



SITE PLA

INCOMING CITY WATER L

KITCHEN HOOD FIRE SUPPRESSION SYSTEM

- I. CHEMICAL FIRE SUPPRESSION SYSTEM SHALL COMPLY WITH UL300 AND NFPA 17A-2009 STANDARDS.
2. THE FIRE SUPPRESSION SYSTEM INSTALLATION SHALL COMPLY WITH UL STANDARDS, ULC/ORD-CI254,6-1995 AND THE NFPA 96, 2014 EDITION, NEPA 17A, 2013 EDITION, THE TERMS OF THE EQUIPMENT LISTINGS AND THE MANUFACTURER'S INSTRUCTION.
3. THIS SYSTEM SHALL BE CONNECTED AND ANNUNCIATED AS A SEPARATE ZONE AT THE FIRE ALARM PANEL AND ANNUNCIATOR.
4. IN CASE OF AUTOMATIC FIRE DETECTION OR MANUAL PULL STATION (MOUNTED BETWEEN 42" TO 48" ABOVE THE FLOOR ON THE EGRESS PATH) OPERATION,
 - 4.1. THIS SYSTEM CONTROL SHALL ACTIVATE THE FIRE ALARM SYSTEM.
 - 4.2. ALL SOURCES OF FUEL TO ALL APPLIANCES WILL SHUT OFF UPON FIRE SUPPRESSION ACTIVATION INCLUDING SHUT OFF OF GAS TO ALL APPLIANCES UNDER THE HOOD.
 - 4.3. SHUT OFF OF ELECTRIC POWER TO ELECTRICAL OUTLETS UNDER ALL HOODS.
 - 4.4. THE MAKE-UP AIR UNIT WILL SHUT OFF AND THE HOOD EXHAUST FAN MUST BE ALLOWED TO CONTINUE TO RUN.
 - 4.5. THE ELECTRICAL CONNECTION FROM THE FIRE SUPPRESSION SYSTEM TO THE FIRE ALARM PANEL AND THE ANNUNCIATOR SHALL BE VERIFIED BY A QUALIFIED INDEPENDENT AGENCY.
5. PORTABLE FIRE EXTINGUISHER SHALL BE PROVIDED WITHIN A 30-FOOT TRAVEL DISTANCE OF COMMERCIAL-TYPE COOKING EQUIPMENT.
6. ACCORDING TO NFPA 17A-5.6.1.6.1 FUSIBLE LINK SHALL BE LOCATED AT OR WITHIN 12" INTO THE EXHAUST DUCT OPENING.ER.

KITCHEN HOOD FIRE SUPPRESSION SYSTEM:

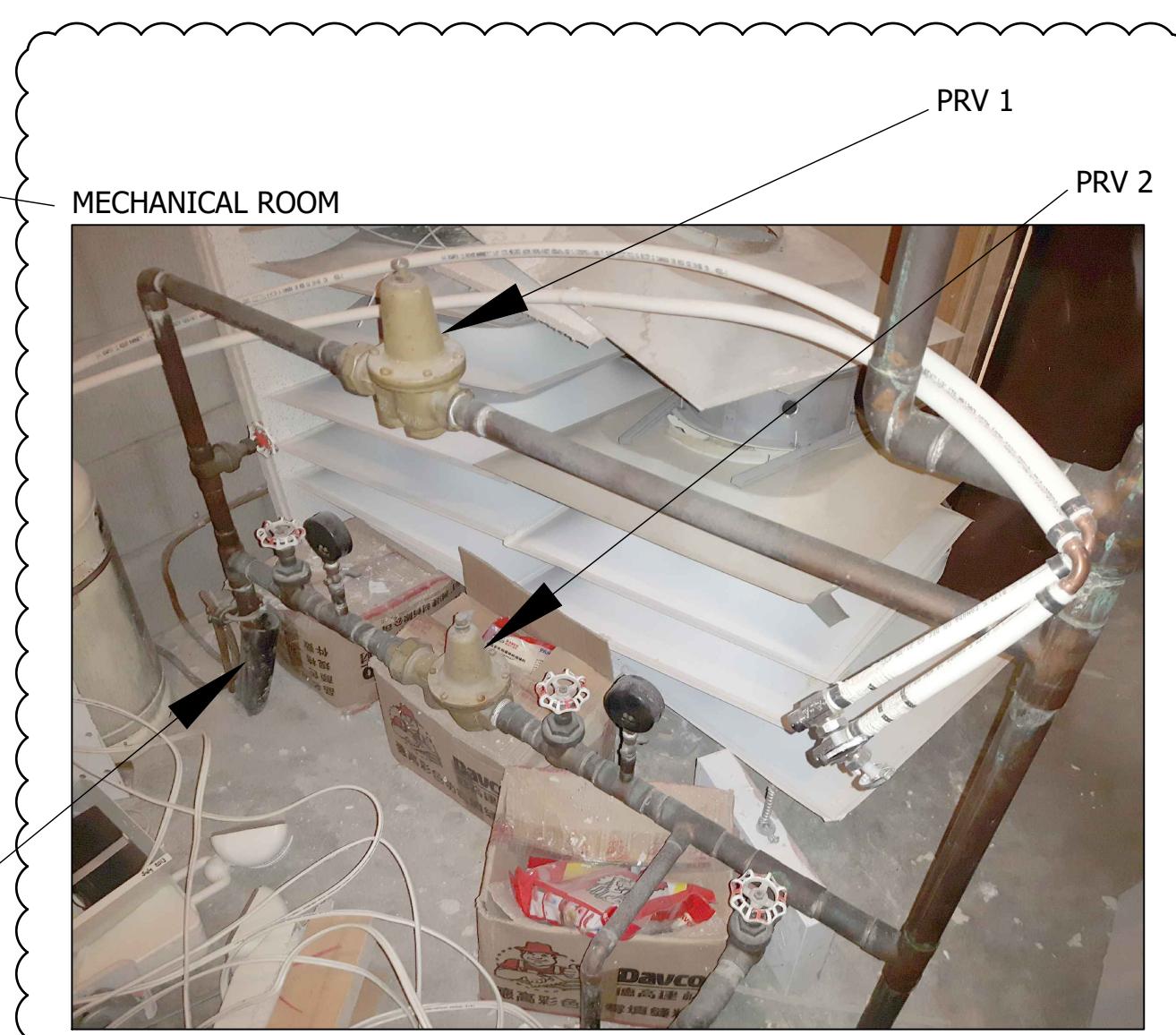
- I. IN NON-FIRE CONDITION, START-UP SEQUENCE WILL BE AS FOLLOWS- I) MAKE-UP AIR FAN, II) EXHAUST FAN, III) DIRECT-FIRED MAKE-UP AIR HEATER, IV) COOKING EQUIPMENT. THE SHUT-DOWN SEQUENCE IS IN REVERSE ORDER.
2. THE FOLLOWING ARE INTERLOCKED:
 - MAKE-UP AIR AND EXHAUST SO THAT THEY OPERATE TOGETHER.
 - MAKE-UP AIR HEATER AND EXHAUST SO THE HEATER CAN ONLY OPERATE IF THE EXHAUST IS ON.

