KITCHEN EXHAUST HOOD REPLACEMENT & RELATED WORK AT IDA ELEMENTARY SCHOOL

7900 IDA STREET, IDA, MICHIGAN 48140

BIDDING



OVERALL SITE PLAN

SCALE: 1" : 120'

LOCATION MAP



SITE MAP

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

PROJECT DIRECTORY

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

CONTACT:
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ARCHITECT OF RECORD:
KOHLER ARCHITECT, INC.
1110 WEST FRONT STREET
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415 CONANT STREET
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CONTACT:
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T: 7419.891.0022

PROJECT DESCRIPTION

PROJECT SCOPE - KITCHEN AREA:

HVAC SCOPE OF WORK:
1. DISCONNECT AND REMOVE (2) EXIST. EXHAUST HOODS AND ASSOCIATED WORK.
2. DISCONNECT AND REMOVE (1) EXISTING ROOF MOUNTED EXHAUST FAN.
3. PROVIDE:
   A. (1) TYPE 1 EXHAUST HOOD (H-1), EQUIPPED WITH FIRE SUPPRESSION SYSTEM AND SUPPLY PLENUM.
   B. (1) ROOF MOUNTED UPBLAST EXHAUST FAN (EF-1) WITH GREASE ACCESSORIES.
   C. (1) TYPE 2 HOOD (H-2)
   D. (1) ROOF-MOUNTED UPBLAST EXHAUST FAN (EF-2)
   E. PROVIDE ZERO-CLEARANCE GREASE DUCTWORK BETWEEN H-1 AND EF-1.
   F. PROVIDE GALVANIZED SHEET METAL DUCTWORK BETWEEN H-2 AND EF-2.

ELECTRICAL SCOPE OF WORK:
1. POWER DISTRIBUTION:
   A. INSTALL NEW FEEDER TO EXISTING PANEL PP-2 (120/240V-3PH-4W, 600A) IN KITCHEN SUPPLY ROOM FROM MAIN DISTRIBUTION PANEL (MDP-120/240V-3PH-4W, 800A) LOCATED IN JANITOR SUPPLY ROOM. ROUTE CONDUITS UP THROUGH ROOF PENETRATION AND RUN ALONG ROOF WITH BLOCK SUPPORTS AND DROP DOWN INTO KITCHEN SUPPLY ROOM. FURNISH AND INSTALL 2(4# 500KCMIL + 1#1/0G-3 1/2"C).
   B. REMOVE AND REPLACE (3) 600A FUSES IN MDP SWITCH FEEDING PP-2. MATCH FUSE TYPE, STYLE AND INTERRUPTING RATING TO EXISTING FUSES.
   C. INSTALL NEW FEEDER TO EXISTING PANEL LP-G (120/240V-1PH-3W, 200A) FROM PANEL PP-2. EXISTING FEEDER COMES FROM UNDERGROUND BUT DOES NOT INCLUDE EGC. ROUTE CONDUIT FROM EXISTING PANEL PP-2 OVERHEAD AND SURFACE MOUNTED ALONG WALLS TO LP-G, RECESSED IN VESTIBULE. FURNISH AND INSTALL 3#2/0 + #6G - 1 1/2"C.
   D. REMOVE AND REPLACE (2) 200A FUSES IN PP-2 SWITCH FEEDING PANEL LP-G (120/240V-1PH-3W, 200A), LOCATED IN VESTIBULE. MATCH FUSE TYPE, STYLE AND INTERRUPTING RATING TO EXISTING FUSES.
   E. FURNISH AND INSTALL NEW GROUNDED BUS BAR TO PANEL PP-2 AND LP-G, CONNECTING ALL EQUIPMENT GROUNDING CONDUCTORS AND ENSURING PROPER SEPARATION FROM THE NEUTRAL BUS TO COMPLY WITH NEC SAFETY STANDARDS.
   F. FIELD INVESTIGATE BRANCH CIRCUITS FED FROM PANELS PP-2 AND LP-G. DISCONNECT AND REMOVE CONDUCTORS NO LONGER IN USE AND CAP ABANDONED CONDUITS AS NEEDED.

ARCHITECTURAL SCOPE:
1. WORK ASSOCIATED WITH THE HVAC AND ELECTRICAL WORK ABOVE - MISC. SAW CUTTING, STRUCTURAL REINFORCING / BRACING, PATCHING AND PAINTING.
2. NEW ROOFTOP GUARDRAIL AT NEW EXHAUST FAN.
3. REWORK EXISTING ROOF DECKING, STRUCTURAL AND EPDM ROOFING FOR NEW ROOF OPENINGS.

