOVE

FINISHED FLOOR

OSHA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION OSP OUTSIDE PLANT PBX PRIVATE BRANCH EXCHANGE PCR PUMPED CONDENSATE PDI PLUMBING DRAINAGE INSTITUTE

**VOLTS DIRECT CURRENT** VARIABLE AIR VOLUME VITRIFIED CLAY PIPE VARIABLE FREQUENCY DRIVE VENT STACK VENT THROUGH ROOF WITH WITHOUT WIDE AREA NETWORK WIRELESS ACCESS POINT WET BULB WATER COLUMN WATER GONG WATER PRESSURE DROP WEATHER PROOF COVER WEATHER RESISTANT WASTE STACK WSFU WATER SUPPLY FIXTURE WATERTIGH.

WEIGHT

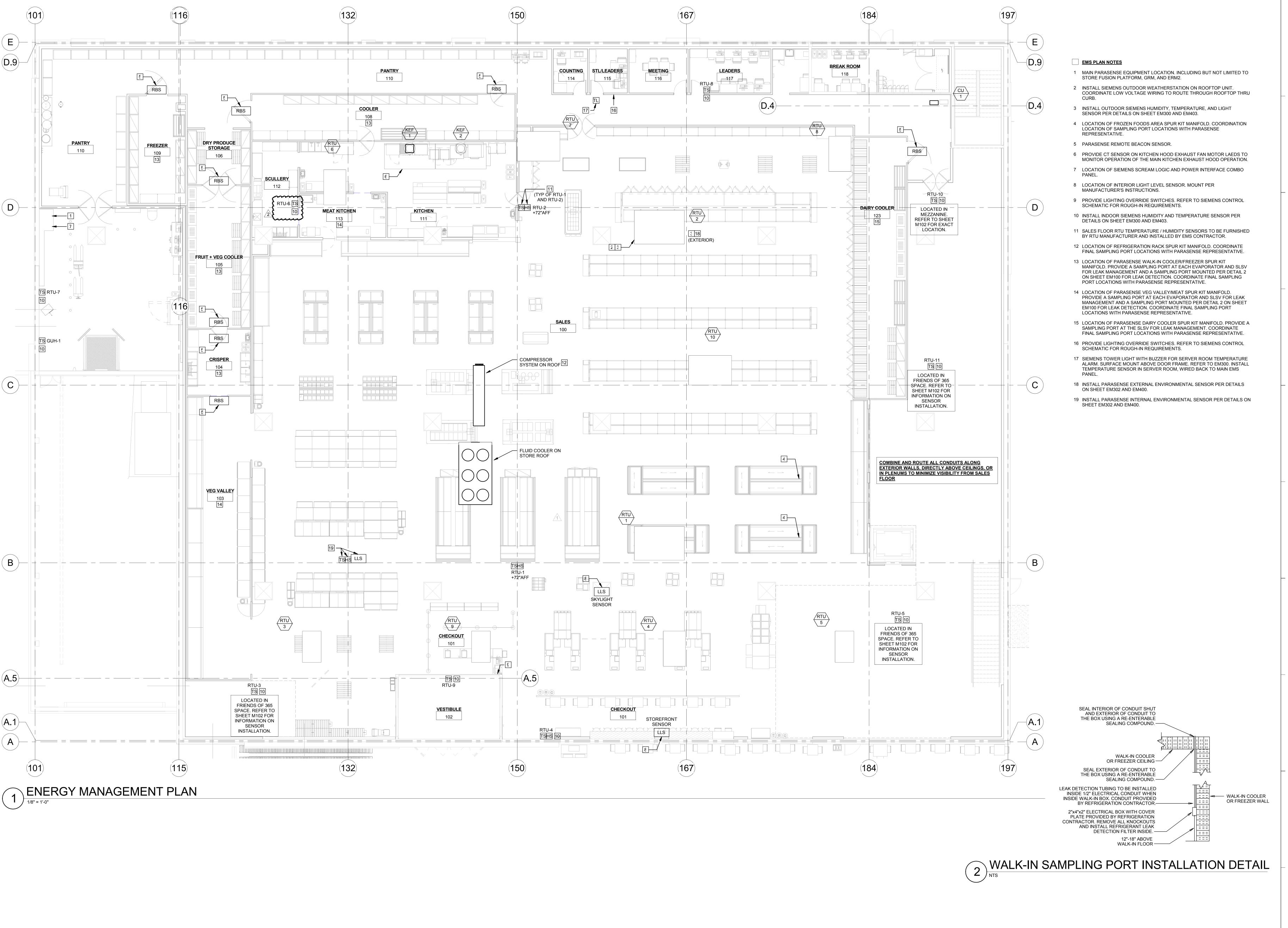
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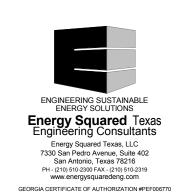
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**ENERGY MANAGEMENT** NOTES AND SYMBOLS



Architect of Record: BOYD W. RAU 6700 Antioch Plaza Suite 300 Merriam, KS 66204 www.brrarch.com Tel: 913-262-9095

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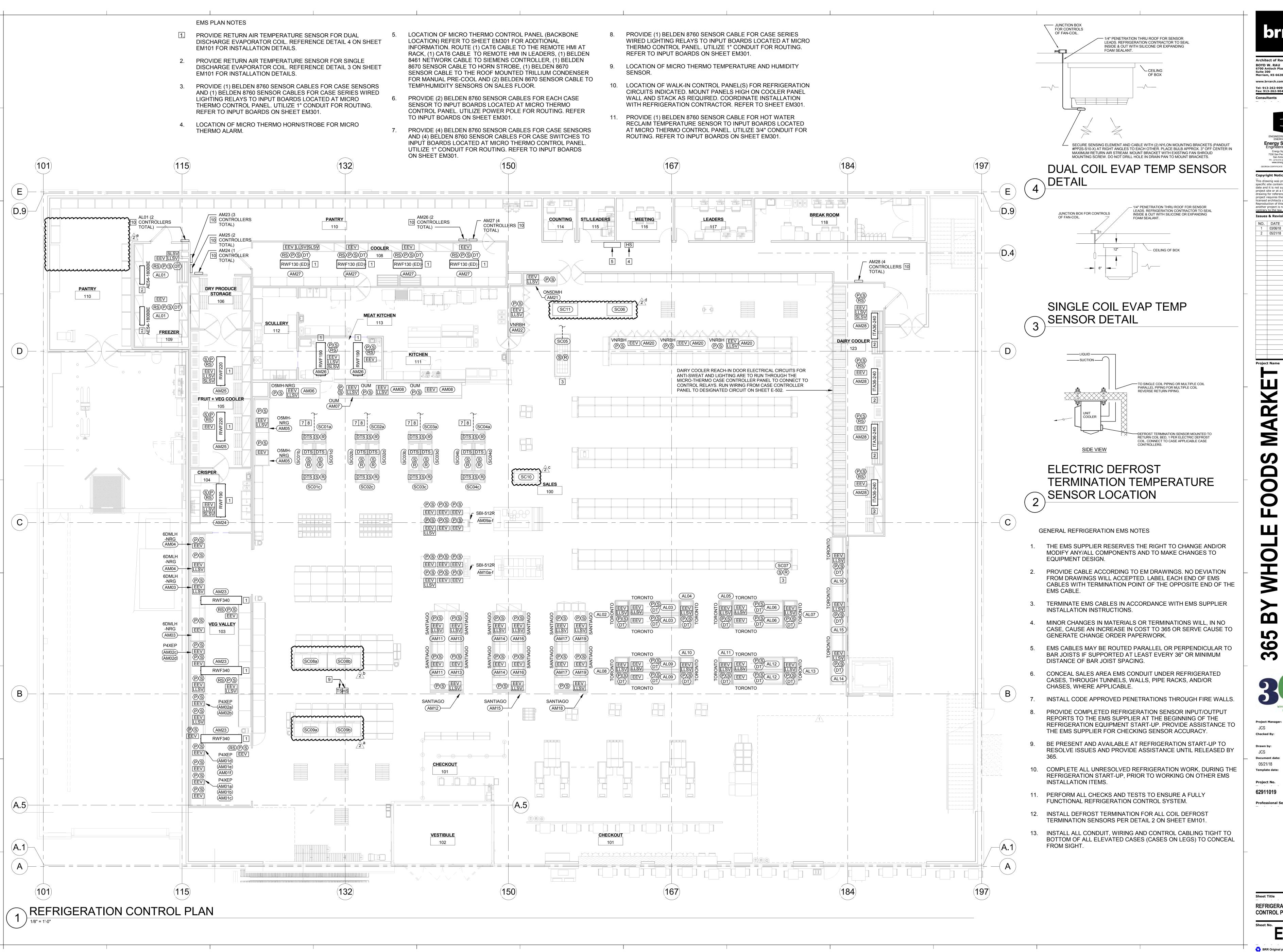
 
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 DATE
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 1
 03/06/18
 Addendum #1
 2 05/21/18 Addendum #2 

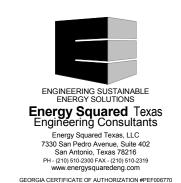
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 2 05/21/18 Addendum #2

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**REFRIGERATION CONTROL PLAN** 

	303 - CONTR	ROL RESPONSIBIL	.11150							
	Furnished By	Installed By	Wiring By	Final Connections By						
	RT	U'S - MUNTERS								
pply Air Temp Sensor 365 - via Munters EMS Contractor EMS Contractor E										
Space Temp Sensor	365 - via Munters	EMS Contractor	EMS Contractor	EMS Contractor						
Space Humidity Sensor	365 - via Munters	EMS Contractor	EMS Contractor	EMS Contractor						
Controller	Landlord	Landlord	EMS Contractor	EMS Contractor						
Smoke/Emergency Shutdown	Fire Alarm	Fire Alarm	Fire Alarm	Fire Alarm						
,	RTU'S - SALES FLO	OR UNITS W/ HOT GAS	REHEAT							
Supply Air Temp Sensor	365 - via Siemens	EMS Contractor	EMS Contractor	EMS Contractor						
Return Air Temp Sensor	365 - via Siemens	EMS Contractor	EMS Contractor	EMS Contractor						
Space Temp Sensor	365 - via Siemens	EMS Contractor	EMS Contractor	EMS Contractor						
Space Humidity Sensor	365 - via Siemens	EMS Contractor	EMS Contractor	EMS Contractor						
Controller	365 - via Siemens	EMS Contractor	EMS Contractor	EMS Contractor						
Smoke/Emergency Shutdown	Fire Alarm	Fire Alarm	Fire Alarm	Fire Alarm						
	RTU'S -	NON-SALES FLOOR								
Supply Air Temp Sensor	365 - via Siemens	EMS Contractor	EMS Contractor	EMS Contractor						
Return Air Temp Sensor	365 - via Siemens	EMS Contractor	EMS Contractor	EMS Contractor						
Space Temp Sensor	365 - via Siemens	EMS Contractor	EMS Contractor	EMS Contractor						
Space Humidity Sensor	365 - via Siemens	EMS Contractor	EMS Contractor	EMS Contractor						
Controller	365 - via Siemens	EMS Contractor	EMS Contractor	EMS Contractor						
Smoke/Emergency Shutdown	Fire Alarm	Fire Alarm	Fire Alarm	Fire Alarm						
	GAS	UNIT HEATERS	•							
Space Temp Sensor	365 - via Siemens	EMS Contractor	EMS Contractor	EMS Contractor						
Unit Controls	365 - via Siemens	EMS Contractor	EMS Contractor	EMS Contractor						
	AIR CURTA	IN - CUSTOMER ENTR	Y							
Thermostat	Mech Contr via Manuf.	Mech. Contractor	Mech Contr.	Mech Contr.						
Unit Controls	Mech Contr via Manuf.	Mech. Contractor	Mech Contr.	Mech Contr.						
	AIR CU	RTAIN - RECEIVING		l						
Unit Controls	Mech Contr via Manuf.	Mech. Contractor	Mech Contr.	Mech Contr.						
	SI	PLIT SYSTEM								
Thermostat	Mech Contr via Manuf.	Mech. Contractor	Mech Contr.	Mech Contr.						
Unit Controls	Mech Contr via Manuf.	Mech. Contractor	Mech Contr.	Mech Contr.						

		LEAK ALARN	/ SCHEDU	ILE AND CO	ONTRO	L SEQUEN	CE OF	OPERAT	IONS		
SYSTEM			REFRIGERANT		SAFETY	SYSTEM	ALAF	RM LEVELS IN	N PPM	PARASENSE	MICRO
DESIGNATION	REFRIGERATION CIRC. NUMBER	APPLICATION	LEAK ZONE	REFRIGERANT	GROUP	HIGH/LOW PROBABILITY	ALERT	ALARM	CRITICAL	RELAY	THERMO FUNCTION
Α	-	RACK LEAK DETECTION	ZONE 1	CO2	-	-	1000	2500	5000	1	GLOBAL SIGNAL ONLY
-	AL01	GROCERY / ICE CREAM FREEZER	ZONE 2	CO2	A1	HIGH	1000	2500	5000	2	CRITICAL EEV(S) CLOSE
	AM23	VEG VALLEY	ZONE 3	CO2	A1	HIGH	1000	2500	5000	3	CRITICAL EEV(S) CLOSE
-	AM24	CRISPER	ZONE 4	CO2	A1	HIGH	1000	2500	5000	4	CRITICAL EEV(S) CLOSE
-	AM25	FRUIT & VEGETABLE COOLER	ZONE 5	CO2	A1	HIGH	1000	2500	5000	5	CRITICAL EEV(S) CLOSE
-	AM26	OPEN MEAT KITCHEN	ZONE 6	CO2	A1	HIGH	1000	2500	5000	6	CRITICAL EEV(S) CLOSE
-	AM27	GROCERY COOLER	ZONE 7	CO2	A1	HIGH	1000	2500	5000	7	CRITICAL EEV(S) CLOSE
-	AM28	DAIRY COOLER W/ DOORS	ZONE 8	CO2	A1	HIGH	1000	2500	5000	8	CRITICAL EEV(S) CLOSE
-	AL02-AL06	FROZEN COFFIN 1	ZONE 10	CO2	A1	HIGH	1000	2500	5000	9	GLOBAL SIGNAL ONLY
-	AL07-AL11	FROZEN COFFIN 2	ZONE 10	CO2	A1	HIGH	1000	2500	5000	10	GLOBAL SIGNAL ONLY
-	-	SPARE	ZONE 11	-	-	-	-	-	-	11	-
-	-	SPARE	ZONE 12	-	-	-	-	-	-	12	-

REFRIGERANT LEAK CONTROL SEQUENCE OF OPERATION:

THE AIR-SAMPLING SENSOR WILL TAKE AN AIR-SAMPLE FROM THE APPLICATION SITES, WHERE IT IS ANALYZED AT LEAK DETECTION MONITORING STATION. THE SAMPLING MODULES, WHICH ARE LOCATED IN AT LEAK DETECTION MONITORING STATION, UPON REGISTERING A CONCENTRATION THAT EXCEEDS A PRESET LEVEL (ALERT, ALARM OR CRITICAL) WILL PREFORM A FUNCTION AS BELOW:

ALERT LEVEL - PARASENSE MONITORING STATION.

GLOBAL SIGNAL

ALARM LEVEL - THE MONITORING STATION WILL SEND OUT A SIGNAL VIA RELAY TO MICRO THERMO INDICATING AN ALARM LEVEL OF REFRIGERANT LEAK. CRITICAL LEVEL - THE MONITORING STATION WILL SEND OUT A SIGNAL VIA RELAY TO MICRO THERMO INDICATING A CRITICAL LEVEL OF REFRIGERANT LEAK.

MICRO THERMO CONTROL

CRITICAL LEVEL - WHERE THE MAXIMUM ALLOWABLE REFRIGERANT AMOUNT PER CODE FOR ANY PARTICULAR VOLUME OF REFRIGERATED ROOM SPACE HAS EXCEEDED THE CRITICAL LEVEL THE FOLLOWING SEQUENCE SHALL COMMENCE.

- A BEACON/SOUNDER ALARM LOCATED AT THE ENTRANCE TO THE THE REFRIGERATED ROOM SHALL ALARM INDICATING AN UNSAFE ENVIROMENT IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL AND FIRE CODES. ADDITIONAL BEACON/SOUNDER LOCATED ADJACENT TO MONITORING STATION WILL ALARM. - THE MONITORING STATION WILL SEND OUT A SIGNAL VIA RELAY TO MICRO THERMO INDICATING A CRITICAL LEVEL OF REFRIGERANT LEAK. - THE EEV AT THE ROOM THAT HAS DETECTED THE REFRIGERANT LEAK WILL AUTOMATICALLY CLOSE. THIS WILL ISOLATE THE CIRCUIT IN ALARM. REFRIGERANT FLOW IN THE ROOM.

HORN MUST BE AT LEAST 15 DBA (SPL) ABOVE OPERATION AMBIENT NOISE.

COORDINATE PROGRAMMING OF LEAK DETECTION MONITORING STATION FOR RELAY TO OUTPUT 24V DC UPON CRITICIAL ALARM TO OPERATE BEACON/SOUNDER AND CONNECTION TO MICRO THERMO INPUT BOARD VIA ADDITIONAL RELAY. IS TO BE SET IN THE POSITION FOR SHUTTING DOWN POWER TO THE EEV AND ACTIVATING THE REFRIGERANT LEAK ALARM.

CIRCUIT SHUTDOWN OUTPUT CONTROLS TO BE PROGRAMMED IN MICRO THERMO PANEL WITH THE ASSOCIATED LEAK DETECTION SENSOR INPUT.

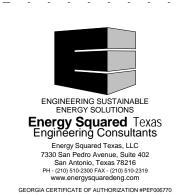
REFER TO INPUT/OUTPUT SCHEDULES FOR POINT LOCATIONS.