PROCEDURES FOR USE & MAINTENANCE OF KITCHEN FIRE SUPPRESSION SYSTEM

PROCEDURES FOR USE & MAINTENANCE OF KITCHEN FIRE SUPPRESSION SYSTEM

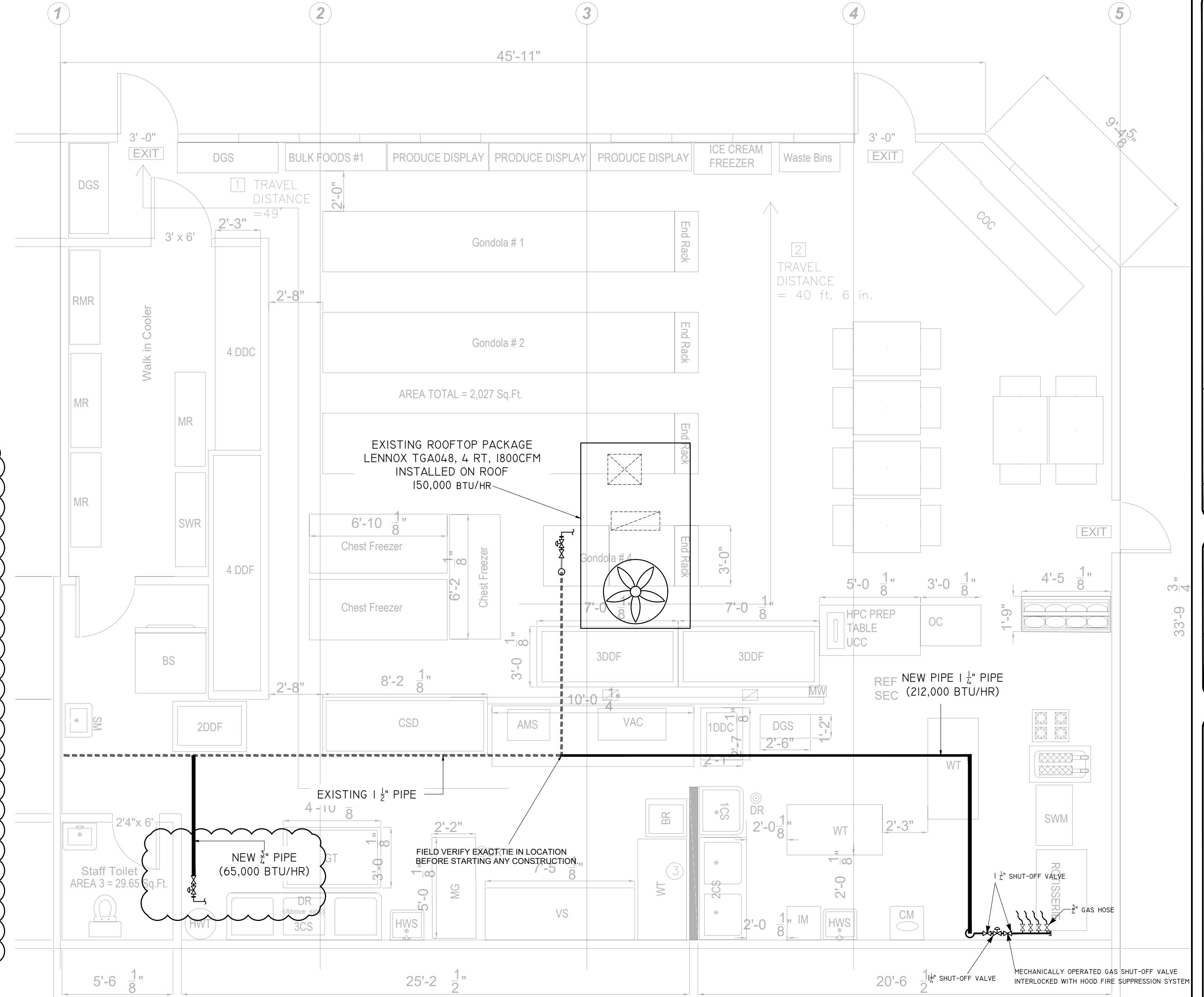
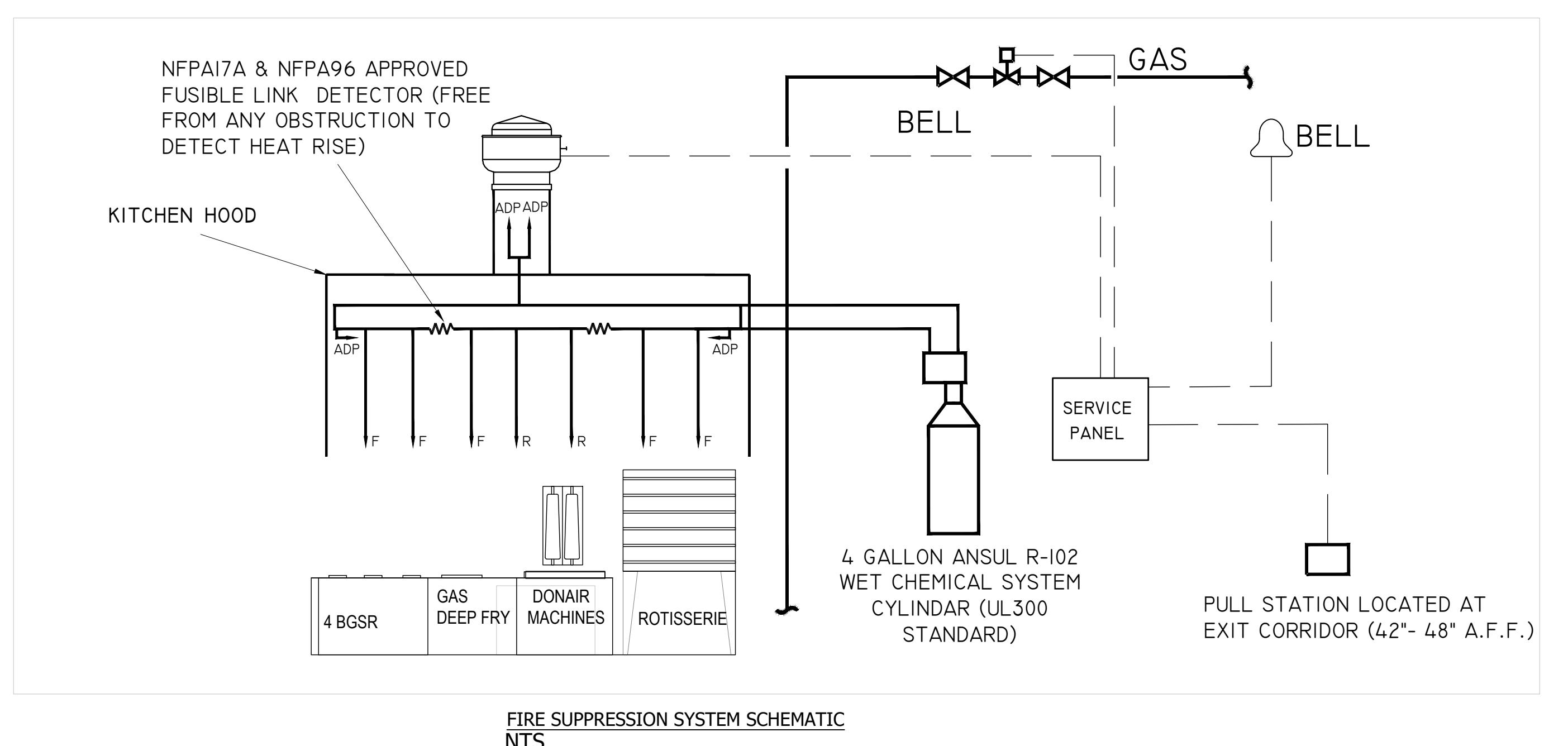
1. COMPLY ULC/ORD-CI254.18 LATEST STANDARD FOR SERVICING OF COOKING AREA EXTINGUISHING SYSTEM.
2. U.L. 1046 BAFFLE FILTER-EQUIPPED EXHAUST SYSTEMS SHALL NOT BE OPERATED WITH FILTERS REMOVED.
3. OPENINGS PROVIDED FOR REPLACING AIR EXHAUSTED THROUGH VENTILATING EQUIPMENT SHALL NOT BE RESTRICTED BY COVERS, DAMPERS, OR ANY OTHER MEANS THAT WOULD REDUCE THE OPERATING EFFICIENCY OF THE EXHAUST SYSTEM.
4. INSTRUCTIONS FOR MANUALLY OPERATING THE FIRE-EXTINGUISHING SYSTEM SHALL BE POSTED CONSPICUOUSLY IN THE KITCHEN AND SHALL BE REVIEWED WITH EMPLOYEES BY THE MANAGEMENT.
5. LISTED EXHAUST HOODS SHALL BE OPERATED ACCORDANCE WITH THE TERMS OF THEIR LISTING AND THE MANUFACTURE'S INSTRUCTIONS.
6. COOKING EQUIPMENT SHALL NOT BE OPERATED WHILE ITS FIRE-EXTINGUISHING SYSTEM OR EXHAUST SYSTEM IS NONOPERATIONAL OR OTHERWISE IMPAIRED.
7. WET CHEMICAL EXTINGUISHING SYSTEM SERVICED SEMI-ANNUALLY BY AN AUTHORIZED LICENSED SERVICE COMPANY

PAGE	TITLE
M1	SITE PLAN, GAS PIPING, AND FIRE SUPPRESSION SYSTEM
M2	PLUMBING PLAN
M3	HVAC DUCTING PLAN AND SECTIONS
M4	MECHANICAL SPECIFICATION



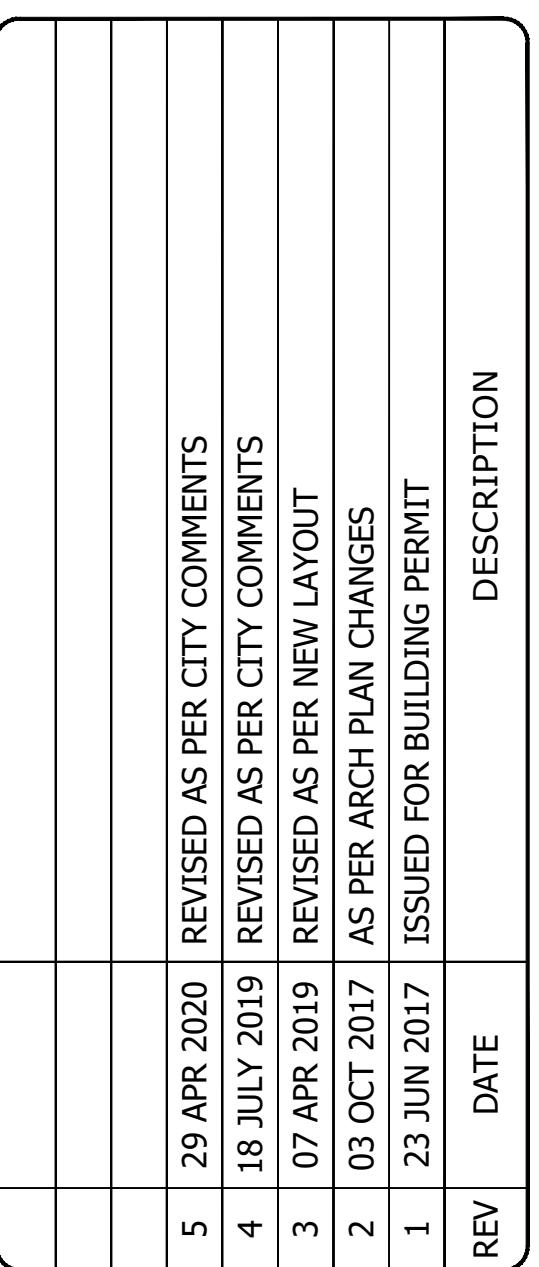
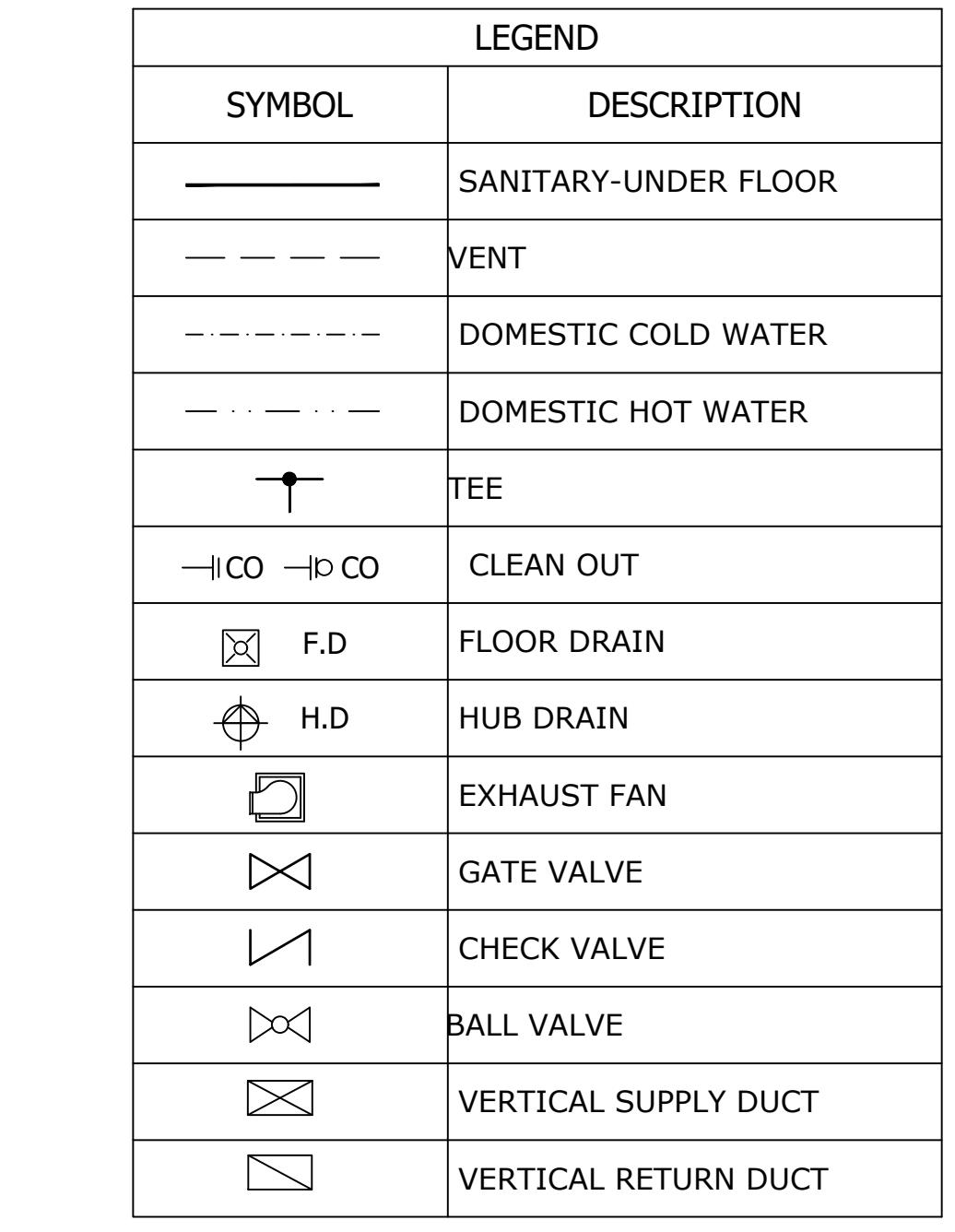
EXISTING WATER ENTRY (REF ONLY, DOES NOT SUPPLY NEW PLUMBING)