DRAWING INDEX

T0.00	TITLE SHEET
T1.00	ABBREVIATIONS, LEGENDS, SYMBOLS
LS1.00	CODE COMPLIANCE PLAN
LS2.00	TYPICAL MOUNTING HEIGHTS & CLEARANCES
LS2.10	TYPICAL MOUNTING HEIGHTS & CLEARANCES
A1.00	FIRST FLOOR DEMOLITION / NEW PLAN
A2.00	REFLECTED CEILING PLAN DEMO/ NEW
A3.00	ROOF PLAN DEMO / NEW
A3.10	MISC. ROOF DETAILS
A3.11	MANUFACTURER ROOF TOP GUARD RAIL DETAILS
A4.00	EXISITNG KITCHEN CROSS SECTION & DETAILS - NEW WORK
A8.00	ARCHITECTURAL DETAILS
M1.01	MECHANICAL SPECIFICATIONS
M1.02	MECHANICAL SCHEDULES & DETAILS
M2.01	MECHANICAL PLANS
E1.01	ELECTRICAL LEGEND, SPECIFICATIONS, & DETAILS
E1.02	ELECTRICAL SINGLE-LINE DIAGRAM & PANEL SCHEDULES
E2.01	FIRST FLOOR LIGHTING & POWER PLANS

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MAKE
Things Better

11.09.26

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

DATE	DESCRIPTION
11.09.2026	BIDDING & STATE REVIEW

KITCHEN EXHAUST HOOD REPLACEMENT & RELATED WORK

IDA ELEMENTARY SCHOOL
AT
7900 IDA STREET, IDA, MICHIGAN 48140

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

JOB # 26002

BIDDING

TITLE SHEET

T0.00

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11/3/2026 3:57:29 PM - Autodesk Docs://IPS - Elementary School - 26002 - Kitchen Exhaust Hood/IDA - Elementary School - 26002 - Kitchen Exhaust.rvt

