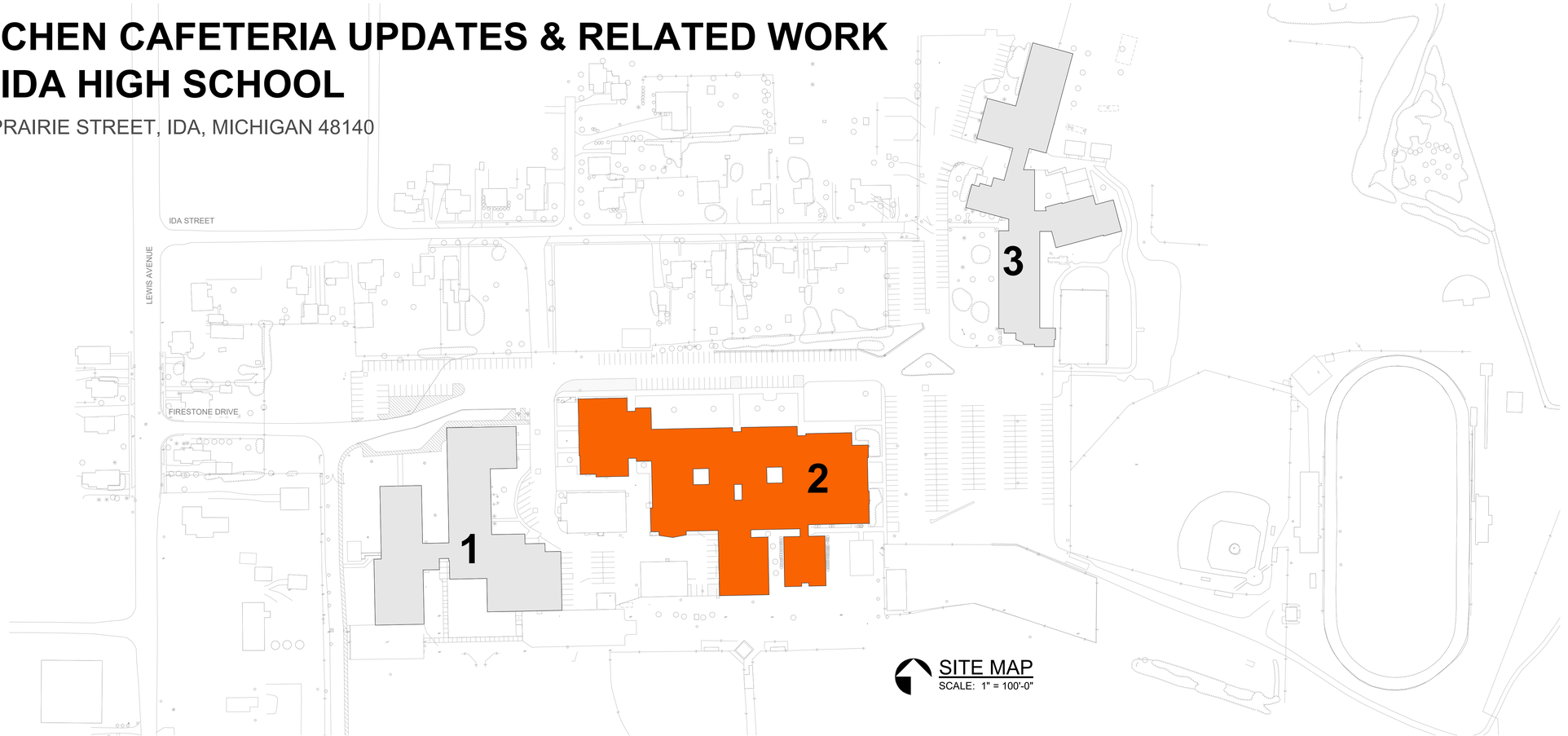
KITCHEN CAFETERIA UPDATES & RELATED WORK AT IDA HIGH SCHOOL

3145 PRAIRIE STREET, IDA, MICHIGAN 48140



SITE MAP
SCALE: 1" = 100'-0"

LOCATION MAP

SITE MAP

1. **IDA MIDDLE SCHOOL**
2. **IDA HIGH SCHOOL - AREA OF WORK**
3. **IDA ELEMENTARY SCHOOL**

PROJECT DIRECTORY

OWNER:
IDA PUBLIC SCHOOLS
3145 PRAIRIE STREET
IAD, MI 48140

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PROJECT DESCRIPTION

PROJECT SCOPE - EXISTING KITCHEN & SERVING AREA UPGRADES INCLUDE THE FOLLOWING:

NEW INTERIOR LAYOUT TO MAXIMIZE EFFICIENCY AND SAFETY FOR THE STAFF.

LEVEL 1 DEMOLITION: INCLUDES THE REMOVAL OF EXISTING FLOOR TILE, SUSPENDED CEILING, KITCHEN EXHAUST HOOD, PLUMBING FIXTURES, AND KITCHEN EQUIPMENT. REMOVAL OF EXISTING ROLLING COUNTER DOOR, TOILET ROOM DOOR / FRAME AND EXTERIOR DOOR / FRAME. REMOVAL OF EXISTING CEILING LIGHTING. SAWCUTTING OF EXISTING CONCRETE SLAB AND CMU WALL AS NOTED ON DRAWINGS.

LEVEL 1 CONSTRUCTION: INCLUDES NEW INTERIOR FINISHES (CERAMIC FLOOR TILE, PAINT, SUSPENDED CEILING) THROUGHOUT. REPLACEMENT OF EXISTING ROLLING COUNTER DOOR, TOILET ROOM DOOR AND EXTERIOR DOOR WITH NEW. REPLACEMENT OF EXISTING KITCHEN EXHAUST HOOD WITH NEW. REPLACEMENT OF EXISTING PLUMBING FIXTURES AND KITCHEN AND SERVING EQUIPMENT. NEW LED LIGHTING. REWORKING OF THE EXISTING PLUMBING IN THE KITCHEN AND TOILET ROOM AREA. MISCELLANEOUS MECHANICAL WORK ASSOCIATED WITH KITCHEN EXHAUST HOOD REPLACEMENT AS NOTED ON DRAWINGS.

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A3.00	REFLECTED CEILING PLAN - DEMO
A3.01	REFLECTED CEILING PLAN - NEW
A4.00	OVERALL ROOF PLAN
A4.01	PARTIAL ENLARGED ROOF PLAN
A4.02	MISC. ROOF DETAILS
A6.00	BUILDING SECTION
A7.00	SERVING ROOM INTERIOR ELEVATIONS
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A9.00	DOOR SCHEDULE, DOOR & FRAME TYPES
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E2.01	LIGHTING & POWER PLAN - DEMOLITION
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MAKE Things Better

04.16.25

STATE OF MICHIGAN
KEITH J. KOHLER
ARCHITECT
NO. 1301051757
LICENSED PROFESSIONAL ARCHITECT

DATE	DESCRIPTION
04.16.2025	BIDDING & STATE REVIEW

KITCHEN CAFETERIA UPDATES & RELATED WORK
AT IDA HIGH SCHOOL
3145 PRAIRIE STREET, IDA, MICHIGAN 48140
FOR IDA PUBLIC SCHOOLS
3145 PRAIRIE STREET, IDA, MICHIGAN 48140

JOB # 25002

TITLE SHEET

T0.00

4/3/2025 10:15:54 AM - Autodesk Docs://IPS - High School - 25002 - Kitchen/25002_Ida High School_Cafeteria Updates.rvt

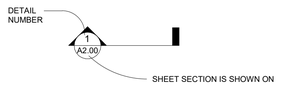
ABBREVIATIONS

"	INCHES
#	POUND/NUMBER
%	PERCENT
&	AND
'	FEET
/	PER
<	ANGLE
@	AT
©	COPYRIGHT
°	DEGREE
±	PLUS/MINUS
Ø	DIAMETER
A.B.	ANCHOR BOLT
A.C.	AIR CONDITIONING
A.D.	AREA DRAIN
ACT	ACOUSTICAL CEILING TILE
ADD'L	ADDITIONAL
ADDM	ADDENDUM
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AGGR	AGGREGATE
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
ALUM	ALUMINUM
ANOD	ANODIZED
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
AUTO	AUTOMATIC
B.O.	BOTTOM OF
B.PL.	BASE PLATE
BD	BOARD
BDF	BUILDING DISTRIBUTION FACILITY
BFP	BACK FLOW PREVENTER
BIT	BITUMINOUS
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BOT	BOTTOM
BRDG.	BRIDGING
BRG	BEARING
BTJ.	BOLTED TIE JOINT
BTWN	BETWEEN
BW	BACK OF WALK
C.B.	CATCH BASIN
C.G	CORNER GUARD
C.I.	CAST IRON
C.I.P.	CAST-IN-PLACE
C.J.	CONTROL JOINT
C.L.	CENTERLINE
C.O.	CLEAN OUT
C.Y.	CUBIC YARD
CANT'L	CANTILEVER
CEM	CEMENT
CFL	COUNTERFLASHING
CID	CLEAR INSIDE DIMENSION
CLG	CEILING
CLKG	CAULKING
CLO	CLOSET
CLR	CLEAR
CLRM	CLASSROOM
CMU	CONCRETE MASONRY UNIT
CNTR	COUNTER
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
COORD	COORDINATE
CORR	CORRIDOR
CPT	CARPET
CSK	COUNTERSINK / COUNTERSUNK
CSMT	CASEMENT
CT	CERAMIC TILE
CU FT	CUBIC FOOT / FEET
D.F.	DRINKING FOUNTAIN
D.I.	DRAIN INLET
D.K.	DECK
D.L.	DEAD LOAD
D.O.	DOOR OPENING
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DEG	DEGREE
DEPT	DEPARTMENT
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DISP	DISPENSER
DIV	DIVISION
DJ	DOUBLE JOIST
DN	DOWN
DR	DOOR
DS	DOWNSPOUT
DTL	DETAIL
DWG	DRAWING
DWLS	DOWELS
DWR	DRAWER
E	EAST
E.F.	EACH FACE
E.J.	EXPANSION JOINT
E.S.	EACH SIDE
E.W.	EACH WAY
EA.	EACH
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EL.	ELEVATION
ELEC	ELECTRICAL
ELEV.	ELEVATOR
EMER	EMERGENCY
ENCL	ENCLOSURE
ENT	ENTRANCE
EPDM	ETHYLENE PROPYLENE DIENE MONOMER
EQ	EQUAL
EQUIP	EQUIPMENT
EXC	EXCAVATE / EXCAVATION
EXIST	EXISTING
EXP	EXPANSION
EXPD	EXPOSED
EXT	EXTERIOR
F.A.	FIRE ALARM
F.D.	FLOOR DRIAN
F.E.	FIRE EXTINGUISHER
F.E.C.	FIRE EXTINGUISHER CABINET
F.HYD.	FIRE HYDRANT
F.O.	FACE OF
F.O.C.	FACE OF CONCRETE / CURB
F.O.F.	FACE OF FINISH
F.O.M.	FACE OF MASONRY
F.O.S.	FACE OF STUDS
F.R	FIRE RATED
F.R.P.	FIBER-REINFORCED PLASTIC
F.R.T.	FIRE RETARDANT TREATED
F.S.	FAR SIDE
F/BLDG.	FACE OF BUILDING
F/CONC	FACE OF CONCRET
FDC	FIRE DEPARMENT CONNECTION
FF	FINISH FLOOR
FFE	FINISH FLOOR ELEVATION
FHVC	FIRE HOSE VALVE CABINET
FIN.	FINISH
FIXT	FIXTURE
FLASH	FLASHING
FLG.	FLANGE
FLR	FLOORING
FLUOR	FLUORESCENT
FRMG	FRAMING
FT	FOOT / FEET
FTG	FOOTING
FURR	FURRING
G	GAS
G.B.	GRADE BEAM
G.C.	GENERAL CONTRACTOR
G.F.R.G	GLASS FIBER REINFORCED GYPSUM
G.I.	GALCANIZED IRON
G.R.	GUARDRAIL
GA	GAUGE
GALV	GALVENIZED
GB	GRAB BAR
GEN	GENERATOR
GFI	GROUND FAULT INTERRUPTED
GL	GLASS
GYP. BD.	GYPSUM BOARD
H.D.F.	HANDICAP DRINKING FOUNTAIN
HB	HOSE BIBB
HC	HANDICAP ACCESSIBLE
HD'D	HEADED
HDR	HEADER
HDW	HARDWARE
HDWD	HARDWOOD
HDWRE	HARDWARE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HR	HOUR
HRV	HEAT RECOVERY UNIT
HSS	HOLLOW STEEL SECTION
HT	HEIGHT
HVAC	HEATING / VENTILATING / AIR CONDITIONING
I.D.	INSIDE DIAMETER / DIMENSION
I.F.	INSIDE FACE
IN	INCH(ES)
INC'D	INCLUDED
IND	INDUSTRIAL
INFO	INFORMATION
INSUL	INSLUATION
INT	INTERIOR
J.B.	JUNCTION BOX
J/B	JOIST / BEARING
JAN	JANITOR
JNT	JOINT
JST.	JOIST
JT	JOINT
k	KIP (1000 lbs)
K. PL.	KICK PLATE
K.D	KNOCK DOWN
K.O.	KNOCK OUT
KIT	KITCHEN
KW	KILOWATT
L	LEGNTH
L.G.	LONG
L.H.	LEFT HAND
L.L.	LIVE LOAD
L.W.C.	LIGHT WEIGHT CONCRETE
LAB	LABORATORY
LAM	LAMINATE
LAV	LAVATORY
LB	POUND
LKR	LOCKER
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LOC	LOCATION
LT	LIGHT
LTL	LINTEL
LVR	LOUVER
LW	LONG WAY
M.O.	MASONRY OPENING
MAS	MASONRY
MATL	MATERIAL
MAX.	MAXIMUM
MBR	MEMBER
MC	MOMENT CONNECTION
MDF	MEDIUM DENSITY FIREBOARD
MECH	MECHANICAL
MED	MEDIUM
MEMB	MEMBRANE
MEZZ	MEZZANINE
MFR	MANUFACTURER
MH	MANHOLE
MIN.	MINIMUM
MIRR	MIRROR
MISC.	MISCELLANEOUS
MTD	MOUNTED
MTG. HT.	MOUNTING HEIGHT
MTL	METAL
MULL	MULLION
MULT	MULTIPLE
N	NORTH
N.I.C.	NOT IN CONTRACT
N.O.	NUMBER
N.R.	NOT RATED
N.S.	NEAR SIDE
N.T.S.	NOT TO SCALE
NFPA	NATIONAL FIRE PROTECTION ASSN
NOM	NOMINAL
NORM	NORMAL
NRC	NOISE REDUCTION COEFFICIENT
O.C.	ON CENTER
O.D.	OVERFLOW DRAIN
O.F.	OUTSIDE FACE
O.F.S.	OUTSIDE FACE OF STUD
O.H.	OVERHEAD
O/O	OUT TO OUT
OF/CI	OWNER FURNISH / CONTRACTOR INSTALL
OF/OI	OWNER FURNISH / OWNER INSTALL
OFF.	OFFICE
OPNG	OPENING
OPP	OPPOSITE
ORIG	ORIGINAL
OVHG	OVERHANG
OZ	OUNCE
P.C.	PRECAST CONCRETE
P.O.C.	POINT OF CONNECTION
P.T.	PRESSURE TREATED
P/L	PROPERTY LINE
PAR	PARALLEL
PARA	PARAPET
PERF.	PERFORATED
PL	PLATE
PLAM	PLASTIC LAMINSTE
PLT. BD.	PARTICAL BOARD
PLUM	PLUMBING
PLYWD	PLYWOOD
PNT	PAINT
PR.	PAIR
PSF	POUNDS / SQUARE FOOT
PSI	POUNDS / SQUARE INCH
PT	POINT
PTN	PARTITION
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PWR	POWER
QT	QUARRY TILE
QTY	QUANTITY
R	RADIUS / RISER
R.A.	RETURN AIR
R.B.	RUBBER OR RESILIENT BASE
R.D.	ROOF DRAIN
R.O.	ROUGH OPENING
RAD	RADIUS
REF	REFERENCE
REFG	REFRIGERATOR
REINF	REINFORCED
REQD	REQUIRED
RESIL	RESILIENT
RET.	RETAINING
REV	REVISED / REVISION
RH	ROOF HATCH
RM	ROOM
RTU	ROOF TOP UNIT
S	SOUTH
S.C.	SOLID CORE
S.F.	STOREFRONT
S.O.G.	SLAB ON GRADE
S.V.	SHEET VINYL
SCHED	SHCEDULED
SD	STORM DRAIN / SMOKE DETECTOR
SECT.	SECTION
SGT	STRUCTURAL GLAZED TILE
SH	SHELF
SHT	SHEET
SHTHG	SHEATHING
SHWR	SHOWER
SIM.	SIMILAR
SIM.	SIMILAR TO
SKY	SKYLIGHT
SMH	SEWER MANHOLE
SP.	SPACES
SPEC	SPECIFICATION
SQ.	SQUARE
SS	SOLID SURFACE
SSMA	STEEL STRUCTURAL MANUFACTURER'S ASSOCIATION
SST	STAINLESS STEEL
STD	STANDARD
STIFF.	STIFFENER
STL	STEEL
STOR.	STORAGE
STRUC	STRUCTURAL
SUSP.	SUSPENDED
SW.	SHORT WAY
SYM.	SYMMETRICAL
T&B	TOP AND BOTTOM
T&G	TOUNGE AND GROOVE
T.	TREAD
T.G	TEMPERED GLASS
T.O.	TOP OF
T.O.C.	TOP OF CONCRETE
T.O.M.	TOP OF MASONRY
T.O.S.	TOP OF STEEL
T.S.	TUBE STEEL
T.V.	TELEVISION
TECH	TECHNICAL
TELE	TELEPHONE
TEMP	TEMPERATURE
TERR	TERRAZZO
THRU	THROUGH
TRANS	TRANSITION
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
UL	UNDERWRITERS LABORATORIES, INC.
UNF	UNFINISHED
UNFIN.	UNFINISHED
UR	URINAL
V.A.T.	VINYL ASBESTOS TILE
VB	VAPOR BARRIER
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VEST.	VESTIBULE
VIF	VERIFY IN FIELD
VWC	VINYL WALL COVERING
W	WEST
W.C.	WATER CLOSET
W.P.	WORK POINT
W/	WITH
W/O/	WITHOUT
WD	WOOD
WDW	WINDOW
WF	WIDE FLANGE
WH	WATER HEATER
WP	WATERPROOF
WRB	WEATHER RESISTANT BARRIER
WSCT.	WAINSCOT
WT.	WEIGHT
WTR	WATER
WWF	WELDED WIRE FIREBRIC
XFMR	TRANSFORMER

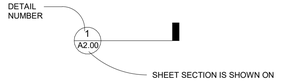
SYMBOLS LEGEND

BUILDING SECTION CUT

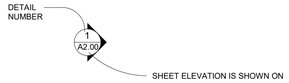
WALL SECTION CUT



DETAIL SECTION CUT



EXTERIOR ELEVATIONS

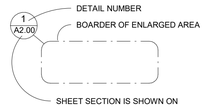


INTERIOR ELEVATIONS

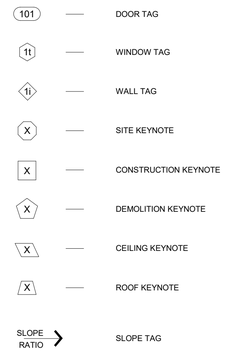
REVISIONS

REVISION TAG & BUBBLE

ENLARGED PLAN/DETAIL



DRAWING TAGS



GENERAL NOTES

1. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH APPLICABLE SECTIONS OF THE FEDERAL, STATE AND LOCAL BUILDING CODES, ZONING ORDINANCE, HEALTH AND FIRE REGULATIONS AS ADOPTED BY THE LOCAL GOVERNING BUILDING AUTHORITY.
2. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY BUILDING PERMITS FROM ALL GOVERNING AGENCIES INCLUDING THE CITY / TOWNSHIP AND SUBMIT FOR THEIR USE ANY CERTIFICATES OF INSURANCE, BONDS, ESCROW ACCOUNTS, LICENSES, PAY ALL FEES, OBTAIN ALL APPROVALS, ETC. ALL AS MAY BE REQUIRED TO COMPLETE THIS PROJECT
3. CONTRACTOR SHALL RETAIN THE SERVICES OF AN APPROVED THIRD PARTY AGENCY TO PERFORM ALL SPECIAL INSPECTIONS AND TESTING AS REQUIRED BY THE LOCAL GOVERNING BUILDING CODE, GOVERNING BUILDING AUTHORITY, OR AS CALLED OUT IN THESE CONSTRUCTION DOCUMENTS. NOTIFY OWNER / ARCHITECT, IMMEDIATELY, OF ANY FAILED TESTS OR INSPECTIONS AND PROVIDE OWNER WITH ALL WRITTEN REPORTS AND TEST RESULTS AT PROJECT COMPLETION.
4. CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS BEFORE PROCEEDING WITH THE WORK. IF ANY DIFFERENCES ARE FOUND, THE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY, IN WRITING FOR CLARIFICATION PRIOR TO PROCESSING WITH WORK.
5. THESE DOCUMENTS ARE DEVELOPED TO PROVIDE THE CONTRACTOR WITH A WORKING KNOWLEDGE OF THE SYSTEMS AND MATERIALS TO BE INSTALLED, AND THE SCOPE OF WORK. WHERE THESE DOCUMENTS ARE IN CONFLICT WITH THE JOB CONDITIONS, OR STANDARD DETAILS OR SPECIFICATIONS OF THE MANUFACTURED COMPONENT, OR AFFECT THE GUARANTEE, THEY SHALL BE MODIFIED AS REQUIRED BY THE CONTRACTOR AND APPROVED BY THE ARCHITECT.
6. PROVIDE AND MAINTAIN SUITABLE TEMPORARY FENCES, BARRICADES, LIGHTS, WARNINGS, ETC., FOR PROTECTION OF PUBLIC AND OTHERS HAVING ACCESS TO THE SITE. CONTRACTOR SHALL KEEP CLEAN AND ADEQUATELY PROTECT ALL STREETS, DRIVES, WALKS, BLDGS, ETC., FROM DAMAGE DUE TO ANY ITEM INVOLVED WITH THIS WORK. ANY DAMAGED WORK SHALL BE REPLACED / REPAIRED AT CONTRACTORS EXPENSE.
7. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES BY CONTRACTING "MISS DIG", RESPONSIBLE UTILITY COMPANY, REVIEW ALL SURVEYS, AS BUILT DRAWINGS, AND SEEK ANY OTHER INFORMATION FROM THE OWNER, PRIOR TO BEGINNING EXCAVATIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION OF AND COORDINATE ALL ASSOCIATED WORK WITH THE EXISTING UTILITIES AND RELATED SERVICE CONNECTIONS WITH THE RESPECTIVE UTILITY COMPANIES.
8. CONTRACTOR SHALL RELY ON WRITTEN DIMENSIONS (DO NOT SCALE DRAWINGS), WHERE NONE ARE PRESENT OR IN CONFLICT WITH WRITTEN, FIELD MEASURE AND/OR OR NOTIFY ARCHITECT FOR CLARIFICATION.
9. SHOULD THE CONTRACT DOCUMENTS DISAGREE (DRAWINGS AND SPECIFICATIONS), THE CONTRACTOR SHALL IMMEDIATLEY NOTIFY THE ARCHITECT FOR CLARIFICATION BEFORE PROCEEDING. THE BETTER QUALITY OR LARGER QUANTITY OF MATERIALS OR WORK SHALL BE INCLUDED IN THE BID AND UNLESS OTHERWISE ORDERED IN WRITING, SHALL BE FURNISHED BY THE CONTRACTOR.
10. THE CONTRACTOR SHALL EXAMINE ALL DRAWINGS, SPECIFICATIONS AND ALL OTHER DATA OR INSTRUCTIONS PERTAINING TO THE WORK. BEFORE COMMENCING PHYSICAL WORK, THE CONTRACTOR SHALL LOCATE ALL GENERAL REFERENCE POINTS AND TAKE SUCH ACTION AS IS NECESSARY TO PREVENT THEIR DESTRUCTION; LAY OUT HIS WORK AND BE RESPONSIBLE FOR ALL LINES, ELEVATIONS AND MEASUREMENTS OF BUILDINGS, GRADING, PAVING, UTILITIES AND OTHER WORK EXECUTED BY HIM UNDER THE CONTRACT. HE MUST EXERCISE PROPER PRECAUTIONS TO VERIFY FIGURES SHOWN ON DRAWINGS BEFORE LAYING OUT WORK.
11. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, HIS SUB-CONTRACTOR AND/OR SUPPLIER TO WORK FROM A FULL SET OF CONTRACT DOCUMENTS FOR BOTH THE WORK TO BE COMPLETED AND IN PREPARATION OF THE SHOP DRAWINGS, SO THAT EACH PART OR COMPONENT WILL WORK WITH THOSE PARTS AS FURNISHED OR FABRICATED BY OTHERS, AND THE ASSEMBLED WHOLE WORKS TOGETHER AS INTENDED.
12. MATERIALS - SHALL BE NEW. SECONDS OR DAMAGED MATERIALS WILL BE REJECTED BY THE ARCHITECT, WHO RESERVES THE RIGHT TO DISAPPROVE AND REJECT ANY MATERIALS PROPOSED OR INSTALLED, WHICH IN HIS OPINION FAIL TO MEET QUALITY STANDARDS SPECIFIED.
13. THE ARCHITECT SHALL HAVE NO RESPONSIBILITY FOR THE DISCOVERY, PRESENCE, HANDLING, REMOVAL, OR DISPOSAL OF, OR EXPOSURE OF PERSONS TO ASBESTOS AND HAZARDOUS MATERIALS IN ANY FORM FOR THE PROJECT.
14. AS-BUILTS - THE CONTRACTOR SHALL KEEP AN ACCURATE RECORD OF ALL DEVIATIONS FROM THE CONTRACT DRAWINGS AND SPECIFICATIONS. HE SHALL NEATLY AND CORRECTLY DRAFT (NO FREEHAND) ANY DEVIATIONS ON THE DRAWINGS AFFECTED AND SHALL KEEP DRAWINGS AVAILABLE FOR INSPECTION. GIVE TO THE ARCHITECT AT COMPLETION.
15. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE VARIOUS TRADE ITEMS WITHIN THE SPACE ABOVE ALL CEILINGS (INCLUDING, BUT NOT LIMITED TO: STRUCTURAL MEMBERS, MECHANICAL DUCTS AND INSULATION, CONDUITS, RACEWAYS, SPRINKLER SYSTEM, LIGHT FIXTURES, CEILING SYSTEM, AND ANY SPECIAL STRUCTURAL SUPPORTS REQUIRED) AND SHALL BE RESPONSIBLE FOR MAINTAINING THE FINISH CEILING HEIGHT ABOVE THE FINISHED FLOOR INDICATED IN THE DRAWINGS AND THE FINISH SCHEDULE. (CEILING HEIGHT DIMENSIONS ARE TO THE FINISH SURFACE OF THE CEILING).
16. IN AREAS OF NEW WORK, ACCESS PANELS SHALL BE PROVIDED AND INSTALLED WHEREVER REQUIRED BY CODE OR FOR THE PROPER OPERATION OR MAINTENANCE OF MECHANICAL OR ELECTRICAL EQUIPMENT (I.E. TERMINAL BOXES, VALVES, DAMPERS, ETC.), WHETHER OR NOT INDICATED ON THE DRAWINGS. CONTRACTOR SHALL COORDINATE SIZE, LOCATION, AND TYPE OF ACCESS PANEL WITH OTHER CONTRACTORS WORK AND RECEIVE APPROVAL OF THE ARCHITECT. ACCESS PANEL SHALL NOT BE LOCATED, FRAMED OR INSTALLED WITHOUT EXPRESSED APPROVAL OF THE ARCHITECT.
17. ALL DUCT PENETRATION THROUGH PARTITIONS AND CEILINGS SHALL BE PROVIDED WITH NECESSARY FRAMED OPENINGS, BRACING, AND FIRE DAMPERS AS REQUIRED BY CODE.
18. THE ARCHITECT SHALL BE CONSULTED IN ALL CASES WHERE CUTTING INTO AN EXISTING STRUCTURAL PORTION OF ANY BUILDING PRIOR TO PROCEEDING WITH WORK.
19. SIZE OF MECHANICAL AND ELECTRICAL EQUIPMENT PADS AND BASES ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY DIMENSIONS WITH RESPECTIVE EQUIPMENT MANUFACTURER.
20. CONTRACTOR SHALL PROVIDE AND INSTALL ALL STIFFENERS, BRACING, BACK-UP PLATES AND SUPPORTING BRACKETS REQUIRED FOR THE INSTALLATION OF ALL CASEWORK, TOILET ACCESSORIES AND OF ALL FLOOR-MOUNTED OR SUSPENDED MECHANICAL AND ELECTRICAL EQUIPMENT.

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MAKE
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DATE	DESCRIPTION
04.16.2025	BIDDING & STATE REVIEW

KITCHEN CAFETERIA UPDATES & RELATED WORK

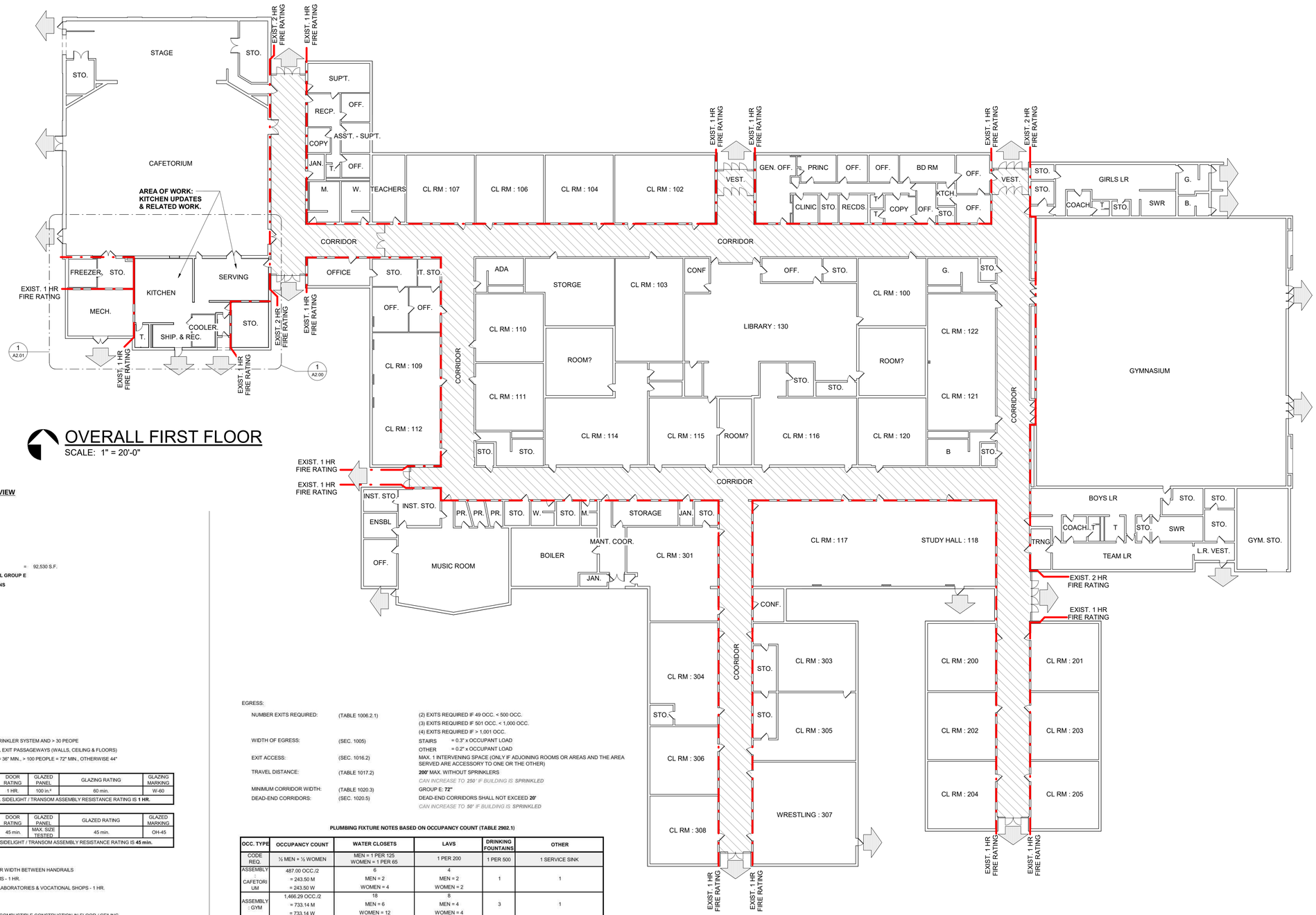
AT
IDA HIGH SCHOOL
3145 PRAIRIE STREET, IDA, MICHIGAN 48140

FOR
IDA PUBLIC SCHOOLS
3145 PRAIRIE STREET, IDA, MICHIGAN 48140

JOB # 25002

ABBREVIATIONS, LEGENDS, SYMBOLS

T1.00



OVERALL FIRST FLOOR

SCALE: 1" = 20'-0"

IDA HIGH SCHOOL

3143 PRAIRIE STREET, IDA, MI 48140

BUILDING CODE REVIEW

BUILDING CODE:	MICHIGAN BUILDING CODE 2021 MICHIGAN PLUMBING CODE 2021 MICHIGAN ELECTRICAL CODE 2021 MICHIGAN MECHANICAL CODE 2021 MICHIGAN ENERGY CODE 2015		
BUILDING AREA:	EXISTING BUILDING (GROSS)	=	92,530 S.F.
BUILDING OCCUPANCY TYPE:	(SEC. 305.1)	**EDUCATIONAL GROUP E**	
CONSTRUCTION TYPE:	(SEC. 602.2, TABLE 601)	**TYPE IIB NS**	
ALLOWABLE AREA:	(TABLE 506.2)	14,500 S.F.	
INCREASE ALLOWABLE:	(SEC. 506.2.1)	20,260 S.F.	
ALLOWABLE HEIGHTS:	(TABLE 504.3)	55'	
ALLOWABLE NUMBER OF STORIES:	(TABLE 504.4)	2	
FIRE RESISTIVE CONSTRUCTION:			
STRUCTURAL FRAMING:	(TABLE 601)	0	
BEARING WALLS:			
EXTERIOR:	(TABLE 601,602)	0	
INTERIOR:	(TABLE 601)	0	
NON-BEARING WALLS:			
EXTERIOR:	(TABLE 601, 602)	1 HR. <= 5'	
INTERIOR:	(TABLE 601)	0	
FLOOR CONSTRUCTION:	(TABLE 601)	0	
ROOF CONSTRUCTION:	(TABLE 601)	0	
EXIT ACCESS:			
CORRIDOR WALLS:	(SEC. 708, SEC. 1020.2)	**1 HR.** W/O SPRINKLER SYSTEM AND > 30 PEOPE	
* EXIT CORRIDORS:	(SEC. 1024.3)	**1 HR.** FOR ALL EXIT PASSAGEWAYS (WALLS, CEILING & FLOORS)	
CORRIDOR WIDTH:	(TABLE 1020.3)	< 50 PEOPLE = 36" MIN., > 100 PEOPLE = 72" MIN., OTHERWISE 44"	

CORRIDOR DOORS: (TABLE 716.1(2))

WALL RATING	DOOR RATING	GLAZED PANEL	GLAZING RATING	GLAZING MARKING
1 HR.	1 HR.	100 in.²	60 min.	W-60
MIN. SIDELIGHT / TRANSOM ASSEMBLY RESISTANCE RATING IS **1 HR.**				

EXT. DOORS + WINDOWS: (TABLE 716.1(3))

WALL RATING	DOOR RATING	GLAZED PANEL	GLAZED RATING	GLAZED MARKING
1 HR.	45 min.	MAX. SIZE TESTED	45 min.	OH-45
MIN. SIDELIGHT / TRANSOM ASSEMBLY RESISTANCE RATING IS **45 min.**				

SHAFTS:	(SEC.713.2)	N.A.
STAIRWELLS:	(SEC. 1023.2)	**36"** MIN. CLEAR WIDTH BETWEEN HANDRAILS
INCIDENTAL USES	(SEC. 509)	BOILER ROOMS - 1 HR. IN GROUP E; LABORATORIES & VOCATIONAL SHOPS - 1 HR.
FIRE WALLS	(SEC. 706, TABLE 706.4)	3 HR.
FIRE BARRIER:	(TABLE 707.3.10)	2 HR.
DRAFTSTOPPING:	(SEC. 718.3)	REQUIRED IF COMBUSTIBLE CONSTRUCTION IN FLOOR / CEILING
FIRE BLOCKING:	(SEC. 718.2)	REQUIRED IF COMBUSTIBLE CONSTRUCTION IN WALLS
FIRE SPRINKLERS:	(SEC. 901.7, SEC. 903.2.3)	REQUIRED IF FIRE AREA > 12,000 S.F. *(BETWEEN FIRE SEPARATION)*
* NOTE: BUILDINGS CAN BE SECTIONED INTO FIRE AREAS, SEPARATED BY FIRE WALLS TO INCREASE NON-SPRINKLED AREAS		
FIRE ALARMS:	(SEC. 907.2.3)	REQUIRED IN GROUP E OCCUPANCY WITH > 50 OCCUPANTS *(NEW BUILDINGS AND STRUCTURES)*

OCCUPANCY LOAD CALC: (TABLE 1004.5)

SPACE FUNCTION	FACTOR	TYPE	AREA	COUNT
ACCESSORY STORAGE AREAS, MECHANICAL EQUIPMENT ROOM	300	GROSS	8,407 S.F.	28.02
ASSEMBLY: CONCENTRATED	7	NET	10,264 S.F.	1,466.29
ASSEMBLY: UNCONCENTRATED	15	NET	7,305 S.F.	487.00
BUSINESS (ADMIN OFFICES)	150	GROSS	5,033 S.F.	33.55
EDUCATION: CLASSROOM	20	NET	29,856 S.F.	1,492.80
EDUCATION: SHOPS & OTHER AREAS	50	NET	1,721 S.F.	34.42
EXERCISE ROOM	50	GROSS		0.00
KITCHEN: COMMERCIAL	200	GROSS	1,574 S.F.	7.87
LIBRARY: READING ROOMS	50	NET	378 S.F.	7.56
LIBRARY: STACKS	100	GROSS	2,819 S.F.	28.19
LOCKER ROOMS	50	GROSS	2,537 S.F.	50.74
TOTAL OCCUPANCY COUNT			=	**3,637**

EGRESS:

NUMBER EXITS REQUIRED:	(TABLE 1006.2.1)	(2) EXITS REQUIRED IF 49 OCC. < 500 OCC. (3) EXITS REQUIRED IF 501 OCC. < 1,000 OCC. (4) EXITS REQUIRED IF > 1,001 OCC.
WIDTH OF EGRESS:	(SEC. 1005)	STAIRS = 0.3" x OCCUPANT LOAD OTHER = 0.2" x OCCUPANT LOAD
EXIT ACCESS:	(SEC. 1016.2)	MAX. 1 INTERVENING SPACE (ONLY IF ADJOINING ROOMS OR AREAS AND THE AREA SERVED ARE ACCESSORY TO ONE OR THE OTHER)
TRAVEL DISTANCE:	(TABLE 1017.2)	**200'** MAX. WITHOUT SPRINKLERS *CAN INCREASE TO 250' IF BUILDING IS SPRINKLED*
MINIMUM CORRIDOR WIDTH:	(TABLE 1020.3)	GROUP E: **72"**
DEAD-END CORRIDORS:	(SEC. 1020.5)	DEAD-END CORRIDORS SHALL NOT EXCEED **20'** *CAN INCREASE TO 50' IF BUILDING IS SPRINKLED*

PLUMBING FIXTURE NOTES BASED ON OCCUPANCY COUNT (TABLE 2902.1)

OCC. TYPE	OCCUPANCY COUNT	WATER CLOSETS	LAVS	DRINKING FOUNTAINS	OTHER
CODE REQ.	½ MEN + ½ WOMEN	MEN = 1 PER 125 WOMEN = 1 PER 65	1 PER 200	1 PER 500	1 SERVICE SINK
ASSEMBLY : CAFETORIUM	487.00 OCC./2 = 243.50 M = 243.50 W	6 MEN = 2 WOMEN = 4	4 MEN = 2 WOMEN = 2	1	1
ASSEMBLY : GYM	1,466.29 OCC./2 = 733.14 M = 733.14 W	18 MEN = 6 WOMEN = 12	8 MEN = 4 WOMEN = 4	3	1
CODE REQ.	½ MEN + ½ WOMEN	1 PER 25; FIRST 50 1 PER 50; REMAINDER	1 PER 40; FIRST 80 1 PER 80; REMAINDER	1 PER 100	1 SERVICE SINK
BUSINESS	41.42 OCC./2 = 20.71 M = 20.71 W	2 MEN = 1 WOMEN = 1	2 MEN = 1 WOMEN = 1	1	1
CODE REQ.	½ MEN + ½ WOMEN	1 PER 50	1 PER 50	1 PER 100	1 SERVICE SINK
EDUCATION	1,527.22 OCC./2 = 763.61 M = 763.61 W	32 MEN = 16 WOMEN = 16	32 MEN = 16 WOMEN = 16	16	1
EDUCATION (LIBRARY)	35.75 OCC./2 = 17.88 M = 17.88 W	2 MEN = 1 WOMEN = 1	2 MEN = 1 WOMEN = 1	1	1
CODE REQ.	½ MEN + ½ WOMEN	1 PER 100	1 PER 100	1 PER 1,000	1 SERVICE SINK
STORAGE	28.02 OCC./2 = 14.01 M = 14.01 W	2 MEN = 1 WOMEN = 1	2 MEN = 1 WOMEN = 1	1	1
TOTAL W/O ASSEMBLY SPACES		**36**	**36**	**18**	**3**

TRAVEL DISTANCE: (SEC. 1109.2.1.4) MAX. 500' FOR FAMILY OR ASSISTED-USE TOILET

LIFE SAFETY PLAN LEGEND

1 HR. — FIRE RATING

DIRECT EGRESS TO OUTSIDE

PATH OF EGRESS

GROSS MOTOR — ROOM NAME
6429 — ROOM NUMBER
626 SF — SQUARE FEET
OCC. 18 — NUMBER OF OCCUPANTS

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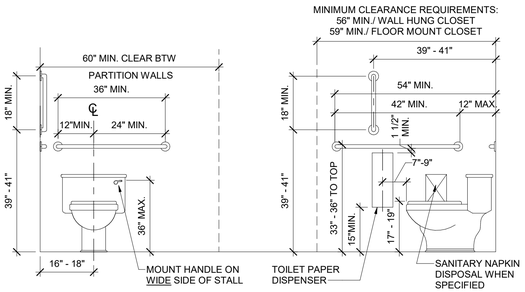
JOB # 25002

CODE COMPLIANCE PLAN

LS1.00

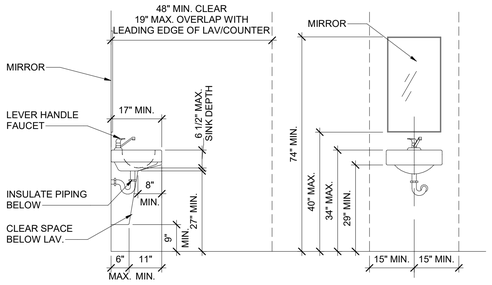
ADA TOILET ROOM NOTES

1. ALL PLUMBING FIXTURES AND SPECIALTY ITEMS SHALL CONFORM TO THE MOST STRINGENT OF EITHER THE CURRENT MICHIGAN STATE BARRIER FREE REGULATIONS OR THE FEDERAL AMERICAN DISABILITY ACT.
2. SOMEWHERE WITHIN EACH TOILET, BATH AND SHOWER ROOM, A WHEEL CHAIR TURNING SPACE SHALL BE PROVIDED WHICH IS EITHER A 60" DIAMETER CIRCLE OR 60" TEE. TOILET STALL DOORS OR FIXTURES COMPLYING W/ KNEE / TOE CLEARANCE REQUIREMENTS MAY INFRINGE ON THIS SPACE.
3. PROVIDE MINIMUM CLEAR FLOOR AND GROUND SPACE FOR EACH FIXTURE AS SPECIFIED BY CODE. THE CLEAR FLOOR SPACE SHALL NOT BE INFRINGED UPON BY THE SWING OF THE ENTRANCE OR EXIT DOOR.
4. WATER CLOSETS - TOP OF SEAT SHALL BE 17 - 19" ABOVE FLOOR. CENTER OF WATER CLOSET SHALL BE 18" FROM ONE SIDEWALL. TOILET PAPER DISPENSER CENTERLINE SHALL BE MOUNTED 7"-9" IN FRONT OF THE WATER CLOSET. THE OUTLET OF THE DISPENSER MUST BE 15" MIN. AND 48" MAX. ABOVE FLOOR LEVEL, AND A MIN. CLEARANCE OF 1 1/2" BELOW OR 12" MIN. ABOVE GRAB BAR. A CLEAR AREA FOR A WATER CLOSET OF A SINGLE OCCUPANCY TOILET ROOM SHALL BE PROVIDED A MINIMUM OF 60" MEASURED PERPENDICULAR FROM THE SIDEWALL AND A MIN. OF 56" MEASURED PERPENDICULAR FROM THE REAR WALL, IF 60"X 60" CLEAR AREA IS PROVIDED ELSEWHERE IN THE ROOM. THE FLUSH HANDLE OR VALVE SHALL BE LOCATED ON THE WIDE SIDE OF THE STALL AND WITH A MAXIMUM HEIGHT OF 36",OR USE AUTOMATIC FLUSH CONTROL.
5. WATER CLOSETS IN STALLS - THE STALL SHALL BE A MINIMUM CLEAR INSIDE DIMENSION OF 60" WIDE X 59" DEEP (FLOOR MOUNT CLOSET) OR 56" DEEP (WALL HUNG CLOSET). THE STALL DOOR SHALL BE SELF-CLOSING AND WHEN OPEN SHALL PROVIDE A CLEAR 32" MINIMUM WIDTH (34"+- DOOR). CLEAR UN-OBSTRUCTED SPACE IN FRONT OF THE TOILET STALL DOOR SHALL BE 42" WHEN APPROACHED FROM LATCH SIDE. DOOR MUST BE HINGED 4" MAXIMUM FROM ADJACENT WALL OR PARTITION FARTHEST FROM THE WATER CLOSET, AND MUST BE SELF-CLOSING.
6. GRAB BARS IN TOILET STALLS SHALL BE 1-1/2" DIAMETER MOUNTED WITH A MAXIMUM OF 1-1/2" WALL CLEARANCE TO WITHSTAND A VERTICAL AND HORIZONTAL LOAD OF 250 POUNDS WITH TOP OF BAR AT 33" ABOVE FLOOR. SIDE BARS TO BE MINIMUM 48" LONG, MOUNTED WITH 24" MINIMUM PROJECTING BEYOND THE FRONT OF THE WATER CLOSET AND A MAXIMUM OF 12" FROM THE REAR WALL. REAR BAR TO BE MINIMUM 36" LONG AND LOCATED WITH END 6" FROM SIDEWALL. GRAB BARS SHALL HAVE A NON-SLIP FINISH. IN ADDITION, A VERTICAL GRAB BAR 18" MIN. IN LENGTH MUST BE MOUNTED WITH THE BOTTOM OF THE BAR LOCATED BETWEEN 39" AND 41" ABOVE THE FLOOR, AND WITH THE CENTER LINE OF THE GRAB BAR LOCATED BETWEEN 39" AND 41" ABOVE THE FLOOR, AND THE CENTER LINE OF THE GRAB BAR LOCATED BETWEEN 39" AND 41" FROM THE REAR WALL.
7. LAVATORIES AND SINKS - FRONT EDGE OF LAVS MUST PROJECT A MINIMUM OF 18" FROM WALL WITH THE FRONT BOTTOM EDGE OF LAV/COUNTER NOT LESS THAN 29" ABOVE FLOOR. THE LAV BOWL SHALL BE NO LESS THAN 27" CLEAR HEIGHT ABOVE THE FLOOR AT 8" FROM THE COUNTER/ LAV FRONT EDGE. THE LAV MAXIMUM HEIGHT SHALL NOT BE MORE THAN 34" ABOVE FLOOR. FLOOR CLEARANCE FOR LAV SHALL BE A MINIMUM OF 30" WIDE X 48" DEEP, MEASURED FROM A POINT 19" MAXIMUM UNDER FRONT EDGE OF LAV. FRONT OF BOWL (INSIDE FACE) SHALL BE WITHIN 3" MAXIMUM FROM FRONT EDGE OF COUNTER. A CLEAR FLOOR AREA IN FRONT OF COUNTER/ LAV SHALL BE PROVIDED A MINIMUM OF 30"X 48". HOT WATER AND DRAIN PIPES SHALL BE INSULATED OR LOCATED TO PROTECT AGAINST CONTACT. PIPES LESS THAN 27" ABOVE FLOOR SHALL BE WITHIN 6" OF REAR WALL AND 9" MINIMUM ABOVE THE FLOOR. MAXIMUM WATER TEMPERATURE SHALL NOT EXCEED 120 DEGREES F. FAUCET SHALL BE WITHIN 18" OF FRONT OF COUNTER, WITH MINIMUM OF 2" LEVER HANDLES OR METERING TYPE VALVE. SINKS MUST BE 6 1/2" DEEP MAXIMUM.
8. URINALS - THE TOP OF THE LIP SHALL BE 17" MAXIMUM ABOVE THE FINISHED FLOOR. RIM SHALL BE ELONGATED. THE FLUSH CONTROL SHALL BE BETWEEN 15" AND 44" ABOVE THE FINISHED FLOOR, OR AUTOMATIC FLUSH CONTROL. A CLEAR FLOOR AREA IN FRONT OF THE URINAL SHALL BE PROVIDED A MINIMUM OF 30"X 48".
9. SIGNS - ALL BARRIER FREE TOILET ROOMS SHALL BE IDENTIFIED WITH A SYMBOL OF COMPLIANCE WITH MINIMUM 5/8" TO MAXIMUM 2" HIGH TACTILE LETTERS RAISED 1/32" AND GRADE II BRAILLE. SIGNS SHALL BE MOUNTED 60" ABOVE FINISH FLOOR TO CENTER LINE AND LOCATED ON WALL ADJACENT TO THE LATCH SIDE OF DOOR.
10. ELECTRICAL OUTLETS - IF SPECIFIED, A MINIMUM OF (1) ELECTRICAL DUPLEX RECEPTACLE (G.F.I.) SHALL BE PROVIDED NEAR THE LAV. MOUNTING HEIGHT TO CENTERLINE SHALL BE 36" MAXIMUM TO 33" MINIMUM ABOVE FLOOR, WITHIN 24" OF LAV CENTER LINE. ALL OTHER OUTLETS SHALL BE A MINIMUM OF 15" ABOVE FLOOR.
11. MIRRORS, IF SPECIFIED ABOVE LAVS, SHALL BE LOCATED WITH BOTTOM REFLECTING EDGE 40" MAXIMUM ABOVE FLOOR AND TOP EDGE A MINIMUM OF 74" ABOVE FLOOR. MIRRORS SHALL BE MINIMUM OF 18" WIDE.
12. PAPER TOWEL DISPENSER SHALL BE WALL MOUNTED WITH TOWEL DISPENSER SLOT OR CONTROL LOCATED 40" MAXIMUM ABOVE FLOOR. ELECTRIC AIR TYPE HAND DRYER CONTROLS SHALL BE MOUNTED 40" MAXIMUM ABOVE FLOOR.
13. SHOWERS: (SEE NOTE #2 ABOVE)
    A. SHOWERS IN STALLS
        1. TRANSFER-TYPE SHOWER STALLS SHALL BE A MINIMUM SIZE OF 36"WIDE X 36" DEEP WITH A FULL DEPTH "L" SHAPE FOLD UP SEAT FLUSH WITH THE FRONT EDGE OF THE STALL, MOUNTED AT 17" TO 19" HT. GRAB BARS AND CONTROLS SHALL BE LOCATED AS SHOWN ON ATTACHED SCHEMATIC PLANS. THRESHOLD SHALL BE ½" HT. MAXIMUM.
        2. ROLL-IN TYPE SHOWER STALLS SHALL BE A MINIMUM SIZE OF 60" WIDE X 36" DEEP (WITHOUT SEAT) GRAB BARS AND CONTROLS SHALL BE LOCATED AS SHOWN ON ATTACHED SCHEMATIC PLANS THREE SEPARATE GRAB BARS MAY BE USED IN LIEU OF THE SINGLE WRAP-AROUND BAR SHOWN. THRESHOLD SHALL BE FLUSH.
    B. SHOWER UNIT CONTROLS - A SHOWER SPRAY UNIT WITH A MIN. 59" LONG HOSE SHALL BE PROVIDED FOR USE AS BOTH A FIXED SHOWER HEAD AND A HAND HELD UNIT, OR IN AREAS SUBJECTED TO VANDALISM A FIXED HEAD AT 48" HT. MAY BE PROVIDED
14. EXISTING BUILDING ALTERNATIVES - BUILDINGS IN EXISTENCE BEFORE NOVEMBER 6, 1974, WITH FACILITIES IN COMPLIANCE WITH THE FOLLOWING ALTERNATIVES MAY BE CONSIDERED IN COMPLIANCE WITH THE BARRIER FREE REQUIREMENTS, PROVIDING ALL OTHER CONDITIONS LISTED ABOVE ARE MET.
    A. TOILET STALLS/SINGLE OCCUPANCY TOILET ROOMS - EXISTING STALL SHALL BE 42" MINIMUM WIDTH TO 60" MAXIMUM WIDTH. CLEAR SPACE IN FRONT OF WATER CLOSET SHALL BE 42" MIN.
    B. WATER CLOSET - EXISTING CENTER LINE SHALL BE 18" TO 21" FROM SIDE WALL WITH GRAB BARS ON NEAREST SIDE WALL AND BACK WALL. SEAT HEIGHT SHALL BE 16" TO 19" ABOVE FLOOR.
    C. GRAB BARS - TOP OF BAR HEIGHT SHALL BE 33" TO 36" ABOVE THE FLOOR AND NOT MORE THAN 17" ABOVE THE WATER CLOSET SEAT HEIGHT.
    D. LAVATORY - MINIMUM PROJECTION SHALL BE 18" PREFERRED, FROM WALL WITH BOTTOM EDGE NOT LESS THAN 27" ABOVE THE FLOOR.
    E. DRINKING FOUNTAIN - SPOUT HEIGHT SHALL BE 36" MAXIMUM ABOVE FLOOR.



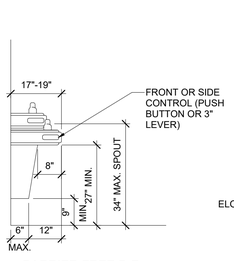
FRONT ELEVATION
BARRIER FREE TOILET
FLOOR MOUNTED

SIDE ELEVATION
BARRIER FREE TOILET
FLOOR MOUNTED



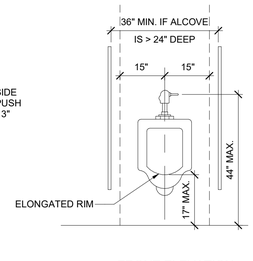
SIDE ELEVATION
BARRIER FREE LAV.

FRONT ELEVATION
BARRIER FREE LAV.



BARRIER FREE D.F.

NOTE:
ADA+M.B.F.D.R. REQUIRES (2) D.F.S. -
(1) INSTALLED @ H.C. HEIGHT
(1) INSTALLED @ NORMAL HEIGHT
(39" MIN. SPOUT HT.) FOR ALL LOCATIONS



FRONT ELEVATION
BARRIER FREE URINAL

CLEAR FLOOR SPACE NOTES:
1. DOORS SHALL BE PERMITTED TO SWING INTO TURNING SPACE (304.4)
2. ONE FULL UNOBSTRUCTED SIDE OF THE CLEAR FLOOR SPACE MUST ADJOIN AN ACCESSIBLE ROUT OR ANOTHER CLEAR FLOOR SPACE (305.6)
3. A CLEAR FLOOR SPACE IS REQUIRED AT ANY DEVICE WITH AN OPERABLE PART (309.2)

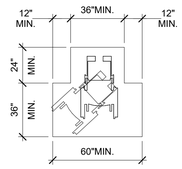
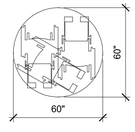


FIG. 304.3.2
T-SHAPED SPACE



REF. 304.3.1
CIRCULAR SPACE

TURNING SPACE
REF. SECTION 304

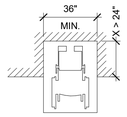


FIG. 305.7.1

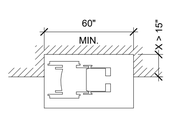
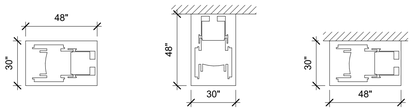


FIG. 305.7.2

CLEAR FLOOR SPACE IN ALCOVES



CLEAR FLOOR SPACE
FIG. 305.3

FORWARD APPROACH
FIG. 305.5 (a)

PARALLEL APPROACH
FIG. 305.5 (b)

MINIMUM CLEAR FLOOR SPACE

REF. SECTIONS 304 & 305

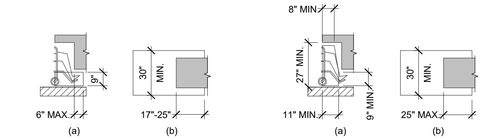


FIG. 306.2
TOE CLEARANCES

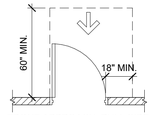
FIG. 306.3
KNEE CLEARANCES

KNEE & TOE CLEARANCES

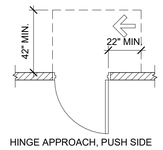
REF. SECTION 306

MANEUVERING CLEARANCES AT MANUAL SWINGING DOORS AND GATES			
TYPE OF USE		MINIMUM MANEUVERING CLEARANCE	
APPROACH DIRECTION	DOOR OR GATE SIDE	PERPENDICULAR TO DOORWAY	PARALLEL TO DOORWAY (BEYOND LATCH SIDE UNLESS NOTED)
FROM FRONT	PULL	60 INCHES	18 INCHES
FROM FRONT	PUSH	48 INCHES	0 INCHES (1)
FROM HINGE SIDE	PULL	60 INCHES	36 INCHES
FROM HINGE SIDE	PULL	54 INCHES	42 INCHES
FROM HINGE SIDE	PUSH	42 INCHES (2)	22 INCHES (3)
FROM LATCH SIDE	PULL	48 INCHES (4)	24 INCHES
FROM LATCH SIDE	PUSH	42 INCHES (4)	24 INCHES

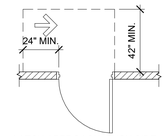
(1) ADD 12 INCHES IF CLOSER AND LATCH ARE PROVIDED.
(2) ADD 6 INCHES IF CLOSER AND LATCH ARE PROVIDED.
(3) BEYOND HINGE SIDE.
(4) ADD 6 INCHES IF CLOSER IS PROVIDED.



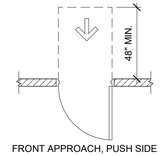
FRONT APPROACH, PULL SIDE



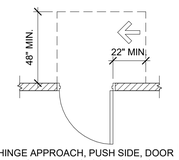
HINGE APPROACH, PUSH SIDE



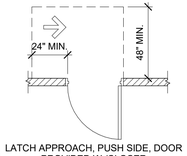
LATCH APPROACH, PUSH SIDE



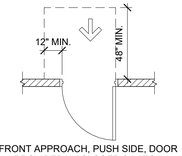
FRONT APPROACH, PUSH SIDE



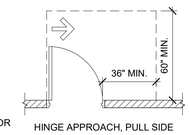
HINGE APPROACH, PUSH SIDE, DOOR PROVIDED W/ CLOSER & LATCH



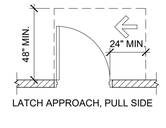
LATCH APPROACH, PUSH SIDE, DOOR PROVIDED W /CLOSER



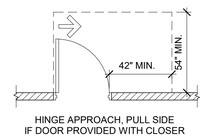
FRONT APPROACH, PUSH SIDE, DOOR PROVIDED W/ CLOSER & LATCH



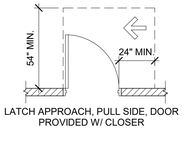
HINGE APPROACH, PULL SIDE



LATCH APPROACH, PULL SIDE

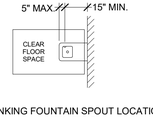


HINGE APPROACH, PULL SIDE
IF DOOR PROVIDED WITH CLOSER

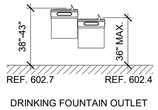


LATCH APPROACH, PULL SIDE, DOOR PROVIDED W/ CLOSER

DRINKING FOUNTAIN NOTES:
1. KNEE & TOE CLEARANCE COMPLYING WITH 306 SHALL BE PROVIDED (602.2)
2. WHERE A DRINKING FOUNTAIN IS REQUIRED, TWO SHALL BE PROVIDED, ONE HIGH & ONE LOW (211.2)
3. UNITS SHALL HAVE A CLEAR FLOOR SPACE COMPLYING WITH 305 POSITIONED FOR FORWARD APPROACH AND CENTERED ON UNIT (602.2)



DRINKING FOUNTAIN SPOUT LOCATION
FIG. 602.5



DRINKING FOUNTAIN OUTLET HEIGHTS

DRINKING FOUNTAIN

REF. SECTION 602

NOTE:
ANY OPERABLE PART OF ANY DEVICE SHALL BE INSTALLED WITHIN THE REACHES SHOWN (309)

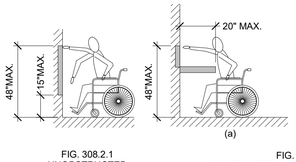


FIG. 308.2.1
UNOBSTRUCTED FORWARD REACH

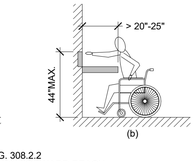


FIG. 308.2.2
OBSTRUCTED HIGH FORWARD REACH

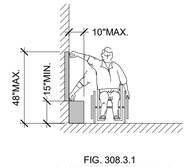
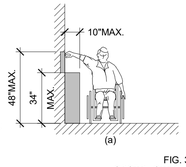


FIG. 308.3.1
UNOBSTRUCTED SIDE REACH



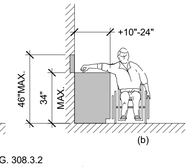


FIG. 308.3.2
OBSTRUCTED HIGH SIDE REACH

REACH RANGES

REF. SECTION 308

ACCESSIBLE GUIDELINES

THIS DRAWING IS A REPRESENTATIVE SUMMARY OF THE REQUIREMENTS OF THE 2010 ADA STANDARDS THAT MAY BE APPLICABLE TO THE PROJECT. WHERE SPECIFIC DIMENSIONAL INFORMATION AND CLEARANCES ARE NOT NOTED ON THE DRAWINGS, CONSTRUCT TO THE CLEARANCES AND TOLERANCES SHOWN ON THIS SHEET. WHERE DRAWINGS SPECIFICALLY INDICATE DIFFERENT OR CONFLICTING INFORMATION TO THE STANDARDS DEPICTED ON THIS SHEET, CONSTRUCT USING THE MORE STRINGENT REQUIREMENT OR CONTACT THE ARCHITECT FOR RESOLUTION.