LEGEND

PPM: PARTS PER MILLION SPL: SOUND PRESSURE LEVEL

			POWER MONITORING	SCHEDULE				
CONTROLLER TERMINAL	ART / SART LOCATION	LOAD NAME	DESCRIPTION	BREAKER AMPERAGE	VOLTAGE	PHASE	WIRE SIZE AND QUANTITY PER PHASE	NOTES
SFP	MDP	WHOLE HOUSE	BUILDING POWER	2000A	480V	3	5 SETS OF 400 KCMIL	-
1	DPH	RACK "A"	REFRIGERATION POWER	600A	480V	3	4 SETS OF 350 KCMIL	-
2	SPARE	-	-	-	-	-	-	-
3	MDP	PNLBD M	HVAC POWER	400A	480V	3	2 SETS OF #3/0	-
4	M	RTU-1	MAIN STORE HVAC UNIT	110A	480V	3	#6	-
5	M	RTU-2	MAIN STORE HVAC UNIT	110A	480V	3	#6	-
6	TRANSFORMER TF1	PNLBD LF1	FRIENDS SPACE #1	225A	208V	3	2 SETS OF #3/0	-
7	TRANSFORMER TF2	PNLBD LP2	FRIENDS SPACE #2	225A	208V	3	4 SETS OF 300 KCMIL	-
8	SPARE	-	-	-	-	-	-	-
9	SPARE	-	-	-	-	-	-	-
10	SPARE	-	-	-	-	-	-	-
11	SPARE	-	-	-	-	-	-	-
12	SPARE	-	-	-	-	-	-	-
1	POWERWALL	PNLBD LP1	GENERAL LIGHTING	150A	208V	3	#1/0	-
2	SPARE	-	-	-	-	-	-	-
3	SPARE	-	-	-	-	-	-	-
4	SPARE	-	-	-	-	-	-	-

Architect of Record: BOYD W. RAU 6700 Antioch Plaza Suite 300 Merriam, KS 66204 www.brrarch.com Tel: 913-262-9095 Fax: 913-262-9044



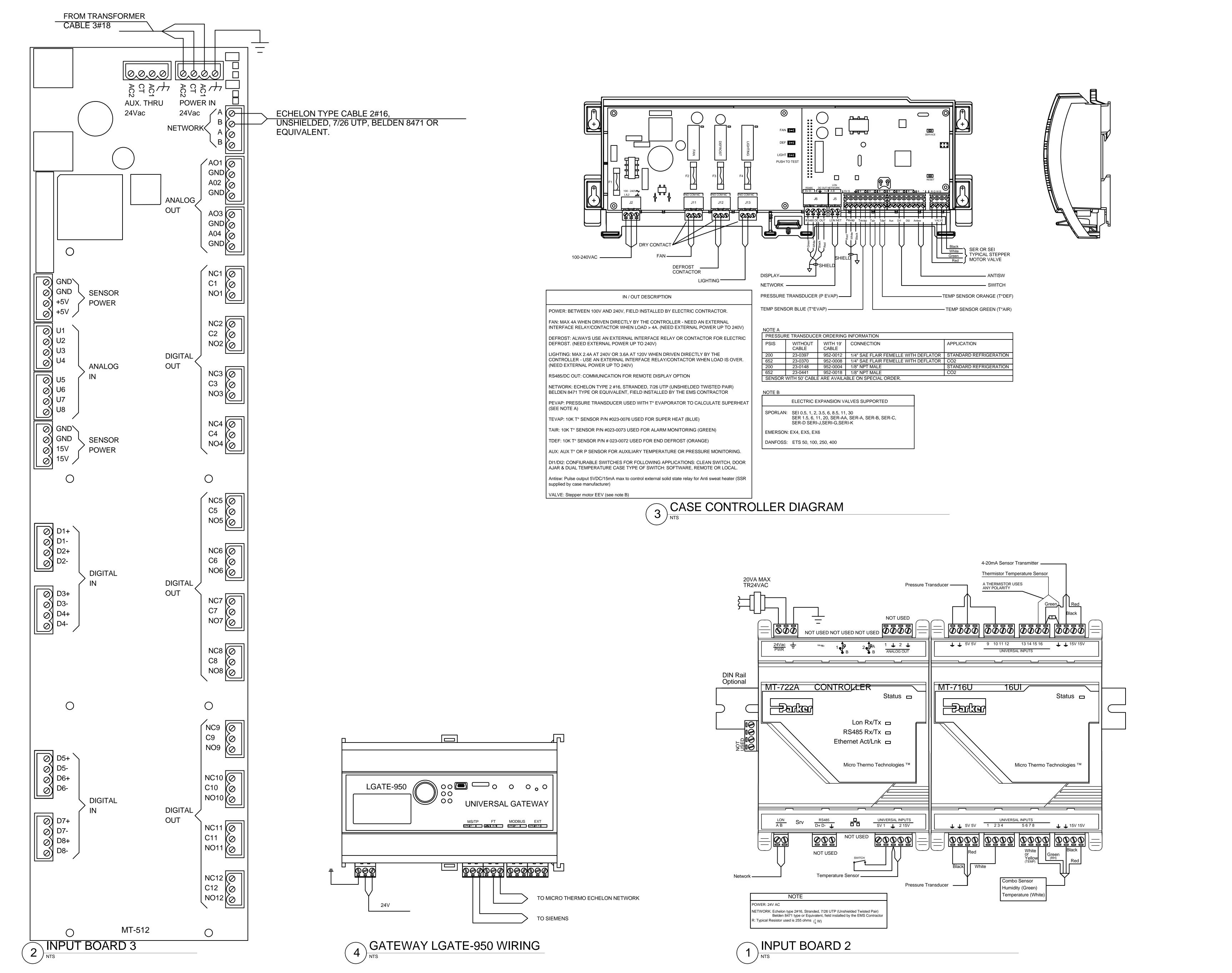
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ENERGY MANAGEMENT SCHEDULES



Architect of Record: BOYD W. RAU 6700 Antioch Plaza Suite 300 Merriam, KS 66204 www.brrarch.com Tel: 913-262-9095 Fax: 913-262-9044

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NO. DATE DESCRIPTION Project Name

Project Manager: JCS

JCS Document date:

Template date: Project No. 62911019

Professional Seal

03/06/2018 REFRIGERATION EMS CONTROL DETAILS

**EM201** 

DESCRIPTION 05/21/18 Addendum #2

Document date

**EMS HVAC & LIGHTING** 

______ TYPICAL OF DEHUMIDIFICATION UNITS RTU 1 AND 2 (MUNTERS) TYPICAL OF ALL SUPPORT UNITS (TRANE) TYPICAL OF MAKE UP AIR UNIT SERVING FRIENDS SPACE TYPICAL OF RTU SERVING KITCHEN OF FRIENDS SPACE (TRANE) SERVING SALES FLOOR FIRE ALM FIRE ALM FIRE ALM FIRE ALM SHUTDOWN SHUTDOWN SHUTDOWN CONTROL SHUTDOWN CONTROL CONTROL SKYLIGHT LIGHT SENSOR AS PER MEG AS PER MFG. OF RTU TYPICAL OF CALIFORNIA STORES TYPICAL OF NON-CALIFORNIA STORES AS PER MFG. -TO NEXT RTU (COMM LINK-B) OF RTU TYPICAL OF FACH EXHAUST FAN TYPICAL OF EACH BREAKER FEEDING TO NEXT RTU COMM LINK-C CONTROLLED VIA TIME CLOCK (EMS) COMM LINK-B ¹ EXHAUST FANS AND DESTRAT FANS CONTROLLED VIA SMART DESTRATIFICATION FANS BREAKER PANEL (LP-1). FRIENDS SPACE HOOD EF's STATUS (TYPICAL OF KEF-3) EF IN STORAGE ROOM TO SECURITY PANEL (.I-ROX FOR SECURITY STATUS) TYPICAL OF MAIN KITCHEN HOOD EFs STATUS IN SERVER RM IN SEVER RM DIM 9 (TYPICAL OF 2) DIM 11 - DIM 12 DIM 14 INSTALL LABEL – DIM 15 . _ _ _ _ _ _ _ _ _ _ _ "MONITORING ONLY DIM 16 <del>--</del>18/4 & 18/2 (EACH) **POWER WALL** DCP TO MICRO CONTROL 24/1P __ 24/1P _ (COMM LINK-A) (COMM LINK-A) (COMM LINK-A) (COMM LINK-A) PROVIDE DEDICATED 14 PROVIDE DEDICATED (LABEL "EMS") ( (LABEL BREAKER "EMS") FRIEND SPACE TYPICAL OF TWO (OPTIONAL) (COMM LINK-C) SLD \ EMS SINGLE LINE DIAGRAM

/MBOL	DEVICE	QUANTITY SUPPLIED BY SIEMENS	DEVICE CABLE TYPE	INSTALLATION	BOX/RACEWAYS/ PLUMBING	CONTROL CABLE TERMINATION	NOTES
CR	CURRENT RELAY SWITCH	2 KITCHEN EXHAUST HOOD LINE-UP AND 2 OPTIONAL (FRIENDS SPACE)	18/2	E.C. / CTRL CONTRACTOR	E.C.	CTRL CONTRACTOR	
D	DUCT TEMP SENSOR	1 OPTIONAL (FRIENDS SPACE - MAU)	18/2	CTRL CONTRACTOR	E.C.	CTRL CONTRACTOR	
DCP	DIMMING CTRL PANEL	1	PER CONNECTED DEVICES	FACTORY INSTALLED ON POWER WALL	E.C.	E.C. / CTRL CONTRACTOR	
EM	ENERGY METER	2 (1 PS24, 1 PS3)	24/1P	FACTORY INSTALLED ON POWER WALL	E.C.	MFG POWER WALL	
FS	WATER FLOW SENSOR (OPTIONAL)	2 (WATER TO FRIEND SPACES)	18/4	INSTALLATION MECHANICAL CONTRACTOR	E.C.	CTRL CONTRACTOR	
Н	HUMIDITY SENS OR HUMIDISTAT	AS INDICATED ON MECHANICAL SCHEDULE - BY MFG. OF HVAC	AS REQUIRED BY MFG. OF HVAC	M.C.	E.C.	M.C.	5
(ICP)	INTEGRATION CTRL PANEL	2	VARIES PER CONNECTED DEVICE	FACTORY INSTALLED ON POWER WALL	E.C.	E.C. / CTRL CONTRACTOR	
IL	INDOOR LIGHT SENSOR	1 (FOR EACH SECTION OF THE STORE WHERE DAYLIGHT HARVESTING IS REQUIRED - REFER TO "EM100" DRAWING FOR QUANTITY AND LOCATION)	18/4	CTRL CONTRACTOR	E.C.	CTRL CONTRACTOR	
LCP	LIGHTING CTRL PANEL	SMART BREAKER PANEL IN POWER WALL	CAT-6 & 18/2	MFG OF POWER WALL	E.C.	E.C. / CTRL CONTRACTOR	3
ORH)	OUTSIDE RELATIVE HUMIDITY SENSOR	1	18/4	CTRL CONTRACTOR	E.C.	CTRL CONTRACTOR	
OSD	OUTSIDE SENSING DEVICE	1	18/4	CTRL CONTRACTOR	E.C.	CTRL CONTRACTOR	2
OV	4 BUTTONS OVERRIDE PANEL	1 (LEADER'S OFICE)	18/4 X2	CTRL CONTRACTOR	E.C.	CTRL CONTRACTOR	
R	24VAC CTRL RELAY	1 CASE LIGHTS AND 2 OPTIONAL (FRIENDS SPACE MAU AND EF)	18/2	E.C.	E.C.	CTRL CONTRACTOR	
RIO	REMOTE IO PANEL	1 FRONT OF THE STORE (FRIENDS SPACE)	18/4	CTRL CONTRACTOR	E.C.	CTRL CONTRACTOR	
RH	INDOOR RELATIVE HUMIDITY SENSOR	1 CENTRALLY LOCATED IN SALES FLOOR	18/4	CTRL CONTRACTOR	E.C.	CTRL CONTRACTOR	1
S	ZONE TEMP SENSOR	1 IN SERVER ROOM	18/2	CTRL CONTRACTOR	E.C.	CTRL CONTRACTOR	1
SL	SKYLIGHT SENSOR	1 (TYPICAL OF STORES WITH SKYLIGHTS)	18/4	CTRL CONTRACTOR	E.C.	CTRL CONTRACTOR	
SLP	SCREAM LOGIC PANEL	1	VARIES PER CONNECTED DEVICE	FACTORY INSTALLED ON POWER WALL	E.C.	CTRL CONTRACTOR	
T	TEMP SENSOR OR THERMOSTAT	1 FOR EACH RTU	AS REQUIRED BY MFG. OF HVAC	M.C.	E.C.	M.C.	5
(TL)	TOWER LIGHT	1	18/4 & 18/2	CTRL CONTRACTOR	E.C.	CTRL CONTRACTOR	

Г	
	NOTES - EMS DEVICES SCHEDULE
ı	NOTED - LIVIO DE VIOLO GOTILDOLL

1. EC SHALL INSTALL ELECTRICAL BOXES AND 1/2 EMT STUB-UPS WITH PULL STRING TO ABOVE CEILING GRID FOR INSTALLATION OF WALL MOUNTED EMS CONTROL DEVICES.

2. MOUNT SENSOR 5' ABOVE ROOF LEVEL ON A 1/2 RIGID CONDUIT OR EMT CONDUIT WITH RAIN TIGHT FITTINGS.

3. LIGHTING CONTROL CONTACTORS ARE FACTORY INSTALLED IN THE CD CONTROLS POWER WALL

5. SENSOR SUPPLIED BY OTHERS (UNIT MANUFACTURER OR MECHAICAL CONTRACTOR). SENSORS ARE NOT PART OF THE SIEMENS EMS CONTROL PACKAGE.

# EMS EQUIPMENT DELIVERY NOTES

# **EQUIPMENT DELIVERY**

1.1 CD CONTROLS SHALL BE RESPONSIBLE FOR CONTACTING SIEMENS TO SCHEDULE EQUIPMENT DELIVERY.

# 1.2 A VALID EQUIPMENT DELIVERY REQUEST SHALL CONSIST OF THE FOLLOWING.

I - NAME AND PHONE NUMBER OF PERSON RESPONSIBLE FOR RECEIVING THE EMS EQUIPMENT AND PROJECT NUMBER.

# II - A VALID SHIPPING ADDRESS (VERIFIABLE BY THE DELIVERY AGENT).

1.3 UPON RECEIVING A VALID EQUIPMENT DELIVERY REQUEST, SIEMENS WILL PROCEED TO SHIP EQUIPMENT AS FOLLOW:

I - FIRST SHIPMENT: DIRECT TO CD CONTROLS, SHIPPED AT THEIR REQUEST WITHIN 5 BUSINESS DAYS (GIVEN STOCK IS AVAILABLE). THIS SHIPMENT INCLUDES CONTROL PANELS (SLP, ICP-1, ICP-2 AND DCP)

II - SECOND SHIPMENT: SHIPPED TO THE SITE WITHIN 5 BUSINESS DAYS OF REQUEST (THE SITE MUST BE READY TO RECEIVE EQUIPMENT). THIS SHIPMENT INCLUDES ALL OTHER EMS COMPONENTS ON THE BILL OF MATERIALS.

# 2. EQUIPMENT INSTALLATION

2.1 HILLPHOENIX SHALL BE RESPONSIBLE FOR DESIGNATING AN INSTALLATION CONTRACTOR FOR THE PROJECT AND COORDINATING THE INSTALLATION OF THE EMS.

2.2 THE INSTALLATION CONTRACTORS MUST BE RESPONSIBLE FOR THE INSTALLATION OF THE EMS IN FULL COMPLIANCE WITH LOCAL AND NATIONAL CODES AS WELL AS GUIDELINES PROVIDED BY SIEMENS ON EMS DRAWINGS. 2.3 THE INSTALLATION CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING SIEMENS TO SCHEDULE COMMISSIONING OF THE EMS NO LESS THAN TWO WEEKS PRIOR TO THE STARTUP OF THIS SYSTEM.

. CONTACT INFORMATION 3.1 PLEASE DIRECT ALL SHIPPING REQUEST TO THE SIEMENS PROJECT MANAGEMENT DEPARTMENT @ (512) 306-9400. CABLE SCHEDULE

MANUFACTURER / PART# 18 /2 18AWG / 2 CONDUCTORS | SHIELDED, STRANDED, PLENUM BELDEN / 6300FE NON-PAIRED COMTRAN / 3644 TAPPAN / 1880AB2M-CMP 18 /4 18AWG / 4CONDUCTORS | SHIELDED, STRANDED, PLENUM BELDEN / 6302FE NON-PAIRED LAKE CABLE / P1810C-WIN TAPPAN / 1880AB4M-CMP 18 /10 | 18AWG / 10 UNSHIELDED, STRANDED, PLENUM BELDEN / 6308UE NON-PAIRED CONDUCTORS LAKE CABLE / P1810C-WIN TAPPAN / 1880AB10-CMP | 24 /1P | 24AWG / 1-TWISTED | SHIELDED, STRANDED, PLENUM, TWISTED PAIR, | BELDEN / 82841 PAIRED LAKE CABLE / PF242CS 24 /1.5P | 24AWG / 1.5-TWISTED SHIELDED, STRANDED, PLENUM, TWISTED PAIR, WINDY CITY WIRE / 04210029-S

1.1 LIFE SAFETY AND FIRE ALARM SYSTEMS ARE NOT PART OF THE EMS AND SHALL BE FURNISHED

2. SIEMENS IS NOT RESPONSIBLE FOR SUPPLYING, INSTALLING, STARTING OR COMMISSIONING DEVICES THAT

3. CONTROL CONTRACTORS ARE RESPONSIBLE FOR PROVIDING:

3.1 A FULLY OPERATIONAL SYSTEM IN FULL COMPLIANCE WITH NATIONAL AND LOCAL ELECTRICAL AND BUILDING CODES.

3.2 CONSULTING SIEMENS ENGINEERING DEPARTMENT ABOUT POTENTIAL DEVIATIONS FROM ORIGINAL CONTROL DRAWING OR THE USE OF ALTERNATIVES PARTS, MATERIALS OR SYSTEM COMPONENTS.

CAT 6 | 23AWG / 4-UTP PLENUM RATED, SOLID CORE, TWISTED PAIR | BELDEN / 2413

GENERAL NOTES - CONSTRUCTION

INDOOR LIGHT SENSOR INSTALLED IN PRIMARY DAYLIGHT ZONE. MOUNT SENSOR NO LESS THAN 2 INCHES BELOW THE LEVEL OF THE LIGHTING FIXTURES. REFER TO "EM100" DRAWING FOR LOCATION. SKYLIGHT SENSOR. TYPICAL OF ONE SENSOR PER STORE. MOUNT SENSOR INSIDE SKYLIGHT WELL. REFER TO "EM100" DRAWING FOR LOCATION.

**KEYED NOTES** 

SLP, DCP, ICP1, ICP2 & EM (DENT POWERSCOUT) FACTORY INSTALLED IN CD CONTROLS POWER WALL.

CONTROL SIGNAL TO ALL LIGHTING FIXTURES MEMBERS OF THE SAME DIMMING CONTROL GROUP.

MOUNT OUTSIDE SENSING DEVICE FIVE FEET ABOVE ROOF LEVEL, AT RTU-2, WITH THE OPTICAL SENSOR FACING NORTH. AVOID MOUNTING SENSOR NEXT TO BUILDING STRUCTURES OR EQUIPMENT THAT MAY

AFFECT THE OPERATION OF THE OPTICAL SENSOR (OBSTRUCTION TO DAYLIGHT) OR THE OUTSIDE AIR

SOURCES OF HEAT AND MOISTURE). PROVIDE WATER TIGHT LECTRIC FITTINGS AND SEAL OPENINGS ON

INSULATION OF ETHERNET AND CONTROL CABLES MUST BE PROPERLY RATED FOR MAXIMUM PHASE TO

INTEGRATION CONTROL PANEL ICP-2. INTEGRATION WITH THE REFRIGERATION SYSTEM (MICRO THERMO)

INDOOR HUMIDITY STATION CENTRALLY LOCATED IN THE SALES FLOOR. AVOID INSTALLATION OF THE

 $\langle 15 \rangle$  | MOUNT SENSOR IN SERVER ROOM NEXT TO WALL-MOUNTED THERMOSTAT FOR CONTROL OF HVAC.

B- COMMUNICATION LOOP BETWEEN ICP-1, RTU-1 AND RTU-2 (SALES UNITS - MUNTERS).

HUMIDITY STATION NEXT TO ARTIFICIAL SOURCES OF HEAT OR MOISTURE. INSTALL LABEL ON THE FACE OF

(16) | MOUNT TOWER LIGHT RIGHT BELOW CEILING LINE. REFER TO CONSTRUCTION DRAWING EM100 FOR LOCATION.