ABBREVIATIONS

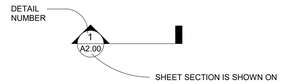
"	INCHES
#	POUND/NUMBER
%	PERCENT
&	AND
'	FEET
/	PER
<	ANGLE
@	AT
©	COPYRIGHT
°	DEGREE
±	PLUS/MINUS
Ø	DIAMETER
A.C.	AIR CONDITIONING
ACT	ACOUSTICAL CEILING TILE
ADD	ADDITIONAL / ADDENDUM
ADJ	ADJACENT
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
ALUM	ALUMINUM
ANOD	ANODIZED
APPRO X	APPROXIMATE
ARCH	ARCHITECTURAL
AUTO	AUTOMATIC
B.O.	BOTTOM OF
B.PL.	BASE PLATE
BD	BOARD
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BOT	BOTTOM
BTW	BETWEEN
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
CL	CLOSET
CLG	CEILING
CLKG	CAULKING
CLR	CLEAR
CLRM	CLASSROOM
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
COORD	COORDINATE
CORR	CORRIDOR
CPT	CARPET
CT	CERAMIC TILE
D.F.	DRINKING FOUNTAIN
D.L.	DEAD LOAD
D.O.	DOOR OPENING
DEG	DEGREE
DEPT	DEPARTMENT
DIA	DIAMETER
DIM	DIMENSION
DIV	DIVISION
DN	DOWN
DR	DOOR
DS	DOWNSPOUT
DTL	DETAIL
DWG	DRAWING
E	EAST
E.J.	EXPANSION JOINT
E.S.	EACH SIDE
EA.	EACH
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EL.	ELEVATION
ELEC	ELECTRICAL
ELEV.	ELEVATOR
EPDM	ETHYLENE PROPYLENE DIENE MONOMER
EQ	EQUAL
EQUIP	EQUIPMENT
EXIST	EXISTING
EXP	EXPANSION
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.R	FIRE RATED
F.R.P.	FIBER-REINFORCED PLASTIC
F.R.T.	FIRE RETARDANT TREATED
FDC	FIRE DEPARMENT CONNECTION
FF	FINISH FLOOR
FIN.	FINISH
FIXT	FIXTURE
FLASH	FLASHING
FLR	FLOORING
FRMG	FRAMING
FT	FOOT / FEET
FTG	FOOTING
FURR	FURRING
G	GAS
G.B.	GRADE BEAM
G.C.	GENERAL CONTRACTOR
G.R.	GUARDRAIL
GA	GAUGE
GALV	GALVENIZED
GB	GRAB BAR
GEN	GENERATOR
GFI	GROUND FAULT INTERRUPTED
GL	GLASS
GYP. BD.	GYPSUM BOARD
HB	HOSE BIBB
HC	HANDICAP ACCESSIBLE
HDW	HARDWARE
HDWD	HARDWOOD
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HR	HOUR
HSS	HOLLOW STEEL SECTION
HT	HEIGHT
HVAC	HEATING / VENTILATING / AIR CONDITIONING
IN	INCH(ES)
INFO	INFORMATION
INSUL	INSLUATION
INT	INTERIOR
JAN	JANITOR
JST.	JOIST
JT	JOINT
k	KIP (1000 lbs)
K.D	KNOCK DOWN
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
LT	LIGHT
LTL	LINTEL
LVR	LOUVER
M.O.	MASONRY OPENING
MAS	MASONRY
MATL	MATERIAL
MAX.	MAXIMUM
MBR	MEMBER
MDF	MEDIUM DENSITY FIREBOARD
MECH	MECHANICAL
MED	MEDIUM
MEMB	MEMBRANE
MEZZ	MEZZANINE
MFR	MANUFACTURER
MH	MANHOLE
MIN.	MINIMUM
MIRR	MIRROR
MISC.	MISCELLANEOUS
MTD	MOUNTED
MTL	METAL
MULL	MULLION
MULT	MULTIPLE
N	NORTH
N.I.C.	NOT IN CONTRACT
N.O.	NUMBER
N.R.	NOT RATED
N.T.S.	NOT TO SCALE
NFPA	NATIONAL FIRE PROTECTION ASSN
NOM	NOMINAL
NORM	NORMAL
O.C.	ON CENTER
O.D.	OVERFLOW DRAIN
O.H.	OVERHEAD
OFF.	OFFICE
OPNG	OPENING
OPP	OPPOSITE
ORIG	ORIGINAL
OVHG	OVERHANG
OZ	OUNCE
P.C.	PRECAST CONCRETE
P.T.	PRESSURE TREATED
PAR	PARALLEL
PARA	PARAPET
PERF.	PERFORATED
PL	PLATE
PLAM	PLASTIC LAMINSTE
PLUM	PLUMBING
PLYWD	PLYWOOD
PSF	POUNDS / SQUARE FOOT
PT	PAINT
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PWR	POWER
QT	QUARRY TILE
QTY	QUANTITY
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
REV	REVISED / REVISION
RH	ROOF HATCH
RM	ROOM
RTU	ROOF TOP UNIT
S	SOUTH
S.F.	STOREFRONT
SAN.	SANITARY
SCHED	SHCEDULED
SD	STORM DRAIN / SMOKE DETECTOR
SECT.	SECTION
SGT	STRUCTURAL GLAZED TILE
SHT	SHEET
SHWR	SHOWER
SIM.	SIMILAR
SP.	SPACES
SPEC	SPECIFICATION
SQ.	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STO.	STORAGE
STRUC	STRUCTURAL
SUSP.	SUSPENDED
SYM.	SYMMETRICAL
T.	TOILET
T.G	TEMPERED GLASS
T.O.	TOP OF
T.O.C.	TOP OF CONCRETE
T.S.	TUBE STEEL
T.V.	TELEVISION
TECH	TECHNICAL
TELE	TELEPHONE
TEMP	TEMPERATURE
THRU	THROUGH
TRANS	TRANSITION
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
UL	UNDERWRITERS LABORATORIES, INC.
UNF	UNFINISHED
UR	URINAL
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/	WITH
W/O/	WITHOUT
WD	WOOD
WF	WIDE FLANGE
WH	WATER HEATER
WT.	WEIGHT
WTR	WATER
WWF	WELDED WIRE FIREBRIC
XFMR	TRANSFORMER