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KITCHEN CAFETERIA UPDATES & RELATED WORK

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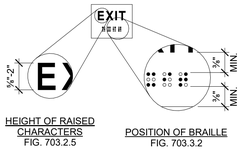
3145 PRAIRIE STREET, IDA, MICHIGAN 48140

FOR
IDA PUBLIC SCHOOLS
3145 PRAIRIE STREET, IDA, MICHIGAN 48140

JOB # 25002

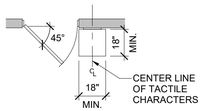
TYPICAL MOUNTING HEIGHTS & CLEARANCES

LS2.00



HEIGHT OF RAISED CHARACTERS
FIG. 703.2.5

POSITION OF BRAILLE
FIG. 703.3.2



LOCATION OF TACTILE SIGNS AT DOORS
FIG. 703.4.2

TACTILE CHARACTER HEIGHT ABOVE FLOOR
FIG. 703.4.1

TACTILE SIGN NOTES:
1. RAISED CHARACTERS SHALL COMPLY WITH 703.2 AND SHALL BE DUPLICATED IN BRAILLE COMPLYING WITH 703.3. RAISED CHARACTERS SHALL BE INSTALLED IN ACCORDANCE WITH 703.4 (703.2)
2. BRAILLE SHALL BE CONTRACTED (GRADE 2) AND SHALL COMPLY WITH 703.3 AND 703.4. (703.3)
3. BRAILLE SHALL BE POSITIONED BELOW THE CORRESPONDING TEXT. IF TEXT IS MULTI-LINED, BRAILLE SHALL BE PLACED BELOW THE ENTIRE TEXT. (703.3.2)
4. PICTOGRAMS SHALL HAVE A FIELD HEIGHT OF 6 INCHES (150MM) MINIMUM. CHARACTERS AND BRAILLE SHALL NOT BE LOCATED IN THE PICTOGRAM FIELD. (703.6.1)
5. PICTOGRAMS AND THEIR FIELD SHALL HAVE NON-GLARE FINISH. PICTOGRAMS SHALL CONTRAST WITH THEIR FIELD WITH EITHER A LIGHT PICTOGRAM ON A DARK FIELD OR A DARK PICTOGRAM ON A LIGHT FIELD. (703.6.2)

TACTILE SIGNS

REF. SECTION 703

NOTE:
1. PROTRUDING OBJECTS SHALL NOT REDUCE THE REQUIRED WIDTH OF AN ACCESSIBLE ROUTE (307.5)
2. PROTRUDING OBJECTS ON A CIRCULATION PATH SHALL COMPLY w/ SECTION 307 (204.1)

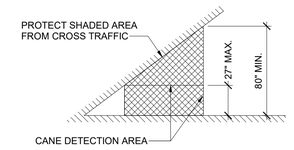


FIG. 307.5
VERTICAL CLEARANCES

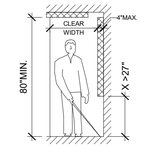


FIG. 307.2
LIMITS OF PROTRUDING OBJECTS

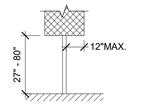


FIG. 307.3 (a)

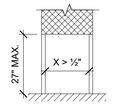
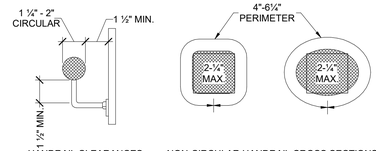


FIG. 307.3 (b)

POST-MOUNTED PROTRUDING OBJECTS

PROTRUDING OBJECTS

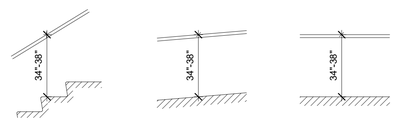
REF. SECTION 307



HANDRAIL CLEARANCES
FIG. 505.5 & 505.6

NON-CIRCULAR HANDRAIL CROSS SECTIONS
FIG. 505.7.2

HANDRAIL SIZES & CLEARANCES

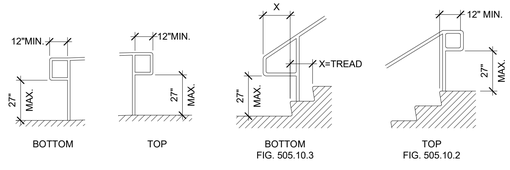


STAIRS
FIG. 505.4 (a)

RAMPS
FIG. 505.4 (b)

WALKING SURFACES
FIG. 505.4 (c)

HANDRAIL HEIGHTS
REF. SECTION 505



BOTTOM

TOP

BOTTOM
FIG. 505.10.3

TOP
FIG. 505.10.2

HANDRAIL EXTENSIONS @ RAMPS
FIG. 505.10.1

HANDRAIL EXTENSIONS @ STAIRS

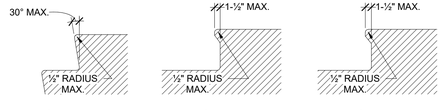


FIG. 504.5 (b)
ANGLED RISER

FIG. 504.5 (c)
CURVED NOSING

FIG. 504.5 (d)
BEVELED NOSING

STAIRWAYS & HANDRAILS

REF. SECTIONS 504 & 505

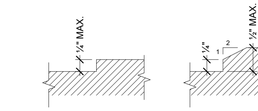
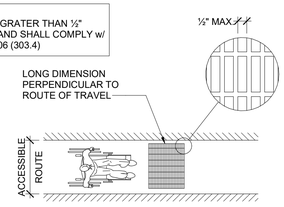


FIG. 303.2
CHANGES IN LEVEL

FIG. 303.3

FIG. 302.2
CARPET PILE THICKNESS

NOTE:
CHANGES IN LEVEL GRATER THAN ½" SHALL BE RAMPED AND SHALL COMPLY w/ SECTIONS 405 OR 406 (303.4)



OPENINGS IN FLOOR OR GROUND SURFACE
REF. SECTION 302.3

FLOOR & GROUND SURFACES

REF. SECTIONS 302 & 303

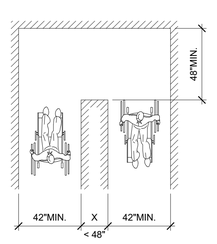


FIG 403.5.2 (a)

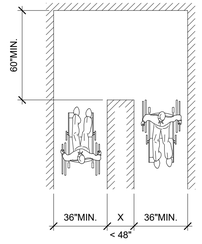
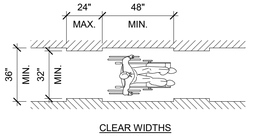


FIG. 403.5.2 (b)

CLEAR WIDTHS AT 180 DEGREE TURNS

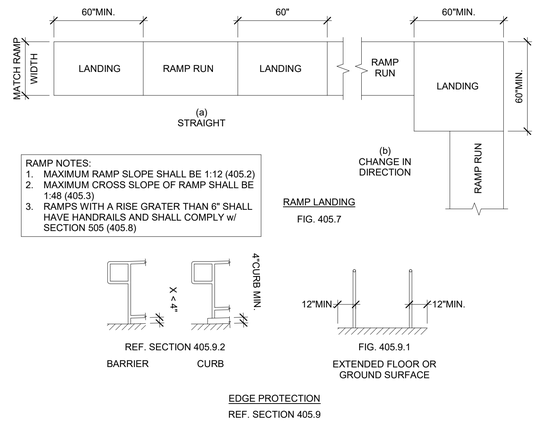


CLEAR WIDTHS
FIG. 403.5.1

ACCESSIBLE ROUT NOTE:
THE SLOPE OF A WALKING SURFACE ALONG AN ACCESSIBLE ROUTE SHALL NOT BE STEEPER THAN 1:20 AND CROSS SLOPES SHALL NOT EXCEED 1:48 (402)

ACCESSIBLE ROUTE

REF. SECTION 402



(a)
STRAIGHT

(b)
CHANGE IN DIRECTION

RAMP NOTES:
1. MAXIMUM RAMP SLOPE SHALL BE 1:12 (405.2)
2. MAXIMUM CROSS SLOPE OF RAMP SHALL BE 1:48 (405.3)
3. RAMPS WITH A RISE GRATER THAN 6" SHALL HAVE HANDRAILS AND SHALL COMPLY w/ SECTION 505 (405.8)

RAMP LANDING
FIG. 405.7

REF. SECTION 405.9.2
BARRIER CURB

FIG. 405.9.1
EXTENDED FLOOR OR GROUND SURFACE

EDGE PROTECTION
REF. SECTION 405.9

RAMPS

REF. SECTION 405

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TYPICAL MOUNTING HEIGHTS & CLEARANCES

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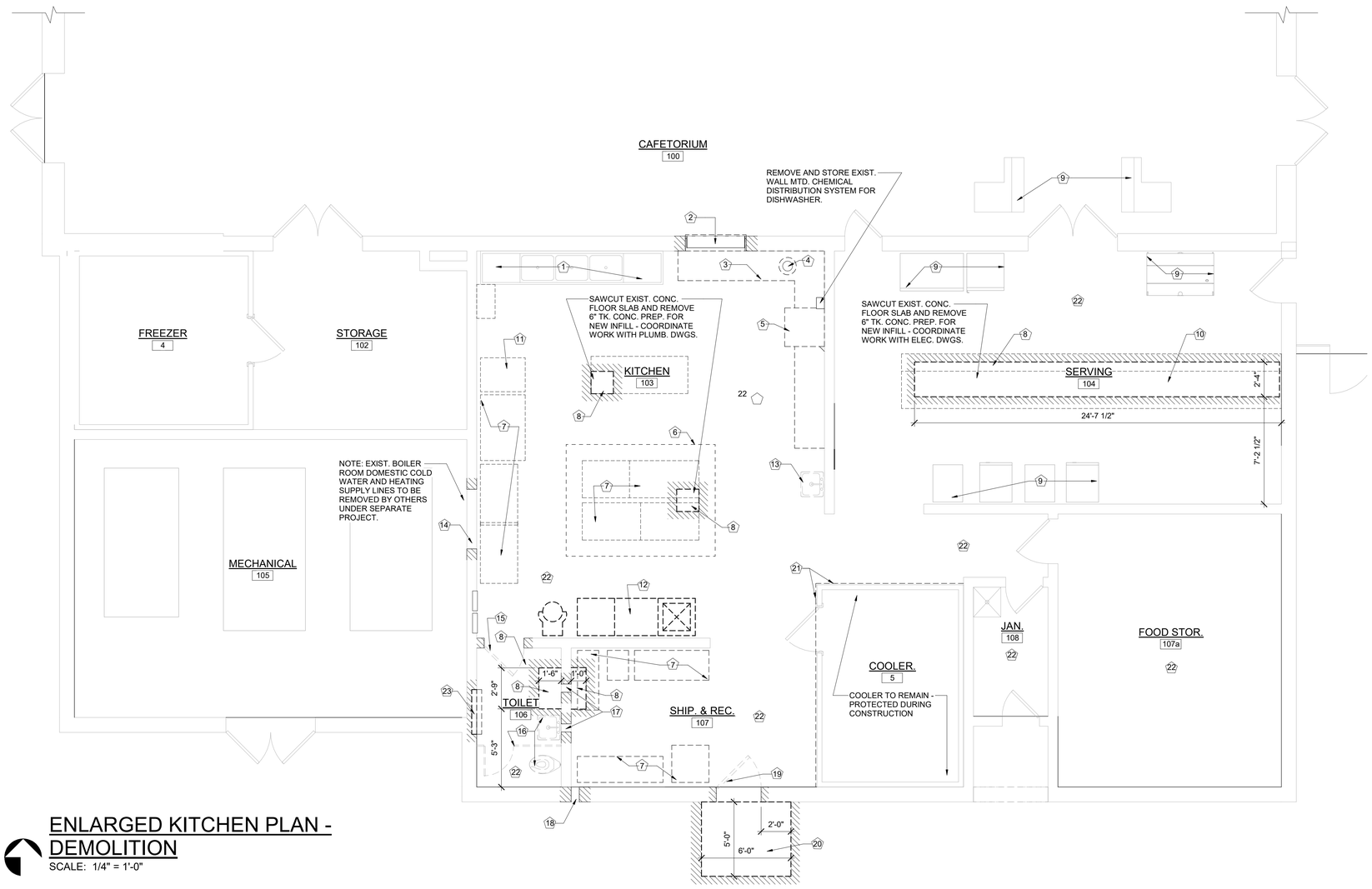
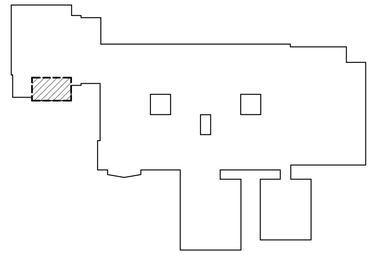


ENLARGED KITCHEN PLAN - DEMOLITION

SCALE: 1/4" = 1'-0"



KEY PLAN

SCALE: 1" = 100'-0"

PLAN LEGEND

- DEMO WALLS AS NOTED ON PLAN
- NEW WALLS AS NOTED ON PLAN
- EXISTING WALLS AS NOTED ON PLAN
- A — CONSTRUCTION NOTE TAG - SEE CONSTRUCTION NOTES.
- X — DEMOLITION NOTE TAG - SEE DEMO NOTES.
- D1 — WALL TYPE INDICATOR INTERIOR WALLS ARE NOTED IN DETAIL ON SHEET A1.15
- ROOM NAME / 0000 — NEW ROOM NAME AND NUMBERS
- 1 — STRUCTURAL GRID - SEE STRUCTURAL DRAWINGS
- 101 — DOOR TAG - SEE DOOR & HARDWARE SCHEDULE
- 1t — WINDOW TAG - SEE WINDOW ELEVATIONS
- DIM. — DIMENSIONS ARE TO FACE OF STUD OR MASONRY

DEMOLITION NOTES:

1. EXISTING THREE COMPARTMENT SINK TO BE REMOVED AND STORED, AS DIRECTED BY OWNER, FOR RE-INSTALLATION.
2. REMOVE EXISTING ROLLING COUNTER DOOR PREP OPENING FOR NEW WORK AS NOTED.
3. REMOVE EXIST. L-SHAPE STAINLESS STEEL CLEAN TABLE.
4. REMOVE EXISTING FOOD WASTE DISPOSER AND STORE, AS DIRECTED BY OWNER, FOR RE-INSTALLATION.
5. REMOVE EXIST. COMMERCIAL DISHWASHER / HOOD AND STORE, AS DIRECTED BY OWNER, FOR RE-INSTALLATION.
6. REMOVE EXIST. KITCHEN EXHAUST HOOD - ENTIRE ASSEMBLY. REFER TO MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS.
7. REMOVE EXIST. KITCHEN EQUIPMENT - GAS RANGE, STACKABLE OVEN, COOLERS, RACKS, WORK TABLES, ETC. AS NOTED.
8. SAWCUT EXIST. CONC. FLOOR SLAB AND REMOVE 6" TK. CONC. PREP AREA FOR NEW WORK - COORDINATE WITH MEP DRAWINGS.
9. REMOVE EXISTING KITCHEN EQUIPMENT AND STORE, AS DIRECTED BY OWNER, FOR RE-INSTALLATION.
10. REMOVE EXISTING SERVING LINE EQUIPMENT.
11. REMOVE EXISTING FREEZER AND STORE, AS DIRECTED BY OWNER, FOR RE-INSTALLATION.
12. REMOVE EXISTING FOOD PREP SINK. REFER TO PLUMB. DWGS. PREP AREA FOR NEW WORK.
13. REMOVE EXISTING HAND WASH SINK. REFER TO PLUMB. DWGS. PREP AREA FOR NEW WORK.
14. REMOVE EXISTING LOUVER / GRILLE. REFER TO MECH. DWGS. PREP AREA FOR NEW WORK.
15. REMOVE EXISTING DOOR FRAME AND DOOR - PREP AREA FOR NEW WORK.
16. REMOVE EXIST. PLUMB. FIXTURES, TOILET PARTITIONS, TOILET ROOM, ALL WALL MTD. ACCESSORIES, ETC. PREP. AREA FOR NEW WORK - COORDINATE WITH MEP DWGS.
17. SAWCUT CMU IN AREA OF NEW PLUMBING - COORDINATE WITH PLUMB. DWGS. PREP AREA FOR NEW WORK.
18. SAWCUT NEW OPENING THROUGH EXTERIOR WALL / FACE BRICK FOR DRYER VENT. COORDINATE WITH MECH. DWGS.
19. REMOVE EXIST. ALUM. FRAME AND DOOR AND PREP. NEW DOOR FRAME AND DOOR AS NOTED IN SCHEDULE.
20. SAWCUT AND REMOVE EXIST. ASPHALT - PREP AREA FOR NEW CONCRETE APRON WITH FROST FOUNDATION.
21. SAWCUT EXIST. TILE AROUND EXIST. COOLER AND REMOVE - PREP AREA FOR FLOOR FINISH.
22. REMOVE EXISTING FLOOR TILE AND BASE - PREP FOR NEW FLOORING AS NOTED IN FINISH SCHEDULE.
23. REMOVE EXIST. WALL MTD. UNIT HEATER "BY OTHERS". SAWCUT OPENING FOR NEW RECESSED UNIT HEATER AND INSTALL NEW STEEL LINTEL. SEE MECH DWGS.

GENERAL DEMOLITION NOTES:

1. COORDINATE ALL DEMOLITION WITH THE OWNER'S HAZARDOUS MATERIAL ABATEMENT DOCUMENTS AND SCOPE.
2. DEMOLITION CONTRACTOR TO PROTECT ADJACENT AREAS TO CONSTRUCTION AND COMMON POINTS OF TRAVEL TO AND FROM CONSTRUCTION AREAS. PROTECTION IN THESE AREAS TO INCLUDE AIR QUALITY, WALK SURFACES, EQUIPMENT, FURNISHINGS, BUILDING OCCUPANTS, ETC. FROM DUST / DEBRIS, EXCESSIVE NOISE, WEAR, OR DAMAGE OF ANY KIND. PRIOR TO ANY PHYSICAL WORK, THE CONTRACTOR MUST HAVE A WRITTEN PLAN FOR PROTECTION APPROVED BY THE ARCHITECT.

   AREA OF HIGH REPLACEMENT VALUE OR MORE LIKELY FOR DAMAGE ARE TO HAVE ADDED PROTECTION (I.E. GYM FLOORS, ROOFING, ETC.)
3. ANY WORK UNDER THE CONTRACT THAT WILL INTERRUPT THE OWNER'S ACTIVITIES SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE.
4. ALL DEMOLITION WORK REQUIRED IS NOT LIMITED TO THAT INDICATED ON PLAN. THE INTENT IS TO REMOVE ALL MECHANICAL, ELECTRICAL, AND ARCHITECTURAL ITEMS AS NECESSARY TO FACILITATE NEW CONSTRUCTION.
5. PRIOR TO COMMENCEMENT OF DEMOLITION WORK, CONTRACTOR IS TO INSPECT ALL AREAS IN WHICH WORK WILL BE PERFORMED. DOCUMENT EXISTING CONDITIONS OF STRUCTURE, SURFACES, EQUIPMENT OR SURROUNDING AREAS WHICH COULD BE MISCONSTRUED AS DAMAGE RESULTING FROM DEMOLITION WORK AND FILE WITH CONSTRUCTION MANAGER OR ARCHITECT.
6. NOTIFY ARCHITECT IF ANY EXISTING ITEM THAT CONFLICTS WITH THE INTENDED FINAL PRODUCT IS NOT SPECIFICALLY CALLED OUT. DEMOLITION CONTRACTOR TO NOTIFY ARCHITECT OF ANY DISCREPANCIES IN THE DOCUMENTS & FIELD CONDITIONS BEFORE PROCEEDING WITH DEMOLITION AND / OR CONSTRUCTION.
7. ALL DEMOLITION WORK, UNLESS OTHERWISE NOTED IN THE PROJECT MANUAL, DRAWINGS OR DIRECTED BY OWNER SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE. ALL DEBRIS CAUSED BY DEMOLITION AND CONSTRUCTION SHALL BE CLEARED AND REMOVED FROM THE SITE. DEBRIS STORAGE SHALL NOT INFRINGE ON CLEAR PATH OF EGRESS.
8. PROVIDE TEMPORARY BARRICADES AND OTHER FORMS OF PROTECTION AS REQUIRED TO PROTECT OWNER'S PERSONNEL AND GENERAL PUBLIC FROM INJURY DUE TO DEMOLITION WORK.
9. PROTECT EXISTING STRUCTURES, FINISHES, UTILITIES AND OTHER ITEMS SCHEDULED TO REMAIN. AREAS THAT ARE DAMAGED BY SELECTIVE DEMOLITION SHALL BE PATCHED AND REPAIRED AND FINISHED OR REPLACED TO MATCH EXISTING ADJACENT SURFACES.
10. CONTRACTOR TO COORDINATE A WALK THROUGH WITH THE CONSTRUCTION MANAGER AND OWNER PRIOR TO EACH PHASE OF DEMOLITION TO IDENTIFY REMAINING ITEMS TO BE SALVAGED.
11. FOR ANY ITEMS TO BE SALVAGED BY CONTRACTOR, PROVIDE A DETAILED INVENTORY LIST OF ALL SALVAGED ITEMS AND THEIR STORED LOCATIONS ON SITE.
12. SHOULD HIDDEN FIELD CONDITIONS REQUIRE MODIFICATIONS TO THE LAYOUT, THE CONTRACTOR SHALL COORDINATE WITH THE CONSTRUCTION MANAGER OR ARCHITECT.
13. STRIP EXIST. FLOORS THAT AREA TO RECEIVE FLOOR FINISHES. FOLLOW MANUFACTURERS RECOMMENDATIONS FOR INSTALLATION OF FINISH MATERIALS ON EXIST. SUBSTRATES.
14. AFTER DEMOLITION IS COMPLETE PATCH AND REPAIR EXIST. SURFACES TO REMAIN, AS REQUIRED FOR NEW FINISHES.
15. THE ON-GOING CAMPUS WIDE GEOTHERMAL PROJECT IS SCHEDULED TO BE COMPLETED BY JULY 2025. THERE ARE SEVERAL NOTED MECHANICAL ITEMS, WITHIN THE KITCHEN AREA, THAT ARE SCHEDULED TO BE REMOVED "BY OTHERS" AS PART OF THE GEOTHERMAL WORK. THIS WORK IS CURRENTLY UNDER CONTRACT AND WILL BE COMPLETED IN CONJUNCTION WITH THIS PROJECT. THE SCHEDULED DATE FRO REMOVAL OF THOSE MECHANICAL ITEMS IS UNKNOWN AT THIS TIME. THE OWNER HAS MADE THE CONTRACTOR AWARE OF THIS PROJECT AND FULL COOPERATION BETWEEN THE TWO ON-GOING PROJECTS IS TO BE EXPECTED. ANY COORDINATION WILL BE HANDLED BY THE OWNER AND ARCHITECT DURING THE PRE-CONSTRUCTION MEETING AND AS NECESSARY DURING CONSTRUCTION, SO THAT THIS PROJECT CAN BE COMPLETED WITH NO INTERRUPTIONS.

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MAKE Things Better

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KITCHEN CAFETERIA UPDATES & RELATED WORK

AT

IDA HIGH SCHOOL
3145 PRAIRIE STREET, IDA, MICHIGAN 48140

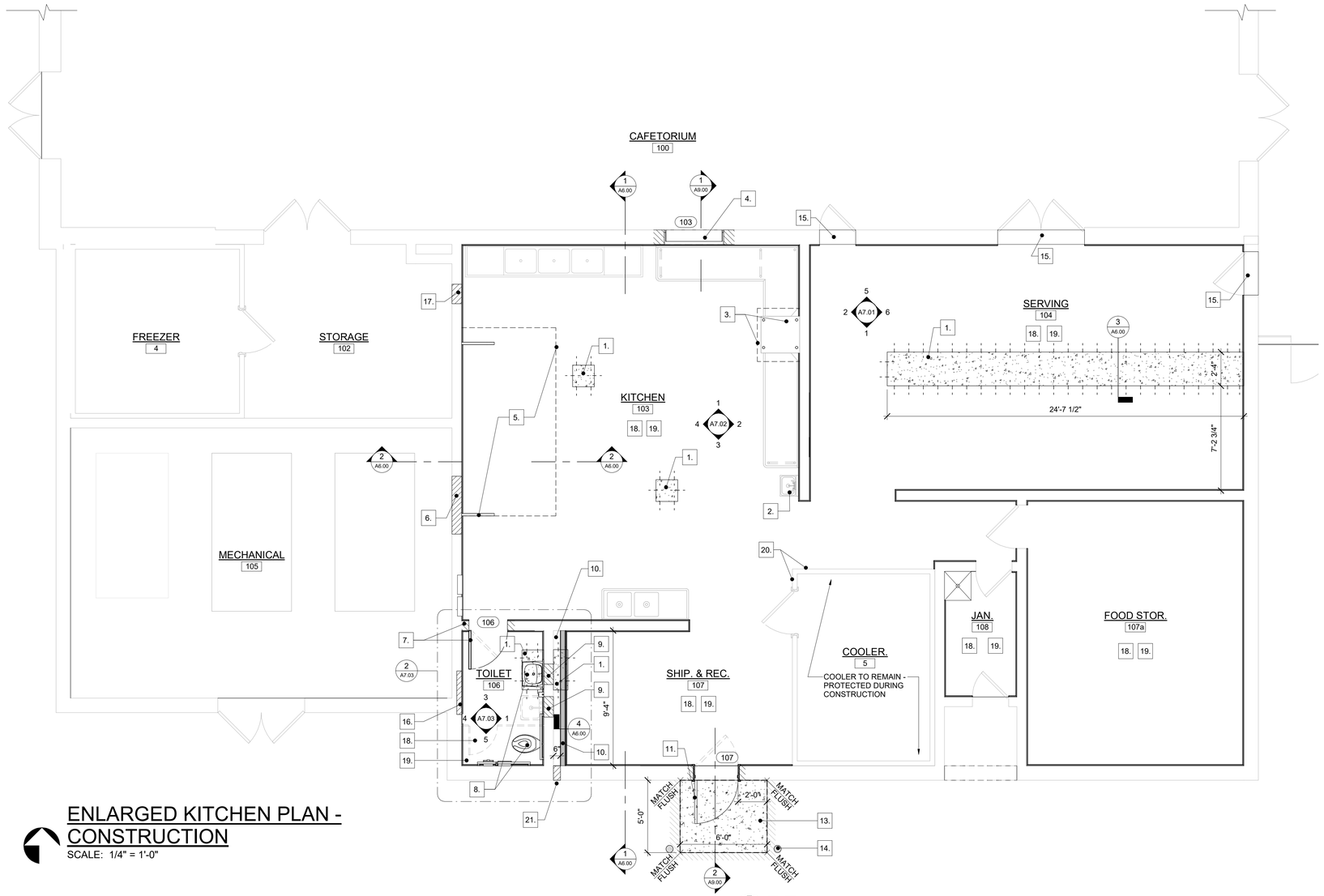
FOR

IDA PUBLIC SCHOOLS
3145 PRAIRIE STREET, IDA, MICHIGAN 48140

JOB # 25002

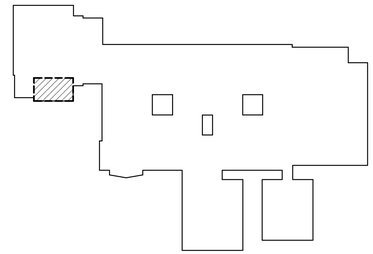
ENLARGED KITCHEN PLAN - DEMOLITION

A1.00



ENLARGED KITCHEN PLAN - CONSTRUCTION

SCALE: 1/4" = 1'-0"



KEY PLAN

SCALE: 1" = 100'-0"

GENERAL CONSTRUCTION NOTES:

1. EXISTING MATERIAL TO REMAIN SHALL BE PROTECTED FROM DAMAGE AT ALL TIMES. EXISTING BUILDING MATERIALS AND/OR FINISHES THAT ARE DAMAGED SHALL BE REPAIRED AND/OR REPLACED TO THE SATISFACTION OF THE OWNER AND ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.
2. PATCH EXISTING WALLS AND FLOOR OPENINGS AFTER REMOVAL OF EXISTING AND INSTALLATION OF NEW MECHANICAL AND ELECTRICAL EQUIPMENT.
3. PATCH AND REPAIR EXISTING WALLS AND FLOOR TO ENSURE EVEN SURFACE TO RECEIVE FINISH MATERIALS.
4. MECHANICAL / ELECTRICAL EQUIPMENT SHOWN IN PLANS FOR REFERENCE ONLY - COORDINATE FINAL LOCATION WITH MEP TRADES.
5. COORDINATE SIZE AND LOCATION OF ALL HOUSEKEEPING PADS AND/OR EQUIPMENT SUPPORTS WITH APPROPRIATE EQUIPMENT MANUFACTURER.
6. COORDINATE SIZES AND LOCATIONS OF ALL MISCELLANEOUS ACCESS PANELS REQUIRED. ACCESS PANELS ARE SPECIFIED ARCHITECTURALLY BUT ARE TO BE PROVIDED BY TRADES REQUIRING THEM. ALL LOCATIONS MUST BE APPROVED BY ARCHITECT PRIOR TO INSTALLATION.
7. FLOOR PLANS ARE DIMENSIONED TO ACTUAL WALL THICKNESS UNLESS OTHERWISE NOTED.
8. DIMENSIONS FOLLOWED BY ± MUST BE FIELD REVIEWED AND ALL NECESSARY ADJUSTMENTS MADE PRIOR TO FABRICATION AND/OR INSTALLATION OF AFFECTED WORK. NOTIFY ARCHITECT IF DISCREPANCIES ARISE BEFORE PROCEEDING WITH THE WORK.
9. PROVIDE INTERIOR GYPSUM BOARD CONTROL JOINTS @ 25' O.C. AT LOCATIONS SHOWN ON PLANS AND/OR INTERIOR ELEVATIONS OR AS DIRECTED BY ARCHITECT.
10. VERIFY QUANTITY, SIZES, AND LOCATIONS OF ALL FLOOR, ROOF, AND WALL OPENINGS FOR MECHANICAL AND ELECTRICAL WORK WITH THE APPROPRIATE TRADES. PROVIDE ALL OPENINGS SHOWN OR REQUIRED FOR THE COMPLETION OF THE WORK. PROVIDE ALL LINTELS REQUIRED FOR THESE OPENINGS PER SPECIFICATIONS.
11. REFER TO LIFE SAFETY DRAWINGS FOR LOCATIONS OF REQUIRED FIRE RESISTANCE RATINGS, AND WALL TYPES FOR UL DETAIL NUMBERS.
12. REFER TO FINISH PLANS FOR FLOOR FINISHES, ROOM FINISHES, AND FINISH LAYOUTS.
13. THE ON-GOING CAMPUS WIDE GEOTHERMAL PROJECT IS SCHEDULED TO BE COMPLETED BY JULY 2025. THERE ARE SEVERAL NOTED MECHANICAL ITEMS, WITHIN THE KITCHEN AREA, THAT ARE SCHEDULED TO BE REMOVED "BY OTHERS" AS PART OF THE GEOTHERMAL WORK. THIS WORK IS CURRENTLY UNDER CONTRACT AND WILL BE COMPLETED IN CONJUNCTION WITH THIS PROJECT. THE SCHEDULED DATE FRO REMOVAL OF THOSE MECHANICAL ITEMS IS UNKNOWN AT THIS TIME. THE OWNER HAS MADE THE CONTRACTOR AWARE OF THIS PROJECT AND FULL COOPERATION BETWEEN THE TWO ON-GOING PROJECTS IS TO BE EXPECTED. ANY COORDINATION WILL BE HANDLED BY THE OWNER AND ARCHITECT DURING THE PRE-CONSTRUCTION MEETING AND AS NECESSARY DURING CONSTRUCTION, SO THAT THIS PROJECT CAN BE COMPLETED WITH NO INTERRUPTIONS.

MATERIAL TAG LEGEND:

ACT	ACOUSTICAL CL'G TILE 2'x2'
CT-1	CERAMIC TILE
CT-2	CERAMIC TILE BASE
GB	GYPSUM BOARD
PT-1	INTERIOR WALL PAINT
PT-2	INTERIOR WALL PAINT
PT-3	INTERIOR WALL PAINT
PT-4	INTERIOR WALL PAINT
PT-5	INTERIOR WALL PAINT
RB-1	RUBBER BASE
XACT	EXISTING ACOUSTICAL CL'G TILE
XC	EXISTING CONCRETE SLAB
XCB	EXISTING CONCRETE BLOCK
XCT	EXISTING CERAMIC TILE
XMD	EXISTING METAL DECK
XP	EXISTING PLASTER

CONSTRUCTION NOTES:

1. CONCRETE SLAB INFILL - RECOMPACT FILL, INSTALL VAPOR BARRIER, PIN PERIMETER W/ 12" LONG #4 BARS @12"O.C. FULL PERIMETER, INSTALL 6x6 - W2.1x2.1 WIRE MESH AND MIN. 4" TK. CONC. FLUSH WITH EXIST. FLOOR SLAB. COORDINATE WITH MEP DWGS.
2. INSTALL NEW HANDWASH SINK - SEE PLUMB. DWGS.
3. EXISTING COMMERCIAL DISHWASHER AND CONDENSATE HOOD - REINSTALL. COORDINATE WITH NEW STAINLESS STEEL CLEAN TABLES. ON EACH SIDE. CLOSE OFF TOP OF CONDENSATE HOOD WITH NEW S.S. SHROUD AS NOTED. SEE EQUIPMENT PLAN.
4. INSTALL NEW STEEL ROLLING COUNTER DOOR W/ INTEGRAL FRAME. COORDINATE NEW S.S. PASS THROUGH SILL W/ KITCHEN EQUIP. SUPPLIER AND NEW STAINLESS STEEL CLEAN TABLES.
5. INSTALL NEW KITCHEN EXHAUST HOOD W/ SIDE WALLS. CONNNECT TO EXIST. MAKE-UP AIR UNIT ON ROOF AND INSTALL NEW FAN AS NOTED. COORDINATE ALL WORK WITH MECH. DWGS. AND KITCHEN HOOD DWGS.
6. INFILL / TOOTH-IN EXIST. OPENING WITH NEW CMU FLUSH WITH EXIST. WALL BOTH SIDES - MAINTAIN 1 HR. FIRE RATING.
7. INSTALL NEW DOOR FRAME / DOOR AS NOTED IN DOOR SCHEDULE.
8. INSTALL NEW PLUMBING FIXTURES, GRAB BARS, MIRROR, TOILET ROOM ACCESSORIES AS NOTED - COORDINATE WITH PLUMB. DWGS.
9. INFILL / TOOTH-IN NEW OPENING WITH CMU FLUSH WITH EXIST. WALL BOTH SIDES. COORDINATE WORK WITH PLUMB. DWGS.
10. INSTALL NEW METAL STUD CHASE WALL WITH GYP. BD. FULL HT. - HOLD WALL 6" MIN. FROM FACE OF EXIST. CMU WALL. COORDINATE WITH PLUMB. DWGS.
11. INSTALL NEW ALUM. FRAME / DOOR AT EXIST. OPENING. AS NOTED IN DOOR SCHEDULE.
13. INSTALL NEW REINF. CONC. APRON ON FULL FROST FOUNDATION AS NOTED / DETAILED.
14. INSTALL NEW 6" DIA. STEEL BOLLARDS ON EACH SIDE OF NEW CONC. APRON - TOTAL (2) AS NOTED.
15. AT ALL TRANSITIONS COORDINATE INSTALLATION OF NEW CERAMIC TILE ALONG EDGE OF EXIST. VINYL COMPOSITE FLOOR TILE.
16. WHERE UNIT HEATER IS REMOVED BY OTHERS, PATCH / TOOTH-IN NEW CMU FLUSH.
17. REMOVE EXIST. HOSE BIBB PER PLUMB. DWGS. INFILL / TOOTH-IN OPENING WITH CMU FLUSH WITH EXIST.
18. INSTALL NEW CERAMIC FLOOR TILE AND BASE AS NOTED IN FINISH SCHEDULE.
19. PATCH / PRIME / PAINT EXISTING CMU WALLS FULL HEIGHT AND WIDTH AS NOTED IN FINISH SCHEDULE.
20. INSTALL NEW RUBBER BASE ON EXISTING PACKAGED COOLER UNIT WALLS - SEE MATERIAL FINISH SCHEDULE
21. INSTALL NEW DRYER EXHAUST VENT - SEE MEP DRAWINGS.

811 Know what's below. Call before you dig.

PLAN LEGEND

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- ROOM NAME / 0000 — NEW ROOM NAME AND NUMBERS
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ROOM FINISH SCHEDULE

NO.	ROOM NAME	MATERIAL FLOOR	BASE	NORTH	EAST	SOUTH	WEST	CL'G.	FINISH FLOOR	BASE	NORTH	EAST	SOUTH	WEST	CL'G.	COMMENTS
103	KITCHEN	XC	XCT	XCB	XCB	XCB	XCB	XACT	CT-1	CT-2	PT-1	PT-1	PT-1	PT-1		
104	SERVING	XC	XCT	XCB	XCB	XCB	XCB	XACT	CT-1	CT-2	PT-2/PT-3/PT-4	PT-2/PT-3/PT-4	PT-2/PT-3/PT-4	PT-2/PT-3/PT-4		SCHOOL COLORS BRANDING
106	TOILET	XC	XCT	XCB	XCB	XCB	XCB	XP	CT-1	CT-2	PT-1	PT-1	PT-1	PT-1	PT-4	
107	SHIP. & REC.	XC	XCT	XCB	XCB	XCB	XCB	XACT	CT-1	CT-2	PT-1	PT-1	PT-1	PT-1		
107a	FOOD STOR.	XC	XCT	XCB	XCB	XCB	XCB	XMD	CT-1	CT-2	PT-1	PT-1	PT-1	PT-1		
108	JAN.	XC	XCT	XCB	XCB	XCB	XCB	XP	CT-1	CT-2	PT-1	PT-1	PT-1	PT-1	PT-4	

MATERIAL FINISH SCHEDULE

MATERIAL	TAG	MANUFACTURER	STYLE	COLOR	MODEL NO.	SIZE	COMMENTS
ACOUSTICAL CEILING TILE	ACT	USG	KITCHEN LAY-IN PANEL CLIMAPLUS PERFORMANCE	WHITE	3260	2' x 2'	
PAINT	PT-1	SHERWIN WILLIAMS	-	AGREEABLE GREY	SW7029	-	WALL PAINT
	PT-2	SHERWIN WILLIAMS	-	BLUEBLOOD	SW6966	-	WALL PAINT
	PT-3	SHERWIN WILLIAMS	-	CONFIDENT YELLOW	SW6911	-	
	PT-4	SHERWIN WILLIAMS	-	PURE WHITE	SW7005	-	
	PT-5	SHERWIN WILLIAMS	-	URBANE BRONZE	SW7048	-	DOOR FRAMES
RUBBER BASE	RB-1	ROPPE	PINACLE - TYPE TS - 1/8"	110 BROWN		4"	
CERAMIC TILE	CT-1	CROSSVILLE	MAIN STREET	BISTRO BROWN	AV213	6" x 6"	FLOOR TILE
CERAMIC TILE	CT-2	CROSSVILLE TEC	MAIN STREET	BISTRO BROWN	AV214	6" x 12"	FLOOR BASE

NOTE: THIS SCHEDULE PROVIDES ALL NEW MATERIALS / FINISHES FOR BASES OF DESIGN. REFER TO SPECIFICATIONS TO ADDITIONAL INFORMATION.

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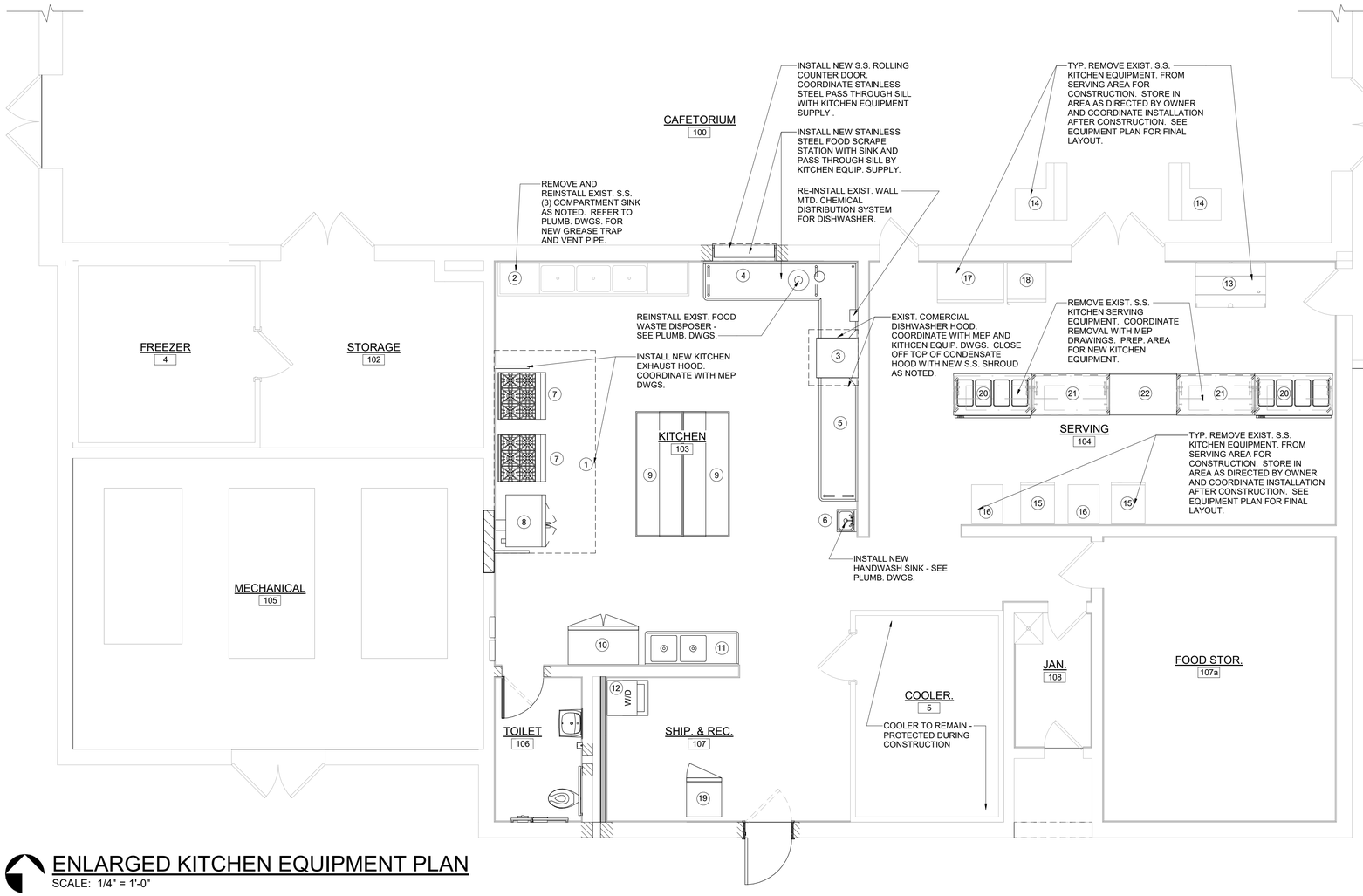
JOB # 25002

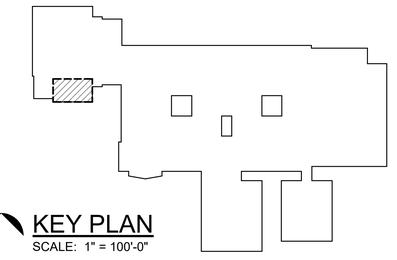
ENLARGED KITCHEN PLAN - CONSTRUCTION

A2.00



ENLARGED KITCHEN EQUIPMENT PLAN

SCALE: 1/4" = 1'-0"



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KITCHEN EQUIPMENT SCHEDULE

MARK	EQUIPMENT	DIMENSIONS	QUANTITY	MODEL NO.	COMMENTS
1	NEW EXHAUST HOOD	12'x5' EXHAUST WALL CANOPY HOOD WITH SIDES	(1) UNIT	K-TECH 6024 PK-ND-2 Q-SB-F	REFER TO KITCHEN HOOD DETAILS - SHEETS A10.00, A10.01
2	EXISTING STAINLESS STEEL (3) COMPARTMENT SINK		(1) UNIT		REMOVE AND REINSTALL IN SAME LOCATION AFTER NEW CERAMIC FLOOR TILE IS INSTALLED. CONNECT WITH NEW GREASE TRAP - COORDINATE WITH PLUMBING DRAWINGS.
3	EXISTING STAINLESS STEEL COMMERCIAL DISHWASHER AND HOOD		(1) UNIT		REMOVE AND REINSTALL IN SAME LOCATION AFTER NEW CERAMIC FLOOR TILE IS INSTALLED. COORDINATE W/ CLEAN S.S. DISHTABLES EACH SIDE. CLOSE OFF TOP OF CONDENSATE HOOD WITH NEW S.S. SHROUD.
4	NEW STAINLESS STEEL CLEAN DISHTABLE "L" SHAPED WITH BACKSPLASH, SIDE SPLASH, PASS THRU, SUPPORT LEGS, UNDERSHELF. MODIFY FOR SINK AND PROVIDE FAUCET.	30" x 119" L-SHAPE	(1) UNIT	ADVANCE TABCO DTC-K30-120L	COORDINATE WITH NEW S.S. ROLLING DOOR SILL AND DISHTABLE PASS-THRU. PROVIDE CUT-OUT FOR NEW SINK. COORDINATE WITH EXIST. COMMERCIAL DISH WASHER. FIELD VERIFY EXISTING CONDITIONS. COORDINATE INSTALLATION OF FOOD WASTE DISPOSER.
5	NEW STAINLESS STEEL DISH CLEAN TABLE WITH BACKSPLASH, SIDE SPLASH, SUPPORT LEGS, UNDERSHELF.	30" x 95"	(1) UNIT	ADVANCE TABCO DTC-S30-96R	COORDINATE WITH S.S. COUNTER WITH EXIST. COMMERCIAL DISH WASHER. FIELD VERIFY EXISTING CONDITIONS.
6	NEW STAINLESS STEEL HAND SINK	17.25"W x 15.25" DEEP W/ SIDE SPLASH	(1) UNIT	ADVANCE TABCO 7-PS-66W	
7	NEW HEAVY DUTY GAS RANGE 36" 6 OPEN BURNER W/ STANDARD OVEN BASE	36"W x 42"D x 36" HT.	(2) UNIT	VULCAN V6B36S	240V/60/1-PH, 2550 WATTS, 11.1 AMPS.
8	NEW DOUBLE DECK GAS CONVECTION OVEN	41.25"W x 41.125"D x 70" HT.	(1) UNIT	VULCAN VC44GD	(2) 120V/60/1-PH
9	NEW STAINLESS STEEL WORK TABLES	96"W x 36"D x 35.5" HT.	(2) UNIT	ADVANCE TABCO VSS-368	PROVIDE SINGLE UPPER SHELF BOTH UNITS.
10	NEW REACH-IN REFRIGERATOR TWO DOORS, SIX SHELVES	54.25"W x 29.5"D x 70.4" HT.	(1) UNIT	TRUE MFG. TS-49-HC	
11	NEW TWO COMPARTMENT SINK STAINLESS STEEL PREP SINK W/ DRAIN BD.	71.88"W x 38.75"D x 37" HT.	(1) UNIT	ADVANCE TABCO 94-22-40-24L	PROVIDE SPLASH MOUNT PRERINSE FAUCET
12	GAS WAHSER / DRYER LAUNDRY CENTER - 3.9 CF WASHER AND 5.5 C.F. DRYER	27"W x 31.5"D x 76" HT.	(1) UNIT	FRIGIDAIRE FLCG7522AW	
13	EXISTING STAINLESS STEEL MILK COOLER		(1) UNIT		
14	EXISTING STAINLESS STEEL MOBILE CHECK OUT KIOSK		(2) UNIT		
15	EXISTING STAINLESS STEEL DOUBLE DECK WARMER		(2) UNIT		
16	EXISTING STAINLESS STEEL MOBILE FOOD RACKS		(2) UNIT		
17	EXISTING COOLER WITH GLASS SWING DOOR		(1) UNIT		
18	EXISTING FREEZER WITH GLASS SWING DOOR		(1) UNIT		
19	EXISTING FREEZER, S.S. WITH SINGLE DOOR	27"W x 30"D x 83" HT.	(1) UNIT		
20	NEW S.S. HOT FOOD SERVING COUNTER / TABLE	60"W x 34"D x 36" HT.	(2) UNIT	DUKE TWHF60-208	PROVIDE SNEEZE GUARD - PREMIER METAL & GLASS TM2N-A (240V/60/1-PH)
21	NEW S.S. SERVING COUNTER	60"W x 32"D x 36" HT.	(2) UNIT	DUKE TST-60PG	INSTALL HEATED SHELF-FOOD WARMER - DUKE RHT2-SB, (120V 1PH NEMA 5-15). INSTALL SNEEZE GUARD - PREMIER METAL & GLASS TM2N-A.
22	OPEN DISPLAY MERCHANDISER	51.6"W x 31.5"D x 78.8" HT.	(1) UNIT	GTI DESIGN URPT-1250	

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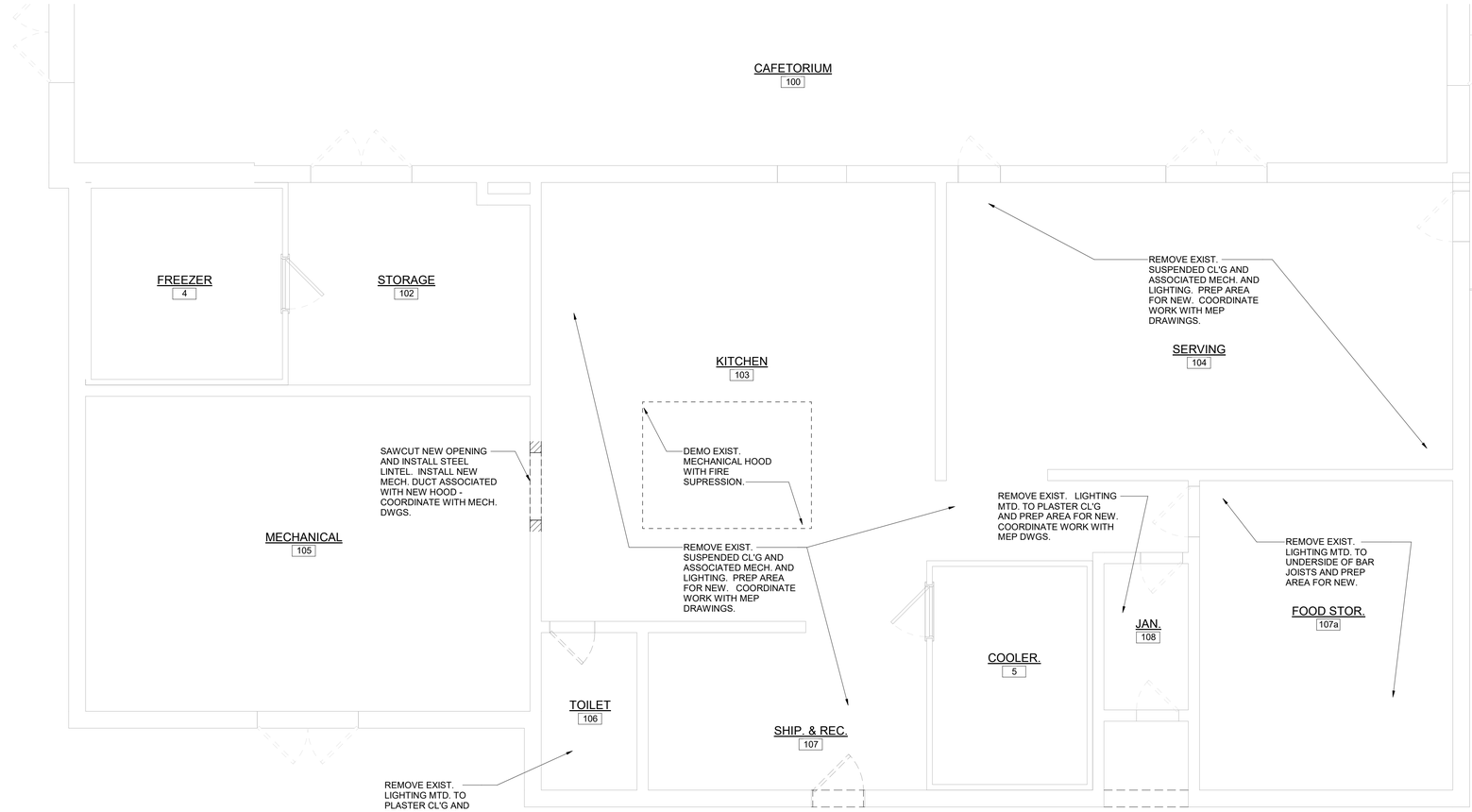
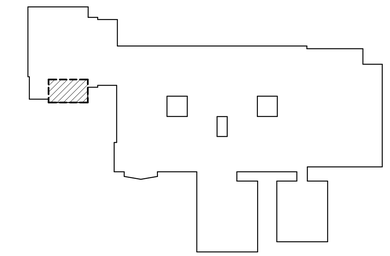
JOB # 25002

KITCHEN EQUIPMENT PLAN

A2.01



FIRST FLOOR RCP - DEMO
SCALE: 1/4" = 1'-0"



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GENERAL DEMOLITION NOTES:

1. COORDINATE ALL DEMOLITION WITH THE OWNER'S HAZARDOUS MATERIAL ABATEMENT DOCUMENTS AND SCOPE.
2. DEMOLITION CONTRACTOR TO PROTECT ADJACENT AREAS TO CONSTRUCTION AND COMMON POINTS OF TRAVEL TO AND FROM CONSTRUCTION AREAS. PROTECTION IN THESE AREAS TO INCLUDE AIR QUALITY, WALK SURFACES, EQUIPMENT, FURNISHINGS, BUILDING OCCUPANTS, ETC. FROM DUST / DEBRIS, EXCESSIVE NOISE, WEAR, OR DAMAGE OF ANY KIND. PRIOR TO ANY PHYSICAL WORK, THE CONTRACTOR MUST HAVE A WRITTEN PLAN FOR PROTECTION APPROVED BY THE ARCHITECT.

   AREA OF HIGH REPLACEMENT VALUE OR MORE LIKELY FOR DAMAGE ARE TO HAVE ADDED PROTECTION (I.E. GYM FLOORS, ROOFING, ETC.)
3. ANY WORK UNDER THE CONTRACT THAT WILL INTERRUPT THE OWNER'S ACTIVITIES SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE.
4. ALL DEMOLITION WORK REQUIRED IS NOT LIMITED TO THAT INDICATED ON PLAN. THE INTENT IS TO REMOVE ALL MECHANICAL, ELECTRICAL, AND ARCHITECTURAL ITEMS AS NECESSARY TO FACILITATE NEW CONSTRUCTION.
5. PRIOR TO COMMENCEMENT OF DEMOLITION WORK, CONTRACTOR IS TO INSPECT ALL AREAS IN WHICH WORK WILL BE PERFORMED. DOCUMENT EXISTING CONDITIONS OF STRUCTURE, SURFACES, EQUIPMENT OR SURROUNDING AREAS WHICH COULD BE MISCONSTRUED AS DAMAGE RESULTING FROM DEMOLITION WORK AND FILE WITH CONSTRUCTION MANAGER OR ARCHITECT.
6. NOTIFY ARCHITECT IF ANY EXISTING ITEM THAT CONFLICTS WITH THE INTENDED FINAL PRODUCT IS NOT SPECIFICALLY CALLED OUT. DEMOLITION CONTRACTOR TO NOTIFY ARCHITECT OF ANY DISCREPANCIES IN THE DOCUMENTS & FIELD CONDITIONS BEFORE PROCEEDING WITH DEMOLITION AND / OR CONSTRUCTION.
7. ALL DEMOLITION WORK, UNLESS OTHERWISE NOTED IN THE PROJECT MANUAL, DRAWINGS OR DIRECTED BY OWNER SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE. ALL DEBRIS CAUSED BY DEMOLITION AND CONSTRUCTION SHALL BE CLEARED AND REMOVED FROM THE SITE. DEBRIS STORAGE SHALL NOT INFRINGE ON CLEAR PATH OF EGRESS.
8. PROVIDE TEMPORARY BARRICADES AND OTHER FORMS OF PROTECTION AS REQUIRED TO PROTECT OWNER'S PERSONNEL AND GENERAL PUBLIC FROM INJURY DUE TO DEMOLITION WORK.
9. PROTECT EXISTING STRUCTURES, FINISHES, UTILITIES AND OTHER ITEMS SCHEDULED TO REMAIN. AREAS THAT ARE DAMAGED BY SELECTIVE DEMOLITION SHALL BE PATCHED AND REPAIRED AND FINISHED OR REPLACED TO MATCH EXISTING ADJACENT SURFACES.
10. CONTRACTOR TO COORDINATE A WALK THROUGH WITH THE CONSTRUCTION MANAGER AND OWNER PRIOR TO EACH PHASE OF DEMOLITION TO IDENTIFY REMAINING ITEMS TO BE SALVAGED.
11. FOR ANY ITEMS TO BE SALVAGED BY CONTRACTOR, PROVIDE A DETAILED INVENTORY LIST OF ALL SALVAGED ITEMS AND THEIR STORED LOCATIONS ON SITE.
12. SHOULD HIDDEN FIELD CONDITIONS REQUIRE MODIFICATIONS TO THE LAYOUT, THE CONTRACTOR SHALL COORDINATE WITH THE CONSTRUCTION MANAGER OR ARCHITECT.
13. STRIP EXIST. FLOORS THAT AREA TO RECEIVE FLOOR FINISHES. FOLLOW MANUFACTURERS RECOMMENDATIONS FOR INSTALLATION OF FINISH MATERIALS ON EXIST. SUBSTRATES.
14. AFTER DEMOLITION IS COMPLETE PATCH AND REPAIR EXIST. SURFACES TO REMAIN, AS REQUIRED FOR NEW FINISHES.

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KITCHEN CAFETERIA UPDATES & RELATED WORK

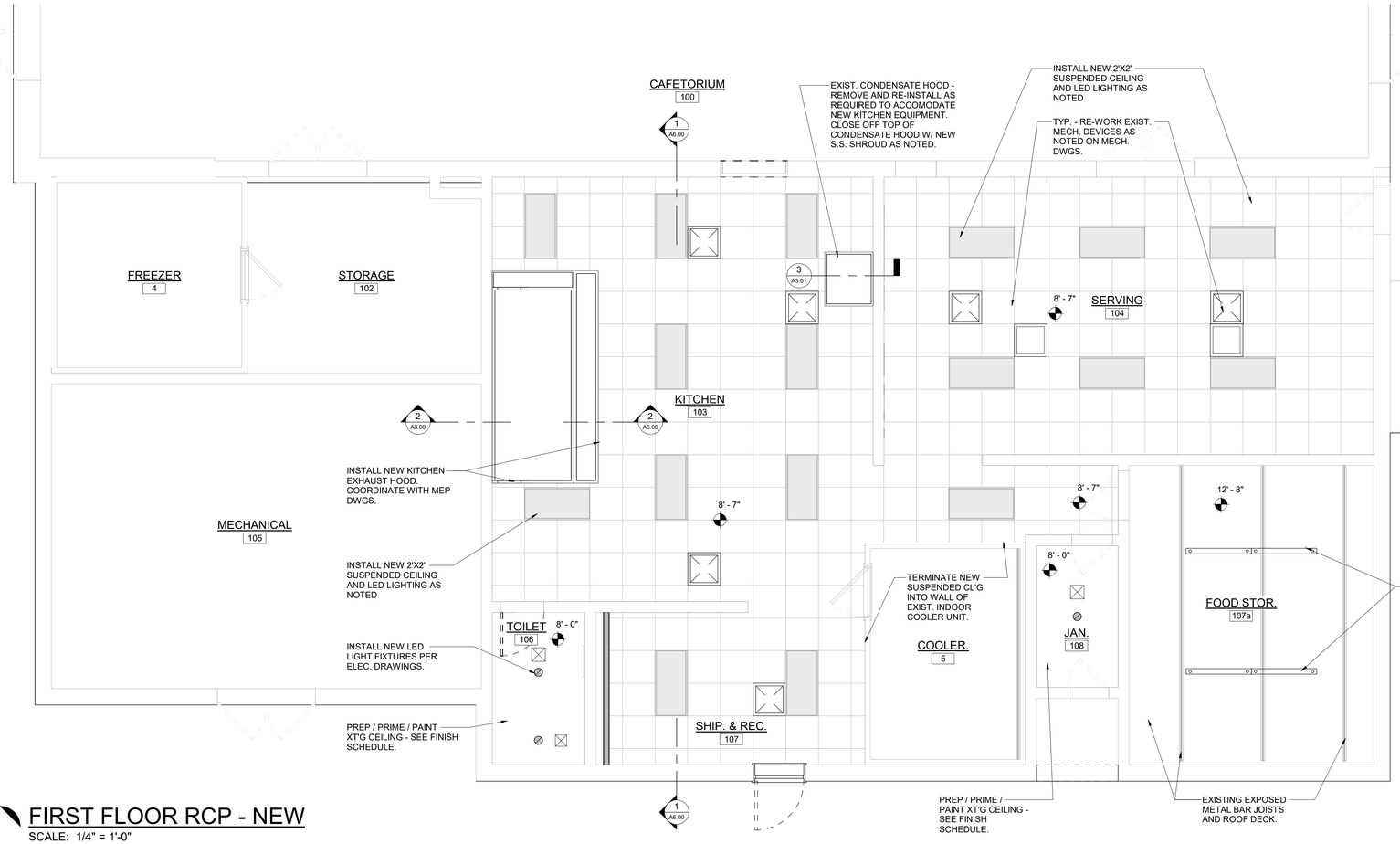
AT
IDA HIGH SCHOOL
3145 PRAIRIE STREET, IDA, MICHIGAN 48140

FOR
IDA PUBLIC SCHOOLS
3145 PRAIRIE STREET, IDA, MICHIGAN 48140

JOB # 25002

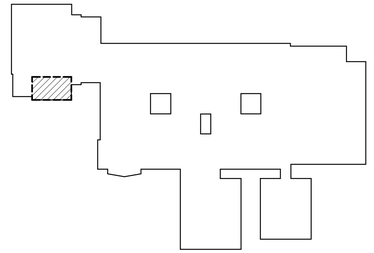
REFLECTED CEILING PLAN - DEMO

A3.00



FIRST FLOOR RCP - NEW

SCALE: 1/4" = 1'-0"



KEY PLAN

SCALE: 1" = 100'-0"

GENERAL CONSTRUCTION NOTES:

1. EXISTING MATERIAL TO REMAIN SHALL BE PROTECTED FROM DAMAGE AT ALL TIMES. EXISTING BUILDING MATERIALS AND/OR FINISHES THAT ARE DAMAGED SHALL BE REPAIRED AND/OR REPLACED TO THE SATISFACTION OF THE OWNER AND ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.
2. PATCH EXISTING WALLS AND FLOOR OPENINGS AFTER REMOVAL OF EXISTING AND INSTALLATION OF NEW MECHANICAL AND ELECTRICAL EQUIPMENT.
3. PATCH AND REPAIR EXISTING WALLS AND FLOOR TO ENSURE EVEN SURFACE TO RECEIVE FINISH MATERIALS.
4. MECHANICAL / ELECTRICAL EQUIPMENT SHOWN IN PLANS FOR REFERENCE ONLY - COORDINATE FINAL LOCATION WITH MEP TRADES.
5. COORDINATE SIZE AND LOCATION OF ALL HOUSEKEEPING PADS AND/OR EQUIPMENT SUPPORTS WITH APPROPRIATE EQUIPMENT MANUFACTURER.
6. COORDINATE SIZES AND LOCATIONS OF ALL MISCELLANEOUS ACCESS PANELS REQUIRED. ACCESS PANELS ARE SPECIFIED ARCHITECTURALLY BUT ARE TO BE PROVIDED BY TRADES REQUIRING THEM. ALL LOCATIONS MUST BE APPROVED BY ARCHITECT PRIOR TO INSTALLATION.
7. FLOOR PLANS ARE DIMENSIONED TO ACTUAL WALL THICKNESS UNLESS OTHERWISE NOTED.
8. DIMENSIONS FOLLOWED BY ± MUST BE FIELD REVIEWED AND ALL NECESSARY ADJUSTMENTS MADE PRIOR TO FABRICATION AND/OR INSTALLATION OF AFFECTED WORK. NOTIFY ARCHITECT IF DISCREPANCIES ARISE BEFORE PROCEEDING WITH THE WORK.
9. PROVIDE INTERIOR GYPSUM BOARD CONTROL JOINTS @ 25' O.C. AT LOCATIONS SHOWN ON PLANS AND/OR INTERIOR ELEVATIONS OR AS DIRECTED BY ARCHITECT.
10. VERIFY QUANTITY, SIZES, AND LOCATIONS OF ALL FLOOR, ROOF, AND WALL OPENINGS FOR MECHANICAL AND ELECTRICAL WORK WITH THE APPROPRIATE TRADES. PROVIDE ALL OPENINGS SHOWN OR REQUIRED FOR THE COMPLETION OF THE WORK. PROVIDE ALL LINTELS REQUIRED FOR THESE OPENINGS PER SPECIFICATIONS.
11. REFER TO LIFE SAFETY DRAWINGS FOR LOCATIONS OF REQUIRED FIRE RESISTANCE RATINGS, AND WALL TYPES FOR UL DETAIL NUMBERS.
12. REFER TO FINISH PLANS FOR FLOOR FINISHES, ROOM FINISHES, AND FINISH LAYOUTS.
13. THE ON-GOING CAMPUS WIDE GEOTHERMAL PROJECT IS SCHEDULED TO BE COMPLETED BY JULY 2025. THERE ARE SEVERAL NOTED MECHANICAL ITEMS, WITHIN THE KITCHEN AREA, THAT ARE SCHEDULED TO BE REMOVED "BY OTHERS" AS PART OF THE GEOTHERMAL WORK. THIS WORK IS CURRENTLY UNDER CONTRACT AND WILL BE COMPLETED IN CONJUNCTION WITH THIS PROJECT. THE SCHEDULED DATE FRO REMOVAL OF THOSE MECHANICAL ITEMS IS UNKNOWN AT THIS TIME. THE OWNER HAS MADE THE CONTRACTOR AWARE OF THIS PROJECT AND FULL COOPERATION BETWEEN THE TWO ON-GOING PROJECTS IS TO BE EXPECTED. ANY COORDINATION WILL BE HANDLED BY THE OWNER AND ARCHITECT DURING THE PRE-CONSTRUCTION MEETING AND AS NECESSARY DURING CONSTRUCTION, SO THAT THIS PROJECT CAN BE COMPLETED WITH NO INTERRUPTIONS.

PLAN LEGEND

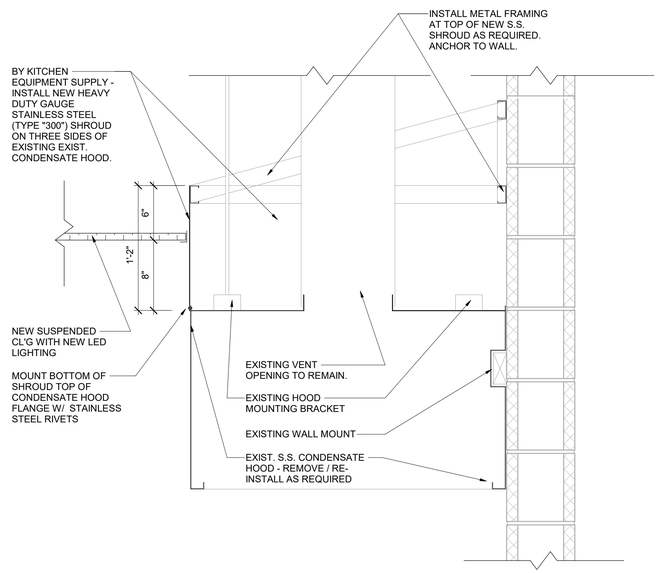
- DEMO WALLS AS NOTED ON PLAN
- NEW WALLS AS NOTED ON PLAN
- EXISTING WALLS AS NOTED ON PLAN
- A — CONSTRUCTION NOTE TAG - SEE CONSTRUCTION NOTES.
- X — DEMOLITION NOTE TAG - SEE DEMO NOTES.
- D1 — WALL TYPE INDICATOR INTERIOR WALLS ARE NOTED IN DETAIL ON SHEET A1.15
- ROOM NAME / 0000 — NEW ROOM NAME AND NUMBERS
- 1 — STRUCTURAL GRID - SEE STRUCTURAL DRAWINGS
- 101 — DOOR TAG - SEE DOOR & HARDWARE SCHEDULE
- 1t — WINDOW TAG - SEE WINDOW ELEVATIONS
- DIM. — DIMENSIONS ARE TO FACE OF STUD OR MASONRY

REFLECTED CEILING PLAN LEGEND

SYMBOL	DESCRIPTION
	INSTALL NEW 24"X24" LAY-IN ACOUSTICAL TILE AND SUSPENDED GRID CEILING
	EXISTING PLASTER CEILING OVER METAL FURRING CHANNELS AT 24" O.C. MTD. TO UNDERSIDE OF EXIST. BAR JOISTS. PRIME / PAINT.
	NEW 24" x 48" LED LIGHT FIXTURE - SEE ELECTRICAL DWGS.
	NEW 12" x 48" LED LIGHT FIXTURE - SEE ELECTRICAL DWGS.
	NEW 24" x 24" LED LIGHT FIXTURE - SEE ELECTRICAL DWGS.
	NEW 48" LED STRIP LIGHT FIXTURE - SEE ELECTRICAL DWGS.
A.P.	NEW CEILING ACCESS PANEL - COORD. FINAL LOCATION WITH ARCHITECT IN FIELD.
	TYP. MECHANICAL SUPPLY / RETURN DIFFUSERS - SEE MECHANICAL DWGS.
	TYPICAL 6" CLASSROOM MECHANICAL SUPPLY DIFFUSERS - SEE MECHANICAL DWGS.

REFLECTED CEILING PLAN NOTES:

1. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR SPECIFIC CEILING FIXTURE INFORMATION.
2. CENTER CEILING GRID IN ROOM UNLESS OTHERWISE INDICATED. MINIMUM 6" CEILING TILE AROUND PERIMETER.
3. CAULK ALL EXPOSED JOINTS PRIOR TO PRIMING & PAINTING GYP. BD. CEILINGS - TYPICAL.
4. ELEVATION HEIGHTS FOR FINISHED CEILINGS ARE IDENTIFIED ON PLAN
5. REFER TO ELECTRICAL DRAWINGS FOR LIGHT PATTERN AND EXIT LIGHT LOCATIONS. NOTIFY ARCHITECT OF DISCREPANCIES PRIOR TO SHOP DRAWINGS.
6. REFER TO MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR ITEMS NOT SHOWN ON CEILING PLAN. GRILLES, HEAT & SMOKE DETECTORS, SHALL BE CENTERED IN TILES UNLESS NOTED OTHERWISE.
7. ALL BULKHEAD DIMENSIONS ARE FROM FINISH FACE OF WALL OR BULKHEAD TO FINISH FACE OF BULKHEAD.
8. PROVIDE 1/2" REVEALS BETWEEN DISSIMILAR MATERIALS ON THE SAME PLANE AT THE CEILINGS.
9. IN AREAS OF EXPOSED CEILINGS, PAINT EXPOSED STRUCTURE, UNDERSIDE OF DECK, CONDUIT AND ALL MISCELLANEOUS OVERHEAD ITEMS, COLORS TO BE SELECTED BY ARCHITECT.



3 / A3.01 SHROUD DETAIL AT CONDENSATE HOOD

SCALE: 1 1/2" = 1'-0"

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JOB # 25002

REFLECTED CEILING PLAN - NEW

A3.01

OVERALL ROOF PLAN

SCALE: 1" = 20'-0"

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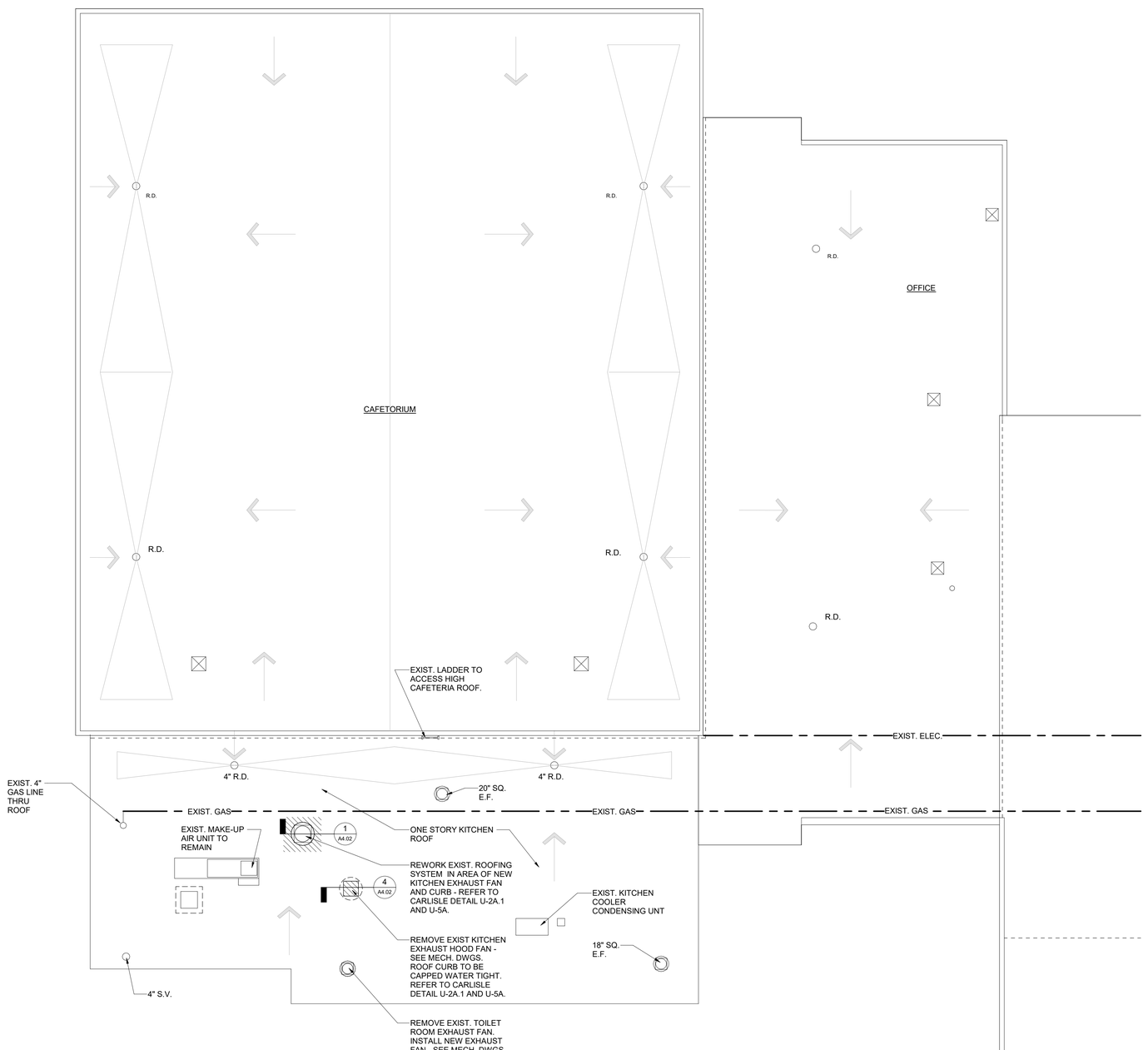
OVERALL ROOF PLAN

A4.00



PARTIAL ENLARGED ROOF PLAN
SCALE: 1/8" = 1'-0"

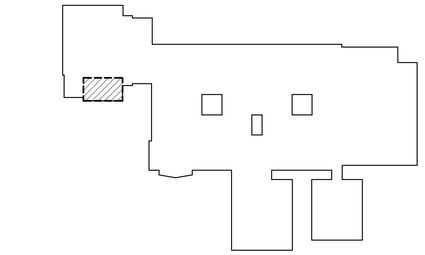
NOTE:
FOR ALL NEW ROOFING WORK - PATCH EXIST. EPDM ROOF AS REQUIRED SO AS TO MAINTAIN REMAINDER OF ROOF WARRANTY. USE RECCOMENDED EPDM ROOFNG REPAIRS & PATCHING TECHNIQUES FOR EPDM ROOFING - SEE MISC. ROOFING DETAILS SHEET A4.02.

ROOFING LEGEND

REWORK EXISTING ROOF IN AREAS OR CURBS, MECHANICAL EQUIPMENT, PENETRATIONS, ETC. MAINTAIN WATERTIGHT ROOF ASSEMBLY.

5 — INDICATES THICKNESS OF TAPERED INSULATION IN INCHES

INDICATES NEW DIRECTION OF SLOPE



KEY PLAN
SCALE: 1" = 100'-0"

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1. EXISTING MATERIAL TO REMAIN SHALL BE PROTECTED FROM DAMAGE AT ALL TIMES. EXISTING BUILDING MATERIALS AND/OR FINISHES THAT ARE DAMAGED SHALL BE REPAIRED AND/OR REPLACED TO THE SATISFACTION OF THE OWNER AND ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.
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GENERAL ROOF NOTES:

1. ROOF SLOPES INDICATED ON THE DRAWINGS ARE TO INDICATE DESIGN INTENT ONLY. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR THE COMPLETE ROOFING SYSTEM TO ENSURE PROPER DRAINAGE INCLUDING TAPERED INSULATION LAYOUT, FLOW FIRECTIONS, DRAIN LAYOUT, AND CRICKET LOCATIONS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. FINAL LOCATION OF ROOFTOP EQUIPMENT TO BE COORDINATED WITH STRUCTURAL AND MECHANICAL WORK.
3. PAINT ALL EXPOSED ROOFTOP NATURAL GAS LINES, REFER TO SPECIFICATIONS.
4. PROVIDE ROOF FLASHING FOR ALL ROOF MOUNTED EQUIPMENT AND PENETRATIONS AT ALL NEW ROOFING LOCATIONS, REFER TO PLUMBING, MECHANICAL, AND ELECTRICAL DRAWINGS AS WELL AS ROOFING ASSEMBLY DETAILS ON SHEET A10.00, A10.01 AND A10.09.
5. SEE MANUFACTURER ASSEMBLY DETAILS AND SPECIFICATIONS FOR COVERBOARD AND VAPOR RETARDER / AIR BARRIER REQUIREMENTS.
6. PROVIDE CRICKETS ON HIGH SIDE OF ROOFTOP UNITS AND OTHER EQUIPMENT - TYP.
7. AT ALL EXISTING ROOFS - PATCH ROOF SYSTEM AT AREA OF REMOVAL. PROVIDE FLASHING AND PATCH-IN OF SIMILAR MATERIALS FOR TIE-IN WITH NEW BUILDING ADDITION. MAINTAIN A WATERTIGHT INSTALLATION.