ELECTRICAL DRAWINGS "E110" FOR ADDITIONAL INFORMATION ON "DIMMING CONTROL SCHEMES"

0-10VDC CONTROL SIGNAL TO DIMMING LIGHTING FIXTURES. REFER TO "LIGHTING CONTROL SCHEDULE" ON

FIELD INSTALLED TEMPERATURE AND HUMIDITY SENSORS SUPPLIED BY THE MANUFACTURER OF THE HVAC.

AND LOCATION. REFER TO MANUFACTURER'S DOCUMENTATION FOR CONTROL WIRING REQUIREMENTS.

D- COMMUNICATION LOOP BETWEEN ICP-2 AND REFRIGERATION CONTROL PANEL (MICRO THERMO).

MOTOR STARTER OR CONTACTOR SUPPLIED AND INSTALLED BY OTHERS. LOW VOLTAGE CONTROL RELAY

INSTALL CURRENT RELAY (CR) ON POWER FEED TO EXHAUST FAN MOTORS ON KITCHEN EXHAUST HOOD LINE-UP

EMS SUPERVISORY CONTROL FOR MUNTERS DEHUMIDIFICATION AND TRANE RTU'S PROVIDED VIA BACNET MS/TP

INTEGRATION. BACnet COMMUNICATION MODULES ON RTUS MUST BE INSTALLED AND CONFIGURED BY OTHERS

MAC ADDRESS OF THE RTU MUST BE SET TO MATCH THE NUMBER OF THE RTU AS INDICATED ON THE

WATER FLOW SENSOR, TYPICAL OF TWO. WATER SUPPLY TO FRIENDS SPACES. REFER TO MECHANICAL

JUNCTION BOX PROVIDED BY SIEMENS. TERMINATIONS ON SECURITY PANEL BY ALARM CONTRACTOR.

HARD WIRED INTERLOCK BETWEEN THE KITCHEN MAKE UP "MAU" AND THE KITCHEN EXHAUST FAN "KEF" PROVIDED BY OTHERS. THIS INTERLOCK MUST GUARANTEE THE ACTIVATION AND DE-ACTIVATION OF THE

SELF-CONTAINED UNIT. SENSORS PACKAGE. CONTROLS AND INTERLOCKS WITH KITCHEN EXHAUST BY

ONLY APPLICABLE TO RTU SERVING KITCHEN AREA OF THE FRIEND'S SPACE. AN INTERLOCK BETWEEN THE RTU AND THE MAU SHALL PREVENT THE MAU FROM HEATING WHEN THE RTU IS ENGAGED IN MECHANICAL RTU AND THE MAU SHALL PREVENT THE MAU FROM HEATING WHEN THE RTU IS ENGAGED IN MECHANICAL

MOUNT RIO PANEL AT THE FRONT OF THE STORE, PROVIDE DEDICATED POWER CIRCUIT 120V @ 20A.

REFER TO "EXHAUST FAN SCHEDULE" ON MECHANICAL DRAWINGS FOR ADDITIONAL DETAILS.

MECHANICAL SCHEDULE (e.g. RTU-1 -> MAC ADD = 1). SET COMMUNICATION BAUD RATE TO 19.2K.

REFER TO "HVAC SCHEDULE" AND "MECHANICAL FLOOR PLANS" IN CONSTRUCTION DRAWINGS FOR NUMBER

MOUNT OUTSIDE HUMIDITY STATION AT RTU-2, NO LESS THAN 10 FEET ABOVE GRADE LEVEL. AVOID MOUNTING SENSOR NEXT TO VENTILATION LOUVERS, HVAC OR ELECTRICAL EQUIPMENT (ARTIFICIAL

ETHERNET CABLE TO SMART BREAKER CONTROLLER FOR INTEGRATION VIA BACNET IP PROTOCOL.

FOUR BUTTONS REMOTE OVERRIDE PANEL. REFER TO DRAWING "EM100" FOR LOCATION.

(14) EMS PANELS MUST BE FED FROM A DEDICATED 120VAC @ 20AMPS POWER CIRCUIT.

CAUTION!!! MAXIMUM LOAD PER DIMMING CHANNEL MUST NOT EXCEED 80mA.

A- COMMUNICATION LOOP BETWEEN ICP-1, SLP, AND RIO PANEL.

MAU SIMULTANEOUSLY WITH THE KITCHEN EXHAUST FAN.

C- COMMUNICATION LOOP BETWEEN ICP-1 AND TRANE BACnet RTUS.

DIMMING CONTROL WIRING AS SPECIFIED BY THE MANUFACTURER OF THE LIGHTING FIXTURES. DAISY CHAIN

2 \ LIGHTING CONTROLS PROVIDED VIA CONTACTORS BUILT IN POWER WALL.

TEMPERATURE SENSOR (ARTIFICIAL SOURCES OF HEAT).

PHASE VOLTAGE IN POWER WALL (600V RECOMMENDED).

THE SENSOR INDICATING "FOR MONITORING ONLY".

VIA BACnet MS/TP PROTOCOL.

COMMUNICATION TRUNKS:

PROVIDED BY SIEMENS.

DRAWINGS FOR LOCATION.

LABEL CIRCUIT "EMS".

26 NOTE REMOVED.

NEMA 4 ENCLOSURE TO AVOID WATER DAMAGE TO ELECTRONICS.

(10) | FIRE ALARM OR SMOKE DETECTOR SHUTDOWN INTERLOCK - BY OTHERS.

1. LIFE SAFETY AND FIRE ALARM SYSTEMS:

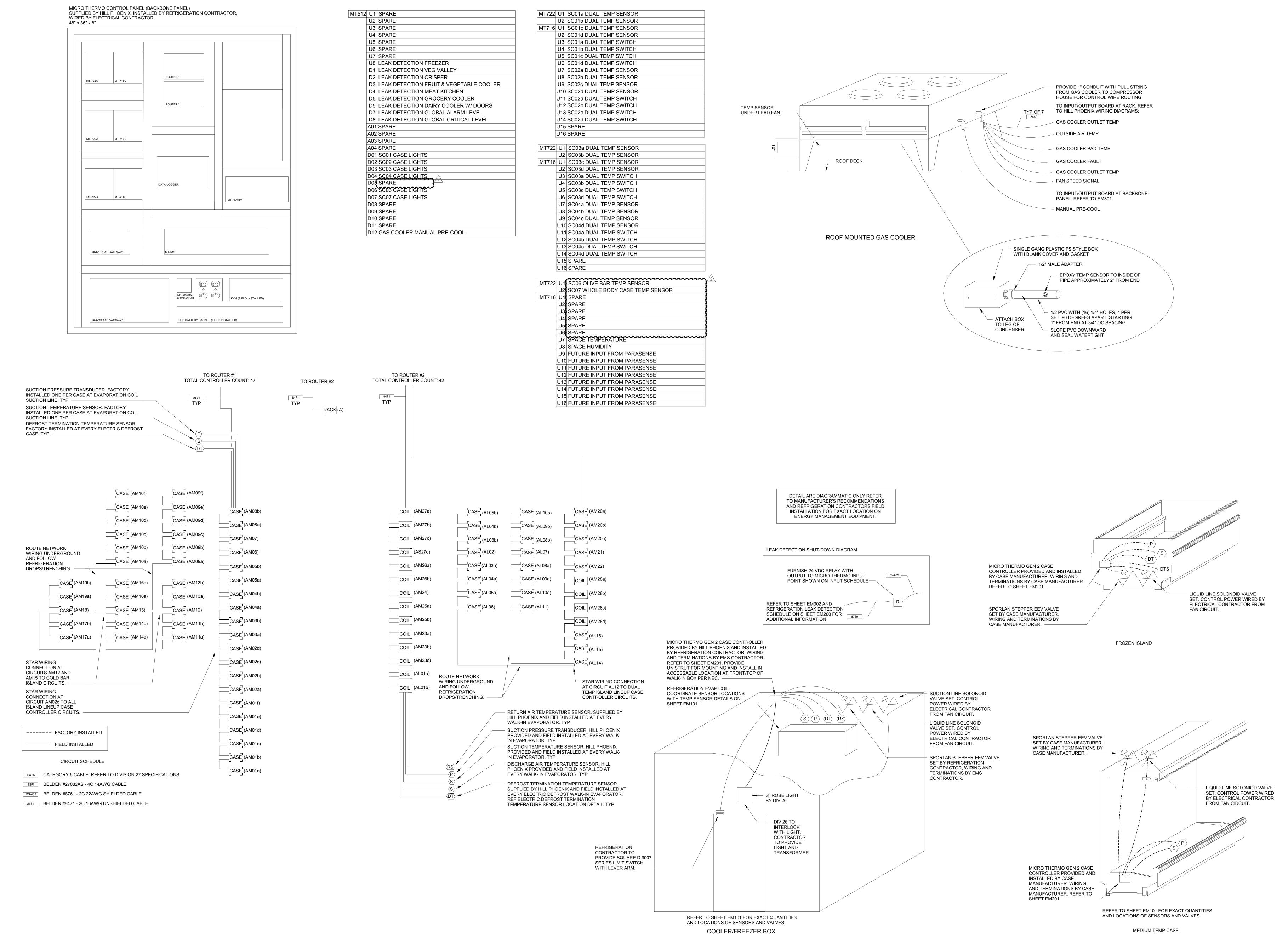
AND INSTALLED AS SPECIFIED ON ELECTRICAL AND MECHANICAL CONSTRUCTION DRAWINGS. 1.2 MECHANICAL EQUIPMENT SHUTDOWN SHALL BE WIRED AS TO NOT AFFECT THE OPERATION OF THE EMS.

HAVE NOT BEEN LISTED ON THE INSTALLATION RESPONSIBILITIES SCHEDULE CONTAINED ON THIS DOCUMENT.

3.3 SELECTION AND INSTALLATION OF CONTROL AND COMMUNICATION CABLES IN FULL COMPLIANCE WITH SPECIFICATIONS PROVIDED BY SIEMENS ON THE "CABLE SCHEDULE" SECTION OF THIS DOCUMENT.

> THE CONSTRUCTION DOCUMENTATION CONTAINED ON THIS SHEET WAS NOT PREPARED BY ENERGY SQUARED, LLC AND IS INCLUDED WITHIN THIS SET FOR REFERENCE ONLY. ENERGY SQUARED, LLC DID REVIEW THIS CONSTRUCTION DOCUMENTATION ON THIS SHEET FOR GENERAL COMPLIANCE WITH DESIGN INTENT. SUPPLIER IS RESPONSIBLE THAT ALL FURNISHED EQUIPMENT ON THIS SHEET COMPLIES WITH APPLICABLE LOCAL, STATE OR FEDERAL LAWS, AND CODES OR REGULATIONS.

**ONE-LINE DIAGRAM** 



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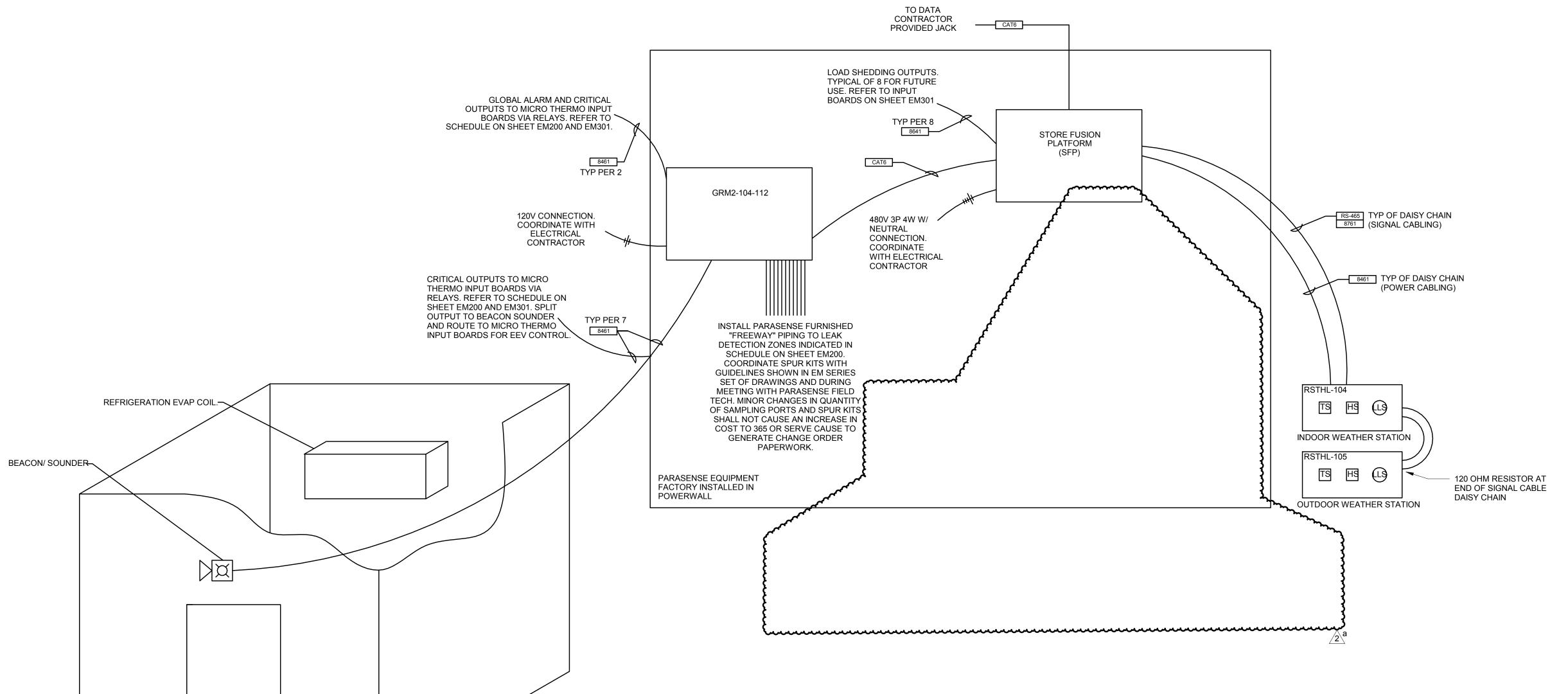
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**EMS REFRIGERATION** 

**ONE-LINE DIAGRAM** 



COOLER/FREEZER BOX

DETAIL ARE DIAGRAMMATIC ONLY REFER TO MANUFACTURER'S RECOMMENDATIONS AND REFRIGERATION CONTRACTORS FIELD INSTALLATION FOR EXACT LOCATION ON ENERGY MANAGEMENT EQUIPMENT.

---- FACTORY FURNISHED — FIELD INSTALLED

CIRCUIT SCHEDULE

RS-465 BELDEN #8761 - 2C 22AWG SHIELDED CABLE

BELDEN #8461 - 2C 18AWG UNSHIELDED CABLE

9486 BELDEN #9486 - 2C 18AWG UNSHIELDED CABLE

CATEGORY 6 CABLE, REFER TO DIVISION 27 SPECIFICATIONS

Architect of Record:

BOYD W. RAU 6700 Antioch Plaza Suite 300 Merriam, KS 66204

www.brrarch.com Tel: 913-262-9095

Consultants

ENERGY SOLUTIONS

Energy Squared Texas
Engineering Consultants

Energy Squared Texas, LLC
7330 San Pedro Avenue, Suite 402
San Antonio, Texas 78216
PH- (210) 510-2300 FAX - (210) 510-2319
www.energysquaredeng.com

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JCS

JCS Document date: 05/21/18 Template date:

Project No.