SYMBOLS LEGEND

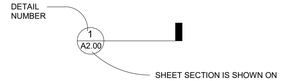
BUILDING SECTION CUT



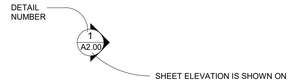
WALL SECTION CUT



DETAIL SECTION CUT



EXTERIOR ELEVATIONS



INTERIOR ELEVATIONS

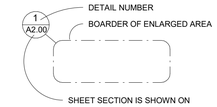


REVISIONS

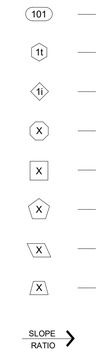


REVISION TAG & BUBBLE

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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AT

IDA ELEMENTARY SCHOOL
7900 IDA STREET, IDA, MICHIGAN 48140

FOR

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

JOB # 26002

BIDDING

ABBREVIATIONS, LEGENDS, SYMBOLS

T1.00

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LIFE SAFETY PLAN LEGEND

DIRECT EGRESS TO OUTSIDE

TRAVEL DISTANCE
PATH OF EGRESS

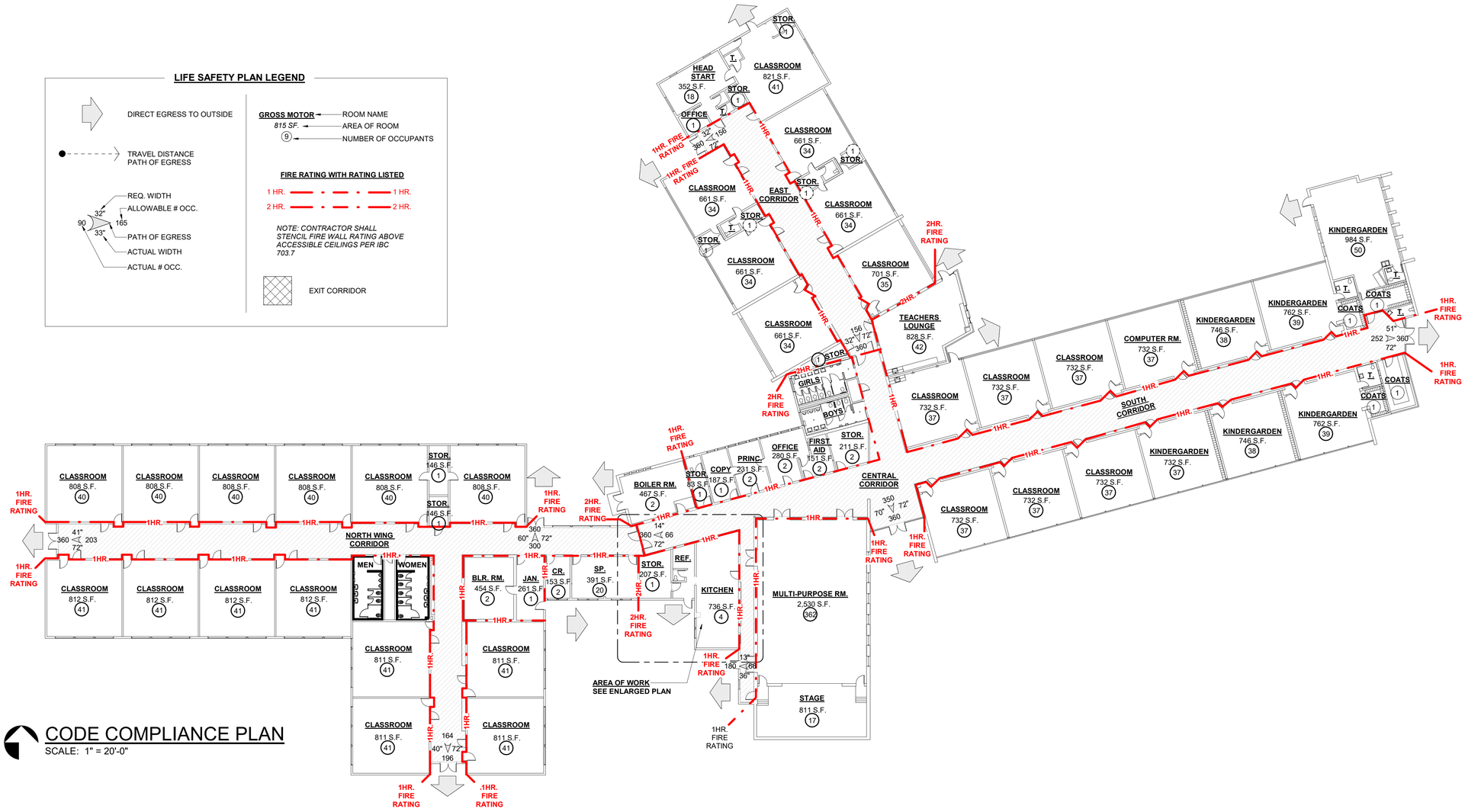
REQ. WIDTH
ALLOWABLE # OCC.
PATH OF EGRESS
ACTUAL WIDTH
ACTUAL # OCC.