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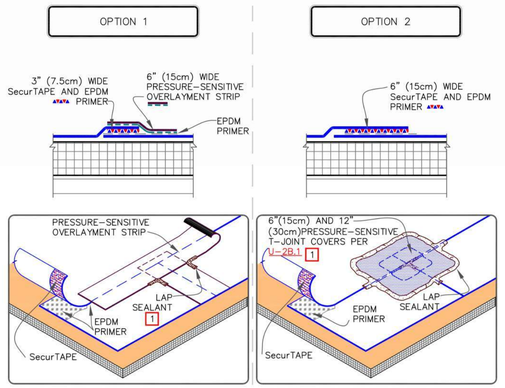
JOB # 25002

PARTIAL ENLARGED ROOF PLAN

A4.01

4/13/2025 10:15:20 AM Autodesk Docs://IPS - High School - 25002 - Kitchen/25002_Ida High School_Cafeteria Updates.rvt

THERMOSET MEMBRANE — EPDM



F.A.T. (FACTORY APPLIED SecurTAPE)

NOTES:

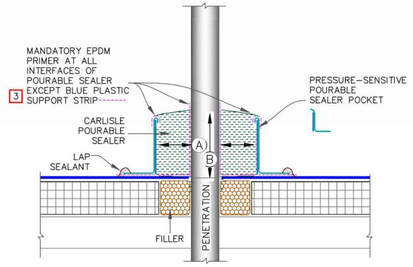
1. APPLY LAP SEALANT AT ALL INTERSECTIONS BETWEEN PRESSURE-SENSITIVE OVERLAYMENT STRIP.
2. REFER TO DETAIL MF-2A.1 FOR MECHANICALLY-FASTENED SPLICES.

NOTE:

1. APPLY LAP SEALANT ALONG THE EXPOSED EDGE OF THE MEMBRANE SPLICE COVERING THE EXPOSED SPLICE TAPE 1/2" (1.5cm) IN EACH DIRECTION FROM THE SPLICE INTERSECTION AND OVERLAY WITH A 6" (15cm) T-JOINT COVER. INSTALL A 12" (30cm) T-JOINT COVER CENTERED OVER THE FIRST T-JOINT COVER PER DETAIL U-2B.1.

CARLISLE SYNTEC SYSTEMS	EPDM MEMBRANE SPLICE	DETAIL NO. U-2A.1
	MAXIMUM WARRANTY: 30 YEARS	U (UNIVERSAL DETAIL)

THERMOSET MEMBRANE — EPDM



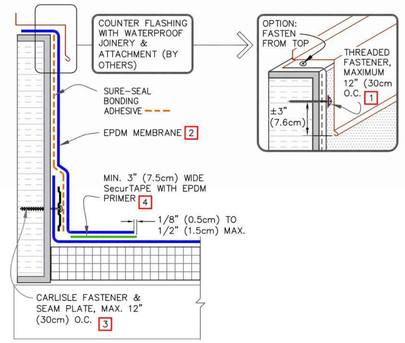
NOTES:

1. THE MAXIMUM ALLOWABLE SURFACE TEMPERATURE OF THE PENETRATION SHALL NOT EXCEED 180° F (82° C).
2. ALL DEBRIS (PAINT, RUST, LEAD, OTHER FLASHINGS, ETC.) MUST BE REMOVED FROM THE PENETRATION.
3. ALL SURFACES MUST BE PRIMED WITH EPDM PRIMER PRIOR TO APPLYING POURABLE SEALER. DO NOT PRIME THE BLUE PLASTIC SUPPORT STRIP.
4. POURABLE SEALER MUST COMPLETELY FILL POURABLE SEALER POCKET TO PREVENT PONDING OF WATER.
5. POURABLE SEALER MUST CONTACT PRIMED PRESSURE-SENSITIVE ELASTOFORM FLASHING AND DECK MEMBRANE.
6. SECUREMENT IS REQUIRED FOR POURABLE SEALER POCKETS WHICH ARE GREATER THAN 18" (46cm) IN DIAMETER. REFER TO SPECIFICATIONS.
7. ON MECHANICALLY-FASTENED ROOFING SYSTEMS, ADDITIONAL MEMBRANE SECUREMENT IS REQUIRED (SIMILAR TO DETAIL MF-8A) REGARDLESS OF SIZE OR DIAMETER.
8. MINIMUM 1" (2.5cm) CLEARANCE REQUIRED BETWEEN PENETRATIONS.

DIMENSIONS	cm	
A 1"	2.5	MIN.
B 2"	5	MIN.

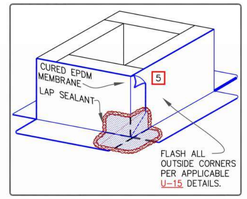
CARLISLE SYNTEC SYSTEMS	PRESSURE-SENSITIVE POURABLE SEALER POCKET	DETAIL NO. U-16A
	MAXIMUM WARRANTY: 20 YEARS	U (UNIVERSAL DETAIL)

THERMOSET MEMBRANE — EPDM

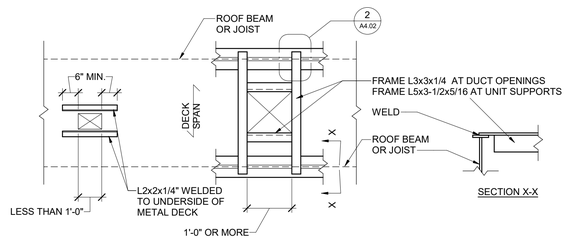


NOTES:

1. IN CASE THE THREADED FASTENERS ARE USED TO PENETRATE THE METAL COUNTER-FLASHING, USE EPDM WASHERS, APPLY WATER CUT-OFF MASTIC UNDER THE COUNTER-FLASHING OR SEAL THE FASTENER HEADS WITH SEALANT.
2. LAP SEALANT IS REQUIRED ON CUT-EDGES OF REINFORCED MEMBRANE.
3. SEAM PLATES AND FASTENERS MAY BE INSTALLED INTO THE STRUCTURAL DECK AND THEN HP FASTENERS AND POLYMER SEAM PLATES ARE REQUIRED FOR MECHANICALLY-FASTENED ROOFING SYSTEMS OVER STEEL DECKS.
4. MEMBRANE SPLICES SHALL INCORPORATE 3" (7.6cm) WIDE SecurTAPE FOR PROJECTS WITH 25-YEAR AND 6" (15.2cm) FOR 30-YEAR WARRANTIES.
5. IF THE VERTICAL SPLICE ON THE CURB FLASHING IS NOT LOCATED AT THE CORNER, USE DETAIL U-2C FOR EPDM MEMBRANE SPLICES AT ANGLE CHANGES.

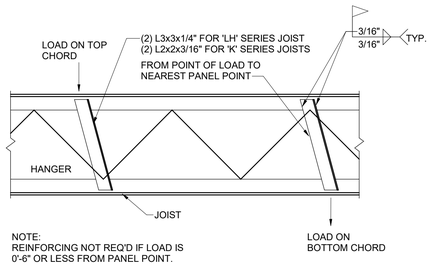


CARLISLE SYNTEC SYSTEMS	CURB FLASHING – EPDM MEMBRANE	DETAIL NO. U-5A
	MAXIMUM WARRANTY: 30 YEARS	U (UNIVERSAL DETAIL)



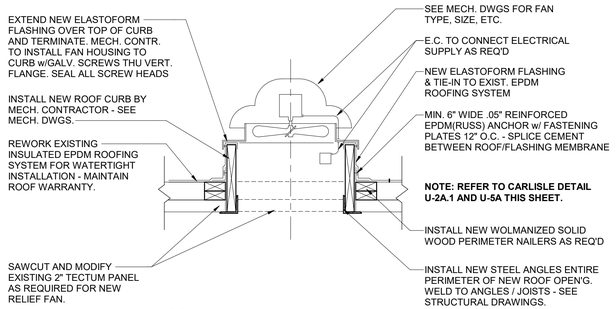
1 A4.01 ROOF OPENING / MECHANICAL UNIT SUPPORT

SCALE: 3/4" = 1'-0"



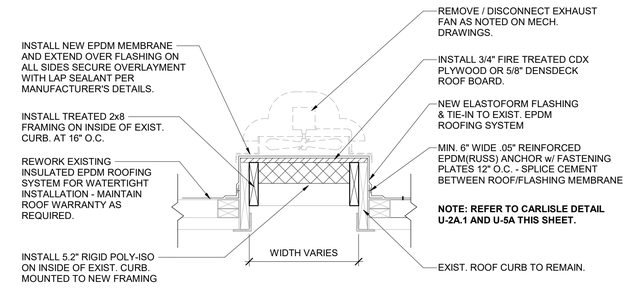
2 A4.02 JOIST REINFORCEMENT DETAIL

SCALE: 3/4" = 1'-0"



3 A6.00 EXHAUST FAN

SCALE: 1" = 1'-0"



4 A4.01 TYP. EXIST. ROOF CURB DETAIL

SCALE: 1" = 1'-0"

KOHLER ARCHITECTURE
1110 WEST FRONT STREET
MONROE, MICHIGAN 48161
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MAKE Things Better

DATE	DESCRIPTION
04.16.2025	BIDDING & STATE REVIEW

KITCHEN CAFETERIA UPDATES & RELATED WORK

AT
IDA HIGH SCHOOL
3145 PRAIRIE STREET, IDA, MICHIGAN 48140

FOR
IDA PUBLIC SCHOOLS
3145 PRAIRIE STREET, IDA, MICHIGAN 48140

JOB # 25002

MISC. ROOF DETAILS

A4.02

4/13/2025 10:15:22 AM Autodesk Docs://IPS - High School - 25002 - Kitchen/25002_ida High School_Cafeteria Updates.rvt

MATERIAL STRENGTHS AND STRUCTURAL NOTES

MISCELLANEOUS

1. DISCREPANCIES BETWEEN ARCHITECTURAL AND STRUCTURAL PLANS SHALL BE BROUGHT TO ATTENTION OF ARCHITECT. ARCHITECTURAL PLANS SHALL GOVERN UNLESS STRENGTH OF STRUCTURE IS ADVERSELY AFFECTED.
2. CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS, INTERFERENCES AND CONDITIONS PRIOR TO STARTING FABRICATION OR CONSTRUCTION AND REPORT ANY DISCREPANCIES TO THE OWNER.
3. DO NOT BACK FILL AGAINST BASEMENT WALLS UNTIL FLOOR SLABS/DECKS HAVE BEEN CONSTRUCTED.IT IS THE CONTRACTORS SOLE RESPONSIBILITYTO DETERMINE ERECTION PROCEDURE AND SEQUENCE AND TO ENSURE TH SAFETY OF THE STRUCTURE AND ITS COMPONENTS DURING CONSTRUCTION. THIS INCLUDES PROVIDING TEMPORARY SHORING, BRACING , OR TIE DOWNS. THESE TEMPORARY SUPPORTS WILL REMAIN IN PLACE UNTIL ALL STRUCTURAL COMPONENTS HAVE BEEN COMPLETELY ERECTED.
4. SOIL BEARING CAPACITIES USED FOR STRUCTURAL DESIGN:
   STRIP FOOTINGS: 2,000 PSF
   COLUMN FOOTINGS: 2,000 PSF
   A SOIL ENGINEER SHALL VERIFY BEARING CAPACITY OF SOIL AT BOTTOM OF EXCAVATIONS BEFORE CONSTRUCTING FOOTINGS. IF THIS BEARING CAPACITY IS NOT FOUND, FOOTINGS SHALL BE LARGER OR LOWERED AT THE DIRECTION OF THE ARCHITECT.
5. STRUCTURAL DESIGN LOAD DATA
   FLOOR LOAD
   COMMERCIAL: CONCRETE - 100 PSF. L.L. + 40 PSF. D.L.
   WOOD - 100 PSF. L.L. + 25 PSF. D.L.
   RESIDENTIAL: 40 PSF. L.L. + 20 PSF. D.L.
   DEFLECTION = L/480
   ROOF LOAD
   ROOF/SNOW LOAD:
   GROUND SNOW LOAD: PG = 25 PSF. L.L.
   FLAT ROOF SNOW LOAD: PF = 30 PSF. L.L.
   ROOF DEAD LOAD: 15 PSF.
   SNOW EXPOSURE FACTOR: CE = 0.7
   SNOW LOAD IMPORTANCE FACTOR: I = 1.0
   WIND LOAD
   BASIC WIND SPEED: 115 MPH
   WIND LOAD IMPORTANCE FACTOR: I = 1.0
   WIND EXPOSURE: B
   SEISMIC: IMPORTANCE I = 1.0
6. ROOFING SHALL BE MINIMUM 15# FELT WITH MINIMUM 235#/SQ. CLASS 'A' SHINGLES AND GALVANIZED NAILS. ALL EAVES TO HAVE ICE-GUARD BARRIER FROM EAVE TO MINIMUM 2 FEET INSIDE WARM/INTERIOR SIDE OF WALL MEASURED HORIZONTALLY.
7. SUBMIT (4) SETS (OR 1 SET ELECTRONIC) OF THE FOLLOWING SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION: CONCRETE REINFORCEMENT, MASONRY LINTELS, STRUCTURAL STEEL, METAL DECK, WATER STOP(S), STRUCTURAL / ENGINEERED WOOD COMPONENTS, ANCHORS. CONTRACTOR SHALL CHECK SHOP DRAWINGS PRIOR TO SUBMITTAL AND IS SOLEY RESPONSIBLE IN PREPARATION OF SHOP DRAWINGS TO CONFORM TO DESIGN DRAWINGS.

CONCRETE

1. CONFORM TO LATEST EDITION OF FOLLOWING STANDARDS:
   STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE, ACI 301.
   COLD WEATHER CONCRETING, ACI 306R.
   HOT WEATHER CONCRETING, ACI 305R.
   DETAILS AND DETAILING OF CONCRETE REINFORCEMENT, ACI 315.
   GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION, ACI 302.1R.
   PLACING REINFORCING BARS, CRSI.
2. CONCRETE COMPRESSIVE STRENGTH, UNLESS INDICATED:
   GENERAL USE: 3,000 PSI
   SLAB-ON-GRADE: 3,500 PSI
   COLUMNS: 4,000 PSI
   CONCRETE EXPOSED TO WEATHER SHALL HAVE 4% - 6% AIR ENTRAINED.
3. REINFORCEMENT:
   BARS: ASTM A615, GRADE 60.
   WELDED WIRE FABRIC (WWF): ASTM A185.
4. LAP REINFORCING BARS AS SHOWN, BUT NOT LESS THAN 36 BAR DIAMETERS. PROVIDE CORNER BARS EQUIVALENT IN SIZE AND NUMBER TO HORIZONTAL BARS AT CORNERS OF WALLS AND WALL FOOTINGS AND LAP WITH HORIZONTAL REINFORCEMENT. LAP WELDED WIRE FABRIC MINIMUM OF ONE WIRE SPACING PLUS 2".
5. PROVIDE DOWELS IN COLUMN AND WALL FOOTINGS EQUIVALENT IN SIZE AND NUMBER TO VERTICAL BARS IN WALLS. EXTEND DOWELS 24 BAR DIAMETERS INTO FOOTING AND 24 BAR DIAMETERS INTO WALL OR COLUMN.
6. PROVIDE REINFORCEMENT IN TOP OF INTERIOR WALL FOOTINGS CENTERED UNDER DOOR AND OTHER OPENINGS EQUIVALENT IN SIZE AND NUMBER TO BOTTOM REINFORCEMENT AND 4 FEET LONGER THAN OPENING.
7. MINIMUM REINFORCEMENT UNLESS NOTED OTHERWISE:
   WALLS 8" OR LESS IN THICKNESS: #5 @ 12" EACH WAY CENTERED IN WALL.
   WALLS THICKER THAN 8": #5 @ 12" EACH WAY IN EACH FACE.
   SLABS ON GRADE OR SLABS ON JOIST: 6"X6" - W2.1 X W2.1 W.W.F. UNLESS OTHERWISE NOTED
8. CLEAR CONCRETE COVER ON REINFORCEMENT UNLESS NOTED:
   CONCRETE DEPOSITED AGAINST GROUND: 3"
   FORMED SURFACES EXPOSED TO WEATHER OR EARTH: 1-1/2" FOR #5 & SMALLER
   2" FOR #6 BARS & LARGER
   ALL OTHER SURFACES:
   SLABS, WALLS AND JOISTS: 3/4"
   BEAMS, GIRDERS & COLUMNS: 1-1/2"
9. CHAMFER EXPOSED EDGES 3/4" X 45 DEGREES.
10. FOOTINGS SHALL BE ON UNDISTURBED VIRGIN SOIL. FILL EXCESS CUTS WITH CONCRETE. MINIMUM FOOTING DEPTH TO BE 42" BELOW GRADE UNLESS NOTED OTHERWISE.
11. EXTERIOR SIDE OF CONCRETE BELOW GRADE SHALL BE COATED WITH ASPHALTIC DAMP PROOFING
12. PROVIDE ENTRY SLAB DECKING, DEPTH PER DRAWINGS X 0.0358 IN. THICK, FY = 33 KSI, G90 GALVANIZED.
13. PROVIDE "WATERSTOP Rx" OR APPROVED EQUAL WATERSTOPS AT ALL BELOW GRADE JOINT LOCATIONS.

WOOD

1. ALL WOOD MATERIALS INCLUDING FRAMING SHALL BE SIZED, BRACED, ANCHORED, ASSEMBLED, ETC. IN ACCORDANCE WITH THE REQUIREMENTS OF THE MICHIGAN BUILDING CODE. RAFTER/JOISTS SHALL BE 1000 PSI BENDING, KILN DRIED, #2 GRADE OR BETTER. STUDS SHALL BE STUD GRADE. ALL PLATES ON CONCRETE OR WITHIN 8" OF EXTERIOR GRADE SHALL BE TREATED. ALL WOOD EXPOSED TO EXTERIOR ELEMENTS SHALL BE TREATED UNLESS NOTED OTHERWISE.
2. TRUSSES SHALL BE PRE-ENGINEERED WITH LOAD AND BRACING DIAGRAMS SUBMITTED TO THE GOVERNING BUILDING AUTHORITY FOR PERMITS, SEALED BY A LICENSED PROFESSIONAL, REGISTERED IN THE STATE OF MICHIGAN. DESIGN LOADS: SHALL BE AS STATED ELSEWHERE WITH 10 PSF ON BOTTOM CHORD UNLESS NOTED OTHERWISE. DEFLECTION SHALL BE MAXIMUM OF 1/360 OF CLEAR SPAN.
3. ROOF SHEATHING SHALL BE 5/8" THICK SQUARE EDGE CDX PLYWOOD OR 5/8" OSB BOARD (ORIENTED STRAND BOARD). EXTERIOR WALL SHEATHING TO BE EITHER 1/2" CDX PLYWOOD OR 7/16" OSB BOARD (ORIENTED STRAND BOARD) WITH SQUARE EDGE . ATTIC WALKWAYS TO BE 3/4" CDX GRADE-6 PLY. PROVIDE AND INSTALL GALVANIZED PLYWOOD CLIPS ON ALL ROOF SHEATHING EVEN IF NOT REQUIRED BY CODE WHEN FRAMING MEMBERS ARE 24" O.C.
4. ANCHORS FOR FRAMING SHALL BE PER MICHIGAN BUILDING CODE REQUIREMENTS FOR PARTICULAR APPLICATION, AS WELL AS RECOMMENDED BY THE LUMBER MANUFACTURER AND AMERICAN PLYWOOD ASSOCIATION. SCREWS FOR INTERIOR WOOD SUB-FLOORING SHALL BE TEMPERED PHILLIPS HEAD, SELF-TAPPING DECK SCREWS - BLUED FINISH. ALL METAL SUPPORTS/FASTERNERS AND ANCHORS, INCLUDING TRUSSES AND FASTENERS THAT COME IN CONTACT WITH THE TREATED WOOD SHALL BE CORROSION RESISTANT SUCH AS STAINLESS STEEL, EPOXY COATED STEEL AND AS APPROVED BY THE TREATED WOOD MANUFACTURER. MANUFACTURERS FOR HANGERS, BRACKETS, CLIPS, ETC. SHALL BE SIMPSON; KANT-SAG OR APPROVED EQUAL. THE FOLLOWING MODEL NUMBERS REFER TO SIMPSON:
   TRUSSES/RAFTERS TO WALL = AS DIRECTED BY TRUSS MFR. - OR - H2.5T, 18 GA.
   COLUMN TO FOOTING = EMBED IN CONCRETE #EPB66 - 12" - HDG, SET 1/2" ABOVE CONCRETE.
   JOISTS TO BEAM PLATE = TWISTED STRAP ANCHOR #H 2.5A - 18 GA.
   JOIST TOP FLANGE HANGER = AS DIRECTED BY JOIST MFR. - OR - #ITS X SIZE OF JOIST, 18 GA.
   POST CAP = #BC6
   CORNER POST CAP = LCE4
5. EXTERIOR ANCHORS - BOLTS AND SCREWS FOR ANCHORING TREATED FRAMING TO POSTS SHALL BE STAINLESS OR EPOXY COATED STEEL 1/2" DIAMETER MINIMUM THRU BOLTS AND NUTS WITH WASHERS BOTH SIDES -H. PRE-DRILL MEMBERS AS REQUIRED, TO ELIMINATE SPLITTING OF WOOD.
6. ENGINEERED WOOD STRUCTURAL COMPONENTS SHALL BE AS ENGINEERED AND MANUFACTURED BY THE SAME COMPANY THROUGHOUT PROJECT AND MEET OR EXCEED ALL APPLICABLE CODE REQUIREMENTS AND DESIGN LOADS/CONDITIONS AS HEREIN SPECIFIED. FLOOR AND CEILING JOISTS TO BE AS MANUFACTURED BY TRUS-JOIST MACMILLAN, REDBUILT, NORDIC JOISTS, OR APPROVED EQUAL AND INSTALLED PER MANUFACTURERS RECOMMENDATIONS. FINAL MEMBER DESIGN AS PROVIDED BY MFR. / STRUCTURAL DESIGNER FOR REVIEW. TYPICAL OF ALL L.V.L. MEMBERS; E = 2.0 MINIMUM OF TWO BOLTS PER BOARD WIDTH PER POST. DECKING, RAILINGS, PICKETS AND ALL OTHER MEMBERS SHALL BE ANCHORED WITH APPROVED STAINLESS OR EPOXY COATED STEEL DECK SCREWS - MINIMUM OF (2) SCREWS PER BOARD WIDTH PER JOISTS. SCREWS SHALL PENETRATE INTO SUBSTRATE MINIMUM OF 1" TO 1-1/4" DEPT

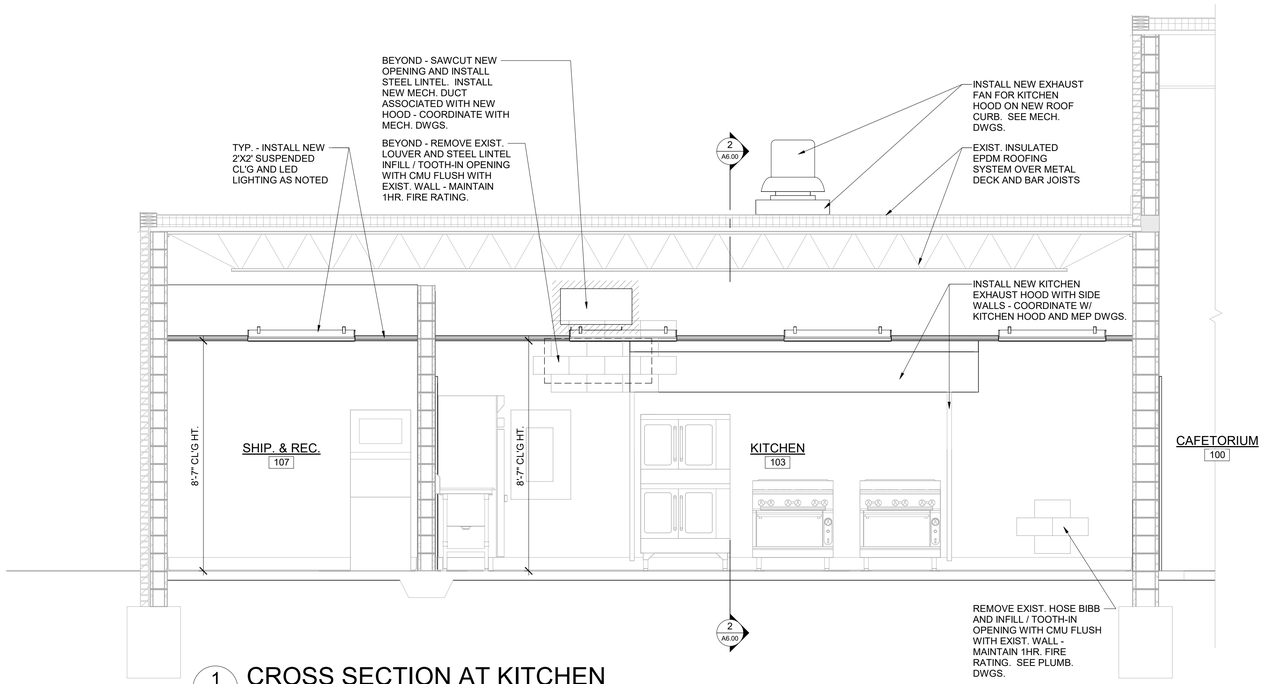
STRUCTURAL STEEL

1. CONFORM TO LATEST EDITION OF FOLLOWING STANDARDS:
   SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS - ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN, AISC.
   SPECIFICATION FOR ALLOWABLE STRESS DESIGN OF SINGLE-ANGLE MEMBERS, AISC.
   SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS, RCSC.
   CODE OF STANDARD PRACTICE, AISC
2. STRUCTURAL STEEL MATERIALS:
   WIDE FLANGE SHAPES: ASTM A992
   ANGLES, CHANNELS, PLATES AND BARS: ASTM A36
   STRUCTURAL TUBING: ASTM A500, GRADE B.
   STRUCTURAL PIPE: ASTM A53, GRADE B, TYPE E OR S.
   HIGH STRENGTH BOLTS: ASTM A325
   ANCHOR BOLTS: ASTM A307 OR A36
3. STEEL FABRICATOR TO DESIGN BEAM CONNECTIONS FOR REACTIONS INDICATED, OR WHERE REACTIONS ARE NOT INDICATED, FOR ONE-HALF OF TOTAL UNIFORM LOAD CAPACITY OF A SIMPLE BEAM FOR GIVEN SPAN AS SPECIFIED IN LATEST EDITION OF AISC MANUAL OF STEEL CONSTRUCTION. DESIGN CONNECTIONS OF BRACING MEMBERS FOR MEMBER FORCES INDICATED, OR WHERE MEMBER FORCES ARE NOT INDICATED, FOR THE FULL TESILE AND COMPRESSIVE CAPACITIES OF THE BRACING MEMBER.
4. FRAME BEAMS INTO SIDE OF COLUMNS, UNLESS NOTED OTHERWISE.
5. MAKE BOLTED FIELD CONNECTIONS WITH HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE. MAKE SHOP CONNECTIONS BY WELDING OR HIGH STRENGTH BOLTING.
6. UNLESS INDICATED, CLEAN STRUCTURAL STEEL IN ACCORDANCE WITH SSPC SP-1 AND SHOP PRIME. PRIMER SHALL BE COMPATIBLE WITH SPECIFIED FINISHES. DO NOT PRIME TOP FLANGE SURFACE OF COMPOSITE BEAMS OR SURFACES, WHICH RECEIVE SPRAY-ON FIREPROOFING.
7. GALVANIZING SHALL CONFORM TO ASTM A123. GALVANIZING OF BOLTS, NUTS, AND OTHER HARDWARE SHALL CONFORM TO ASTM A153.

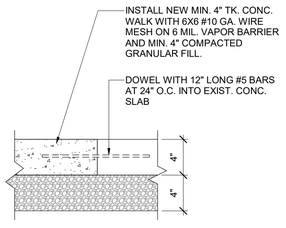
LINTEL SCHEDULE

MASONRY OPENING	STRUCTURAL STEEL MEMBER	BLOCK CORE REINFORCING	BEARING EACH END
UP TO 4'-0"	1-L 3-1/2"X3-1/2"X5/16"	1-#5	4"
4'-0" TO 6'-0"	1-L 5X3-1/2"X5/16" LLV	1-#5	6"
6'-0" TO 8'-6"	1-L 6X3-1/2" X 3/8" LLV	1-#6	8"

A) UNLESS OTHERWISE NOTED PROVIDE LINTELS OVER ALL OPENINGS IN MASONRY WALLS ACCORDING TO THIS SCHEDULE.
B) LINTELS/REINFORCING ARE SCHEDULED FOR EACH 4" OF WALL THICKNESS.



1 A2.00 **CROSS SECTION AT KITCHEN**
SCALE: 3/8" = 1'-0"



3 A2.00 **TYP. SLAB DETAIL**
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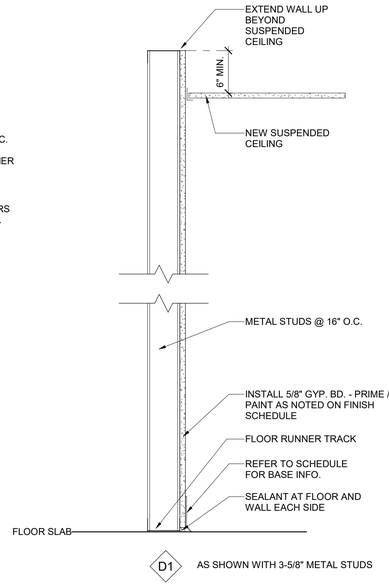

4 A2.00 **NON RATED PARTITION**
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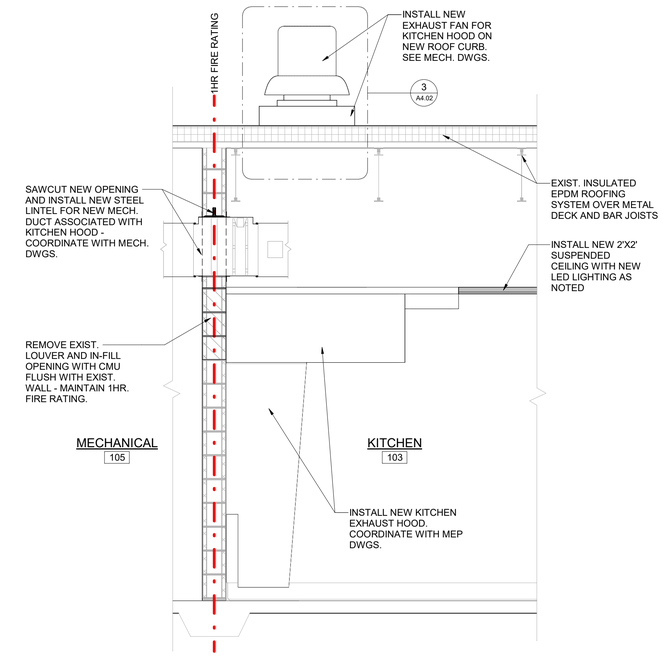

2 A2.00 **SECTION AT KITCHEN HOOD**
SCALE: 1/2" = 1'-0"

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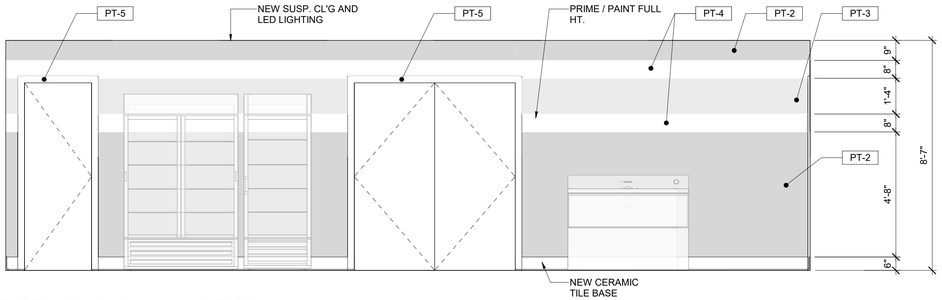
JOB # 25002

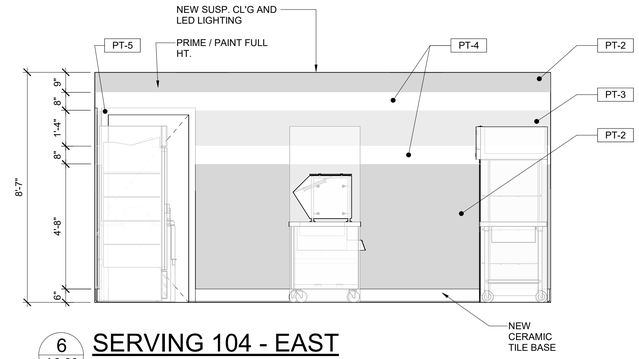
BUILDING SECTION

A6.00



5 A2.00 **SERVING 104 - NORTH**

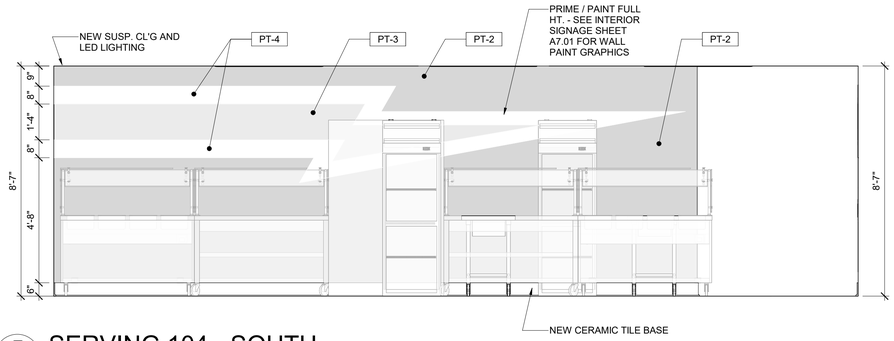
SCALE: 3/8" = 1'-0"



6 A2.00 **SERVING 104 - EAST**

SCALE: 3/8" = 1'-0"

MATERIAL TAG LEGEND:	
ACT	ACOUSTICAL CL'G TILE 2'x2'
CT-1	CERAMIC TILE
CT-2	CERAMIC TILE BASE
GB	GYPSUM BOARD
PT-1	INTERIOR WALL PAINT
PT-2	INTERIOR WALL PAINT
PT-3	INTERIOR WALL PAINT
PT-4	INTERIOR WALL PAINT
PT-5	INTERIOR WALL PAINT
RB-1	RUBBER BASE
XACT	EXISTING ACOUSTICAL CL'G TILE
XC	EXISTING CONCRETE SLAB
XCB	EXISTING CONCRETE BLOCK
XCT	EXISTING CERAMIC TILE
XMD	EXISTING METAL DECK
XP	EXISTING PLASTER



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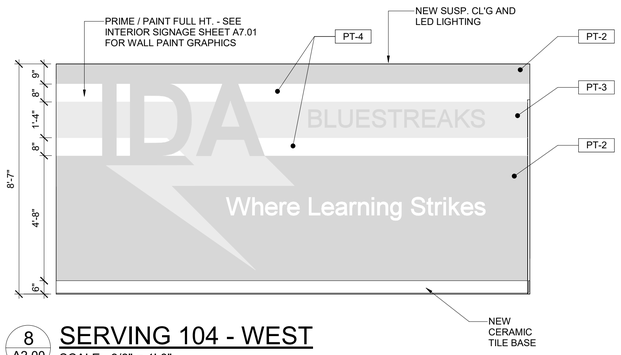
SCALE: 3/8" = 1'-0"



8 A2.00 **SERVING 104 - WEST**

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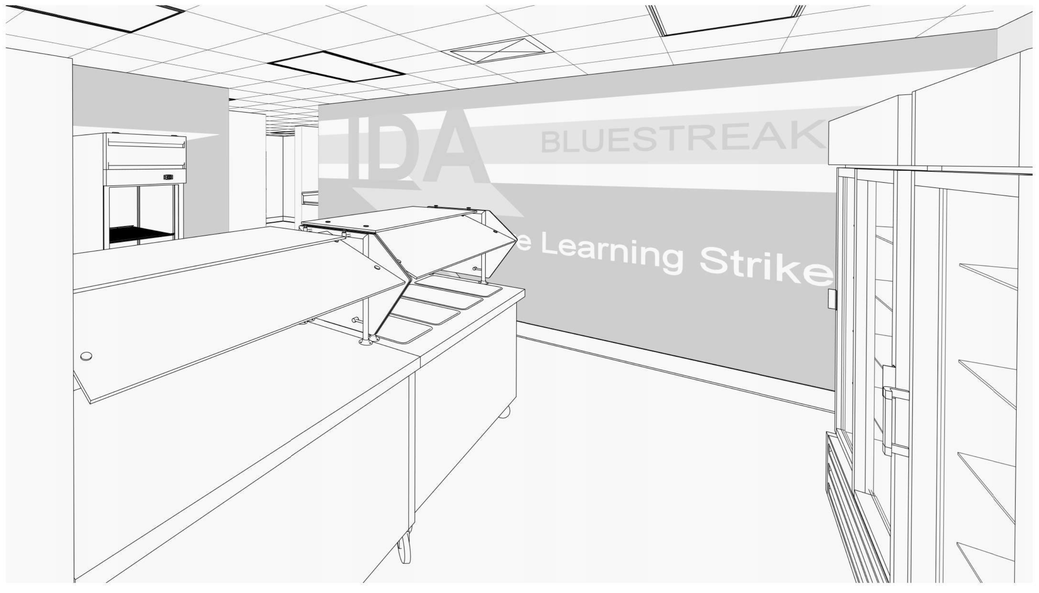
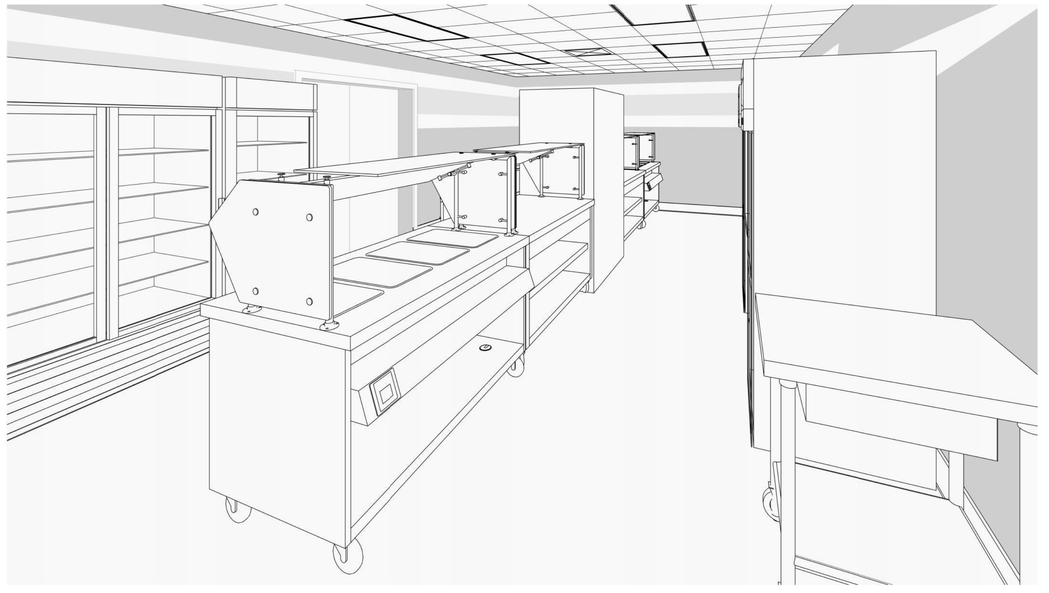


CONCEPTUAL SERVING ROOM PERSPECTIVE - VIEW 1

NOTE: CONCEPTUAL DESIGN IMAGE IS
INCLUDED TO AID IN THE UNDERSTANDING OF THE DESIGN AND
NOT INTENDED TO BE USED FOR CONSTRUCTION PURPOSES.



CONCEPTUAL SERVING ROOM PERSPECTIVE - VIEW 2

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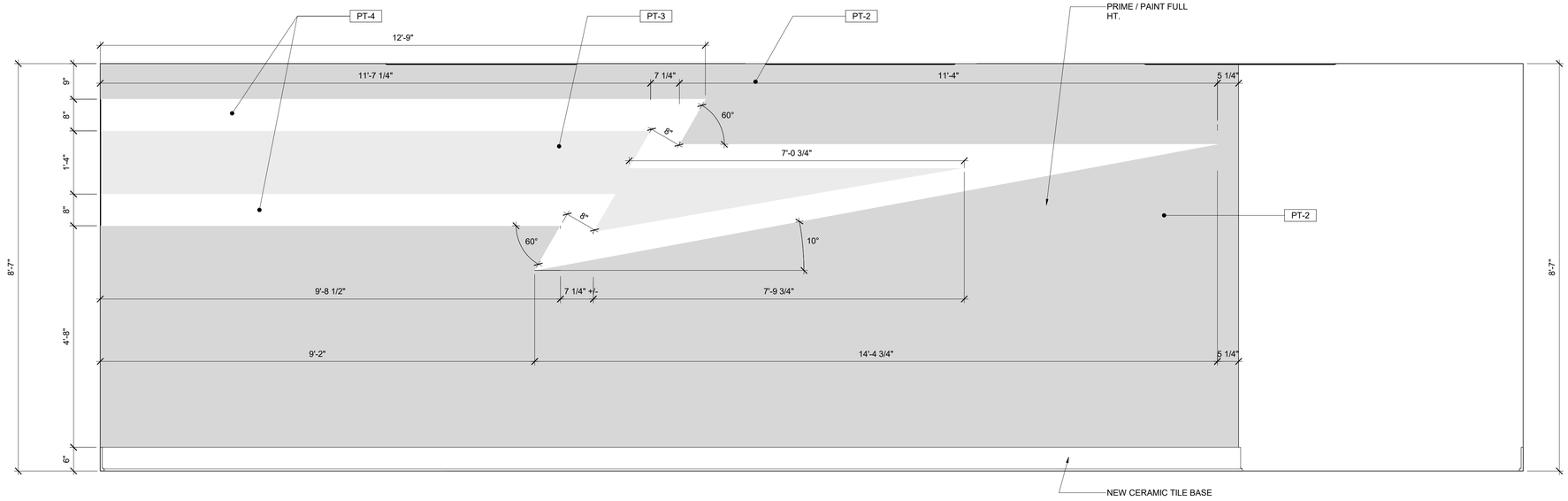
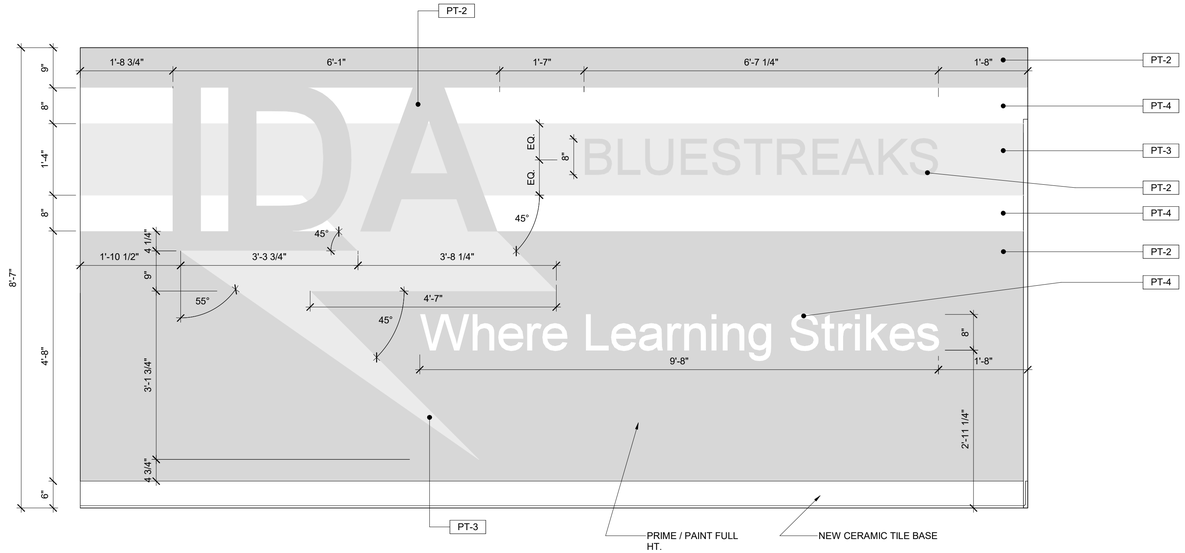
SERVING ROOM INTERIOR ELEVATIONS

A7.00



1 / A2.00 SERVING 104 - SOUTH ENLARGED

SCALE: 3/4" = 1'-0"



2 / A2.00 SERVING 104 - WEST ENLARGED

SCALE: 3/4" = 1'-0"

MATERIAL TAG LEGEND:

ACT	ACOUSTICAL CL'G TILE 2'x2'
CT-1	CERAMIC TILE
CT-2	CERAMIC TILE BASE
GB	GYPSUM BOARD
PT-1	INTERIOR WALL PAINT
PT-2	INTERIOR WALL PAINT
PT-3	INTERIOR WALL PAINT
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XACT	EXISTING ACOUSTICAL CL'G TILE
XC	EXISTING CONCRETE SLAB
XCB	EXISTING CONCRETE BLOCK
XCT	EXISTING CERAMIC TILE
XMD	EXISTING METAL DECK
XP	EXISTING PLASTER

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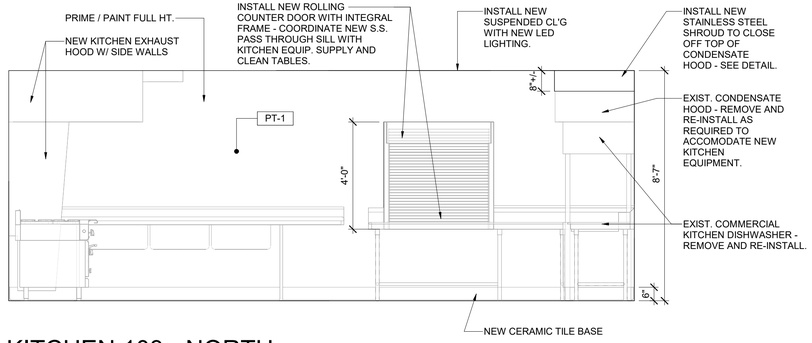
SERVING ROOM INTERIOR SIGNAGE

A7.01



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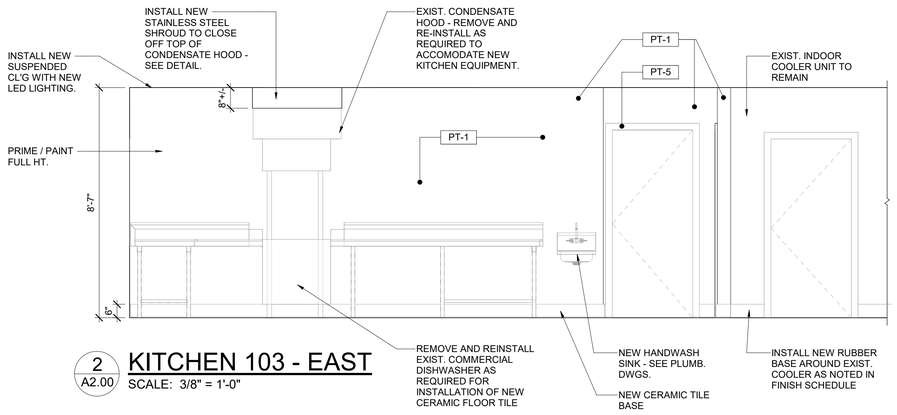

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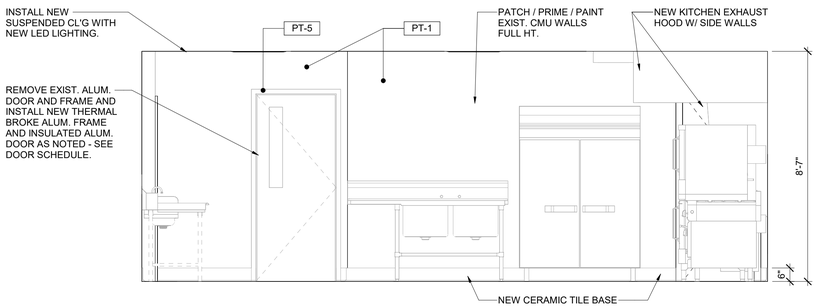

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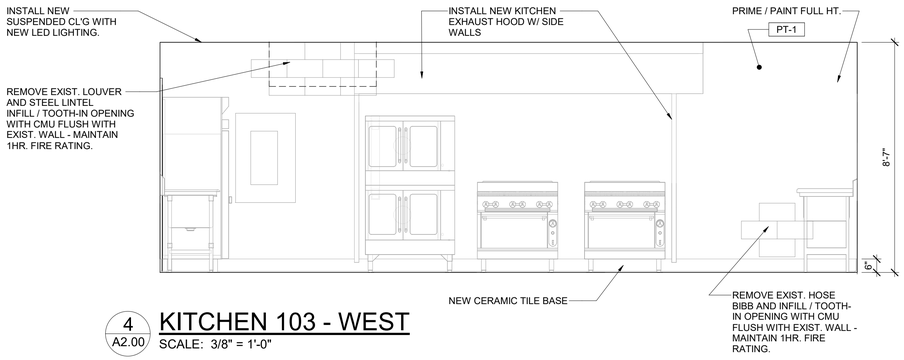

4 A2.00 **KITCHEN 103 - WEST**
SCALE: 3/8" = 1'-0"

MATERIAL TAG LEGEND:

ACT	ACOUSTICAL CL'G TILE 2'x2'
CT-1	CERAMIC TILE
CT-2	CERAMIC TILE BASE
GB	GYPSUM BOARD
PT-1	INTERIOR WALL PAINT
PT-2	INTERIOR WALL PAINT
PT-3	INTERIOR WALL PAINT
PT-4	INTERIOR WALL PAINT
PT-5	INTERIOR WALL PAINT
RB-1	RUBBER BASE
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XC	EXISTING CONCRETE SLAB
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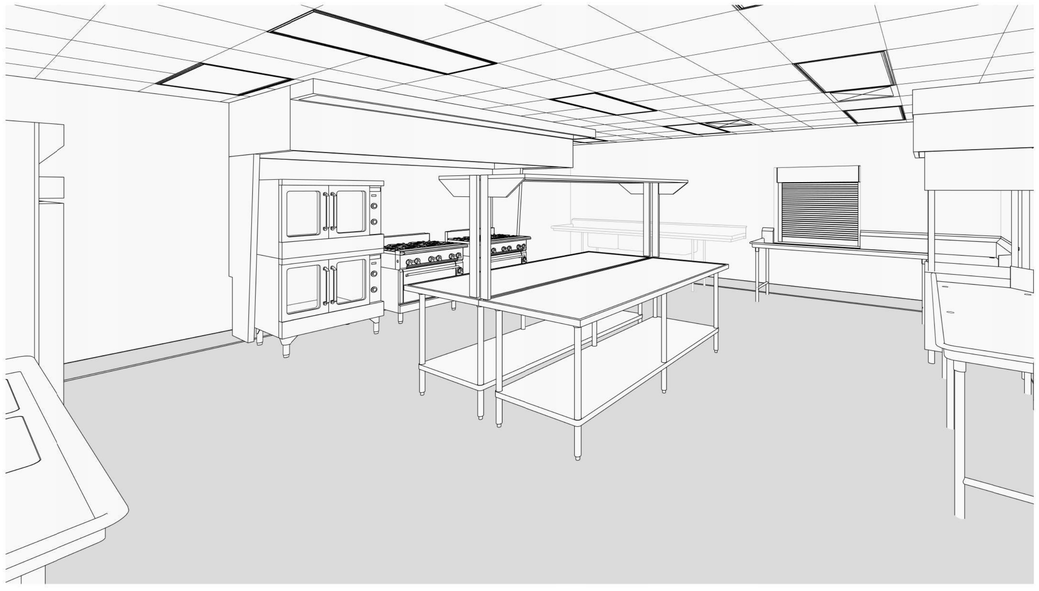
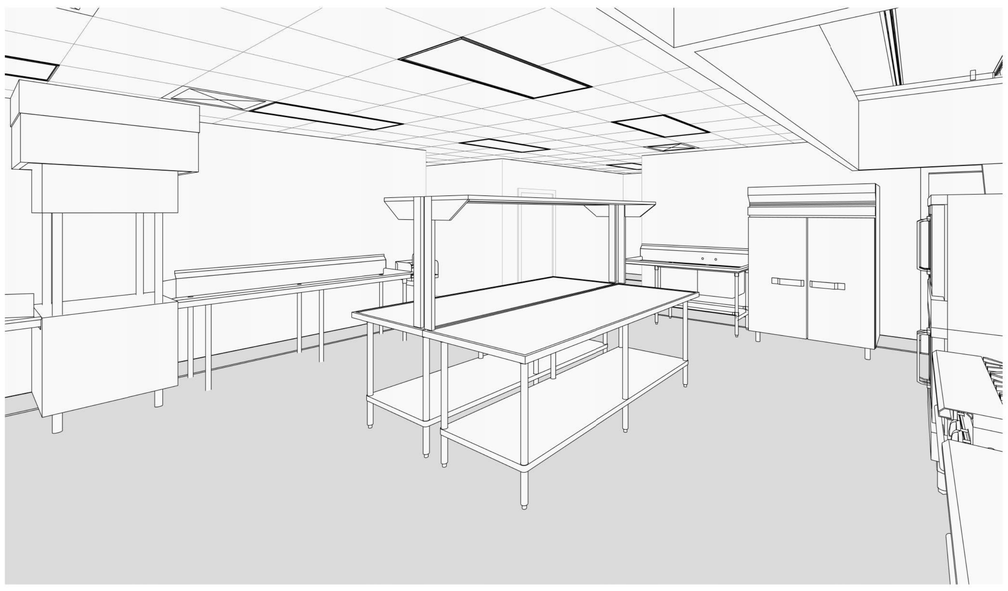
XP	EXISTING PLASTER



CONCEPTUAL KITCHEN PERSPECTIVE - VIEW 1

NOTE: CONCEPTUAL DESIGN IMAGE IS INCLUDED TO AID IN THE UNDERSTANDING OF THE DESIGN AND NOT INTENDED TO BE USED FOR CONSTRUCTION PURPOSES.



CONCEPTUAL KITCHEN PERSPECTIVE - VIEW 2

NOTE: CONCEPTUAL DESIGN IMAGE IS INCLUDED TO AID IN THE UNDERSTANDING OF THE DESIGN AND NOT INTENDED TO BE USED FOR CONSTRUCTION PURPOSES.

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DATE	DESCRIPTION
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KITCHEN CAFETERIA UPDATES & RELATED WORK

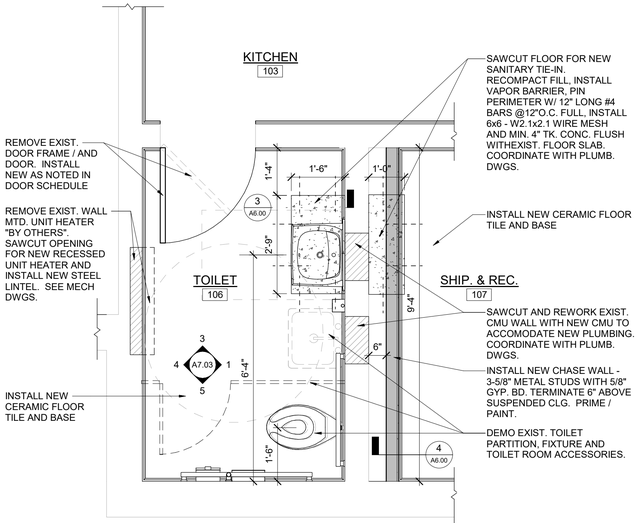
AT
IDA HIGH SCHOOL
3145 PRAIRIE STREET, IDA, MICHIGAN 48140

FOR
IDA PUBLIC SCHOOLS
3145 PRAIRIE STREET, IDA, MICHIGAN 48140

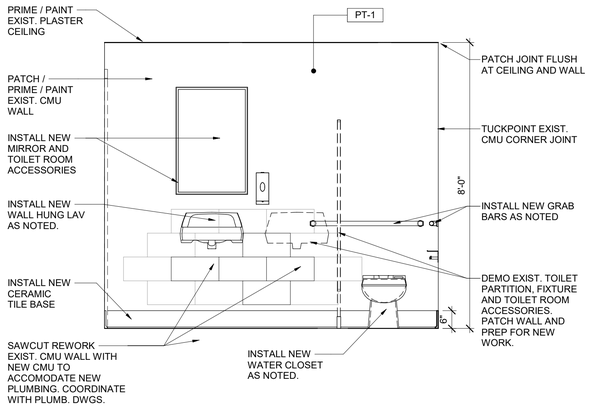
JOB # 25002

KITCHEN INTERIOR ELEVATIONS

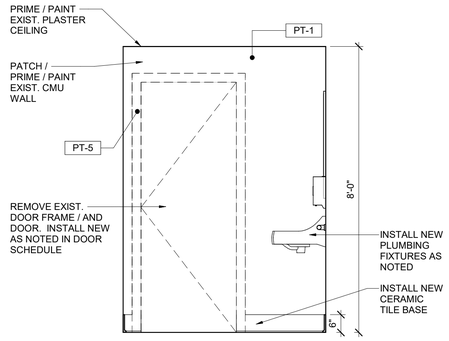
A7.02



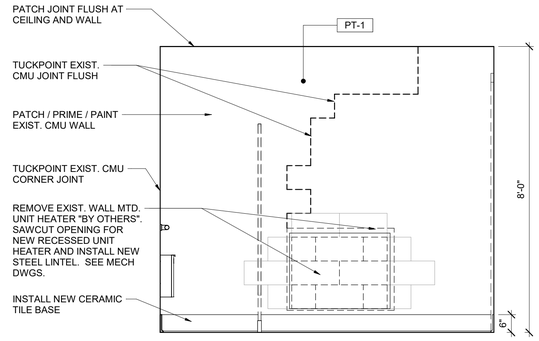
2 A2.00 **ENLARGED TOILET 106 - NORTH**
SCALE: 1/2" = 1'-0"



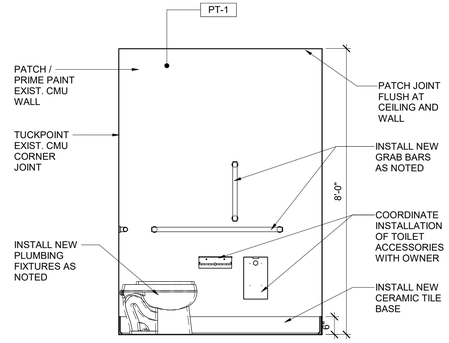
1 A2.00 **TOILET 106 - EAST**
SCALE: 1/2" = 1'-0"



3 A2.00 **TOILET 106 ELEV. NORTH**
SCALE: 1/2" = 1'-0"



4 A2.00 **TOILET 106 ELEV. - WEST**
SCALE: 1/2" = 1'-0"



5 A2.00 **TOILET 106 ELEV. -SOUTH**
SCALE: 1/2" = 1'-0"

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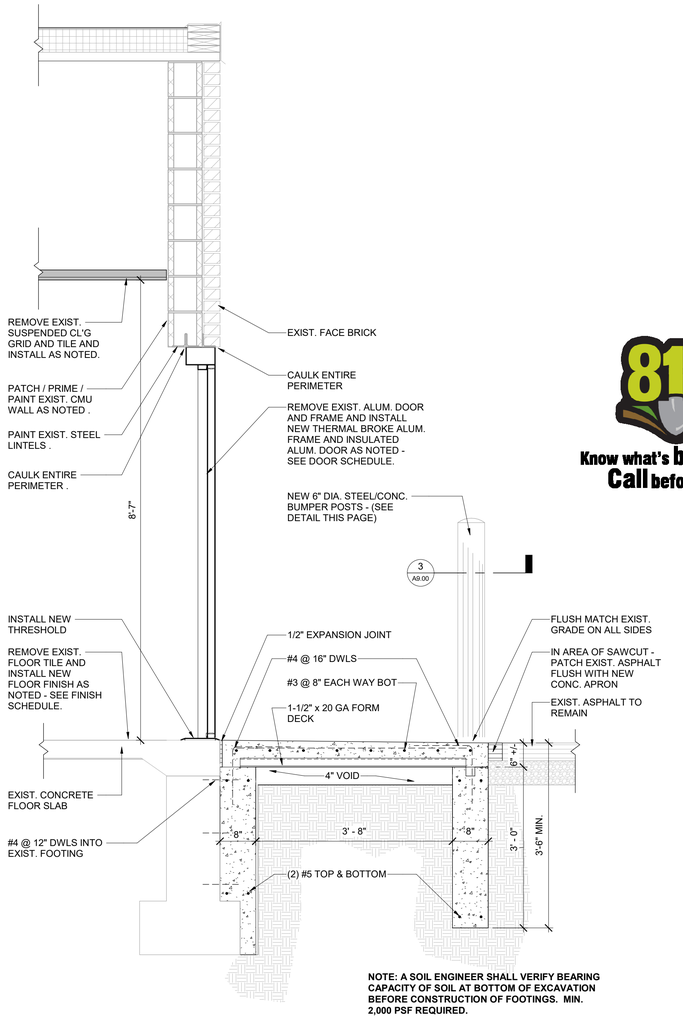
JOB # 25002

ENLARGED TOILET ROOM PLAN, INTERIOR ELEVATIONS

A7.03

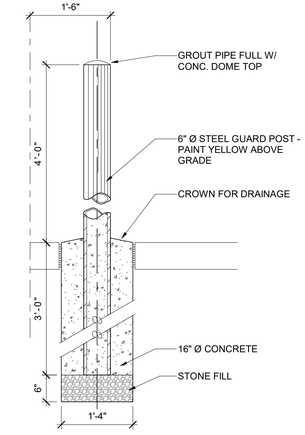


NOTE: A SOIL ENGINEER SHALL VERIFY BEARING CAPACITY OF SOIL AT BOTTOM OF EXCAVATION BEFORE CONSTRUCTION OF FOOTINGS. MIN. 2,000 PSF REQUIRED.

2 A2.00 SECTION AT EXTERIOR DOOR

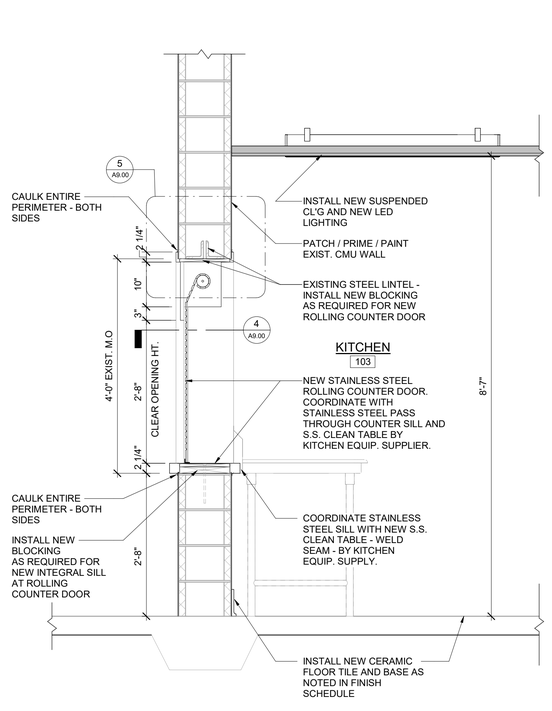
SCALE: 3/4" = 1'-0"

Know what's below. Call before you dig.



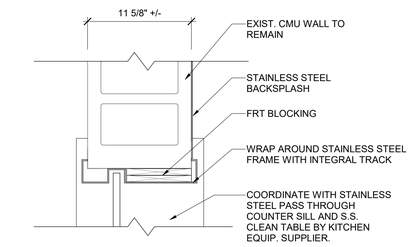
3 A9.00 TYP. BOLLARD DETAIL

SCALE: 3/4" = 1'-0"



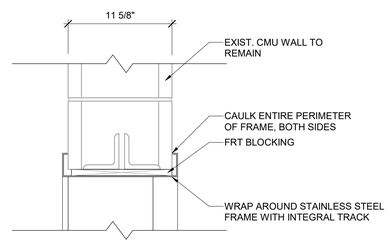
1 A2.00 SECTION AT ROLLING COUNTER DOOR

SCALE: 3/4" = 1'-0"



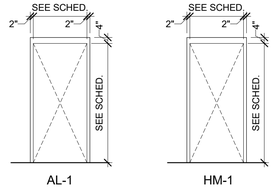
4 A9.00 OVERHEAD DR. JAMB DETAIL

SCALE: 1 1/2" = 1'-0"



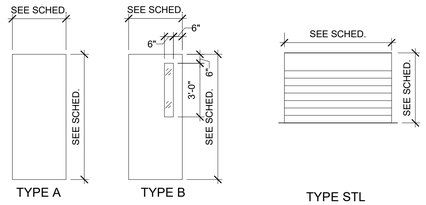
5 A9.00 OVERHAD DR HEAD DETAIL

SCALE: 1 1/2" = 1'-0"



DOOR FRAME ELEVATIONS

SCALE: 1/4" = 1'-0"



DOOR ELEVATIONS

SCALE: 1/4" = 1'-0"

DOOR SCHEDULE

#	ROOM FROM	ROOM TO	SIZE	PANEL TYPE	PANEL MAT'L	PANEL FIRE RATING DOOR	PANEL FIRE RATING GLAZING	FRAME TYPE	FRAME MAT'L	FRAME DEPT H	FRAME FIRE RATING FRAME	FRAME FIRE RATING GLAZING	COMMENTS
103	KITCHEN #103	CAFETORIUM #100	4'-1" x 4'-0" x	STL	STL			STL	STL				ROLLING COUNTER DOOR W/ INTEGRAL FRAME
106	KITCHEN #103	TOILET #106	2'-8" x 7'-0" x 1 3/4"	A	WD			HM-1	HM	4-1/2"			
107	SHIP. & REC. #107		3'-0" x 7'-0" x 2"	B	AL			AL-1	AL	5-3/4"			

FIRE RESISTANCE / RATING NOTES:
REFER TO NFPA 101 : LIFE SAFETY CODE 2012 EDITION - SECTION 8.3.3 FIRE DOORS AND WINDOWS & TABLE 8.3.4.2 FOR ADDITIONAL INFORMATION REGARDING DOOR / FRAME / GLAZING REQUIREMENTS.
REFER TO 2015 MICHIGAN BUILDING CODE - SECTION 716 OPENING PROTECTIVES & TABLE 716.5 FOR ADDITIONAL CLARIFICATION REGARDING DOOR / FRAME / GLAZING REQUIREMENTS.

ABBREVIATIONS:

AL - ALUMINUM
HM - HOLLOW METAL
FR - FIRE RATED STEEL (ASTM E119)
WD - WOOD

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FOR **IDA PUBLIC SCHOOLS**
3145 PRAIRIE STREET, IDA, MICHIGAN 48140

JOB # 25002

DOOR SCHEDULE, DOOR & FRAME TYPES

A9.00

FOR QUESTIONS, CALL THE
Michigan Office
REGION 77
PHONE: (616) 942 - 9881
EMAIL: reg77@ktechhoods.com

PATENT NUMBERS
AC-PSP (UNITED STATES) - US PATENT 7963830 B2.
AC-PSP WALL (CANADA) - CA PATENT 2820509.
AC-PSP ISLAND (CANADA) - CA PATENT 2520330.

HOOD INFORMATION - JOB#7379785

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM WIDTH	LENG	RISER(S) HEIGHT	DIA	CFM	VEL	SP	TOTAL SUPPLY CFM	HOOD CONSTRUCTION	HOOD CONFIG END TO END	ROW
1		6024 PK-ND-2 Q-SB-F	K-TECH	12' 0"	450 DEG	I	MEDIUM	200	2400			4"	16"	2400	1719	-0.797"	2400	430 SS WHERE EXPOSED	ALONE	ALONE

HOOD INFORMATION

HOOD NO	TAG	FILTER(S) TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	LIGHT(S) QTY	TYPE	WIRE GUARD	UTILITY CABINET(S) LOCATION	SIZE	FIRE SYSTEM TYPE	SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	FIRE SYSTEM PIPING	HOOD HANGING WEIGHT
1		CAPTRATE SOLO FILTER	9	20"	16"	85% SEE FILTER SPEC	3	RECESSED ROUND	NO	RIGHT	12"x60"x24"	TANK FS	4.0/4.0	DCV-1111	1 LIGHT 1 FAN	YES	1127 LBS

HOOD OPTIONS

HOOD NO	TAG	OPTION
1		FIELD WRAPPER 18.00" HIGH FRONT, LEFT, RIGHT.
		BACKSPLASH 80.00" HIGH X 156.00" LONG 430 SS VERTICAL.
		STRUCTURAL FRONT PANEL.
		RIGHT VERTICAL END PANEL 27" TOP WIDTH, 21" BOTTOM WIDTH, 80" HIGH INSULATED 430 SS.
		LEFT VERTICAL END PANEL 27" TOP WIDTH, 21" BOTTOM WIDTH, 80" HIGH INSULATED 430 SS.

PERFORATED SUPPLY PLENUM(S)

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S) WIDTH	LENG	DIA	CFM	SP
1		Front	156"	18"	6"	MUA	12"	24"		796	0.275"
						MUA	12"	24"		796	0.275"
						MUA	12"	24"		796	0.275"

CLEARANCE TO COMBUSTIBLES

HOODS #	SURFACE	*CLEARANCE
1	TOP	18"
	FRONT	0"
	BACK	18"
	LEFT	18"
	RIGHT	0"

- *0" CLEARANCE TO COMBUSTIBLES CONFORMS TO UL710 STANDARD.
- HOOD MOUNTED UTILITY CABINETS REQUIRE 36" SERVICE CLEARANCE.

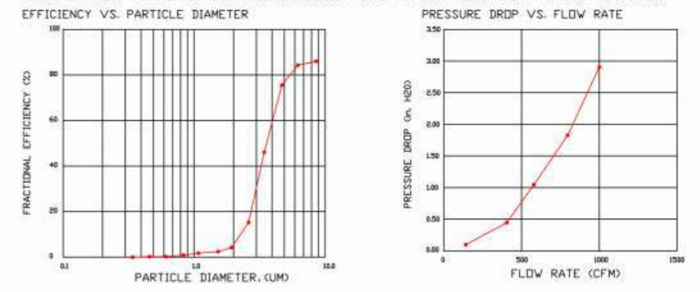
SPECIFICATION: CAPTRATE® GREASE-STOP® SOLO FILTER

THE CAPTRATE GREASE-STOP SOLO FILTER IS A SINGLE-STAGE FILTER FEATURING A UNIQUE S-BAFFLE DESIGN IN CONJUNCTION WITH A SLOTTED REAR BAFFLE DESIGN, TO DELIVER EXCEPTIONAL FILTRATION EFFICIENCY.

FILTER IS STAINLESS STEEL CONSTRUCTION, AND SIZED TO FIT INTO STANDARD 2-INCH DEEP HOOD CHANNEL(S).