1 PARASENSE ONE-LINE DIAGRAM

PARASENSE RTU1 DETAIL

NTS

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JCS Document date 62911019

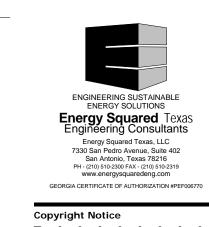
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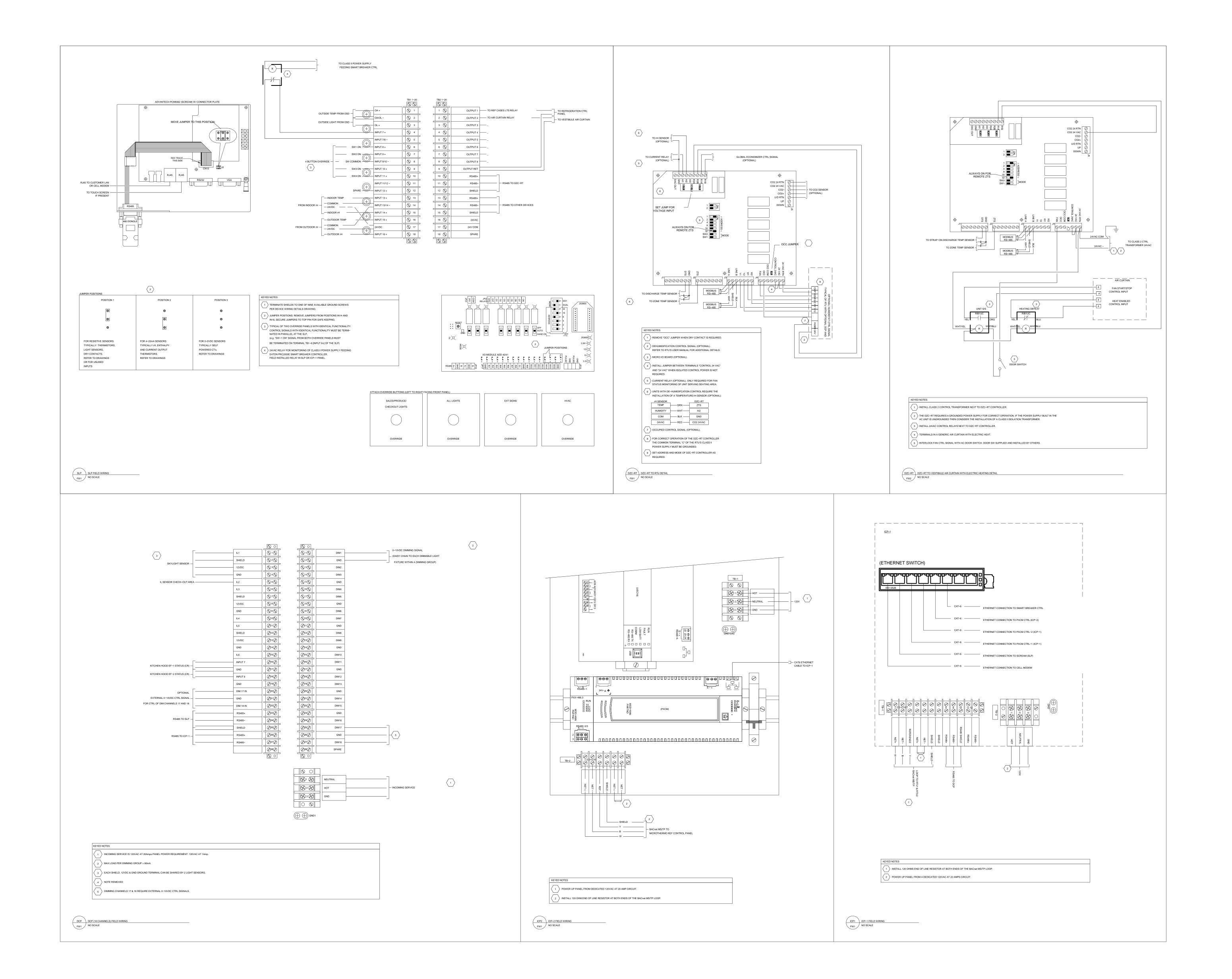
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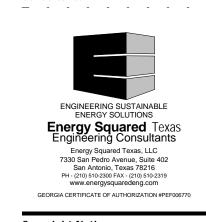
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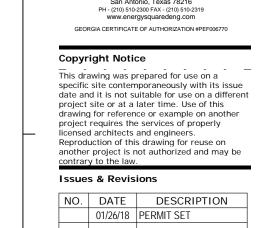
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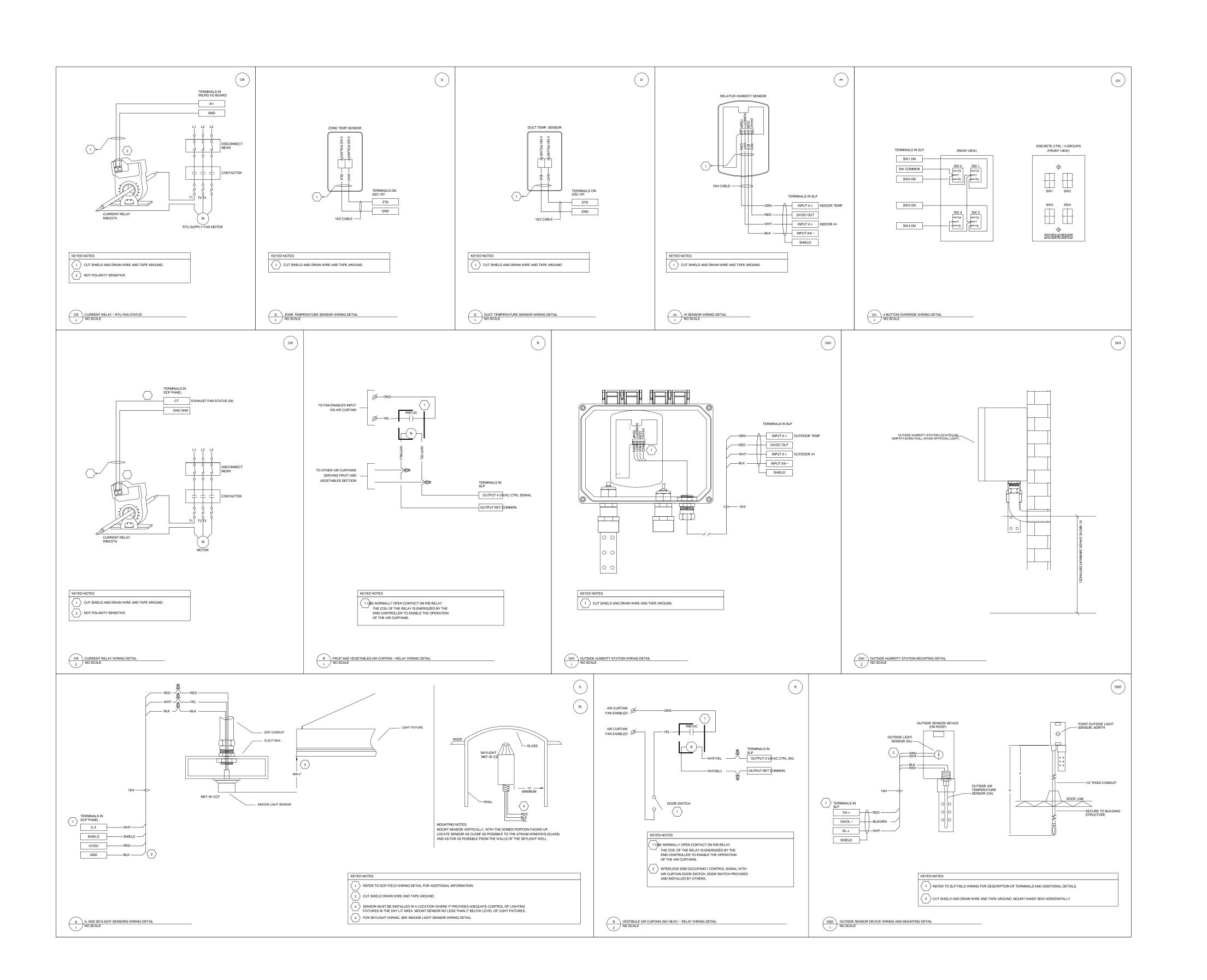
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ENERGY MANAGEMENT SIEMENS DETAILS



INFORMATION ON CONTRACT DOCUMENTS IS GENERAL INFORMATION AND FOR BID PURPOSES ONLY. PERFORM REQUIRED CALCULATIONS AND COORDINATE WITH OTHER TRADES.

3 DEVIATIONS FROM ENGINEERS LAYOUT WILL NOT BE CONSIDERED UNLESS A FORMALLY SUBMITTED RFI IS RECEIVED AND APPROVED. PROVIDE ADDITIONAL MATERIALS AND LABOR REQUIRED DUE TO LACK OF COORDINATION OR TO MEET AUTHORITY HAVING JURISDICTION AND INSURANCE CARRIER REQUIREMENTS AT NO ADDITIONAL COST TO 365.

PROVIDE ALL EQUIPMENT AND LABOR REQUIRED FOR A COMPLETE AND OPERATIONAL FIRE ALARM SYSTEM.

PROVIDE AUDIBLE AND VISIBLE NOTIFICATION APPLIANCES AS INDICATED ON THE DRAWINGS.

DO NOT INSTALL SMOKE DETECTORS IN A DIRECT AIR FLOW NOR CLOSER THAN 3 FEET (1 METER) FROM AN AIR SUPPLY DIFFUSER OR RETURN AIR OPENING. PROVIDE DUCT DETECTION AND SHUTDOWN FOR AIR DISTRIBUTION

TRANSMIT A SUPERVISORY SIGNAL TO THE FACP. PROVIDE FIRE ALARM EQUIPMENT AND CONNECTIONS REQUIRED TO SHUTDOWN FAN POWERED AIR DISTRIBUTION EQUIPMENT THAT IS LESS THAN 2000 CFM AND IS NOT PROVIDED WITH DUCT SMOKE DETECTION WHEN IT'S RESPECTIVE AIR HANDLING UNIT IS

SYSTEMS EXCEEDING 2000 CFM. DUCT SMOKE DETECTION SHALL

10. FORWARD COMPLETED FIRE ALARM CERTIFICATE OF COMPLETION

11. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

## FIRE ALARM DEMOLITION NOTES:

1. PRIOR TO SUBMITTING BID, CONTRACTOR MUST VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW GENERAL NOTES, SPECIFICATIONS AND ALL APPLICABLE DRAWINGS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER OR 365, AS DEFINED IN BID DOCUMENTS, OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMITTING BID. ADDITIONAL COMPENSATION WILL NOT BE PAID FOR LACK OF SUCH DETERMINATION, FAMILIARIZATION, AND/OR ALLOWANCE.

EXISTING CONDITIONS WERE TAKEN FROM ORIGINAL DRAWINGS AND SITE VISITS AND MAY NOT REFLECT ACTUAL "AS-BUILT" CONDITIONS.

3. COORDINATE NEW WORK AND DEMOLITION WITH OTHER DISCIPLINES AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION.

4. PERFORM ALL WORK ACCORDING TO THE PHASING SCHEDULE FOR THIS PROJECT. PROVIDE ALL TEMPORARY DESIGN AND/OR CONFIGURATIONS THAT MEET APPLICABLE CODE REQUIREMENTS AS NECESSARY TO CONFORM TO THE REQUIRED CONSTRUCTION PHASING OF THE PROJECT.

5. ONLY THE PORTIONS OF THE BUILDING AFFECTED BY THE SCOPE OF THE PROJECT HAVE BEEN SHOWN. INFORMATION SHOWN AS EXISTING TO REMAIN IS NOT BEING MODIFIED AS A PART OF THIS

6. ALL WORK SHALL BE PERFORMED SO AS TO NOT INTERRUPT SERVICE. THE CONTRACTOR SHALL PROPERLY NOTIFY THE LANDLORD. THE LEASER AND ADJACENT TENANTS A MINIMUM OF 48 HOURS IN ADVANCE BEFORE PROCEEDING WITH THIS WORK.

7. EQUIPMENT AND CONDUIT TO BE REMOVED SHALL BE KEPT FOR REINSTALLATION DURING THE CONSTRUCTION PHASE WHEN POSSIBLE AND/OR INDICATED ON THE DRAWINGS. AVOID DAMAGE TO SALVAGED EQUIPMENT AND CONDUIT DURING DEMOLITION PHASE. PROPERLY DISPOSE OF WIRING AND MATERIAL THAT ARE REMOVED AND ARE NOT REQUESTED TO BE SALVAGED BY 365.

REMOVE ALL UNUSED AND DEMOLISHED EQUIPMENT AND ASSOCIATED MATERIALS FROM SITE. ABANDONING UNUSED PORTIONS WILL NOT BE ACCEPTABLE.

9. AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN. REPAIR DAMAGE CAUSED DURING WORK AT NO EXTRA COST TO 365.

10. PATCH ALL OPENINGS IN AREAS THAT REMAIN TO MATCH ADJACENT SURFACES AFTER EXISTING EQUIPMENT IS REMOVED AND VACATED.

11. FIRE ALARM SYSTEM(S) NOT ASSOCIATED WITH THE DEMOLITION SHALL BE LEFT IN SERVICE AS APPLICABLE.

### FIRE SPRINKLER GENERAL NOTES:

1. SPRINKLER SYSTEM DESIGN, INSTALLATION AND MATERIALS SHALL BE IN ACCORDANCE WITH NFPA 13. SYSTEM SHALL ALSO MEET ALL APPLICABLE BUILDING CODES, FIRE CODES AND THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION AND INSURANCE CARRIER. VERIFY REQUIREMENTS PRIOR TO BID SUBMITTAL.

2. INFORMATION ON CONTRACT DOCUMENTS IS GENERAL INFORMATION AND FOR BID PURPOSES ONLY. LAYOUT SYSTEM, PERFORM REQUIRED CALCULATIONS AND COORDINATE WITH OTHER TRADES.

3. PROVIDE ADDITIONAL MATERIALS AND LABOR REQUIRED DUE TO LACK OF COORDINATION AND TO MEET AUTHORITY HAVING JURISDICTION AND INSURANCE CARRIER REQUIREMENTS AT NO ADDITIONAL COST TO 365.

4. MODIFY EXISTING SPRINKLER SYSTEM. RELOCATE AND/OR PROVIDE ADDITIONAL SPRINKLERS, PIPING, HANGERS, ETC. COORDINATE WITH WALLS, CEILINGS, LIGHTS, DIFFUSERS, STRUCTURE, OBSTRUCTIONS, ETC., IN AREAS AFFECTED BY SCOPE OF WORK.

5. COORDINATE SPRINKLER SYSTEM MODIFICATIONS TO MINIMIZE SYSTEM IMPAIRMENT. PROVIDE FIRE WATCH AND INTERIM FIRE PROTECTION MEASURES WHERE REQUIRED BY THE AUTHORITY

HAVING JURISDICTION, INSURANCE CARRIER OR 365. 6. COORDINATE PIPE ROUTING NEAR ELECTRICAL EQUIPMENT WITH NFPA 70.

7. COORDINATE SPRINKLER TEMPERATURES NEAR HEAT-PRODUCING SOURCES WITH NFPA 13.

8. DO NOT CONNECT MORE THAN ONE SPRINKLER TO AN EXISTING ONE- INCH OUTLET.

9. ROUTE PIPING AND DROPS IN BACK OF HOUSE AREAS VISIBLE FROM SALES FLOOR WITH OTHER TRADES WHERE POSSIBLE TO MINIMIZE VISIBILITY FROM SALES FLOOR.

10. REMOVE ALL ABANDONED PIPING, FITTINGS, HANGERS, ETC.

11. FORWARD COMPLETED CONTRACTOR MATERIAL TEST CERTIFICATES TO 365.

12. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

PRIORITY | SYSTEM OUTPUTS

#### FIRE SPRINKLER DEMOLITION NOTES:

1. PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR 365 OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.

. EXISTING CONDITIONS WERE TAKEN FROM ORIGINAL DRAWINGS AND SITE VISITS AND MAY NOT REFLECT EXACT "AS-BUILT" CONDITIONS. FIELD VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING FINAL BIDS. COORDINATE NEW WORK AND DEMOLITION WITH OTHER DISCIPLINES AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION.

365 RETAINS RIGHTS OF SALVAGE FOR EQUIPMENT AND FIXTURES TO BE REMOVED. COORDINATE WITH 365 THE EQUIPMENT AND FIXTURES TO BE SALVAGED AND THE LOCATION FOR STORAGE, AVOID DAMAGE TO EQUIPMENT, FIXTURES AND DEVICES DURING DEMOLITION WORK AND

PERFORM ALL WORK ACCORDING TO THE PHASING SCHEDULE FOR THIS PROJECT. PROVIDE ALL TEMPORARY DESIGN AND/OR CONFIGURATIONS THAT MEET APPLICABLE CODE REQUIREMENTS AS NECESSARY TO CONFORM TO THE REQUIRED CONSTRUCTION PHASING OF THE PROJECT.

DURING TRANSPORT TO 365'S DESIGNATED STORAGE LOCATION.

5. ONLY THE PORTIONS OF THE BUILDING AFFECTED BY THE SCOPE OF THE PROJECT HAVE BEEN SHOWN. INFORMATION SHOWN AS EXISTING TO REMAIN IS NOT BEING MODIFIED AS A PART OF THIS PROJECT.

6. ALL WORK SHALL BE PERFORMED SO AS TO NOT INTERRUPT SERVICE. THE CONTRACTOR SHALL PROPERLY NOTIFY 365, LANDLORD, THE LEASER AND ADJACENT TENANTS AS APPLICABLE A MINIMUM OF 48 HOURS IN ADVANCE BEFORE PROCEEDING WITH THIS WORK.

REMOVE ALL UNUSED AND DEMOLISHED EQUIPMENT AND ASSOCIATED MATERIALS FROM SITE. ABANDONING UNUSED PORTIONS WILL NOT BE ACCEPTABLE.

8. AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN FOR NEW INSTALLATION. REPAIR ANY DAMAGE CAUSED DURING WORK AT NO EXTRA COST TO 365.

9. SEAL ALL PENETRATIONS THROUGH FLOORS, WALLS, CEILINGS AND ROOFS WHERE FIRE SPRINKLER COMPONENTS ARE REMOVED AND WHERE THE EXISTING PENETRATION IS NOT USED FOR THE NEW INSTALLATION. REPAIR SURFACES TO MATCH ADJACENT AREAS.

10. FIRE SPRINKLER SYSTEM(S) NOT ASSOCIATED WITH THE DEMOLITION SHALL BE LEFT IN SERVICE AS APPLICABLE.

11. VERIFY THAT EXISTING EQUIPMENT TO REMAIN IS OPERATING PROPERLY. NOTIFY THE ARCHITECT, ENGINEER AND/OR 365 OF ANY DAMAGED AND/OR MALFUNCTIONING COMPONENTS.

12. ALL SYSTEMS TO BE LEFT IN SERVICE PRIOR TO THE END OF EACH WORKDAY.

# FIRE PROTECTION SYMBOLS

NOTE: NECESSARILY USED ON THE DRAWINGS.

KNOX BOX

PULL STATION

FIRE ALARM FACE ETR-FIRE ALARM CONTROL PANEL/UNIT FAAP RECESSED FIRE ALARM ANNUNCIATOR PANEL REMOTE POWER SUPPLY RT REMOTE TEST STATION WITH INDICATING LIGHT

THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS, ETC. ARE

Consultants SMOKE DETECTOR (E INDICATES ELEVATOR RECALL) DUCT MOUNTED SMOKE DETECTOR (SD=SUPPLY/RD=RETURN) ENGINEERING SUSTAINABI ENERGY SOLUTIONS

Architect of Record:

BOYD W. RAU

6700 Antioch Plaza

Merriam, KS 66204

www.brrarch.com

Tel: 913-262-9095 Fax: 913-262-9044

Energy Squared Texa Engineering Consultants

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WALL MOUNTED AUDIBLE/VISIBLE NOTIFICATION ## APPLIANCE, ## INDICATES CANDELA

## APPLIANCE, ## INDICATES CANDELA CEILING MOUNTED AUDIBLE/VISIBLE NOTIFICATION ## APPLIANCE, ## INDICATES CANDELA

CEILING MOUNTED VISIBLE NOTIFICATION

PIPING FIRE PROTECTION (FP)

ETR-EXTERIOR NOTIFICATION APPLIANCE

FIRE DEPARTMENT CONNECTION SPRINKLER RISER

STANDARD MOUNTING HEIGHTS (AFF, AFG, UNLESS NOTED OTHERWISE

**AUDIBLE APPLIANCES (CENTERLINE)** FIRE ALARM ANNUNCIATOR PANEL (DISPLAY) FIRE ALARM BELL (EXTERIOR) 120" FIRE ALARM CONTROL PANEL/UNIT (DISPLAY) PULL STATIONS (HANDLE) VISIBLE APPLIANCES (CENTERLINE)

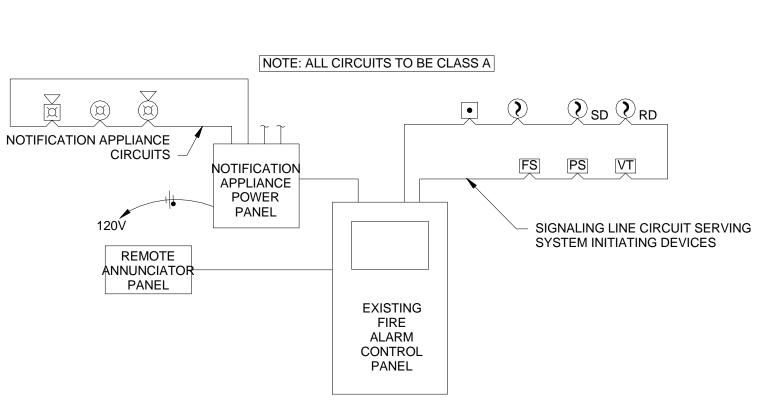
ANNOTATION (1) FIRE PROTECTION PLAN CALLOUT CONNECTION POINT OF NEW WORK TO EXISTING 1 DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL

FP1 NUMBER LOWER NUMBER INDICATES SHEET NUMBER

SECTION CUT DESIGNATION **ABBREVIATIONS** AFF ABOVE FINISHED FLOOR NOT IN CONTRACT AFG ABOVE FINISHED GRADE OC ON CENTER CD CANDELA POST INDICATOR VALVE PROVIDE FURNISH AND INSTALL DUCTILE IRON DI PRESSURE REDUCING VALVE ESFR EARLY SUPPRESSION PRV FAST RESPONSE RD RETURN DUCT ETR EXISTING TO REMAIN REV REVISION FHC FIRE HOSE CABINET SUPPLY DUCT FIRE PROTECTION SQUARE FEET CONTRACTOR **TYPICAL** UNDERWRITERS JUNCTION BOX LABORATORIES, INC. UNLESS NOTED OTHERWISE MAXIMUM MINIMUM VOLT(S) NOT APPLICABLE WEATHERPROOF

#### WATER SUPPLY INFORMATION:

WATER SUPPLY INFORMATION IS NOT AVAILABLE AT THIS TIME. CONTRACTOR SHALL OBTAIN CURRENT WATER SUPPLY INFORMATION PRIOR TO BID SUBMITTAL.