GAS LOAD CALCULATION				
Fixture	Qty	Btu/Hr Each	Btu/Hr Total	Connection Size
ROTISSERIE (NEW)	1	54,000	54,000	3/4"
4 BGSR RANGE (NEW)	1	48,000	48,000	1/2"
DONER MACHINE (NEW)	2	36,000	72,000	1/2" (2)
GAS DEEP FRYER (NEW)	1	38,000	38,000	1/2"
ROOFTOP PACKAGE (EXISTING)	1	150,000	150,000	1/2"
HOT WATER HEATER (NEW)	1	65,000	65,000	1/2"
MAKE-UP AIR UNIT (NEW)	1	0	0	12kW ELEC CO
GRAND TOTAL (NEW)			277,000	
GRAND TOTAL			427,000	BTU/HR



GAS PIPING PLAN
SCALE: 1/4"=1'-0"

NOZZLE SUMMARY				
LOCATION	NOZZLE TYPE	NOZZLE QTY	UNIT FLOW	TOTAL FLOW
DUCT	ADP	1	2	2
HOOD	ADP	1	2	2
4 BGRS RANGE	R	1	2	2
ROTISSERIE	F	2	2	4
DONER MACHINE 1	F	1	2	2
DONER MACHINE 2	F	1	2	2
GAS DEEP FRY	F	1	2	2
GRAND TOTAL				16



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STAMP

PROJECT #: 17-1779

PROJECT ADDRESS:

ZOE FOODS LIMITED
9336 120 STREET
SURREY BC

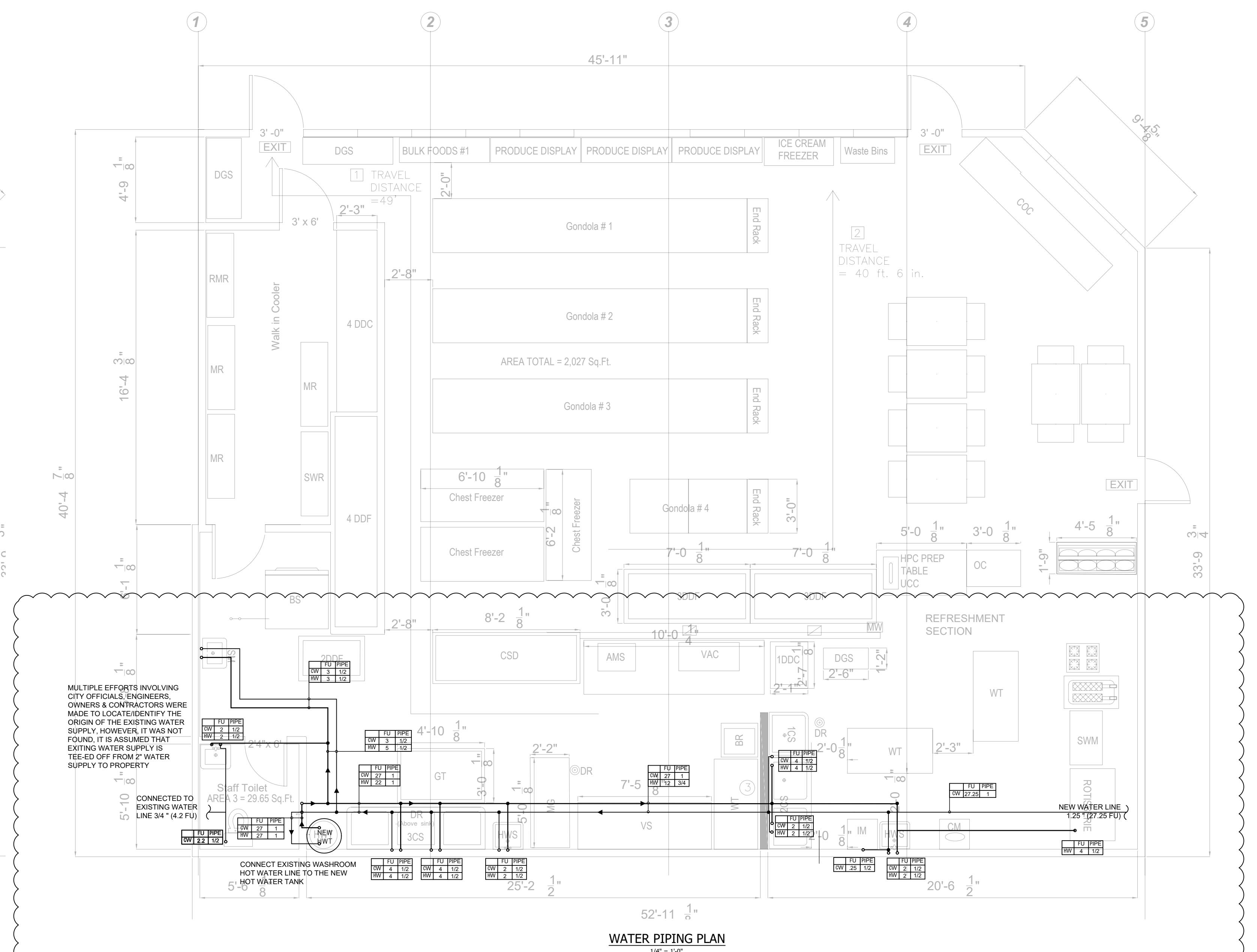
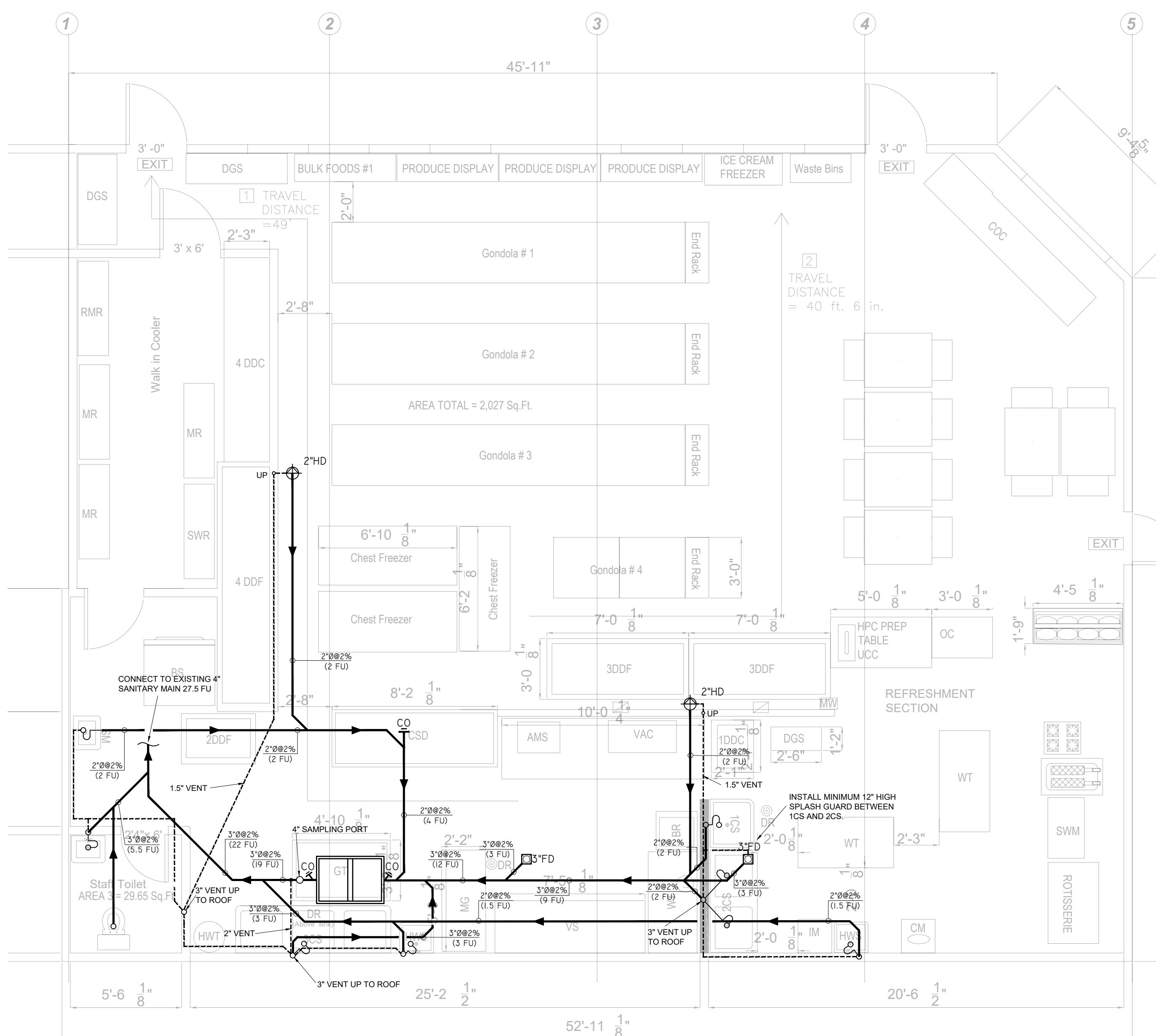
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SCALE: AS SHOWN

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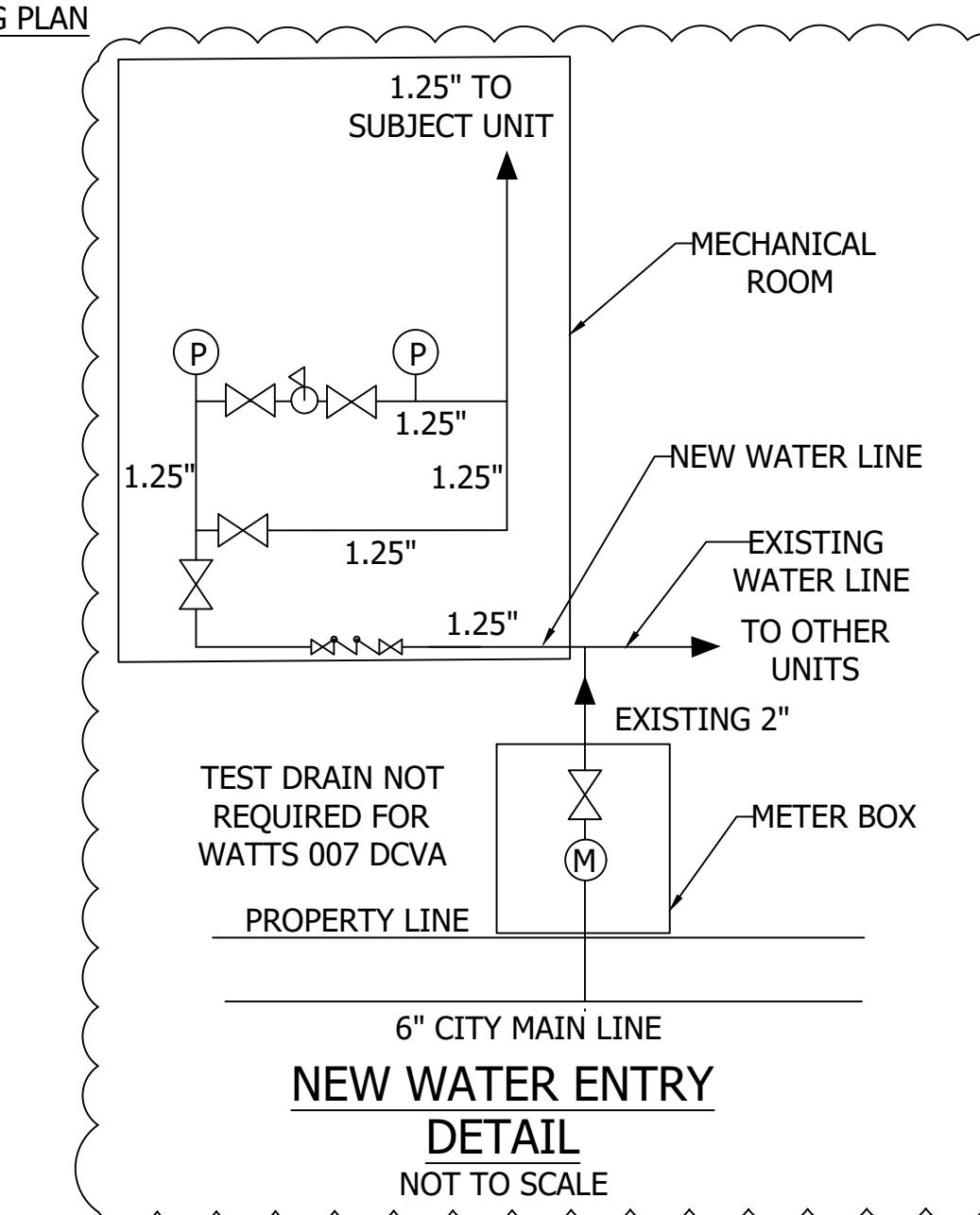
**SITE PLAN,
GAS PIPING,
AND FIRE SUPPRESSION
SYSTEM**