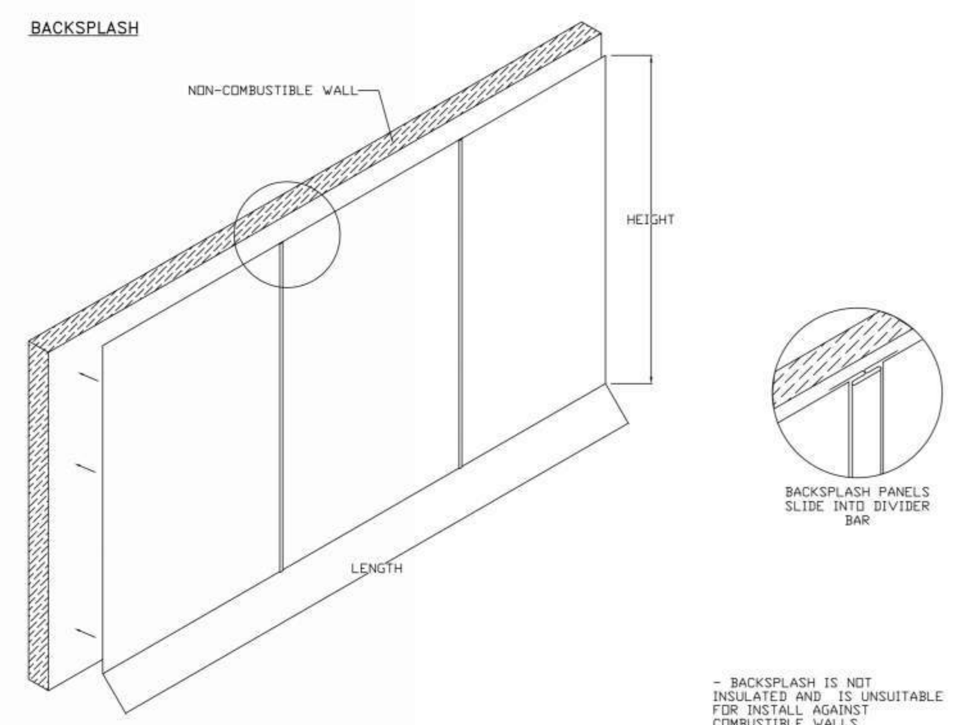
UNITS SHALL INCLUDE STAINLESS STEEL HANDLES AND A FASTENING DEVICE TO SECURE THE TWO COMPONENTS WHEN ASSEMBLED.

GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 85% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE.
THE CAPTRATE GREASE-STOP SOLO WAS TESTED TO ASTM STANDARD ASTM F2519-05.
MANUFACTURER APPROVED FOR USE IN SOLID FUEL APPLICATIONS AS A SPARK ARRESTER.

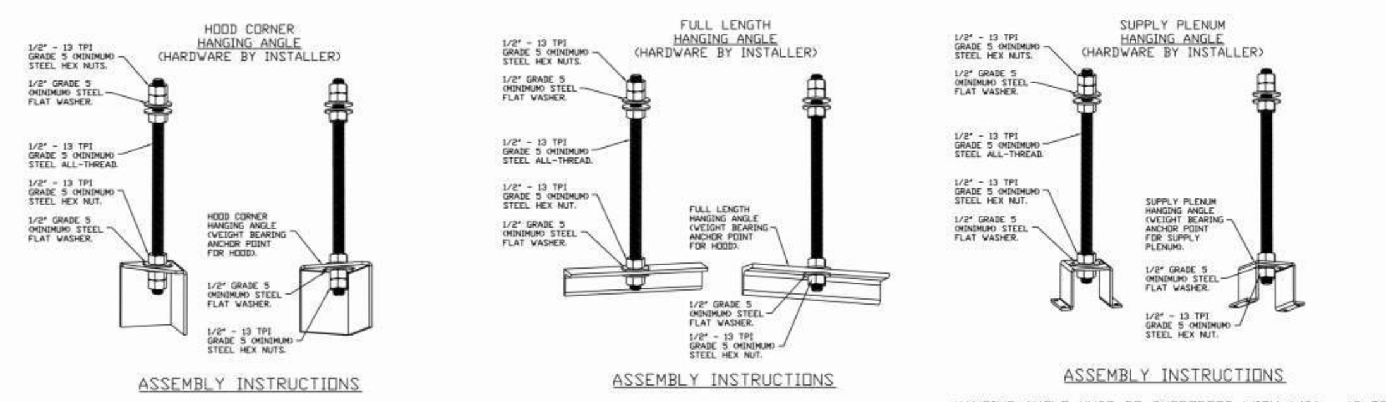


CAPTRATE FILTERS ARE BUILT IN COMPLIANCE WITH:
NFPA #96.
NSF STANDARD #2.
UL STANDARD #1046.
INT. MECH. CODE (IMC).
ULC-S649.

BACKSPLASH



- BACKSPLASH IS NOT INSULATED AND IS UNSUITABLE FOR INSTALL AGAINST COMBUSTIBLE WALLS



ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION BENEATH HOOD HANGING ANGLES AND ABOVE CEILING ANCHORS. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION ABOVE CEILING ANCHORS. SINGLE HEX NUT BENEATH HANGING ANGLE IS ACCEPTABLE FOR FULL LENGTH HANGING ANGLES. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

ASSEMBLY INSTRUCTIONS

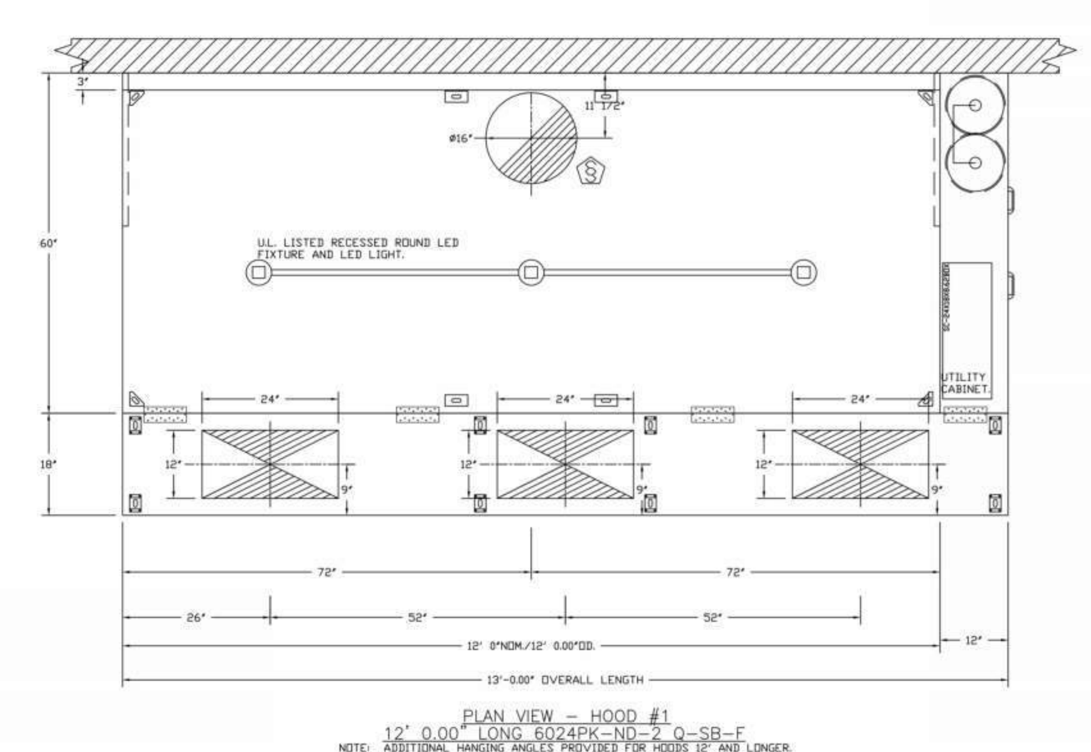
HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION ABOVE CEILING ANCHORS. SINGLE HEX NUT BENEATH HANGING ANGLE IS ACCEPTABLE FOR PSP HANGING ANGLES. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

REVISIONS
DESCRIPTION | DATE:

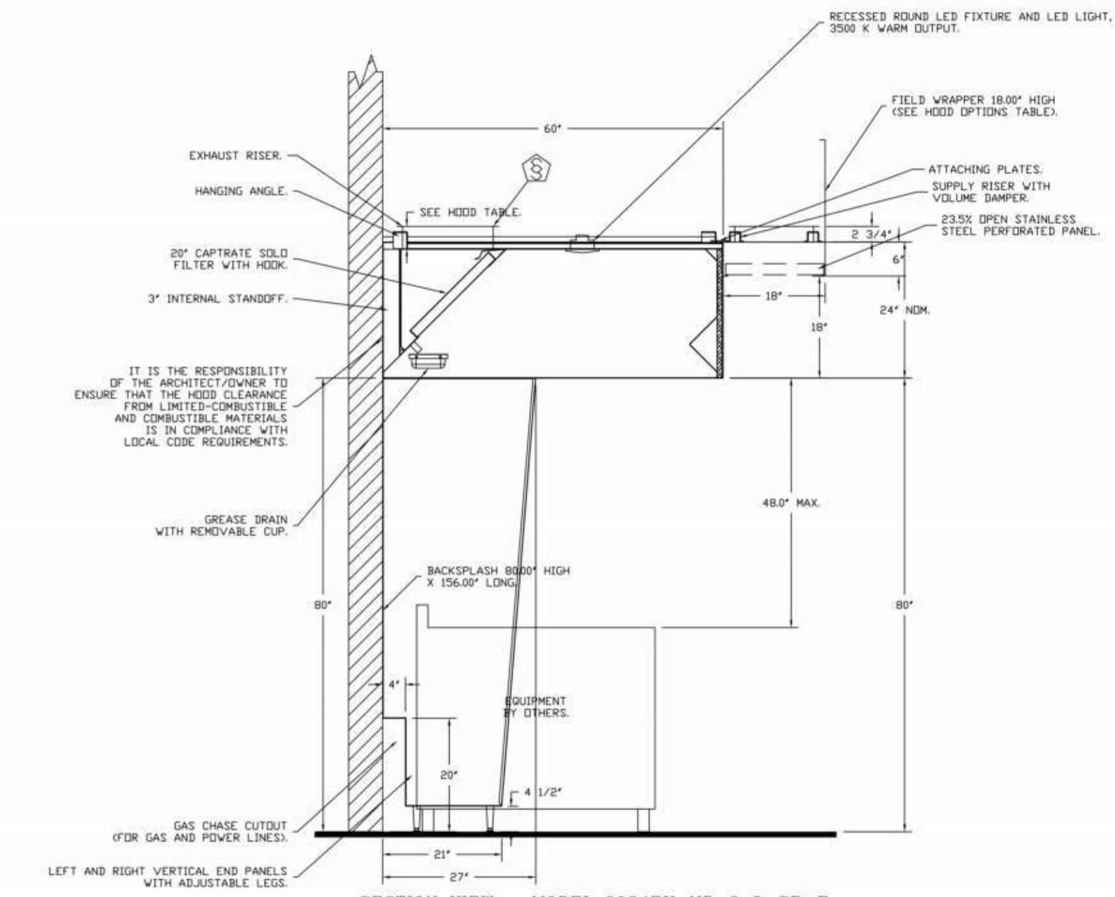
KTECH
www.mucklerktech.com
Michigan Office
4880 36th St SE, #203, Grand Rapids, MI, 49512 PHONE: (616) 942 - 9881 FAX: 9192275984 EMAIL: reg77@ktechhoods.com

Ida High School R3
3145 Prairie Street,
Ida, MI, 48140

DATE: 3/3/2025
DWG.#: 7379785
DRAWN BY: DKC
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 1

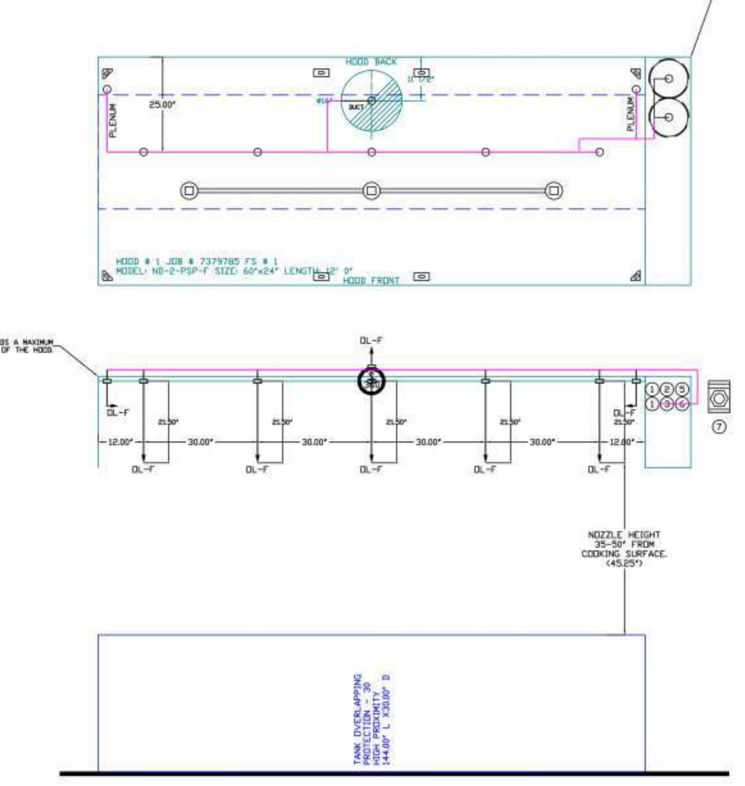


PLAN VIEW - HOOD #1
12' 0.00" LONG 6024PK-ND-2 Q-SB-F
NOTE: ADDITIONAL HANGING ANGLES PROVIDED FOR HOODS 12' AND LONGER.



SECTION VIEW - MODEL 6024PK-ND-2 Q-SB-F
HOOD - #1

REVISIONS
Ida High School R3
3145 Prairie Street,
Ida, MI, 48140
DATE: 3/3/2025
DWG.#: 7379785
DRAWN BY: DKC
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 2



NOTES
- FIELD PIPE DROPS AS SHOWN
  PIPING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS.
- FIELD INSTALLED DROP: FACTORY WILL PROVIDE QTY 2 60IN LONG PIECES OF CHROME PLATED PIPING SHIPPED LOOSE TO BE FIELD-INSTALLED.
- SHIP LOOSE DROP: FACTORY WILL PROVIDE THE EXACT CHROME PIPE LENGTH NEEDED SHIPPED LOOSE TO BE FIELD-INSTALLED.
- RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVING, SALAMANDERS, ETC.
- OVERLAPPING COVERAGE SHALL NOT BE USED ON ANY APPLIANCE WITH AN OBSTRUCTION.
- IF APPLICABLE, EXTENDED PRE-PIPED DROPS ARE SHIPPED LOOSE.
- FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.

- APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.

- THIS PRE-ENGINEERED FIRE SYSTEM COMPLIES WITH U.L. 300 REQUIREMENTS.

- DL-F NOZZLE PART NUMBER REPLACES 3070-3/8H-10-SS

JOB #: 7379785.
JOB NAME: IDA HIGH SCHOOL R3.

SYSTEM SIZE: TANK-SP-2 DESIGN FP: 37. MAXIMUM FP: 40.
HOOD # 1 12' 0.00" LONG x 60" WIDE x 24" HIGH.
RISER # 1 SIZE: 16" DIA.
HOOD # 1 METAL BLOW-OFF CAPS INCLUDED.

- HEAVY-DUTY APPLIANCES (RATED 600°F) WILL REQUIRE AN ADDITIONAL DOWNSTREAM FIRESTAT IN THE EVENT THAT THE DUCTWORK CONTAINS ANY HORIZONTAL RUNS OVER 25 FT IN LENGTH.
- MEDIUM TO LIGHT-DUTY APPLIANCES (RATED 450°F) WILL NOT REQUIRE ANY ADDITIONAL DOWNSTREAM DETECTION.

AGENT DISTRIBUTION PIPING LIMITATIONS	
PIPE SECTION	MAX PIPE LENGTH (FT)
MAX SUPPLY LINE TO FIRST OVERLAPPING NOZZLE	42
OVERLAPPING NOZZLE APPLIANCE BRANCH	10
DEDICATED NOZZLE APPLIANCE BRANCH	10

LEGEND - FIRE CABINET TANK SYSTEM

1 4 GALLON TANK.
2 PRIMARY ACTUATOR RELEASE.
3 SECONDARY ACTUATOR RELEASE.
4 PRESSURE SUPERVISION SWITCH.
5 PRIMARY HOSE ASSEMBLY.
6 SECONDARY HOSE ASSEMBLY.
7 REMOTE MANUAL ACTUATION DEVICE.

INCLUDES: FIELD INSTALLATION AND HOOKUP DURING NORMAL BUSINESS HOURS BY CERTIFIED INSTALLERS ONLY IN THE LOCATION NOTED ABOVE, TWO SITE VISITS ONLY (ONE VISIT TO SET PULL STATION & SYSTEM HOOKUP AND ONE VISIT FOR ONE TEST; ADDITIONAL VISITS WILL RESULT IN ADDITIONAL CHARGES), ONE MECHANICAL OR ELECTRICAL GAS VALVE PER SYSTEM AT A MAXIMUM SIZE OF 2", PERMIT, AND SYSTEM TEST.
EXCLUDES: UNION LABOR & PREVAILING WAGE (LABOR & WAGES WILL BE ADDED IF APPLICABLE), GAS VALVE INSTALLATION, ELECTRICAL HOOKUP AND CONNECTIONS, HANGING OF FIRE CABINET, SHUNT TRIP, HANDHELD EXTINGUISHER(S), ON-SITE RE-PIPING DUE TO EQUIPMENT LAYOUT CHANGES.

FIRE SYSTEM INFORMATION - JOB#7379785

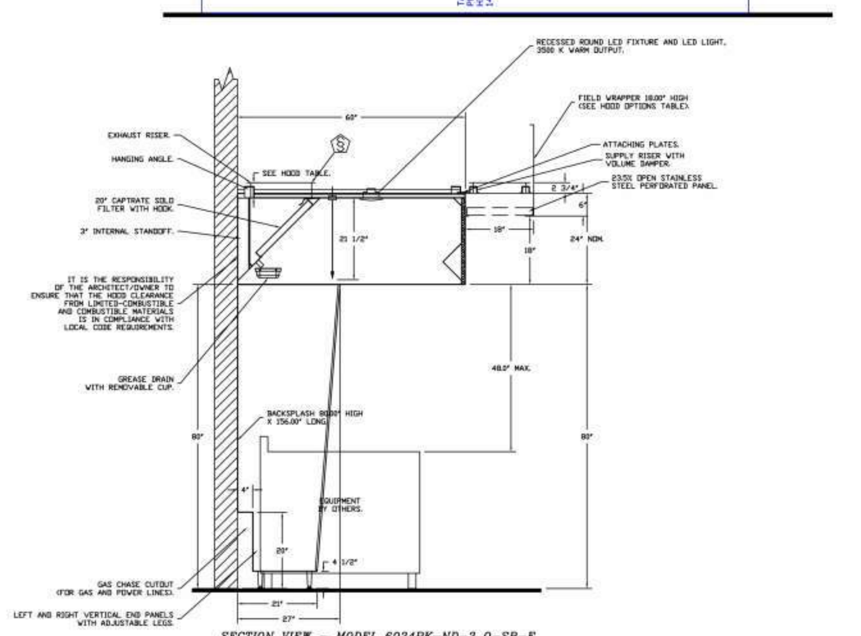
FIRE SYSTEM NO	TAG	TYPE	SIZE	MAX FP	DESIGN FP	INSTALLATION SYSTEM	LOCATION ON HOOD
1		TANK FS	4.0/4.0	40	37	FIRE CABINET RIGHT	RIGHT, HOOD 1

GAS VALVE(S)

FIRE SYSTEM NO	TAG	TYPE	SIZE	SUPPLIED BY
1		SC ELECTRICAL	2.000	K-TECH

FIRE SYSTEM PARTS LIST KEY

FIRE SYSTEM NO	TAG	KEY NUMBER - PART DESCRIPTION	QTY BY FACTORY	QTY BY DIST
1		0 - 0 - TANK FIRE SUPPRESSION POST-DISCHARGE PROCEDURE UTILITY CABINET LABEL SHEET.	1	0
		0 - 0 - TANK FIRE SUPPRESSION MAINTENANCE GUIDE UTILITY CABINET LABEL SHEET.	1	0
		0 - 0 - 12-F28021-32144-DT-360 DUCT FIRE THERMOSTAT WITH 12 FOOT WIRE LEADS. NO, CLOSE ON TEMP RISE AT 360°F. (A0034310).	1	0
		0 - 0 - 32-00002 QUIK SEAL - 1/2" (UL).	1	0
		0 - 0 - 4429K153 1/2" MALE NPT TO 1/2" FEMALE NPT ELBOW, BRASS.	2	0
		0 - 0 - 4429K422 1/2" X 1/4" BRASS REDUCING BUSHING.	1	0
		0 - 0 - 79525 1/2" 90 PRO-PRESS ELBOW WITH 1/2" NPT FEMALE CONNECTION, VIEGA.	1	0
		0 - 0 - 79580 1/2" X 1/2" PRO-PRESS TEE X 1/2" NPT FEMALE CONNECTION, VIEGA.	2	0
		0 - 0 - 87-120042-001 SECONDARY ACTUATOR VALVE (SVA) - SINGLE ACTUATOR, REQUIRES PRIMARY RELEASE ACTUATOR, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-120045-001 HOSE, SECONDARY ACTUATOR HOSE, 7.5" BRAIDED STAINLESS STEEL, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-300001-001 TANK - PRESSURIZED TANK USED FOR TANK FIRE SUPPRESSION.	2	0
		0 - 0 - 87-300030-001 PRIMARY ACTUATOR KIT (PAK) - ACTUATOR AND RELEASE SOLENOID ASSEMBLY, ONE NEEDED PER FIRE SYSTEM, SUPERVISED, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-300033-001 DIN CONNECTOR, CANFIELD PART #5J560-201-EU0A, TANK FIRE SUPPRESSION, SUBMINATURE SOLENOID CONNECTION (CED VENDOR 30377).	1	0
		0 - 0 - 87-300152-001 HARDWARE, SVA BOLTS, TANK FIRE SUPPRESSION.	8	0
		0 - 0 - 9055455PC PRO PRESS 1/2 PRESS X PRESS 90 ELBOW LD.	7	0
		0 - 0 - 9097200PC PRO PRESS PC611 1/2 PRESS TEE LD.	7	0
		0 - 0 - 98694A115 HARDWARE, DATANKLOCK LOCKING BRACKET SQUARE NUTS 5/16" ZINC, TANK FIRE SUPPRESSION.	4	0
		0 - 0 - A0034332 JUNCTION BOX FOR MANUAL PULL STATION. 1.5" DEEP BACK BOX. RED COLOR.	1	0
		0 - 0 - A31484 1/4" NPT SCHRADER VALVE AND CAP, JB INDUSTRIES. 1/4" FLARE X 1/4" MPT HALF UNION. USED ON TANK SERVICE PORT.	1	0
		0 - 0 - B1145 3/8" BLACK IRON 90 ELL.	3	0
		0 - 0 - DATANKLOCK DISCHARGE ADAPTER TANK LOCKING PLATE FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	2	0
		0 - 0 - TANK STRAP TANK STRAP - USED FOR TANK FIRE SUPPRESSION.	6	0
		0 - 0 - TFS-UCTANKBRACKET TANK BRACKET FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	2	0
		0 - 0 - WK-283952-000 DISCHARGE ADAPTER, TANK FIRE SUPPRESSION.	2	0
		16 - 16 - 79210 1/2" X 3/8" NPT MALE ADAPTER, VIEGA.	8	0
		16 - 16 - DL-F NOZZLE - TANK PROTECTION APPLIANCE COVERAGE NOZZLE (INCLUDES METAL BLOW OFF CAP, LANYARD, USED WITH CHROME-PLATED PIPE).	8	0
		26 - 26 - QSA-3/8 QUIK SEAL - 3/8" (UL).	8	0
		34 - 34 - A0034331 24VDC SINGLE ACTION MANUAL ACTUATION DEVICE (PUSH/PULL STATION) WITH PROTECTIVE COVER, ONE (1) NORMALLY OPEN CONTACT. RED COLOR.	1	0



SECTION VIEW - MODEL 6024PK-ND-2 Q-SB-F
HOOD - #1

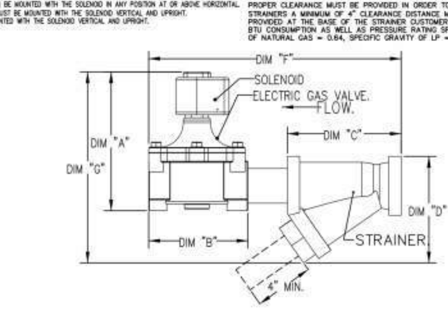
GAS VALVES AND STRAINERS

	TYPE	SIZE	VOLTAGE	MIN. INLET PRESSURE	MAX. INLET PRESSURE	FLOW AT 1 IN.W.C. DROP NATURAL GAS	FLOW AT 1 IN.W.C. DROP PROPANE	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "F"	DIM "G"	PIPE ORIENTATION	GAS VALVE PART NUMBER	STRAINER PART NUMBER	GAS VALVE/STRAINER KIT
GAS VALVE FOR FS#1	ELECTRICAL	2"	120 VAC	0 PSI (0 IN.W.C.)	5 PSI (138 IN.W.C.)	2,940,500 BTU/HR	1,908,048 BTU/HR	7-5/8"	6-3/8"	7-1/4"	7-13-16"	15-5/8"	13-15/16"	HORIZONTAL/VERTICAL	8214280	4417K68	(SC)EGVA2

ELECTRIC GAS VALVES ONLY: SOLENOID ORIENTATION
3/4"-2" 120VAC GAS VALVES CAN BE MOUNTED WITH THE SOLENOID IN ANY POSITION AT OR ABOVE HORIZONTAL.
2 1/2"-3" 120VAC GAS VALVES MUST BE MOUNTED WITH THE SOLENOID VERTICAL AND UPRIGHT.
24VDC GAS VALVES MUST BE MOUNTED WITH THE SOLENOID VERTICAL AND UPRIGHT.

ALL GAS VALVES/STRAINERS
PROPER CLEARANCE MUST BE PROVIDED IN ORDER TO SERVICE THE STRAINERS. A MINIMUM OF 4" CLEARANCE DISTANCE MUST BE PROVIDED AT THE BASE OF THE STRAINER. CUSTOMER MUST VERIFY BTU CONSUMPTION AS WELL AS PRESSURE RATING. SPECIFIC GRAVITY OF NATURAL GAS = 0.64, SPECIFIC GRAVITY OF LP = 1.52.

CALCULATIONS
TO CALCULATE GAS FLOW FOR OTHER THAN 1 IN.W.C. PRESSURE DROP
NEW BTU/HR = (BTU/HR AT 1 IN.W.C. PRESSURE DROP) X NEW PRESSURE DROP^0.5
TO CALCULATE GAS FLOW FOR OTHER THAN 0.64 SPECIFIC GRAVITY
NEW BTU/HR = (BTU/HR AT 0.64) X (0.64 / NEW SPECIFIC GRAVITY)^0.5



REVISIONS
Ida High School R3
3145 Prairie Street,
Ida, MI, 48140
DATE: 3/3/2025
DWG.#: 7379785
DRAWN BY: DKC
SCALE: 1/2" = 1'-0"
MASTER DRAWING
SHEET NO. 3

EXHAUST FAN INFORMATION - JOB#7379785

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SONES
1		1	DU180HK	K-TECH	2400	0.950	1048	ODP,PREMIUM	1.500	0.8050	3	208	6.6	554 FPM	178	10.9

MUA FAN INFORMATION - JOB#7379785

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	BLOWER	HOUSING	MIN CFM	DESIGN CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	MCA	MOCP	WEIGHT (LBS)	SONES
2		1	K-A2-D.250-20D	20MF-2-MOD	A2-D.250	2000	2400	0.500	1074	ODP,PREMIUM	1.500	0.6620	3	208	4.4	6.7A	15A	685	7.8

GAS FIRED MAKE-UP AIR UNIT(S)

FAN UNIT NO	TAG	INPUT BTUs	OUTPUT BTUs	TEMP RISE	REQUIRED INPUT GAS PRESSURE	GAS TYPE	BURNER EFFICIENCY(%)
2		213067	196022	80°F	7 IN. W.C. - 14 IN. W.C.	NATURAL	92

FAN OPTIONS

FAN UNIT NO	TAG	QTY	DESCRIPTION
1		1	GREASE BOX
		1	FAN BASE CERAMIC SEAL - DU/DR180HFA - INSTALLED AT PLANT - FOR GREASE DUCTS
		1	2 YEAR PARTS WARRANTY
2		1	SIZE 2 DIRECT FIRED HEATER LOW CFM PROFILE PACKAGE - USED ON HEATERS UNDER 2500 CFM
		1	SIZE 2 TEMPERED COMMERCIAL DOWN DISCHARGE FOR DIRECT DRIVE AHUS
		1	INLET PRESSURE GAUGE, 0-35"
		1	MANIFOLD PRESSURE GAUGE, -5 TO 15" WC
		1	BUTTERFLY MOD VALVE OPTION FOR MOD SIZE 2 (1" MOD VALVE)
		1	SHIP LOOSE GAS STRAINER 1"
		1	CASLINK BUILDING MONITORING SYSTEM - INTERNET OR CELLULAR CONNECTION REQUIRED
		1	MOTORIZED BACKDRAFT DAMPER FOR A2-D HOUSING - MEETS AMCA CLASS 1A RATING
		1	UNIT MOUNTED VFD FOR USE WITH ECPM03
		1	2 YEAR PARTS WARRANTY
		1	EXTERIOR GAS CONNECTION PROVIDED BY FACTORY WITH QUICK SEAL AND ANTI-ROTATION BRACKET

FAN ACCESSORIES

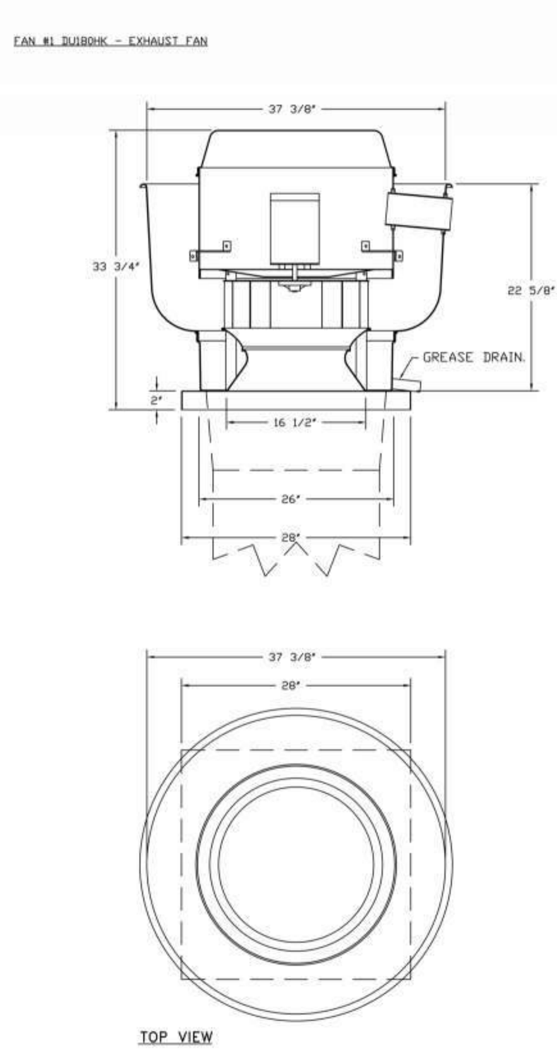
FAN UNIT NO	TAG	EXHAUST GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SUPPLY SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1		YES						
2							YES	

CURB ASSEMBLIES

NO	ON FAN	WEIGHT	ITEM	SIZE
1	# 1	43 LBS	CURB	26.500"W X 26.500"L X 20.000"H VENTED HINGED.
2	# 2	80 LBS	CURB	31.000"W X 79.000"L X 20.000"H INSULATED.

HMI SCHEDULE				
UNIT NUMBER	HMI #	HMI LOCATION	TEMP AVERAGING	MODBUS ADDRESS
FAN #2	HMI #1 - UNIT	IN UNIT	NOT AVERAGED	55

FAN #1 DU180HK - EXHAUST FAN

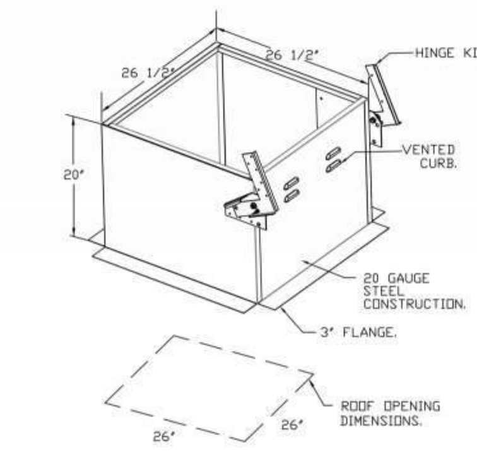


FEATURES:
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705 AND UL762 AND ULC-S645
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- HIGH HEAT OPERATION 300°F (149°C).
- GREASE CLASSIFICATION TESTING.
- NEMA 3R SAFETY DISCONNECT SWITCH.

NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

ABNORMAL FLARE-UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

OPTIONS
- GREASE BOX.
- FAN BASE CERAMIC SEAL - DU/DR180HFA - INSTALLED AT PLANT - FOR GREASE DUCTS.
- 2 YEAR PARTS WARRANTY.



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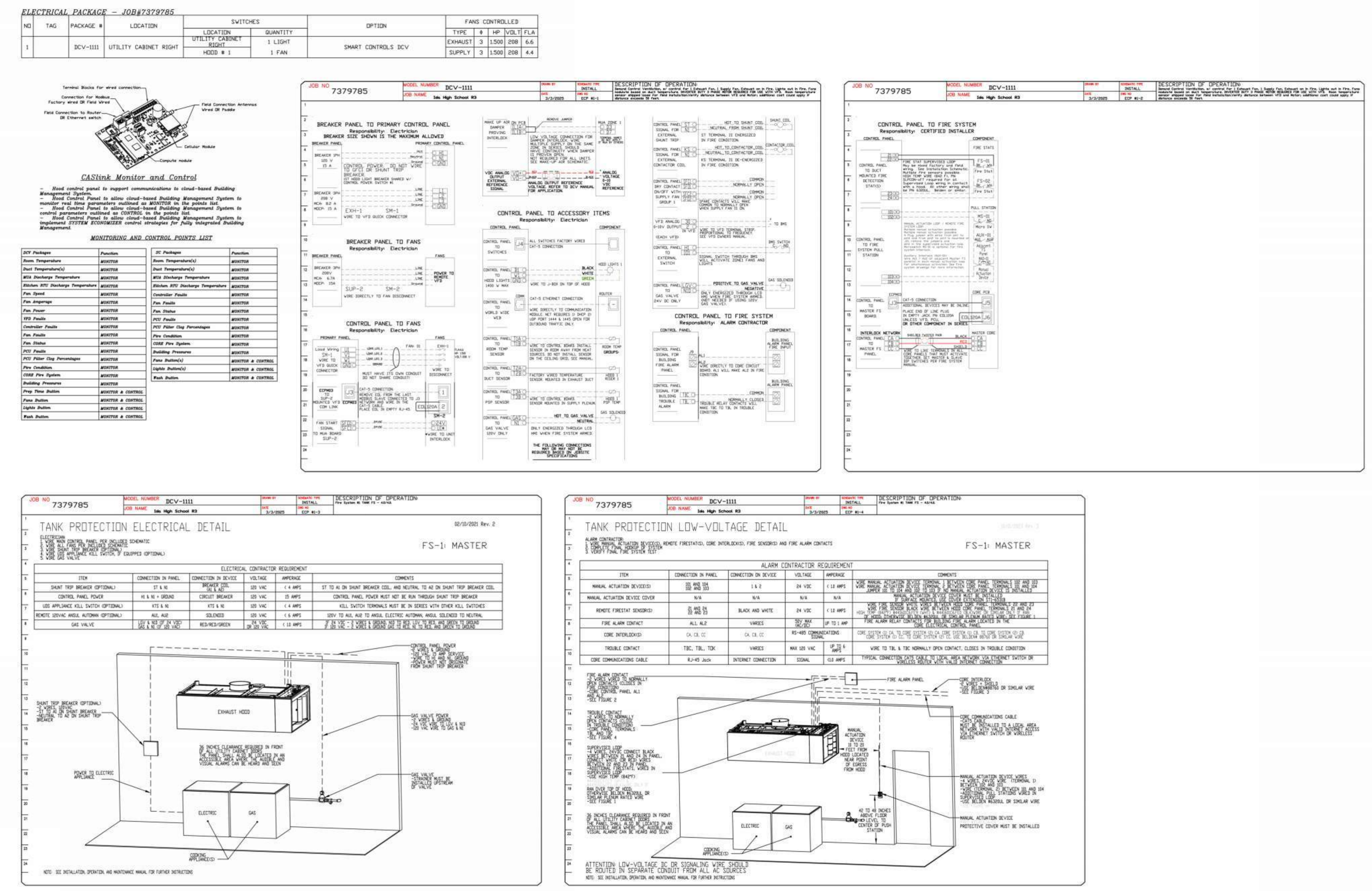
DATE	DESCRIPTION
04.16.2025	BIDDING & STATE REVIEW

KITCHEN CAFETERIA UPDATES & RELATED WORK
AT
IDA HIGH SCHOOL
3145 PRAIRIE STREET, IDA, MICHIGAN 48140
FOR
IDA PUBLIC SCHOOLS
3145 PRAIRIE STREET, IDA, MICHIGAN 48140

JOB # 25002

KITCHEN EXHAUST HOOD DETAILS

A10.00



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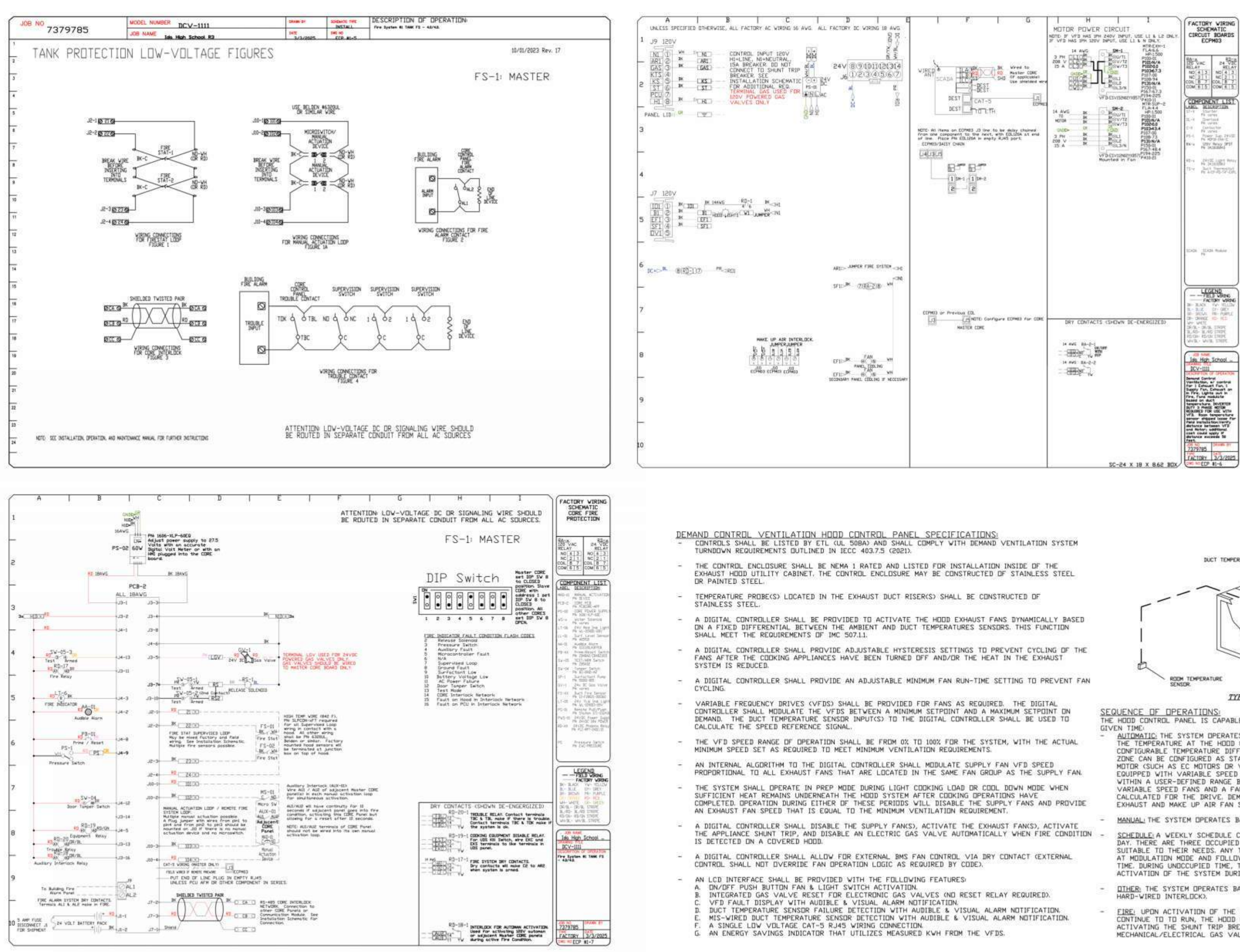
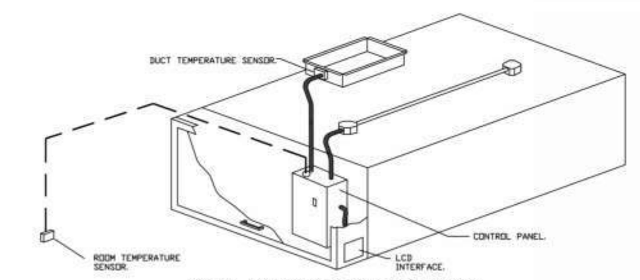
SHEET NO. 6



DEMAND CONTROL VENTILATION HOOD CONTROL PANEL SPECIFICATIONS:

- CONTROLS SHALL BE LISTED BY ETL (UL 508A) AND SHALL COMPLY WITH DEMAND VENTILATION SYSTEM TURNDOWN REQUIREMENTS OUTLINED IN IECC 403.7.5 (2021).
- THE CONTROL ENCLOSURE SHALL BE NEMA 1 RATED AND LISTED FOR INSTALLATION INSIDE OF THE EXHAUST HOOD UTILITY CABINET. THE CONTROL ENCLOSURE MAY BE CONSTRUCTED OF STAINLESS STEEL OR PAINTED STEEL.
- TEMPERATURE PROBE(S) LOCATED IN THE EXHAUST DUCT RISER(S) SHALL BE CONSTRUCTED OF STAINLESS STEEL.
- A DIGITAL CONTROLLER SHALL BE PROVIDED TO ACTIVATE THE HOOD EXHAUST FANS DYNAMICALLY BASED ON A FIXED DIFFERENTIAL BETWEEN THE AMBIENT AND DUCT TEMPERATURES SENSORS. THIS FUNCTION SHALL MEET THE REQUIREMENTS OF IMC 507.1.1.
- A DIGITAL CONTROLLER SHALL PROVIDE ADJUSTABLE HYSTERESIS SETTINGS TO PREVENT CYCLING OF THE FANS AFTER THE COOKING APPLIANCES HAVE BEEN TURNED OFF AND/OR THE HEAT IN THE EXHAUST SYSTEM IS REDUCED.
- A DIGITAL CONTROLLER SHALL PROVIDE AN ADJUSTABLE MINIMUM FAN RUN-TIME SETTING TO PREVENT FAN CYCLING.
- VARIABLE FREQUENCY DRIVES (VFDS) SHALL BE PROVIDED FOR FANS AS REQUIRED. THE DIGITAL CONTROLLER SHALL MODULATE THE VFDS BETWEEN A MINIMUM SETPOINT AND A MAXIMUM SETPOINT ON DEMAND. THE DUCT TEMPERATURE SENSOR INPUT(S) TO THE DIGITAL CONTROLLER SHALL BE USED TO CALCULATE THE SPEED REFERENCE SIGNAL.
- THE VFD SPEED RANGE OF OPERATION SHALL BE FROM 0% TO 100% FOR THE SYSTEM, WITH THE ACTUAL MINIMUM SPEED SET AS REQUIRED TO MEET MINIMUM VENTILATION REQUIREMENTS.
- AN INTERNAL ALGORITHM TO THE DIGITAL CONTROLLER SHALL MODULATE SUPPLY FAN VFD SPEED PROPORTIONAL TO ALL EXHAUST FANS THAT ARE LOCATED IN THE SAME FAN GROUP AS THE SUPPLY FAN.
- THE SYSTEM SHALL OPERATE IN PREP MODE DURING LIGHT COOKING LOAD OR COOL DOWN MODE WHEN SUFFICIENT HEAT REMAINS UNDERNEATH THE HOOD SYSTEM AFTER COOKING OPERATIONS HAVE COMPLETED. OPERATION DURING EITHER OF THESE PERIODS WILL DISABLE THE SUPPLY FANS AND PROVIDE AN EXHAUST FAN SPEED THAT IS EQUAL TO THE MINIMUM VENTILATION REQUIREMENT.
- A DIGITAL CONTROLLER SHALL DISABLE THE SUPPLY FAN(S), ACTIVATE THE EXHAUST FAN(S), ACTIVATE THE APPLIANCE SHUNT TRIP, AND DISABLE AN ELECTRIC GAS VALVE AUTOMATICALLY WHEN FIRE CONDITION IS DETECTED ON A COVERED HOOD.
- A DIGITAL CONTROLLER SHALL ALLOW FOR EXTERNAL BMS FAN CONTROL VIA DRY CONTACT (EXTERNAL CONTROL SHALL NOT OVERRIDE FAN OPERATION LOGIC AS REQUIRED BY CODE).
- AN LCD INTERFACE SHALL BE PROVIDED WITH THE FOLLOWING FEATURES:
  A. ON/OFF PUSH BUTTON FAN & LIGHT SWITCH ACTIVATION.
  B. INTEGRATED GAS VALVE RESET FOR ELECTRONIC GAS VALVES (NO RESET RELAY REQUIRED).
  C. VFD FAULT DISPLAY WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
  D. DUCT TEMPERATURE SENSOR FAILURE DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
  E. MIS-WIRED DUCT TEMPERATURE SENSOR DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
  F. A SINGLE LOW VOLTAGE CAT-5 RJ45 WIRING CONNECTION.
  G. AN ENERGY SAVINGS INDICATOR THAT UTILIZES MEASURED KWH FROM THE VFDS.



TYPICAL HOOD CONTROL PANEL INSTALLATION

SEQUENCE OF OPERATIONS:
THE HOOD CONTROL PANEL IS CAPABLE OF OPERATING IN ONE OR MORE OF THE FOLLOWING STATES AT ANY GIVEN TIME:

- AUTOMATIC: THE SYSTEM OPERATES BASED ON THE DIFFERENTIAL BETWEEN ROOM TEMPERATURE AND THE TEMPERATURE AT THE HOOD CAVITY OR EXHAUST DUCT COLLAR. FANS ACTIVATE AT A CONFIGURABLE TEMPERATURE DIFFERENTIAL THRESHOLD. DEPENDING ON THE JOB CONFIGURATION EACH FAN ZONE CAN BE CONFIGURED AS STATIC OR DYNAMIC. THESE TERMS REFER TO WHETHER A VARIABLE MOTOR (SUCH AS EC MOTORS OR VFD DRIVEN MOTORS) MODULATE WITH TEMPERATURE. IF THE PANEL IS EQUIPPED WITH VARIABLE SPEED FANS AND THE ZONE IS DEFINED AS "DYNAMIC", THESE WILL MODULATE WITHIN A USER-DEFINED RANGE BASED ON THE TEMPERATURE DIFFERENTIAL. PANELS EQUIPPED WITH VARIABLE SPEED FANS AND A FAN ZONE DEFINED AS "STATIC", FANS WILL RUN AT A SET SPEED CALCULATED FOR THE DRIVE. DEMAND CONTROL VENTILATION SYSTEMS ARE CAPABLE OF MODULATING EXHAUST AND MAKE UP AIR FAN SPEEDS PER THE REQUIREMENTS OUTLINED IN IECC 403.7.5 (2021).
- MANUAL: THE SYSTEM OPERATES BASED ON HUMAN INPUT FROM AN HMI.
- SCHEDULE: A WEEKLY SCHEDULE CAN BE SET TO RUN FANS FOR A SPECIFIED PERIOD THROUGHOUT THE DAY. THERE ARE THREE OCCUPIED TIMES PER DAY TO ALLOW FOR THE USER TO SET UP A TIME THAT IS SUITABLE TO THEIR NEEDS. ANY TIME THAT IS WITHIN THE DEFINED OCCUPIED TIME, THE SYSTEM WILL RUN AT MODULATION MODE AND FOLLOW THE FAN PROCEDURE ALGORITHM BASED ON TEMPERATURE DURING THIS TIME. DURING UNOCCUPIED TIME, THE SYSTEM WILL HAVE AN EXTRA OFFSET TO PREVENT UNINTENDED ACTIVATION OF THE SYSTEM DURING A TIME WHERE THE SYSTEM IS NOT BEING OCCUPIED.
- OTHER: THE SYSTEM OPERATES BASED ON THE INPUT FROM AN EXTERNAL SOURCE (DDC, BMS OR HARD-WIRED INTERLOCK).
- FIRE: UPON ACTIVATION OF THE HOOD FIRE SUPPRESSION SYSTEM, THE EXHAUST FAN WILL COME ON OR CONTINUE TO TO RUN, THE HOOD MAKEUP AIR WILL SHUTDOWN, AND A SIGNAL WILL BE SENT FOR ACTIVATING THE SHUNT TRIP BREAKER PROVIDED BY THE ELECTRICIAN. FUEL GAS WILL SHUT OFF VIA A MECHANICAL/ELECTRICAL GAS VALVE ACTUATED BY THE HOOD FIRE SUPPRESSION SYSTEM.

Ida High School R3
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MASTER DRAWING
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DUCTWORK #1 PARTS - JOB#7379785 DOUBLE WALL

TAG	PART #	CFM	GPM	ZONE	COVEREDBY	SP	WEIGHT	VELOCITY	QTY	DESCRIPTION
P1	KDW1645ASY	2400				-0.0483	7.22	1718.87	1	SINGLE WALL DUCT 45 DEGREE ELBOW, 16" DUCT, ASSEMBLY.
SYSTEM AT P1						-0.8453	0.00			
P2	KDW1645ASY	2400				-0.069	7.22	1718.87	1	SINGLE WALL DUCT 45 DEGREE ELBOW, 16" DUCT, ASSEMBLY.
SYSTEM AT P2						-0.9143	0.00			
P3	KDW1627DWAJD-2R-S	2400				-0.0077	58.31	1718.87	1	DOUBLE WALL ADJUSTABLE DUCT - 16" INNER DUCT - 2 LAYERS REDUCED CLEARANCE - 20" STAINLESS STEEL OUTER SHELL. MIN LENGTH = 11" / MAX LENGTH = 24.5" / ADJUSTMENT = 13.5" / ADJUSTABLE SECTION MAY NEED TO BE CUT. INCLUDES SINGLE AND DOUBLE WALL "V" CLAMPS.
SYSTEM AT P3						-0.922	0.00			
P4 ASSEMBLED W/P5	KDW1635DWLTTP-2R-S	2400				-0.0135	53.98	1718.87	1	DOUBLE WALL DUCT - 16" INNER DUCT, 35" LONG - 2 LAYERS REDUCED CLEARANCE - 20" STAINLESS STEEL OUTER SHELL - USED WITH TRANSITION PLATE.
SYSTEM AT P4						-0.9355	0.00			
P5 ASSEMBLED W/P4 O=B	KDW2616TP	2400					11.62	1718.87	1	DUCT TO CURB TRANSITION, 26-1/2" CURB TO 16" DUCT, 16 GA ALUMINIZED. USED ON BDU18.
EC1	KDW16DWECASY-2						3.18		1	DOUBLE WALL DUCT END CAP ASSEMBLY - 16" DUCT 2 LAYERS 21" OD - INCLUDES DW20CLASY - USED TO SEAL DOUBLE WALL WHEN CONNECTING TO SINGLE WALL DUCT.
	K3M-2000PLUS						0.80		2	DUCT - 3M FIRE BARRIER 2000 PLUS SILICONE - USED AS SEALANT TO SEAL DUCT JOINTS.
	KDW16CLASY						1.18		3	DUCT "V" CLAMP WITH NEW DESIGN 14 GA BRACKETS, 16" DUCT, ASSEMBLY.
TOTAL WEIGHT							146.67			

SINGLE WALL FACTORY BUILT DUCTWORK

- ALL DUCTWORK IS REQUIRED TO BE INSTALLED WITH THE MAXIMUM SUPPORT SPACING LISTED BELOW.
- FOR A COMPLETE LIST OF APPROVED SUPPORT METHODS, SEE THE INSTALLATION AND OPERATION MANUAL.
- DUCTWORK SHALL SLOPE NOT LESS THAN 1/16" PER LINEAR FOOT TOWARDS THE HOOD OR AN APPROVED GREASE COLLECTION RESERVOIR.
- WHERE HORIZONTAL DUCTS EXCEED 75 FEET IN LENGTH, THE SLOPE SHALL NOT BE LESS THAN 3/16" PER LINEAR FOOT.

DUCT DIAMETER	HORIZONTAL SUPPORT (FT)	VERTICAL WALL SUPPORT (FT)	VERTICAL CURB SUPPORT (FT)
5"	10'	10'	24'
6"	10'	10'	24'
7"	10'	10'	24'
8"	10'	10'	24'
10"	10'	10'	24'
12"	10'	10'	24'
14"	10'	10'	24'
16"	10'	10'	24'
18"	10'	10'	24'
20"	10'	10'	24'
22"	10'	10'	24'
24"	10'	10'	24'
26"	10'	10'	24'
28"	10'	10'	24'
30"	10'	10'	24'
32"	10'	10'	24'
34"	10'	10'	24'
36"	10'	10'	24'

DOUBLE WALL FACTORY BUILT DUCTWORK

- ALL DUCTWORK IS REQUIRED TO BE INSTALLED WITH THE MAXIMUM SUPPORT SPACING LISTED BELOW.
- FOR A COMPLETE LIST OF APPROVED SUPPORT METHODS, SEE THE ENTIRE INSTALLATION AND OPERATION MANUAL
- DUCTWORK SHALL SLOPE NOT LESS THAN 1/16" PER LINEAR FOOT TOWARDS THE HOOD OR AN APPROVED GREASE COLLECTION RESERVOIR.
- WHERE HORIZONTAL DUCTS EXCEED 75 FEET IN LENGTH, THE SLOPE SHALL NOT BE LESS THAN 3/16" PER LINEAR FOOT.

HORIZONTAL	
DUCT DIAMETER	SUPPORT SPACING (FT)
5"	7'
6"	7'
7"	7'
8"	7'
10"	7'
12"	7'
14"	7'
16"	7'
18"	5'
20"	5'
22"	5'
24"	5'
26"	5'
28"	5'
30"	5'
32"	5'
34"	5'
36"	5'

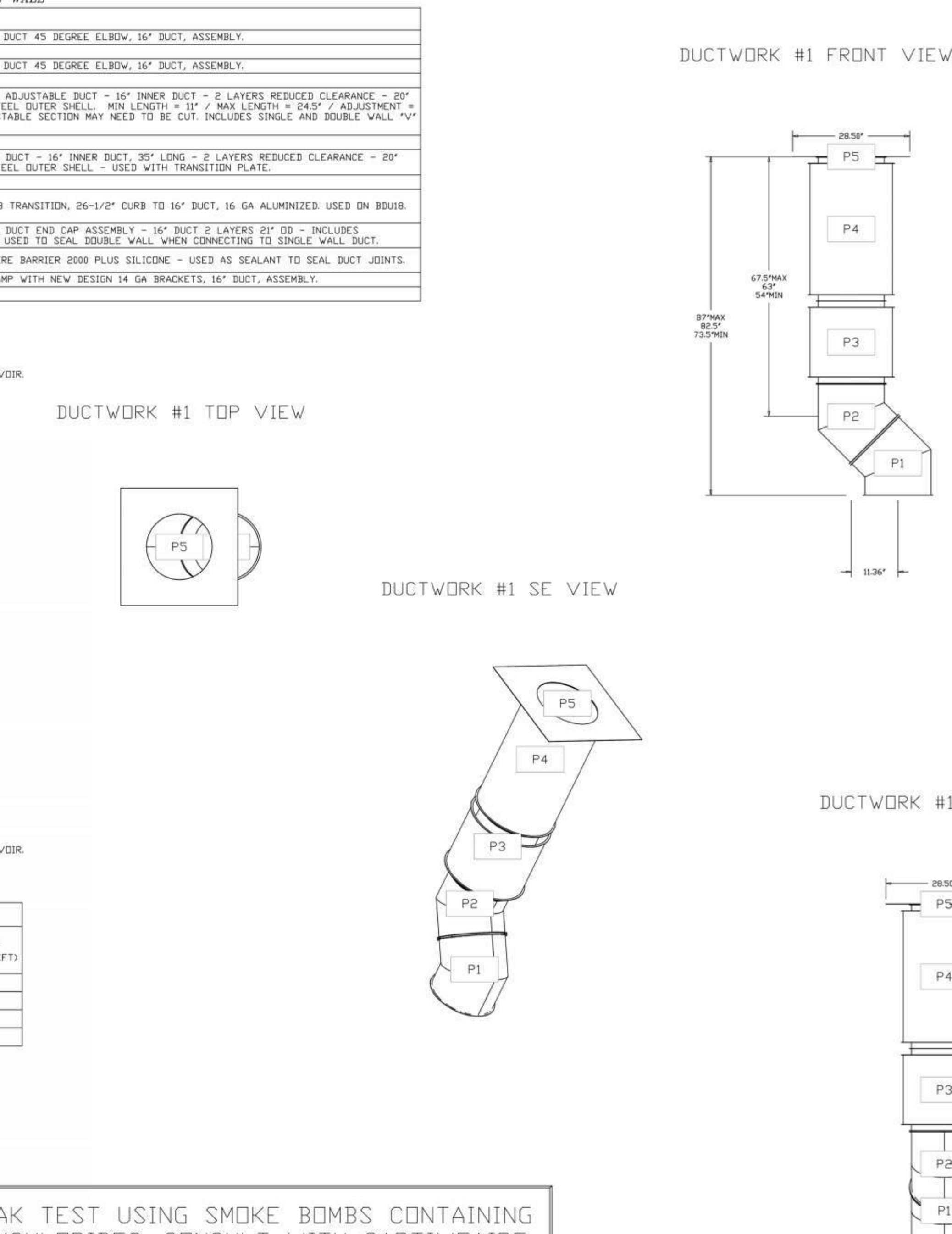
	VERTICAL		
TYPE	WALL SUPPORT (FT)	CURB SUPPORT (FT)	FLOOR SUPPORT (FT)
2R & 2R HT (5"-16")	20'	24'	24'
2R (18")	18'	24'	24'
3R & 3Z (5"-24")	10'	24'	24'
3Z (26" -36")	10'	20'	20'

DUCTWORK #1 TOP VIEW

DUCTWORK #1 SE VIEW

DUCTWORK #1 FRONT VIEW

DUCTWORK #1 SIDE VIEW



DO NOT LEAK TEST USING SMOKE BOMBS CONTAINING CHLORINES/CHLORIDES. CONSULT WITH CAPTIVEAIRE FOR PROPER LEAK TESTING METHODS.

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DATE	DESCRIPTION
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KITCHEN CAFETERIA UPDATES & RELATED WORK
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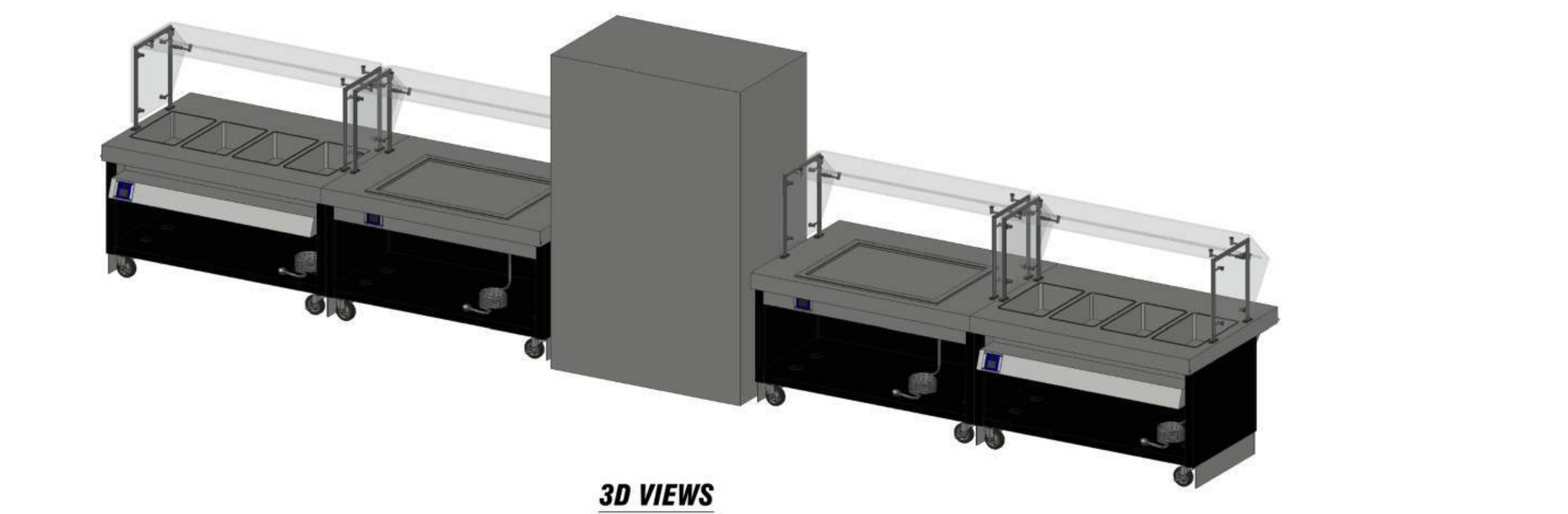
3145 PRAIRIE STREET, IDA, MICHIGAN 48140
FOR
IDA PUBLIC SCHOOLS
3145 PRAIRIE STREET, IDA, MICHIGAN 48140

JOB # 25002

KITCHEN EXHAUST HOOD DETAILS

A10.01



3D VIEWS

GENERAL NOTES

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THE FOLLOWING MUST BE VERIFIED PRIOR TO CONSTRUCTION

- ANY DECOR COLOR CHOICES INCLUDING LAMINATE, PAINT COLOR, OR CUSTOM DECOR FEATURES, IF APPLICABLE
- ALL ELECTRICAL VOLTAGE AND PHASE OF DUKE HOT FOOD UNITS AND BUYOUT EQUIPMENT IF APPLICABLE
- ALL CRITICAL FIELD DIMENSION IF ANY AS INDICATED IN PLAN VIEW.

THURMADUKE SERVING SYSTEMS

TOPS

14 GA. STAINLESS STEEL EXTENDED TOPS, WITH 4" TURN DOWN AND FIXED SUPPORT BRACKETS.

BODIES & INTERIORS

14 GA. PAINT GRIP STEEL FRAME/SUPPORTS W/20 GA. PAINT GRIP STEEL ENCLOSURE CHANNELS, BODY PANELS AND INTERIOR SHELVES WITH POWDER COAT FINISH.

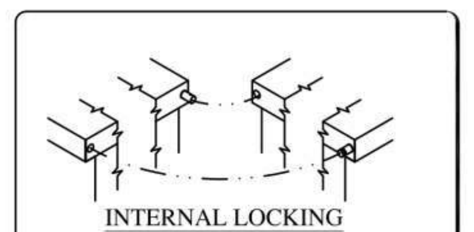
*POWDER COAT COLOR:....... #217125 - TEXTURED BLACK

CASTERS

5"Ø CASTERS WITH GRAY POLYURETHANE TIRES. ALL SWIVEL WITH BRAKES.

KICKPLATES

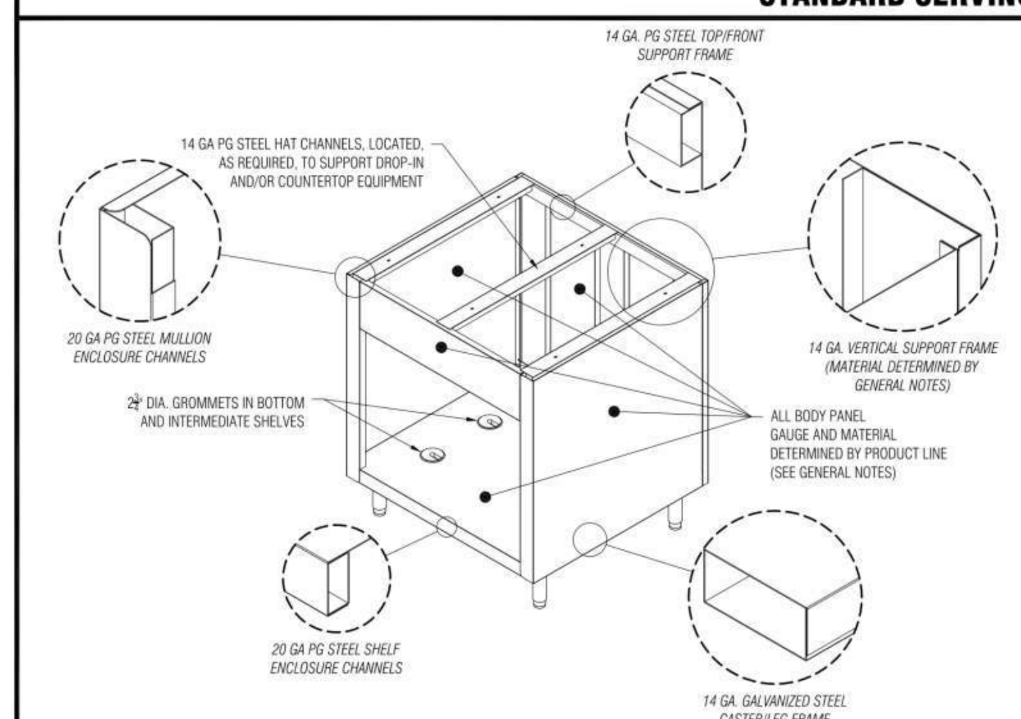
HEAVY GAUGE STAINLESS STEEL KICK PLATES LOCATION INDICATED BY SALES DRAWING; WITH GAP ABOVE FINISHED FLOOR.



INTERNAL LOCKING DEVICE DETAIL

(UNITS ON LEGS DO NOT MEET NSF STANDARD)

STANDARD SERVING SYSTEM PRACTICES



STANDARD CHANNEL BODY CONSTRUCTION

SOLID SURFACE TOPS AND TRAY SLIDES

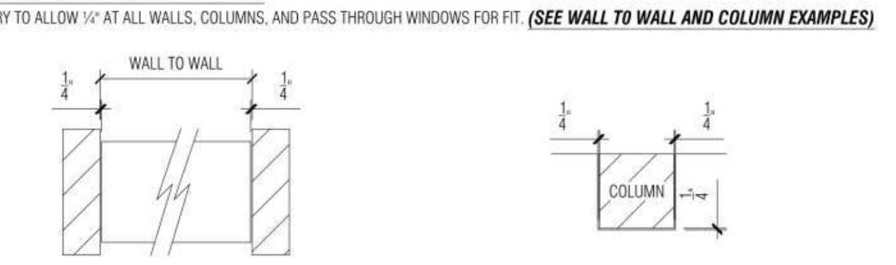
- ALL SOLID SURFACE TOPS AND TRAY SLIDES, WITH FIELD SEAMS, ***WILL SHIP LOOSE***, WHEN SPANNING MORE THAN ONE UNIT.
- SOLID SURFACE TOPS AND TRAY SLIDES SPECIFIC TO SINGLE UNIT WILL SHIP INSTALLED.
- SOLID SURFACE TOPS AND TRAY SLIDES REQUIRE A ***CERTIFIED*** INSTALLER, SPECIFIC TO THE BRAND, TO SEAM THE UNITS IN THE FIELD DURING PRODUCT INSTALLATION.

STAINLESS STEEL TOPS AND TRAY SLIDES

- THE MAXIMUM CONTINUOUS STAINLESS STEEL TOP LENGTH IS 144" [12'-0"], BEFORE REQUIRING A BOLTED OR WELDED FIELD JOINT.
- THE MAXIMUM CONTINUOUS STAINLESS STEEL TRAY SLIDE LENGTH IS 144" [12'-0"], BEFORE REQUIRING A BOLTED OR WELDED FIELD JOINT.
- BOLTED OR WELDED FIELD JOINTS ARE REQUIRED, AT ALL MITERED TRAY SLIDE CORNERS.