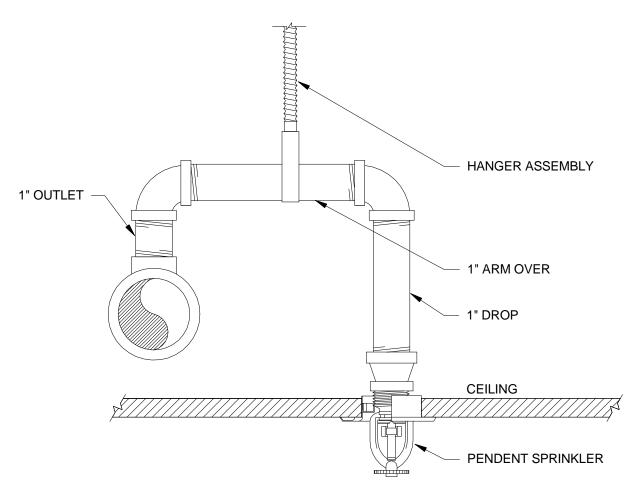


RISER DIAGRAM IS SCHEMATIC IN NATURE. NOT ALL DEVICES ARE SHOWN. REFER TO PLANS FOR EQUIPMENT QUANTITIES AND LOCATIONS.

DUCT DETECTORS MAY HAVE INTEGRAL RELAYS FOR AIR HANDLING UNIT SHUT-DOWN AND FIRE/SMOKE DAMPER CONTROL. WIRING FOR THIS FUNCTION HAS NOT BEEN SHOWN. COORDINATE WITH MECHANICAL SYSTEM INSTALLER.

REFER TO PLANS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

# FIRE ALARM RISER DIAGRAM - ADDRESSABLE SYSTEM



PROVIDE HANGER ASSEMBLY THAT PREVENTS UPWARD MOVEMENT OF THE PIPE WHEN ARMOVER LENGTH EXCEEDS 12-INCHES AND SYSTEM STATIC PRESSURE AT THE SPRINKLER EXCEEDS 100 PSI. PROVIDE HANGER WHEN ARMOVER LENGTH EXCEEDS 24-INCHES AND SYSTEM STATIC PRESSURE AT THE SPRINKLER DOES NOT EXCEED 100 PSI

PENDENT SPRINKLER

ARRANGEMENT SHOWN IS SCHEMATIC. MODIFY TO SUIT CONDITIONS AND MEET

APPLICABLE CODE REQUIREMENTS.



SEQUENCE OF OPERATIONS INDICATED IS SCHEMATIC. MODIFY TO SUIT CONDITIONS

SYSTEM INPUTS

FIRE DEPARTMENT KEY BOX VALVE TAMPER SWITCH (KNOX BOX

SIGNALING LINE OR NOTIFICATION APPLIANCE CIRCUIT - OPEN

SIGNALING LINE OR NOTIFICATION APPLIANCE CIRCUIT - SHORT

SIGNALING LINE OR NOTIFICATION APPLIANCE CIRCUIT - GROUND

AND MEET APPLICABLE CODE REQUIREMENTS.

MANUAL PULL STATION

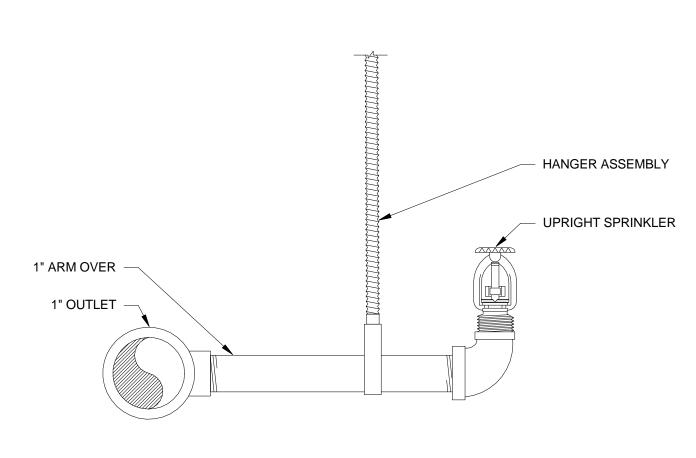
VALVE TAMPER SWITCH

KITCHEN HOOD SYSTEM

SMOKE DETECTOR - SPOT TYPE

WATERFLOW ALARM SWITCH

SMOKE DETECTOR - DUCT MOUNTED



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AB C DEF

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PROVIDE HANGER WHEN ARMOVER LENGTH EXCEEDS 24 INCHES. ARRANGEMENT SHOWN IS SCHEMATIC. MODIFY TO SUIT CONDITIONS AND MEET APPLICABLE CODE REQUIREMENTS.

UPRIGHT SPRINKLER

#### SUPPLY FROM WET SUPPLY FROM WET PIPE SPRINKLER SYSTEM PIPE SPRINKLER SYSTEM 1" DRY OPEN-CELL SPRINKLER DROP 1" DRY SPRINKLER DROP POLYETHYLENE -FOAM BACKER ROD **DOW CORNING 739** PLASTIC ADHESIVE FREEZER/COOLER FREEZER/COOLER CEILING CEILING SPRINKLER CUP SPRINKLER CUP

CONCEALED 200°F DRY

PENDENT SPRINKLER

OPTION "A" INSTALLATION PROCEDURE

CORE DRILL 2 1/2" DIAMETER HOLE IN THE FREEZER/COOLER INSULATED

CEILING PANEL. LOCATE HOLE AND REQUIRED SPRINKLER PROTECTION

INSTALL DRY PENDENT SPRINKLER PER MANUFACTURERS INSTALLATION

I. INJECT DOW CORNING 739 PLASTIC ADHESIVE SEALANT INTO AND AROUND THE TOP OF THE FREEZER/COOLER CEILING CORE OPENING IN ACCORDANCE

2 1/2"

COMPLETELY FILL ANNULAR CEILING OPENING BETWEEN THE ESCUTCHEON AND

TOP OF CEILING PANEL WITH OPEN-CELL POLYETHYLENE FOAM BACKER ROD.

IN ACCORDANCE WITH NFPA 13 OBSTRUCTION CRITERIA (SSP TYPE

SPRINKLERS). MAINTAIN 6" CLEARANCE FROM COOLER SEAMS.

EXPANDED FOAM IS NOT PERMITTED.

COVER PLATE

WITH SEALANT MANUFACTURERS INSTRUCTIONS

NOTE: CONTRACTOR TO SEAL DRY PENDENT SPRINKLERS AT FREEZER/COOLER USING ONE OF THE OPTIONS ABOVE.

COVER PLATE

FREEZER-COOLER DRY PENDENT SPRINKLER

TYPICAL PIPE HANGER

REFERENCE PLAN FOR PIPING CONTINUATION

**INTERMEDIATE** 

LEVEL WATER

**PENDENT** 

6 COMPACTOR SPRINKLER

**SPRINKLER** 

WITH HEAD

TRASH CHUTE OPENING

OPTION "B" INSTALLATION PROCEDURE

CORE DRILL 2 1/2" DIAMETER HOLE IN THE FREEZER/COOLER INSULATED

CEILING PANEL FROM BELOW. LOCATE HOLE AND REQUIRED SPRINKLER

TYPE SPRINKLERS). MAINTAIN 6" CLEARANCE FROM COOLER SEAMS.

REQUIREMENTS. INSERT BOOT PRIOR TO MAKE-UP WITH PIPING.

4. APPLY STRAP TIES ON BOOT AROUND DRY SPRINKLER BARREL PER

ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.

MANUFACTURERS INSTRUCTIONS.

. COMPLETELY SEAL INTERFACE BETWEEN BOOT FLANGE AND TOP OF

FREEZER/COOLER PANEL WITH ADHESIVE PROVIDED WITH BOOT IN

2 1/2"

OPTION B

PROTECTION IN ACCORDANCE WITH NFPA 13 OBSTRUCTION CRITERIA (SSP

INSTALL TYCO DRY PENDENT SPRINKLER PER MANUFACTURERS INSTALLATION

TEE WITH PLUG

2 NYLON STRAP TIES

TYCO RUBBER SEAL

**BOOT MODEL DSB-2** 

SEALANT PER BOOT

CONCEALED 200°F DRY

PENDENT SPRINKLER

MANUFACTURER

(INSTALL OPPOSITE DIRECTIONS)

SYMBOLS, NOTES 8

**FIRE PROTECTION** 

Document date

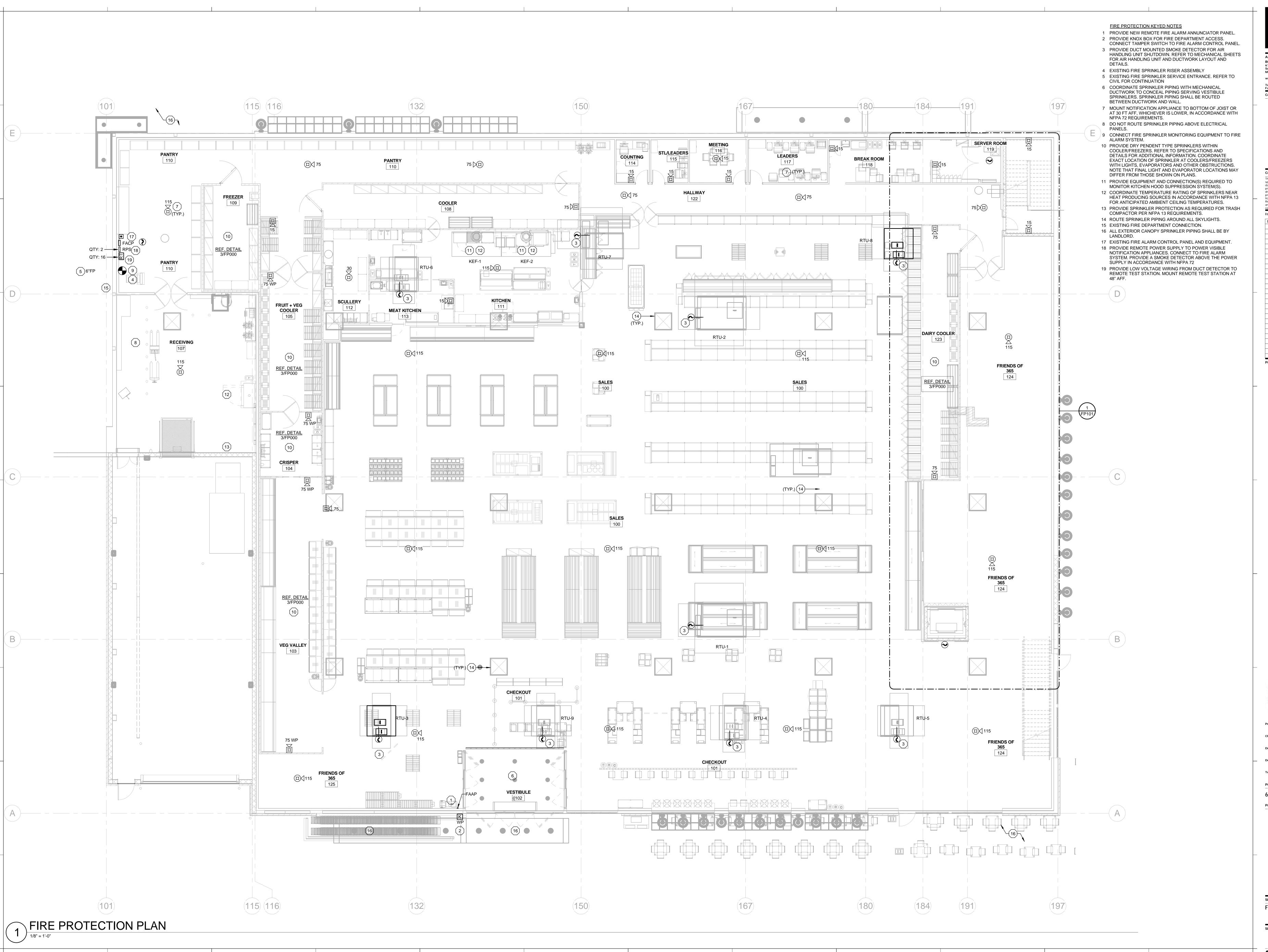
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62911019

Professional Seal



brr

Architect of Record:
BOYD W. RAU
6700 Antioch Plaza
Suite 300
Merriam, KS 66204
www.brrarch.com
Tel: 913-262-9095
Fax: 913-262-9044
Consultants



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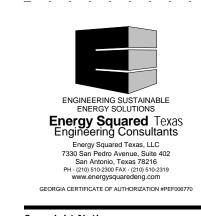
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<u>03/06/2018</u> Sheet Title

FP100

Architect of Record: BOYD W. RAU 6700 Antioch Plaza Suite 300 Merriam, KS 66204 www.brrarch.com Tel: 913-262-9095 Fax: 913-262-9044 Consultants



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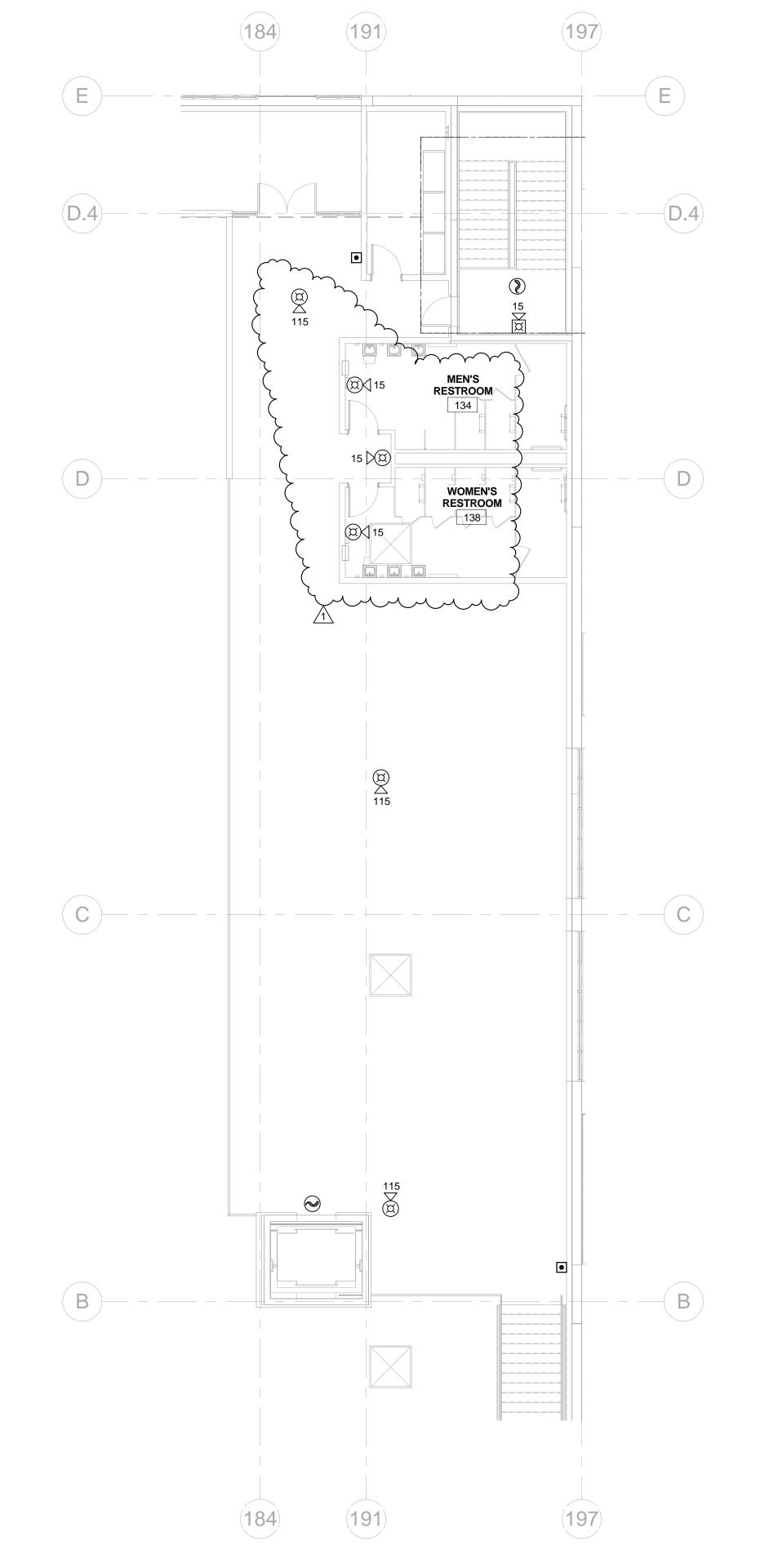
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DECATUR, GA
1555 CHURCH STREET, DECATUR, GA 30030 365 BY

Project No. _____

FIRE PROTECTION PLAN - MEZZANINE



# CO2 REFRIGERANT NOTES

1. COLEMAN GRADE CO2 (99.99% PURITY) IS TO BE USED.

FROM THE SYSTEM.

- 2. INTRODUCTION OF LOWER-GRADE CO2 WITH PURITY LEVELS LESS THAN THOSE OF COLEMAN GRADE IS NOT RECOMMENDED DUE TO HIGHER MOISTURE CONTENT AND SHOULD ONLY BE DONE IN EMERGENCY SITUATIONS.
- 3. USE OF LOWER-GRADE CO2 MAY RESULT IN DECREASED SYSTEM PERFORMANCE AND REQUIRE SPECIFIC PROCEDURES TO PURGE NON-CONDENSABLE GASES
- CO2 IS AVAILABLE IN BOTH LIQUID AND VAPOR FORM IN A VARIETY OF CYLINDER SIZES. USE ONLY HIGH PRESSURE CYLINDERS FOR THIS APPLICATION. THE MOST COMMON TYPES OF CO2 CYLINDERS ARE LISTED BELOW:

   a) HIGH-PRESSURE VAPOR CYLINDER, 50 LBS. OF CO2
   b) HIGH-PRESSURE LIQUID CYLINDER, 50 LBS. OF CO2
   c) LOW-PRESSURE LIQUID/VAPOR CYLINDER, 200 LBS. OF CO2 (THIS TYPE IS

NOT APPLICABLE FOR USE WITH ADVANSOR SYSTEMS)

- 5. BREAKING THE VACUUM AND INITIAL SYSTEM PRESSURIZATION MUST BE PERFORMED USING VAPOR. FIELD EXPERIENCE HAS SHOWN THAT ONCE THIS HAS BEEN COMPLETED, THE REMAINDER OF THE CHARGING SHOULD BE PERFORMED USING HIGH-PRESSURE LIQUID TANKS.
- 6. SOME CO2 GAS SUPPLIERS OFFER A "CAP-CHARGE" OF HELIUM OR OTHER INERT GASES FOR LIQUID CYLINDERS WHICH INCREASES TANK PRESSURE IN ORDER TO SPEED THE CHARGING PROCESS. DO NOT ACCEPT ANY CYLINDERS WITH THIS CAP-CHARGE. USE ONLY CYLINDERS THAT ARE PURE CO2. USE OF CYLINDERS WITH A CAP-CHARGE IS LIKELY TO INTRODUCE LARGE AMOUNTS OF NON-CONDENSABLE GAS, RENDER THE SYSTEM INOPERABLE, AND REQUIRE PURGING, EVACUATION, AND RECHARGING OF THE ENTIRE SYSTEM.
- 7. TO DETERMINE IF A CYLINDER HAS A CAP-CHARGE, MEASURE THE TANK PRESSURE USING A REGULATOR AND COMPARE THIS WITH THE SATURATION PRESSURE AT THE APPROXIMATE STORAGE TEMPERATURE OF THE TANKS. TANKS WITH A CAP-CHARGE WILL HAVE A PRESSURE HIGHER THAN THE SATURATION PRESSURE.