DRAWING #: M1



SANITARY LOAD CALCULATION TABLE				
Fixture	Qty	Sanitary FU	Total FU	Min Size of Fixture Outlet Pipe
LAVATORY	1	1.5	1.5	1-1/2"
WATER CLOSET	1	4	4	3"
HAND SINK	2	1.5	3	1-1/2"
MOP SINK	1	2	2	3"
3 COMP SINK	1	3	3	3"
FLOOR DRAIN	2	3	6	3"
HUB DRAIN	2	2	4	2"
WASH-UP SINK	1	2	2	2"
2 COMP SINK	1	2	2	2"
SANITARY LOAD			27.5	

NOTES:
1. WHERE THE LAVATORY IS ACTING AS A WET VENT, USE 2" PIPE.
2. 2" PIPE TO BE USED WHERE THE ARM IS MORE THAN 1.8m.



HOT WATER TANK SCHEDULE								
Tag	Manufacturer	Series	Model	Area Served	Capacity	Fuel	Electrical Power	Burner
HWT-1	BRADFORD WHITE	LIGH DUTY COMM.	LG250H653N	DOM. HOT WATER	40 GALLONS	GAS	N/A	65 MBH
REMARKS:								
1. ELECTRONIC IGNITION	5. MODULATING GAS VALVE	9. SAF-T-FAB 5" CAT. III S.S. VENTING AND C/A INTAKE W/						
2. SEISMIC RESTRAINTS	6. POWER VENT KIT W/ 4" S636 CVVC VENTING	W/ CONCENTRIC ATMOSPHERIC VENT, C/A INTAKE						
3. TEMP. & PRESSURE RELIEF VALVE	7. DRAIN PAN	AND HOOD						
4. OPERATING AQUASTAT	8. 120/160 POWER CONNECTION, BY DIV. 16	10. ACID NEUTRALIZER ON CONDENSATE DRAIN						

WATER LOAD CALCULATION TABLE (NEW WATER LINE)				
Fixture	Qty	Water Fixture Total Units	Total FU	Pipe Min. Size (in)
HAND SINK 8.3 LPM	2	2	4	1/2"
LAVATORY, 8.3 LPM OR LESS	1	2	2	1/2"
MOP SINK	1	3	3	1/2"
WASHUP SINK	1	2	2	1/2"
ROTISSERIE	1	4	4	1/2"
3 COMP SINK, 2 Faucets	1	8	8	1/2"
2 COMP SINK, 1 Faucets	1	4	4	1/2"
ICE MAKER	1	0.25	0.25	3/8"
GRAND TOTAL				27.25

SIZING METHOD: SMALL COMMERCIAL, PRESSURE RANGE: 311 to 413 KPA
MAX LENGTH 24m, SERVICE PIPE SIZE 1" (MIN.), WATER FLOW VEL 2.4m/s

WATER LOAD CALCULATION TABLE (EXISTING WATER LINE)				
Fixture	Qty	Water Fixture Total Units	Total FU	Pipe Min. Size (in)
LAVATORY, 8.3 LPM OR LESS	1	2	2	3/8"
WATER CLOSET 6LPF OR LESS	1	2.2	2.2	3/8"
GRAND TOTAL				4.2

SIZING METHOD: SMALL COMMERCIAL, PRESSURE RANGE: 311 to 413 KPA
MAX LENGTH 24m, SERVICE PIPE SIZE 1" (MIN.), WATER FLOW VEL 2.4m/s

GREASE INTERCEPTOR CALCULATION					
Item	Description	Qty	Dimension	Flow Based on Drain Down Time of 1 Minute	Total Flow
3CS	3 COMPARTMENT SINK	1	3x18"x26"x14"	73	73
2CS	2 COMPARTMENT SINK	1	2x18"x26"x14"	48.5	48.5
1CS	WASH-UP SINK	1	18"x22"x12"	20.6	20.6
MS	MOP SINK	1	24"x24"x10"	24.9	24.9
HD	HUB DRAIN	2	2"	22	44
FD	FLOOR DRAIN	2	3"	37.5	75
THE FLOW RATES OF THAT CAN DISCHARGE SIMULTANEOUSLY TO THE GI					143.9

GREASE INTERCEPTOR SPECIFICATION					
Item	Manufacturer	Model	Dimension	Flow Rate (GPM)	Made
GI	WATTS	WD-215	40"x28"x39"	150	EPOXY COATED STEEL

1. 4" SAMPLING PORT INSTALL AT RIGHT ANGLES AND VERTICALLY ABOVE THE FLOW OF THE SEWER PIPE AT THE DISCHARGE OF THE GI
2. CLEAN OUT TO BE INSTALLED ON INLET
3. P-TRAP MUST BE INSTALLED INDOOR TO PREVENT DRAN LINE FROM FREEZING
4. INDIVIDUAL FLOORING VENTS OR THROUGH ROOF FOR OIL INTERCEPTOR, EXACT ROUTING TO BE DETERMINED ON SITE

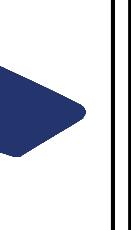
AFTER INSTALLATION IS
COMPLETE OWNER TO
SUBMIT WATER QUALITY
REPORT TO THE ENGINEER

DESCRIPTION
4 28 AUG 2019 WATER SERVICE LINE REVISED
3 11 MAR 2019 AS PER ARCH PLAN CHANGES
2 03 OCT 2017 AS PER ARCH PLAN CHANGES
1 23 JUN 2017 ISSUED FOR BUILDING PERMIT
REV DATE

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ENGINEERS. PROJECT MANAGERS.