ALLOWANCE FOR FIELD CONDITIONS

- FACTORY TO ALLOW ¼" AT ALL WALLS, COLUMNS, AND PASS THROUGH WINDOWS FOR FIT. ***(SEE WALL TO WALL AND COLUMN EXAMPLES)***



WALL TO WALL EXAMPLE **COLUMN EXAMPLE**

ELECTRICAL

- ALL 15 AMP (NEMA #5-15R) AND 20 AMP (NEMA #5-20R) RECEPTACLES SHALL BE GFCI (GROUND FAULT CIRCUIT INTERRUPTER) TYPE RECEPTACLES PER DUKE MANUFACTURING STANDARD. ***UNLESS SPECIFICALLY NOTED OTHERWISE*** ON THE DRAWING. ***(SEE SYMBOL LEGEND)***

NSF-7 COLD PAN UNITS

- NSF STANDARD #7 COLD PAN UNITS TO HOLD FOOD PANS RECESSED 3/4" BELOW TOP ON REMOVABLE STAINLESS STEEL BRACKETS AND ADAPTER BARS

SYMBOL LEGEND

DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL
SIMPLEX RECEPTACLE		DUPLEX GFCI RECEPTACLE (NEMA 5-15R & 5-20R ONLY)		ELEC. CORD AND PLUG	
KICKPLATE LOCATION	K	LAMINATE LOCATION	L	DECOR PANEL LOCATION	DP
EQUIPMENT TAG	#	FIELD JOINT LOCATION	FJ	2¾" GROMMET LOCATION	
VIEW TAG	VIEW NUMBER 1 PLAN VIEW NAME; PAGE NUMBER X SCALE VIEW SCALE			COMPRESSOR WITH REMOVABLE GRILLE	
VIEW ARROWS	X/X; VIEW NUMBER; PAGE NUMBER				

Your Solutions Partner
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DUKE MANUFACTURING COMPANY
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St. Louis, MO 63102
Ph (314) 231-1130
Fax (314) 231-5074

SUBMITTAL

REV.	DATE	BY

DESIGNED FOR: IDA HIGH SCHOOL - MI
DESIGNED BY: STIFEFEL ASSOCIATES

DRAWN BY: MAC
ESTIMATOR: P.DOMBLE
PURCHASE ORDER #: N/A
SALES ORDER: N/A
DATE: 02/25/2025
DRAWING NO.: SFO-0001685
SHEET: 1 OF: 2

DUKE EQUIPMENT

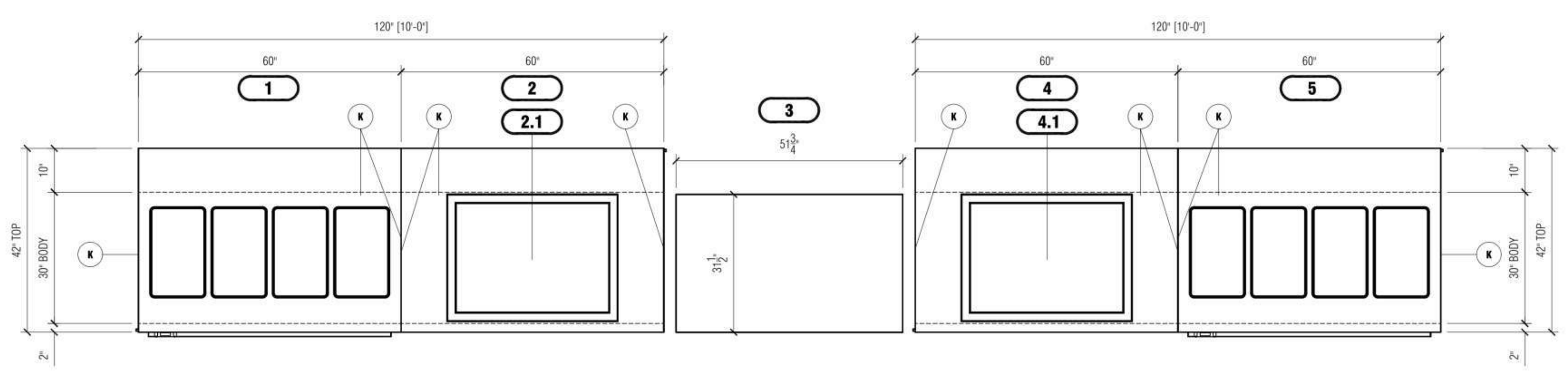
Item Tag	Quantity	Model Number	Description	Voltage	Phase	Watts	Amps	NEMA #'S Intl. Conn. / Final Conn.	Cord length	
1	1	TWHF-60PG	GANGED WATERLESS HOT FOOD WELL	208	1	2000	9.6	NEMA# / 6-20P	Cord / 6'	Gas Type / -
2	1	TST-60PG	SOLID TOP UNIT			-	-	NEMA# / -	Cord / -	Gas Type / -
2.1	1	RHT2-SB	DROP-IN HOT ONLY - STANDARD BODY	120	1	-	5.3	NEMA# / 5-15P	Cord / 6'	Gas Type / -
4	1	TST-60PG	SOLID TOP UNIT			-	-	NEMA# / -	Cord / -	Gas Type / -
4.1	1	RHT2-SB	DROP-IN HOT ONLY - STANDARD BODY	120	1	-	5.3	NEMA# / 5-15P	Cord / 6'	Gas Type / -

Item Tag	Quantity	Model Number	Description	Voltage	Phase	Watts	Amps	NEMA #'S Intl. Conn. / Final Conn.	Cord length	
5	1	TWHF-60PG	GANGED WATERLESS HOT FOOD WELL	208	1	2000	9.6	NEMA# / 6-20P	Cord / 6'	Gas Type / -

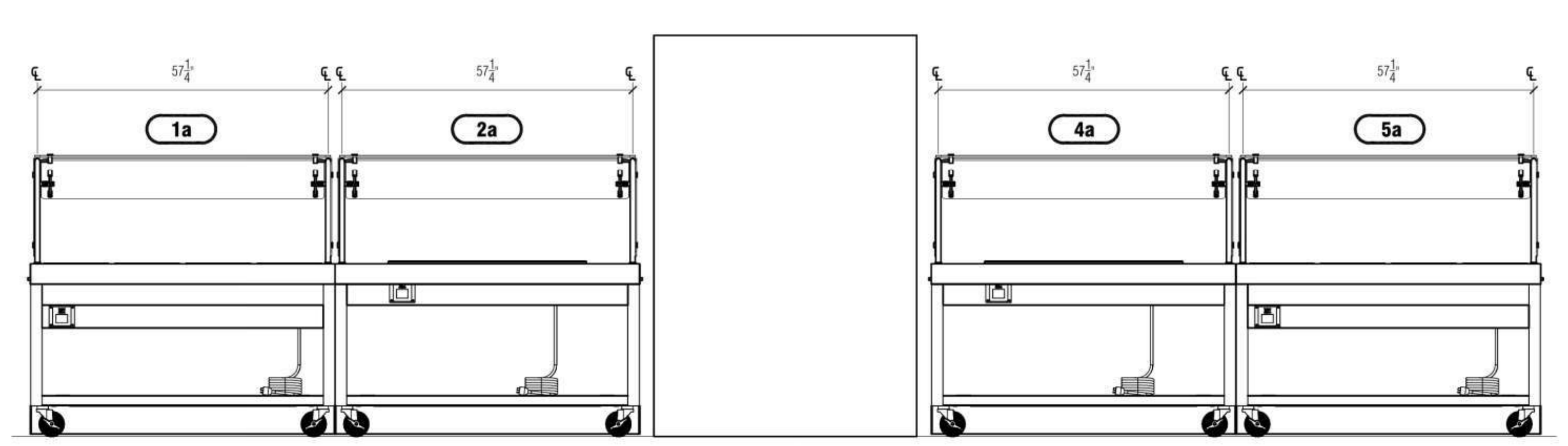
BUY-OUT EQUIPMENT

Item Tag	Quantity	Model Number	Description	Voltage	Phase	Watts	Amps			
1a	1	TM2N-A	PMG SNEEZE GUARD	-	-	-	-	NEMA# / -	Provided By / OTHERS	Installed By / DUKE
2a	1	TM2N-A	PMG SNEEZE GUARD	-	-	-	-	NEMA# / -	Provided By / OTHERS	Installed By / DUKE
4a	1	TM2N-A	PMG SNEEZE GUARD	-	-	-	-	NEMA# / -	Provided By / OTHERS	Installed By / DUKE
5a	1	TM2N-A	PMG SNEEZE GUARD	-	-	-	-	NEMA# / -	Provided By / OTHERS	Installed By / DUKE
3	1	URPT-1250	GTI MERCHANDISER	120	1	-	25	NEMA# / L5-30P	Provided By / OTHERS	Installed By / OTHERS

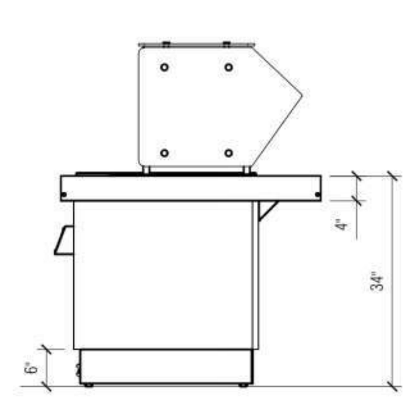
NOTE:
SNEEZE GUARDS NOT SHOWN IN PLAN VIEW



1 PLAN VIEW
2 3/8" = 1'-0"



2 ELEVATION VIEW
2 3/8" = 1'-0"



3 END VIEW
2 3/8" = 1'-0"

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Fax (314) 231-5074

SUBMITTAL

DESIGNED FOR: IDA HIGH SCHOOL - MI
DESIGNED BY: STIFEFEL ASSOCIATES

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SHEET: 2 OF: 2

KOHLER ARCHITECTURE
1110 WEST FRONT STREET
MONROE, MICHIGAN 48161
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MAKE Things Better+

DATE	DESCRIPTION
04.16.2025	BIDDING & STATE REVIEW

KITCHEN CAFETERIA UPDATES & RELATED WORK

AT

IDA HIGH SCHOOL
3145 PRAIRIE STREET, IDA, MICHIGAN 48140

FOR

IDA PUBLIC SCHOOLS
3145 PRAIRIE STREET, IDA, MICHIGAN 48140

JOB # 25002

SERVING LINE EQUIPMENT DETAILS

A10.02

4/13/2025 10:15:15 AM Autodesk Docs://IPS - High School - 25002 - Kitchen/25002_Ida High School_Cafeteria Updates.rvt

HVAC SYSTEM SPECIFICATIONS

PART 1 GENERAL

1.1. CONTRACT DRAWINGS: IN GENERAL, DRAWINGS ARE SCHEMATIC IN NATURE AND ARE INTENDED AS A GUIDE TO THE CONTRACTOR, BUT DO NOT NECESSARILY SHOW ALL DETAILS, OFFSETS, ETC. ALL DRAWINGS SHALL BE THOROUGHLY INSPECTED BY THE CONTRACTOR. THE CONTRACTOR'S WORK SHALL CONFORM TO THE INFORMATION CONTAINED IN THIS SPECIFICATION AND/OR AS INDICATED IN THE LATEST REVISION OF THE DRAWINGS REFERRED TO THEREIN. THE CONTRACTOR SHALL CONSULT WITH THE ENGINEER REGARDING ALL QUESTIONS, UPON WHICH HE MAY BE IN DOUBT, BEFORE PROCEEDING WITH FABRICATION OF PARTS AFFECTED. AT HIS OWN EXPENSE, THE CONTRACTOR SHALL PREPARE ALL ADDITIONAL DETAIL OR FIELD INSTALLATION DRAWINGS NECESSARY. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS INDICATED ON THE ENGINEER'S LAYOUT DRAWINGS AND DETERMINE IF ANY CHANGES ARE REQUIRED IN CONDUITS, PIPING RUNS, DRAINS, ETC., TO AVOID INTERFERENCE. MAJOR CHANGES SHALL NOT BE MADE WITHOUT THE APPROVAL OF THE ENGINEER. WHILE THE DRAWINGS SHALL BE ADHERED TO AS CLOSELY AS POSSIBLE, THE CONTRACTOR HAS THE RIGHT TO VARY THE RUN OF CONDUITS, PIPING AND/OR DUCTS DURING PROGRESS OF THE WORK AS MAY BE FOUND NECESSARY OR DESIRABLE TO AVOID INTERFERENCES. MAJOR REVISIONS SHALL BE VERIFIED WITH THE ARCHITECT.

1.2. VERIFICATION:
- A. BEFORE RUNNING ANY CONDUITS, DUCTS, PIPING, ETC., WITHIN THE BUILDING, THIS CONTRACTOR SHALL ASSURE HIMSELF THAT THESE MATERIALS CAN BE INSTALLED AS CONTEMPLATED, WITHOUT TRAPPING OR INTERFERING WITH COLUMNS, BEAMS, PIPING, FIXTURES, ETC. ANY NECESSARY MAJOR DEVIATION SHALL BE REFERRED TO THE ARCHITECT FOR ADJUSTMENT BEFORE MATERIALS ARE INSTALLED. OF NECESSITY, OPENINGS, SUPPORTING STEEL, FIELD BUILT CURBS, ELECTRICAL DATA, SPACE REQUIREMENTS, ETC., WERE DESIGNED AROUND SPECIFIC PARAMETERS. WHEN THE CONTRACTOR DETERMINES THE MAKE OF EQUIPMENT TO BE PROVIDED FOR THE JOB, IT SHALL BE HIS RESPONSIBILITY TO VERIFY AND COORDINATE UNIT DIMENSIONS WITH THE GENERAL CONTRACTOR AND ALL OTHER INTERESTED CONTRACTORS ON THE JOB. IT SHALL ALSO BECOME THE CONTRACTOR'S RESPONSIBILITY TO CHANGE AS NECESSARY, THROUGH THE ARCHITECT, ALL REQUIRED DIMENSIONS SO THAT OPENINGS, SUPPORTING STEEL, CURBS, ELECTRICAL DATA, ETC. WILL FIT THE EQUIPMENT SUPPLIED. ANY ADDITIONAL COST WILL BE THE SOLE RESPONSIBILITY OF THIS CONTRACTOR. IN ADDITION, ELECTRICAL POWER, INTERLOCK AND CONTROL DIAGRAMS AND PIPING ARRANGEMENTS WERE DESIGNED AROUND ONE SPECIFIC MANUFACTURER. IF ADDITIONAL WIRING, PIPING CONTROLS, ETC., ARE REQUIRED FOR OTHER EQUIPMENT, THIS CONTRACTOR SHALL INCLUDE THE COST OF THE SAME IN HIS PRICE.
- B. DIMENSIONS, ELEVATIONS OF RELATIVE LOCATIONS OF EXISTING EQUIPMENT, SEWERS, PIPES, DUCTS, CONDUITS, ETC., IN PLACE AS SHOWN ON THE DRAWINGS, ARE TAKEN FROM AS-BUILT AND RECORD DRAWINGS AND ARE DEEMED RELIABLE ONLY IN SO FAR AS GENERAL LAYOUT IS CONCERNED. SUCH DIMENSIONS SHALL BE USED FOR NEITHER LAYOUT DRAWINGS NOR DETAILING COMPONENTS. THE RESPONSIBILITY FOR CHECKING IN PLACE ITEMS SHALL BE THE CONTRACTOR'S.
- C. ALL MEASUREMENTS, THE EXACT DETERMINATION OF RELATIVE ELEVATIONS OR LOCATIONS, THE ASCERTAINING OF ACCURACY OF ALL GIVEN ELEVATIONS AND DIMENSIONS AND THE ASCERTAINING OF ALL NECESSARY ADDITIONAL INFORMATION TO INSURE THE PROPER FIT AND COORDINATION OF ALL CONDUIT EQUIPMENT, DUCTS, AND PIPING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

1.3. SITE VISIT: ALL CONTRACTORS, BIDDING THE WORK INDICATED THROUGHOUT THE CONTRACT DOCUMENTS, ARE REQUIRED TO VISIT, AND THOROUGHLY EXAMINE THE PROJECT SITE AND ITS ASSOCIATED CONDITIONS. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS UNDER WHICH THIS WORK MUST BE PERFORMED. ALL CONTRACTORS SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO SUBMITTING A BID PROPOSAL. FAILURE TO DO SO SHALL BE DEEMED AS ACCEPTANCE OF EXISTING CONDITIONS. NO ADDITIONAL COMPENSATION WILL BE CONSIDERED FOR ANY DEVIATIONS OR DISCREPANCIES TO THESE PLANS AFTER A CONTRACTOR HAS BEEN SELECTED.

1.4. GUARANTEE: THE CONTRACTOR GUARANTEES, BY HIS ACCEPTANCE OF THE CONTRACT, THAT ALL WORK WILL BE FREE FROM DEFECTS IN WORKMANSHIP AND/OR MATERIALS, FOR A PERIOD OF ONE YEAR FOLLOWING PROJECT COMPLETION UNLESS NOTED OTHERWISE, AND THAT ALL APPARATUS WILL DEVELOP CAPACITIES AND CHARACTERISTICS SPECIFIED. SHOULD ANY DEFECTS IN WORKMANSHIP AND/OR MATERIALS REQUIRE REDESIGN OF ANY PART OF THE ELECTRICAL, MECHANICAL, OR PLUMBING LAYOUT, ALL SUCH REDESIGN AND ALL NEW DRAWINGS AND DETAILING REQUIRED THEREOF SHALL, WITH THE APPROVAL OF THE ARCHITECT, BE PREPARED BY THE CONTRACTOR AT HIS OWN EXPENSE. WHERE SUCH APPROVED DEVIATION REQUIRES A DIFFERENT QUANTITY AND ARRANGEMENT OF DUCTWORK, PIPING, WIRING, CONDUIT AND/OR EQUIPMENT FROM THAT SPECIFIED OR DETAILED ON THE DRAWINGS, WITH THE APPROVAL OF THE ARCHITECT AND/OR ENGINEER, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL SUCH MATERIALS AND/OR EQUIPMENT REQUIRED BY THE SYSTEM AT NO ADDITIONAL COST TO THE OWNER.

1.5. SUBMITTALS: AFTER RECEIVING APPROVAL OF EQUIPMENT MANUFACTURERS, AND PRIOR TO DELIVERY OF ANY MATERIAL TO THE JOB SITE AND SUFFICIENTLY IN ADVANCE OF THE REQUIREMENTS TO ALLOW ARCHITECT AMPLE TIME FOR CHECKING, SUBMIT FOR REVIEW DETAILED DIMENSIONED DRAWINGS AND/OR EQUIPMENT CUT SHEETS SHOWING CONSTRUCTION SIZE, ARRANGEMENT, OPERATING CLEARANCES, ALL SCHEDULED PERFORMANCE CHARACTERISTICS AND CAPACITIES OF MATERIAL AND EQUIPMENT. SHOP DRAWINGS SHALL SHOW THE RATINGS OF ITEMS AND SYSTEMS AND HOW THE COMPONENTS OF ITEMS AND SYSTEMS ARE ASSEMBLED, FUNCTION TOGETHER AND HOW THEY WILL BE INSTALLED ON THE PROJECT. DATA AND SHOP DRAWINGS FOR COMPONENT PARTS OF AN ITEM OR SYSTEM SHALL BE COORDINATED AND SUBMITTED AS A UNIT. SHOP DRAWINGS SHALL CLEARLY HIGHLIGHT, ENCIRCLE, OR OTHERWISE CLEARLY IDENTIFY ALL DEVIATIONS FROM THE CONTRACT DOCUMENTS. PRIOR TO SUBMITTING, CONTRACTOR SHALL THOROUGHLY REVIEW EACH SUBMITTAL AND CHECK FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS, AND MARK EACH SUBMITTAL WITH APPROVAL STAMP TO SHOW THAT SUBMITTALS HAVE BEEN REVIEWED AND APPROVED BY THE CONTRACTOR. FAILURE OF CONTRACTOR TO COMPLY FULLY WITH THIS SECTION WILL RESULT IN REJECTION OF SUBMITTAL.
- A. APPROVAL STAMP: STAMP EACH SUBMITTAL WITH A UNIFORM, APPROVAL STAMP. STAMP SHALL INCLUDE PROJECT NAME, LOCATION, SPECIFICATION SECTION, NAME OF REVIEWER, DATE OF CONTRACTOR'S APPROVAL, AND STATEMENT CERTIFYING THAT SUBMITTAL HAS BEEN REVIEWED, CHECKED, AND APPROVED FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS.

1.6. PERMITS AND CODES: CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH PERMITS, TAXES AND INSURANCE. ALL WORK SHALL BE INSTALLED IN COMPLETE CONFORMITY WITH LOCAL CODES AND ORDINANCES AS WELL AS THE FOLLOWING:

A. NFPA 90	G. ASTM
B. 2021 MMC	H. UL
C. 2021 MBC	I. NEC
D. LOCAL CODES & ORDINANCES	J. AMCA
E. ASHRAE	K. SMACNA
F. ANSI	L. 2015 IFGC

1.7. CONNECTIONS TO EXISTING WORK: PLAN THE INSTALLATION OF NEW WORK AND CONNECTIONS TO EXISTING WORK TO INSURE MINIMUM INTERFERENCE WITH THE REGULAR OPERATION OF THE EXISTING FACILITIES. SUBMIT TO THE ARCHITECT, FOR HIS APPROVAL, A PROGRESS SCHEDULE INDICATING ALL NECESSARY TEMPORARY SHUTDOWNS OF EXISTING SERVICES. ALL SHUTDOWNS SHALL BE MADE AT SUCH TIMES AS WILL NOT INTERFERE WITH REGULAR OPERATION OF THE EXISTING FACILITIES AND ONLY AFTER WRITTEN APPROVAL FROM THE ARCHITECT.

1.8. NEW WORK: UNLESS OTHERWISE NOTED, ALL WORK INDICATED THROUGHOUT THESE DRAWINGS SHALL BE CONSIDERED AS NEW WORK AND SHALL BE INCLUDED AS AN INTEGRAL PART OF THIS CONTRACT.

1.9. SYSTEM INSTALLATION: MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE INSTALLATION OF ALL SYSTEMS SHOWN OR NOTED WITHIN CONTRACT DOCUMENTS. INSTALLATION SHALL BE COMPLETED PER ALL EQUIPMENT MANUFACTURERS WRITTEN INSTRUCTIONS. DEVIATIONS OF THIS SHALL NOT BE ACCEPTED UNLESS SPECIFIC WRITTEN CONSENT IS GIVEN BY PROJECTS ENGINEER. ALL POTENTIAL INSTALLATION CONCERNS SHALL BE SUBMITTED TO ARCHITECT PRIOR TO BID SUBMISSION.

PART 2 MISCELLANEOUS PRODUCTS

2.1. MECHANICAL IDENTIFICATION:
- A. EQUIPMENT: ENGRAVED, COLOR-CODED LAMINATED PLASTIC. INCLUDE CONTACT-TYPE, PERMANENT ADHESIVE. EXTERIOR LOCATED EQUIPMENT TAGS SHALL BE ADHERED SECURELY AND APPROPRIATELY TO EQUIPMENT AND ABLE TO STAY ADHERED DURING ALL CLIMATE CHANGES.
  1. SIZE: 4-1/2" HIGH, WITH 1" TALL LETTERING.
  2. TERMINOLOGY: MATCH SCHEDULES AS CLOSELY AS POSSIBLE.
  3. EQUIPMENT: ALL SCHEDULED POWERED EQUIPMENT (EX. AIR HANDLING UNITS, EXHAUST FANS...) SHALL BE TAGGED.
- B. DUCTWORK:
  1. INTERIOR INSTALLED DUCTWORK: STENCILED MARKERS, SHOWING SERVICE AND DIRECTION OF FLOW ON ALL DUCT MAINS.
  2. LETTER SIZE: 1" HIGH LETTERS.
  3. COLOR CODES: USE THE FOLLOWING BACKGROUND COLORS WITH WHITE LETTERING.
     - a. BLUE: FOR SUPPLY AIR DUCT MAINS.
     - b. GREEN: FOR EXHAUST AIR DUCT MAINS.
  4. LOCATIONS: LOCATE MARKERS NEAR POINTS WHERE DUCTS ENTER INTO CONCEALED SPACES AND AT A MAXIMUM INTERVALS OF 50 FEET IN EACH SPACE WHERE DUCTS ARE EXPOSED OR CONCEALED BY REMOVABLE CEILING SYSTEM.
- C. PIPING:
  1. INTERIOR INSTALLED PIPING: STENCILED MARKERS, SHOWING SERVICE AND DIRECTION OF FLOW ON ALL PIPE MAINS.
  2. LETTER SIZE: 1" HIGH LETTERS.
  3. COLOR CODES: COMPLY WITH ASME A13.1, UNLESS OTHERWISE INDICATED.
  4. LOCATIONS: LOCATE MARKERS AND COLOR BANDS WHERE PIPING IS EXPOSED IN FINISHED SPACES; MACHINE ROOMS; ACCESSIBLE MAINTENANCE SPACES SUCH AS SHAFTS, TUNNELS, AND PLENUMS; AND EXTERIOR NON CONCEALED LOCATIONS. LOCATE MARKERS WHERE PIPES ENTER INTO CONCEALED SPACES AND AT A MAXIMUM INTERVALS OF 50 FEET IN EACH SPACE WHERE PIPES ARE EXPOSED OR CONCEALED BY REMOVABLE CEILING SYSTEM.

2.2. FIRE PROOFING:
- A. PIPE PENETRATIONS THRU ALL FIRE RATED WALLS SHALL BE SEALED BY THE MECHANICAL CONTRACTOR, TO PREVENT SPREAD OF FIRE AND SMOKE AND INGRESS OF MOISTURE.
- B. AREAS AROUND PIPES OR SLEEVES SHALL BE FILLED WITH A DIELECTRIC, NON-HARDENING PUTTY SUCH AS I.P.C. TYPE #FSP1000 OR EXPANDING CAULK MATERIALS SUCH AS SILICONE R.T.V. FOAM OR I.P.C. #FS900, OR EQUAL BY HILTI.
- C. LARGE OPENINGS IN MASONRY WALLS MAY BE SEALED USING LIGHT WEIGHT, LOW DENSITY EXPANDING MORTAR, EQUAL TO I.P.C. TYPE "K.B.S. MORTAR-SEAL".
- D. ALL FIRE PENETRATION SEALS SHALL BE PROPERLY CLOSED USING UL LISTED PRODUCTS TO MATCH THE PENETRATION FIRESTOP SYSTEM DESIGNATION AND ALL FIRE STOP MATERIALS SHALL BE FREE OF ASBESTOS, DANGEROUS SOLVENTS, NON-HALOGENATED AND SHALL NOT PRODUCE TOXIC FUMES OR SMOKE DURING EXPOSURE TO FIRE. FIRE STOP SHALL BE DESIGNED AND INSTALLED TO PROVIDE A MINIMUM 1 HOUR RATING.

2.3. CUTTING AND PATCHING: PERFORM CUTTING, FITTING, AND PATCHING OF MECHANICAL EQUIPMENT AND MATERIALS REQUIRED TO INSTALL EQUIPMENT AND MATERIALS IN EXISTING STRUCTURE. CUT, REMOVE AND LEGALLY DISPOSE OF COMPONENTS AND MATERIALS MADE OBSOLETE BY THE NEW WORK. PROTECT THE STRUCTURE, FURNISHINGS, FINISHES, AND MATERIALS OF ITEMS ADJACENT TO THE AREA OF CUTTING AND PATCHING. PATCH EXISTING FINISHED SURFACES AND BUILDING COMPONENTS USING NEW MATERIALS (WHICH MATCH ADJACENT MATERIALS) AND UTILIZE EXPERIENCED INSTALLERS.

2.4. REMOVALS: CONTRACTOR TO PERFORM ALL REMOVALS INDICATED IN CONTRACT DOCUMENTS. THE OWNER HAS THE OPTION TO RETAIN ALL EQUIPMENT AND/OR MATERIALS REMOVED. ALL OTHER MATERIALS NOT CLAIMED BY THE OWNER OR REUSED SHALL BE REMOVED FROM THE SITE BY THE MECHANICAL CONTRACTOR.

2.5. ELECTRIC MOTORS: ALL ELECTRIC MOTORS WITH A POWER RATING OF ONE (1) HORSEPOWER OR GREATER, BUT NOT GREATER THAN TWO HUNDRED (200) HORSEPOWER, MANUFACTURED (ALONE OR AS A COMPONENT OF ANOTHER PIECE OF EQUIPMENT) SHALL HAVE A NOMINAL FULL LOAD EFFICIENCY THAT IS NOT LESS THAN AS DEFINED IN NEMA MG-1 (2006) TABLE 12-12.

2.6. ROOF CURBS:
- A. MANUFACTURER'S STANDARD, INSULATED ROOF CURB WITH CORROSION PROTECTION COATING, GASKETING, FACTORY INSTALLED WOOD NAILER, ACCORDING TO NRCA GUIDLINES.
  1. CURB HEIGHT: MINIMUM OF 14 INCHES.
  2. ROOF CURB SHALL BE FURNISHED BY KITCHEN CONTRACTOR. RESPONSIBILITY OF INSTALLATION SHALL BE BY THE GENERAL CONTRACTOR.

PART 3 SHEETMETAL PRODUCTS

3.1. FLEXIBLE CONNECTIONS:
- A. GENERAL: FURNISH AND INSTALL FLEXIBLE CONNECTIONS AT THE INLET AND DISCHARGE OF ALL DUCTED FAN-POWERED EQUIPMENT, UNLESS NOTED OTHERWISE. FABRICS, COATINGS AND ADHESIVES SHALL COMPLY WITH UL STANDARD 181, CLASS 1 AND NFPA STANDARDS 90A AND 90B.
- B. CONSTRUCTION: CONNECTORS SHALL BE PREASSEMBLED "METAL-FABRIC-METAL" CONSTRUCTION. METAL SHALL BE COMPATIBLE WITH CONNECTED DUCT SYSTEM.
- C. INDOOR CONNECTORS: 26 OZ./SQ. YD. WOVEN FIBERGLASS WITH NEOPRENE COATING.

3.2. DUCT ACCESSORIES:
- A. MANUAL VOLUME DAMPERS:
  1. GENERAL: FACTORY FABRICATED WITH REQUIRED HARDWARE AND ACCESSORIES. STIFFEN DAMPER BLADES FOR STABILITY. INCLUDE LOCKING DEVICE TO HOLD SINGLE BLADE DAMPERS IN A FIXED POSITION WITHOUT VIBRATION. CLOSE DUCT PENETRATIONS FOR DAMPER COMPONENTS TO SEAL DUCT CONSISTENT WITH PRESSURE CLASS.
  2. STANDARD VOLUME DAMPERS: MULTIPLE OR SINGLE BLADE, PARALLEL OR OPPOSED BLADE DESIGN AS INDICATED, STANDARD LEAKAGE RATING, WITH LINKAGE OUTSIDE AIR STREAM, AND SUITABLE FOR HORIZONTAL OR VERTICAL APPLICATIONS.
  3. DAMPER HARDWARE: ZINC PLATED, DIE CAST CORE WITH DIAL AND HANDLE MADE OF 3/32 INCH THICK ZINC PLATED STEEL, AND A 3/4 INCH HEXAGON LOCKING NUT. INCLUDE CENTER HOLE TO SUIT DAMPER OPERATING ROD SIZE. INCLUDE ELEVATED PLATFORM FOR INSULATED DUCT MOUNTING.
- B. TURNING VANES:
  1. FABRICATE TO COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS METAL AND FLEXIBLE."
  2. MANUFACTURED TURNING VANES (DUCT HEIGHT 18" OR LESS): FABRICATE OF 1-1/2 INCH WIDE, CURVED BLADES SET 3 TO 4 INCH O.C.; SUPPORT WITH BARS PERPENDICULAR TO BLADES SET 2 INCHES O.C.; AND SET INTO SIDE STRIPS SUITABLE FOR MOUNTING IN DUCTS.
- C. FIRE DAMPERS:
  1. GENERAL: UL 555 DYNAMIC FIRE DAMPER.
  2. FIRE RATING: ONE AND ONE-HALF.
  3. FRAME: SMACNA TYPE B WITH BLADES OUT OF AIRSTREAM; FABRICATED WITH ROLL-FORMED, 0.034 INCH THICK GALVANIZED STEEL; WITH MITERED AND INTERLOCKING CORNERS, UNLESS OTHERWISE NOTED ON DRAWINGS.
  4. MOUNTING SLEEVE: FACTORY OR FIELD INSTALLED GALVANIZED, SHEET STEEL.
     - a. MINIMUM THICKNESS: 0.052 INCH OR 0.138 INCH THICK AS INDICATED, AND LENGTH TO SUIT APPLICATION.
     - b. EXCEPTIONS: OMIT SLEEVE WHERE DAMPER FRAME WIDTH PERMITS DIRECT ATTACHMENT OF PERIMETER MOUNTING ANGLES ON EACH SIDE OF WALL OR FLOOR, AND THICKNESS OF DAMPER FRAME COMPLIES WITH SLEEVE REQUIREMENTS.
  5. MOUNTING ORIENTATION: VERTICAL.
  6. BLADES: ROLL-FORMED, INTERLOCKING, 0.034 INCH THICK, GALVANIZED, SHEET STEEL. IN PLACE OF INTERLOCKING BLADES, USE FULL-LENGTH, 0.034 INCH THICK, GALVANIZED STEEL BLADE CONNECTORS.
  7. HORIZONTAL DAMPERS: INCLUDE A BLADE LOCK AND STAINLESS STEEL NEGATOR CLOSURE SPRING.
  8. FUSIBLE LINK: REPLACEABLE, 165 OR 212 DEGREE F. RATED AS INDICATED.
- D. DUCT MOUNTED ACCESS DOORS AND PANELS:
  1. GENERAL: FABRICATE DOORS AND PANELS AIRTIGHT AND SUITABLE FOR DUCT PRESSURE CLASS.
  2. FRAME: GALVANIZED, SHEET STEEL, WITH BEND OVER TABS AND FOAM GASKETS.
  3. DOOR: DOUBLE WALL GALVANIZED, SHEET METAL CONSTRUCTION WITH INSULATION FILL AND THICKNESS, AND NUMBER OF HINGES AND LOCKS AS INDICATED FOR DUCT PRESSURE CLASS. INCLUDE VISION PANEL WHERE INDICATED. INCLUDE 1 BY 1 INCH BUTT OR PIANO HINGE AND CAM LATCHES.
  4. SEAL AROUND FRAME ATTACHMENT TO DUCT AND DOOR TO FRAME WITH NEOPRENE OR FOAM RUBBER.
  5. INSULATION: 1 INCH THICK, FIBROUS GLASS OR POLYSTYRENE FOAM BOARD.

3.3 BRANCH TAKE-OFFS: ALL ROUND SUPPLY AIR BRANCH DUCTS SHALL HAVE A TAKE OFF AT A 45 DEGREE ANGLE. THE CONTRACTOR SHALL FURNISH A MANUAL VOLUME BALANCING DAMPER AT EACH BRANCH TAKE-OFF. ALL ROUND DUCTWORK SHALL BE GALVANIZED SHEET METAL LOCKSEAM, (28 GAUGE MINIMUM). INSULATE ALL ROUND DUCTWORK WITH 1-1/2" FSK FIBERGLASS WRAP.

3.4. DUCTWORK CONSTRUCTION:
- A. GENERAL: ALL DUCTWORK SHALL BE CONSTRUCTED OF MATERIALS AND FOR THE STATIC PRESSURE CLASSIFICATION INDICATED ON THE "DUCTWORK MATERIAL CONSTRUCTION & INSULATION SCHEDULE". FURNISH TURNING VANES IN ALL RECTANGULAR DUCTWORK ELBOWS AND T-SPLITS. THE GENERAL ROUTING OF DUCTWORK IS INDICATED ON THE PLANS. THE EXACT ROUTING SHALL BE DETERMINED BY THE JOB SITE CONDITIONS AND SHALL BE COORDINATED WITH ALL OTHER CONSTRUCTION TRADES. ALL DIMENSIONS INDICATED REPRESENT INTERNAL NET.
- B. INSULATION: REFER TO "DUCTWORK MATERIAL CONSTRUCTION AND INSULATION SCHEDULE" FOR ALL DUCTWORK INSULATION REQUIREMENTS.
- C. RECTANGULAR DUCT FABRICATION:
  1. GENERAL: FABRICATE DUCTS, ELBOWS, TRANSITIONS, OFFSETS, BRANCH CONNECTIONS, AND OTHER CONSTRUCTION ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS-METAL AND FLEXIBLE" AND THE "DUCTWORK MATERIAL CONSTRUCTION & INSULATION SCHEDULE". COMPLY WITH REQUIREMENTS FOR METAL THICKNESS, REINFORCING TYPES AND INTERVALS, TIE-ROD APPLICATIONS, AND JOINT TYPES AND INTERVALS. ALL DUCTWORK SHALL BE SEALED PER SMACNA STANDARDS.
     - a. LENGTHS: FABRICATE RECTANGULAR DUCTS IN LENGTHS APPROPRIATE TO REINFORCEMENT AND RIGIDITY CLASS REQUIRED FOR PRESSURE CLASSIFICATION.
     - b. MATERIALS: FREE FROM VISUAL IMPERFECTIONS SUCH AS PITTING, SEAM MARKS, ROLLER MARKS, STAINS, AND DISCOLORATIONS.
- D. ROUND DUCT FABRICATION: FABRICATE SUPPLY DUCTS OF GALVANIZED STEEL ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS- METAL AND FLEXIBLE."
- E. DUCT HANDLING AND CLEANLINESS: SMACNA DUCT CLEANLINESS FOR NEW CONSTRUCTION GUIDELINES SHALL BE FOLLOWED AT THE "ADVANCED LEVEL". TRANSPORTING DUCTWORK TO THE JOB SITE IN ENCLOSED TRUCKS WILL SUFFICE AS OPPOSED TO SEALING THE DUCTWORK.

3.5. AIR DEVICES:
- A. MANUFACTURER: SUBJECT TO COMPLIANCE WITH REQUIREMENTS IN THE AIR DEVICE SCHEDULE PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
  1. PRICE
  2. TITUS
  3. TUTTLE & BAILEY
- B. THE MECHANICAL CONTRACTOR SHALL REFER TO THE ARCHITECTURAL CEILING PLAN AND THE ELECTRICAL LIGHTING PLAN FOR ALL AIR DEVICE LOCATIONS. THE LOCATIONS INDICATED ON THE HVAC FLOOR PLAN ARE INTENDED FOR GENERAL POSITIONING PURPOSES ONLY.

3.6. HVAC SYSTEM SMOKE DETECTORS:
PROVIDE MUA-1 DUCT-MOUNTED SMOKE DETECTOR. FURNISH BY ELECTRICAL CONTRACTOR. INSTALLED BY MECHANICAL CONTRACTOR.

PART 4 PIPING PRODUCTS

4.1 GENERAL
THE MANUFACTURERS REFERENCED THROUGHOUT THIS OUTLINE SPECIFICATION ARE INCLUDED AS A BASIS OF DESIGN. SUBMISSION OF ALTERNATE MANUFACTURERS OF SIMILAR EQUIPMENT IS SUBJECT TO ENGINEER APPROVAL. UNITS OF EQUIPMENT, OTHER THAN THOSE LISTED AS THE BASIS OF DESIGN, MUST BE PROVEN TO BE PHYSICALLY ACCEPTABLE, IN ADDITION TO MEETING ALL PERFORMANCE AND EQUIPMENT SPECIFICATIONS. LIABILITY OF NON-CONFORMANCE SHALL LIE WITH THE CONTRACTOR/SUBMITTER.

4.2 PIPING
- A. NATURAL GAS - UNDERGROUND
  1. POLYETHYLENE ASTM D-2513 WITH HEAT FUSION JOINTS APPROVAL BY GAS UTILITY WITH COPPER TRACING LOCATING STRIP.
- B. NATURAL GAS - ABOVEGROUND
  1. 2" AND SMALLER, LESS THAN 5 PSI: SCHEDULE 40, BLACK STEEL, ASTM A-53 WITH SCREWED JOINTS AND150# BLACK MALLEABLE IRON FITTINGS.
  2. 2" AND SMALLER, LESS THAN 5 PSI: CORRUGATED STAINLESS STEEL TUBING (CSST) MADE OF TYPE 304 ALLOY, ASTM A240 WITH POLYETHYLENE JACKET, ASTM E84 COMPLIANT AND MECHANICAL BRASS FITTINGS.
  3. 2 1/2" AND LARGER, LESS THAN 5 PSI: SCHEDULE 40, BLACK STEEL, ASTM A-53 WITH BUTT-WELDED JOINTS AND STANDARD WEIGHT WELDED FITTINGS.

4.3 VALVES
- A. NATURAL GAS PIPING
  1. BALL, 2" AND SMALLER: 125 PSI, SCREWED ENDS, SIDE TAP, BRONZE BODY, TEFLON TRIM. APOLLO #GB-50.
  2. PLUG, 2 1/2" AND LARGER: 125 PSI, FLANGED ENDS, SEMI-STEEL BODY. NORDSTROM #143.
- B. APPROVED MANUFACTURERS
  1. WATTS, APOLLO, CRANE, GRINNELL, NORDSTROM, NIBCO, STOCKHAM, SMITH, MILWAUKEE.

PART 5 VENTILATOR PRODUCTS

5.1. CENTRIFUGAL ROOF EXHAUST FANS (EF-1):
- A. MANUFACTURER: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
  1. ACME ENGINEERING & MANUFACTURING CORP.
  2. COOK (LOREN) CO.
  3. GREENHECK FAN CORP.
  4. PENN AND BARRY
- B. DESCRIPTION: DIRECT DRIVEN ROOF MOUNTED CENTRIFUGAL FAN, CONSISTING OF NON-OVERLOADING STATICALLY AND DYNAMICALLY BALANCED BACKWARD INCLINED CENTRIFUGAL WHEEL, BEARINGS, MOTOR AND ACCESSORIES.
- C. WHEEL: CONSTRUCTED OF COMPOSITE MATERIAL. THE WHEEL CONE AND FAN INLET WILL BE MATCHED AND SHALL HAVE PRECISE RUNNING TOLERANCES.
- D. AC INDUCTION MOTOR:
  1. MOUNTED ON VIBRATION ISOLATORS, OUT OF THE AIRSTREAM .
  2. MOTORS ARE PERMANENTLY LUBRICATED, HEAVY DUTY BALL BEARING TYPE TO MATCH WITH THE FAN LOAD AND PRE-WIRED TO THE SPECIFIC VOLTAGE AND PHASE.
  3. FOR MOTOR COOLING, THERE SHALL BE FRESH AIR DRAWN INTO THE MOTOR COMPARTMENT THROUGH AN AREA FREE OF DISCHARGE CONTAMINANTS
  4. MOTOR COVER CONSTRUCTED OF ALUMINUM.
- E. HOUSING: CONSTRUCTED OF HEAVY GAUGE ALUMINUM INCLUDING HOUSING, CURB CAP, WINDBAND, AND MOTOR COMPARTMENT HOUSING.
  1. HOUSING SHALL HAVE RIGID INTERNAL SUPPORT STRUCTURE
  2. WINDBAND TO BE ONE PIECE SPUN ALUMINUM CONSTRUCTION AND MAINTAIN ORIGINAL MATERIAL THICKNESS THROUGHOUT THE HOUSING.
  3. WINDBAND TO INCLUDE INTEGRAL ROLLED BEAD FOR STRENGTH.
  4. BREATHER TUBE SHALL BE DESIGNED TO ALLOW WIRING TO BE RUN THROUGH.
  5. LEAK RESISTANT.
  6. CONTINUOUSLY WELDED SEAM.
  7. STEEL MOUNTING PLATE AND INTEGRAL VENTURI ATTACHED TO WINDBAND.

5.2. CENTRIFUGAL UPBLAST GREASE FAN (KEF-1 PROVIDED BY OTHERS):
- A. MANUFACTURER: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
  1. COOK (LOREN) CO.
  2. GREENHECK FAN CORP.
  3. K-TECH
- B. DESCRIPTION: UPBLAST GREASE EXHAUST FAN SHALL BE OF THE CENTRIFUGAL TYPE WITH BACKWARD INCLINED WHEELS. FANS TO INCLUDE THE UL 762 LABEL FOR GREASE REMOVAL AND SHALL BE BUILT IN ACCORDANCE TO NFPA 96 (VENTILATION CONTROL AND FIRE PROTECTION OF COMMERCIAL COOKING OPERATIONS).
- C. CONSTRUCTION: THE HOUSINGS SHALL BE CONTINUOUSLY WELDED HEAVY GAUGE STEEL WITH INTEGRAL DUCT FLANGES TO PREVENT GREASE AND MOISTURE LEAKAGE. DUCT FLANGE BOLT HOLES SHALL BE NO MORE THAN 4 INCHES APART ON CENTER TO PROVIDE A TIGHT DUCT CONNECTION. BELT TUBES SHALL BE CONTINUOUSLY WELDED TO ENSURE BELT REMAINS FREE OF GREASE AND MOISTURE. BEARING COVERS TO BE SEALED WITH SILICONE GASKETING RATED FOR 400 °F AND INCLUDE A LABYRINTH SHAFT SEAL TO PROTECT THE BEARINGS FROM THE AIRSTREAM CONTAMINANTS (FELT OR NEOPRENE SHAFT SEALS ARE NOT ACCEPTABLE). FAN HOUSING TO INCLUDE TWO THREADED AND PLUGGED DRAIN CONNECTIONS THAT ARE LOCATED AT 90 ° FROM THE MOTOR. FANS ARE TO BE UNIVERSALLY MOUNTABLE WITH MOTORS IN EITHER THE 3 OR 9 O'CLOCK POSITION. ALL INTERNAL AND EXTERNAL STEEL COMPONENTS SHALL BE PAINTED WITH PERMATECTOR, AN ELECTROSTATICALLY BAKED POLYESTER UREATHANE COATING. ALL COATED MATERIALS SHALL UNDERGO A FIGE STAGE ENVIRONMENTALLY FRIENDLY WASH, FOLLOWED BY A MINIMUM 2 MIL DFT FINISH. PAINT MUST EXCEED 1,000 HOUR SALT SPRAY UNDER ASTM B117 TEST METHOD.
- D. ACCESS: INLINE GREASE FANS SHALL INCLUDE AN OVERSIZE ACCESS DOOR TO ALLOW FOR DUCT CLEANING AND FOR REMOVAL OF THE FAN WHEEL, SHAFT AND BEARINGS WITHOUT LOWERING THE FAN FROM THE DUCT SYSTEM. FASTENING BOLTS FOR THE OVERSIZED ACCESS DOOR SHALL BE NO MORE THAN 4 INCHES APART ON CENTER. THE OVERSIZE ACCESS DOOR TO INCLUDE SILICONE GASKETING RATED FOR 400 °F..
- E. FAN WHEEL: NON OVERLOADING BACKWARD INCLINED CENTRIFUGAL TYPE WITH ALUMINUM CONSTRUCTION. WHEEL SHALL BE OF STATICALLY AND DYNAMICALLY BALANCED. THE WHEEL CONE AND FAN INLET CONE SHALL BE CAREFULLY MATCHED AND SHALL HAVE PRECISE RUNNING TOLERANCES FOR MAXIMUM PERFORMANCE AND OPERATING EFFICIENCY.
  1. FAN SHAFT: TURNED PRECISION GROUND AND POLISHED STEEL DRIVE SHAFT SHALL BE SIZED SO THE FIRST CRITICAL SPEED IS AT LEAST 25% OVER THE MAXIMUM OPERATING SPEED FOR EACH LEVEL OF CONSTRUCTION.
  2. SHAFT BEARINGS: HEAVY-DUTY GREASE LUBRICATED AND SELF-ALIGNING. BEARINGS SHALL BE SELECTED FOR A BASIC RATING FATIGUE LIFE L(10) OF 80,000 HOURS AT THE MAXIMUM OPERATING SPEED.
- F. ACCESSORIES: REFER TO FAN SCHEDULE FOR ALL REQUIRED ACCESSORIES.

PART 6 EXHAUST HOOD PRODUCTS

6.1. KITCHEN EXHAUST HOOD (KH-1 PROVIDED BY OTHERS):
- A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
  1. CAPTIVE-AIRE
  2. K-TECH
  3. GREENHECK
  4. KEES
- B. DESCRIPTION: FURNISH AND INSTALL A TYPE I, WALL MOUNTED CANOPY HOOD WITH EXHAUST DUCT CONNECTION. THE INSIDE EDGE OF THE HOOD SHALL EXTEND A HORIZONTAL DISTANCE OF NOT LESS THAN 6" BEYOND THE EDGE OF THE COOKING SURFACE, ON ALL OPEN SIDES. THE EXHAUST HOOD SHALL BE FACTORY BUILT AND TESTED IN ACCORDANCE WITH "UL 710" AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. VERIFY TYPE AND SIZE OF COOKING APPLIANCE(S) PRIOR TO ORDERING HOOD. THE HOOD SHALL BE CONSTRUCTED AS U.L. LISTED AND BUILT IN ACCORDANCE WITH NFPA BULLETIN #96, BUILDING OFFICIALS AND CODE ADMINISTRATORS (BOCA), AND BEAR THE NATIONAL SANITATION FOUNDATION (NFS) SEAL OF APPROVAL.
- C. CONSTRUCTION: THE HOOD SHALL BE CONSTRUCTED OF A MINIMUM OF 18 GAUGE, TYPE 304 STAINLESS STEEL WITH A #3 FINISH. THE SEAMS OF THE HOOD SHALL BE WELDED LIQUID-TIGHT. CONSTRUCTION SHALL INCLUDE CORROSION-RESISTANT STEEL FRAMING MEMBERS FOR STRENGTH. ALL UNEXPOSED INTERIOR SURFACES SHALL BE CONSTRUCTED OF A MINIMUM 18 GAUGE CORROSION RESISTANT STEEL, INCLUDING BUT NOT LIMITED TO DUCTS, PLENUM, FRAMING AND BRACKETS.
- D. FILTERS: THE HOOD SHALL INCLUDE A FILTER HOUSING CONSTRUCTED OF THE SAME MATERIAL AS THE HOOD. FILTERS SHALL BE ALUMINUM OR STAINLESS STEEL, U.L. CLASSIFIED AND IN SUFFICIENT NUMBERS AND SIZES TO ENSURE OPTIMUM PERFORMANCE AS SPECIFIED BY THE FILTER MANUFACTURER. THE FILTER HOUSING SHALL TERMINATE IN A PITCHED, FULL LENGTH, GREASE TROUGH WHICH SHALL DRAIN INTO A REMOVABLE GREASE DRAWER.
- E. LIGHTING: PROVIDE HOOD WITH PREWIRED VAPORPROOF, U.L. LISTED LIGHT FIXTURES.
- F. FIRE SUPPRESSION SYSTEM: THE KITCHEN EXHAUST HOOD SHALL CONTAIN A FACTORY ENGINEERED AND PRE-PIPED, U.L. LISTED, WET CHEMICAL, ANSUL R-102 OR AMEREX FSSZ FIRE SUPPRESSION SYSTEM. THE SYSTEM PIPING SHALL BE INSTALLED IN THE HOOD AT THE TIME OF CONSTRUCTION. PIPING SHALL BE INSTALLED ABOVE THE HOOD OR WITHIN THE SUPPLY PLENUM AND SHALL BE CONCEALED FROM VIEW. A CERTIFIED LOCAL ANSUL OR AMEREX DISTRIBUTOR SHALL PROVIDE FINAL SYSTEM HOOK-UP. THE HOOD MANUFACTURER SHALL BE RESPONSIBLE FOR THE COORDINATION BETWEEN THE CONTRACTOR AND THE ANSUL OR AMEREX DISTRIBUTOR FOR THE FINAL FIELD HOOK-UP AND CERTIFICATION OF THE FIRE SUPPRESSION SYSTEM. THE SYSTEM SHALL BE CAPABLE OF AUTOMATIC DETECTION AND ACTUATION AND REMOTE MANUAL ACTUATION. THE SYSTEM SHALL HAVE THE FIRE SUPPRESSION CAPABILITIES TO PROTECT THE DUCTS, PLENUM, FILTER AREA AND COOKING EQUIPMENT. ACCESSORIES SHALL BE PROVIDED FOR MECHANICAL GAS LINE SHUT-OFF OF ALL GAS APPLIANCES, AND A DOUBLE-POLE, DOUBLE-THROW MICRO SWITCH FOR ACTIVATION OF A SHUNT TRIP BREAKER (PROVIDED BY OTHERS) FOR ELECTRICAL EQUIPMENT. THE SYSTEM SHALL ALSO INCLUDE THE RELEASE ASSEMBLY, AGENT TANK, DETECTORS, FUSIBLE LINKS, LIQUID TIGHT FITTINGS, REMOTE MANUAL PULL STATION, AND SCHEDULE 40 BLACK IRON PIPE WITH CHROME SLEEVING FOR EXPOSED AREAS. A CABINET (ADDING ONE FOOT OF LENGTH TO THE HOOD) SHALL BE FURNISHED TO CONTAIN THE RELEASE ASSEMBLY AND AGENT TANKS. THIS CABINET SHALL BE MANUFACTURED BY THE HOOD MANUFACTURER OF THE SAME MATERIAL AS THE HOOD.

PART 7 HEATING PRODUCTS

7.1. ELECTRIC UNIT HEATERS (EUH-1):
- A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
  1. TRANE CO
  2. MARKEL PRODCUTS CO.
  3. BERKO
  4. APPROVED MANUFACTURER.
- B. DESCRIPTION: ELECTRIC CEILING MOUNTED HEATERS OF TYPES, SIZES, RATINGS, AND CHARACTERISTICS INDICATED. HEATERS SHALL BE UL LISTED AND SHALL MEET ALL NEC REQUIREMENTS.
- C. HEATING ELEMENTS: OPEN COIL OF RESISTANCE WIRE, 80 PERCENT NICKEL AND 20 PERCENT CHROMIUM, SUPPORTED AND INSULATED BY FLOATING CERAMIC BUSHINGS. RECESS BUSHINGS INTO CASING OPENINGS AND FASTEN TO SUPPORTING BRACKETS. MOUNT IN GALVANIZED STEEL FRAME.
- D. COIL LAYOUT: HORIZONTAL AIR FLOW.
- E. OVER TEMPERATURE PROTECTION: SERVICEABLE THROUGH TERMINAL BOX WITHOUT REMOVING HEATER FROM UNIT.
  1. DISK TYPE AUTOMATIC RESET, THERMAL CUTOUT SAFETY DEVICES FOR PRIMARY OVER TEMPERATURE PROTECTION.
  2. LOAD CARRYING MANUAL RESET OR MANUALLY REPLACEABLE THERMAL CUTOUTS, FACTORY WIRED IN SERIES WITH EACH HEATER STAGE FOR SECONDARY PROTECTION.
- F. CONTROL PANEL: MOUNTED ON UNIT WITH DISCONNECTING MEANS AND OVERCURRENT PROTECTION.
- G. THERMOSTATS: MOUNTED ON UNIT WITH TEMPERATURE RANGE FROM 60 DEG. F. TO 90 DEG. F.
- H. DISCONNECT SWITCH: INTERLOCKING SAFETY DISCONNECT TO PREVENT THE TERMINAL BOX DOOR FROM BEING OPENED UNLESS THE SWITCH IS IN THE OFF POSITION.
- I. AIRFLOW SWITCH: DIFFERENTIAL PRESSURE SWITCH FACTORY WIRED IN SERIES WITH THE AUTOMATIC RESET CUTOUT WITH PILOT LIGHT WIRED TO INDICATE THE SWITCH HAS OPENED.
- J. WARRANTY: MANUFACTURER'S STANDARD, BUT NOT LESS THAN TWO YEARS ON THE HEATING ELEMENT AND ONE YEAR ON REMAINING COMPONENTS.

PART 8 TEMPERATURE CONTROLS

8.1. TEMPERATURE CONTROL WIRING: MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPERATURE CONTROL AND INTERLOCK WIRING REQUIRED FOR THE PROJECT. ALL EXPOSED TO VIEW 24V AND ALL 120V TEMPERATURE CONTROL WIRING SHALL BE ROUTED IN ITS OWN SEPARATE CONDUIT FOR ENTIRE ROUTING; REFER TO THE ELECTRICAL SPECIFICATIONS FOR CONDUIT MATERIAL AND INSTALLATION REQUIREMENTS.

8.2. TEMPERATURE CONTROL SYSTEM AND SEQUENCE OF OPERATION:
- A. INTENT: THE INTENT OF THIS SPECIFICATION IS TO VERBALLY DESCRIBE THE DESIRED ACTIONS OF THE HVAC EQUIPMENT SPECIFIED HEREIN FOR THIS FACILITY. EACH TEMPERATURE CONTROL CONTRACTOR (T.C.C.) AND EACH MECHANICAL CONTRACTOR (M.C.) SHALL FAMILIARIZE HIMSELF WITH THESE WRITTEN SEQUENCES. WHETHER OR NOT EXPLICITLY SHOWN ON THE DRAWINGS, ALL DEVICES AND ITEMS REQUIRED FOR THE EXECUTION OF THESE SEQUENCES ARE THE RESPONSIBILITY OF THE BIDDING CONTRACTOR.
- B. EXHAUST FANS: THE EXHAUST FANS SHALL OPERATE IN ACCORDANCE WITH THE SEQUENCE INDICATED ON THE FAN SCHEDULE.
- C. KITCHEN EXHAUST HOOD: KITCHEN HOOD SHALL BE OPERATED AUTOMATICALLY WHENEVER AN APPLIANCE REQUIRING HOOD IS ACTIVATED. UPON CALL FOR ACTIVATION, FAN ENERGY SHALL INITIATE, AND THE FAN SHALL ACTIVATE. FAN SHALL RUN AT CONSTANT CFM. UPON CALL FOR DEACTIVATION, FAN ENERGY SHALL TERMINATE, AND FAN SHALL RAMP DOWN TO STOP OPERATION. FAN SHALL BE INTERLOCKED WITH KITCHEN HOOD MAKE UP AIR UNIT.
- D. KITCHEN HOOD MAKE-UP AIR UNIT (EXISTING): KITCHEN MAKE UP AIR UNIT SHALL BE INTERLOCKED WITH KITCHEN EXHAUST HOOD. UPON CALL FOR ACTIVATION, FAN ENERGY SHALL INITIATE, AND MAKE UP AIR UNIT SHALL ACTIVATE. UNIT SHALL RUN AT CONSTANT CFM. HEATING VALVE SHALL FLUCTUATE TO MAINTAIN MINIMUM SUPPLY TEMPERATURE. UPON CALL FOR DEACTIVATION, FAN ENERGY SHALL TERMINATE, AND UNIT SHALL RAMP DOWN TO STOP OPERATION.
- E. ELECTRIC WALL MOUNTED UNIT HEATER: UNIT HEATER SHALL BE SET TO MAINTAIN RESTROOM TEMPERATURE SET POINT.

PART 9 TESTING & BALANCING

9.1. TESTING, ADJUSTING & BALANCING:
- A. PROCEDURES FOR BALANCING AIR SYSTEMS:
  1. PRIOR TO THE FINAL INSPECTION OF THE BUILDING, ALL AIR HANDLING EQUIPMENT AND AIR DISTRIBUTION SYSTEMS SHALL BE ADJUSTED AS NECESSARY TO PROVIDE THE REQUIRED DESIGN SUPPLY, RETURN AND EXHAUST AIR QUANTITIES FOR EACH COMPONENT. BALANCING OF ALL SYSTEMS SHALL BE CONDUCTED UNDER CONDITIONS APPROXIMATING ACTUAL OPERATION.
  2. PREPARE TEST REPORTS FOR BOTH FANS AND OUTLETS. OBTAIN MANUFACTURER'S OUTLET FACTORS AND RECOMMENDED TESTING PROCEDURES.
  3. PREPARE SCHEMATIC DIAGRAMS OF SYSTEMS' "AS-BUILT" DUCT LAYOUTS.
  4. LOCATE START-STOP AND DISCONNECT SWITCHES, ELECTRICAL INTERLOCKS AND MOTOR STARTERS.
  5. VERIFY THAT MOTOR STARTERS ARE EQUIPPED WITH PROPERLY SIZED THERMAL PROTECTION.
  6. CHECK FOR PROPER SEALING AND SEAL CLASS OF AIR DUCT SYSTEMS.
  7. AIR QUANTITY MEASUREMENTS IN DUCTS SHALL BE ASSOCIATED WITH PITOT TUBE TRAVERSES OF THE ENTIRE CROSS-SECTIONAL AREA OF THE DUCTS AND INCLUDE LOCATION FOR CONFIRMING READINGS TAKEN. TEMPERATURE AND STATIC PRESSURE EXISTING AT THE POINT OF TRAVERSE SHALL BE INDICATED.
  8. VOLUME CONTROL DEVICES SHALL BE USED TO REGULATE AIR QUANTITIES OF SUPPLY AND EXHAUST ONLY TO THE EXTENT THAT ADJUSTMENT DOES NOT CREATE OBJECTIONABLE AIR MOTION OR SOUND LEVELS. VOLUME CONTROL BY MEANS OF AIR TERMINAL ADJUSTMENT OR DUCT INTERNAL DEVICES OTHER THAN DAMPERS OR SPLITTERS IS NOT PERMITTED. FINAL MEASUREMENT OF AIR QUANTITIES SHALL BE VARIED BY ADJUSTMENT OF FAN SPEED. BRANCH DUCT AIR QUANTITIES SHALL BE ADJUSTED BY BRANCH DAMPER REGULATION.
- B. PROCEDURES FOR TESTING, ADJUSTING & BALANCING EXISTING SYSTEMS:
  1. PERFORM A PRECONSTRUCTION INSPECTION OF EXISTING EQUIPMENT THAT IS TO REMAIN AND BE RE-USED. MEASURE AND RECORD THE OPERATING SPEED, FLOW RATE AND HEAD PRESSURE OF EACH FAN/PUMP. MEASURE MOTOR VOLTAGE & AMPERAGE. COMPARE THE VALUES TO THE MOTOR NAMEPLATE INFORMATION. CHECK THE REFRIGERANT CHARGE ON REFRIGERATION EQUIPMENT. CHECK THE CONDITIONS OF FILTERS / STRAINERS. CHECK THE CONDITIONS OF ALL HEAT EXCHANGING COILS. CHECK THE OPERATION OF THE DRAIN PAN AND CONDENSATE DRAIN TRAPS. CHECK BEARINGS AND LUBRICATED PARTS FOR PROPER LUBRICATION. REPORT ON THE OPERATING CONDITION OF THE EQUIPMENT AND THE RESULTS OF THE MEASUREMENTS TAKEN. REPORT BOTH ADEQUACIES AND DEFICIENCIES.
  2. BEFORE PERFORMING TESTING AND BALANCING OF EXISTING SYSTEMS, INSPECT EXISTING EQUIPMENT THAT IS TO REMAIN AND BE RE-USED TO VERIFY THAT EXISTING EQUIPMENT HAS BEEN CLEANED AND REFURBISHED. CHECK TO VERIFY THAT NEW FILTERS HAVE BEEN INSTALLED, COIL FINS HAVE BEEN CLEANED AND COMBED, DRAIN PANS ARE CLEAN, FANS ARE CLEAN, AND THAT BEARINGS AND OTHER MOVING PARTS HAVE BEEN PROPERLY LUBRICATED. VERIFY THAT DEFICIENCIES NOTED IN THE PRECONSTRUCTION INSPECTION HAVE BEEN CORRECTED.
  3. PERFORM TESTING AND BALANCING OF EXISTING SYSTEMS TO THE EXTENT THAT EXISTING SYSTEMS ARE AFFECTED BY THE RENOVATION WORK. COMPARE THE INDICATED FLOW RATES OF THE RENOVATED WORK TO THE MEASURED FLOW RATES AND DETERMINE THE UPDATED MECHANICAL EQUIPMENT DATA. BALANCE AS INDICATED BY THESE CONTRACT DOCUMENTS.
- C. FURNISH CERTIFIED REPORTS IN PDF FORMAT.
- D. ADDITIONAL TESTS:
  1. WITHIN NINETY (90) DAYS OF COMPLETING THE TEST & BALANCE PROCEDURES, THE CONTRACTOR SHALL PERFORM ADDITIONAL TESTING & BALANCING TO VERIFY THAT BALANCED CONDITIONS ARE BEING MAINTAINED THROUGHOUT AND TO CORRECT UNUSUAL CONDITIONS.
  2. SEASONAL PERIODS: IF THE INITIAL TEST & BALANCE PROCEDURES WERE NOT PERFORMED DURING NEAR-PEAK SUMMER AND WINTER CONDITIONS, THE CONTRACTOR SHALL PERFORM ADDITIONAL TESTING, INSPECTING AND ADJUSTING DURING NEAR-PEAK SUMMER AND WINTER CONDITIONS.

9.2. COMMERCIAL KITCHEN HOODS SMOKE TEST PROCEDURE: SMOKE TEST PROCEDURE SHALL BE CONDUCTED IN ACCORDANCE TO MICHIGAN MECHANICAL CODE AND LOCAL CODE OFFICIAL.
- A. WHILE PERFORMING A SMOKE TEST CONSIDERATION SHALL BE TAKEN NOT TO ADVERSELY AFFECT THE OPERATION OF OTHER MECHANICAL EQUIPMENT INSTALLED.
- B. A FINAL VENTILATION BALANCE REPORT SHALL BE SUBMITTED TO ARCHITECT/ ENGINEER PRIOR TO THE CAPTURE AND CONTAINMENT TEST. THE VENTILATION BALANCE REPORT SHALL AGREE WITH THE AIR QUANTITIES STIPULATED ON THE APPROVED PLANS AND SPECIFICATIONS FOR THE INSTALLATION.
- C. BUILDING PRESSURE SHALL BE VERIFIED, NOT TO EXCEED 0.02" WATER COLUMN NEGATIVE. THIS SHALL BE VERIFIED WITH ALL EQUIPMENT IN NORMAL OPERATION AND WITH ALL THE WINDOWS AND DOORS CLOSED.
- D. TEST CONDITIONS: MOVEMENT OF PERSONS SHALL BE MINIMIZED. INTERIOR OR EXTERIOR DOORS, WINDOWS, DRIVE-THRU WINDOWS, AND ROOF HATCHES ARE TO BE KEPT CLOSED. ALL EQUIPMENT (EXHAUST, MAKE-UP AIR, ROOFTOP UNIT, ETC) THAT MAY EFFECT THE PERFORMANCE OF THE HOOD SHALL BE ACTIVATED DURING THE TEST.
- E. EQUIPMENT NEEDED:
  1. SMOKE CANDLES (CARTRIDGES): BURN TIME MINIMUM 45 SECONDS: VOLUME 50 CUBIC FEET; MEASURES 0.5" DIAMETER x 0.375" L; WEIGHT 0.0 OZ; SMOKE
  2. TEST CONTAINER: METAL CYLINDRICAL CONTAINER APPROXIMATELY 6" IN DIAMETER AND 7" HIGH.
- F. TEST LOCATIONS:
  1. LOCATE THE TEST CONTAINER ON THE COOKING SURFACE OR INSIDE THE COOKING VESSEL OR CAVITY AS NECESSARY.
  2. WHERE THE TEST LOCATION IS TO BE THE COOKING SURFACE, ADJUST THE CENTERLINE OF THE TEST CONTAINER INWARD 12" FROM THE LEADING EDGE OF THE COOKING SURFACE AND 12" FROM THE HOOD END, MEASURED HORIZONTALLY.
  3. WHERE ENDS ARE EXPOSED, THE TEST CONTAINER SHALL BE LOCATED 12" FROM THE WALL AND 12" INWARD FROM THE OPEN HOOD END, MEASURED HORIZONTALLY.
  4. EACH SUBSEQUENT TEST LOCATION IS TO BE 36" TO THE LEFT OR RIGHT FROM THE PREVIOUS TEST LOCATION UNTIL THE FULL LENGTH OF THE HOOD IS TESTED.
- G. COOKING EQUIPMENT:
  1. THE COOKING EQUIPMENT SHALL BE TESTED AND OPERATED IN A MANNER SIMILAR TO NORMAL USAGE.
  2. WHEN DEEP-FAT FRYERS ARE INCLUDED IN A BANK OF COOKING EQUIPMENT, THE FRYERS MAY BE OPERATED USING WATER IN PLACE OF OIL AND THE TEMPERATURE ADJUSTED TO PRODUCE SIMMERING, NOT VIGOROUS BOILING, WATER. IF OIL IS USED, IT MUST BE DISCARDED FOLLOWING THE EVALUATION IN ORDER TO PREVENT POTENTIAL FOOD CONTAMINATION. THE TEST CONTAINER SHALL BE LOCATED IN OR ON THE SURFACE OF THE FRYER BASKET(S).
  3. WHEN OVENS ARE INSTALLED (EXCEPT CONVECTION, RANGE, AND COMBINATION OVENS), ONLY THE TOP CAVITY DOOR SHALL BE OPEN AND THE HEAT/ STEAM SOURCE ACTIVATED FOR ALL COMPARTMENTS; OPEN MEANS A POSITION 90 DEGREES FROM THE CLOSED POSITION. THE CENTERLINE OF THE TEST CONTAINER SHALL BE LOCATED INWARD A MINIMUM OF 12" FROM THE FRONT EDGE AND INSIDE THE OVEN CAVITY. NOTE: RANGE OVENS ARE TO BE OPERATED BUT NOT TESTED IF THE RANGE TOP GAS-FIRED BURNERS OR THE ELECTRIC HEATING ELEMENTS ARE TO BE TESTED.
  4. CONVECTION AND COMBINATION OVENS ARE TO BE OPERATED WITH ALL DOORS CLOSED, THE HEAT SOURCE ACTIVATED IN ALL COMPARTMENTS, AND THE AIR CIRCULATING FAN(S) ACTIVATED. LOCATE THE TOP LIP OF THE TEST CONTAINER 42" ABOVE THE FLOOR AND IN CONTACT WITH THE FRONT OF THE OVEN. WHERE OVENS ARE INSTALLED SO AS TO BE AT THE ENDS OF THE HOOD AND A FULL SIDE CURTAIN OR WALL IS NOT INSTALLED, THE LIP OF THE TEST CONTAINER SHALL BE LOCATED LEVEL WITH THE TOP OF THE OVEN CABINET.
  5. CONVEYOR-TYPE OVENS SHALL BE SET AT OPERATING TEMPERATURES AND THE AIR CIRCULATING FAN(S) ACTIVATED. TEST CONTAINER SHALL BE PLACED AT EACH END OF THE OVEN OPENINGS.
  6. WHEN RANGE TOPS, GAS-FIRED BURNERS, OR ELECTRIC HEATING ELEMENTS ARE INSTALLED, OPEN COOKING CONTAINERS FILLED WITH WATER ARE TO BE LOCATED ON 25% OF THE BURNERS AND HEATED SURFACES AND ALLOWED TO HEAT TO 180 DEGREES F. A MINIMUM OF 51% OF THE RANGE SURFACE AND HEATING DEVICES AND THE RANGE OVENS ARE TO BE ACTIVATED.
  7. BRAZING UNITS, STEAM JACKETED KETTLES, CHINESE WOK RANGES, AND SIMILAR COOKING EQUIPMENT ARE TO BE FILLED WITH WATER TO A LEVEL OF 2-3 INCHES OR AS RECOMMENDED BY THE MANUFACTURER; THE HEATING ELEMENTS ACTIVATED; AND THE WATER ALLOWED TO HEAT BUT NOT BOIL. COVERS, IF PROVIDED, ARE TO BE IN THE OPEN POSITION. THE TEST CONTAINER SHALL BE LOCATED INSIDE THE OPEN VESSEL. NOTES: CHINESE WOK RANGES EQUIPPED WITH CONTINUOUS WATER-COOLING, SHOULD HAVE THESE DEVICES ACTIVATED.
- H. PERFORMANCE EVALUATION: ACCEPTABLE PERFORMANCE, CONSIST OF CAPTURE OF ALL VISIBLE SMOKE GENERATED. A DEMONSTRATION IS A COMPLETE TESTING OF ALL IDENTIFIED TEST LOCATIONS. A COMPLETE AND THOROUGH VENTILATION SYSTEM EVALUATION WILL ENSURE THAT WHEN THE SYSTEM IS PROPERLY MAINTED AND OPERATED, IT WILL CAPTURE EFFECTIVELY.

PART 10 CLOSE OUT

10.1. CLOSE-OUT: CONTRACTOR SHALL PROVIDE FIELD TESTING, CHECK-OUT AND SYSTEM DEMONSTRATIONS TO OWNER TO ASSURE PROPER PERFORMANCE AND ADJUSTMENT OF ITEMS PROVIDED UNDER THE CONTRACT. REMOVE ALL DEBRIS CREATED BY THE CONSTRUCTION WORK AND CLEAN ALL EQUIPMENT, AIR DEVICES ETC., INSIDE AND OUTSIDE. PROVIDE A HARDBOUND BINDER WHICH INCLUDES: COPIES OF EACH APPROVED SHOP DRAWING, PREVENTATIVE MAINTENANCE PROCEDURES FOR EACH ITEM, OPERATION AND INSTRUCTION MANUALS, LITERATURE SUPPLIED WITH HVAC EQUIPMENT, AND A LIST OF ALL CONTRACTOR'S PURCHASE ORDERS WITH SUPPLIERS NAMES, ADDRESSES AND PHONE NUMBERS, FOR ALL MATERIALS. INCLUDE NAME AND ADDRESS OF A QUALIFIED SERVICE AGENCY FOR EACH SYSTEM. PROVIDE INSTRUCTION TO PERSONNEL SELECTED BY THE OWNER, TO FAMILIARIZE THEM WITH THE LOCATION OF SIGNIFICANT EQUIPMENT, TRAIN THEM ON EQUIPMENT FUNCTIONS, REVIEW MAINTENANCE PROCEDURES AND COORDINATE INFORMATION AVAILABLE IN THE CLOSE-OUT BINDER. CLOSE OUT BINDER SHALL BE FURNISHED TO OWNER WITHIN 60 DAYS OF PROJECT COMPLETION.

10.2. AS-BUILT DRAWINGS: CONTRACTOR SHALL ACCURATELY AND NEATLY RECORD ANY DEVIATIONS FROM THE PLANS AND SPECIFICATIONS. AS-BUILTS SHALL BE REGULARLY UPDATED DURING THE COURSE OF CONSTRUCTION, AND DELIVERED TO THE OWNER WITHIN 30 DAYS OF PROJECT ACCEPTANCE.