# NEW REFRIGERATION SYSTEM COMPONENT NOTES:

1. THE FOLLOWING EQUIPMENT AND COMPONENTS ARE TO BE FURNISHED BY 365, INSTALLED BY THE REFRIGERATION CONTRACTOR (EQUIPMENT FURNISHED BY 365 AS A PART OF THE REFRIGERATION EQUIPMENT PACKAGE):

COMPRESSOR RACKS
CONDENSERS

EVAPORATOR COILS

REFRIGERATED CASES FURNISHED WITH SPORLAN ELECTRONIC EXPANSION VALVES

REFRIGERATION VALVES (EX: TXV, LLSV, EPR, EEPR, COIL

ISOLATION VALVES, CONDENSER SPLIT VALVES, CONDENSER PUMP- OUT VALVES, ETC.)

EVAPORATOR COIL/CASE TEMPERATURE SENSORS (TO BE

INSTALLED BY DIVISION 26), REFER TO LECTRICAL/REFRIGERATION ENERGY MANAGEMENT DRAWINGS.

PRESSURE TRANSDUCERS AND TEMPERATURE SENSORS FOR

REFRIGERATED CASES

THE FOLLOWING EQUIPMENT AND COMPONENTS ARE TO BE FURNISHED

AND INSTALLED BY THE REFRIGERATION CONTRACTOR (BUT NOT LIMITED TO):

REFRIGERANT PIPING
INSULATION

SUB-LOOP ISOLATION VALVES

HANGERS AND SUPPORTS

CONDENSER CONTROL

COMPRESSOR OIL

CONDENSATE PIPING

REFRIGERATION TUNNELS

## **GENERAL REFRIGERATION NOTES**

- 1. PRIOR TO SUBMITTING THE BID, REVIEW THE COMPLETE SET OF PLANS AND SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
- 2. COORDINATE THE INSTALLATION OF THE REFRIGERATION SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSTALLATION. INSTALL PIPING AS TIGHT TO STRUCTURE AS POSSIBLE, COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS. COORDINATE INSTALLATION OF PIPING TO AVOID CONFLICTS WITH DUCTWORK, ELECTRICAL PANELS, LIGHTING FIXTURES, ETC. ANY MODIFICATIONS REQUIRED DUE TO LACK OF COORDINATION WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO EXTRA COST TO THE OWNER.
- AVOID DAMAGING FINISHED SURFACES AND EQUIPMENT DURING CONSTRUCTION. REPAIR DAMAGE CAUSED DURING CONSTRUCTION AT NO ADDITIONAL COST TO OWNER.
- 4. ALL REFRIGERATION EQUIPMENT SHOWN ON THE MECHANICAL PLANS SHALL BE PROVIDED BY THE DIVISION 23 CONTRACTOR UNLESS OTHERWISE
- 5. REFRIGERATION EQUIPMENT AND PIPING ARE SHOWN AT APPROXIMATE LOCATIONS. FIELD MEASURE FINAL PIPING LOCATIONS PRIOR TO FABRICATION AND MAKE ADJUSTMENTS AS REQUIRED TO FIT PIPING WITHIN AVAILABLE SPACE ALLOWED. VERIFY EQUIPMENT LOCATIONS MEET MANUFACTURER'S RECOMMENDATIONS REGARDING SERVICE CLEARANCE
- 6. REFER TO ARCHITECTURAL DRAWINGS FOR RELATED CONSTRUCTION DETAILS AS APPLICABLE TO THE REFRIGERATION. VERIFY CHASES AND PENETRATIONS SHOWN ON ARCHITECTURAL DRAWINGS THAT ARE INTENDED FOR PIPING.

AND PROPER AIRFLOW CLEARANCE AROUND EQUIPMENT.

- 7. GENERAL CONTRACTOR TO PROVIDE FURRING AROUND REFRIGERATION PIPING FROM FLOOR TO CEILING WHERE EXPOSED TO CUSTOMER VIEW.
- 8. ROUTE ALL UTILITY SERVICE LINES (PIPES AND CONDUIT) WITHIN STUD WALLS WHEREVER POSSIBLE. ON COOLER/FREEZER PANELS IN FOOD PREP AREAS WHERE UTILITIES MUST BE EXPOSED, CONTRACTOR TO HAVE THE OPTION OF THE FOLLOWING:
- 8A. SURFACE MOUNT UTILITIES WITH NON-CORROSIVE ANCHORS; SEAL BOTH SIDES OF PIPE/CONDUIT TO PANEL CONTINUOUSLY WITH SEALANT.
- 8B. INSTALL UTILITIES 1/2" OFF FACE OF PANEL TO ALLOW FOR CLEANING; USE ONLY NON-CORROSIVE MATERIALS FOR SPACERS AND ANCHORS.
- 8C. COVER UTILITIES WITH 20 GAUGE STAINLESS STEEL BENT PLATES MOUNTED TO WALL WITH NON-CORROSIVE ANCHORS; APPLY CONTINUOUS
- SEALANT ALONG EDGES AND JOINTS.
  9. COORDINATE LOCATION OF ROOF MOUNTED REFRIGERATION EQUIPMENT WITH OTHER EQUIPMENT, ROOF PENETRATIONS, AND ARCHITECTURAL AND
- 10. INSTALL REFRIGERANT PIPING PARALLEL TO BUILDING COLUMN LINES UNLESS OTHERWISE SHOWN OR NOTED.

STRUCTURAL DRAWINGS.

- 11. OVERHEAD HANGERS AND SUPPORTS FOR EQUIPMENT, ACCESSORIES, AND PIPING SHALL BE FASTENED TO BUILDING JOISTS OR BEAMS. DO NOT ATTACH HANGERS AND SUPPORTS TO THE ABOVE FLOOR SLAB OR ROOF.
- 12. COORDINATE LOCATION OF EQUIPMENT SUPPORTS WITH LOCATION OF EQUIPMENT ACCESS PANELS/DOORS TO ENABLE SERVICE OF EQUIPMENT AND/OR FILTER REPLACEMENT.
- 13. SEAL PENETRATIONS THROUGH THE BUILDING COMPONENTS IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. FIREPROOF PENETRATIONS THROUGH FIRE RATED COMPONENTS IN ACCORDANCE WITH U.L. REQUIREMENTS.
- 14. PIPING CROSSING FIRE RATED WALLS OR OTHER FIRE RATED ASSEMBLIES SHALL BE ENCLOSED IN 26 GAUGE SHEET METAL MINIMUM.
- 15. PROVIDE ACCESS PANELS FOR REFRIGERANT VALVING OR ACCESSORIES IN WALLS OR CEILINGS AS REQUIRED.
- 16. SLOPE REFRIGERANT LINES DOWN TOWARD COMPRESSORS AT 1" PER 20 FT. LOCATE HIGHEST POINT OF REFRIGERANT LINES JUST BELOW ROOF
- DECK OVER EVAPORATOR SERVED. ROUTE PIPING THROUGH WEBS IN JOISTS AND GIRDERS. COORDINATE WITH HVAC, LIGHTING, AND FIRE PROTECTION.
- 17. ALL VERTICAL SUCTION LINES MUST HAVE A SHORT RADIUS SUCTION LINE TRAP AT THE BASE OF THE RISER. PROVIDE AN INVERTED P-TRAP AT THE TOP OF ALL RISERS. REFER TO REFRIGERATION PIPING SCHEDULES FOR SIZES ON ALL RISERS.
- 18. SUCTION BASE P-TRAPS TO BE SAME SIZE AS HORIZONTAL RUNS. REDUCE AT THE TOP SIDE OF BASE P-TRAP. INTERMEDIATE AND INVERTED P-TRAPS SHOULD BE SAME SIZE AS REDUCED RISER.
- 19. FOR RISERS OVER 16'-0" INSTALL AN INTERMEDIATE SUCTION TRAP OUT OF CUSTOMER VIEW NEAR MIDPOINT OF RISER.
- 20. INSTALL A FULL PORT ISOLATION BALL VALVE UPSTREAM OF LIQUID LINE SOLENOID VALVE WITH BYPASS CHECK FOR EACH REFRIGERATION CIRCUIT.
- 21. LIQUID LINE SOLENOID AND FULL PORT ISOLATION BALL VALVES INSTALLED ON TOP OF WALK-IN WITH BYPASS CHECK SHALL BE INSULATED.
- 22. COORDINATE WALL AND/OR ROOF OPENINGS FOR REFRIGERATION LINES WITH ARCHITECTURAL AND STRUCTURAL.
- 23. PROVIDE DRAIN LINE FROM EACH CASE DRAIN SAME SIZE AS CASE OUTLET TO FLOOR DRAIN. TERMINATE WITH AIR GAP. REFER TO PLUMBING PLANS FOR DRAIN LOCATIONS.
- 24. INSTALL REFRIGERATION PIPING OVERHEAD WHERE POSSIBLE UNLESS OTHERWISE NOTED ON PLAN.
- 25. DO NOT INSTALL PIPING DIRECTLY UNDER SKYLIGHT WELLS, ABOVE ELECTRICAL PANELS, OR WITHIN COOLER/FREEZER PANELS.
- 26. EMS CONTRACTOR SHALL INSTALL OWNER FURNISHED LEAK DETECTION SYSTEM. DIVISION 23M SHALL INSTALL PARASENSE FURNISHED PIPING TEE AND PRESSURE TRANSDUCER TO SUCTION AND DISCHARGE HEADERS FOR LEAK DETECTION SYSTEM. COORDINATE LEAK DETECTION SYSTEM WITH EMS CONTRACTOR.
- 27. EMS CONTRACTOR TO SET ALL LOOSE REFRIGERATION EVAPORATOR COIL
- 28. EMS CONTRACTOR SHALL SET ALL REFRIGERATION EVAPORATOR COIL SENSORS OR THERMOSTATS AT LOCATIONS ON PLANS.
- 29. REFRIGERATION CONTRACTOR RESPONSIBLE FOR FINAL RACK CONTROLLER LABELING AND PROGRAMMING PER PARAMETERS ON REFRIGERATION SCHEDULES.
- 30. PROVIDE AND INSTALL CIRCUIT IDENTIFICATION TAGS FOR ALL CASE AND WALK-IN CIRCUITS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION
- 31. REFRIGERATION CONTRACTOR SHALL FURNISH AND INSTALL ALI CONDENSATE DRAINAGE PIPING FROM REFRIGERATION SYSTEM FREEZER AND COOLER EVAPORATOR UNITS TO FLOOR DRAINS WHERE INDICATED ON DRAWINGS. PROVIDE CLEANOUTS AT ALL MAJOR CHANGE OF DIRECTION IN PIPING SYSTEMS, PIPE HANGERS, AND FITTINGS AS REQUIRED FOR A COMPLETE DRAIN SYSTEM INSTALLATION. MINIMUM SIZE OF PIPING SHALL BE 3/4" COPPER TUBING. CONNECTIONS MADE AT EVAPORATOR UNIT SHALL BE INCREASED AS MULTIPLE EVAPORATORS ARE ADDED TO CONDENSATE MAIN. INSTALL ALL DRAINAGE PIPING HIGH AS POSSIBLE, WHILE MAINTAINING A PROPER FALL OF 1/8" PER 1'-0" MINIMUM. INSTALL DRAIN PIPING DOWN EXTERIOR FACE OF FREEZER OR COOLER BOX WALL TO CONDENSATE DRAIN WITH FUNNEL. TERMINATE PIPING OVER FLOOR RIM OF FUNNEL WITH CODE APPROVED AIR GAP. REFRIGERATION CONTRACTOR SHALL FURNISH AND INSTALL HEAT TRACE ON ALL INTERIOR FREEZER STORAGE CONDENSATE PIPING. ALL FREEZER/COOLER CASE CONDENSATION PIPING SHALL HAVE PIPING INSULATION INSTALLED BY REFRIGERATION CONTRACTOR. ALL PIPE PENETRATIONS THROUGH REFRIGERATED PANEL WALLS SHALL BE SEALED AIRTIGHT. ANY EVAPORATOR DRAIN SYSTEM NOT MEETING THESE REQUIREMENTS UPON FINAL INSPECTION SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE WITH NO EXTRA COST TO OWNER.
- 32. REFRIGERATION CONTRACTOR SHALL FURNISH AND INSTALL ALL UNDERFLOOR REFRIGERATION PVC TUBES. INSTALL 8" PVC FOR SINGLE REFRIGERATION LINES AND 12" PVC FOR MULTIPLE REFRIGERATION LINES. COORDINATE WITH PLUMBING CONTRACTOR. PLUMBING CONTRACTOR SHALL TRENCH AND BACKFILL REFRIGERATION TUNNELS. REFER TO SPECIFICATIONS FOR MATERIAL AND INSTALLATION REQUIREMENTS. COORDINATE TO AVOID CONFLICTS WITH ALL OTHER TRADES' BELOW SLAB

WORK. COORDINATE LOCATIONS WITH FINAL FIXTURE PLANS.

33. REFER TO DIVISION 20 SPECIFICATIONS FOR SEISMIC REQUIREMENTS.

REFRIGERATION SYMBOLS ELBOW - TURNED DOWN  $\bigcirc$ ELBOW - TURNED UP ISOLATION VALVE LOAD DESIGNATION EXAMPLE — A01— LOOP DESIGNATION EXAMPLE —— 1A —— REFRIGERATION PIPE FLOOR OR _ _ _ _ _ _ UNDERSLAB LEVEL —— CD— CONDENSATE PIPING CONDENSATE PIPING _ _ _ WALK-IN EVAPORATOR COIL ANNOTATION CIRCUIT DESIGNATION AND MODEL NUMBER EXAMPLE REFRIGERATION PLAN NOTE CALLOUT DETAIL REFERENCE - UPPER NUMBER INDICATES DETAIL NUMBER LOWER NUMBER INDICATES SHEET NUMBER

ABE	BREVIATIONS
BV CD CO DT EEPR EEV EOR EPR EX HR LLSV LSHX LT MFR MT OEM REF SIM TXV TYP WI	ELECTRONIC EXPANSION VALVE ENGINEER OF RECORD EVAPORATOR PRESSURE REGULATOR FOR EXAMPLE HEAT RECLAIM LIQUID LINE SOLENOID VALVE

# REFRIGERATION CONDENSATE PIPE HEAT TAPE

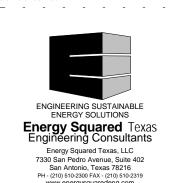
REFRIGERATION CONTRACTOR TO PROVIDE SELF-REGULATING HEAT TAPE ON CONDENSATE PIPING IN COOLERS AND FREEZERS THAT MAINTAIN A TEMPERATURE OF LESS THAN 33 DEGREES FAHRENHEIT AS SHOWN. INSTALL HEAT TAPE ACCORDING TO MANUFACTURERS INSTRUCTIONS INCLUDING BUT NOT LIMITED TO LENGTH OF HEAT TAPE, ATTACHMENT OF HEAT TAPE TO CONDENSATE PIPING, AND POWER CONNECTIONS.

120V INPUT, 5 WATTS PER LINEAR FOOT, POLYOLEFIN JACKET

MANUFACTURERMODEL NUMBERRAYCHEM (TYCO THERMAL)<br/>DELTA-THERM CORPXL-TRACE SERIES<br/>C0 SERIES

brr

Architect of Record:
BOYD W. RAU
6700 Antioch Plaza
Suite 300
Merriam, KS 66204
www.brrarch.com
Tel: 913-262-9095
Fax: 913-262-9044
Consultants



PH - (210) 510-2300 FAX - (210) 510-2319
www.energysquaredeng.com
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03/06/2018

Sheet Title
REFRIGERATION

SYMBOLS & NOTES

Sheet No.

BRR Original printed on recycled pape

SEISMIC CONTROLS FOR MEPF SYSTEMS:

SEISMIC PROTECTION CRITERIA:
RISK/OCCUPANCY CATEGORY:
SITE SOIL CATEGORY:

SEISMIC DESIGN CATEGORY:

I, II, OR III CONTRACTOR'S SEISMIC ENGINEER TO DETERMINE D

COMPONENT IMPORTANCE FACTOR: DETERMINED FROM ASCE 7-2010

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE REQUIREMENTS FOR SEISMIC BRACING OF MECHANICAL, ELECTRICAL, AND PLUMBING SYSTEMS. SEISMIC PROTECTION CRITERIA USED TO DETERMINE SEISMIC BRACING REQUIREMENTS OF ALL MECHANICAL, ELECTRICAL AND PLUMBING SYSTEMS SHALL BE DETERMINED BY THE APPLICABLE CODE ADOPTED IN THE PROJECT JURISDICTION. WHERE NOT ALREADY DETERMINED WITHIN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTRACTING A LICENSED PROFESSIONAL ENGINEER TO ESTABLISH BUILDING SITE CLASS, SEISMIC DESIGN CATEGORY, SEISMIC ZONE OR ANY OTHER CRITERIA NECESSARY TO DETERMINE THE REQUIREMENTS FOR SEISMIC BRACING ON MECHANICAL, ELECTRICAL AND/OR PLUMBING SYSTEMS.