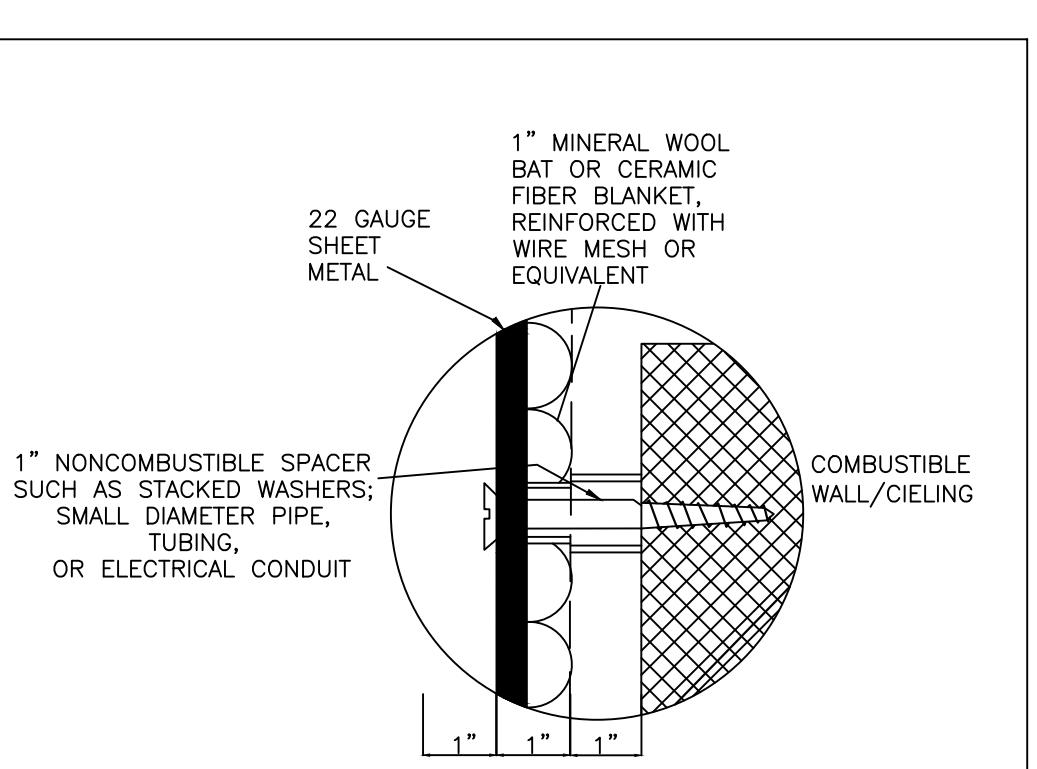
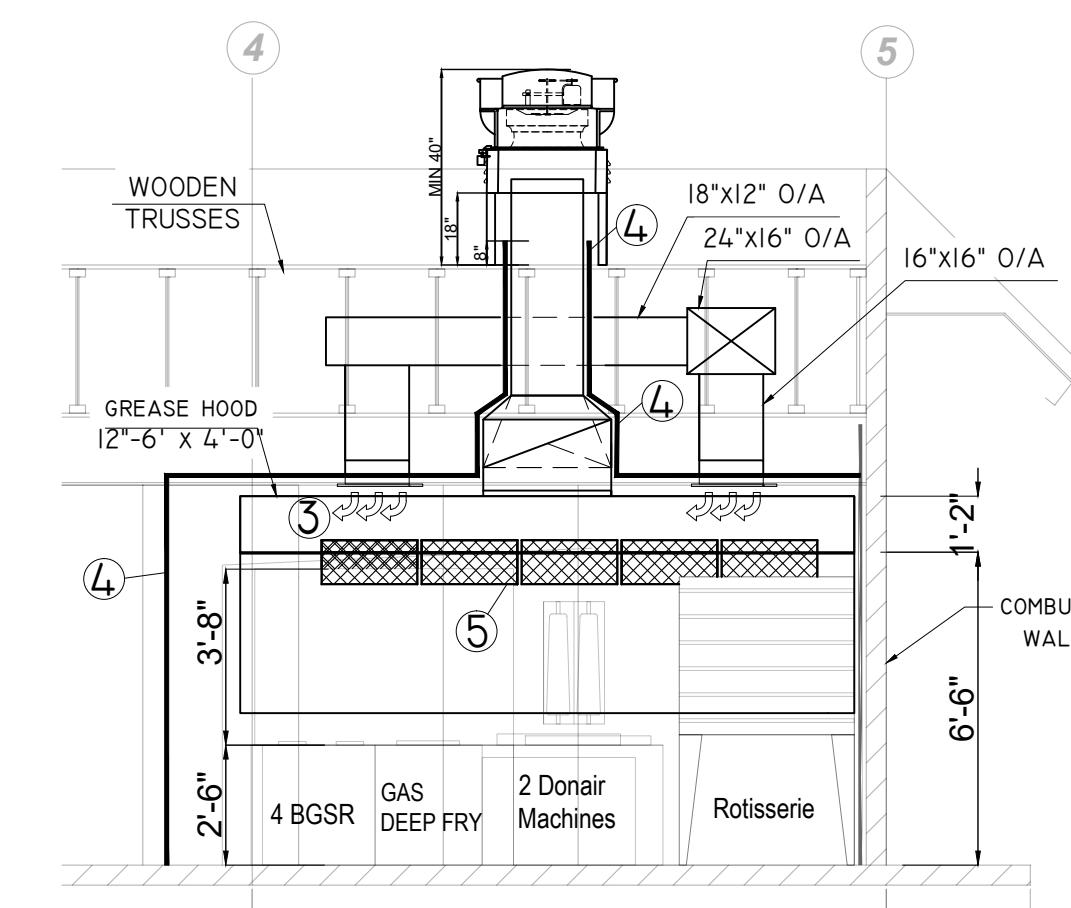
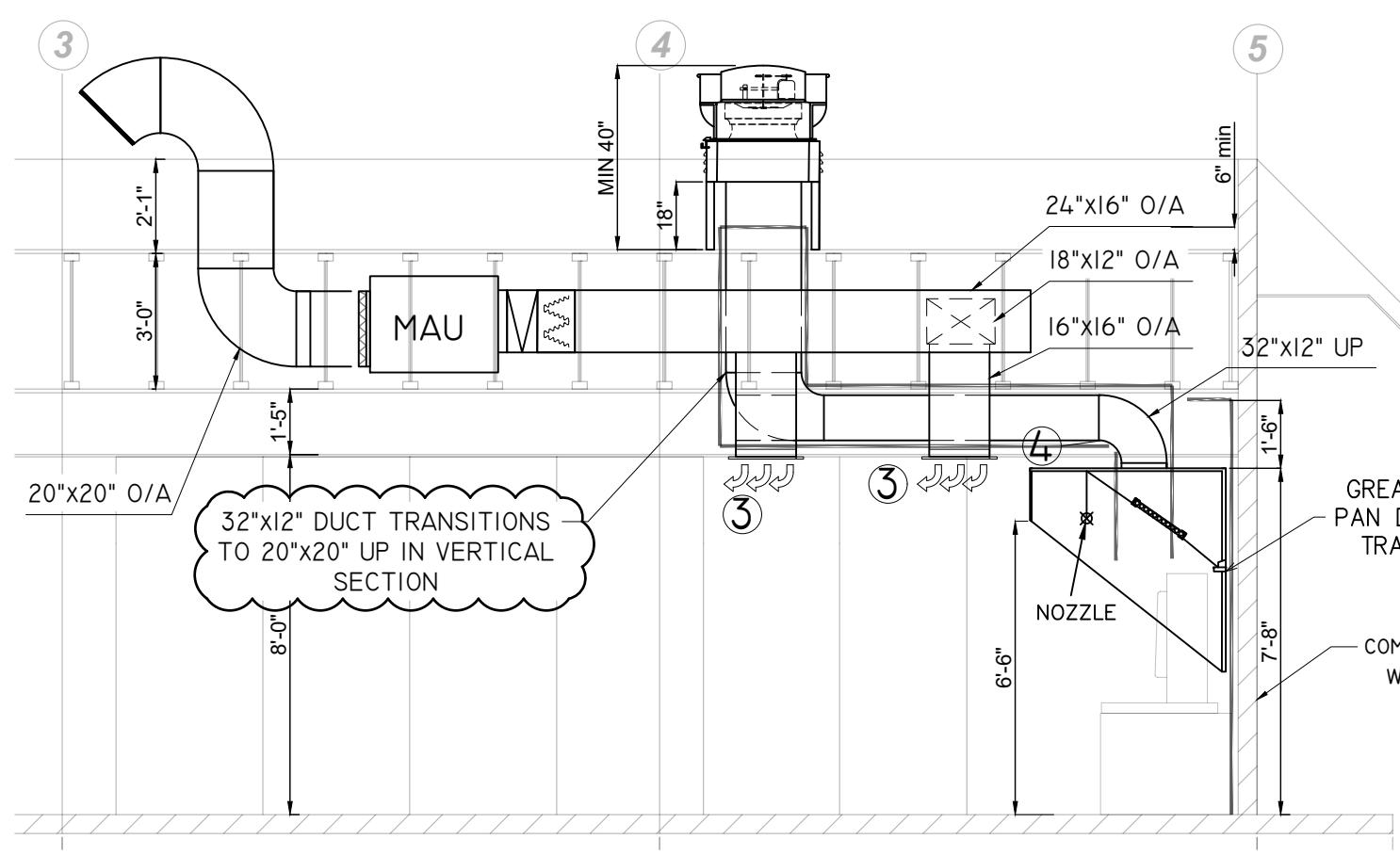
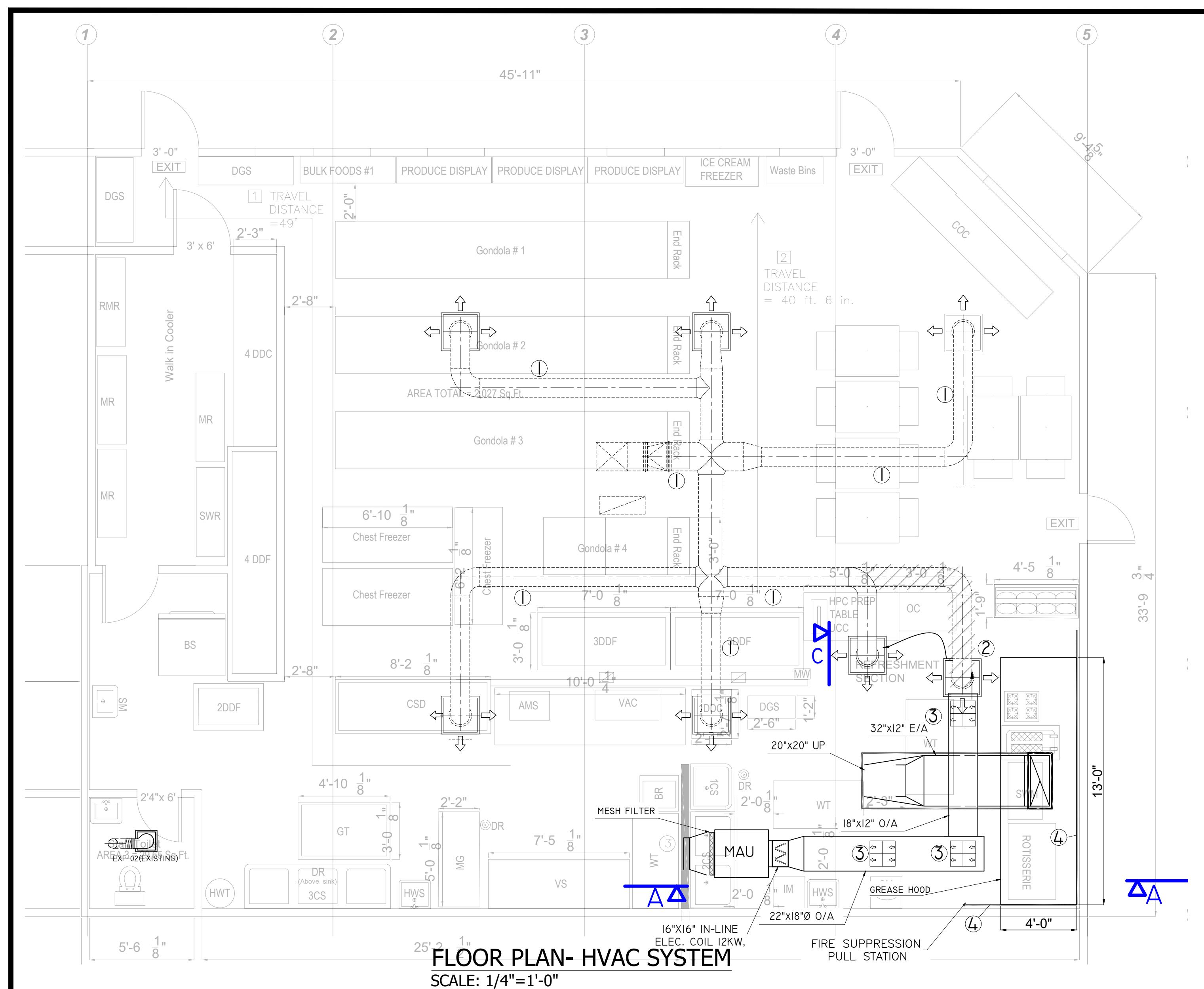
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STAMP
PROJECT #: 17-1779 PROJECT ADDRESS: ZOE FOODS LIMITED 9336 120 STREET SURREY, BC