HVAC DRAWING LIST

DWG NO.	TITLE	FILE NO.
M1.01	SPECIFICATIONS AND DRAWING LIST	M2502017M1.01.dwg
M1.02	LEGENDS, NOTES, AND SCHEDULES	M2502017M1.02.dwg
M1.03	DETAILS AND CALCULATIONS	M2502017.M1.03.dwg
M2.01	KITCHEN AND ROOF DEMOLITION PLANS	M2502017.M2.01.dwg
M3.01	KITCHEN AND ROOF PLANS	M2502017.M3.01.dwg

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04/14/2025
STATE OF MICHIGAN
EMILY RENEE SCHWARZKOPF
6201063334
REGISTERED PROFESSIONAL ENGINEER

DATE	DESCRIPTION
04.16.2025	BIDDING & STATE REVIEW

KITCHEN CAFETERIA UPDATES & RELATED WORK
AT
IDA HIGH SCHOOL
3145 PRAIRIE STREET, IDA, MI 48140
FOR
IDA PUBLIC SCHOOLS
3145 PRAIRIE STREET, IDA, MI 48140

JOB # 25002

SPECIFICATIONS AND DRAWING LIST

M1.01

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FAN SCHEDULE (FURNISHED BY OTHERS)

(REFER TO SPECIFICATIONS PARAGRAPH "5.2" ON DRAWING M1.01 FOR ADDITIONAL REQUIREMENTS.)

TAG #	DWG #	AREA SERVED	SERVICE	CFM	ESP (IN. W.C.)	FAN RPM	BHP	DRIVE TYPE	DISC'T BY FAN MANF'T	BIRD SCREEN BY FAN MANF'T	BACK DRAFT DMPR BY FAN MANF'T	MAX. SOUND LEVEL (SONES)	FAN ELECT DATA			MEANS OF CONTROL	APPROX. WEIGHT (LBS)	ROOF/WALL OPENING SIZE (IN)	MAKE/ MODEL	REMARKS:
													HP (WATTS)	VOLTS/ PHASE	AMPS					
KEF-1	M3.01	KITCHEN HOOD	EXHAUST	2,400	0.95	1,048	0.805	DIRECT	YES	NO	YES	7.8	1-1/2	208 / 3	6.6	A	178	26"x26"	K-TECH DU180HK	1 THRU 7

MEANS OF CONTROL: FAN SHALL SEQUENCE IN CONJUNCTION WITH...
A ...HOOD SHALL AUTOMATICALLY ACTIVATE WHEN ANY APPLIANCE REQUIRING HOOD IS TURNED ON. INTERLOCK SHALL BE PROVIDED TO PREVENT OPERATION OF SUCH APPLIANCES WHEN EXHAUST FAN IS NOT TURNED ON. (SWITCH BY HOOD MANUFACTURER, WIRED BY ELECTRICAL CONTRACTOR)

REMARKS:
1. FURNISH FAN WITH 14" ROOF CURB.
2. FURNISH DUCTWORK CONNECTING TO FAN IN ACCORDANCE WITH THE "DUCTWORK MATERIAL CONSTRUCTION SCHEDULE" FOUND ON DRAWING M1.3.
3. FURNISH FAN WITH GRAVITY BACKDRAFT DAMPER.
4. FURNISH FAN MOTOR WITH THERMAL OVERLOADS.
5. FURNISH FAN WITH VARIABLE SPEED CONTROL, GREASE BOX, AND HIGH HEAT OPERATION.
6. FURNISH FAN WITH VARIABLE FREQUENCY DRIVE
7. FURNISH FAN CAPABLE OF 600 DEG. F. OPERATION.

FAN SCHEDULE

(REFER TO SPECIFICATIONS PARAGRAPH "5.1" ON DRAWING M1.01 FOR ADDITIONAL REQUIREMENTS.)

TAG #	DWG #	AREA SERVED	SERVICE	CFM	ESP (IN. W.C.)	FAN RPM	BHP	DRIVE TYPE	DISC'T BY FAN MANF'T	BIRD SCREEN BY FAN MANF'T	BACK DRAFT DMPR BY FAN MANF'T	MAX. SOUND LEVEL (SONES)	FAN ELECT DATA			MEANS OF CONTROL	APPROX. WEIGHT (LBS)	ROOF/WALL OPENING SIZE (IN)	MAKE/ MODEL	REMARKS:
													HP	VOLTS/ PHASE	MCA					
EF-1	M3.01	RESTROOM	EXHAUST	100	0.2	1370	0.010	DIRECT	YES	YES	YES	2.9	1/15	115/1	2.0	A	21	13.5"x13.5"	GREENHECK G-060-VG	1 THRU 7

MEANS OF CONTROL: FAN SHALL SEQUENCE IN CONJUNCTION WITH...
A ...FAN RUNS CONTINUOUSLY

REMARKS:
1. FURNISH FAN WITH ROOF CURB ADAPTOR.
2. FURNISH DUCTWORK CONNECTING TO FAN IN ACCORDANCE WITH THE "DUCTWORK MATERIAL CONSTRUCTION SCHEDULE" FOUND ON DRAWING M1.02.
3. FURNISH FAN WITH MOTORIZED BACKDRAFT DAMPER.
4. FURNISH FAN MOTOR WITH THERMAL OVERLOADS.
5. FURNISH FAN WITH VARI-GREEN MOTOR.
6. FURNISH FAN WITH NEMA 3R FUSED DISCONNECT.

DUCTWORK MATERIAL CONSTRUCTION & INSULATION SCHEDULE

(REFER TO SPECIFICATIONS PARAGRAPHS "3.4" ON DRAWING M1.01 FOR ADDITIONAL REQUIREMENTS.)

SYSTEM EQUIPMENT	DUCTWORK SERVICE	DUCTWORK PRESSURE CLASS ("W.C.)	SMACNA SEAL CLASS	DUCTWORK CONSTRUCTION	INSULATION	REMARKS
CONSTANT VOLUME CENTRAL AIR HANDLING UNIT(S):	SUPPLY AIR	+ 2.0	A	RECTANGULAR DUCTWORK: GALVANIZED SHEET METAL.	INTERIOR "EXPOSED" APPLICATIONS, INCLUDING MECHANICAL EQUIPMENT ROOMS: USE 1-1/2 INCH RIGID FIBERGLASS BOARD INSULATION WITH A MINIMUM INSTALLED R-VALUE OF 3.5 INTERIOR "CONCEALED" APPLICATIONS, (PLENUM SPACES UNVENTED & ATTICS WITH INSULATION AT ROOF LINE): USE 1-1/2" FLEXIBLE FIBERGLASS WRAP INSULATION WITH A MINIMUM INSTALLED R-VALUE OF 3.5	1, 2 & 3
TOILET EXHAUST SYSTEM	TOILET EXHAUST AIR	+/- 2.0	A	RECTANGULAR DUCT: GALVANIZED SHEET METAL FLEXIBLE BRANCHES: NOT PERMITTED	INTERIOR "EXPOSED" APPLICATIONS BETWEEN BACK-DRAFT DAMPER AND TERMINATION THROUGH EXTERIOR OF BUILDING, INCLUDING MECHANICAL EQUIPMENT ROOMS: USE 2 INCH RIGID FIBERGLASS BOARD INSULATION. INTERIOR "CONCEALED" APPLICATIONS BETWEEN BACK-DRAFT DAMPER AND TERMINATION THROUGH EXTERIOR OF BUILDING, INCLUDING ATTIC & PLENUM SPACES: USE 2 INCH FLEXIBLE FIBERGLASS WRAP INSULATION.	2 & 3
KITCHEN HOOD EXHAUST	EXHAUST AIR (GREASE LADEN)	N/A	N/A	RIGID ROUND BRANCHES: 16 GAUGE MINIMUM, CARBON STEEL WITH WELDED LONGITUDINAL SEAMS OR ENGINEER APPROVED FACTORY BUILT GREASE DUCT SYSTEM. SEAMS AND JOINTS ON ALL RANGE HOOD EXHAUST SHALL BE MADE WITH A CONTINUOUS LIQUID-TIGHT WELD ON THE EXTERNAL SURFACE OR THE DUCT SYSTEM. IN COMPLIANCE WITH OBC MECHANICAL CODE ARTICLE 5.	GREASE LADEN EXHAUST DUCTS IN INTERIOR CONCEALED SPACES INCLUDING ATTIC AND PLENUMS SHALL BE INSULATED WITH 1-1/2 INCH THICK, FLEXIBLE, FOIL-ENCAPSULATED, FIREPROOF BLANKET INSULATION. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. INSTALLATION SHALL BE U.L. LISTED AND LABELED AND SHALL COMPLY WITH NFPA 96. INSULATION SHALL BE EQUAL TO 3M FIRE BARRIER 15A DUCTWRAP.	4
KITCHEN HOOD MAKE-UP AIR	MAKE-UP AIR	+/- 2.0	N/A	RECTANGULAR GALVANIZED SHEET METAL DUCT	INTERIOR "EXPOSED" APPLICATIONS, INCLUDING MECHANICAL EQUIPMENT ROOMS: USE 1-1/2 INCH RIGID FIBERGLASS BOARD INSULATION INTERIOR "CONCEALED" APPLICATIONS, INCLUDING ATTIC & PLENUM SPACES: USE 2" FLEXIBLE FIBERGLASS WRAP INSULATION	2 & 3

REMARKS:
1. ALL DUCT SIZES INDICATED ON DRAWINGS REPRESENT INTERNAL NET DIMENSIONS. DUCTWORK SIZE SHALL BE INCREASED AS REQUIRED TO ACCOMMODATE INTERNAL SOUND LINING, DOUBLE-WALL CONSTRUCTION, ETC.
2. DUCTWORK CONSTRUCTION, INCLUDING SHEET METAL GAUGES AND SEAM CONSTRUCTION METHODS, SHALL BE IN ACCORDANCE WITH SMACNA STANDARDS.
3. DUCTWORK ELBOWS, TRANSITIONS, ETC. SHALL BE FABRICATED IN ACCORDANCE WITH DETAIL "A" ON DRAWING M1.03.
4. SEAMS AND JOINTS SHALL BE CONSTRUCTED WITH LIQUID-TIGHT, CONTINUOUS WELDS ON THE EXTERNAL SURFACE OF THE DUCT.

EXHAUST HOOD SCHEDULE (FURNISHED BY OTHERS)

(REFER TO SPECIFICATIONS PARAGRAPH "6.1" ON DRAWING M1.01 FOR ADDITIONAL REQUIREMENTS.)

TAG #	AREA SERVED	OVERALL SIZE	DUCT CONNECTIONS		EXHAUST AIR FLOW RATE (CFM)	EXHAUST PD ("S.P.)	MAKE-UP AIR FLOW RATE (CFM)	SUPPLY PD ("S.P.)	MAKE/ MODEL	REMARKS
			EXHUAST	SUPPLY						
KH-1	KITCHEN 103	12'x5'x2'	16" ø	30ø24"x12"	2,400	0.797"	2,400	0.275	K-TECH PL-ND-2 Z-SB-F	1, 2, 3, 4, 5, 6, 7

REMARKS:
1. FURNISH HOOD WITH COMPLETE FIRE PROTECTION SYSTEM INCLUDING FIELD INSTALLATION, AS FURNISHED BY ANSUL OR EQUIVALENT.
2. INSTALLATION SHALL INCLUDE, BUT IS NOT LIMITED TO, FUEL SHUT-OFF DEVICE, MICROSWITCH FOR ELECTRIC APPLIANCES, MANUAL PULL STATION FOR REMOTE MOUNTING, ALL DETECTORS, LINKS, TANK AND FIRE SUPPRESENT AGENT. HOOD SHALL BE A LISTED AND LABELED, FACTORY BUILT COMMERCIAL EXHAUST HOOD WITH U.L. CLASSIFIED FILTERS.
3. HOOD SHALL BE FURNISHED WITH INCANDESCENT LIGHT FIXTURES.
4. HOOD SHALL BE FURNISHED WITH FULL LENGTH GREASE GUTTERS, REMOVABLE GREASE CUP AND U.L. CLASSIFIED FILTERS.
5. HOOD SHALL BE FURNISHED WITH REGISTER SUPPLY DISCHARGE.
6. HOOD SHALL BE FURNISHED WITH MOUNTED SWITCHES (LIGHT, EXH., HEAT).
7. FURNISH ENCLOSURE PANEL TO CONCEAL SPACE BETWEEN TOP OF HOOD AND SUSPENDED CEILING. PANEL MATERIAL AND CONSTRUCTION TO MATCH HOODO.

NATURAL GAS CALCULATION

EQUIPMENT	LOAD (CFH)
VULCAN V6B36S GAS RANGE	260
VULCAN V6B36S GAS RANGE	260
VULCAN VC44GD GAS OVEN	100
FRIGIDAIRE FLCG7522AW GAS DRYER	17
TOTAL	637

AIR BALANCE SCHEDULE

TAG	SUPPLY AIR (CFM)	RETURN AIR (CFM)	OUTSIDE AIR (CFM)	EXHAUST AIR (CFM)	RESULTING PRESSURE
MUA-1•	0	0	2,400	0	+2,400
KEF-1•	0	0	0	-2,400	-2,400
EF-1	0	0	0	-100	-100
DH-1•	0	0	0	-400	-400
DRYER•	0	0	0	-200	-200
TOTALS	0	0	0	-100	-100
TOTALS•	0	0	2,400	-3,000	-600

• INTERMITTENT OPERATION

AIR DEVICE SCHEDULE

(REFER TO SPECIFICATIONS PARAGRAPH "3.5" ON DRAWING M1.01 FOR ADDITIONAL REQUIREMENTS.)

TAG #	TYPE OF AIR SERVICE	NECK SIZE	MAXIMUM AIR FLOW (CFM)	AIR FLOW DISCHARGE PATTERN	PRESSURE DROP (" WC)	BRANCH DUCT DIAMETER (INCHES ø)	FACE FINISH	REMARKS
EG	EXHAUST GRILLE	6"x6"	100	-----	0.075	-----	WHITE ENAMEL	1 & 2

REMARKS:
1. THE AIR DEVICES SHALL SERVE THE SPACES INDICATED. THE CONTRACTOR SHALL FURNISH ALL AIR DEVICES WITH MEANS OF MOUNTING WHICH SHALL BE COMPATIBLE WITH THE ADJACENT CEILING CONSTRUCTION. THE MECHANICAL CONTRACTOR SHALL FURNISH EACH AIR DEVICE WITH VOLUME BALANCING CAPABILITIES AT THE BRANCH DUCT CONNECTION. DO NOT FURNISH DAMPERS AT THE AIR DEVICES UNLESS OTHERWISE NOTED ON THE DRAWINGS. DUCTWORK VISIBLE THROUGH THE FACE OF ANY AIR DEVICE SHALL BE PAINTED FLAT BLACK.
2. EXHAUST GRILLE (EG): PRICE MODEL "530" OR EQUIVALENT STEEL GRILLE AND FRAME WITH 35° DEFLECTION ON HORIZONTAL FACE BARS.

ELECTRIC CABINET HEATER SCHEDULE

(REFER TO SPECIFICATIONS PARAGRAPH "7.1" ON DRAWING M1.01 FOR ADDITIONAL REQUIREMENTS.)

TAG #	DWG #	AREA SERVED	TYPE	CFM	MTG. TYPE	DISCH. ARRGT.	HEATER kW	VOLTS/ PHASE	MAKE/ MODEL	REMARKS:
EUH-1	M3.01	TOILET 106	ELECTRIC	100	RECESSED CEILING	DOWN FLOW	1.5	208/1	MARKEL H3032DWBW	1 THRU 6

REMARKS:
1. HEATER SHALL UL LISTED.
2. FURNISH HEATER WITH THERMAL OVERLOAD PROTECTION.
3. FURNISH HEATER WITH INTEGRAL SINGLE POLE THERMOSTAT.
4. PRIOR TO ORDERING, MECHANICAL CONTRACTOR SHALL VERIFY INSTALLATION ALONG CEILING WITH GENERAL CONTRACTOR.
5. FURNISH HEATER WITH FACTORY DISCONNECT.
6. FURNISH HEATER WITH SURFACE MOUNTING HARDWARE.

MECHANICAL PIPING LEGEND

- SHUTOFF VALVE
- PIPING ELBOW DOWN
- PIPING ELBOW UP
- PIPING TEE DOWN
- PIPING TEE UP
- STRAINER
- STRAINER WITH BLOW-DOWN VALVE
- UNION
- CAP

GENERAL NOTES:

1. FRESH AIR INTAKE HOOD SHALL BE LOCATED A MINIMUM OF 10'-0" FROM ANY EXHAUST OUTLET, FLUE OR PLUMBING VENT. COORDINATE EQUIPMENT AND VENT LOCATIONS WITH PLUMBING CONTRACTOR.
2. FOR SPECIFICATIONS REFER TO DRAWING M1.01.
3. FOR SCHEDULES AND DETAILS REFER TO DRAWINGS M1.02 AND M1.03.
4. PROVIDE FIRE DAMPERS AND ACCESS DOORS FOR ALL DUCTS PENETRATING FIRE RATED ASSEMBLIES; REFER TO DETAILS "D" ON DRAWING M1.03 FOR ADDITIONAL REQUIREMENTS.
5. KITCHEN EXHAUST FAN ROOF CURB SHALL BE FURNISHED BY THE KITCHEN CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
6. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING DUCT/PLUMBING CHASES WITH ALL OTHER TRADES.
7. PIPE PENETRATIONS THRU ALL FIRE RATED WALLS SHALL BE SEALED BY THE MECHANICAL CONTRACTOR, TO PREVENT SPREAD OF FIRE AND SMOKE AND INGRESS OF MOISTURE.
8. PROVIDE ALL HANGERS, SUPPORTS AND MISCELLANEOUS STEEL REQUIRED FOR THE PROPER INSTALLATION OF ALL PIPE, DUCTWORK AND EQUIPMENT.
9. COORDINATE DUCTWORK, PIPING AND EQUIPMENT LOCATIONS WITH ALL OTHER TRADES.
10. MAINTAIN REQUIRED MANUFACTURERS' CLEARANCES ON ALL EQUIPMENT.
11. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS AND DETAIL "A" ON DRAWING M1.03.
12. CONTRACTOR SHALL VERIFY CLEARANCES ABOVE CEILING PRIOR TO FABRICATION OF DUCTWORK. COORDINATE EXACT LOCATION OF DUCTWORK WITH ELECTRICAL, PLUMBING AND GENERAL CONTRACTORS.
13. OFFSET SUPPLY AND RETURN AIR DUCT DROPS FROM ROOFTOP UNITS AS INDICATED TO AVOID ROOF FRAMING. REFER TO ARCHITECTURAL PLANS FOR JOIST LAYOUT.
14. THE ON-GOING CAMPUS WIDE GEOTHERMAL PROJECT IS SCHEDULES TO BE COMPLETED BY JULY 2025. THERE ARE SEVERAL NOTED MECHANICAL ITEMS, WITHIN THE KITCHEN AREA, THAT ARE SCHEDULED TO BE REMOVED "BY OTHERS" AS PART OF THE GEOTHERMAL WORK. THIS WORK IS CURRENTLY UNDER CONTRACT AND WILL BE COMPLETED IN CONJUNCTION WITH THIS PROJECT. THE SCHEDULED DATE FOR REMOVAL OF THOSE MECHANICAL ITEMS IS UNKNOWN AT THIS TIME. THE OWNER HAS MADE THE CONTRACTOR AWARE OF THIS PROJECT AND FULL COOPERATION BETWEEN THE TWO ONGOING PROJECTS IS TO BE EXPECTED. ANY COORDINATION WILL BE HANDLED BY OWNER AND ARCHITECT DURING THE PRE-CONSTRUCTION MEETING AND AS NECESSARY, SO THAT THIS PROJECT CAN BE COMPLETED WITH NO INTERRUPTIONS.
15. PRIOR TO DEMOLITION, CONTRACTOR SHALL MEASURE EXISTING AIRFLOW AT EACH AIR DEVICE IN RENOVATION AREA. ONCE NEW INSTALLATION IS COMPLETE, REBALANCE AIR DEVICES TO EXISTING AIRFLOW.

HVAC LEGEND

- EXISTING DUCTWORK/EQUIPMENT TO REMAIN AS IS
- EXISTING DUCTWORK/EQUIPMENT TO REMAIN AS IS
- EXISTING DUCTWORK/EQUIPMENT TO BE REMOVED
- NEW DUCTWORK/EQUIPMENT
- NEW DUCTWORK/EQUIPMENT
- FLEXIBLE CONNECTION
- FD — VERTICAL FIRE DAMPER
- MANUAL VOLUME BALANCING DAMPER
- X — DRAWING KEY NOTE
- SD — DUCT MOUNTED SMOKE DETECTOR
- X — AIR DEVICE TAG NUMBER
- CONNECTION OF NEW TO EXISTING
- X / M-X — DETAIL TAG NUMBER / DRAWING REFERENCE NUMBER
- E.C. — ELECTRICAL CONTRACTOR
- G.C. — GENERAL CONTRACTOR
- M.C. — MECHANICAL CONTRACTOR
- P.C. — PLUMBING CONTRACTOR
- T.C.C. — TEMPERATURE CONTROL CONTRACTOR
- A.F.F. — ABOVE FINISHED FLOOR
- cfm — CUBIC FEET PER MINUTE
- E.A. — EXHAUST AIR
- S.A. — SUPPLY AIR
- R.A. — RETURN AIR
- O.A. — OUTSIDE AIR
- ø — ROUND DUCTWORK
- DUCT TRANSITION
- DUCT UNDER POSITIVE PRESSURE TURNING OUT OF THE DRAWING
- DUCT UNDER NEGATIVE PRESSURE TURNING OUT OF THE DRAWING
- DUCT UNDER POSITIVE PRESSURE TURNING INTO THE DRAWING
- DUCT UNDER NEGATIVE PRESSURE TURNING INTO THE DRAWING

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Emily R. Schwarzkopf

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KITCHEN CAFETERIA UPDATES & RELATED WORK

IDA HIGH SCHOOL
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AT

IDA PUBLIC SCHOOLS
3145 PRAIRIE STREET, IDA, MI 48140

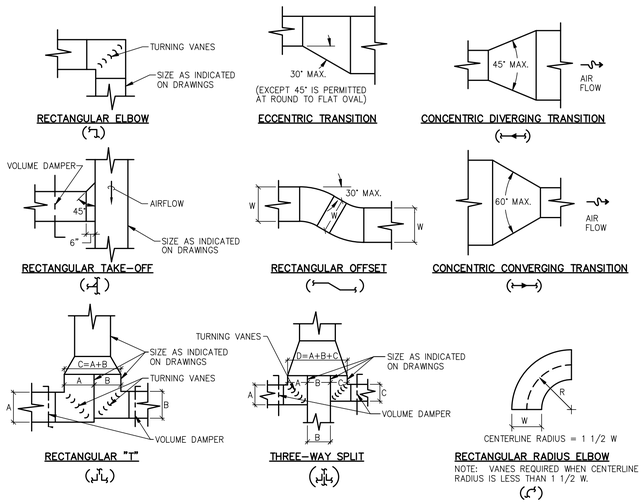
FOR

JOB # 25002

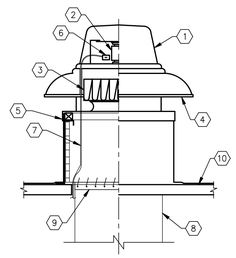
LEGENDS, NOTES, AND SCHEDULES

M1.02

L:\Kohler Architecture Inc\26000065.001A-Kohler IDA Public HS Kitch\Working\DWG\M2502017M1.02.dwg 04/14/25 14:34:14 ATuttle

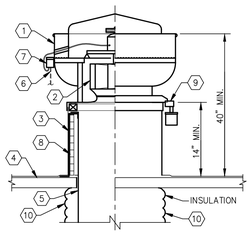


A M3.01 DUCTWORK TRANSITION DETAILS
NO SCALE (SINGLE LINE, AS SHOWN ON DRAWING.)



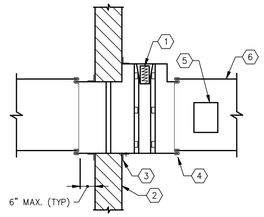
1. SPUN ALUMINUM HOUSING
2. MOTOR WITH VIBRATION ISOLATION
3. CENTRIFUGAL BLOWER
4. BIRDSCREEN
5. SECURE CURB ADAPTOR TO EXISTING CURB
6. DISCONNECT SWITCH FACTORY WIRED TO MOTOR.
7. WIRING BY ELECTRICAL CONTRACTOR
8. EXHAUST DUCTWORK. REFER TO FLOOR PLAN(S) FOR SIZE & CONFIGURATION
9. MOTORIZED BACKDRAFT DAMPER
10. ROOF CONSTRUCTION ASSEMBLY

B M3.01 ROOF EXHAUST FAN
NO SCALE



1. ALUMINUM CASING
2. CENTRIFUGAL FAN
3. PRE-FABRICATED GALVANIZED STEEL FAN CURB FURNISHED BY KITCHEN CONTRACTOR AND INSTALLED BY GENERAL CONTRACTOR
4. ROOF CONSTRUCTION ASSEMBLY
5. EXHAUST DUCTWORK. REFER TO FLOOR PLAN(S) FOR SIZE & CONFIGURATION
6. EXTERNAL WIRING LIQUID TIGHT FLEXIBLE CONDUIT BY ELECTRICAL CONTRACTOR
7. DISCONNECT SWITCH FACTORY WIRED TO MOTOR THROUGH BREATHER TUBE
8. 1" RIGID FIBERGLASS INSULATION
9. GREASE TROUGH
10. FIRE WRAP INSULATION INSTALLED IN ACCORDANCE WITH PLANS AND SPECIFICATIONS

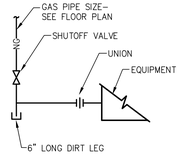
C M3.01 KITCHEN EXHAUST FAN DETAIL
NO SCALE



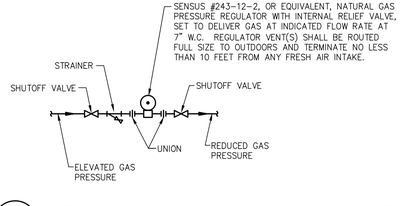
1. VERTICAL GUILLOTINE TYPE FIRE DAMPER WITH U.L. RATING AND STAMP.
2. FIRE RATED ASSEMBLY.
3. MOUNTING ANGLE, OVERLAP WALL OPENING BY 1" MINIMUM.
4. FASTEN DUCT TO SLEEVE WITH BREAKAWAY CONNECTION.
5. FIRE DAMPER ACCESS DOOR WITH CAM LATCH.
6. DUCTWORK – REFER TO FLOOR PLAN FOR SIZE & CONTINUATION.

NOTE: INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND UL555 DAMPER SHALL BE U.L. TESTED AND LABELED AS AN ASSEMBLY.

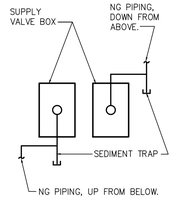
D M3.01 VERTICAL FIRE DAMPER DETAIL
NO SCALE



E M3.01 GAS CONNECTION DETAIL
NO SCALE



F M3.01 NATURAL GAS PRESSURE REGULATOR DETAIL
NO SCALE



G M3.01 NATURAL GAS SUPPLY VALVE BOX ELEVATION
SCALE: NONE

COMcheck Software Version COMcheckWeb
Mechanical Compliance Certificate

Project Information

Energy Code:	90.1 (2019) Standard
Project Title:	26000065.001A - Kohler IDA Public HS Kitchen Remodel
Location:	Temperance, Michigan
Climate Zone:	5a
Project Type:	Alteration

Construction Site:
3145 Prairie St
Ida, Michigan 48140

Owner/Agent:
3145 Prairie St
Ida, Michigan 48140

Designer/Contractor:
Andrew Tuttle
Kleinfelder
415 Conant Street
Maumee, Ohio 43537
4194428406
atuttle@kleinfelder.com

Mechanical Systems List

Quantity System Type & Description

1 HVAC System
Heating: 1 each - Unit Heater, Electric, Capacity = 6 kBtu/h
No minimum efficiency requirement applies

SYSTEM VERIFICATION REQUIRED.

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 90.1 (2019) Standard requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Andrew Tuttle - Engineer — Name - Title
Signature
4-4-2025 — Date

Project Title: 26000065.001A - Kohler IDA Public HS Kitchen Remodel
Data filename:
Report date: 04/04/25
Page 1 of 8

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04/14/2025
STATE OF MICHIGAN
EMILY RENEE SCHWARZKOPF
6201063334
REGISTERED PROFESSIONAL ENGINEER

DATE	DESCRIPTION
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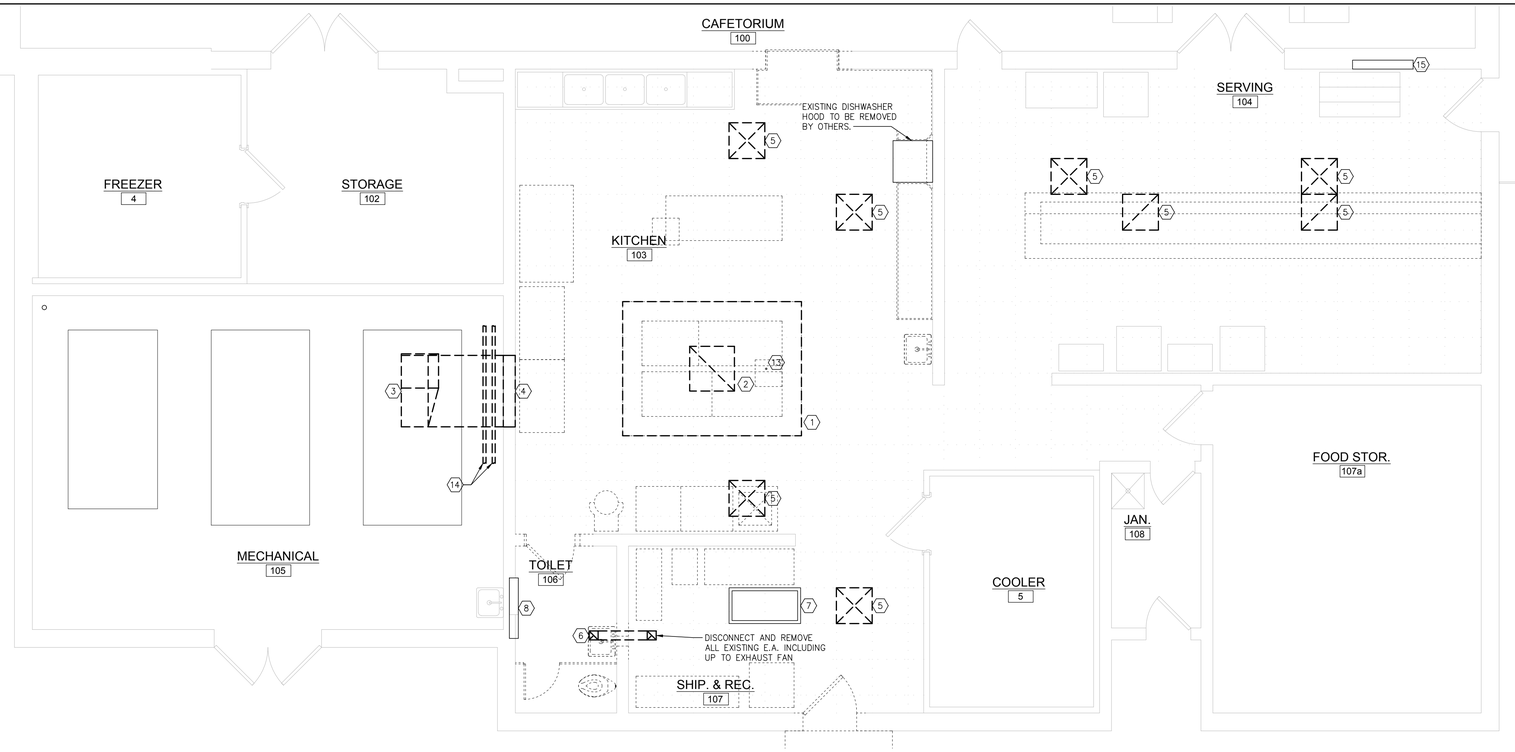
JOB # 25002

DETAILS AND CALCULATIONS
M1.03



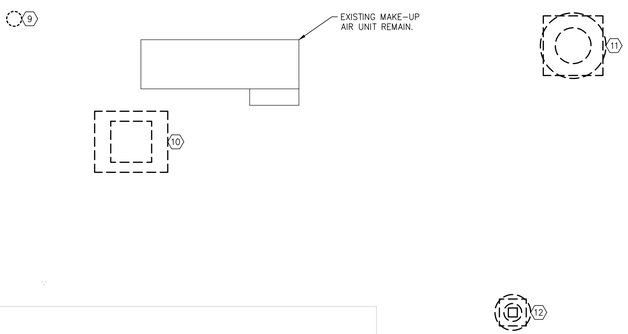
KITCHEN FLOOR PLAN – DEMOLITION
SCALE: 1/4" = 1'-0"

DEMOLITION NOTES:

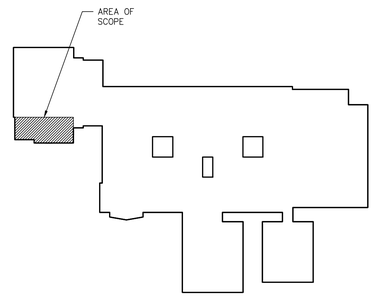
1. EXISTING KITCHEN EXHAUST HOOD TO DE DEMOLISHED BY KITCHEN EQUIPMENT CONTRACTOR.
2. EXISTING 30"x30" GREASE DUCT TO BE REMOVED FROM KITCHEN HOOD CONNECTION TO ROOF MOUNTED FAN BY M.C..
3. EXISTING 48"x18" OUTDOOR AIR DUCT FROM WALL MOUNTED GRILLE TO BE DEMOLISHED BACK TO UNIT.
4. EXISTING WALL MOUNTED SUPPLY GRILLE TO BE REMOVED. WALL PATCHED PER ARCHITECTURAL DRAWINGS.
5. EXISTING CEILING SUPPLY OR RETURN DIFFUSER TO BE REMOVED AND SAVED FOR REINSTALLATION.
6. EXISTING CEILING MOUNTED EXHAUST GRILLE AND DUCTWORK TO BE DEMOLISHED.
7. EXISTING CEILING MOUNTED CABINET UNIT HEATER SHALL BE DEMOLISHED AS PART OF THE "GEOTHERMAL HEAT PUMPS SYSTEM INSTALLATION" PROJECT. NOT INCLUDED IN THIS SCOPE.
8. EXISTING WALL MOUNTED CABINET UNIT HEATER SHALL BE DEMOLISHED AS PART OF THE "GEOTHERMAL HEAT PUMPS SYSTEM INSTALLATION" PROJECT. NOT INCLUDED IN THIS SCOPE.
9. EXISTING BOILER EXHAUST STACK SHALL BE DEMOLISHED AND ROOF PATCHED TO MATCH EXISTING AS PART OF THE "GEOTHERMAL HEAT PUMPS SYSTEM INSTALLATION" PROJECT. NOT INCLUDED IN THIS SCOPE.
10. EXISTING ROOF VENTILATOR AND DUCTWORK TO BE REMOVED, ROOF CURB TO BE CAPPED WATER TIGHT, AS PART OF THE "GEOTHERMAL HEAT PUMPS SYSTEM INSTALLATION" PROJECT. NOT INCLUDED IN THIS SCOPE.
11. EXISTING KITCHEN HOOD EXHAUST FAN TO BE REMOVED BY M.C.. ROOF CURB TO BE CAPPED WATER TIGHT.
12. EXISTING RESTROOM EXHAUST FAN TO BE REMOVED BY M.C.
13. DEMOLISH EXISTING NATURAL GAS LINE TO BELOW GRADE AND CAP. SAW CUTTING TO BE DONE BY OTHERS. COORDINATE WITH GENERAL CONTRACTOR.
14. REMOVAL OF EXISTING BOILER COLD WATER FEED SUPPLY AND HOT WATER HEATING SUPPLY LINES TO BE REMOVED AS PART OF"GEOTHERMAL HEAT PUMPS SYSTEM INSTALLATION" PROJECT. NOT INCLUDED IN THIS SCOPE.
15. EXISTING RECESSED WALL MOUNTED CABINET UNIT HEATER SHALL BE ABANDONED IN PLACE AS PART OF THE "GEOTHERMAL HEAT PUMPS SYSTEM INSTALLATION" PROJECT. NOT INCLUDED IN THIS SCOPE

NOTE TO CONTRACTOR:

THE ON-GOING CAMPUS WIDE GEOTHERMAL PROJECT IS SCHEDULES TO BE COMPLETED BY JULY 2025. THERE ARE SEVERAL NOTED MECHANICAL ITEMS, WITHIN THE KITCHEN AREA, THAT ARE SCHEDULED TO BE REMOVED "BY OTHERS" AS PART OF THE GEOTHERMAL WORK. THIS WORK IS CURRENTLY UNDER CONTRACT AND WILL BE COMPLETED IN CONJUNCTION WITH THIS PROJECT. THE SCHEDULED DATE FOR REMOVAL OF THOSE MECHANICAL ITEMS IS UNKNOWN AT THIS TIME. THE OWNER HAS MADE THE CONTRACTOR AWARE OF THIS PROJECT AND FULL COOPERATION BETWEEN THE TWO ONGOING PROJECTS IS TO BE EXPECTED. ANY COORDINATION WILL BE HANDLED BY OWNER AND ARCHITECT DURING THE PRE-CONSTRUCTION MEETING AND AS NECESSARY, SO THAT THIS PROJECT CAN BE COMPLETED WITH NO INTERRUPTIONS.



ROOF PLAN – DEMOLITION
SCALE: 1/4" = 1'-0"



KEY PLAN
SCALE: NONE

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KITCHEN AND ROOF DEMOLITION PLANS

M2.01

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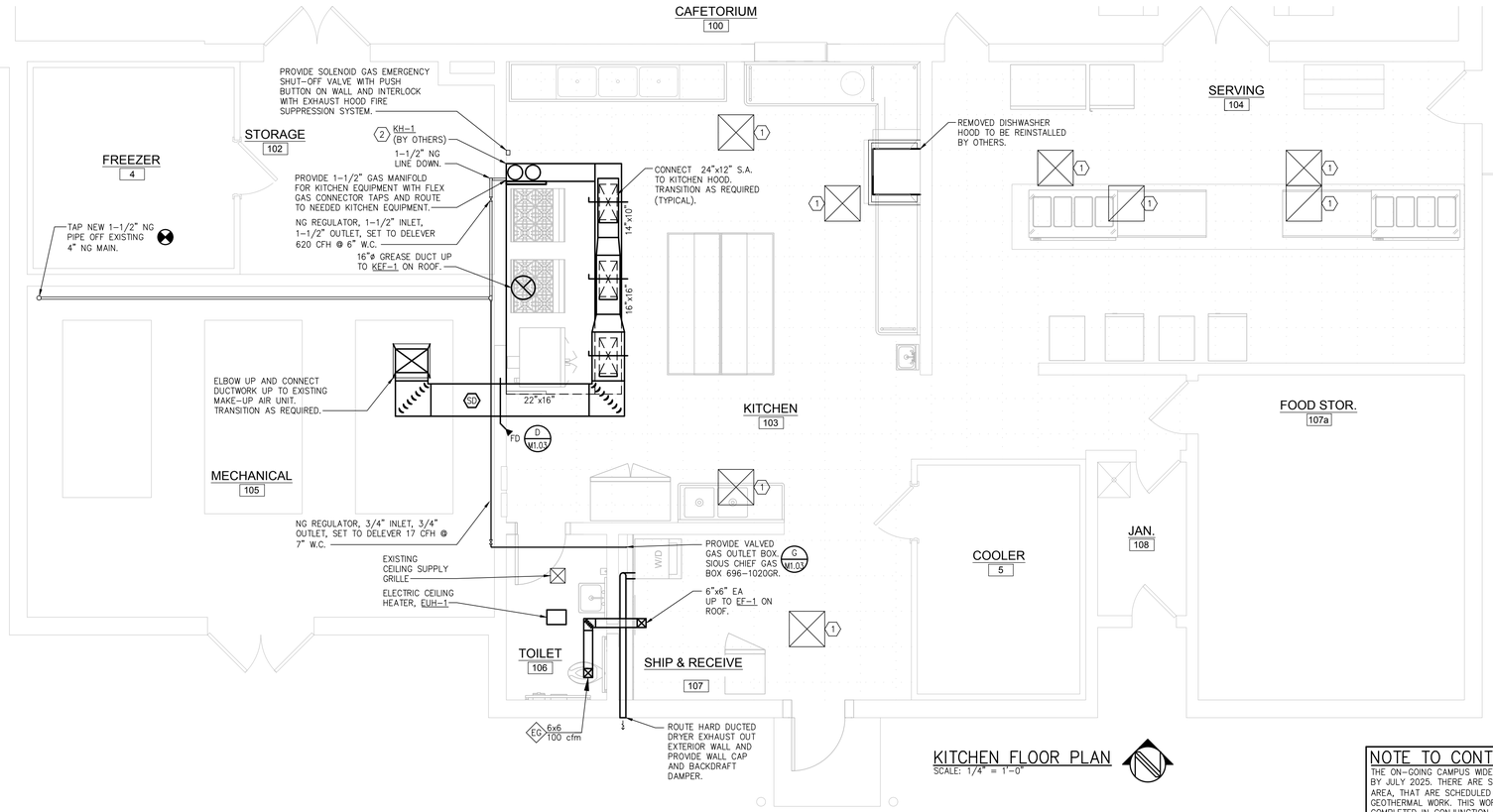


KITCHEN FLOOR PLAN
SCALE: 1/4" = 1'-0"

PLAN NOTES:

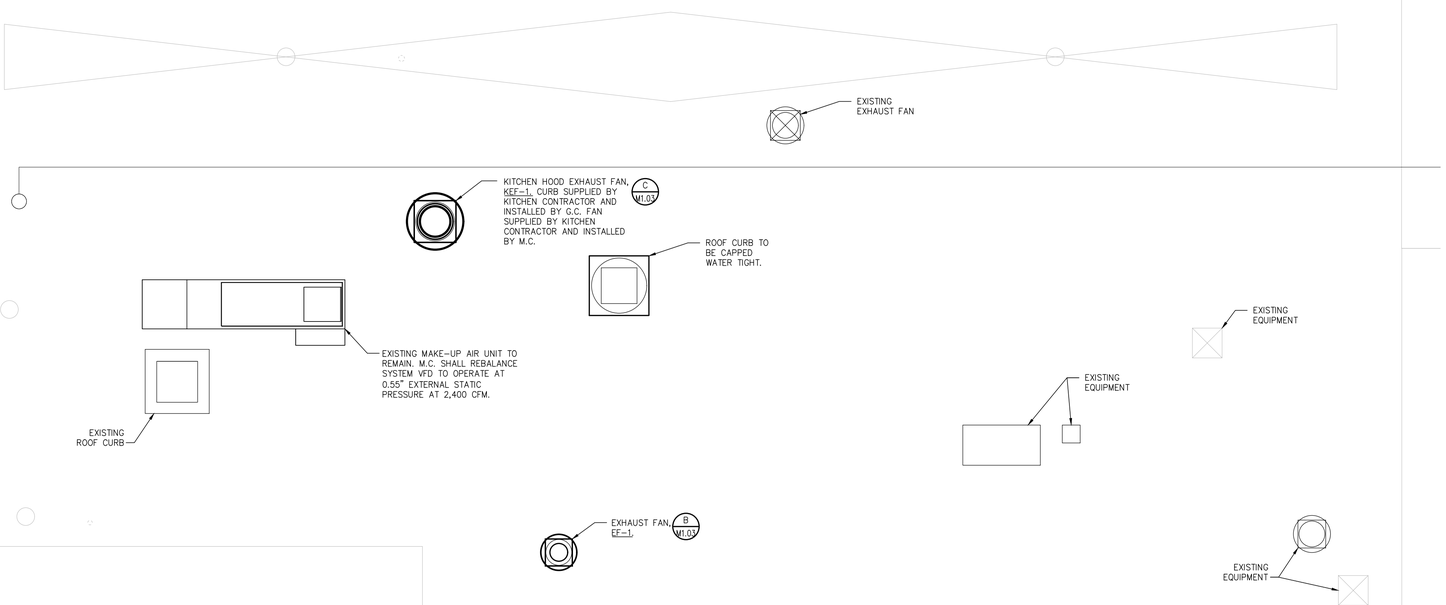
1. REINSTALL EXISTING SUPPLY OR RETURN CEILING DIFFUSER REMOVED DURING DEMOLITION PHASE AND RECONNECT TO EXISTING DUCTWORK AFTER NEW CEILING GRID HAS BEEN INSTALLED.
2. KITCHEN HOOD TO BE INSTALLED BY KITCHEN EQUIPMENT SUPPLIER. NOT IN SCOPE.

GENERAL NOTES:

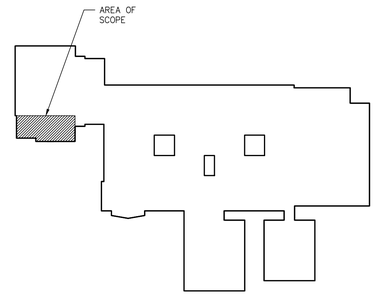
1. PRIOR TO DEMOLITION, CONTRACTOR SHALL MEASURE EXISTING AIRFLOW AT EACH AIR DEVICE. ONCE NEW INSTALLATION IS COMPLETE, REBALANCE AIR DEVICES TO EXISTING AIRFLOW.
2. PROVIDE FIRE DAMPERS AND ACCESS DOORS FOR ALL DUCTS PENETRATIONS FIRE RATED ASSEMBLIES. REFER TO DETAIL "D" ON DRAWING "M1.03" FOR ADDITIONAL REQUIREMENTS
3. ROOF CURBS SHALL BE FURNISHED BY THE KITCHEN CONTRACTOR AND INSTALLED BY THE ROOFING CONTRACTOR. REFER TO ARCHITECTURAL DRAWINGS FOR ROOF CONSTRUCTION.
4. PIPE PENETRATIONS THRU ALL FIRE RATED WALLS SHALL BE SEALED BY THE MECHANICAL CONTRACTOR, TO PREVENT SPREAD OF FIRE AND SMOKE AND INGRESS OF MOISTURE.
5. PROVIDE ALL HANGERS, SUPPORTS, AND MISCELLANEOUS STEEL REQUIRED FOR THE PROPER INSTALLATION OF ALL PIPE, DUCTWORK AND EQUIPMENT.
6. COORDINATE DUCTWORK, PIPING AND EQUIPMENT LOCATIONS WITH ALL OTHER TRADES.
7. ALL CEILING MOUNTED AIR DEVICES SHALL BE COMPATIBLE WITH CEILING TYPES SHOWN ON ARCHITECTURAL PLANS.
8. MAINTAIN REQUIRED MANUFACTURERS' CLEARANCES ON ALL EQUIPMENT.
9. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS AND DETAIL "A" ON DRAWING "M1.03".
10. CONTRACTOR SHALL VERIFY CLEARANCES ABOVE CEILING PRIOR TO FABRICATION OF DUCTWORK. COORDINATE EXACT LOCATION OF DUCTWORK WITH ELECTRICAL, PLUMBING, AND GENERAL CONTRACTORS.

NOTE TO CONTRACTOR:

THE ON-GOING CAMPUS WIDE GEOTHERMAL PROJECT IS SCHEDULES TO BE COMPLETED BY JULY 2025. THERE ARE SEVERAL NOTED MECHANICAL ITEMS, WITHIN THE KITCHEN AREA, THAT ARE SCHEDULED TO BE REMOVED "BY OTHERS" AS PART OF THE GEOTHERMAL WORK. THIS WORK IS CURRENTLY UNDER CONTRACT AND WILL BE COMPLETED IN CONJUNCTION WITH THIS PROJECT. THE SCHEDULED DATE FOR REMOVAL OF THOSE MECHANICAL ITEMS IS UNKNOWN AT THIS TIME. THE OWNER HAS MADE THE CONTRACTOR AWARE OF THIS PROJECT AND FULL COOPERATION BETWEEN THE TWO ONGOING PROJECTS IS TO BE EXPECTED. ANY COORDINATION WILL BE HANDLED BY OWNER AND ARCHITECT DURING THE PRE-CONSTRUCTION MEETING AND AS NECESSARY, SO THAT THIS PROJECT CAN BE COMPLETED WITH NO INTERRUPTIONS.



ROOF PLAN
SCALE: 1/4" = 1'-0"



KEY PLAN
SCALE: NONE

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PLUMBING SPECIFICATIONS

PART 1 GENERAL

1.01 PURPOSE
THESE OUTLINE SPECIFICATIONS ARE NOT INTENDED TO COVER ALL NECESSARY ITEMS, BUT TO SERVE AS A GUIDE TO FURNISH AND INSTALL A COMPLETE PLUMBING SYSTEM AS DESCRIBED HEREIN.

1.02 SCOPE OF WORK
FURNISH AND INSTALL THE PLUMBING SYSTEMS AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN. THIS SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING.

A. EXCAVATION AND BACKFILL REQUIRED FOR THE INSTALLATION OF THE PLUMBING SYSTEMS.
B. COORDINATE CUTTING AND PATCHING REQUIRED FOR THE INSTALLATION OF THE PLUMBING SYSTEMS WITH GENERAL CONTRACTOR.
C. REMOVALS AS REQUIRED AND/OR AS INDICATED.
D. DOMESTIC WATER SYSTEM INCLUDING PIPING TO ALL FIXTURES OR EQUIPMENT, VALVES, ETC.
E. INSULATION FOR PIPING.
F. SANITARY WASTE AND VENT PIPING SYSTEM INCLUDING PIPING TO ALL FIXTURES OR EQUIPMENT.
G. KITCHEN GREASE INTERCEPTOR.
H. FIRE STOP INCLUDING SLEEVES THRU RATED WALLS AND FLOORS.
I. ALL VALVES, FITTINGS, HANGERS, SLEEVES, ESCUTCHEON PLATES, ANCHORS, GUIDES, ETC., REQUIRED FOR THE PLUMBING SYSTEM INSTALLATION.
J. CHLORINATION, TESTING, ADJUSTMENT AND CLEANING OF ALL SYSTEMS AND EQUIPMENT.
K. TEST THE SANITARY DRAIN AND VENT PIPING SYSTEM HYDROSTATICALLY AFTER INSTALLATION TO 10 FT. OF HEAD (4.3 PSI MAXIMUM). TESTING WITH COMPRESSED AIR OR GAS MAY RESULT IN INJURY OR DEATH.
L. INSTRUCTION OF OWNERS' PERSONNEL AND OPERATING MANUALS FOR ALL EQUIPMENT.
M. PERMITS, APPLICATIONS, TESTS AND ANY OTHER FEES RELATED TO THIS WORK.
N. HOUSEKEEPING PADS.

1.03 CONTRACT DRAWINGS
IN GENERAL, DRAWINGS ARE SCHEMATIC IN NATURE AND ARE INTENDED AS A GUIDE TO THE CONTRACTOR, BUT DO NOT NECESSARILY SHOW ALL DETAILS, OFFSETS, ETC. ALL DRAWINGS ARE TO BE THOROUGHLY INSPECTED. THE CONTRACTOR'S WORK SHALL CONFORM TO THE INFORMATION CONTAINED IN THIS SPECIFICATION AND/OR AS INDICATED IN THE LATEST REVISION OF THE DRAWINGS REFERRED TO THEREIN. THE CONTRACTOR SHALL CONSULT WITH THE ARCHITECT REGARDING ALL QUESTIONS ON WHICH HE MAY BE IN DOUBT BEFORE PROCEEDING WITH FABRICATION OF PARTS AFFECTED. THE CONTRACTOR SHALL PREPARE ALL ADDITIONAL DETAIL OR FIELD INSTALLATION DRAWINGS NECESSARY AT HIS OWN EXPENSE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS INDICATED ON THE ENGINEER'S LAYOUT DRAWINGS AND DETERMINE IF ANY CHANGES ARE REQUIRED IN PIPING RUNS, DRAINS, ETC., TO AVOID INTERFERENCE. MAJOR CHANGES SHALL NOT BE MADE WITHOUT THE APPROVAL OF THE ARCHITECT. WHILE THE DRAWINGS ARE TO BE ADHERED TO AS CLOSELY AS POSSIBLE, THE CONTRACTOR HAS THE RIGHT TO VARY THE RUN OF CONDUITS, PIPING AND/OR DUCTS DURING PROGRESS OF THE WORK AS MAY BE FOUND NECESSARY OR DESIRABLE TO AVOID INTERFERENCES. MAJOR REVISIONS SHALL BE VERIFIED WITH THE ARCHITECT.

1.04 VERIFICATION
BEFORE RUNNING ANY PIPING, ETC., WITHIN THE BUILDING, THIS CONTRACTOR SHALL ASSURE HIMSELF THAT THEY CAN BE INSTALLED AS CONTEMPLATED WITHOUT TRAPPING OR INTERFERING WITH COLUMNS, BEAMS, PIPING, FIXTURES, ETC. ANY NECESSARY MAJOR DEVIATION SHALL BE REFERRED TO THE ARCHITECT FOR ADJUSTMENT BEFORE LINES ARE RUN, AT NO INCREASE IN CONTRACT PRICE. OF NECESSITY, OPENINGS, SUPPORTING STEEL, FIELD-BUILT CURBS, SPACE REQUIREMENTS, ETC., WERE DESIGNED AROUND SPECIFIC PARAMETERS. WHEN THE CONTRACTOR DETERMINES THE MAKE OF EQUIPMENT TO BE PROVIDED FOR THE JOB, IT SHALL BE HIS RESPONSIBILITY TO VERIFY AND COORDINATE UNIT DIMENSIONS WITH THE GENERAL CONTRACTOR AND ALL OTHER INTERESTED CONTRACTORS ON THE JOB. IT SHALL ALSO BECOME THE CONTRACTOR'S RESPONSIBILITY TO CHANGE AS NECESSARY, THROUGH THE ARCHITECT, ALL REQUIRED DIMENSIONS SO THAT OPENINGS, SUPPORTING STEEL, CURBS, ELECTRICAL DATA, ETC., WILL FIT THE EQUIPMENT SUPPLIED. ANY ADDITIONAL COST WILL BE THE SOLE RESPONSIBILITY OF THIS CONTRACTOR. IN ADDITION, ELECTRICAL POWER, INTERLOCK AND CONTROL DIAGRAMS AND PIPING ARRANGEMENTS WERE DESIGNED AROUND ONE SPECIFIC MANUFACTURER. IF ADDITIONAL WIRING, PIPING CONTROLS, ETC., IS REQUIRED FOR OTHER EQUIPMENT, THIS CONTRACTOR SHALL INCLUDE THE COST OF THE SAME IN HIS PRICE. DIMENSIONS, ELEVATIONS AND RELATIVE LOCATIONS OF EXISTING EQUIPMENT, SEWERS, PIPES, DUCTS, CONDUITS, ETC., IN PLACE AS SHOWN ON THE DRAWINGS, ARE TAKEN FROM AS-BUILT AND RECORD DRAWINGS AND ARE DEEMED RELIABLE ONLY INSOFAR AS GENERAL LAYOUT IS CONCERNED. SUCH DIMENSIONS SHALL NOT BE USED FOR LAYOUT DRAWINGS OR DETAILING OF COMPONENTS. THE RESPONSIBILITY FOR CHECKING IN PLACE ITEMS WILL BE THE CONTRACTORS. ALL MEASUREMENTS, THE EXACT DETERMINATION OF RELATIVE ELEVATIONS OR LOCATIONS, THE ASCERTAINING OF ACCURACY OF ALL GIVEN ELEVATIONS AND DIMENSIONS AND THE OBTAINING OF ALL NECESSARY ADDITIONAL INFORMATION TO INSURE THE PROPER FIT AND COORDINATION OF ALL CONDUIT EQUIPMENT, DUCTS, AND PIPING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

1.05 SITE VISIT
ALL CONTRACTORS BIDDING THE WORK INDICATED THROUGHOUT THESE CONTRACT DOCUMENTS ARE REQUIRED TO VISIT, AND THOROUGHLY EXAMINE THE PROJECT SITE AND ITS ASSOCIATED CONDITIONS. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS UNDER WHICH THIS WORK MUST BE PERFORMED. ALL CONTRACTORS SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO SUBMITTING A BID PROPOSAL. FAILURE TO DO SO SHALL BE DEEMED AS ACCEPTANCE OF EXISTING CONDITIONS. NO ADDITIONAL COMPENSATION WILL BE CONSIDERED FOR ANY DEVIATIONS OR DISCREPANCIES TO THESE PLANS AFTER A CONTRACTOR HAS BEEN SELECTED.

1.06 GUARANTEE
THE CONTRACTOR GUARANTEES BY HIS ACCEPTANCE OF THE CONTRACT THAT ALL WORK WILL BE FREE FROM DEFECTS IN WORKMANSHIP AND/OR MATERIALS AND THAT ALL APPARATUS WILL DEVELOP CAPACITIES AND CHARACTERISTICS SPECIFIED. SHOULD ANY DEFECTS IN WORKMANSHIP, AND/OR MATERIALS REQUIRE REDESIGN OF ANY PART OF THE ELECTRICAL, MECHANICAL, PLUMBING, OR ARCHITECTURAL LAYOUT, ALL SUCH REDESIGN AND ALL NEW DRAWINGS AND DETAILING REQUIRED HEREOF SHALL, WITH THE APPROVAL OF THE ARCHITECT, BE PREPARED BY THE CONTRACTOR AT HIS OWN EXPENSE. WHERE SUCH APPROVED DEVIATION REQUIRES A DIFFERENT QUALITY AND ARRANGEMENT OF DUCTWORK, PIPING, WIRING, CONDUIT AND/OR EQUIPMENT FROM THAT SPECIFIED OF DETAILED ON THE DRAWINGS WITH THAT APPROVAL OF THE ARCHITECT, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL SUCH MATERIAL AND/OR EQUIPMENT REQUIRED BY THE SYSTEM AT NO ADDITIONAL COST TO THE OWNER.

1.07 SUBMITTALS
AFTER RECEIVING APPROVAL OF EQUIPMENT MANUFACTURERS AND PRIOR TO DELIVERY OF ANY MATERIAL TO JOB SITE AND SUFFICIENTLY IN ADVANCE OF THE REQUIREMENTS TO ALLOW ARCHITECT AMPLE TIME FOR CHECKING, SUBMIT FOR REVIEW DETAILED DIMENSIONED DRAWINGS AND/OR EQUIPMENT CUT SHEETS SHOWING CONSTRUCTION SIZE, ARRANGEMENT, OPERATING CLEARANCES, PERFORMANCE CHARACTERISTICS AND CAPACITY OF MATERIAL AND EQUIPMENT. SHOP DRAWINGS SHALL SHOW THE RATINGS OF ITEMS AND SYSTEMS AND HOW THE COMPONENTS OF AN ITEM AND SYSTEM ARE ASSEMBLED, FUNCTION TOGETHER AND HOW THEY WILL BE INSTALLED ON THE PROJECT. DATA AND SHOP DRAWINGS FOR COMPONENT PARTS OF AN ITEM OR SYSTEM SHALL BE COORDINATED AND SUBMITTED AS A UNIT. IT IS THE INTENT OF THESE CONTRACT DRAWINGS TO HAVE THE MECHANICAL CONTRACTOR PREPARE "AS-BUILT" RECORD DRAWINGS IN ACCORDANCE WITH THESE CONTRACT DOCUMENTS.

1.08 CUTTING, PATCHING & FINISHING
PROVIDE CUTTING AND PATCHING OF ALL MATERIALS NECESSARY FOR THE INSTALLATION AS INDICATED OR SPECIFIED. NEATLY REMOVE AND LEGALLY DISPOSE OF PLUMBING COMPONENTS AND ITEMS NO LONGER IN USE. PROTECT THE STRUCTURE, FURNISHINGS, FINISHES AND MATERIALS ADJACENT TO THE AREA OF CUTTING AND PATCHING. PATCH EXISTING FINISHED SURFACES AND EQUIPMENT USING NEW MATERIALS AND METHODS, TO MATCH ADJACENT WORK, UTILIZING EXPERIENCED INSTALLERS. PATCHING OF FIRE RATED PARTITIONS, CEILINGS AND OTHER ASSEMBLIES, SHALL MATCH THE RATING OF THE RATED BARRIER WITH MATERIALS LISTED AND IDENTIFIED FOR SUCH USE, AND SHALL COMPLY WITH APPLICABLE REQUIREMENTS OF THE GENERAL TRADES SPECIFICATIONS. IN AREAS WHERE NEW FINISH WORK BY THE GENERAL CONTRACTOR IS NOT INCLUDED IN THE PROJECT, THIS CONTRACTOR SHALL REPAIR AND/OR RESTORE FINISHES TO MATCH ADJACENT FINISHES. OPENINGS AROUND PIPING OR IN SLEEVES FOR PIPING PENETRATING FIRE-RATED FLOOR SLABS, WALLS, PARTITIONS, CEILINGS, OR SMOKE PARTITIONS, SHALL BE SEALED AT BOTH SIDES OF THE PENETRATION. INSULATION SHALL NOT EXTEND THROUGH SLEEVES. PACK OPENINGS WITH CALCIUM SILICATE BLOCK, DOW CORNING 3-6548 RTV SILICON FOAM, 3M CP25 CAULK, OR 303 PUTTY FIRE BARRIER SYSTEM OR MATERIAL HAVING THE SAME FIRE RATING AS THE FLOOR OR WALL PENETRATED. FIBERGLASS IS NOT ACCEPTABLE.

1.09 CONNECTIONS TO EXISTING WORK
PLAN THE INSTALLATION OF NEW WORK AND CONNECTIONS TO EXISTING WORK TO ENSURE MINIMUM INTERFERENCE WITH THE REGULAR OPERATION OF THE EXISTING FACILITIES. SUBMIT TO THE ARCHITECT, FOR HIS APPROVAL, A PROGRESS SCHEDULE INDICATING ALL NECESSARY TEMPORARY SHUTDOWNS OF EXISTING SERVICES. ALL SHUTDOWNS SHALL BE MADE AT SUCH TIMES AS WILL NOT INTERFERE WITH REGULAR OPERATION OF THE EXISTING FACILITIES AND ONLY AFTER WRITTEN APPROVAL FROM THE ARCHITECT.

1.10 NEW WORK
UNLESS OTHERWISE NOTED, ALL WORK INDICATED THROUGHOUT THESE DRAWINGS SHALL BE CONSIDERED TO BE NEW WORK AND SHALL BE INCLUDED AS AN INTEGRAL PART OF THIS CONTRACT.

1.11 CLOSE-OUT
CONTRACTOR SHALL PROVIDE FIELD-TESTING, CHECKOUT AND SYSTEM DEMONSTRATIONS TO OWNER TO ASSURE PROPER PERFORMANCE AND ADJUSTMENT OF ITEMS PROVIDED UNDER THE CONTRACT. REMOVE ALL DEBRIS CREATED BY THE CONSTRUCTION WORK AND CLEAN ALL EQUIPMENT, AIR DEVICES, ETC., INSIDE AND OUTSIDE. PROVIDE HARDBOUND BINDER WHICH INCLUDES: COPIES OF EACH SHOP DRAWING, PREVENTATIVE MAINTENANCE PROCEDURES, OPERATION AND INSTRUCTION MANUALS, LITERATURE SUPPLIED WITH PLUMBING EQUIPMENT, AND A LIST OF ALL CONTRACTOR'S PURCHASE ORDERS WITH SUPPLIERS, NAMES, ADDRESSES AND PHONE NUMBERS, FOR ALL MATERIALS. PROVIDE AT LEAST 2 HOURS OF INSTRUCTION TO PERSONNEL SELECTED BY THE OWNER, TO FAMILIARIZE THEM WITH THE LOCATION OF SIGNIFICANT EQUIPMENT, TRAIN THEM ON EQUIPMENT FUNCTIONS, REVIEW MAINTENANCE PROCEDURES AND COORDINATE INFORMATION AVAILABLE IN THE CLOSE-OUT BINDER.

1.12 REFERENCED STANDARDS
2021 MICHIGAN PLUMBING CODE
2021 MICHIGAN BUILDING CODE
2015 MICHIGAN ENERGY CODE

PART 2 PRODUCTS

2.01 GENERAL
THE MANUFACTURERS REFERENCED THROUGHOUT THIS OUTLINE SPECIFICATION ARE INCLUDED AS A BASIS OF DESIGN. SUBMISSION OF ALTERNATE MANUFACTURERS OF SIMILAR EQUIPMENT IS SUBJECT TO ENGINEER APPROVAL. UNITS OF EQUIPMENT, OTHER THAN THOSE LISTED AS THE BASIS OF DESIGN, MUST BE PROVEN TO BE PHYSICALLY ACCEPTABLE, IN ADDITION TO MEETING ALL PERFORMANCE AND EQUIPMENT SPECIFICATIONS. LIABILITY OF NON-CONFORMANCE SHALL LIE WITH THE CONTRACTOR/SUBMITTER.

2.02 PIPING
A. SANITARY WASTE – INSIDE BUILDING UNDERGROUND

1. ASPHALT-COATED SERVICE WEIGHT CAST IRON, HUB AND SPIGOT WITH NEOPRENE RUBBER GASKET. PIPE SHALL CONFORM TO ASTM A74 AND C564. ALL PIPE AND FITTINGS SHALL BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE AND LISTED BY NSF INTERNATIONAL.
2. PVC PLASTIC PIPE, SCHEDULE 40 DWV WITH SOLVENT WELDED SOCKET JOINTS. PIPE SHALL CONFORM TO ASTM D2665, D2564, D3311. (PLASTIC PVC SHALL NOT BE USED IN AREAS WHERE DISCHARGE TEMPERATURES ARE EXPECTED TO EXCEED 140F).

B. SANITARY WASTE & VENT – INSIDE BUILDING ABOVEGROUND

1. ASPHALT-COATED SERVICE WEIGHT CAST IRON, HUBLESS END. JOINTS "CLAMP-ALL" #80. PIPE SHALL CONFORM TO ASTM A888 AND CISPI STANDARD 301. ALL PIPE AND FITTINGS SHALL BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE AND LISTED BY NSF INTERNATIONAL. HUBLESS COUPLINGS SHALL CONFORM TO CISPI STANDARD 310 FOR STANDARD COUPLINGS OR ASTM C1540 FOR SUPER DUTY OR HEAVY DUTY COUPLINGS. GASKETS SHALL CONFORM TO ASTM C564.
2. PVC PLASTIC PIPE, SCHEDULE 40 DWV WITH SOLVENT WELDED SOCKET JOINTS. PIPE SHALL CONFORM TO ASTM D2665, D2564. (NOT PERMITTED IN RETURN AIR PLENUMS).

C. DOMESTIC WATER – INSIDE BUILDING ABOVEGROUND

1. 2" AND SMALLER: CROSS-LINKED POLYETHELENE (PEX-A) TUBING AND ASTM F1960 COLD EXPANSION FITTINGS. THE USE OF PEX-B OR PEX-C IS NOT PERMISSIBLE.
2. 3" AND SMALLER: TYPE "L" HARD TEMPER COPPER:
   a. WITH LEAD-FREE SOLDERED JOINTS AND WROUGHT STANDARD WEIGHT PRESSURE RATED FITTINGS.
   b. WITH COPPER PRESS FITTINGS, WHICH SHALL CONFORM TO THE MATERIAL AND SIZING REQUIREMENTS OF ASME B16.18 OR ASME B16.22. O-RINGS FOR COPPER PRESS FITTINGS SHALL BE EPDM.

2.03 VALVES
A. DOMESTIC WATER PIPING

1. BALL: 125 PSI, LEAD-FREE BRONZE BODY, TEFLON TRIM, 2-PIECE, FULL PORT, APOLLO #77CLF-A WITH EXTENDED HANDLE SLEEVE FOR INSULATION.
2. CHECK: 125 PSI, LEAD-FREE BRONZE BODY AND TRIM, APOLLO #161T-LF.

B. APPROVED MANUFACTURERS

1. WATTS, APOLLO, CRANE, GRINNELL, NORDSTROM, NIBCO, STOCKHAM, SMITH, MILWAUKEE.

2.04 PLUMBING SPECIALTIES
A. WATER HAMMER ARRESTER (WHA)

1. WATER HAMMER ARRESTER SHALL BE OF LEAD FREE CONSTRUCTION AND SHALL BE EQUIVALENT TO WATTS #LF15M2. SIZE TO CORRESPOND WITH PLUMBING AND DRAINAGE INSTITUTE STANDARD PDI – WH201 AND ASSE #1010 STANDARD.
2. APPROVED MANUFACTURERS: PRECISION PLUMBING PRODUCTS, ZURN, WATTS, WADE.

2.05 PLUMBING FIXTURES
A. GENERAL: THE CONTRACTOR SHALL FURNISH, INSTALL, AND CONNECT ALL PLUMBING FIXTURES, SPECIALTIES AND TRIM AS SHOWN ON THE DRAWINGS AND AS HEREINAFTER DESCRIBED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION, ROUGH-IN DIMENSIONS, MOUNTING HEIGHTS, ETC., OF FIXTURES WITH THE PLUMBING DRAWINGS, ARCHITECTURAL DRAWINGS AND THE MANUFACTURER'S SPECIFICATIONS.

B. ACCESSORIES AND TRIM: PLUMBING FIXTURES SHALL BE COMPLETE, WITH ALL REQUIRED TRIM, INCLUDING FAUCETS, WASTE PLUGS, TRAPS, SUPPLIES, STOP VALVES, ESCUTCHEONS, BOLT CAPS AND ALL NECESSARY HANGERS, CARRIERS, PLATES, BRACKETS, ANCHORS AND SUPPORTS.

C. FIXTURE SETTING: FIXTURES SHALL BE SET IN A NEAT, FINISHED, AND UNIFORM MANNER. MAKE THE CONNECTIONS TO ALL FIXTURES AT RIGHT ANGLES TO THE WALL, UNLESS OTHERWISE DIRECTED.

D. TRAPS: ALL FIXTURES REQUIRING TRAPS SHALL BE FURNISHED WITH HEAVY-DUTY CHROME PLATED CAST BRASS TRAPS, TAILPIECES AND TUBING DRAINS.

E. STOPS AND RISERS: ALL FIXTURES SHALL BE FURNISHED WITH HEAVY-DUTY COMMERCIAL GRADE SUPPLY STOPS, LOOSE KEY TYPE WITH CHROME PLATED FLEXIBLE RISERS.