GROSS MOTOR — ROOM NAME
815 SF. — AREA OF ROOM
9 — NUMBER OF OCCUPANTS

FIRE RATING WITH RATING LISTED
1 HR. — 1 HR.
2 HR. — 2 HR.

NOTE: CONTRACTOR SHALL STENCIL FIRE WALL RATING ABOVE ACCESSIBLE CEILINGS PER IBC 703.7

EXIT CORRIDOR



CODE COMPLIANCE PLAN
SCALE: 1" = 20'-0"

Ida Elementary School

BUILDING CODE REVIEW

APPLICABLE CODES:
2021 MICHIGAN BUILDING CODE
2021 MICHIGAN REHABILITATION CODE
2021 MICHIGAN MECHANICAL CODE
2021 MICHIGAN PLUMBING CODE
2015 MICHIGAN ENERGY CODE
2023 NATIONAL ELECTRIC CODE
2016 SCHOOL FIRE SAFETY RULES
NFPA 101 LIFE SAFETY CODE 2012
AMERICANS WITH DISABILITY ACT ACCESSIBILITY GUIDELINES (ADAAG)

BUILDING AREA: EXISTING BUILDING (GROSS)

ORIGINAL BUILDING	21,460 S.F.
NORTH WING	18,846 S.F.
EAST WING	8,846 S.F.
TOTAL BLDG. AREA	48,893 S.F.

BUILDING OCCUPANCY TYPE:	(SEC. 305.1)	EDUCATIONAL GROUP E	
CONSTRUCTION TYPE:	(SEC. 602.5, TABLE 601)	ORIGINAL BUILDING	TYPE IIB-NS
		NORTH WING	TYPE IV-NS (HEAVY TIMBER)
		EAST WING	TYPE IIB-NS
		TYPE IIB-NS	TYPE IV-NS (HEAVY TIMBER)
ALLOWABLE AREA:	(TABLE 506.2.)	23,000 S.F.	25,500 S.F.
INCREASE ALLOWABLE:	(SEC. 506.1)	N.R.	N.R.
ALLOWABLE HEIGHTS:	(TABLE 504.3)	55'	65'
ALLOWABLE NUMBER OF STORIES:	(TABLE 504.4)	2	3
HEIGHT MODIFICATION:	(SEC. 504.3)	N.A.	N.A.
FIRE RESISTIVE CONSTRUCTION:			
STRUCTURAL FRAMING:	(TABLE 601)	0	HT
BEARING WALLS:			
EXTERIOR:	(TABLE 601,602)	0	2 HR.
INTERIOR:	(TABLE 601)	0	1 HR. / HT
NON-BEARING WALLS:			
EXTERIOR:	(TABLE 601, 602)	1 HR. <= 5'	1 HR. < 30', OTHERWISE 0 HR.
INTERIOR:	(TABLE 601)	0	0
FLOOR CONSTRUCTION:	(TABLE 601)	0	HT
ROOF CONSTRUCTION:	(TABLE 601)	0	HT

EXIT ACCESS:

CORRIDOR WALLS:	(SEC. 708, SEC. 1020.1)	**1 HR.** WITH OUT SPRINKLER SYSTEM AND > 30 PEOPE
* EXIT CORRIDORS:	(SEC. 1024.3)	**1 HR.** FOR ALL EXIT PASSAGEWAYS (WALLS, CEILING & FLOORS)
CORRIDOR WIDTH:	(TABLE 1020.2)	< 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(2))				

WALL RATING	DOOR RATING	GLAZED PANEL	GLAZED RATING	GLAZED MARKING
1 HR.	45 min.	MAX. SIZE TESTED	45 min.	D-H-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 BARRIER:	(TABLE 707.3.10)	2 HR.
DRAFTSTOPPING:	(SEC. 718)	REQUIRED IF COMBUSTIBLE CONSTRUCTION IN FLOOR / CEILING
FIRE BLOCKING:	(SEC. 718)	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 EACH PORTION OF A BUILDING SEPARATED BY ONE OR MORE FIRE WALL SHALL BE CONSIDERED A SEPARATE BUILDING.
FIRE ALARMS:	(SEC. 907.2.3)	REQUIRED IN GROUP E OCCUPANCY WITH > 50 OCCUPANTS *(NEW BUILDINGS AND STRUCTURES)*