DESIGN DATE: 23 JUN 2017
DSN: AR/HSG CHK: GSP APP: GSP
SCALE: AS SHOWN
DRAWING TITLE: PLUMBING PLAN
DRAWING #: M2

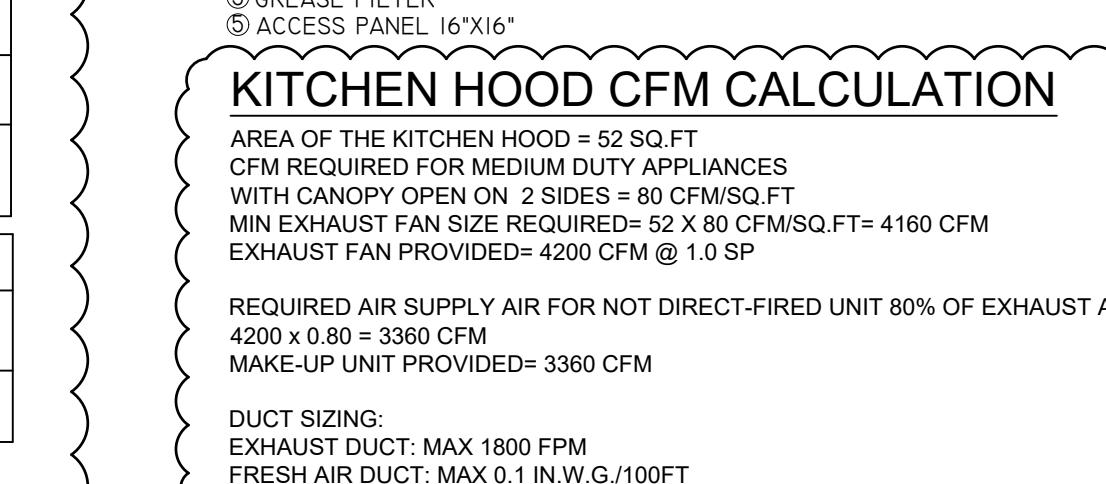
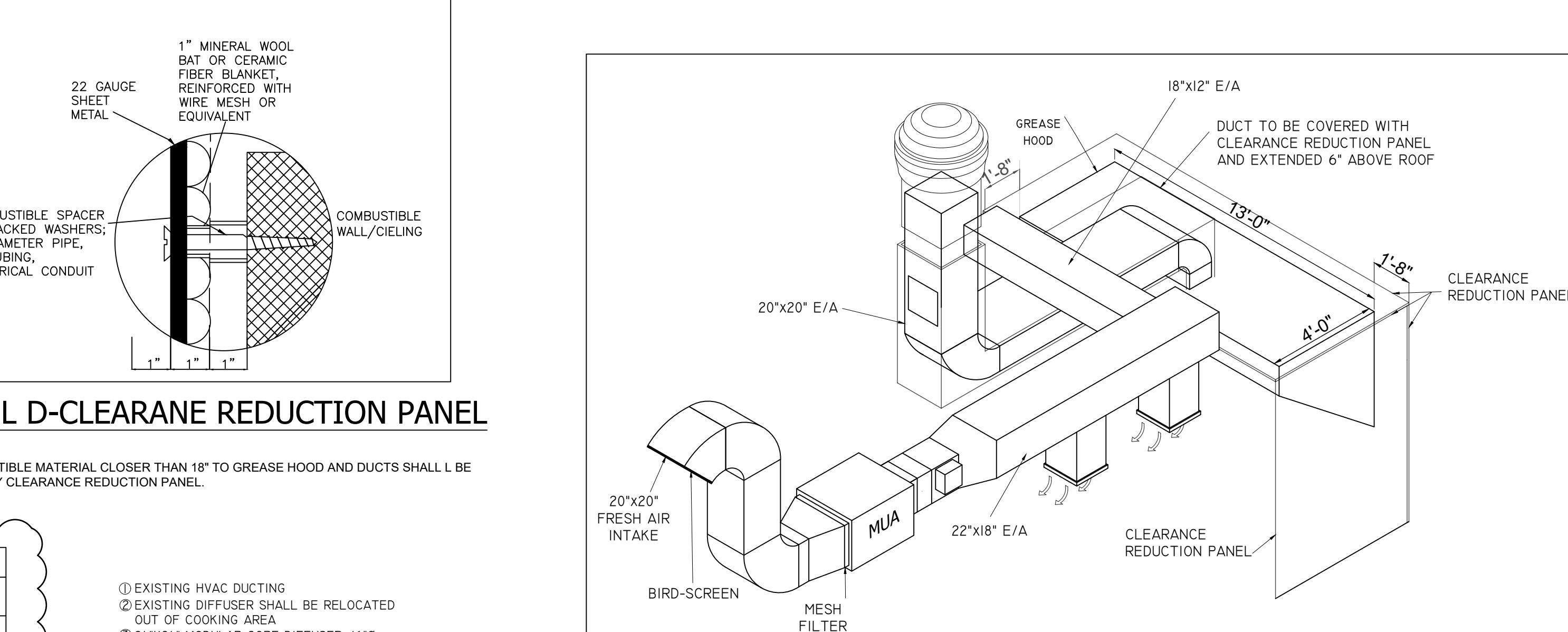
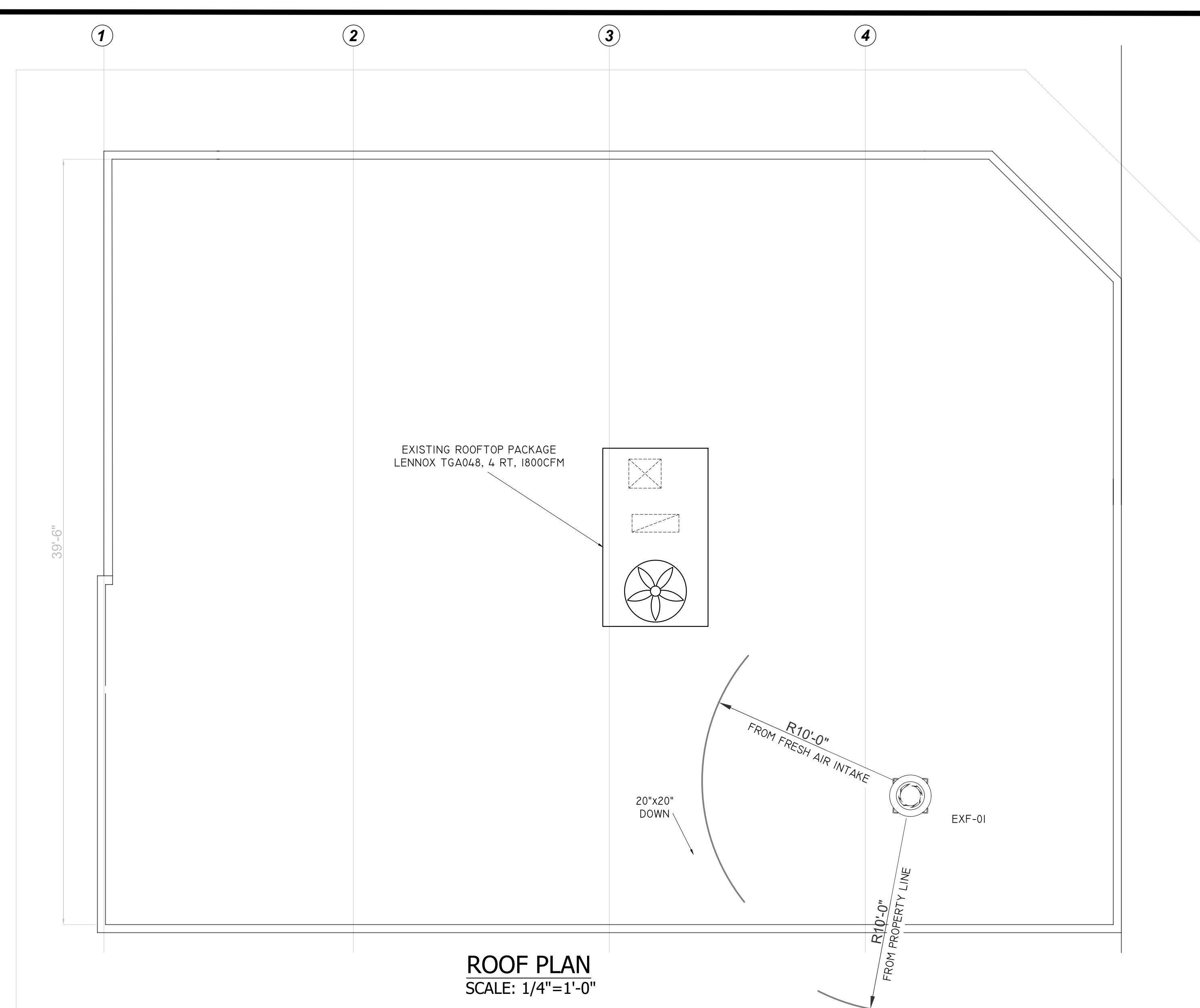


EQUIPMENT SCHEDULE - HOOD												
Tag	Manufacture	Type	Qty	Service Location	Length	Width	Maximum Cooking Temp.	Total Exhaust CFM	Hood Construction	Exhaust Opening	Note	Remark
KITCHEN HOOD	CAPTIVEAIRE	FILTERED WALL MOUNTED	1	KITCHEN	13'-0"	4'-0"	450 Deg	4200	304 SS-MIN 20 MSG ST. STEEL (WHERE EXPOSED)	32" X 12"	ALL SEAMS, JOINTS, AND PENETRATIONS OF THE HOOD ENCLOSURE SHALL HAVE A LIQUID TIGHT CONTINUOUS EXTERNAL WELD TO THE HOOD'S LOWER OUTERMOST PERIMETER.	OR EQUAL

EQUIPMENT SCHEDULE - MAKE UP AIR FAN													
Tag	Manufacture	Model	Type	Qty	Service Location	Flow (CFM)	Ext. St. Pressure (in.W.G)	Filter Type	Motor (HP)	Dimension (DxWxH)	Inlet Damper and Mesh Filter	Remark	
MAU	CANARM HVAC	212	CENTRIFUGAL CABINET FAN BELT-DRIVE	1	KITCHEN FRESH AIR	3360	0.3	ALUMINUM WASHABLE MESH FILTER	2	24 3/4" x 22 1/4" x 20"	12 3/8" X 14 1/8"	18" X 20 1/4"	OR EQUAL

EQUIPMENT SCHEDULE - EXHAUST FAN													
Tag	Manufacture	Type	Qty	Service Location	Model	Air Flow (CFM)	RPM	Static Pressure (in.)	Fan Power (HP)	Duct Size (in)	Max. Dimension (DxH)	Operating Weight (lb)	Remark
EXF-01	GREENHECK	CENTRIFUGAL UP-BLAST BELT DRIVEN	1	KITCHEN HOOD	CUBE-200HP	4200	1400	1.00	2	20" X 20"	28 1/4" X 27 7/8"	142	OR EQUAL

EXF-01 SHOULD BE NFPA 96 RATING AND EQUIPPED WITH: DISCONNECT SWITCH, PREFAB ROOF CURB, OVERLOAD CURRENT SENSOR, HINGED CURB WITH CHAIN, ALUMINUM BIRDSCREEN, BACKDRAFT DAMPER, GREASE AND COLLECTION TRAY, CONTROLLED BY TIME CLOCK AND INTERLOCK WITH LIGHT SWITCH.



DUCTING ISOMETRIC VIEW
SCALE: 1/4"=1'-0"

NOTES:

1. DUCT ACCESS PANELS SHALL BE PROVIDED PER NFPA 96, 7.3
2. A SIGN SHALL BE PLACED ON ALL ACCESS PANELS STATING: "ACCESS PANEL—DO NOT OBSTRUCT"
3. FOR HOODS WITH DAMPERS IN THE EXHAUST OR SUPPLY COLLAR, AN ACCESS PANEL FOR CLEANING AND INSPECTION SHALL BE PROVIDED IN THE DUCT OR THE HOOD WITHIN 457MM(18 IN.) OF THE DAMPER.
4. MAINTAIN 18 INCHES FROM COMBUSTIBLE MATERIALS TO HOOD & DUCT PER NFPA 96, 4.2.1
5. DUCT CLEARANCES SHALL BE MAINTAINED PER NFPA 96, 4.2.1

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PROJECT #: 17-1779
PROJECT ADDRESS:
ZOE FOODS LIMITED
9336 120 STREET
SURREY, BC

DESIGN DATE: 23 JUN 2017
DSN: AR CHK: GSP APP: GSP
SCALE: AS SHOWN
DRAWING TITLE:
HVAC DUCTING PLANS AND SECTIONS
DRAWING #: M3

REVISION DATE

REVISION	DATE	DESCRIPTION
5	29 APR 2020	REVISED AS PER CITY COMMENTS
4	18 JULY 2019	REVISED AS PER CITY COMMENTS
3	07 APR 2019	REVISED AS PER NEW LAYOUT
2	03 OCT 2017	AS PER ARCH PLAN CHANGES
1	23 JUN 2017	ISSUED FOR BUILDING PERMIT

MECHANICAL SPECIFICATION:

1.0 GENERAL

- THE GENERAL CONDITIONS AND INSTRUCTING TO BIDDERS AS SET FORTH IN THE GENERAL CONTRACT SPECIFICATIONS SHALL APPLY TO AND GOVERN THIS DIVISION.
- PROVIDE A COMPLETE AND FULLY OPERATIONAL MECHANICAL SYSTEM WITH FACILITIES AND SERVICES TO MEET THE OWNER'S REQUIREMENTS DESCRIBED HEREIN AND IN COMPLETE ACCORD WITH ALL APPLICABLE CODES AND ORDINANCE INCLUDING BUT NOT LIMITED TO BCBC2012.
- INCLUDE ALL LABOR, MATERIALS, TOOLS AND EQUIPMENTS REQUIRED TO INSTALL, TEST AND PLACE INTO OPERATION A COMPLETE MECHANICAL SYSTEM.
- THESE DRAWINGS DO NOT SHOW ALL THE STRUCTURAL DETAILS AND ANY INFORMATION INVOLVING ACCURATE MEASUREMENTS OF THE BUILDING. REFER TO THE ARCHITECTURAL AND/OR STRUCTURAL DRAWINGS. COORDINATE INSTALLATION TO STRUCTURAL DRAWINGS AND STRUCTURAL CONDITIONS AT NO INCREASE IN CONTRACT PRICE.
- EACH CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR LAYING OUT HIS WORK AND FOR ANY DAMAGE CAUSED TO THE OWNER OR OTHER CONTRACTORS BY IMPROPER EXECUTION OF HIS WORK CARRY. ALL NECESSARY INSURANCE COVERAGE.
- GIVE ALL NOTICES, OBTAIN ALL PERMITS, AND PAY ALL DUES SO THAT THE WORK SPECIFIED HEREIN MAY BE CARRIED OUT. FURNISH ALL CERTIFICATES REQUESTED BY THE ENGINEER.
- ALL WORK SHALL BE INSPECTED IN STRICT ACCORDANCE WITH ALL THE LAWS, RULES AND REGULATIONS OF THE LOCAL AND PROVINCIAL CODES AND ALL OTHER AUTHORITIES HAVING JURISDICTION.
- CHECK AND CONFIRM CONNECTIONS, INVERT ELEVATIONS AND ALL SERVICES INCLUDING WATER, GAS AND SANITARY SEWER WITH EXISTING UTILITIES PRIOR TO COMMENCING ANY WORK ON THE SITE.
- PROVIDE ALL SLEEVES AND INFORMATION ON ALL OPENINGS REQUIRED IN THE STRUCTURE TO ENABLE INSTALLATION OF ALL MECHANICAL SYSTEMS.
- PROVIDE FOR ALL DRILLING FOR EXPANSION BOLTS, HANGER, RODS, BRACKETS, SUPPORTS, ETC. TO APPROVAL OF THE ARCHITECT. DO NO DAMAGE TO CRITICALLY LOADED STRUCTURAL ELEMENTS.
- DO ALL NECESSARY EXCAVATION. BACKFILL WITH SAND OR OTHER APPROVED MATERIAL TO A MINIMUM OF 12" OVER PIPE OR AS NECESSARY TO PROTECT THE MECHANICAL WORK.
- TEST ALL EQUIPMENT AND MATERIAL WHERE REQUIRED BY SPECIFICATION OR AUTHORITY HAVING JURISDICTION TO DEMONSTRATE ITS PROPER OPERATION.
- KEEP WRITTEN LOGS AND DATA AND RECORD ON SITE ALL PRESSURE AND PERFORMANCE TESTS. INCLUDE COPIES IN MAINTENANCE MANUALS.
- OBTAI CERTIFICATES OF APPROVAL, ACCEPTANCE AND COMPLIANCE WITH RULES AND REGULATIONS FROM AUTHORITIES HAVING JURISDICTION. THE WORK WILL NOT BE CONSIDERED COMPLETE UNTIL THESE CERTIFICATES HAVE BEEN DELIVERED TO THE OWNER.
- PERFORM THE FOLLOWING TESTS. CARRY OUT THE HYDRAULIC TEST FOR A PERIOD OF 8 HOURS AND MAINTAIN WATER PRESSURE WITH NON-APPRECIABLE PRESSURE DROP. MAKE ALL TESTS PRIOR TO COVERING PIPING OR DUCTS IN ANY WAY.
- TEST DOMESTIC WATER PIPING AT 150 PSI WATER PRESSURE MEASURED AT THE LOW POINT OF THE SYSTEM.
- TEST DRAINAGE SYSTEMS BY FILLING THEM WITH WATER, PRODUCING A MINIMUM PRESSURE OF 5 FEET AND MAXIMUM PRESSURE OF 20 FEET OF WATER COLUMN.
- TEST GAS PIPING AS REQUIRED BY AUTHORITIES HAVING JURISDICTION.
- AFTER THE MECHANICAL INSTALLATIONS ARE COMPLETED AND PRESSURE IS TESTED, CONDUCT PERFORMANCE TESTS TO DEMONSTRATE THAT EQUIPMENTS AND SYSTEMS ACTUALLY MEET THE SPECIFIED REQUIREMENTS AND CARRY OUT FINAL ADJUSTMENTS TO SUIT EXACT BUILDING CONDITIONS.
- THE PERMANENT SYSTEM SHALL NOT BE USED FOR TEMPORARY HEATING PURPOSES WITHOUT THE WRITTEN PERMISSION OF THE ARCHITECT AND ENGINEER.
- AS A CONDITION PRECEDENTS TO FINAL PAYMENT AFTER COMPLETION OF THIS WORK, PROVIDE THE OWNER WITH A WRITTEN GUARANTEE, WARRANTING ALL APPARATUS FURNISHED UNDER THE CONTRACT TO REMAIN IN PERFECT, AND SERVICEABLE CONDITION FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THIS WORK BY THE ARCHITECT AND ENGINEER.
- WHERE EQUIPMENT HAS AN EXTENDED MANUFACTURER'S WARRANTY, THESE DOCUMENTS SHALL BE REGISTERED IN THE OWNER'S NAME AND TURNED OVER AT THE TIME OF THE BUILDING ACCEPTANCE.
- KEEP, IN THE JOB OFFICE, AN EXTRA SET OF WHITE PRINTS. CHANGES SHALL BE RECORDED DAILY. AT COMPLETION OF THE PROJECT, TURN OVER TO THE ENGINEER, TWO SETS OF NEAT "AS BUILT" RECORD DRAWINGS AND SPECIFICATIONS.
- PRIOR TO FABRICATION OF ANY MATERIALS OR EQUIPMENT, SUBMIT THROUGH THE GENERAL CONTRACTOR SHOP DRAWINGS, AND DATA SHEETS COVERING ALL ITEMS EQUIPMENT FURNISHED AND INTENDED FOR INSTALLATION UNDER THIS CONTRACT. MATERIAL SHALL NOT BE ORDERED UNTIL REVIEWED SHOP DRAWINGS ARE RECEIVED BY THE CONTRACTOR FORM THE ENGINEER.
- PROVIDE THREE COMPLETE BOUND MAINTENANCE AND OPERATION BROCHURES FOR ALL MAINTENANCE AND OPERATION FOR ALL EQUIPMENT. PROVIDE ON-SITE INSTRUCTIONS TO OPERATION STAFF OR OWNER REGARDING FUNCTION, GENERAL MAINTENANCE AND OPERATION OF ALL EQUIPMENT.
- UTILITY SEPARATION:
 - HORIZONTAL SEPARATION SHALL CONFORM TO THE STANDARD DRAWINGS BUT A MINIMUM OF 3 METERS HORIZONTAL CLEAR SEPARATION IS TO BE MAINTAINED BETWEEN A WATER MAIN AND EITHER A SANITARY SEWER OR A STORM SEWER. IN SPECIAL CIRCUMSTANCES, LESSER SEPARATION FOR GRAVITY SEWERS MAY BE PERMITTED BY THE CITY ENGINEER PROVIDED THAT:
 - THE SEWER MAIN AND WATER MAIN ARE INSTALLED IN SEPARATE TRENCHES AND THE WATER MAIN INVERT IS AT LEAST 0.5M ABOVE THE CROWN OF THE SANITARY SEWER OR STORM SEWER; OR
 - THE SEWER MAIN AND WATER MAIN ARE INSTALLED IN THE SAME TRENCH WITH THE WATER MAIN LOCATED AT ONE SIDE ON A BENCH OF UNDISTURBED EARTH AT LEAST 0.5M ABOVE THE CROWN OF THE SANITARY SEWER OR THE STORM SEWER.

1.23.2 VERTICAL SEPARATION: WHERE A SANITARY SEWER OR STORM SEWER CROSS A WATER MAIN, THE SEWER SHALL BE BELOW THE WATER MAIN WITH A MINIMUM CLEARANCE OF 0.5M AND THE JOINTS OF THE WATER MAIN, OVER A LENGTH EXTENDING 3 METER EITHER SIDE OF THE SEWER MAIN, ARE WRAPPED WITH AN APPROVED HEAT SHRINK COMPOUND.

2.0 MATERIALS

- PROVIDE MATERIALS IN COMPLIANCE WITH ALL CODES AND REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION. MATERIAL SHALL ALSO BE OF QUALITY AND FROM MANUFACTURES AS APPROVED BY THE ENGINEER.
- PROVIDE SLEEVES, OPENINGS AND ESCUTCHEONS AS REQUIRED FOR ALL PIPING AND DUCTING. SLEEVES SHALL BE 18 GA. GALVANIZED IRON FOR FLOORS AND WALLS.
- FOR PENETRATING FIRE RATED SUPPRESSION, PROVIDE A SEAL CONSISTING OF PACKING ON NON-COMBUSTIBLE INSULATING METAL CAPS OF 16 GA. METAL TO THE APPROVAL OF THE ENGINEER AND AUTHORITIES HAVING JURISDICTION.
- PROVIDE HANGERS AND SUPPORTS TO SECURE PIPES IN PLACE, PREVENT VIBRATION, MAINTAIN GRADE BY ADJUSTMENT PROVIDE FOR EXPANSION AND CONTRACTION AND APPEAR NEAT.
- HANGER SIZE AND SPACING FOR EITHER COPPER OR STEEL PIPE, SHALL BE AS FOLLOWS:

NOMINAL PIPE SIZE (IN)	MAXIMUM DISTANCE BETWEEN SUPPORTS (FT.)	ROD DIAMETER (IN.)
1/2	6	3/8
3/4	8	3/8
1 - 2 1/2	10	1/2
3 - 4	12	1/2

- PROVIDE FOR ALL STRUCTURAL WORKS AND EQUIPMENTS REQUIRED TO CONTROL EXPANSION AND CONTRACTION OF PIPING. INCLUDE ANGLES OR CHANNELS AS REQUIRED TO RIGIDLY ANCHOR PIPING.
- PROVIDE ACCESS DOORS FOR MAINTENANCE OR ADJUSTMENT OF ALL PARTS OF THE MECHANICAL SYSTEMS INCLUDING CLEANOUTS, ETC.
- WHERE EQUIPMENT IS CONCEALED BY A CONTINUOUS STRUCTURAL OR ARCHITECTURAL SURFACE, SUPPLY ACCESS DOORS OF DESIGN TO SUIT THE SURFACE IN WHICH THEY ARE TO BE INSTALLED. WHEN LOCATED IN WALLS OR FLOORS FORMING A FIRE SEPARATION, PROVIDE WITH ULC LABEL.
- PROVIDE ALL FLASHING AND COUNTER FLASHING WHERE MECHANICAL PIPES, DUCTS OR PARTS PASS THROUGH ROOFS, FLOORS WHICH MUST BE WATER PROOF, WALLS REQUIRED TO BE WEATHER-TIGHT.