F. FIXTURE SCHEDULE: REFER TO THE FIXTURE SCHEDULE ON DRAWINGS FOR ADDITIONAL REQUIREMENTS.

G. APPROVED MANUFACTURERS:

1. LAVATORIES; ZURN, KOHLER, AMERICAN STANDARD, CRANE
2. FAUCETS; ZURN, KOHLER, CHICAGO, AMERICAN STANDARD, CRANE, ELKAY, DELTA, MOEN, SPEAKMAN, ENCORE by CHG
3. MIXING VALVES; LAWLER, BRADLEY, POWERS, LEONARD, WATTS
4. CLEANOUTS; ZURN, J.R. SMITH, MIFAB

2.06 PIPE INSULATION
A. GENERAL:

1. ALL INSULATION, UNLESS OTHERWISE NOTED, SHALL HAVE A COMPOSITE RATING INCLUDING INSULATION ADHESIVES, JACKET, ETC., AS FOLLOWS. THE COMPOSITE ASSEMBLY SHALL HAVE A FLAME SPREAD RATING NOT OVER 25 AND A SMOKE DEVELOPED RATING NOT HIGHER THAN 50.
2. INSULATION SHALL BE MANUFACTURED BY OWENS-CORNING, KNAUF OR ARMSTRONG AND THERMALLY EQUIVALENT TO THE OWENS-CORNING MATERIALS SPECIFIED.
3. THE PIPING INSTALLATION MATERIAL SHALL BE AN UL-RATED, NON-COMBUSTIBLE PIPE INSULATION RECOMMENDED FOR BOTH HOT AND COLD PIPING. INSULATION SHALL BE HEAVY DENSITY SECTIONAL PIPE INSULATION JACKETED WITH AN EMBOSSED VAPOR BARRIER LAMINATED ALL-SERVICE JACKET WITH SELF-SEALING LAP ADHESIVE. LAP AND SEAL ALL JOINTS TO INSURE VAPOR BARRIER. THERMAL CONDUCTIVITY (K) SHALL NOT EXCEED 0.24 BTUH SQUARE FOOT F°/INCH. INSULATION SHALL EQUAL OWENS-CORNING FIBERGLASS 25 ASJ/SSL. THICKNESS AS PER TABLES IN OTHER SECTIONS OF THESE SPECIFICATIONS. IF STAPLES ARE USED ON COLD WATER LINES, APPLY WHITE VAPOR BARRIER MASTIC OVER STAPLES. AT HANGERS, PROVIDE GALVANIZED SHIELD EXTENDING 12" ON EACH SIDE OF HANGER.
4. WHERE FIBERGLASS INSULATION ON PIPING IS USED, PIPE FITTINGS SHALL BE COVERED WITH INSULATING CEMENT OF A THICKNESS EQUAL TO ADJACENT PIPE INSULATION AND WRAPPED WITH GLASS CLOTH.
5. IN LIEU OF BUILDING UP A FITTING WITH INSULATING CEMENT, A PREFORMED INSULATING FITTING COVER SUCH AS ZESTON 25/50 RATED PVC INSULATED FITTING COVER WITH FIBERGLASS INSERT MAY BE USED. ONLY INSULATING MATERIALS MEETING THE 25/50 FLAME SPREAD AND SMOKE DEVELOPED RATINGS ARE ALLOWABLE IN AIR DUCTS, AIR CHASES OR AIR PLENUMS.

B. PIPING INSULATION THICKNESS

1. DOMESTIC COLD WATER:
   a. 1-1/4" AND BELOW – 1/2" THICK.
   b. 1-1/2" AND ABOVE – 1" THICK.
2. DOMESTIC HOT WATER AND RECIRCULATION:
   a. 1-1/4" AND BELOW – 1" THICK
   b. 1-1/2" AND ABOVE – 1-1/2" THICK.

C. ALL LAVATORIES: EXPOSED PIPING SUCH AS P-TRAPS, HOT AND COLD WATER SUPPLIES AND STOP VALVES SHALL BE PROVIDED WITH A PRE-FABRICATED INSULATION KIT HAVING A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPED INDEX OF NOT MORE THAN 450 (CLASS A MATERIAL) WHEN TESTED IN ACCORDANCE WITH ASTM E-84. SIMILAR TO PLUMBEREX TRAP-GEAR.

2.07 IDENTIFICATION:
A. EQUIPMENT: ENGRAVED, COLOR-CODED LAMINATED PLASTIC. INCLUDE CONTACT-TYPE, PERMANENT ADHESIVE. TAGS SHALL BE ADHERED SECURELY AND APPROPRIATELY TO EQUIPMENT AND BE ABLE TO STAY ADHERED DURING ALL CLIMATE CHANGES.
1. SIZE: 4-1/2" HIGH, WITH 1" TALL LETTERING.
2. TERMINOLOGY: MATCH SPECIFICATIONS AS CLOSELY AS POSSIBLE.
3. EQUIPMENT: ALL MAJOR PLUMBING EQUIPMENT (WATER HEATERS, STORAGE TANKS, ETC.) SHALL BE TAGGED.

B. PIPING:
1. INTERIOR INSTALLED PIPING: STENCILED MARKERS, SHOWING SERVICE AND DIRECTION OF FLOW ON ALL PIPE MAINS.
2. LETTER SIZE: 1" HIGH LETTERS.
3. COLOR CODES: COMPLY WITH ASME A13.1, UNLESS OTHERWISE INDICATED.
4. LOCATIONS: LOCATE MARKERS AND COLOR BANDS WHERE PIPING IS EXPOSED IN FINISHED SPACES; MACHINE ROOMS; ACCESSIBLE MAINTENANCE SPACES SUCH AS SHAFTS, TUNNELS, AND PLENUMS; AND OWNER-APPROVED NON CONCEALED LOCATIONS. LOCATE MARKERS WHERE PIPES ENTER INTO CONCEALED SPACES AND AT A MAXIMUM INTERVALS OF 50 FEET IN EACH SPACE WHERE PIPES ARE EXPOSED OR CONCEALED BY REMOVABLE CEILING SYSTEM.

PART 3 EXECUTION
A. ALL EQUIPMENT INSTALLATION PROCEDURES SHALL BE BASED ON FUNDAMENTAL ENGINEERING AND CONSTRUCTION PRINCIPLES IN CONFORMANCE WITH ALL APPLICABLE CODES, STANDARDS AND ORDINANCES.
B. THE PLUMBING CONTRACTOR SHALL INSTALL ALL PLUMBING EQUIPMENT IN CONFORMANCE WITH MANUFACTURER ISSUED INSTRUCTIONS AND RECOMMENDATIONS.
C. THE PLUMBING CONTRACTOR SHALL NOT KNOWINGLY INSTALL WORK THAT IS IN ERROR.
D. PROVIDE ONE (1) YEAR WARRANTY ON ALL LABOR AND MATERIALS UNLESS NOTED OTHERWISE.
E. THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS AND FEES REQUIRED FOR HIS WORK.
F. THE PLUMBING CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS OF HIS COMPLETED WORK.
G. THE SYSTEMS REPRESENTED IN THESE CONTRACT DOCUMENTS HAVE THE INTENT OF PROVIDING ENERGY-EFFICIENT, SAFETY AND COMFORT FOR THE PROPOSED FACILITY.
H. THE PLUMBING CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES ON THE PROJECT.
I. ALL MATERIALS AND EQUIPMENT INSTALLED SHALL FULLY COMPLY WITH THE SAFE DRINKING WATER ACT OF 1974, INCLUDING PUBLIC LAW 111-380, COMMONLY REFERRED TO AS THE "NO LEAD LAW".
J. PROCEDURES FOR FLUSHING AND DISINFECTION
   1. PROCEDURES SHALL MEET THE REQUIREMENTS OF AWWA C651 AND C652 AS WELL AS ALL APPLICABLE LOCAL REGULATIONS.
   2. DISINFECTION AND FLUSHING SHALL BE COMPLETED WITHIN THREE WEEKS PRIOR TO WHOLE OR PARTIAL BENEFICIAL OCCUPANCY. IF BENEFICIAL OCCUPANCY OF ANY PART OF THE BUILDING IS DELAYED MORE THAN TWO WEEKS BUT LESS THAN FOUR WEEKS AFTER DISINFECTION, FLUSHING OF ALL FIXTURES SHALL AGAIN BE COMPLETED. IF BENEFICIAL OCCUPANCY OF ANY PART OF THE BUILDING IS DELAYED FOUR WEEKS OR MORE AFTER DISINFECTION, THE NEED FOR DISINFECTION AND FLUSHING SHALL BE DETERMINED BY A RISK ASSESSMENT CONDUCTED BY THE WATER PROGRAM TEAM / OWNER.
   3. CONFIRMATION THAT THE BUILDING WATER SYSTEM PERFORMANCE MEETS DESIGN PERFORMANCE PARAMETERS INDICATED IN THE CONTRACT DOCUMENTS.
L. COORDINATE ALL PIPING TO AVOID REQUIRED OVERHEAD CLEARANCES PERTAINING TO ELECTRICAL PANELS AND EQUIPMENT.
M. PIPING SHALL BE SUPPORTED AT THE FOLLOWING MAXIMUM INTERVAL SPACING:

MATERIAL	HORIZONTAL (FT.)	VERTICAL (FT.)
CAST IRON	5	15
CAST IRON (10 FT. LENGTHS)	10	15
COPPER PIPE	12	10
PEX	2.67	10
PVC	4	10

PLUMBING FIXTURE SCHEDULE

DESCRIPTION	SYMBOL		CW	HW	WASTE	VENT	SPECIFICATIONS
WATER CLOSET FLOOR SET-FLUSH VALVE ADA		WC-1	1-1/2"	---	4"	2"	ZURN #Z5665-BWL, WHITE VITREOUS CHINA, SIPHON JET, 16-3/4" HIGH ELONGATED BOWL, 1.6 GALLON FLUSH AND 1-1/2" BRASS TOP SPUD. SEAT; ZURN #Z5955SS-EL. FLUSH VALVE; ZURN #Z6000AV-WS1 WITH VACUUM BREAKER AND FLUSH HANDLE TOWARDS THE OPEN SIDE OF THE ROOM. WATER HAMMER ARRESTOR, SIZE PDI 'A'.
LAVATORY-WALL HUNG ADA		LAV-1	1/2"	1/2"	1-1/2"	1-1/2"	ZURN #Z5344, WHITE VITREOUS CHINA, 20"x18" WALL HUNG LAVATORY WITH 4" FAUCET CENTERS AND DRILLED FOR CONCEALED ARM CARRIER. CARRIER; ZURN #Z1231. FAUCET; ZURN #Z81000-XL-3M, SINGLE LEVER, 0.5 GPM AERATOR. THERMOSTATIC MIXING VALVE; CALEFFI #5212 (ASSE 1070). STRAINER; ZURN #Z8743-PC GRID STRAINER. TRAP; ZURN #8700 SERIES CHROME PLATED CAST BODY 'P' TRAP w/TUBULAR WALL BEND & ESCUTCHEON. SUPPLIES; ZURN #ZH8824, SOLID BRASS ANGLE STOPS w/LOOSE KEYS. INSULATE ALL PIPING BELOW SINK WITH ZURN #Z8946-1-NT.
CLOTHES WASHER DRAIN BOX		CWDB-1	1/2"	1/2"	2"	1-1/2"	SIOUX CHIEF #688 CLASSICBOX, WHITE ABS HOUSING, WITH 1/2" HOT AND COLD TOP WATER SUPPLY INLETS, QUARTER-TURN VALVES WITH STAINLESS-STEEL WATER HAMMER ARRESTORS, 3/4" MALE HOSE CONNECTIONS, 2" DRAIN BOTTOM DRAIN OUTLET AND GALVANIZED STEEL MOUNTING BRACKET.
WALL CLEANOUT		WCO	---	---	REFER TO DWGS	---	ZURN #ZN1446-VP, CLEANOUT TEE, DURA-COATED CAST IRON BODY, GAS AND WATER TIGHT ABS TAPERED THREAD PLUG AND ROUND, SMOOTH STAINLESS STEEL WALL ACCESS COVER WITH SECURING SCREW.

KITCHEN EQUIPMENT CONNECTION SCHEDULE

(KITCHEN EQUIPMENT FURNISHED BY OTHERS AND INSTALLED BY PLUMBING CONTRACTOR.)

ITEM	DESCRIPTION	IW	WASTE	CW	HW	SPECIFICATIONS & REMARKS
2	EXISTING 3-COMPARTMENT SINK	(3) 1-1/2"	--	(2) 1/2"	(2) 1/2"	EXISTING SINK SHALL BE DISCONNECTED AND TEMPORARILY REMOVED DURING GENERAL TRADES CONSTRUCTION. SINK SHALL BE REINSTALLED IN ORIGINAL LOCATION WITH NEW DRAINS AND SUPPLY STOPS FOR EACH FAUCET.
3	EXISTING DISHWASHER	1-1/2"	--	--	1/2"	EXISTING DISHWASHER SHALL BE DISCONNECTED AND TEMPORARILY REMOVED DURING GENERAL TRADES CONSTRUCTION. DISHWASHER SHALL BE REINSTALLED IN ORIGINAL LOCATION WITH NEW DRAIN AND SUPPLY STOP.
4	STAINLESS STEEL DISH TABLE WITH PRE-RINSE SINK AND DISPOSER	--	1-1/2"	1/2"	(2) 1/2"	EXISTING DISPOSER SHALL BE DISCONNECTED AND TEMPORARILY REMOVED DURING GENERAL TRADES CONSTRUCTION. DISPOSER SHALL BE REINSTALLED IN APPROXIMATELY THE SAME ORIGINAL LOCATION. PROVIDE NEW SUPPLY STOPS FOR SINK FAUCET. PROVIDE NEW DIRECT DRAIN CONNECTION AND ABOVE-COUNTER VACUUM BREAKER FOR THE DISPOSER WATER CONNECTION.
6	WALL-HUNG, STAINLESS STEEL HAND SINK	--	1-1/2"	1/2"	1/2"	NEW EQUIPMENT IS LOCATED IN SAME LOCATION AS EXISTING SAME TYPE OF EQUIPMENT. PROVIDE NEW SUPPLY STOPS FOR SINK FAUCET, NEW DRAIN PIPING AND NEW UNDER-SINK ADA PIPE COVERS.
11	2-COMPARTMENT SINK	(2) 1-1/2"	--	1/2"	1/2"	NEW EQUIPMENT IS LOCATED IN SAME LOCATION AS EXISTING SAME TYPE OF EQUIPMENT. PROVIDE NEW SUPPLY STOPS FOR SINK FAUCET AND NEW DRAIN PIPING.
12	CLOTHES WASHER/DRYER STACKED LAUNDRY CENTER	--	2"	1/2"	1/2"	PROVIDE (2) FLEXIBLE BRAIDED STAINLESS STEEL WATER SUPPLY LINES. CONNECT CLOTHES WASHER SUPPLY AND DRAIN PIPING TO CLOTHES WASHER DRAIN BOX CWDB-1.

PLUMBING LEGEND

SYMBOL	DESCRIPTION
	DOMESTIC COLD WATER PIPING (CW)
	EXISTING DOMESTIC COLD WATER PIPING
	DOMESTIC HOT WATER PIPING (HW)
	EXISTING DOMESTIC HOT WATER PIPING
	DOMESTIC HOT WATER RETURN PIPING (HWR)
	EXISTING DOMESTIC HOT WATER RETURN PIPING
V	SANITARY VENT PIPING
V	EXISTING SANITARY VENT PIPING
SAN	SANITARY PIPING BELOW FLOOR
SAN	EXISTING SANITARY PIPING BELOW FLOOR
SAN	SANITARY PIPING ABOVE FLOOR
ST	STORM PIPING BELOW FLOOR
ST	STORM PIPING ABOVE FLOOR
CD	CONDENSATE DRAIN
CD	EXISTING CONDENSATE DRAIN
	FLOW DIRECTION
	PIPING DEMOLITION
FCO	FLOOR CLEANOUT
COTG	CLEANOUT TO GRADE
WCO	WALL CLEANOUT
A.F.F.	ABOVE FINISHED FLOOR
F.F.E.	FINISHED FLOOR ELEVATION
I.E.	INVERT ELEVATION
P.C.	PLUMBING CONTRACTOR
G.C.	GENERAL CONTRACTOR
	CONNECTION OF NEW TO EXISTING
	UNION
	SHUTOFF VALVE
	CHECK VALVE
	3-WAY MIXING VALVE
	BACKFLOW PREVENTER
	GLOBE VALVE
	BUTTERFLY VALVE
	GAS PLUG COCK
	PLUG VALVE
	2-WAY CONTROL VALVE
	PRESSURE REDUCING VALVE
	STRAINER
	STRAINER w/BLOWDOWN
	PUMP
	PIPING ELBOW DOWN
	PIPING ELBOW UP
	PIPING TEE DOWN
	PIPING TEE UP
	HOSE BIBB
	FREEZEPROOF WALL HYDRANT
	VENT THRU ROOF
	PRESSURE GAUGE
	THERMOMETER w/RANGE
	SAFETY OR RELIEF VALVE

PLUMBING DRAWING LIST

DWG NO.	TITLE	FILE NO.
P1.01	PLUMBING SPECIFICATIONS	M2502017P1.01.dwg
P2.01	PLUMBING DEMOLITION PLAN	M2502017P2.01.dwg
P3.01	PLUMBING NEW WORK PLAN	M2502017P3.01.dwg

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04/14/2025
STATE OF MICHIGAN
EMILY RENEE SCHWARZKOPF
6201063334
REGISTERED
PROFESSIONAL ENGINEER

DATE	DESCRIPTION
04.16.2025	BIDDING & STATE REVIEW

KITCHEN CAFETERIA UPDATES & RELATED WORK
AT
IDA HIGH SCHOOL
3145 PRAIRIE STREET, IDA, MI 48140
FOR
IDA PUBLIC SCHOOLS
3145 PRAIRIE STREET, IDA, MI 48140

JOB # 25002

PLUMBING SPECIFICATIONS

P1.01

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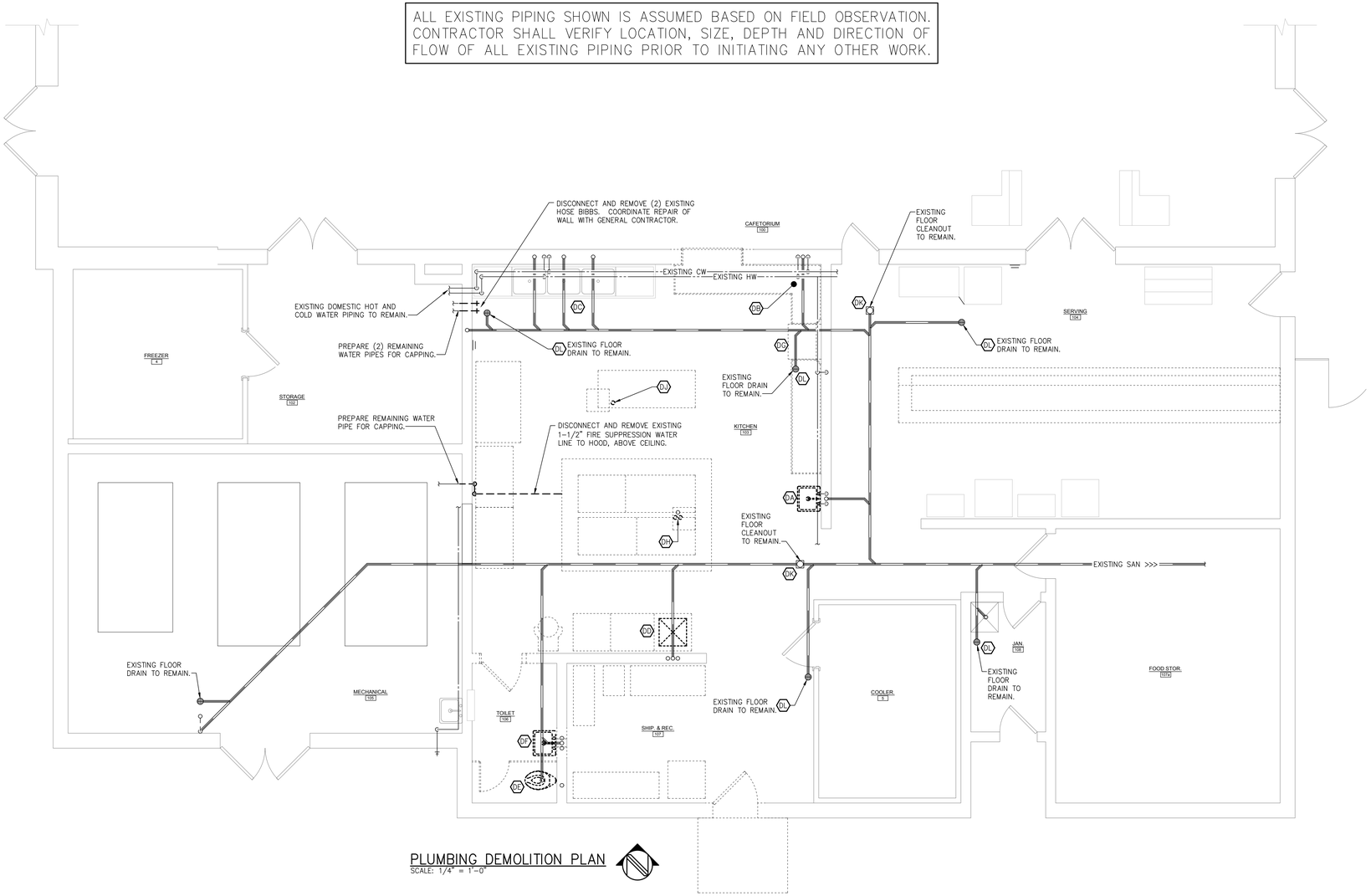
ALL EXISTING PIPING SHOWN IS ASSUMED BASED ON FIELD OBSERVATION. CONTRACTOR SHALL VERIFY LOCATION, SIZE, DEPTH AND DIRECTION OF FLOW OF ALL EXISTING PIPING PRIOR TO INITIATING ANY OTHER WORK.



PLUMBING DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

DEMOLITION PLAN NOTES

(0A) DISCONNECT AND REMOVE EXISTING HAND SINK. PREPARE REMAINING WATER AND DRAIN PIPE STUBS FOR CONNECTION OF NEW HAND SINK IN SAME LOCATION.

(0B) DISCONNECT AND REMOVE EXISTING FOOD WASTE DISPOSER. PREPARE REMAINING WATER AND DRAIN PIPE STUBS FOR CONNECTION OF NEW FOOD WASTE DISPOSER IN SAME LOCATION.

(0C) CAREFULLY DISCONNECT AND TEMPORARILY REMOVE EXISTING 3-COMPARTMENT SINK. COORDINATE WITH OWNER WHERE THE SINK IS TO BE STORED DURING CONSTRUCTION. PREPARE REMAINING WATER AND DRAIN PIPE STUBS FOR CONNECTION OF SAME SINK IN SAME LOCATION.

(0D) DISCONNECT AND REMOVE EXISTING PREP SINK. PREPARE REMAINING WATER AND DRAIN PIPE STUBS FOR CONNECTION OF NEW 2-COMPARTMENT SINK IN SAME LOCATION.

(0E) DISCONNECT AND REMOVE EXISTING WATER CLOSET AND FLOOR FLANGE. PREPARE REMAINING WATER AND DRAIN PIPE STUBS FOR CONNECTION OF NEW FLANGE AND WATER CLOSET IN SAME LOCATION.

(0F) DISCONNECT AND REMOVE EXISTING LAVATORY. EXISTING WATER AND DRAIN PIPING WILL BE REROUTED THROUGH EXISTING BLOCK WALL TO NEW LAVATORY LOCATION. COORDINATE EXACT LOCATION AND CUTTING AND REPAIR OF EXISTING WALL WITH GENERAL CONTRACTOR.

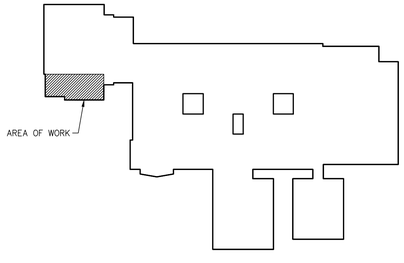
(0G) CAREFULLY DISCONNECT AND TEMPORARILY REMOVE EXISTING DISHWASHER. COORDINATE WITH OWNER WHERE THE DISHWASHER IS TO BE STORED DURING CONSTRUCTION. PREPARE REMAINING WATER AND DRAIN PIPE STUBS FOR CONNECTION OF SAME DISHWASHER IN SAME LOCATION.

(0H) (2) EXISTING DOMESTIC WATER LINES RISING UP FROM BELOW FLOOR WITH SHUTOFF VALVES. REMOVE DOWN TO BELOW FINISHED FLOOR LEVEL, CAP AND SEAL WATER TIGHT. COORDINATE WITH MECHANICAL CONTRACTOR'S REMOVAL OF ADJACENT NATURAL GAS LINE. COORDINATE FLOOR CUTTING AND REPAIR WITH GENERAL CONTRACTOR.

(0J) EXISTING ABANDONED PIPE STUB RISING UP FROM BELOW FLOOR. REMOVE DOWN TO BELOW FINISHED FLOOR LEVEL, CAP AND SEAL WATER TIGHT. COORDINATE FLOOR CUTTING AND REPAIR WITH GENERAL CONTRACTOR.

(0K) REMOVE EXISTING TOP COVER AND PREPARE FOR INSTALLATION OF NEW EQUIVALENT TOP COVER.

(0L) REMOVE EXISTING STRAINER AND PREPARE FOR INSTALLATION OF NEW EQUIVALENT STRAINER.



KEY PLAN
SCALE: NONE

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04/14/2025
STATE OF MICHIGAN · EMILY RENEE SCHWARZKOPF · 6201063334 · REGISTERED PROFESSIONAL ENGINEER

DATE	DESCRIPTION
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KITCHEN CAFETERIA UPDATES & RELATED WORK

IDA HIGH SCHOOL
3145 PRAIRIE STREET, IDA, MI 48140
AT

IDA PUBLIC SCHOOLS
3145 PRAIRIE STREET, IDA, MI 48140
FOR

JOB # 25002

PLUMBING DEMOLITION PLAN

P2.01

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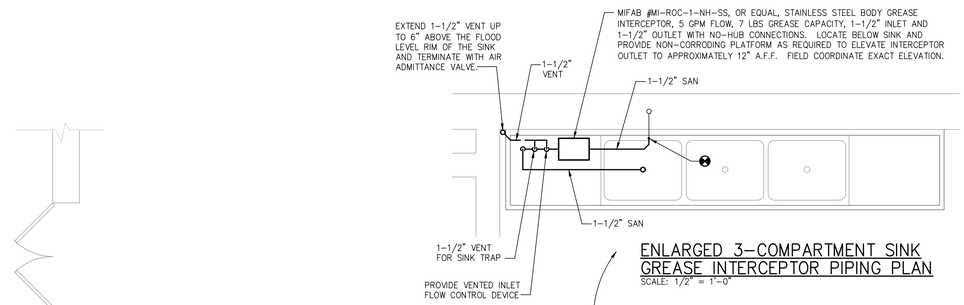


ENLARGED 3-COMPARTMENT SINK GREASE INTERCEPTOR PIPING PLAN

SCALE: 1/2" = 1'-0"

PLUMBING NEW WORK PLAN

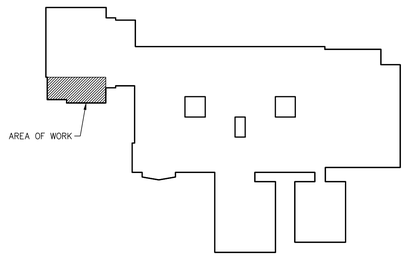
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. DOMESTIC WATER FIXTURE SUPPLY PIPING, SIZED AS NOTED ON THE DRAWINGS, SHALL EXTEND UNDIMINISHED IN SIZE TO WITHIN 30" FROM THE POINT OF CONNECTION TO THE PLUMBING FIXTURE.
2. EXTEND INDIVIDUAL DOMESTIC WATER DISTRIBUTION LINES TO FIXTURES AS REQUIRED. LINES SHALL BE SIZED AS INDICATED IN THE PLUMBING FIXTURE SCHEDULE.
3. INSTALL SHUT-OFF VALVES AT ALL DOMESTIC WATER FIXTURE SUPPLY CONNECTIONS.
4. PLUMBING VENTS AND FLUES SHALL BE LOCATED A MINIMUM OF 10'-0" FROM ANY FRESH AIR INTAKE. COORDINATE VENT AND FLUE LOCATIONS WITH MECHANICAL CONTRACTOR.
5. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ITEMS WITHIN PLUMBING/DUCT CHASES WITH ALL OTHER TRADES.
6. PIPE PENETRATIONS THRU ALL FIRE RATED WALLS SHALL BE SEALED BY THE PLUMBING CONTRACTOR, TO PREVENT SPREAD OF FIRE AND SMOKE AND INGRESS OF MOISTURE.
7. PROVIDE ALL HANGERS, SUPPORTS AND MISCELLANEOUS STEEL REQUIRED FOR THE PROPER INSTALLATION OF ALL PIPING AND EQUIPMENT.
8. COORDINATE PIPING AND EQUIPMENT LOCATIONS WITH ALL OTHER TRADES.
9. MAINTAIN REQUIRED MANUFACTURERS' CLEARANCES ON ALL EQUIPMENT.
10. CONTRACTOR SHALL VERIFY CLEARANCES ABOVE CEILING PRIOR TO INITIATING CONSTRUCTION. COORDINATE EXACT LOCATION OF PIPING WITH ELECTRICAL, MECHANICAL AND GENERAL CONTRACTORS.

PLAN NOTES

- (#) REFER TO KITCHEN EQUIPMENT CONNECTION SCHEDULE ON SHEET P1.01 AND ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- (A) CONNECT NEW 1-1/4" SAN TO EXISTING SANITARY STUB AT WALL AND CONNECT NEW 1/2" CW AND 1/2" HW TO EXISTING WATER STUBS AT WALL WITH NEW SUPPLY STOPS. PROVIDE NEW ASSE 1070 THERMOSTATIC MIXING VALVE AND UNDER-SINK ADA PIPE COVERS.
- (B) CONNECT NEW 2" SAN TO EXISTING SANITARY STUB AT WALL AND CONNECT NEW 3/4" CW AND 3/4" HW TO EXISTING WATER STUBS AT WALL WITH NEW SUPPLY STOPS. EXTEND WATER LINES TO NEW FAUCET CONNECTIONS AND NEW FOOD WASTE DISPOSER. PROVIDE NEW ABOVE-COUNTER ATMOSPHERIC VACUUM BREAKER FOR FOOD WASTE DISPOSER WATER SUPPLY, LOCATED MINIMUM 6" ABOVE THE FLOOD LEVEL RIM OF THE DISPOSAL SINK BOWL.
- (C) CONNECT (3) NEW 1-1/2" SAN TO EXISTING SANITARY STUB AT WALL AND CONNECT NEW 3/4" CW AND 3/4" HW TO EXISTING WATER STUBS AT WALL WITH NEW SUPPLY STOPS. EXTEND WATER LINES TO NEW FAUCET CONNECTIONS. PROVIDE NEW INDIRECT DRAIN FUNNELS FOR THE SECOND AND THIRD COMPARTMENTS. PROVIDE ON-FLOOR GREASE INTERCEPTOR TO SERVE THE FIRST COMPARTMENT. DIRECTLY CONNECT THE GREASE INTERCEPTOR TO THE FIRST EXISTING 1-1/2" SAN STUB. REFER TO ENLARGED PLAN ON THIS SHEET.
- (D) MANIFOLD SINK (2) SINK OUTLETS TOGETHER AND CONNECT NEW 1-1/2" SAN TO EXISTING SANITARY STUB AT WALL. PROVIDE NEW INDIRECT DRAIN FUNNEL FOR NEW SINK. CONNECT NEW 1/2" CW AND 1/2" HW TO EXISTING WATER STUBS AT WALL WITH NEW SUPPLY STOPS AND EXTEND TO NEW SINK FAUCET.
- (E) CONNECT NEW WATER CLOSET TO EXISTING SAN AND WATER THAT WERE SERVING THE REMOVED WATER CLOSET IN THE SAME PLACE.
- (F) EXTEND EXISTING WATER AND DRAIN PIPING THROUGH EXISTING BLOCK WALL TO NEW LAVATORY LOCATION. COORDINATE EXACT LOCATION AND OPENING OF EXISTING WALL WITH GENERAL CONTRACTOR. PROVIDE NEW SUPPLY STOPS AND CONNECT NEW SAN AND WATER TO NEW LAVATORY.
- (G) PROVIDE NEW WATER AND DRAIN CONNECTIONS FOR EXISTING DISHWASHER REINSTALLED IN ORIGINAL LOCATION.
- (H) EXTEND CLOTHES WASHER DRAIN BOX WATER AND VENT PIPING UP TO ABOVE CEILING AND CONNECT TO EXISTING WATER AND VENT PIPING SERVING EXISTING TOILET ROOM. 3" SAN DOWN IN WALL TO BELOW FLOOR AND CONNECT TO EXISTING SAN SERVING EXISTING TOILET ROOM, DOWNSTREAM OF ANY TOILET ROOM FIXTURE CONNECTIONS. COORDINATE FLOOR CUTTING AND REPAIR WITH GENERAL CONTRACTOR.
- (J) PROVIDE NEW NICKEL-BRONZE CLEANOUT TOP COVER.
- (K) PROVIDE NEW NICKEL-BRONZE FLOOR DRAIN STRAINER.



KEY PLAN

SCALE: NONE

KOHLER ARCHITECTURE
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04/14/2025

STATE OF MICHIGAN · EMILY RENEE SCHWARZKOPF · 6201063334 · REGISTERED PROFESSIONAL ENGINEER

DATE	DESCRIPTION
04.16.2025	BIDDING & STATE REVIEW

KITCHEN CAFETERIA UPDATES & RELATED WORK

AT

IDA HIGH SCHOOL
3145 PRAIRIE STREET, IDA, MI 48140

FOR

IDA PUBLIC SCHOOLS
3145 PRAIRIE STREET, IDA, MI 48140

JOB # 25002

PLUMBING NEW WORK PLAN

P3.01

ELECTRICAL OUTLINE SPECIFICATIONS

PART 1 GENERAL

1.01 SCOPE OF WORK: FURNISH AND INSTALL ALL LABOR, MATERIALS, TOOLS, ETC., TO PROVIDE A COMPLETE AND OPERATIONAL ELECTRICAL INSTALLATION, AS INDICATED ON THE PLANS. CONTRACTOR SHALL REFER TO THE WORK INDICATED ON THE ASSOCIATED MECHANICAL, ARCHITECTURAL, STRUCTURAL PLANS, ETC., AS WORK SHOWN THEREON MAY AFFECT OR INCLUDE ADDITIONAL ELECTRICAL WORK. ALL MATERIALS INCLUDED IN THE WORK SHALL BE NEW UNLESS SPECIFICALLY NOTED OTHERWISE; EACH ITEM SHALL BE LISTED OR LABELED BY A U.S.A. NATIONALLY RECOGNIZED TESTING LABORATORY, TO ASSURE ITS SUITABILITY AND APPROVAL FOR THE PURPOSE SHOWN. ALL LABOR SHALL BE PERFORMED BY QUALIFIED AND SKILLED WORKERS, IN A NEAT AND WORKMANLIKE MANNER, AND IN ACCORDANCE WITH INDUSTRY STANDARDS AND PRACTICES.

1.02 CONTRACT DRAWINGS: IN GENERAL, DRAWINGS ARE SCHEMATIC IN NATURE AND ARE INTENDED AS A GUIDE TO THE CONTRACTOR, BUT DO NOT NECESSARILY SHOW ALL DETAILS, ETC. ALL DRAWINGS SHALL BE THOROUGHLY INSPECTED BY THE CONTRACTOR. THE CONTRACTOR'S WORK SHALL CONFORM TO THE INFORMATION CONTAINED IN THIS SPECIFICATION AND/OR AS INDICATED IN THE LATEST REVISION OF THE DRAWINGS REFERRED TO THEREIN. THE CONTRACTOR SHALL CONSULT WITH THE ENGINEER REGARDING ALL QUESTIONS, UPON WHICH HE MAY BE IN DOUBT, BEFORE PROCEEDING WITH FABRICATION OF PARTS AFFECTED. AT HIS OWN EXPENSE, THE CONTRACTOR SHALL PREPARE ALL ADDITIONAL DETAIL OR FIELD INSTALLATION DRAWINGS NECESSARY. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS INDICATED ON THE ENGINEER'S LAYOUT DRAWINGS AND DETERMINE IF ANY CHANGES ARE REQUIRED TO AVOID INTERFERENCE. MAJOR CHANGES SHALL NOT BE MADE WITHOUT THE APPROVAL OF THE ENGINEER. WHILE THE DRAWINGS SHALL BE ADHERED TO AS CLOSELY AS POSSIBLE, THE CONTRACTOR HAS THE RIGHT TO VARY THE RUN OF CONDUITS, LOCATION OF EQUIPMENT, ETC. DURING PROGRESS OF THE WORK AS MAY BE FOUND NECESSARY OR DESIRABLE TO AVOID INTERFERENCES OR CLEARANCE ISSUES. MAJOR REVISIONS SHALL BE VERIFIED WITH THE ARCHITECT.

1.03. VERIFICATION: BEFORE INSTALLING EQUIPMENT OR RUNNING ANY CONDUITS, WIRING, ETC., WITHIN THE BUILDING, THIS CONTRACTOR SHALL ASSURE HIMSELF THAT THESE ITEMS AND MATERIALS CAN BE INSTALLED AS CONTEMPLATED, WITHOUT INTERFERING WITH ITEMS IN ROOM/AREA, COLUMNS, BEAMS, PIPING, FIXTURES, ETC. ANY NECESSARY MAJOR DEVIATION SHALL BE REFERRED TO THE ARCHITECT FOR ADJUSTMENT BEFORE MATERIALS ARE INSTALLED. WHEN THE CONTRACTOR DETERMINES THE MAKE OF EQUIPMENT TO BE PROVIDED FOR THE JOB, IT SHALL BE HIS RESPONSIBILITY TO VERIFY AND COORDINATE UNIT DIMENSIONS WITH THE GENERAL CONTRACTOR AND ALL OTHER INTERESTED CONTRACTORS ON THE JOB. IT SHALL ALSO BECOME THE CONTRACTOR'S RESPONSIBILITY TO CHANGE AS NECESSARY, THROUGH THE ARCHITECT, ALL REQUIRED COMPONENTS WITH WORK TOGETHER FOR THE EQUIPMENT SUPPLIED. ANY ADDITIONAL COST WILL BE THE SOLE RESPONSIBILITY OF THIS CONTRACTOR. LOCATIONS OF EXISTING EQUIPMENT IN PLACE AS SHOWN ON THE DRAWINGS, ARE TAKEN FROM SITE INVESTIGATIONS OR FROM AS-BUILT AND RECORD DRAWINGS AND ARE DEEMED RELIABLE ONLY IN SO FAR AS GENERAL LAYOUT IS CONCERNED. THE RESPONSIBILITY FOR CHECKING IN PLACE ITEMS SHALL BE THE CONTRACTOR'S.

1.04 SITE VISIT: ALL CONTRACTORS, BIDDING THE WORK INDICATED THROUGHOUT THE CONTRACT DOCUMENTS, ARE REQUIRED TO VISIT, AND THOROUGHLY EXAMINE THE PROJECT SITE AND ITS ASSOCIATED CONDITIONS. THE CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH ALL EXISTING CONDITIONS UNDER WHICH THIS WORK MUST BE PERFORMED. ALL CONTRACTORS SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO SUBMITTING A BID PROPOSAL. FAILURE TO DO SO SHALL BE DEEMED AS ACCEPTANCE OF EXISTING CONDITIONS. NO ADDITIONAL COMPENSATION WILL BE CONSIDERED FOR ANY DEVIATIONS OR DISCREPANCIES TO THESE PLANS AFTER A CONTRACTOR HAS BEEN SELECTED.

1.05 GUARANTEE: THE CONTRACTOR GUARANTEES, BY THEIR ACCEPTANCE OF THE CONTRACT, THAT ALL WORK WILL BE FREE FROM DEFECTS IN WORKMANSHIP AND/OR MATERIALS, FOR A PERIOD OF ONE YEAR FOLLOWING PROJECT COMPLETION UNLESS NOTED OTHERWISE, AND THAT ALL APPARATUS WILL DEVELOP CAPACITIES AND CHARACTERISTICS SPECIFIED. SHOULD ANY DEFECTS IN WORKMANSHIP AND/OR MATERIALS REQUIRE REDESIGN OF ANY PART OF THE ELECTRICAL, MECHANICAL, PLUMBING OR ARCHITECTURAL LAYOUT, ALL SUCH REDESIGN AND ALL NEW DRAWINGS AND DETAILING REQUIRED THEREOF, CALCULATIONS, SUBMITTALS, ETC., AS WELL AS REPAIRS (TO MATCH EXISTING ADJACENT CONDITIONS) SHALL WITH THE APPROVAL OF THE ARCHITECT, BE PREPARED BY THE CONTRACTOR AT THEIR OWN EXPENSE. WHERE SUCH APPROVED DEVIATION REQUIRES A DIFFERENT QUANTITY AND ARRANGEMENT OF CONDUIT, WIRING, STARTERS, PANELS, ETC., AND/OR EQUIPMENT FROM THAT SPECIFIED OR DETAILED ON THE DRAWINGS, WITH THE APPROVAL OF THE ARCHITECT AND/OR ENGINEER, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL SUCH MATERIALS AND/OR EQUIPMENT REQUIRED BY THE SYSTEM AT NO ADDITIONAL COST TO THE OWNER.

1.06 SUBMITTALS: PRIOR TO RELEASING ANY ORDER FOR MATERIAL FOR THIS PROJECT, THE CONTRACTOR SHALL SUBMIT FOR REVIEW, DETAILED DRAWINGS AND/OR EQUIPMENT CUT SHEETS, SHOWING DIMENSIONS, SIZES, WEIGHTS, ELECTRICAL RATINGS AND OPERATING CHARACTERISTICS, CAPACITIES, MATERIALS, COLORS, AND ROUGH-IN REQUIREMENTS, FOR ALL LIGHTING FIXTURES, FLOOR BOXES, DISTRIBUTION EQUIPMENT, MOTOR CONTROL, ALARM AND COMMUNICATION SYSTEMS AND COMPONENTS, AND POWER GENERATION SYSTEMS. PRIOR TO SUBMITTING, CONTRACTOR SHALL THOROUGHLY REVIEW EACH SUBMITTAL AND CHECK FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS, AND MARK EACH SUBMITTAL WITH APPROVAL STAMP TO SHOW THAT SUBMITTALS HAVE BEEN REVIEWED AND APPROVED BY THE CONTRACTOR. FAILURE OF CONTRACTOR TO COMPLY FULLY WITH THIS SECTION WILL RESULT IN REJECTION OF SUBMITTAL. SUBMITTALS SHALL BE MADE SUFFICIENTLY IN ADVANCE OF THE REQUIRED ORDER RELEASE DATE, TO ALLOW THE ENGINEER AMPLE TIME TO REVIEW SUCH INFORMATION. MULTIPLE COMPONENTS INTENDED TO FUNCTION TOGETHER, SHALL BE COORDINATED AND SUBMITTED AS A UNIT. SUBMITTALS SHALL CLEARLY HIGHLIGHT, ENCIRCLE OR OTHERWISE IDENTIFY COMPONENTS SELECTED.
APPROVAL STAMP: STAMP EACH SUBMITTAL WITH A UNIFORM, APPROVAL STAMP. STAMP SHALL INCLUDE PROJECT NAME, LOCATION, SPECIFICATION SECTION, NAME OF REVIEWER, DATE OF CONTRACTOR'S APPROVAL, AND STATEMENT CERTIFYING THAT SUBMITTAL HAS BEEN REVIEWED, CHECKED, AND APPROVED FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS.

1.07 PRODUCT SUBSTITUTIONS: THE MANUFACTURERS LISTED ARE INCLUDED AS A BASIS OF DESIGN. SUBMISSION OF ALTERNATE MANUFACTURERS OF SIMILAR EQUIPMENT IS SUBJECT TO ENGINEER APPROVAL. UNITS OF EQUIPMENT, OTHER THAN THOSE LISTED AS THE BASIS OF DESIGN, MUST BE PROVEN TO BE PHYSICALLY ACCEPTABLE, IN ADDITION TO MEETING ALL PERFORMANCE AND EQUIPMENT SPECIFICATIONS. LIABILITY OF NON-CONFORMANCE SHALL LIE WITH THE CONTRACTOR/SUBMITTER. BIDDERS DESIRING CONSIDERATION FOR THE USE OF MATERIAL, EQUIPMENT, ETC. NOT NAMED IN THE SPECIFICATIONS MAY SUBMIT THE CHANGE IN WRITING AT LEAST TEN (10) DAYS PRIOR TO BID OPENING, INCLUDING THE SPECIFICATIONS AND DESCRIPTION TO THE ARCHITECT FOR REVIEW. IF APPROVED, THE CHANGE WILL BE ISSUED IN AN ADDENDUM AT LEAST FIVE (5) DAYS PRIOR TO THE OPENING OF BIDS.

1.08 PERMITS AND CODES: CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH PERMITS, PLAN APPROVALS, TAXES & INSURANCE. ALL WORK SHALL CONFORM TO ALL LOCAL CODES AND ORDINANCES, AS WELL AS THE LATEST ADOPTED EDITION OF THE FOLLOWING: 1) NATIONAL ELECTRICAL CODE; 2) NATIONAL ELECTRICAL SAFETY CODE; 3) STATE BUILDING CODE; 4) ANSI STANDARDS; 5) IEEE STANDARDS; 6) UNDERWRITERS LABORATORY LISTINGS; 7) ASTM STANDARDS; 8) NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION STANDARDS; 9)STATE FIRE CODE; 10) APPLICABLE NFPA CODES. COPY OF THE FINAL ELECTRICAL INSPECTION DOCUMENT, FROM THE AUTHORITY HAVING JURISDICTION, SHALL BE SUBMITTED TO THE OWNER AND ENGINEER AT PROJECT COMPLETION.

1.09 COORDINATION: CONTRACTOR SHALL COORDINATE THEIR PORTION OF THE WORK WITH THAT OF OTHER CONTRACTORS, ALL AFFECTED UTILITY COMPANIES, THE OWNER, AND THE OPERATIONS OF THE OWNER. (PROVIDE ADEQUATE AND TIMELY INPUT TO THE CONTRACTOR PREPARING "COORDINATION DRAWINGS" WHERE SPECIFIED ELSEWHERE.) COORDINATE WITH POWER UTILITY COMPANY PRIOR TO BEGINNING ANY SERVICE WORK. ALL CONFLICTS, SCHEDULING, AND PROCEDURES SHALL BE RESOLVED IN THE BEST INTEREST OF THE OWNER AND THE SUCCESSFUL COMPLETION OF THE PROJECT. AT PROJECT COMMENCEMENT, SUBMIT A TIME SCHEDULE OF PROPOSED WORK, INCLUDING SIGNIFICANT EQUIPMENT DELIVERY DATES, SEQUENCE OF WORK AREAS, PROPOSED SHUTDOWNS, CUT-OVERS AND UTILITY TIE-INS. UPDATE SCHEDULE AS WORK PROGRESSES. ALL SHUTDOWN WORK SHALL BE PERFORMED AT TIMES WHICH WILL NOT INTERFERE WITH THE REGULAR OPERATION OF THE FACILITY AND THE OWNER. CONTRACTOR SHALL NOTIFY ALL AFFECTED PARTIES IN WRITING AT LEAST SEVEN DAYS PRIOR TO SHUTDOWNS AND CUT-OVERS. UTILITY COMPANY BACKCHARGES WILL BE PAID DIRECTLY BY THE OWNER.

1.10 CUTTING & PATCHING: PROVIDE CUTTING AND PATCHING OF ALL MATERIALS NECESSARY FOR THE INSTALLATION AS INDICATED OR SPECIFIED. NEATLY REMOVE AND LEGALLY DISPOSE OF ELECTRICAL COMPONENTS AND ITEMS NO LONGER IN USE. PROTECT THE STRUCTURE, FURNISHINGS, FINISHES AND MATERIALS ADJACENT TO THE AREA OF CUTTING AND PATCHING. PATCH AND REPAIR SHALL MATCH EXISTING FIRE RATED CONSTRUCTION MATERIALS AND METHODS AND RE-FINISH EXISTING INTERIOR AND EXTERIOR SURFACES AND EQUIPMENT USING NEW MATERIALS AND METHODS, TO MATCH ADJACENT WORK, UTILIZING EXPERIENCED INSTALLERS. PATCHING OF FIRE RATED PARTITIONS, CEILINGS AND OTHER ASSEMBLIES, SHALL MATCH THE RATING OF THE RATED BARRIER WITH MATERIALS LISTED AND IDENTIFIED FOR SUCH USE, AND SHALL COMPLY WITH APPLICABLE REQUIREMENTS OF THE GENERAL TRADES SPECIFICATIONS.

1.11 CONNECTIONS TO EXISTING WORK: PLAN THE INSTALLATION OF NEW WORK AND CONNECTIONS TO EXISTING WORK TO INSURE MINIMUM INTERFERENCE WITH THE REGULAR OPERATION OF THE EXISTING FACILITIES. SUBMIT TO THE ARCHITECT, FOR THEIR APPROVAL, A PROGRESS SCHEDULE INDICATING ALL NECESSARY TEMPORARY SHUTDOWNS OF EXISTING SERVICES. ALL SHUTDOWNS SHALL BE MADE AT SUCH TIMES AS WILL NOT INTERFERE WITH REGULAR OPERATION OF THE EXISTING FACILITIES AND ONLY AFTER WRITTEN APPROVAL FROM THE ARCHITECT.

1.12 NEW WORK: UNLESS OTHERWISE NOTED, ALL WORK INDICATED THROUGHOUT THESE DRAWINGS SHALL BE CONSIDERED AS NEW WORK AND SHALL BE INCLUDED AS AN INTEGRAL PART OF THIS CONTRACT.

1.13 AS-BUILT DRAWINGS: CONTRACTOR SHALL ACCURATELY AND NEATLY RECORD ANY DEVIATIONS FROM THE PLANS AND SPECIFICATIONS, INCLUDING FINAL CONDUIT ROUTING, BRANCH CIRCUIT NUMBERING, EQUIPMENT SIZES, SINGLE LINE DIAGRAM, ETC. UNDERGROUND FEEDERS AND DUCTBANKS SHALL BE LOCATED BY DIMENSION TO ASSIST IN FUTURE EXCAVATIONS. AS-BUILTS SHALL BE REGULARLY UPDATED DURING THE COURSE OF CONSTRUCTION, AND DELIVERED TO THE OWNER WITHIN 30 DAYS OF PROJECT ACCEPTANCE, WITH A COPY TO THE ENGINEER.

1.14 CLOSE-OUT: CONTRACTOR SHALL PROVIDE FIELD TESTING, CHECK-OUT AND SYSTEM DEMONSTRATIONS TO OWNER TO ASSURE PROPER PERFORMANCE AND ADJUSTMENT OF ITEMS PROVIDED UNDER THE CONTRACT. REMOVE ALL DEBRIS CREATED BY THE ELECTRICAL WORK AND CLEAN ALL FIXTURES, PANELS, BOXES, ETC., INSIDE AND OUTSIDE. PROVIDE A HARDBOUND BINDER WHICH INCLUDES: COPIES OF EACH SHOP DRAWING, FIELD TEST REPORT, PREVENTATIVE MAINTENANCE PROCEDURES FOR EACH ITEM REQUIRING MAINTENANCE, OPERATION & INSTRUCTION MANUALS, LITERATURE SUPPLIED WITH ELECTRICAL EQUIPMENT, AND A LIST OF ALL CONTRACTOR'S PURCHASE ORDERS WITH SUPPLIERS NAMES, ADDRESSES AND PHONE NUMBERS, FOR ALL MATERIALS. INCLUDE NAME AND ADDRESS OF A QUALIFIED SERVICE AGENCY FOR EACH SYSTEM. PROVIDE AT LEAST 4 HOURS OF INSTRUCTION TO PERSONNEL SELECTED BY THE OWNER, TO FAMILIARIZE THEM WITH THE LOCATION OF SIGNIFICANT EQUIPMENT, TRAIN THEM ON EQUIPMENT FUNCTIONS, REVIEW MAINTENANCE PROCEDURES AND COORDINATE INFORMATION AVAILABLE IN THE CLOSE-OUT BINDER.

PART 2 PRODUCTS

2.01. FIRE-RATING: OPENINGS AROUND CONDUITS OR IN SLEEVES FOR CONDUITS PENETRATING FIRE-RATED FLOOR SLABS, WALLS, PARTITIONS, CEILINGS, OR SMOKE PARTITIONS, SHALL BE SEALED AT BOTH SIDES OF THE PENETRATION. INSULATION SHALL NOT EXTEND THROUGH SLEEVES. PACK OPENINGS WITH CALCIUM SILICATE BLOCK, 3M BARRIER PILLOWS (3M PUTTY IN VOIDS), 3M FIP FOAM, DOW CORNING 3-6548 RTV SILICON FOAM, 3M CP25 CAULK, OR 303 PUTTY FIRE BARRIER SYSTEM OR MATERIAL HAVING THE SAME FIRE-RATING AS THE FLOOR OR WALL PENETRATED. FIBERGLASS IS NOT ACCEPTABLE.

2.02 LABELS: PROVIDE ENGRAVED PLASTIC LAMINATE NAMEPLATES, SECURELY FASTENED TO EQUIPMENT, FOR ALL NEW PANELS, STARTERS, TERMINAL CABINETS, DISCONNECTS, CONTROL PANELS, LARGE PULL BOXES, AND OTHER MAJOR COMPONENTS. NAMEPLATES SHALL BE 1 BY 3 INCHES, MINIMUM, BLACK LETTERS ON WHITE FIELD. EMERGENCY AND STANDBY POWER EQUIPMENT NAMEPLATES SHALL HAVE WHITE LETTERS ON RED FIELD. LETTERING SHALL INCLUDE ITEM NAME, VOLTAGE AND PHASE. ALL PANELBOARD AND SWITCHBOARD NAMEPLATES SHALL INDICATE THE SOURCE OF SUPPLY PER NEC 408.4. SEE NEC 110.21B FOR FIELD INSTALLED WARNING LABEL REQUIREMENTS.

2.03 GROUNDING, WIRE, RACEWAYS, BOXES AND SUPPORTS:

A. GROUNDING: GROUND AND BOND ALL METAL RACEWAYS, BOXES, FIXTURES, ENCLOSURES, ETC., PER NEC ARTICLE 250. NEW SERVICES AND SEPARATELY DERIVED SYSTEMS SHALL BE BONDED TO THE GROUNDING ELECTRODE SYSTEM, INCLUDING THE CONCRETE ENCASED REINFORCING STEEL ON GRADE WHERE AT LEAST 20 FEET OF #4 BAR IS INSTALLED. GROUNDING CONDUCTORS IN PVC RACEWAY SHALL BE EXTENDED TO THE BUILDING STRUCTURAL STEEL, INCOMING POINT OF THE INTERIOR METAL WATER LINE, AND SUPPLEMENTAL GROUND ROD(S). GROUNDING ELECTRODE CONDUCTOR SPLICES, TAPS AND CONNECTIONS SHALL BE MADE VIA AN EXOTHERMIC WELD PROCESS (CADWELD OR EQUAL) OR IRREVERSIBLE CIRCUMFERENTIAL CRIMP TYPE FITTINGS (BURNDY HYPRESS OR EQUAL). BONDING CONDUCTORS SHALL ALSO BE EXTENDED TO THE INTERIOR METAL GAS PIPING SYSTEM, INTERIOR WATER LINES, AND MAIN TELEPHONE BACKBOARD, WHERE INSTALLED. ALL FEEDERS AND BRANCH CIRCUITS SHALL INCLUDE AN INSULATED EQUIPMENT GROUNDING CONDUCTOR, ROUTED WITH THE CIRCUIT, SIZED PER NEC 250.122. WHERE NOTED, GROUND BARS SHALL BE 1/4" BY 1" BY 12" LONG (MINIMUM) SOLID COPPER BAR, COMPLETE WITH PRE-DRILLED HOLES AND STANDOFF FITTINGS, AS MANUFACTURED BY ERICO, CHATSWORTH OR STORM COPPER. PROVIDE A SEPARATE LUG FOR EACH GROUNDING OR BONDING CONDUCTOR. AT PROJECT COMPLETION, CONTRACTOR SHALL VERIFY COMPLETE GROUND/NEUTRAL SEPARATION FOR THE 120/208 VOLT SERVICE, EXCEPT AT THE MAIN SERVICE BONDING JUMPER AND EXTERIOR TRANSFORMER BONDING JUMPER, AND SHALL CLEAR AND CORRECT ALL OTHER INTERIOR GROUNDED NEUTRALS WITHIN HIS SCOPE OF WORK.

B. WIRE: FURNISH AND INSTALL ALL WIRE, TERMINATIONS AND CONNECTION DEVICES AS SHOWN OR REQUIRED. UNLESS OTHERWISE NOTED, ALL LINE VOLTAGE CIRCUITS SHALL BE STRANDED, COPPER, 600 VOLT INSULATED: (75 DEGREES C THHN/THWN FOR CIRCUITS #14 AWG THRU #2 AWG; 90 DEGREES C XHHW-2 FOR CIRCUITS #1 AWG AND LARGER). CONDUCTORS #3/0 AWG AND LARGER MAY BE STRANDED ELECTRICAL GRADE STANDARD OR COMPACT STRANDED ALUMINUM CONDUCTORS WITH 90 DEGREES C RATED XHHW-2 INSULATION, PROPERLY UPSIZED FOR THE AMPACITY EQUIVALENT TO THE COPPER CONDUCTORS SHOWN; CONDUIT SHALL ALSO BE UPSIZED FOR ALUMINUM CONDUCTORS. ALL CONNECTIONS AND TERMINATIONS SHALL MEET THE SPECIFICATIONS OF MATERIAL USED PER NEC 110.14.BRANCH CIRCUIT WIRING SHALL BE #12 AWG MINIMUM. WHERE THE 120 VOLT CIRCUIT LENGTH EXCEEDS 100 FEET, OR THE 277 VOLT CIRCUIT LENGTH EXCEEDS 250 FEET, FROM THE PANEL TO THE FARTHEST DEVICE, UTILIZE #10 AWG MINIMUM. SEE CHART THIS SHEET FOR MINIMUM CONDUCTOR SIZES FOR LONGER BRANCH CIRCUITS. PHASE CONDUCTORS FOR 240 VOLT (AND LOWER) SYSTEMS SHALL BE BLACK, RED & BLUE RESPECTIVELY FOR PHASES A, B & C; ASSOCIATED NEUTRALS WHITE. PHASE CONDUCTORS FOR 480 VOLT SYSTEMS SHALL BE BROWN, ORANGE & YELLOW RESPECTIVELY FOR PHASES A, B & C; ASSOCIATED NEUTRALS GRAY. CONNECTIONS AND TAPS FOR WIRE #4 AWG AND LARGER SHALL BE MADE WITH SOLDERLESS PRESSURE TYPE CONNECTORS AND LUGS. PROVIDE AN ENGRAVED NAMEPLATE OR PLAQUE DOCUMENTING THE WIRING SYSTEM COLOR CODING AT EACH NEW PANELBOARD. ALL LOW VOLTAGE CABLE SHALL BE MULTI-CONDUCTOR, COPPER, WITH WIRE SIZE, SHIELD, JACKET, COLOR-CODED INSULATION, TERMINATIONS, ETC. AS RECOMMENDED BY THE SYSTEM SUPPLIER. INSULATING AND JACKET MATERIALS SHALL BE SUITABLE FOR THE INSTALLATION ENVIRONMENT (I.E. UNDERGROUND, PLENUM, HIGH AMBIENT TEMPERATURE, ETC.).

C. BRANCH CIRCUITS: BRANCH CIRCUIT WIRING SHALL CORRESPOND TO THE CIRCUIT NUMBERING SHOWN ON THE PLANS, BUT THE CONTRACTOR WILL BE PERMITTED MINOR CHANGES TO OPTIMIZE THE PIPING REQUIRED. THE QUANTITY OF CIRCUITS SHALL NOT BE REDUCED, NOR SHALL SEPARATE CIRCUITS BE COMBINED. ROUTING SHALL BE AT THE DISCRETION OF THE CONTRACTOR BUT THE INSTALLATION SHALL MEET ALL OTHER SPECIFIED CRITERIA. PROVIDE A NEUTRAL CONDUCTOR TO EACH LOCAL SWITCH OUTLET WHETHER OR NOT REQUIRED FOR THE PRESENT INSTALLATION. IN GENERAL, 1-POLE 120V AND 277V BRANCH CIRCUITS SHALL BE PROVIDED WITH INDIVIDUAL NEUTRALS, TO ELIMINATE THE REQUIREMENT FOR MULTI-POLE BREAKERS OR HANDLE TIES (SEE NEC 210.4B). THE QUANTITY OF CURRENT CARRYING CONDUCTORS IN A CONDUIT SHALL BE LIMITED TO NINE. THE AMPACITY OF BRANCH CIRCUITS ROUTED ACROSS ROOFS OR OTHERWISE EXPOSED TO SUNLIGHT, SHALL BE PROPERLY UPSIZED AS REQUIRED TO MEET THE DERATING FACTORS OF NEC 310.15(B)(2). WHERE "HOME RUNS" ARE SHOWN ON PLAN, THE QUANTITY OF THESE RUNS SHALL BE MAINTAINED AS A MINIMUM. 120/208 VOLT BRANCH CIRCUITS AND 277/480 VOLT BRANCH CIRCUITS SHALL NOT BE ROUTED THROUGH COMMON RACEWAYS, UNLESS SPECIFICALLY NOTED ON THE PLANS.

D. EQUIPMENT WIRING: PROVIDE POWER WIRING CONNECTIONS AND TERMINATIONS TO EQUIPMENT PROVIDED BY OTHERS. ALL NECESSARY STARTERS AND CONTROLS WILL BE FURNISHED WITH THE EQUIPMENT UNLESS NOTED OTHERWISE. WIRING AND CONNECTIONS SHALL BE AS REQUIRED BY THE EQUIPMENT MANUFACTURER AND SHALL NOT BE PERFORMED IN A MANNER WHICH MODIFIES THE EQUIPMENT, OR DEGRADES IT'S FUNCTION OR WARRANTY. WHERE NOT FURNISHED WITH EQUIPMENT, PROVIDE A LOCAL DISCONNECT WITHIN SIGHT OF EACH MOTOR AND APPLIANCE. ALL CONTROL WIRING, DEVICES, SYSTEMS AND REQUIRED INTERLOCKS WILL BE PROVIDED BY OTHERS. FURNISH AND INSTALL POWER WIRING FOR THE AUTOMATIC POWERED DOOR OPERATORS FURNISHED COMPLETE WITH A PRE-WIRED CONTROL PACKAGE. POWERED DOOR REMOTE CONTROL DEVICES SHALL BE FURNISHED BY THE EQUIPMENT SUPPLIER, AND INSTALLED AND CONNECTED BY THE E.C. PER THE SUPPLIER'S WIRING DIAGRAMS. ALL OUTLET REQUIREMENTS AND LOCATIONS FOR THE KITCHEN EQUIPMENT SHALL BE VERIFIED WITH THE SUPPLIER PRIOR TO ROUGH-IN. ELECTRICAL REQUIREMENTS OF THE ELECTRIC HEAT TRACING (FURNISHED AND INSTALLED BY OTHERS) SHALL BE FIELD VERIFIED AND SHALL BE PROVIDED WITH A 30MILLIAMP GFCI TYPE BREAKER FOR THE BRANCH CIRCUIT SERVING THE HEAT TRACING. FIELD VERIFY PACKAGED PUMP STATION WIRING REQUIREMENTS, IN ACCORDANCE WITH SUPPLIER'S EQUIPMENT WIRING DIAGRAMS, AND PROVIDE ALL FIELD CONDUIT, WIRING AND CONNECTIONS AS REQUIRED FOR POWER AND REMOTE CONTROLS OR ALARMS WIRING.

E. RACEWAYS: UNLESS NOTED OTHERWISE, ALL NEW LINE VOLTAGE WIRING SHALL BE INSTALLED IN SPECIFIED RACEWAYS. RACEWAYS SHALL BE INSTALLED, CONCEALED WITHIN NEW AND EXISTING CONSTRUCTION, UNLESS NOTED OTHERWISE. RACEWAYS INSTALLED UNDERGROUND, CAST IN CONCRETE, WITHIN EXTERIOR WALLS, EXPOSED OUTDOORS OR EXPOSED IN UNFINISHED SPACES BELOW 10 FEET AFF, SHALL BE HOT-DIPPED GALVANIZED RIGID METAL CONDUIT, HOT-DIPPED GALVANIZED INTERMEDIATE METAL CONDUIT OR SCHEDULE 40 PVC (UNDERGROUND ONLY), 3/4 INCH TRADE SIZE MINIMUM, INSTALLED PER NEC 342, 344 OR 352. RIGID AND INTERMEDIATE METAL CONDUIT SHALL BE COMPLETE WITH THREADED RIGID STEEL CONDUIT FITTINGS, DOUBLE-LOCKING NUTS AND BUSHINGS AT BOXES AND CABINETS. IN DRY INTERIOR LOCATIONS, CONDUIT IN TRADE SIZES 2 INCH THRU 4 INCH DIA., MAY BE INTERMEDIATE METAL CONDUIT, INSTALLED PER NEC 342, COMPLETE WITH THREADED FITTINGS, DOUBLE LOCK-NUTS AND BUSHINGS AT BOXES AND CABINETS. FIELD CUT THREADS SHALL BE COATED WITH Z.R.C. COLD GALVANIZING SPRAY OR OTHER RUST-INHIBITING MATERIAL AFTER INSTALLATION. INTERIOR CONDUIT WITHIN WALLS AND ABOVE SUSPENDED CEILINGS, IN TRADE SIZES 1/2 INCH THRU 2 INCH DIA., SHALL BE ELECTRICAL METALLIC TUBING, INSTALLED PER NEC 358, COMPLETE WITH STEEL COMPRESSION OR SET-SCREW FITTINGS. UNDERGROUND EXTERIOR RACEWAYS IN TRADE SIZES 2 INCH DIA. AND LARGER, MAY BE SCHEDULE 40 PVC PER NEC 352 COMPLETE WITH RGS ELBOWS AND RISERS. INTERIOR, UNDER-SLAB CONDUIT MAY BE SCHEDULE 40 PVC PER NEC 352, IN TRADE SIZES 3/4 INCH THRU 4 INCH DIA., COMPLETE WITH INSULATED GROUND WIRE, AND RGS ELBOWS WHERE RISER IS EXPOSED. UTILIZE SCHEDULE 80 WHERE SUBJECT TO ABUSE. CONNECTIONS TO RECESSED FIXTURES, AND OTHER ITEMS SUBJECT TO VIBRATION OR OCCASIONAL MOTION, SHALL BE MADE WITH FLEXIBLE METAL, ZINC-COATED STEEL CONDUIT OR MC CABLE, COMPLETE WITH STEEL FITTINGS, IN LENGTHS NOT TO EXCEED 6 FEET, INSTALLED PER NEC. FOR PUMPS, KITCHEN EQUIPMENT, OR WHERE SUBJECT TO DAMPNESS OR OILY ENVIRONMENTS, FLEXIBLE CONDUIT SHALL BE NEOPRENE JACKETED, COMPLETE WITH APPROVED FITTINGS. RACEWAYS ENTERING REFRIGERATED SPACES, PENETRATING EXTERIOR WALLS, OR ENTERING BELOW GRADE SHALL BE SEALED TO PREVENT THE PASSAGE OF MOISTURE AND CONDENSATION.

F. BOXES: FLUSH DEVICE BOXES SHALL BE DEEP, GALVANIZED, STAMPED STEEL BOXES, WITH PLASTER RINGS WHERE REQUIRED. EXPOSED DEVICE BOXES SHALL BE CAST MALLEABLE IRON TYPE FD WITH THREADED HUBS. INTERIOR PULL AND JUNCTION BOXES SHALL BE NEMA 1 GALVANIZED OR PAINTED STAMPED STEEL WITH SCREW COVERS. IN FIRE RATED WALLS AND CEILINGS, BOXES SHALL BE TWO-GANG MAXIMUM, AND CAREFULLY LOCATED TO MAINTAIN FIRE RATINGS; I.E. NO MORE THAN 100 SQUARE INCHES OF BOXES IN 100 SQUARE FEET OF WALL/CEILING WITH BOXES ON OPPOSITE SIDES OF WALL SEPARATED BY 24 HORIZONTAL INCHES MINIMUM, UNLESS WRAPPED WITH FIRE PROOFING PUTTY. SMALL EXTERIOR BOXES SHALL BE CAST TYPE WITH GASKETED COVERS, OR NEMA 4X STAINLESS STEEL FOR LARGER BOXES. FLUSH-IN-GRADE EXTERIOR BOXES SHALL BE NON-METALLIC, 12 BY 12 BY 12 INCH MINIMUM, WITH MATCHING COVER, QUAZITE PC SERIES, SYNERTECH S SERIES, OR EQUAL.

G. SURFACE METAL RACEWAYS: WHERE SPECIFICALLY NOTED, OR APPROVED BY THE ENGINEER, INTERIOR CONDUIT MAY BE SURFACE MOUNTED METAL RACEWAY WITH IVORY PAINTED FINISH, INSTALLED PER NEC 386, COMPLETE WITH MATCHING ELBOWS, BOXES, FITTINGS, AND ACCESSORIES, FOR A COMPLETE, GROUNDED RACEWAY SYSTEM; WIREMOLD V700 SERIES OR HUBBELL 750-IV SERIES MINIMUM SIZE OR APPROVED EQUAL. SUCH RACEWAYS SHALL BE SUPPORTED ON 5 FEET CENTERS, AND ROUTED AS NEATLY AND INCONSPICUOUSLY AS POSSIBLE.

H. FLEXIBLE CABLE: WHERE APPROVED BY THE LOCAL INSPECTION AUTHORITY HAVING JURISDICTION, CONCEALED, BRANCH CIRCUIT WIRING FOR CIRCUITS #14 AWG THRU #10 AWG, MAY BE INSTALLED USING TYPE "MC" CABLE, INSTALLED PER NEC 330, COMPLETE WITH INTEGRAL GROUND WIRE. TERMINATIONS OF FLEXIBLE CABLE SHALL INCLUDE PROPERLY LISTED FITTINGS AT EACH ENCLOSURE. DROPS TO PANELS OR LOCAL SWITCHES SHALL BE CONCEALED. WHERE TWO VOLTAGE SYSTEMS ARE USED: MC CABLE CONDUCTORS SHALL BE TAGGED OR TAPED OR OTHERWISE IDENTIFIED AT EVERY TERMINATION TO INDICATE WHICH PHASE AND VOLTAGE SYSTEM TO WHICH EACH IS CONNECTED PER NEC 210.5C (WHEN VARIOUS CONDUCTOR COLORS ARE NOT SUPPLIED).

I. MANUFACTURED WIRING SYSTEMS: INTERIOR LIGHTING BRANCH CIRCUIT WIRING #12 AWG THRU #8 AWG, MAY BE INSTALLED ALONG THE BUILDING STRUCTURAL CEILING AND ABOVE SUSPENDED CEILINGS, USING TYPE AC OR MC MANUFACTURED WIRING SYSTEMS, INSTALLED PER NEC 604, COMPLETE WITH INTEGRAL GROUND WIRE, AND KEYED PLUG AND RECEPTACLE FITTINGS AT FIXTURES AND POWER DISTRIBUTION BOXES. MANUFACTURED WIRING SYSTEMS SHALL BE AS MANUFACTURED BY LITHONIA-RELOC, COOPER-MWS, THOMAS-ELECTROCONNECT, OR DUAL-LITE.