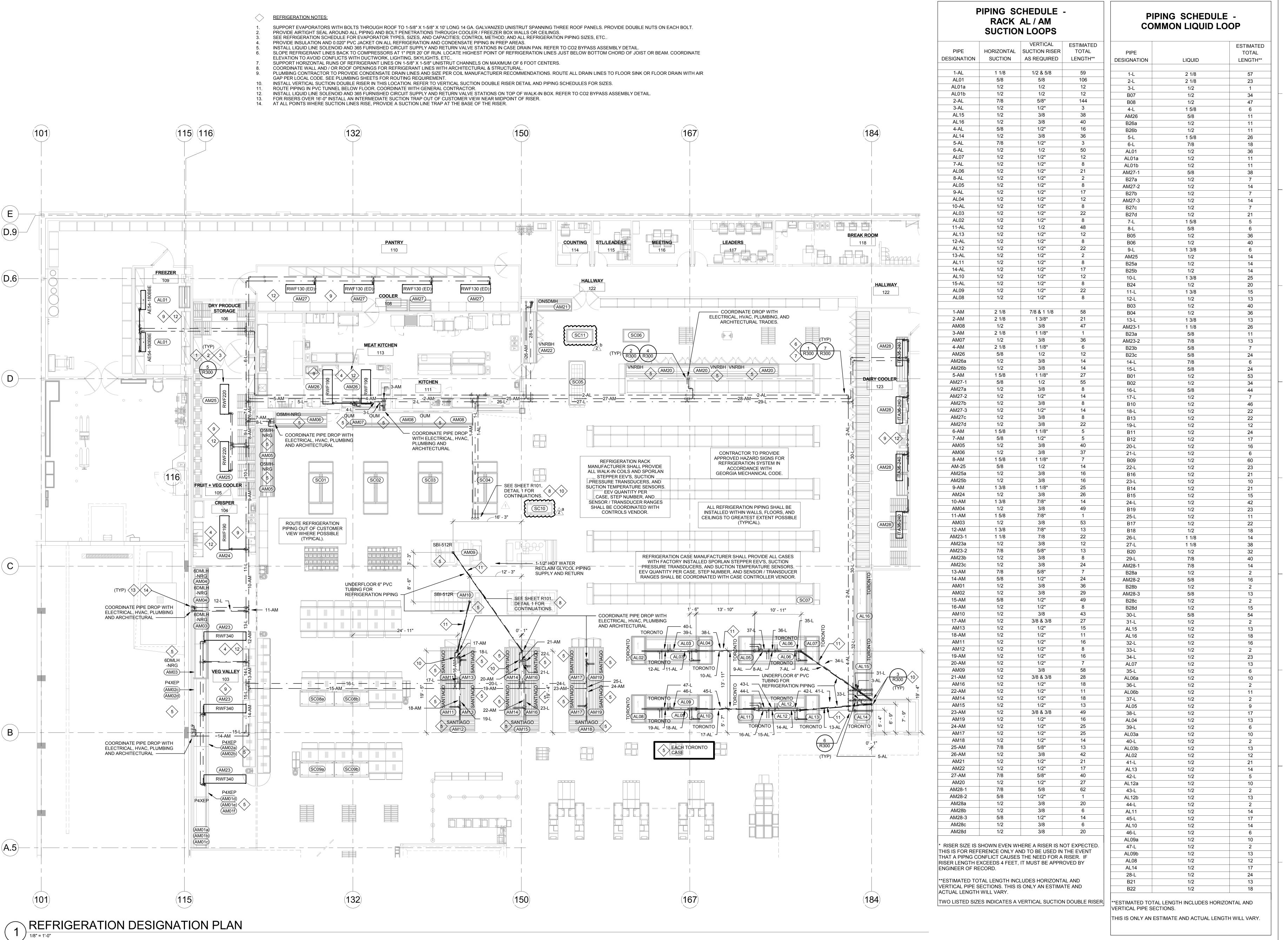
SEISMIC BRACING OF FIRE PROTECTION SYSTEMS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE PROVISIONS OF NFPA 13 (2010 OR LATER EDITION).

THE CONTRACTOR SHALL DETERMINE THE TYPE AND LOCATION OF SEISMIC BRACING REQUIRED FOR THE MECHANICAL ELECTRICAL AND PLUMBING ELEMENTS SHOWN ON THE DRAWINGS BASED ON THE ESTABLISHED SEISMIC CRITERIA, THE SIZE AND WEIGHT OF THE SUPPORTED ELEMENT AND THE DISTANCE FROM STRUCTURE OF THE SUPPORTED ELEMENT.

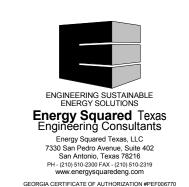
THE CONTRACTOR SHALL SUBMIT THE FOLLOWING SHOP DRAWING INFORMATION TO THE AUTHORITY HAVING JURISDICTION AND THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL: (1) SEISMIC ANALYSIS LISTING ALL APPLICABLE SEISMIC DESIGN CRITERIA (2) DESCRIPTIVE CATALOG DATA OF SEISMIC BRACING MATERIALS, (3) SHOP DRAWINGS SHOWING BRACING TYPE AND LOCATION, (4) INSTALLATION DETAILS OF ALL BRACING USED AND (5) CALCULATIONS SHOWING THAT THE SEISMIC RESTRAINTS MEET THE SEISMIC REQUIREMENTS. SHOP DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER, LICENSED IN THE STATE OF THE PROJECT AND EMPLOYED BY THE MANUFACTURER OF THE SEISMIC BRACING PRODUCTS. CALCULATIONS SHALL INCLUDE DEAD LOADS, STATIC SEISMIC LOADS AND CAPACITY OF MATERIALS UTILIZED FOR CONNECTIONS.

SEISMIC BRACING, RESTRAINTS, ISOLATORS, AND ISOLATION MATERIALS SHALL BE OF THE SAME MANUFACTURER AND SHALL BE CERTIFIED BY THE MANUFACTURER. APPROVED MANUFACTURERS ARE:
AMBER/BOOTH COMPANY, INC., KINETICS NOISE CONTROL, INC., LOOS & COMPANY, INC., MASON INDUSTRIES, INC., UNI-STRUT, VIBRO-ACOUSTICS, OR B-LINE/TOLCO. EACH DEVICE SHALL HAVE A PRE-APPROVAL NUMBER FROM CALIFORNIA OSHPD OR OTHER RECOGNIZED GOVERNMENT AGENCY SHOWING MAXIMUM RESTRAINT RATINGS.

SEISMIC BRACING MEASURES TO BE APPLIED TO MECHANICAL/ELECTRICAL/PLUMBING EQUIPMENT AND SYSTEMS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND/OR FEDERAL CODES AS WELL AS MANUFACTURER'S REQUIREMENTS. THE MOST STRINGENT CRITERIA SHALL APPLY. ALL ANCHOR CONNECTIONS TO STRUCTURE FOR SUPPORT OF MECHANICAL AND ELECTRICAL EQUIPMENT, REGARDLESS OF THE NEED FOR SEISMIC RESTRAINTS, SHALL BE SHOWN ON SHOP DRAWINGS.



Architect of Record: BOYD W. RAU 6700 Antioch Plaza Suite 300 Merriam, KS 66204 www.brrarch.com Tel: 913-262-9095 Consultants



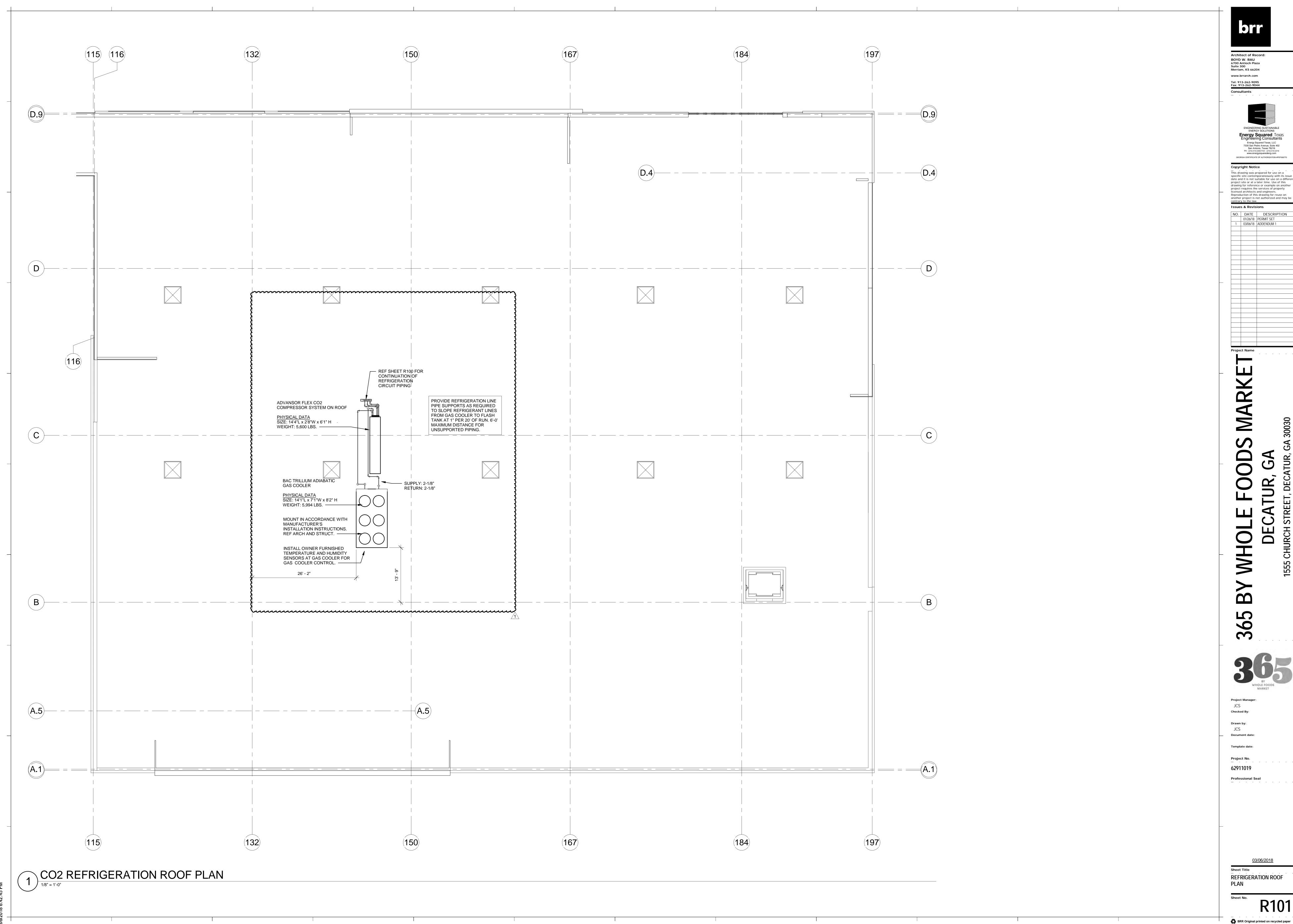
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NO. DATE DESCRIPTION 1 03/06/18 Addendum #1 2 05/21/18 Addendum #2

Project Manager: JCS

Document date Template date:

REFRIGERATION PLAN



BOYD W. RAU 6700 Antioch Plaza Suite 300 Merriam, KS 66204



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REFRIGERATION SCHEDULES

Sheet No.	F	?	2	0	(	)
	-	_	_	_	_	_

	COMPRESSOR UNIT DATA			_		REFRIGERATION CIRCUIT DATA						ACCESSORIES DATA					ELECTRIC	CAL DATA			CONDENSER DATA
UNIT ESIGNATIOI	N COMPRESSOR CAPACITY THR (MBH) KW COMP EER 460/3 (AMF		LINE-UP	CUTSHEET NUMBER	MANUFACTURER'S MODEL NUMBER	DESCRIPTION	REFRIG LOAD (MBh)	EVAP TEMP (°F)	DESIGN ROOM / DISCHARGE AIR TEMP (°F)	365 TEMPERATURE PARAMETERS (°F)		D TXV / DISTRIBUTOR NOZZLE  DX CONTROL VALVE  CONTROL	N REFRIG.	DEFROST TYPE	CONDENSAT LINE HEAT KT # TRACE REQUIREMEI	E FIXT. LIGHT AMPS PER CIRCUIT	EVAP. FAN AMPS PER CIRCUIT	ANTI-SWEAT HEATER AMPS PER CIRCUIT	DEFROST HEATER AMPS	MISCELLANEOUS AMPS	ADIABATIC GAS COOLERS FOR TRANSCRITICAL CO2 RACK SYSTEM 'AL / AM / AH'
																120V/1ph	(VOLTAGE INDICATED)	120V/1ph	(VOLTAGE INDICATED)	115V/1ph	
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	<b>S</b>						TR	ANSCRITICAL CO2	2 SYSTEM MOUN	TED IN ADVANS	OR FLEX ENCLOSURE									
	OR SYSTEM 'A' (LOW TEMPERATURE SUCTION GROUP 'AL')	_} ~~	AL' CIRCUITS		(0) DUOQELL AESA 400D	ODOGEDY (IOE ODEAM EDEEZED			40		40	OFNOOD	D744	FI FOTDIO /	1 04 VEO		5.0 @ 000/A/00		00 0 1 8 000/4/00		MANUEACTURED, DAI TIMORE AIR COIL
OUP #1	2HSL-3-4SU 36.30 44.01 2.3 1750 16.06 6.0	AL01 (26	6' x 14' x 10'	8-009		GROCERY / ICE CREAM FREEZER LOW TEMP COFFIN END	24.80	-20	-10 -12	-10	-13	SENSOR SENSOR	R744 R744	ELECTRIC /	L01 YES	0.1	5.0 @ 208/1/60 0.6 @ 120/1/60	1.2	39.2 A @ 208/1/60 5.61 A @ 208/1/60		MANUFACTURER: BALTIMORE AIR COIL MODEL: TVFC EC8023-Q810
A2	2HSL-3-4SU 36.30 44.08 2.3 1750 16.06 6.0	AL02	12 FT	8-010		LOW TEMP COFFIN ISLAND	4.74	-17	-12	-10		SENSOR	R744	ELECTRIC A	L03	0.1	1.8 @ 120/1/60	2.7	23.58 A @ 208/1/60		QUANTITY: (1)
712	21102 0 400	AL04	6 FT	8-009		LOW TEMP COFFIN END	1.41	-17	-12	-10		SENSOR		ELECTRIC A	L04	0.1	0.6 @ 120/1/60	1.2	5.61 A @ 208/1/60		OPERATION CAPACITY - 1,403.69 MBH
		AL05	6 FT	8-009		LOW TEMP COFFIN END	1.41	-17	-12	-10		SENSOR	R744		L05	0.1	0.6 @ 120/1/60	1.2	5.61 A @ 208/1/60		ACTUAL TD: 4.2°F
		AL06	12 FT	8-010	-	LOW TEMP COFFIN ISLAND	4.74	-17	-12	-10		SENSOR	R744		.L06	0.5	1.8 @ 120/1/60	2.7	23.58 A @ 208/1/60		FAN SPEED - VSEC
	TOTAL CAPACITY 72.60 88.09 4.5 12.) A L07	6 FT	8-009		LOW TEMP COFFIN END	1.41	-17	-12	-10		SENSOR	R744	ELECTRIC A	L07	0.1	0.6 @ 120/1/60	1.2	5.61 A @ 208/1/60		APPROXIMATE OPERATING WEIGHT - 5,994 LBS.
	PERCENT SPARE 0.05%	AL08	6 FT	8-009	ARNEG TORONTO	LOW TEMP COFFIN END	1.41	-17	-12	-10		SENSOR	R744	ELECTRIC A	L08	0.1	0.6 @ 120/1/60	1.2	5.61 A @ 208/1/60		APPROXIMATE DIMENSIONS - 14'-1" L x 7'-10" W x 8'
	TOTAL REQUIRED 69.22	AL09	12 FT	8-010	ARNEG TORONTO	LOW TEMP COFFIN ISLAND	4.74	-17	-12	-10		SENSOR	R744	ELECTRIC A	L09	0.5	1.8 @ 120/1/60	2.7	23.58 A @ 208/1/60		SINGLE POINT ELECTRICAL - 30.2A (FLA) @ 460/3/60
ENERAL IN	FORMATION	AL10	6 FT	8-009	ARNEG TORONTO	LOW TEMP COFFIN END	1.41	-17	-12	-10		SENSOR	R744	ELECTRIC A	L10	0.1	0.6 @ 120/1/60	1.2	5.61 A @ 208/1/60		tumumumumumumumumumumumumumumumumumumum
OTE: COMP	RESSOR 'AL1' TO BE CONTROLLED BY AN ECOSPEED VFD	AL11	6 FT	8-009	ARNEG TORONTO	LOW TEMP COFFIN END	1.41	-17	-12	-10		SENSOR	R744	ELECTRIC A	L11	0.1	0.6 @ 120/1/60	1.2	5.61 A @ 208/1/60		
ROUP #1:	> Tsuction = -22°F / Tcondensing = 21°F / Tliquid = 27.1°F / R-744	AL12	12 FT	8-010	ARNEG TORONTO	LOW TEMP COFFIN ISLAND	4.74	-17	-12	-10		SENSOR	R744	ELECTRIC A	L12	0.5	1.8 @ 120/1/60	2.7	23.58 A @ 208/1/60		
	S TEMPERATURE: 30°F	AL13	6 FT			LOW TEMP COFFIN END	1.41	-17	-12	-10		SENSOR	R744		L13	0.1	0.6 @ 120/1/60	1.2	5.61 A @ 208/1/60		_
ONTROL VO	DLTAGE: 120/1/60	AL14	12 FT			LOW TEMP COFFIN (AT FRIENDS OF 365)	4.74	-17	-12	-10		SENSOR	R744		L14	0.5	1.8 @ 120/1/60	2.7	23.58 A @ 208/1/60		-
		AL15	12 FT		1	LOW TEMP COFFIN (AT FRIENDS OF 365)	4.74	-17 	-12	-10		SENSOR			L15	0.5	1.8 @ 120/1/60	2.7	23.58 A @ 208/1/60		_
		AL16	12 FT	8-010	1	LOW TEMP COFFIN (AT FRIENDS OF 365)	4./4	-17	-12	-10		SENSOR	K744	ELECTRIC A	L16	0.5	1.8 @ 120/1/60	2.7	23.58 A @ 208/1/60		_
OMPRESSO	OR SYSTEM 'A' (MEDIUM TEMPERATURE SUCTION GROUP 'AM')	SYSTEM 'A	AM' CIRCUITS	<u> </u>		<u>/1</u> \															-
OUP #2	TROTOTEM A (MEDICIN TERM ERATORE GOOTION GROOT AM)	AM01	24 FT		HUSSMANN P4X-EP	WET RACK VEG & FRUIT MULTIDECK	29.74	28	31	36			R744	OFFTIME A	M01	1.4	3.6 @ 120/1/60				
	4CTC-30-2NU 276.40 389.79 33.0 1750 8.39 62.	-}	16 FT	1-017		WET RACK VEG & FRUIT MULTIDECK	19.82	28	31	36			R744		M02	0.9	2.4 @ 120/1/60				
AM2	4CTC-30-2NU 276.40 389.79 33.0 1750 8.39 62.	6 AM03	16 FT	1-001	HILLPHOENIX 6DMLH-NRO	PACKAGED FRUIT & VEG MULTIDECK	23.20	28	34				R744	OFFTIME A	M03	0.9	1.8 @ 120/1/60				
AM3	4CTC-30-2NU 276.40 389.79 33.0 1750 9.97 62.	6 AM04	10 FT	1-026 / 1-027	HILLPHOENIX 6DMLH-NRO	PACKAGED FRUIT & VEG MULTIDECK	14.50	28	34				R744	OFFTIME A	M04	0.5	1.1 @ 120/1/60				
		AM05	16 FT	2-008	HILLPHOENIX O5MH-NRG	MULTIDECK SEAFOOD	23.04	26	30				R744	OFFTIME A	M05	0.7	1.9 @ 120/1/60				
		AM06	12 FT	3-004	HILLPHOENIX O5MH-NRG	MULTIDECK MEAT	17.28	26	30				R744	OFFTIME A	M06	0.5	1.4 @ 120/1/60				
		AM07	6 FT	3-012	HILLPHOENIX OUM	SINGLE DECK MEAT	4.55	22	27				R744	OFFTIME A	M07	0.3	0.2 @ 120/1/60	0.2			
	TOTAL CAPACITY 829.20 1169.37 98.9 187	8 AM08	24 FT	3-007	HILLPHOENIX OUM	SINGLE DECK MEAT	18.19	22	27				R744	OFFTIME A	M08	1.1	0.6 @ 120/1/60	0.8			
	PERCENT SPARE 0.36%	AM09	12 FT			COLD BAR ISLAND W/ SODA	3.23	24	34				R744		M09	0.5	1.2 @ 120/1/60			20A RECEPT.	
	TOTAL REQUIRED 608.26	AM10	12 FT			COLD BAR ISLAND W/ PUMPS	7.25	24	34				R744		M10	0.7	2.2 @ 120/1/60			20A RECEPT.	
	FORMATION > Tsuction = 21°F / Tcondensing = 90°F / Tliquid = 35.0°F / R-744	AM11 AM12	16 FT 8 FT		ARNEG SANTIAGO ARNEG SANTIAGO	LOW PROFILE BEVERAGE LOW PROFILE BEVERAGE	5.28 2.64	29 29	32				R744		M11 M12	0.5	0.7 @ 120/1/60				
	PRESSOR 'AM1' TO BE CONTROLLED BY AN ECOSPEED VFD	AM13	16 FT		ARNEG SANTIAGO	LOW PROFILE BEVERAGE	5.28	29	32				R744		M13	1.0	0.7 @ 120/1/60				
712. 00W	REGGER 7 IIII TO BE GOTTINGEEED BY 7 III EGGG EED VI B	AM14	16 FT		ARNEG SANTIAGO	LOW PROFILE BEVERAGE	5.28	29	32				R744		M14	1.0	0.7 @ 120/1/60				
ETURN GAS	S TEMPERATURE: 61°F	AM15	8 FT	5-014	ARNEG SANTIAGO	LOW PROFILE BEVERAGE	2.64	29	32				R744		M15	0.5	0.3 @ 120/1/60				_
	DLTAGE: 120/1/60	AM16	16 FT	5-014	ARNEG SANTIAGO	LOW PROFILE BEVERAGE	5.28	29	32				R744	OFFTIME A	M16	1.0	0.7 @ 120/1/60				_
		AM17	16 FT	5-014	ARNEG SANTIAGO	LOW PROFILE BEVERAGE	5.28	29	32				R744	OFFTIME A	M17	1.0	0.7 @ 120/1/60				
·····		AM18	8 FT	5-014	ARNEG SANTIAGO	LOW PROFILE BEVERAGE	2.64	29	32				R744	OFFTIME A	M18	0.5	0.3 @ 120/1/60				
		AM19	16 FT	5-014	ARNEG SANTIAGO	LOW PROFILE BEVERAGE	5.28	29	32				R744	OFFTIME A	M19	1.0	0.7 @ 120/1/60				
		AM20	36 FT			MULTIDECK BEER AND WINE	15.55	34	38				R744	OFFTIME A	M20	1.8	2.0 @ 120/1/60	6.2			
		AM21	8 FT			CHILLED SPECIALTY	14.72	22	33				R744		M21	4.2	0.9 @ 120/1/60				
			12 FT	\		REACH-IN CHILLED SPECIALTY	5.18	34	38				R744		M22	0.6	0.7 @ 120/1/60	2.1			
		\$	7' x 15' x 10'	}		VEGETABLE VALLEY	157.00	45	60		60		R744		M23 NO		10.8 @ 120/1/60				_
			6' x 15' x 10' 4' x 15' x 10'	5	,	FRUIT & VEGETABLE COOLER	17.00 3 36.00	30 30	40		39		R744		M24 NO M25 NO		2.4 @ 120/1/60 4.8 @ 120/1/60				-
		\	8' x 10' x 10' x			OPEN MEAT KITCHEN	46.80	<u>30</u> <u>4</u> 0	55		52		R744		M25 NO M26 NO		4.8 @ 120/1/60				-
			2' x 11' x 10'		1	GROCERY COOLER	34.70	22	30	33	29	SENSOR	R744		M27 NO		3.6 @ 208/1/60		41.6 A @ 208/1/60		-
		—	3' x 13' x 10'	₹		DAIRY COOLER W/ 30 REACH-IN DOORS	80.90	25	35		33		R744	OFFTIME A	M28 NO		14.4 @ 120/1/60				-
		\	<u> </u>				88.09 1														1
																					7