MEANS OF EGRESS

MAXIMUM OCCUPANT LOAD: (SEC.1004.1.1, TABLE 1004.5)

OCCUPANT LOADS (REFER TO LIFE SAFETY PLAN)

NORTH WING CORRIDOR

EDUCATION	= 590
STORAGE / MECH.	= 5

EAST WING CORRIDOR

BUSINESS	= 1
EDUCATION	=264
STORAGE / MECH.	= 6

CENTRAL CORRIDOR

ASSEMBLY A3	= 362
STAGE	= 17
BUSINESS	= 7
EDUCATION	= 568
KITCHEN	= 4
STORAGE / MECH.	= 6

SOUTH CORRIDOR

BUSINESS	= 42
EDUCATION	= 500
STORAGE / MECH.	= 4

MAX. TOTAL = 2,376

ACTUAL OCCUPANTS (SEC. 403) 403.1, EXCEPTION 1. - THE ACTUAL NUMBER OF OCCUPANTS DETERMINED BY A SUPPORTING AFFIDAVIT FROM THE OWNER.

ACTUAL =1,310

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 1020.2)	GROUP E: **72"**
DEAD-END CORRIDORS:	(SEC. 1020.4)	DEAD-END CORRIDORS SHALL NOT EXCEED **20'** *CAN INCREASE TO **50'** IF BUILDING IS SPRINKLED*

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MAKE Things Better

DATE	DESCRIPTION
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KITCHEN EXHAUST HOOD REPLACEMENT & RELATED WORK

IDA ELEMENTARY SCHOOL
AT
7900 IDA STREET, IDA, MICHIGAN 48140

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

JOB # 26002

BIDDING

CODE COMPLIANCE PLAN

LS1.00

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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.

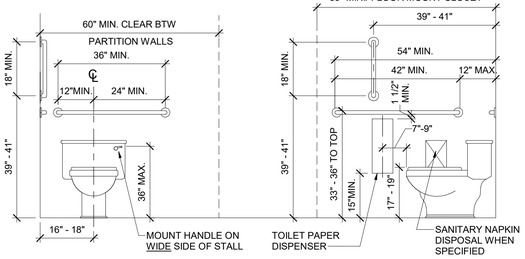
10. ELECTRICAL OUTLETS - IF SPECIFIED, A MINIMUM OF (1) ELECTRICAL DUPLEX RECEPTACLE (G.F.I.) SHALL BE PROVIDED NEAR THE LAV. MOUNTING HEIGHT TO CENTERLINE SHALL BE 36" MAXIMUM TO 33" MINIMUM ABOVE FLOOR, WITHIN 24" OF LAV CENTER LINE. ALL OTHER OUTLETS SHALL BE A MINIMUM OF 15" ABOVE FLOOR.

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.

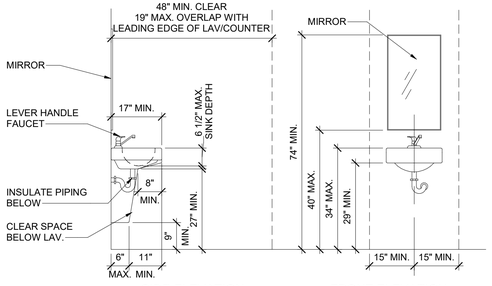
13. SHOWERS: (SEE NOTE #2 ABOVE)
    A. SHOWERS IN STALLS
        1. TRANSFER-TYPE SHOWER STALLS SHALL BE A MINIMUM SIZE OF 36"WIDE X 36" DEEP WITH A FULL DEPTH "L" SHAPE FOLD UP SEAT FLUSH WITH THE FRONT EDGE OF THE STALL, MOUNTED AT 17" TO 19" HT. GRAB BARS AND CONTROLS SHALL BE LOCATED AS SHOWN ON 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.