3.0 PLUMBING

- ALL PLUMBING WORK SHOULD BE DONE ACCORDING TO BC PLUMBING CODE 2012, LOCAL REGULATIONS AND TO THE SATISFACTION OF THE AUTHORITIES HAVING JURISDICTION AND LANDLORD'S REQUIREMENTS.
- ALL BUILDING SERVICES SHALL COMMENCE OR TERMINATE AT THE CONNECTION POINTS INDICATED.
- STORM AND SANITARY INVERTS AT CONNECTION POINTS SHALL BE CONFIRMED BY EXCAVATION BEFORE COMMENCEMENT OF UNDERGROUND INSTALLATION WORKS SO THAT CONNECTIONS TO THE ON-SITE AND OFF-SITE SERVICES WILL BE ACHIEVED BY GRAVITY.
- PIPING SHALL BE INSULATED ACCORDING TO BCICA #1501
 - C.W.S. IN HEATED AREAS 1/2" MINERAL FIBRE WITH VAPOR BARRIER
 - C.W.S. IN UNHEATED AREAS 1 1/2" PIPE INSULATION. HEAT TRACED.
 - RWLS: IN HEATED AREAS 1/2" MINERAL FIBRE WITH VAPOR BARRIER.
- STERILIZE DOMESTIC WATER SYSTEM- BEFORE BEING PLACED IN SERVICE ALL WATER LINES SHALL BE CHLORINATED TO THE SATISFACTION OF THE ENGINEER IN ACCORDANCE WITH AIWA SPEC C 60-53T.
- ALL WATER PIPES TO BE TYPE "L" COPPER WITH LEAD FREE SOLDERS, E.G., 95/5 TIN/ANTIMONY SOLDER OR EQUIVALENT APPROVED IN JURISDICTION WITH PERMISSION OF AUTHORITIES HAVING JURISDICTION.
- PROVIDE ACCESSIBLE SHUT-OFF VALVES AT ALL PLUMBING FIXTURES.
- INSTALL SHOCK ABSORBERS ON ALL HOT, COLD, AND TEMPERED WATER BRANCH LINES TO PLUMBING FIXTURES AND EQUIPMENT.
- USE ONLY APPROVED PVC PIPING.
- ALL SANITARY SEWERS AND VENT PIPES TO BE CAST IRON, IPEX SYSTEM 15 PIPES OR XFR WITH MECHANICAL JOINTS OR EQUIVALENT APPROVED IN JURISDICTION WITH PERMISSION OF AUTHORITIES HAVING JURISDICTION.
- CLEANOUTS SHALL BE INSTALLED IN LOCATIONS INDICATED ON THE DRAWINGS IN ADDITION TO LOCATIONS REQUIRED BY THE PLUMBING CODE. CLEAN-OUTS SHALL BE ACCESSIBLE FOR SERVICING.
- SANITARY FLOOR DRAINS SHALL BE SUPPLIED WITH DEEP SEAL 'P' TRAPS FITTED WITH A TRAP PRIMER. PRIMERS SHALL BE ACCESSIBLE FOR SERVICING.
- WHERE PIPES ARE PASSING THROUGH FLOORS, CEILINGS, WALLS OR PARTITIONS, COVER THEM WITH CHROME PLATED CAST BRASS ESCUTCHEONS.
- SUPPORT HORIZONTAL DRAINAGE PIPING AT LEAST EVERY 5'-0" OR AT EVERY HUB, COPPER TUBING EVERY 7'-0" AND STEEL PIPE EVERY 10'-0" WITH CLEVIS HANGER AND INSULATION PROTECTION SHIELDS. PIPING SHALL NOT BE SUPPORTED FROM BRIDGING OR OTHER PIPING.
- EXPOSED HORIZONTAL WATER PIPING SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL HEALTH DEPARTMENT CODE.

3.16 THE ENTIRE LENGTH OF ROOF DRAIN PIPES SHALL BE INSULATED.

- PIPING SYSTEMS, SHALL NOT BE STRAINED OR DISTORTED BY EXPANSION AND CONTRACTION OR SETTLING.
- SUPPLY AND INSTALL ROOF DRAINS WITH AT LEAST 38" OFFSET FROM THE VERTICAL RAIN WATER LEADERS TO ALLOW FOR EXPANSION. SLOPE AT 2% MINIMUM.
- PLUMBING FIXTURES AND FITTINGS SHALL BE SELECTED WITH APPROVAL OF THE OWNER AND SHALL BE INCLUDED IN THE CONTRACT.

4.0 HEATING AND VENTILATION

- CONSTRUCT DUCTWORK TO STANDARDS AS RECOMMENDED IN THE LATEST ISSUE OF ASHRAE GUIDE. DUCT CONSTRUCTION STANDARDS ISSUED BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA)
- DUCTWORK AND EQUIPMENT LOCATION MAY BE SUBJECT OF CHANGE AND SHALL BE DESIGNED AND APPROVED DURING TENANT IMPROVEMENT.
- PRIOR TO FABRICATION OF DUCTWORK, CHECK ALL CEILING SPACES, HEIGHTS AND CONFLICTS WITH OTHER TRADES.
- DUCTWORK MINIMUM METAL THICKNESS FOR REGULAR DUCTS INCLUDING FITTINGS, ACCESS DOORS AND ACCESSORIES SHALL BE AS FOLLOWS:

ROUND DUCTWORK	DUCT DIAMETER (IN.)	GAUGE
UP TO 12	26	
13 TO 30	24	

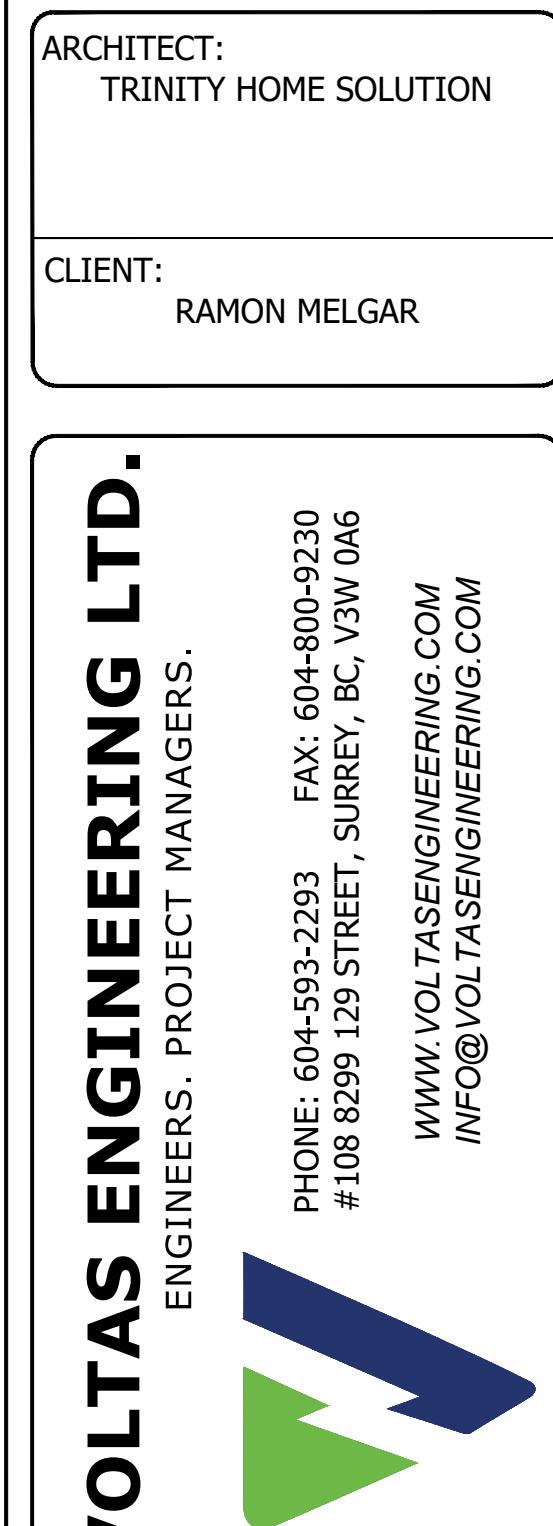
RECTANGULAR DUCTWORK	DIMENSION OF LONGEST SIDE	GAUGE
UP TO 12	26	
13 TO 30	24	
30 TO 54	22	
54 TO 80	20	

- SUPPLY DUCTS SHALL BE INSULATED WITH MINIMUM 2" THICKNESS FIBER GLASS WRAP WITH ALUMINUM FOIL PROTECTION OR EQUAL.
- INSULATION SHALL BE INSTALLED ACCORDING TO TIAC MECHANICAL INSULATION BEST PRACTICE GUIDE.
- SEALING TAPE SHALL NOT BE USED AS THE PRIMARY SEALANT FOR AIR-HANDLING DUCTS AND PLenums.
- WHERE DUCTS ARE NOT CONSTRUCTED, INSTALLED AND SEALED, THEY SHALL BE TESTED FOR LEAKAGE IN CONFORMANCE WITH THE SMACNA 1985, "HVAC AIR DUCT LEAKAGE TEST MANUAL".
- ENERGY AND VENTILATION CODE
 - ASHRAE 90.1 2010, "ENERGY STANDARD FOR BUILDINGS EXCEPT LOW-RISE RESIDENTIAL BUILDINGS"; SECTION 6.4, MANDATORY PROVISIONS; AND SECTION 6.5, PRESCRIPTIVE PATH.
 - CLIMATE ZONE 5, ACCORDING TO TABLE B-2 "CANADIAN CLIMATE ZONES" APPENDIX B, ASHRAE 90.1 2010.
 - ASHRAE 62-2007 "VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY".

5.0 SEISMIC REQUIREMENTS

- SEISMIC/ STRUCTURAL ENGINEER SHALL BE RETAINED UNDER THE CONTRACTOR'S SCOPE OF WORK TO ENSURE SEISMIC INSTALLATIONS ARE APPROVED.
- REFERENCE STANDARDS:
 - NATIONAL BUILDING CODE, SECTION 4.1.8,
 - LATEST EDITION OF PROVINCIAL BUILDING CODE. NFPA13-2013.
 - SMACNA GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING PIPING SYSTEMS.
- THE INSTALLER MUST PROVIDE "LETTERS OF ASSURANCE" FROM A STRUCTURAL ENGINEER FOR SEISMIC OF THE UNITS TO THE CURB AND THE CURB TO THE BUILDING AND THAT THE CURB HEIGHTS ARE AS REQUIRED BY ARCHITECT.

REV	DATE	DESCRIPTION	ISSUED FOR BUILDING PERMIT
1	23 JUN 2017		



STAMP	PROJECT #: 17-1779
PROJECT ADDRESS:	ZOE FOODS LIMITED 9336 120 STREET SURREY, BC

DESIGN DATE: 23 JUN 2017
DSN: AR CHK: GSP APP: GSP
SCALE: AS SHOWN
DRAWING TITLE: MECHANICAL SPECIFICATIONS
DRAWING #: M-4