- 1. SPORLAN SER ELECTRONIC EXPANSION VALVE AND MICRO-THERMO CASE CONTROLLER MOUNTED IN EACH CASE OR EVAPORATOR BY OEM.
- 2. REFRIGERATION EQUIPMENT MANUFACTURER TO FURNISH THERMASTOR HOT WATER RECLAIM TANK (TS-120-II-1) SHIPPED LOOSE FOR FIELD INSTALLATION BY REFRIGERATION INSTALLATION CONTRACTOR.
- 3. RESPECTIVE LOAD IS POWERED FROM THE RACK

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Project Name

JCS Drawn by: JCS

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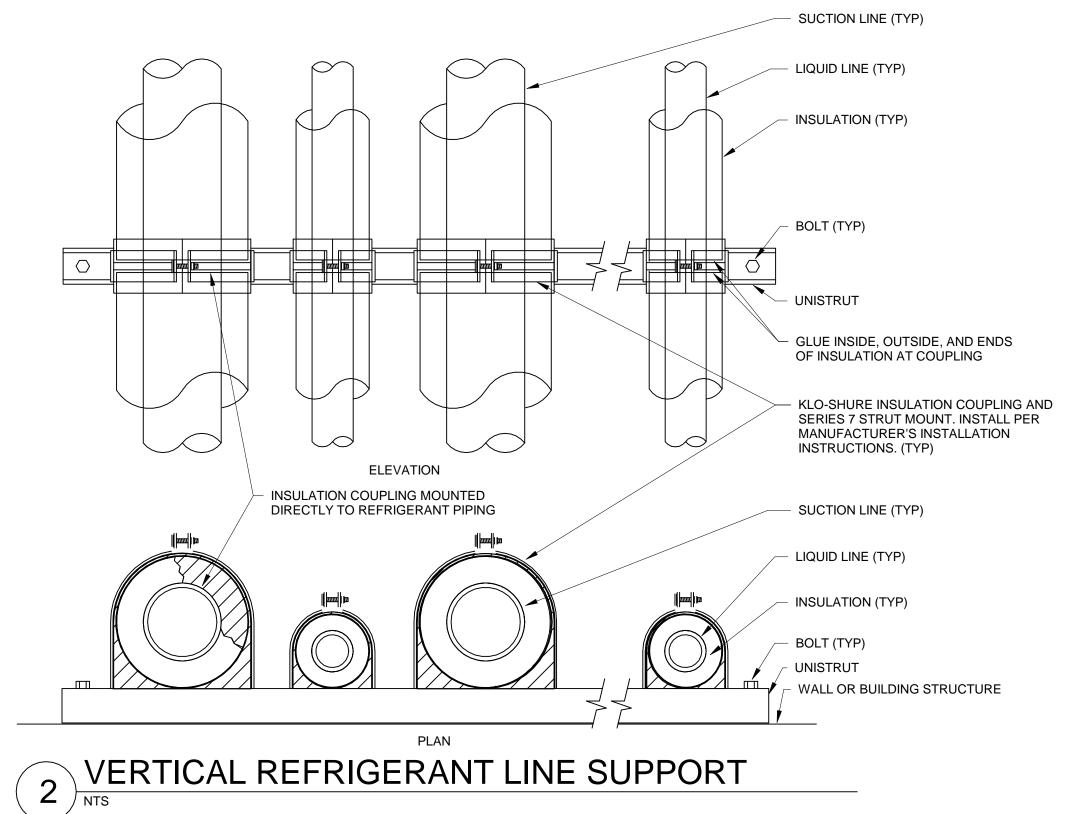
Professional Seal

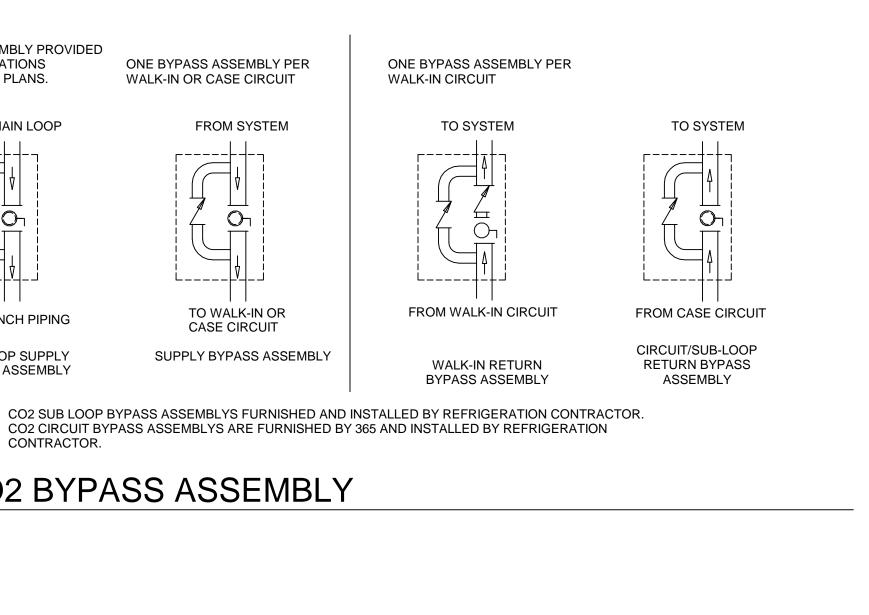
REFRIGERATION DETAILS

R300

PROVIDE 20 GAUGE SHEET METAL REFRIGERATION PIPING AND CONDUIT ENCLOSURE ON ALL SIDES OF ROOF PENETRATION PREMANUFACTURED METAL CURB AND EXPANDING FOAM (TYP) VERIFY EXACT LOCATION AND CONSTRUCTION WITH ARCHITECTURAL PLANS ROOF OPENING TO ACCOMMODATE BOTH REFRIGERATION PIPING AND ELECTRICAL CONDUIT EXPANDING FOAM ABOVE EXPANDED METALSCREEN. COORDINATE INSULATION WITH ELECTRICAL CONTRACTOR. PAINT FOAM TO MATCH STRUCTURE. -PIPE SUPPORT (TYP)

INSTALL SUPPLY VALVE STATION PER CIRCUIT, - INVERTED TRAP ON FURNISHED BY 365. REF CO2 VALVE STATIONS DETAIL. CO2 RETURN LINES. **REF CO2 PIPING** INSTALL SUPPLY SOLENOID VALVE PER CIRCUIT, DETAILS. FURNISHED BY 365. ELECTRICAL TERMINATIONS BY THE REFRIGERATION CONTRACTOR. —SUPPLY — — RETURN— SENSORS WILL BE INSTALLED BY EMS CONTRACTOR. REFRIGERATION CONTRACTOR TO PROVIDE TRANSDUCER ACCESS VALVE AND TEMPERATURE SENSOR WELL. SENSORS AND TRANSDUCER WILL BE INSTALL WALK-IN RETURN FURNISHED BY RACK OEM. TEMPERATURE SENSOR AND COPPER VALVE STATION PER CIRCUIT, TUBE SHALL BE WRAPPED WITH FOAM INSULATION TO MINIMIZE FURNISHED BY 365. REF CO2 AMBIENT TEMPERATURE EFFECTS. CLEAN COPPER PIPING AND VALVE STATIONS DETAIL. REMOVE ANY OXIDES AND DIRT AT INSTALLATION LOCATION. TOP OF BOX -SEAL AROUND PIPING AND BOLT PENETRATIONS THRU COOLER/FREEZER BOX WALLS OR CEILINGS WITH BACKER ROD AND SEALANT. COIL UNIT **DIMENSION EQUAL** TO COIL WIDTH EEV PER COIL SHORT RADIUS TRAP SHALL BE ONE-PIECE CONSTRUCTION. HOLD DRAIN PAN AS HIGH AS POSSIBLE SCHRADER VALVE CONDENSATE PIPING. DRAIN LINE TO END HIGH ENOUGH ABOVE FUNNEL TO ALLOW FOR REMOVAL OF FUNNEL DRAIN WITH COVER FOR CLEANING PURPOSES. REFER TO PLUMBING PLANS FOR DRAIN LOCATIONS. 5 EVAPORATOR FAN-COIL UNIT





ONE BYPASS ASSEMBLY PER

TO SYSTEM

FROM WALK-IN CIRCUIT

WALK-IN RETURN

BYPASS ASSEMBLY

WALK-IN CIRCUIT

6 CO2 BYPASS ASSEMBLY

ONE BYPASS ASSEMBLY PER

FROM SYSTEM

TO WALK-IN OR

SUPPLY BYPASS ASSEMBLY

CASE CIRCUIT

WALK-IN OR CASE CIRCUIT

BYPASS ASSEMBLY PROVIDED

FROM MAIN LOOP

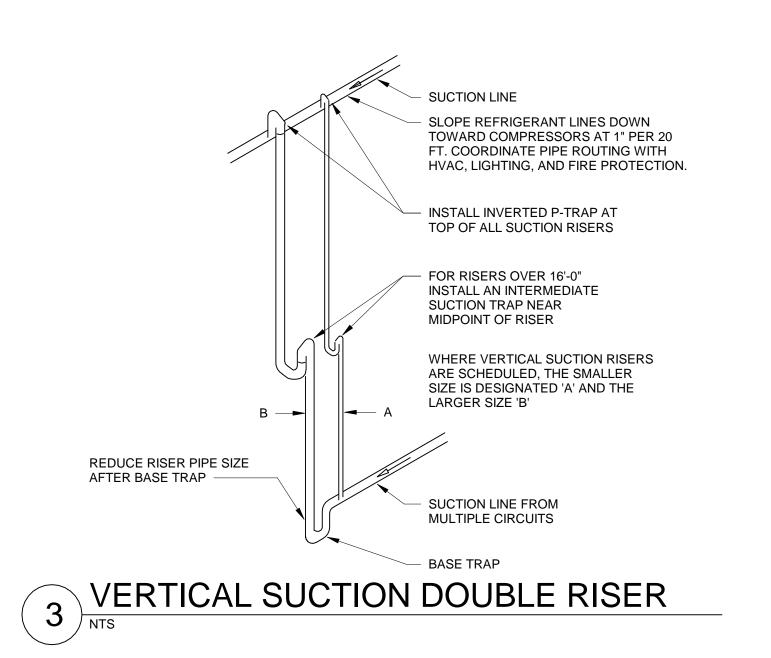
TO BRANCH PIPING

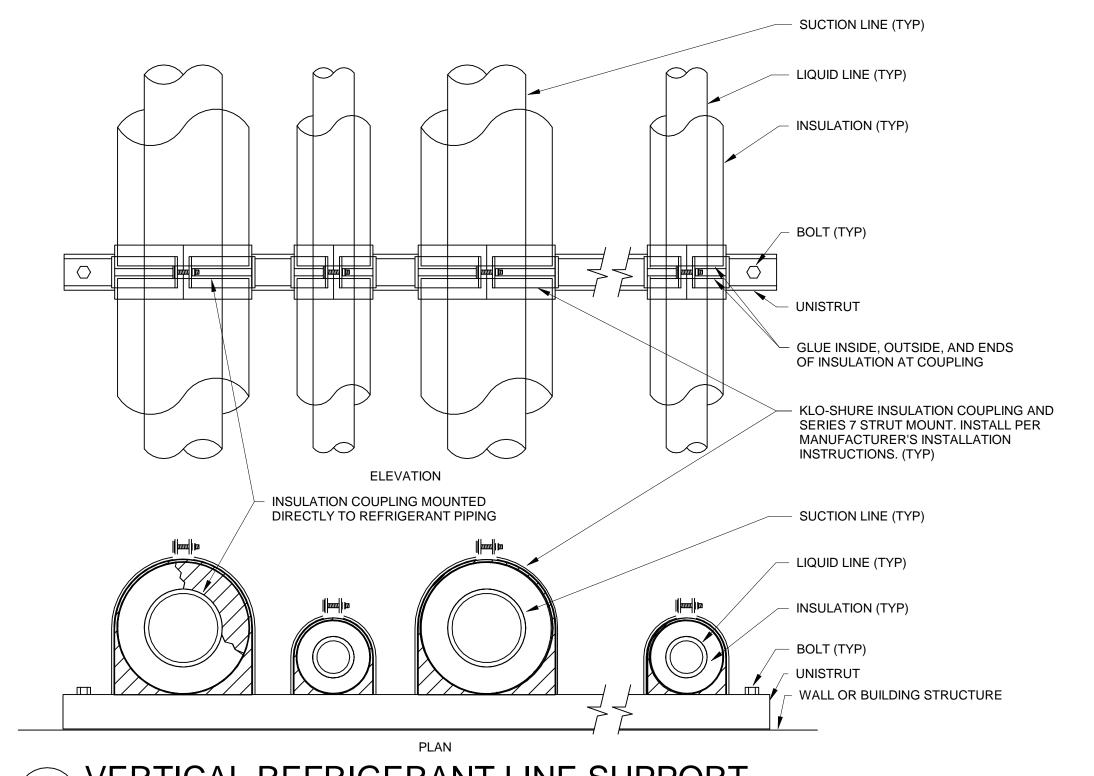
SUB-LOOP SUPPLY

BYPASS ASSEMBLY

BY RC AT LOCATIONS

SPECIFIED ON PLANS.





1 HORIZONTAL REFRIGERANT LINE SUPPORT

1 5/8"x1 5/8" GALVANIZED

MAXIMUM ON CENTERS -

UNISTRUT P-1000, 6'-0"

SUCTION LINE

PIPING INSULATION

NOTE: FOR OVERHEAD LINES, UNISTRUT

HORIZONTAL, TRAPEZE HUNG FOR PIPING BEHIND

CASES, UNISTRUT VERTICAL, WALL-MOUNTED

VAPOR RETURN MAIN

REDUCE RISER SIZE

TO HORIZONTAL

CO2 DX PIPING DETAILS

AFTER BASE TRAP -

LIQUID SUPPLY

LIQUID

SUPPLY BRANCH -

THE SIDE OF THE MAIN

REAR OF

REFRIGERATED CASE TYP -

REDUCE RISER PIPE

SIZE AFTER BASE TRAP

LIQUID SUPPLY LINES BRANCHING

FROM THE MAIN MUST EXIT FROM

MAIN -

VAPOR RETURN RISER

- SLOPE REFRIGERANT LINES DOWN TOWARD COMPRESSORS AT 1" PER 20 FT. COORDINATE PIPE ROUTING WITH HVAC, LIGHTING, AND FIRE PROTECTION.

- PROVIDE INVERTED P-TRAP AT

TOP OF ALL SUCTION RISERS

- BRANCH SUCTION RISER

- INSTALL PIPING OUT OF

CUSTOMER VIEW AND IN

FOR RISERS OVER 16'-0" INSTALL

NEAR MIDPOINT OF RISER

AN INTERMEDIATE SUCTION TRAP

- ATTACH THREADED ROD TO STRUCTURE

IN AN APPROVED

MANNER (TYP)

LIQUID LINE

PREMANUFACTURED PIPE SADDLE

COOPER B-LINE SNAP 'N SHIELD PIPE SUPPORT. SIZE SADDLE

INSULATION. MATCH COLOR OF

INSULATION. REFERENCE SPECIFICATIONS. (TYP)

SECURED TO UNISTRUT SIMILAR TO

DIAMETER APPROX. SAME AS OD OF

WALL WHEN POSSIBLE

- BRANCH LIQUID LINE

SUCTION LINE

LIQUID LINE

BASE TRAP

INTERMEDIATE SUCTION LINE TRAP

VAPOR RETURN LINES SHALL HAVE AN INVERTED TRAP

PROVIDE A P-TRAP AT THE BOTTOM OF THE RISER.

PROVIDE AN INVERTED P-TRAP AT RISER TRANSITION

- INVERTED P-TRAP

SAME SIZE AS

VERTICAL RISER