J. SUPPORTS: FURNISH AND INSTALL ALL REQUIRED MISCELLANEOUS STEEL SUPPORTS FOR MOUNTING OF PANELS, RACEWAYS, FIXTURES, CABINETS, BOXES, ETC. ALL EQUIPMENT SHALL BE RIGIDLY SUPPORTED FROM THE BUILDING STRUCTURE, WITH COMPONENTS RATED FOR TWICE THE ACTUAL LOAD OR WEIGHT. ALL INTERIOR SUPPORTS SHALL BE PAINTED STEEL STRUT WITH MATCHING FITTINGS AND HARDWARE, PLATED THREADED ROD, AND AUXILIARY STRUCTURAL STEEL. EXTERIOR SUPPORTS SHALL BE GALVANIZED STRUT WITH MATCHING FITTINGS AND STAINLESS STEEL HARDWARE. FIELD CUT GALVANIZED SUPPORTS SHALL BE COATED WITH Z.R.C. COLD GALVANIZING SPRAY OR OTHER RUST-INHIBITING MATERIAL AFTER INSTALLATION. PROVIDE A 4 INCH HIGH CONCRETE HOUSEKEEPING PAD FOR ALL FLOOR MOUNTED EQUIPMENT.

2.04 EQUIPMENT, GEAR AND WIRING DEVICES

A. DISCONNECTS: SAFETY SWITCHES SHALL BE HEAVY DUTY, H.P. RATED, 250 OR 600 VOLTS AC RATED TO MATCH THE CIRCUIT SHOWN, WITH GROUND LUG, REJECTION STYLE FUSE CLIPS AND NEMA 1 OR 12 ENCLOSURE INDOORS OR NEMA 3R ENCLOSURE OUTDOORS OR NEMA 4X ENCLOSURE EXPLOSION PROOF; AS MANUFACTURED BY SQUARE D, SIEMENS OR EATON.

B. FUSES: FUSES SHALL BE DUAL-ELEMENT, TIME-DELAY, REJECTION STYLE, CLASS RK-5 FOR FUSES UP TO 600 AMPERES; BUSSMANN TYPE "FRN" (250 VOLT) OR TYPE "FRS" (600 VOLT). LARGER FUSES SHALL BE CLASS L, BOLT-IN STYLE; BUSSMANN "HI-CAP". EQUAL FUSES MANUFACTURED BY MERSEN OR LITTLEFUSE, WILL BE ACCEPTABLE. PROVIDE ONE SET OF THREE SPARE FUSES FOR EACH SIZE AND TYPE INSTALLED.

C. WIRING DEVICES: DEVICES SHALL BE COMMERCIAL GRADE,COMPLETE WITH THERMOPLASTIC FACE OR HANDLE, OF THE TYPE, RATING, AND CONFIGURATION AS INDICATED ON THE PLANS. DEVICES SHALL BE SUPPLIED FROM A SINGLE MANUFACTURER, WHEREVER POSSIBLE, TO STANDARDIZE ON COLOR AND REPLACEMENTS. DEVICE COLOR SHALL BE WHITE (USED WITH PLASTIC CP) OR GRAY (USED WITH BRUSH S.S. CP), OR AS SELECTED BY THE ARCHITECT/OWNER, TO MATCH THE BUILDING FINISHES. COVER PLATES SHALL BE SMOOTH HIGH IMPACT MATCHING PLASTIC OR BRUSHED STAINLESS STEEL IN FINISHED AREAS (COORDINATE WITH DEVICE COLOR), COORDINATE WITH THE ARCHITECT/OWNER, GALVANIZED IN INDUSTRIAL AREAS, AND GASKETED, FLAP-TYPE "EXTRA DUTY WEATHERPROOF-IN-USE" TYPE IN OUTDOOR AREAS. COVER PLATE COLOR SHALL MATCH OR COORDINATE WITH DEVICE OR AS SELECTED BY THE ARCHITECT/OWNER. WIRING DEVICES AND COVER PLATES SHALL BE AS MANUFACTURED BY ACUITY, HUBBELL, PASS & SEYMOUR, LEVITON OR COOPER.

2.05 LIGHTING AND CONTROLS

A. (LED) LIGHT FIXTURES: FURNISH AND INSTALL THE LIGHT FIXTURES AS INDICATED ON THE PLANS AND SCHEDULES. FIXTURES SHALL BE COMPLETE WITH LAMPS, SOCKETS, CANOPIES, SUSPENSION ACCESSORIES, REFLECTORS, BALLASTS, DRIVERS, LENSES, LOUVERS, PLASTER FRAMES, ETC. PRISMATIC LENSES SHALL BE 100% ACRYLIC, ONE-EIGHTH INCH NOMINAL THICKNESS. ELECTRONIC LED DRIVERS AND POWER SUPPLIES SHALL BE RATED FOR LONG LIFE AND MATCHED TO THE LED ARRAY SUPPLIED. SELF-CONTAINED EMERGENCY LIGHTING UNITS SHALL INCLUDE BUILT-IN BATTERIES, CHARGER, TRANSFER RELAY, (LOW BATTERY DISCONNECT, AND SELF-DIAGNOSTIC/TEST CIRCUITRY); SUCH UNIT EQUIPMENT SHALL BE CONNECTED TO THE NORMAL OR NIGHT LIGHT CIRCUIT IN THE SPACE, BUT AHEAD OF ANY LOCAL SWITCHES, LIGHTING CONTACTORS OR RELAYS. FIXTURES SHALL NOT RELY ENTIRELY ON THE CEILING SUSPENSION SYSTEM FOR MOUNTING, BUT SHALL ALSO BE SUPPORTED FROM THE STRUCTURE. PROVIDE A SEPARATE POWER CONNECTION FOR EACH FIXTURE OR CONTINUOUS AND CONTIGUOUS FIXTURE ROW (THROUGH-WIRING NOT PERMITTED). EXTERIOR FIXTURES SHALL ALSO BE PROVIDED WITH THE POLES, CONCRETE FOUNDATIONS, ANCHOR BOLTS, GROUNDING, LOW TEMPERATURE BALLASTS, ETC., AS NOTED OR REQUIRED.

2.06 FIRE ALARM AND EMERGENCY SYSTEMS

A. EXISTING FIRE ALARM SYSTEM: PROVIDE A COMPLETE AND OPERABLE EXTENSION/COMPLETION TO THE EXISTING FIRE ALARM SYSTEM, IN ACCORDANCE WITH THE STATE BUILDING CODE AND NFPA 72. CONTRACTOR SHALL FIELD VERIFY PRIOR TO BID, EXISTING FIRE ALARM SYSTEM COMPLETION, CAPACITY AND EXPANSION CAPABILTY/LIMITATION OF ADDING NEW INDICATED DEVICES. CONTRACTOR TO PROVIDE UPGRADES AS REQUIRED TO ACCOMMODATE ADDITION OF NEW DEVICES COMPATIBLE WITH EXISTING FIRE ALARM SYSTEM AND OF SIMILAR TYPE MODEL AS EXISTING DEVICES, CANDELA AND DB RATING PER NFPA 72. ANY ADDITION/EXTENSION/COMPLETION TO THE SYSTEM SHALL BE COMPLETE WITH INDIVIDUALLY ADDRESSABLE INITIATING DEVICES, MANUAL STATIONS AT PERIMETER DOORS, AUDIO-VISUAL SIGNALS, PHOTO-ELECTRIC SMOKE DETECTORS AT SELECTED LOCATIONS AND AIR HANDLING EQUIPMENT. ALL FIRE ALARM WIRING SHALL BE PROVIDED PER THE MANUFACTURERS RECOMMENDATIONS, AND SHALL BE INSTALLED IN RACEWAYS WHERE EXPOSED TO VIEW. ALL HORIZONTAL CABLING SHALL BE SUPPORTED PER NEC. PROVIDE 3/4" CONDUIT FROM JUNCTION BOX WITH PULL STRING AND INSULATED BUSHING STUBBED ABOVE AN ACCESSIBLE CEILING OR JOIST SPACE FOR EACH NEW DEVICE. PROVIDE ALL CARDS, MODULES, RELAYS, PROGRAMMING AND START-UP. PROVIDE SURFACE MOUNTED RACEWAY AND BOXES WHERE REQUIRED OR INDICATED FOR EXISTING WALLS. SUBMITTALS SHALL INCLUDE DEVICE CUTS, MINIMUM 1/8" SCALE FLOOR PLANS, WIRING DIAGRAMS, BATTERY CALCULATIONS, VOLTAGE DROP CALCULATIONS, CLASSIFICATION OF SUPERVISING STATION, ETC., AS REQUIRED BY THE LOCAL FIRE AUTHORITY HAVING JURISDICTION TO OBTAIN THE REQUIRED FIRE ALARM PERMITS. PROVIDE LABELING AND IDENTIFICATION OF THE NORMAL POWER CIRCUIT FEEDING POWER SUPPLIES PER NFPA 72. FIRE ALARM SYSTEMS SHALL BE AS MANUFACTURED BY NOTIFIER/HONEYWELL.

PART 3 EXECUTION

3.01 GENERAL:
A. ALL EQUIPMENT INSTALLATION PROCEDURES SHALL BE BASE ON FUNDAMENTAL ENGINEERING AND CONSTRUCTION PRINCIPLES IN CONFORMANCE WITH ALL APPLICABLE CODES, STANDARDS AND ORDINANCES.
B. THE ELECTRICAL CONTRACTOR SHALL INSTALL ALL ELECTRICAL EQUIPMENT IN CONFORMANCE WITH MANUFACTURER ISSUED INSTRUCTIONS AND RECOMMENDATIONS.
C. PROVIDE ONE (1) YEAR WARRANTY ON ALL LABOR AND MATERIAL UNLESS NOTED OTHERWISE.
D. COORDINATE LOCATIONS OF ALL ELECTRICAL PANELS AND EQUIPMENT WITH NEW OR EXISTING OVERHEAD PIPING AND DUCT WORK TO AVOID INTERFERENCES AND MEET REQUIRED DEDICATED ELECTRICAL SPACE AND CLEARANCES.

3.02 DEMOLITION: ELECTRICALLY DISCONNECT THE MECHANICAL EQUIPMENT AND APPLIANCES SHOWN OR SCHEDULED FOR REMOVAL, TO ACCOMMODATE SUCH BY OTHERS. REMOVE THE LIGHT FIXTURES, DEVICES, PANELS, STARTERS, ETC., INDICATED FOR DEMOLITION, AND ALL ASSOCIATED WIRING, NO LONGER IN SERVICE, BACK TO ITS ELECTRICAL SOURCE. REMOVE ALL EXPOSED CONDUIT, BOXES AND RACEWAYS ASSOCIATED THEREWITH. CUT OFF FLUSH WITH ADJACENT FINISHED SURFACE AND PERMANENTLY PLUG, ANY CONCEALED RACEWAYS WHICH ARE NOT RE-USEABLE. NEATLY CAP FOR FUTURE USE, AND LABEL WITH TERMINUS, ANY CONCEALED RACEWAYS WHICH MAY BE USABLE. RE-FEED ANY CIRCUITS, FIXTURES, DEVICES, EQUIPMENT, ETC., REMAINING IN USE WHICH MAY BE INTERRUPTED BY DEMOLITION. THE OWNER HAS THE OPTION TO RETAIN ALL EQUIPMENT AND/OR MATERIALS REMOVED. ALL OTHER MATERIALS NOT CLAIMED BY THE OWNER OR REUSED SHALL BE PROPERLY REMOVED FROM SITE AND DISPOSE OF.

3.03 RENOVATIONS: REWORK THE EXISTING ELECTRICAL INSTALLATION AS REQUIRED TO ACCOMMODATE THE FINISHED AND OPERATING SYSTEMS AS INDICATED ON THE PLANS. NEW RACEWAYS SHALL BE CONCEALED IN FINISHED SPACES WHEREVER PRACTICALLY POSSIBLE. EXISTING BOXES AND ENCLOSURES SHALL NOT BE RENDERED INACCESSIBLE DUE TO THE NEW WORK OF ANY TRADE. PANEL DIRECTORIES IN RENOVATED AREAS SHALL BE NEATLY UPDATED. INTERRUPTIONS TO EXISTING SYSTEMS SHALL BE PERFORMED AT OFF HOURS, UNLESS SCHEDULED OTHERWISE WITH THE OWNER.

ELECTRICAL LEGEND

ABBREVIATIONS

A12	ALPHANUMERIC LABEL INDICATES PANEL AND CIRCUIT TO WHICH ITEM IS CONNECTED (I.E. PANEL A. CIRCUIT 12)
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
CCT	CIRCUIT
CP	COVER PLATE
E.C.	ELECTRICAL (SUB) CONTRACTOR
EXTG.	EXISTING
F.B.O.	FURNISHED BY OTHERS, INSTALLED AND/OR WIRED BY ELECTRICAL CONTRACTOR
G.C.	GENERAL (SUB) CONTRACTOR
HP	HORSEPOWER
L.D.	LOCATE AS DIRECTED
MAX	MAXIMUM
M.C.	MECHANICAL (HVAC, PLBG, FP, OR TC) (SUB) CONTRACTOR
MH	MOUNTING HEIGHT TO BOTTOM OF DEVICE, BOX, OR FIXTURE, UNO
MIN	MINIMUM
OREQ	OR EQUAL
PAF	PAINTED AFTER FABRICATION
REV	REVIEW
R/M	REMOVE
R/L	RELOCATE/RELOCATED
TWLK	TWIST/TURN TO LOCK TYPE RECEPT/PLUG
UNO	UNLESS NOTED OTHERWISE
W/	COMPLETE WITH
WG	WITH WIRE GUARD
WP	WEATHERPROOF DEVICE, ENCLOSURE OR COVER PLATE.
XP	EXPLOSION-PROOF DEVICE OR ENCLOSURE, RATED FOR CLASS I, DIV 1, UNO

	LED/FLUORESCENT FIXTURE-SEE SCHEDULE-SHOWN TO SCALE (APPROX.)
	DUAL LAMP STRIP-SEE SCHEDULE-SHOWN TO SCALE (APPROX.)
	FLOODLIGHT FIXTURE-SEE FIXTURE SCHEDULE
	RECESSED DOWNLIGHT FIXTURE-SEE SCHEDULE
E1 E2	EXIT SIGN-SINGLE OR DOUBLE FACE AS NUMBERED-ARROWS AS NOTED-CEILING OR WALL MOUNTED AS SHOWN-SEE SCHEDULE
	EMERGENCY EGRESS OR COMBINATION EXIT EGRESS LIGHT-SEE SCHEDULE
$M	OCCUPANCY SWITCH-800 VA-120/277V-LINEVOLTAGE-W/C.P.-ADJUSTABLE TIMEOUT- 15 MINUTE MINIMUM, W/ON & OFF OVERRIDE SWITCH-DUAL TECHNOLOGY (IR/US) SENSING-M.H. 44". SENSORSWITCH #WSX-PDT-WH OREQ. COLOR TO MATCH OTHER DEVICES.
$B	BUTTON SWITCHPOD-120/277V-LINE VOLTAGE-W/STAINLESS STEEL C.P.-WHITE FINISH-W/ON & OFF OVERRIDE BUTTON-M.H. 44". SENSORSWITCH #SPODMRA-WH OREQ.
$M	OCCUPANCY SENSOR-CEILING MOUNTED-DUAL TECHNOLOGY(IR/US) SENSING-W/120V OR 277V POWER PACK AND 20 AMP RELAY-ADJUSTABLE TIMER-15 MINUTE MINIMUM-WHITE FINISH. FIELD ADJUSTABLE MASKING. WATTSTOPPER DT300/BZ-200 SERIES OREQ
	DUPLEX GFCI RECEPT.-20A-120V-NEMA 5-20R W/STAINLESS STEEL C.P. - M.H.16" IN READILY ACCESSIBLE LOCATION. HUBBELL #GFRST20GY OREQ.
	DOUBLE DUPLEX GFCI RECEPT.-TWO DEVICES TO MATCH ABOVE IN 2 GANG BOX-W/STAINLESS STEEL C.P.-M.H. 16"
30	PEDESTAL FLOOR BOX-MULTISERVICE-SURFACE MOUNTED-W/120V-30 AMP-NEMA L5-30P RECEPT.-STAINLESS STEEL COVERPLATE. HUBBELL #SC3099A SERIES OREQ
	PEDESTAL FLOOR BOX-MULTISERVICE-SURFACE MOUNTED-W/120V-15 AMP-NEMA 5-15P RECEPT.-STAINLESS STEEL COVERPLATE. HUBBELL #SC3099A SERIES OREQ
	PEDESTAL FLOOR BOX-MULTISERVICE-SURFACE MOUNTED-W/240V-20 AMP-NEMA 6-20P RECEPT.-STAINLESS STEEL COVERPLATE. HUBBELL #SC3099A SERIES OREQ
	MOTOR-FRACTIONAL H.P.-120 VOLT (EF=EXH. FAN; UH=UNIT HEATER; MD=MOTORIZED DAMPER)
3	MOTOR-SIZE AND FUNCTION AS NOTED-3 PHASE
	DISCONNECT SWITCH-HP RATED-TOGGLE TYPE-20 AMP-1 TO 3 POLES AS REQUIRED FOR EQPT-600 VOLT-NEMA 1 ENCLOSURE U.N.O.-LOCATE ADJACENT TO EQUIPMENT SERVED. (WP=WEATHERPROOF ENCLOSURE) SQUARE D CLASS 2510 SERIES OREQ
CP	PRE-WIRED CONTROL PANEL WITH MAGNETIC STARTERS, CONTACTORS, ETC., PROVIDED WITH EQUIPMENT. WITH OR WITHOUT DISCONNECT AS SHOWN. POWER FEED WIRING BY E.C.
IZ	FIRE ALARM INDIVIDUALLY ADDRESSABLE ZONE MODULE-FLUSH MOUNTED- MH 5'0"
J	JUNCTION BOX-REQUIRED WHERE SHOWN
	CONDUIT-CONCEALED IN CEILING, WALL OR FLOOR OF NEW CONSTRUCTION. CONCEALED WHEREVER POSSIBLE IN EXISTING CONSTRUCTION (1/2" OR 3/4" DIA. MIN.)
	HOMERUN TO PANEL OR LOCATION NOTED
	INDICATES CONCEALED CONDUIT UNDERGROUND/UNDERFLOOR - 3/4" MIN.
	SURFACE MOUNTED RACEWAY-W/MATCHING FITTINGS, BOXES, ACCESSORIES, MOUNTING BRACKETS/SUPPORTS (NO STRAPS), ETC. WIREMOLD #V700 SERIES, HUBBELL #HBL75010W SERIES OREQ
	INDICATES LOCAL SWITCHING OR CONTROL FUNCTION
S	EXISTING SPEAKER-TO BE RELOCATED IN NEW CEILING-SEE PLANS AND GENERAL NOTES
$	EXISTING ITEMS ARE TO REMAIN-UNO
$	EXISTING ITEMS SHOWN DASHED ARE TO BE REMOVED-UNO
	EXISTING INC. OR HID. FIXTURE-TO BE REMOVED
	EXISTING FLUORESCENT FIXTURE-TO BE REMOVED

BRANCH CIRCUIT CONDUCTOR SIZING CHART

MAX. CIRCUIT LENGTH TO FARTHEST OUTLET	CIRCUIT VOLTAGE	MINIMUM BRANCH CIRCUIT SIZE.
100 FEET	120	#12 AWG
165 FEET	120	#10 AWG
265 FEET	120	#8 AWG
400 FEET	120	#6 AWG
250 FEET	277	#12 AWG
400 FEET	277	#10 AWG
550 FEET	277	#8 AWG
750 FEET	277	#6 AWG

ELECTRICAL DRAWING LIST

DWG NO.	TITLE	FILE NO.
E1.01	ELECTRICAL SPECIFICATIONS & LEGEND	M2502017E1.01
E1.02	ELECTRICAL FIXTURE SCHEDULE & DETAILS	M2502017E1.02
E1.03	ELECTRICAL EQUIPMENT SCHEDULE & PANEL SCHEDULES	M2502017E1.03
E2.01	LIGHTING & POWER PLAN - DEMOLITION	M2502017E2.01
E3.01	LIGHTING & POWER PLAN	M2502017E3.01

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Date: 2025.04.14 08:54:21-06'00'

DATE	DESCRIPTION
04.16.2025	BIDDING & STATE REVIEW

KITCHEN CAFETERIA UPDATES & RELATED WORK
AT
IDA HIGH SCHOOL
3145 PRAIRIE STREET, IDA, MI 48140
FOR
IDA PUBLIC SCHOOLS
3145 PRAIRIE STREET, IDA, MI 48140

JOB # 25002

ELECTRICAL SPECIFICATIONS & LEGEND

E1.01

L:\Kohler Architecture Inc\26000065.001A-Kohler IDA Public HS Kitch\Working\DWG\M2502017E1.01.dwg 04/14/25 8:33:53 NKamm

FIXTURE SCHEDULE

MARK	LAMP CATEGORY	LAMP QTY/TYPE	VOLTS	DESCRIPTION	MFR. AND CATALOG SERIES	VA
DA	FLUOR	–	–	DISCONNECT AND REMOVE EXISTING 2'X4' FIXTURE. EXISTING BRANCH CIRCUIT SHALL REMAIN FOR REUSE.		180
DB	FLUOR	–	–	DISCONNECT AND REMOVE EXISTING 2'X2' FIXTURE. EXISTING BRANCH CIRCUIT SHALL REMAIN FOR REUSE.		90
DC	FLUOR	–	–	DISCONNECT AND REMOVE EXISTING DOWNLIGHT FIXTURE. EXISTING BRANCH CIRCUIT SHALL REMAIN FOR REUSE U.N.O.		100
DD	FLUOR	–	–	DISCONNECT AND REMOVE EXISTING 8' STRIP LIGHT FIXTURE. EXISTING BRANCH CIRCUIT SHALL REMAIN FOR REUSE U.N.O.		200
DE		–	–	DISCONNECT AND REMOVE EXISTING EXIT/EGRESS/EMERGENCY FIXTURE. EXISTING BRANCH CIRCUIT SHALL REMAIN FOR REUSE.		40
A	LED	24.6 WATT 3000 LUMENS 4000K CCT	MVOLT	2'X4' SWITCHABLE LED FLAT PANEL LIGHT FIXTURE, LAY-IN MOUNTED, PRISMATIC LENS, ELECTRONIC DRIVER, 0-10V DIMMER, WHITE FINISH. SET OUTPUT TO 3000 LUMENS AND 4000K.	LITHONIA CPX-2X4-ALO8-80CRI-SWW7-A12 -MVOLT-REV OR APPROVED EQUAL BY COOPER, CREE LIGHTING, ETC.	30
B	LED	17.5 WATT 1500 LUMENS 4000K CCT	MVOLT	DOWNLIGHT, ALUMINUM FRAME, GASKET FOR WET LOCATION, REMOTE DRIVER BOX, ACRYLIC LENS, ELECTRONIC DRIVER, WHITE FINISH COLOR. FINISH TO BE COORDINATED WITH ARCH.	LITHONIA LDN6-40-15-L06AR-LSS-MVOLT-EZ1-REV OR APPROVED EQUAL BY COOPER, CREE LIGHTING, ETC.	20
C	LED	60 WATT 8,386 LUMENS 4000K CCT	MVOLT	8' LED STRIP, SUSPENDED, ROUND SEMI-FROSTED LENS, WHITE STEEL HOUSING, ELECTRIC DRIVER, 0-10V DIMMING. PROVIDE SUSPENSION CABLING SUFFICIENT FOR MTG. HT. AT 10'-0" A.F.F.	LITHONIA ZL10-L96-SWR-6000LM-FST-MVOLT-40K-80CRI-REV OR APPROVED EQUAL BY COOPER, CREE LIGHTING, ETC.	65
E	LED	INCLUDED	MVOLT	COMBINATION EXIT/EGRESS LIGHT, WALL OR CEILING MOUNTED, SINGLE OR DOUBLE FACE AS REQUIRED, 6-INCH RED LETTERS IN WHITE STENCIL FACE, POLYCARBONATE HOUSING, ARROWS AS SHOWN, WITH TWO HI-INTENSITY ADJUSTABLE FLOOD LIGHT HEADS, UNIVERSAL MOUNTING CANOPY WITH BUILT-IN 90 MINUTE EXTRA CAPACITY BATTERY BACKUP AND OUTDOOR WEATHER PROOF REMOTE FLOODLIGHT HEAD WHERE SHOWN ON PLAN. MOUNTING HEIGHT AT 8'-0" A.F.F. UNO.	LITHONIA LHQM-LED-R-HO-REV OR APPROVED EQUAL BY COOPER, CREE LIGHTING, ETC.	10
EM	LED	2-5.3W INCLUDED	MVOLT	EMERGENCY EGRESS LIGHT, POLYCARBONATE HOUSING, WHITE FINISH, TWIN 6 VOLT SEALED LEAD BATTERY, 90 MIN. BATTERY BACK-UP. MOUNTING HEIGHT AT 8'-0" A.F.F. UNO.	LITHONIA ELM2L-M12-REV OR APPROVED EQUAL BY COOPER, CREE LIGHTING, ETC.	5
E1	LED	2-5.3W INCLUDED	MVOLT	EXIT LIGHT, CEILING OR WALL MOUNTED, SINGLE FACE, 6 INCH RED LETTERS, POLYCARBONATE HOUSING, ARROWS AS SHOWN, WHITE FINISH, UNIVERSAL MOUNTING CANOPY, 90 MIN. BATTERY BACK-UP. MOUNTING HEIGHT AT 8'-0" A.F.F. UNO.	LITHONIA LQM-S-W-3-R-MVOLT-ELN-REV OR APPROVED EQUAL BY COOPER, CREE LIGHTING, ETC.	5

COMcheck Software Version COMcheckWeb

Interior Lighting Compliance Certificate

Project Information

Energy Code: 90.1 (2013) Standard
Project Title: M2502017 Ida HS Kitchen Cafeteria Updates
Project Type: Alteration

Construction Site:
3145 Prairie Street
Ida, Ohio 48140

Owner/Agent:
Kamm Nicole
Kohler Architecture
1110 West Front Street
Monroe, Ohio 48161

Designer/Contractor:
Kamm Nicole
Kleinfelder
415 Conant Street
Monroe, Ohio 48161
419.891.0022
nkamm@kleinfelder.com

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts
1-School/University	1931	0.87	1680
		Total Allowed Watts =	1680

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
School/University (1931 sq.ft.)				
LED: A: 2'x4': Other:	0	18	25	443
LED: B: 6" DWNLT: Other:	1	3	18	52
LED: C: 8' STRIP LIGHT: Other:	1	2	18	35
			Total Proposed Watts =	530

Interior Lighting PASSES

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 90.1 (2013) Standard requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Nicole Kamm, Electrical Designer — Name - Title
Signature
March 19, 2025 — Date

Project Title: M2502017 Ida HS Kitchen Cafeteria Updates
Data filename:
Report date: 03/18/25
Page 1 of 4

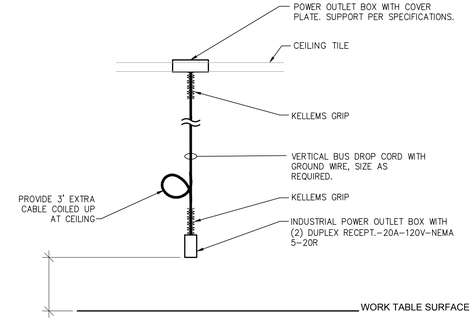
GENERAL NOTES:

DEMOLITION

1. REFERENCE ARCHITECTURAL PLANS FOR MORE INFORMATION ON EXISTING KITCHEN EQUIPMENT TO BE REMOVED OR STORED FOR RE-USE.
2. SEAL ALL EXISTING UNUSED PENETRATIONS ASSOCIATED WITH DEMOLITION THRU FIRE RATED ASSEMBLIES WITH APPROVED FIRE-STOPPING MATERIALS. REFER TO ARCHITECTURAL PLANS, LS1.00 FOR FIRE-RATED WALLS AND PARTITIONS AND SPECIFICATIONS FOR FURTHER DETAILS.
3. COORDINATE WITH PRIME CONTRACTOR FOR PROJECT SCOPE AND SEQUENCE OF CONSTRUCTION BEFORE COMMENCING ANY WORK.
4. CAREFULLY DISCONNECT, PROTECT, STORE AND/OR SUPPORT ALL DEVICES LOCATED IN CEILING PRIOR TO CEILING DEMOLITION, INCLUDING BUT NOT LIMITED TO RECEPTACLES, AUDIO SPEAKERS, WIRELESS ACCESS POINTS, PUBLIC ADDRESS DEVICES AND SECURITY CAMERAS, ETC. PRIOR TO CONSTRUCTION. COORDINATE WITH GENERAL TRADES BEFORE DEMOLITION WORK.

NEW WORK

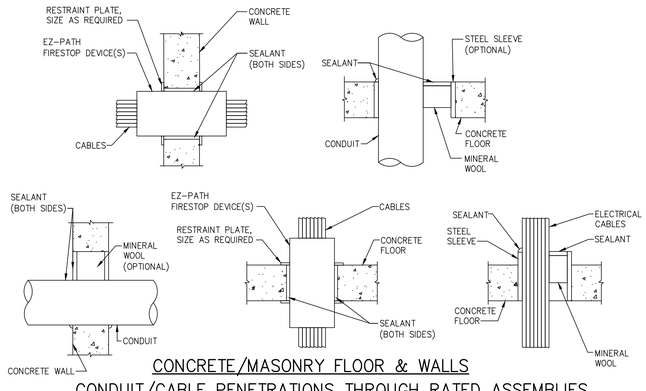
1. REFERENCE ARCHITECTURAL PLANS FOR MORE INFORMATION ON NEW KITCHEN EQUIPMENT.
2. SEAL ALL PENETRATIONS ASSOCIATED WITH NEW CONSTRUCTION THRU FIRE RATED ASSEMBLIES WITH APPROVED FIRE-STOPPING MATERIALS. REFER TO ARCHITECTURAL PLANS, LS1.00 FOR FIRE-RATED WALLS AND PARTITIONS AND SPECIFICATIONS FOR FURTHER DETAILS.
3. PATCH AND PAINT SHALL BE COVERED BY GENERAL TRADES. ALL RACEWAYS SHALL MATCH WALL FINISH. COORDINATE WITH ARCHITECT.
3. COORDINATE WITH PRIME CONTRACTOR FOR PROJECT SCOPE AND SEQUENCE OF CONSTRUCTION BEFORE COMMENCING ANY WORK.
4. RECONNECT AND INSTALL ALL DEVICES LOCATED IN CEILING, SUCH AS RECEPTACLES, AUDIO SPEAKERS, WIRELESS ACCESS POINTS, PUBLIC ADDRESS DEVICES AND SECURITY CAMERAS, ETC.
5. REFERENCE EQUIPMENT SCHEDULE ON SHEET E1.03 FOR ELECTRICAL INFORMATION REGARDING KITCHEN AND HVAC EQUIPMENT.



DROP CORD – SUSPENDED OUTLET '⊗'

NO SCALE

E.C. SHALL COORDINATE ALL DROP CORD LOCATION WITH OWNER PRIOR TO INSTALLATION.



CONCRETE/MASONRY FLOOR & WALLS
CONDUIT/CABLE PENETRATIONS THROUGH RATED ASSEMBLIES

N.T.S.

GENERAL NOTES

1. CABLE AND CONDUIT PENETRATION DETAILS ARE BASED ON A U.L. LISTED FIRE RATED ASSEMBLY (MINIMUM) UTILIZING STI FIRE STOP PRODUCTS. MANUFACTURERS SHALL BE STI, HILTI, 3M OR APPROVED EQUAL. REFER TO MANUFACTURER'S SPECIFICATIONS AND INSTALLATION DETAILS FOR EXACT INSTALLATION METHODS.
2. PACKING AND SEALANT DEPTHS SHALL BE PER MANUFACTURER'S SPECIFICATIONS FOR U.L. ASSEMBLY RATING COMPLIANCE.
3. ALL FIRE STOP LOCATIONS SHALL BE LABELED AT POINT OF PENETRATION. LABEL SHALL IDENTIFY FIRE STOPPING MATERIAL, U.L. LISTING NUMBER AND HOUR RATING OF WALL/FLOOR

KOHLER ARCHITECTURE
1110 WEST FRONT STREET
MONROE, MICHIGAN 48161
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Date: 2025.04.14 08:54:21-06'00'

DATE	DESCRIPTION
04.16.2025	BIDDING & STATE REVIEW

KITCHEN CAFETERIA UPDATES & RELATED WORK

IDA HIGH SCHOOL
3145 PRAIRIE STREET, IDA, MI 48140

AT

IDA PUBLIC SCHOOLS
3145 PRAIRIE STREET, IDA, MI 48140

FOR

JOB # 25002

ELECTRICAL FIXTURE SCHEDULE & DETAILS

E1.02

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(EXISTING CIRCUITING)

(1) PANELBOARD SCHEDULE

EXISTING PANEL: BP-E | NOTES: EXISTING PANEL IS ITE
MAINS: 225A M.L.O.
VOLTS: 120/240V-3ø-4W-SN
MOUNTING: RECESSED

[1] GFCI BREAKER · [2] 30 MILLIAMP EQUIPMENT GROUND FAULT TRIP · [3] SHUNT TRIP · [4] ARC FAULT · [5] SWITCHED NEUTRAL · [6] MOTOR OPERATED · ___ KAIC RATING · [7] NON-CONSEQUENT LOAD · [8]

	CKT	LOAD DESCRIPTION	NOTES	VOLT AMPS	C.B. AMP	C.B. P	A	B	C	C.B. P	C.B. AMP	VOLT AMPS	NOTES	LOAD DESCRIPTION	CKT
	1	AHU, BOLER RM		941	15	3	941			3	70	0		DISHWASHER (OLD)	2
	3	–		941	15	3		941		3	70	0		–	4
	5	–		941	15	3			941	3	70	0		–	6
	7	DISHWASHER		1600	30	3	2043			3	15	443		BOILER	8
	9	–		1600	30	3		2043		3	15	443		–	10
	11	–		1600	30	3			2043	3	15	443		–	12
(2)	13	RANGE HOOD		581	15	3	1581			3	20	1000		CIRC PUMPS	14
(2)	15	–		581	15	3		1581		3	20	1000		–	16
(2)	17	–		581	15	3			1581	3	20	1000		–	18
	19	WEST LCAC		924	20	3	1924			3	20	1000		SPRINKLER COMPRESSOR	20
	21	–		924	20	3		1924		3	20	1000		–	22
	23	–		924	20	3			1924	3	20	1000		–	24
	25	AHU FOR OFFICE		2000	30	3	2500			3	20	500		EAST LCAC	26
	27	–		2000	30	3		2500		3	20	500		–	28
	29	–		2000	30	3			2500	3	20	500		–	30
(2)	31	SPARE (OLD FREEZER)		0	50	3	6640			3	60	6640		GENERATOR	32
(2)	33	–		0	50	3		6640		3	60	6640		PANEL	34
(2)	35	–		0	50	3			6640	3	60	6640		BOILER RM	36
		HANDLE TIE / HANDLE LOCK					15629	15629	15629						
		BALANCE					100%	100%	100%						

TOTAL LOAD: 46887 TOTAL AMPS: 113.0

(NEW CIRCUITING)

(3) PANELBOARD SCHEDULE

EXISTING PANEL: BP-E | NOTES: EXISTING PANEL IS ITE
MAINS: 225A M.L.O.
VOLTS: 120/240V-3ø-4W-SN
MOUNTING: RECESSED

[1] GFCI BREAKER · [2] 30 MILLIAMP EQUIPMENT GROUND FAULT TRIP · [3] SHUNT TRIP · [4] ARC FAULT · [5] SWITCHED NEUTRAL · [6] MOTOR OPERATED · ___ KAIC RATING · [7] NON-CONSEQUENT LOAD · [8]

	CKT	LOAD DESCRIPTION	NOTES	VOLT AMPS	C.B. AMP	C.B. P	A	B	C	C.B. P	C.B. AMP	VOLT AMPS	NOTES	LOAD DESCRIPTION	CKT
	1	AHU, BOLER RM		941	15	3	941			3	70	0		DISHWASHER (OLD)	2
	3	–		941	15	3		941		3	70	0		–	4
	5	–		941	15	3			941	3	70	0		–	6
	7	DISHWASHER		1600	30	3	2043			3	15	443		BOILER	8
	9	–		1600	30	3		2043		3	15	443		–	10
	11	–		1600	30	3			2043	3	15	443		–	12
	13	**KEF-1**		**528**	15	3	1528			3	20	1000		CIRC PUMPS	14
	15	–		**528**	15	3		1528		3	20	1000		–	16
	17	–		**528**	15	3			1528	3	20	1000		–	18
	19	WEST LCAC		924	20	3	1924			3	20	1000		SPRINKLER COMPRESSOR	20
	21	–		924	20	3		1924		3	20	1000		–	22
	23	–		924	20	3			1924	3	20	1000		–	24
	25	AHU FOR OFFICE		2000	30	3	2500			3	20	500		EAST LCAC	26
	27	–		2000	30	3		2500		3	20	500		–	28
	29	–		2000	30	3			2500	3	20	500		–	30
(4)	31	**WASHER/DRYER**		**1560**	**20**	**1**	8200			3	60	6640		GENERATOR	32
(4)	33	**EUH-1**		**1500**	**20**	**1**		8140		3	60	6640		PANEL	34
(4)	35	**RECEPT**		**180**	**20**	**1**			6820	3	60	6640		BOILER RM	36
		HANDLE TIE / HANDLE LOCK					17136	17076	15756						
		BALANCE					103%	103%	95%						

TOTAL LOAD: 49968 TOTAL AMPS: 120.4

PANEL SCHEDULE NOTES

1. PANEL DIRECTORIES REFLECT INFORMATION OBSERVED FROM FIELD VISITS. EXISTING BRANCH CIRCUIT LOADS ARE ESTIMATED. FIELD VERIFY CIRCUIT DESIGNATIONS ASSOCIATED WITH RENOVATIONS AND FIELD VERIFY LOAD FOR ANY CIRCUIT MODIFIED OR EXTENDED AS PART OF THIS PROJECT. MAINTAIN BRANCH CIRCUIT WIRING CONTINUITY TO EXISTING DEVICES REMAINING.
2. REMOVE EXISTING ITEM INCLUDING ASSOCIATED CONDUIT AND WIRING NO LONGER IN SERVICE. EXISTING BREAKER SHALL BECOME A SPARE OR REMOVE BREAKER AND TURN OVER TO OWNER.
3. CREATE NEW PANEL DIRECTORY AT COMPLETION OF PROJECT.
4. PROVIDE CIRCUIT BREAKER TO MATCH EXISTING IN AVAILABLE SPACES. NEW BREAKERS TO MATCH EXISTING IN TYPE, STYLE, MANUFACTURER, AND AIC RATING.

(EXISTING CIRCUITING)

(1) PANELBOARD SCHEDULE

EXISTING PANEL: BP-D | NOTES: EXISTING PANEL IS EATON PRL1A
MAINS: 225A M.L.O.
VOLTS: 120/240V-1ø-3W-SN
MOUNTING: RECESSED

[1] GFCI BREAKER · [2] 30 MILLIAMP EQUIPMENT GROUND FAULT TRIP · [3] SHUNT TRIP · [4] ARC FAULT · [5] SWITCHED NEUTRAL · [6] MOTOR OPERATED · KAIC · [7] NON-CONSEQUENT LOAD · [8]

	CKT	LOAD DESCRIPTION	NOTES	VOLT AMPS	C.B. AMP	C.B. P	A	B	C.B. P	C.B. AMP	VOLT AMPS	NOTES	LOAD DESCRIPTION	CKT	
	1	BATH & COUNTER PLUG		360	20	1	720		1	20	360		COMP RM/KITCH	2	
	3	SERVING PLUG		540	20	1		900	1	20	360		KIT/FOOD STR RECEPT	4	(2)
	5	BOILER/STOVE PLUGS		360	20	1	460		1	20	100		CUN SERVING AREA	6	
	7	CUN		100	20	1		800	1	20	700		PRV#9 OVER DW	8	
(2)	9	N. SERVING TABLE		4800	50	2	5500		2	50	700		WARMING OVEN	10	(2)
(2)	11	S. SERVING TABLE		4800	50	2		5500	2	50	700		WARMING OVEN	12	(2)
	13	EAST HEATER		500	20	1	500		2	30	0		SPARE (OLD SINK HTR)	14	(2)
	15	WEST HEATER		500	20	1		500	2	30	0		SPARE (OLD SINK HTR)	16	(2)
	17	REFRIGERATOR		500	20	1	600		1	20	100		SPRINKLER ALARM	18	
	19	30 QT MIXER (OLD)		0	20	1		500	1	20	500		OUTSIDE LTS	20	
	21	WALKIN FREEZER LTS		1000	20	1	1360		1	20	360		PLUGS ON S. SERVE TB	22	
	23	DISPOSAL		180	20	1		430	1	20	250		KITCH PEDESTAL PLUG	24	
	25	TIME CLOCK CONTROL		100	20	1	200		1	20	100		BOILER RM UNIT HTRS	26	
	27	DISPOSAL		900	20	2		1400	1	20	500		CAFE S&W OUTLETS	28	
	29	DISPOSAL		900	20	2	1400		1	20	500		CAFE S&E OUTLETS	30	
		HANDLE TIE / HANDLE LOCK					10740	10030							
		BALANCE					103%	97%							

TOTAL LOAD: 20770 TOTAL AMPS: 86.5

(NEW CIRCUITING)

(3) PANELBOARD SCHEDULE

EXISTING PANEL: BP-D | NOTES: EXISTING PANEL IS EATON PRL1A
MAINS: 225A M.L.O.
VOLTS: 120/240V-1ø-3W-SN
MOUNTING: RECESSED

[1] GFCI BREAKER · [2] 30 MILLIAMP EQUIPMENT GROUND FAULT TRIP · [3] SHUNT TRIP · [4] ARC FAULT · [5] SWITCHED NEUTRAL · [6] MOTOR OPERATED · KAIC · [7] NON-CONSEQUENT LOAD · [8]

	CKT	LOAD DESCRIPTION	NOTES	VOLT AMPS	C.B. AMP	C.B. P	A	B	C.B. P	C.B. AMP	VOLT AMPS	NOTES	LOAD DESCRIPTION	CKT	
	1	BATH & COUNTER PLUG		360	20	1	720		1	20	360		COMP RM/KITCH	2	
	3	SERVING PLUG		540	20	1		1188	1	20	**648**		**REFRIG.**	4	
	5	BOILER/STOVE PLUGS		360	20	1	460		1	20	100		CUN SERVING AREA	6	
	7	CUN		100	20	1		800	1	20	700		PRV#9 OVER DW	8	
(4)	9	**SERV TBL HOT FOOD WELL**	[1]	**2664**	**30**	2	3936		**1**	**20**	**1272**	[1]	**SERVING TABLE HTRS**	10	(4)
(4)	11	**–**	[1]	**2664**	**30**	2		4512	**1**	**20**	**1848**		**DBL DECK OVENS**	12	(4)
	13	EAST HEATER		500	20	1	3500		**1**	**40**	**3000**		**MERCHANDISER**	14	(4)
	15	WEST HEATER		500	20	1		1700	**1**	**20**	**1200**		**KH-1 CP**	16	(4)
	17	REFRIGERATOR		500	20	1	600		1	20	100		SPRINKLER ALARM	18	
	19	30 QT MIXER (OLD)		0	20	1		500	1	20	500		OUTSIDE LTS	20	
	21	WALKIN FREEZER LTS		1000	20	1	1360		1	20	360		PLUGS ON S. SERVE TB	22	
	23	DISPOSAL		180	20	1		430	1	20	250		KITCH PEDESTAL PLUG	24	
	25	TIME CLOCK CONTROL		100	20	1	200		1	20	100		BOILER RM UNIT HTRS	26	
	27	DISPOSAL		900	20	2		1400	1	20	500		CAFE S&W OUTLETS	28	
	29	DISPOSAL		900	20	2	1400		1	20	500		CAFE S&E OUTLETS	30	
		HANDLE TIE / HANDLE LOCK					12176	10530							
		BALANCE					107%	93%							

TOTAL LOAD: 22706 TOTAL AMPS: 94.6

EXISTING PANEL D LOAD SUMMARY

LOAD TYPE		CONNECTED VA	DEMAND FACTOR	DEMAND VA
REMOVED LOADS		-13000	100%	-13000
KITCHEN EQUIPMENT	NEC 220.56	11980	65%	7787
MECH EQUIPMENT	NEC 220.60	1200	100%	1200
TOTAL LOAD IN VA		180		-4013
TOTAL AMPS @ 240VOLT-1PHASE		1		-17

EXISTING PANEL E LOAD SUMMARY

LOAD TYPE		CONNECTED VA	DEMAND FACTOR	DEMAND VA
REMOVED LOADS		-1700	100%	-1700
MECH EQUIPMENT	NEC 220.60	4640	100%	4640
TOTAL LOAD IN VA		2940		2940
TOTAL AMPS @ 240VOLT-3PHASE		7		7

KITCHEN EQUIPMENT

MARK	EQUIPMENT NAME	MOUNTING	VOLTAGE	PHASE	AMPS	VA	SOURCE/CCT#	BRANCH CIRCUIT SIZE	RECEPTACLE OR CONNECTION	NOTES
1.1	KH-1	CEILING	120	1	10	1200	D-16	2#12 + #12G	HARD-WIRED	1
1.2	KEF-1	ROOF	208	3	6.6	1584	E-13,15,17	3#12 + #12G	HARD-WIRED	1
3	DISHWASHER & HOOD (EXISTING)	WALL							HARD-WIRED	1,3
4	GARBAGE DISPOSAL (EXISTING)	UNDER COUNTER	120	1		800			HARD-WIRED	3
8.1	DOUBLE DECK OVEN	WALL	120	1	7.7	924	D-12	2#12 + #12G	CORD PLUG NEMA 5-15P	1,2
8.2	DOUBLE DECK OVEN	WALL	120	1	7.7	924	D-12	2#12 + #12G	CORD PLUG NEMA 5-15P	1,2
10	REFRIGERATOR	WALL	120	1	5.4	648	D-4	2#12 + #12G	CORD PLUG NEMA 5-15P	1
12	GAS WASHER/DRYER	WALL	120	1	13	1560	E-31	2#12 + #12G	CORD PLUG NEMA 5-15P	1
13	MILK COOLER (EXISTING)	EXTG. WALL	120	1						3
14	CHECKOUT KIOSK (EXISTING)	EXTG. WALL	120	1						3
15.1	DOUBLE DECK WARMER (EXISTING)	EXTG. WALL	120	1						3
15.2	DOUBLE DECK WARMER (EXISTING)	EXTG. WALL	120	1						3
17	COOLER W/GLASS SWING DOOR (EXISTING)	EXTG. WALL	120	1						3
18	FREEZER W/GLASS SWING DOOR (EXISTING)	EXTG. WALL	120	1						3
19	FREEZER W/SINGLE DOOR (EXISTING)	EXTG. WALL	120	1						3
	SERVING TABLE EQUIPMENT:	FLOOR								
20.1	GANGED WATERLESS HOT FOOD WELL	FLOOR	240	1	11.1	2664	D-9,11	3#12 + #12G	CORD PLUG NEMA 6-20P	1
20.2	GANGED WATERLESS HOT FOOD WELL	FLOOR	240	1	11.1	2664	D-9,11	3#12 + #12G	CORD PLUG NEMA 6-20P	1
21.1	DROP-IN HOT ONLY	FLOOR	120	1	5.3	636	D-10	2#12 + #12G	CORD PLUG NEMA 5-15P	1
21.2	DROP-IN HOT ONLY	FLOOR	120	1	5.3	636	D-10	2#12 + #12G	CORD PLUG NEMA 5-15P	1
22	GTI MERCHANDISER	FLOOR	120	1	25	3000	D-14	2#8 + #8G	CORD PLUG L5-30P	1

NOTES:
1 FINAL EQUIPMENT CONNECTION REQUIREMENTS SHALL BE VERIFIED BY ELECTRICAL CONTRACTOR PRIOR TO ELECTRICAL ROUGH-IN. VERIFY WIRE SIZE WITH EQUIPMENT SUPPLIER.
2 120 VOLT CIRCUIT FOR SHUNT TRIP OF EQUIPMENT UNDER HOOD AND GAS VALVE. E.C. SHALL WIRE AS DIRECTED BY EQUIPMENT INSTALLER.
3 EXISTING EQUIPMENT TO BE DISCONNECTED DURING DEMOLITION, STORED DURING CONSTRUCTION, AND RE-INSTALLED AND RECONNECTED. REFERENCE ARCHITECTURAL PLANS FOR MORE INFORMATION. REUSE EXISTING BRANCH CIRCUIT IN SAME LOCATION, UNO.

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Date: 2025.04.14 08:54:21-06'00'

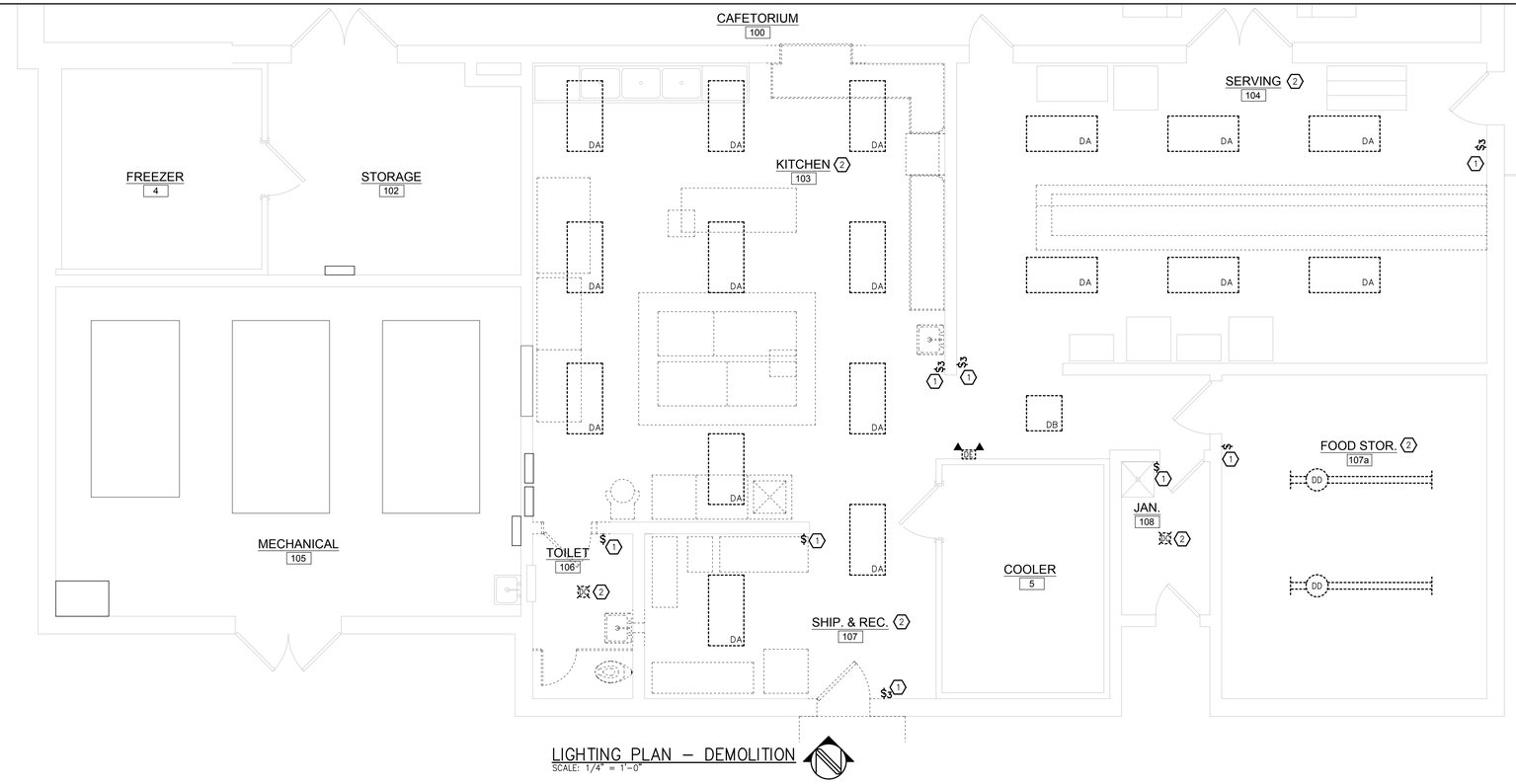
DATE	DESCRIPTION
04.16.2025	BIDDING & STATE REVIEW

KITCHEN CAFETERIA UPDATES & RELATED WORK
AT
IDA HIGH SCHOOL
3145 PRAIRIE STREET, IDA, MI 48140
FOR
IDA PUBLIC SCHOOLS
3145 PRAIRIE STREET, IDA, MI 48140

JOB # 25002

ELECTRICAL EQUIPMENT SCHEDULE & PANEL SCHEDULES

E1.03

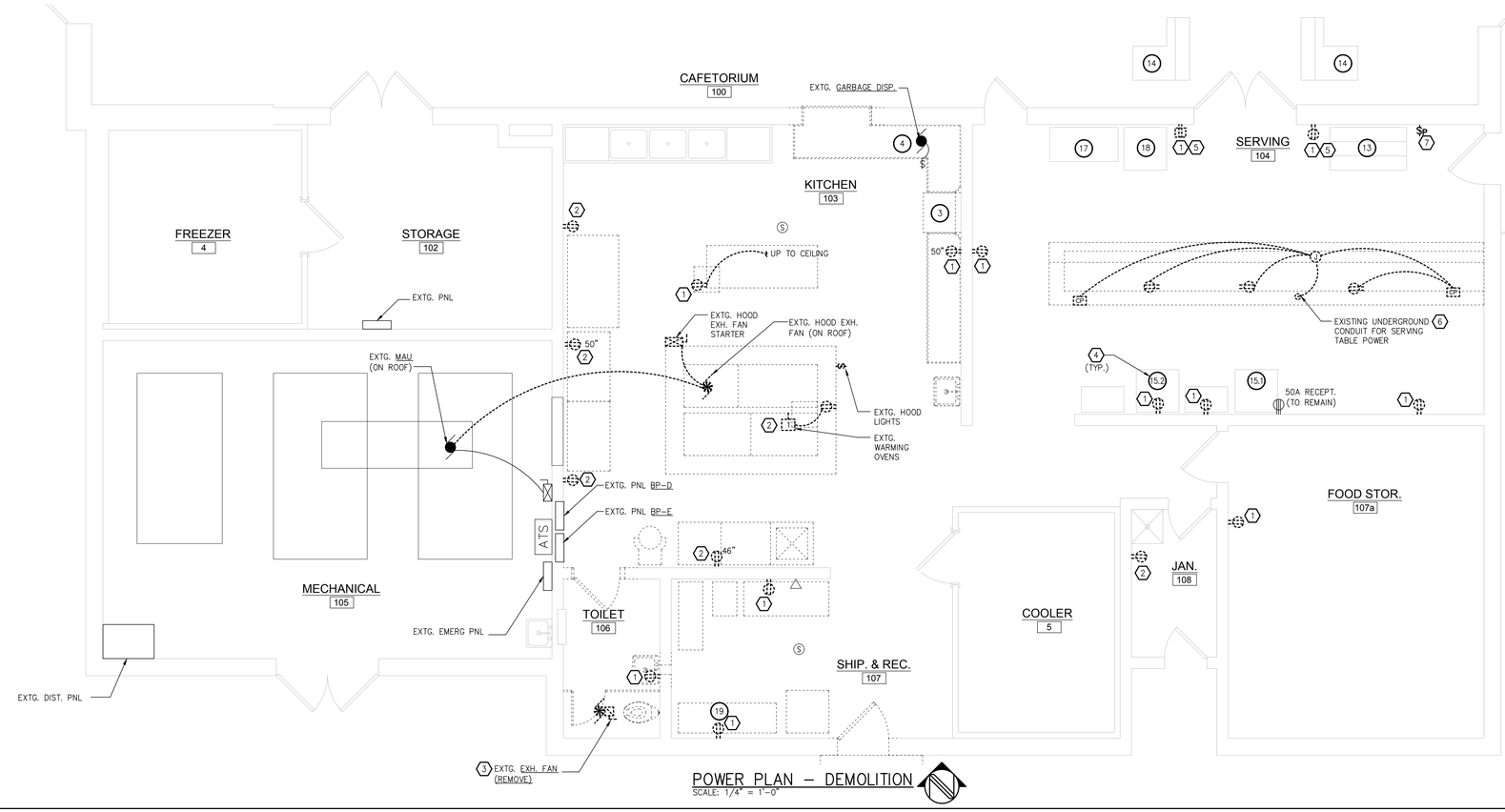


LIGHTING PLAN – DEMOLITION

SCALE: 1/4" = 1'-0"

PLAN NOTES:

1. DISCONNECT AND REMOVE EXISTING LIGHTING CONTROLS. BACKBOX SHALL REMAIN IN PLACE AND SHALL BE REUSED FOR NEW LIGHTING CONTROLS IN SAME LOCATION, UNO. SEE SHEET E3.01 FOR NEW LIGHTING CONTROLS LOCATIONS. IF EXISTING BACKBOX IS NOT REUSED, FURNISH AND INSTALL NEW BLANK STAINLESS STEEL COVERPLATE.
2. DISCONNECT AND REMOVE ALL LIGHTING FIXTURES. BRANCH CIRCUIT WIRING FOR FIXTURE IS INTENDED TO REMAIN AND MAY BE RE-USED AND RE-CONNECTED TO NEW LIGHTS IN SAME AREA. E.C. SHALL VERIFY BRANCH CIRCUIT NUMBERING, AND SHALL EXTEND TO NEW LIGHTING FIXTURES PER SPECIFICATIONS AND NEC. REFERENCE SHEET E3.01 FOR NEW WORK.

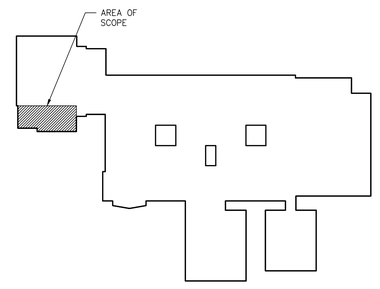


POWER PLAN – DEMOLITION

SCALE: 1/4" = 1'-0"

PLAN NOTES:

1. DISCONNECT AND REMOVE WIRING DEVICE. BRANCH CIRCUIT WIRING FOR DEVICE IS INTENDED TO REMAIN AND SHALL BE RE-USED AND RE-CONNECTED TO NEW DEVICES.
2. REMOVE WIRING DEVICE AND RACEWAY, AND PULL BRANCH CIRCUIT BACK TO SOURCE. ASSUMED SOURCE IS PNL **BP-D** OR **BP-E**. SEE PANEL SCHEDULES, SHEET E1.03 FOR REMOVED ITEMS. WHERE WIRING DEVICE IS NOT REPLACED ON WALL, PROVIDE BLANK STAINLESS STEEL COVERPLATE.
3. DISCONNECT ELECTRICAL CONNECTIONS TO ACCOMMODATE REMOVAL OF EQUIPMENT BY OTHERS. COORDINATE W/ M.C. PRIOR TO TO COMMENCEMENT OF WORK. BRANCH CIRCUIT WIRING IS INTENDED TO REMAIN AND MAY BE REUSED AND RECONNECTED TO NEW EQUIPMENT IN SAME AREA. E.C. SHALL VERIFY BRANCH CIRCUIT NUMBERING AND MAY EXTEND PER SPECIFICATIONS AND N.E.C. REFERENCE SHEET E3.01 FOR MORE INFORMATION.
4. INDICATES EXISTING KITCHEN EQUIPMENT. REFERENCE EQUIPMENT SCHEDULE ON SHEET E1.03 FOR MORE INFORMATION.
5. REMOVE LOCKABLE RECEPTACLE COVERS.
6. BRANCH CIRCUIT TO BE REMOVED BACK TO SOURCE. CUT EXISTING CONDUIT BELOW FLOOR LEVEL AND ABANDON CONDUIT IN PLACE.
7. DISCONNECT AND REMOVE EXISTING SWITCH. FURNISH AND INSTALL NEW BLANK STAINLESS STEEL COVERPLATE.



KEY PLAN

SCALE: NONE

NOTE TO CONTRACTOR:

THE ON-GOING CAMPUS WIDE GEOTHERMAL PROJECT IS SCHEDULED TO BE COMPLETED BY JULY 2025. THERE ARE SEVERAL NOTED MECHANICAL ITEMS, WITHIN THE KITCHEN AREA, THAT ARE SCHEDULED TO BE REMOVED "BY OTHERS" AS PART OF THE GEOTHERMAL WORK. THIS WORK IS CURRENTLY UNDER CONTRACT AND WILL BE COMPLETED IN CONJUNCTION WITH THIS PROJECT. THE SCHEDULED DATE FOR REMOVAL OF THOSE MECHANICAL ITEMS IS UNKNOWN AT THIS TIME. THE OWNER HAS MADE THE CONTRACTOR AWARE OF THIS PROJECT AND FULL COOPERATION BETWEEN THE TWO ON-GOING PROJECTS IS TO BE EXPECTED. ANY COORDINATION WILL BE HANDLED BY OWNER AND ARCHITECT DURING THE PRE-CONSTRUCTION MEETING AND AS NECESSARY, SO THAT THIS PROJECT CAN BE COMPLETED WITH NO INTERRUPTIONS.

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FOR

JOB # 25002

LIGHTING & POWER PLAN - DEMOLITION

E2.01

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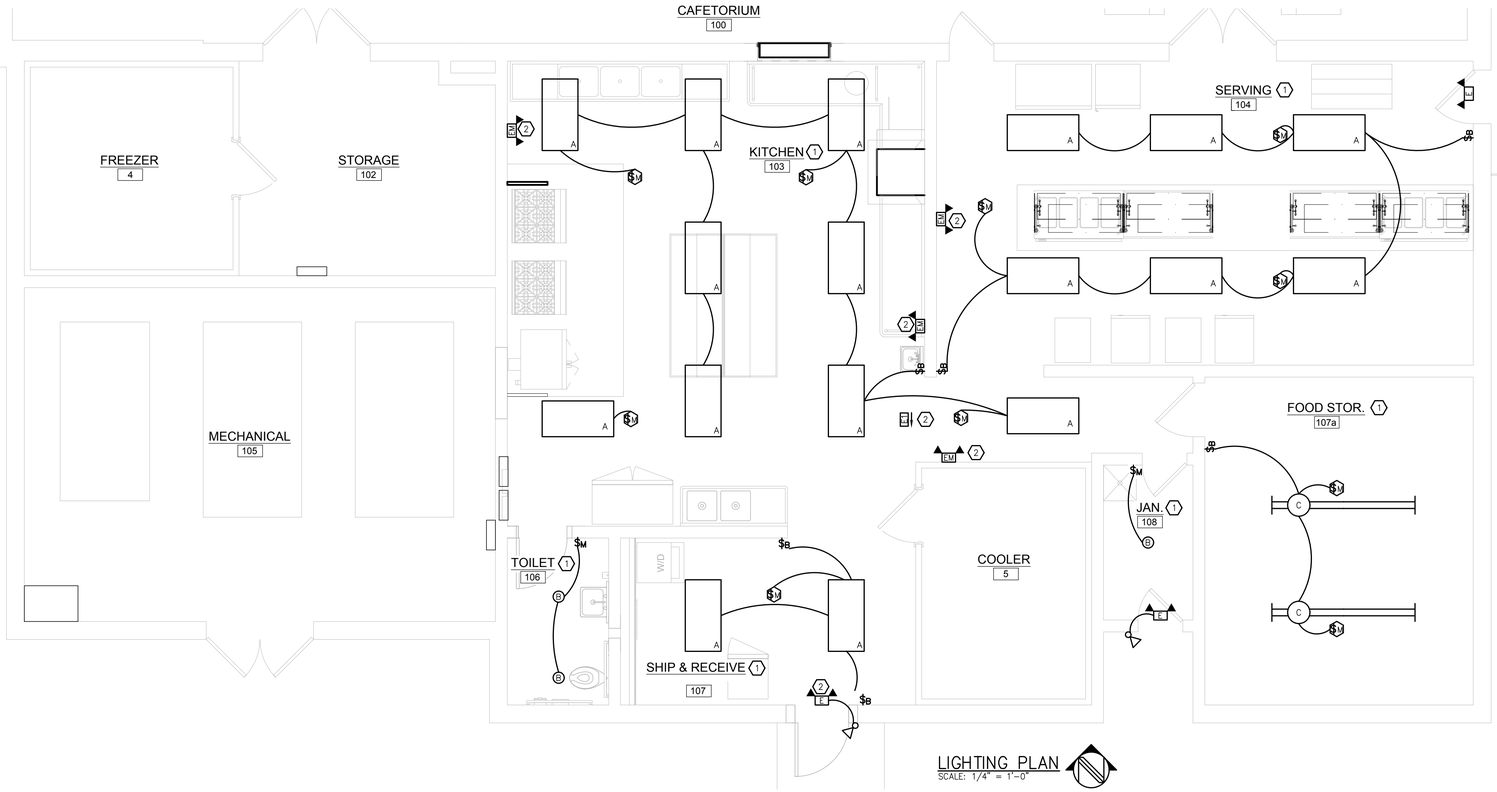
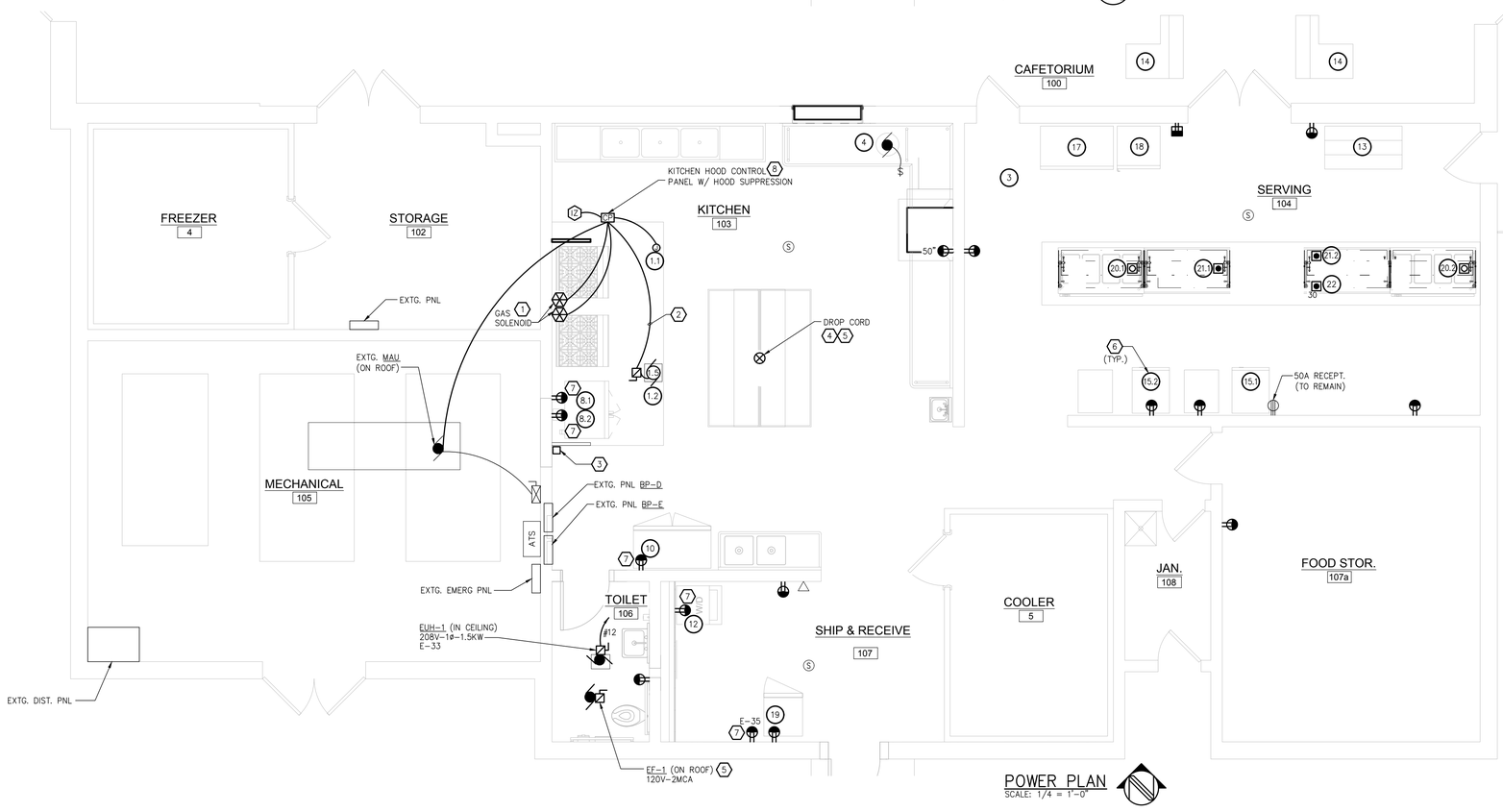


LIGHTING PLAN
SCALE: 1/4" = 1'-0"

PLAN NOTES

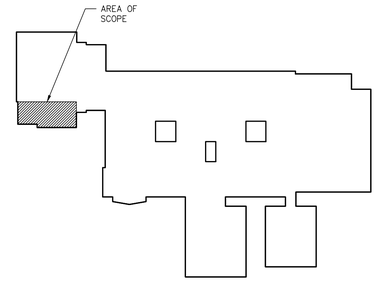
1. RE-WORK AND RE-CONNECT BRANCH CIRCUIT AND LIGHTING CONTROLS IN AREA AS REQUIRED. SEE SHEET E2.01 FOR MORE INFORMATION.
2. EXTEND LOCAL LIGHTING CIRCUIT TO EMERGENCY/EXIT/EGRESS FIXTURE.



POWER PLAN
SCALE: 1/4" = 1'-0"

PLAN NOTES

1. GAS SOLENOID VALVE 120 VOLT. E.C. SHALL PROVIDE INTERLOCK WIRING FROM SUPPRESSION SYSTEM TO HOOD FAN CONTROL PANEL AND GAS SOLENOID FOR SHUTDOWN UPON SYSTEM ACTIVATION.
2. 3/4"C (CONTROLS)
3. SHUNT TRIP: ENCLOSED POWER CONTACTOR ABOVE CEILING FOR OVEN POWER CIRCUIT. CONTROL COILS TO BE WIRED BACK TO KITCHEN HOOD CONTROLS. REFERENCE KITCHEN HOOD INSTRUCTION MANUAL FOR CONTROL WIRING INTERCONNECTION. E.C. TO VERIFY KITCHEN HOOD CONTROL VOLTAGE AS 24V OR 120V. SQUARE D CONTACTOR MODEL #8910DP31V02 OR #8910DP31V14; SQUARE D ENCLOSURE MODEL #9991DPG1 OR EQUAL.
4. REFERENCE DROP CORD DETAIL ON SHEET E1.02.
5. RECONNECT TO EXISTING BRANCH CIRCUIT AND REWORK IF NECESSARY FOR NEW DEVICE.
6. INDICATES EXISTING KITCHEN EQUIPMENT. REFERENCE EQUIPMENT SCHEDULE ON SHEET E1.03 FOR MORE INFORMATION.
7. SURFACE MOUNTED DEVICE. ROUTE CONDUCTORS VIA EMT CONDUIT TO ABOVE ACCESSIBLE CEILING.
8. HOOD CONTROL PANEL F.B.O., E.C. SHALL PROVIDE INTERLOCK WIRING WITH FIRE ALARM SYSTEM, TO MAU, AND OVEN SHUNT TRIP FOR SHUTDOWN UPON SYSTEM ACTIVATION. E.C. SHALL COORDINATE ALL CONNECTIONS WITH MANUFACTURERS DIAGRAMS AND INFORMATION.



KEY PLAN
SCALE: NONE

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LIGHTING & POWER PLAN

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