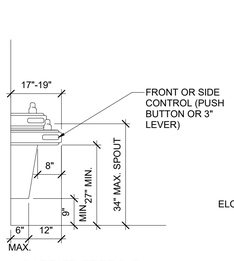
FRONT ELEVATION
BARRIER FREE TOILET
FLOOR MOUNTED

SIDE ELEVATION
BARRIER FREE TOILET
FLOOR MOUNTED



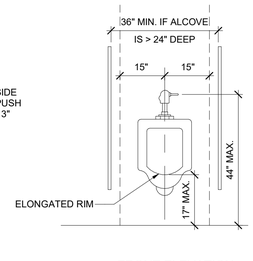
SIDE ELEVATION
BARRIER FREE LAV.

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)

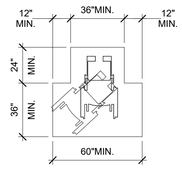
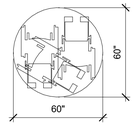


FIG. 304.3.2
T-SHAPED SPACE



REF. 304.3.1
CIRCULAR SPACE

TURNING SPACE
REF. SECTION 304

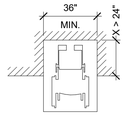


FIG. 305.7.1

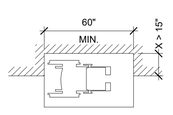
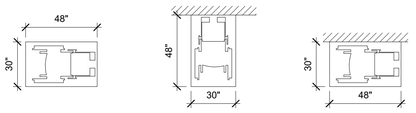


FIG. 305.7.2

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

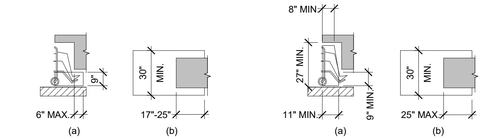


FIG. 306.2
TOE CLEARANCES

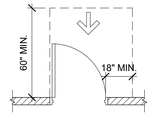
FIG. 306.3
KNEE CLEARANCES

KNEE & TOE CLEARANCES

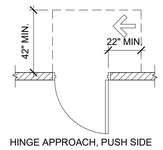
REF. SECTION 306

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

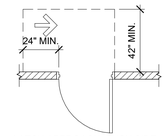
(1) ADD 12 INCHES IF CLOSER AND LATCH ARE PROVIDED.
(2) ADD 6 INCHES IF CLOSER AND LATCH ARE PROVIDED.
(3) BEYOND HINGE SIDE.
(4) ADD 6 INCHES IF CLOSER IS PROVIDED.



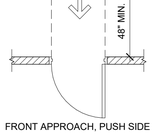
FRONT APPROACH, PULL SIDE



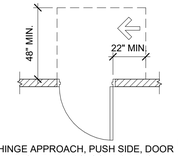
HINGE APPROACH, PUSH SIDE



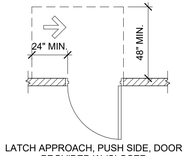
LATCH APPROACH, PUSH SIDE



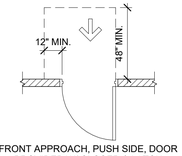
FRONT APPROACH, PUSH SIDE



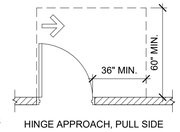
HINGE APPROACH, PUSH SIDE, DOOR PROVIDED W/ CLOSER & LATCH



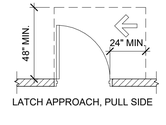
LATCH APPROACH, PUSH SIDE, DOOR PROVIDED W /CLOSER



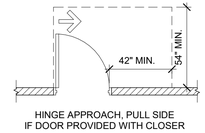
FRONT APPROACH, PUSH SIDE, DOOR PROVIDED W/ CLOSER & LATCH



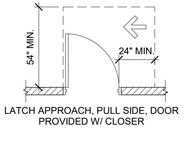
HINGE APPROACH, PULL SIDE



LATCH APPROACH, PULL SIDE

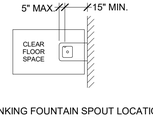


HINGE APPROACH, PULL SIDE
IF DOOR PROVIDED WITH CLOSER

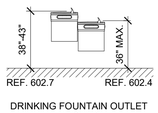


LATCH APPROACH, PULL SIDE, DOOR PROVIDED W/ CLOSER

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)

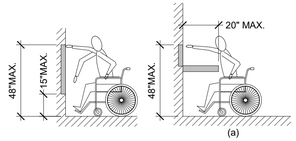


FIG. 308.2.1
UNOBSTRUCTED
FORWARD REACH

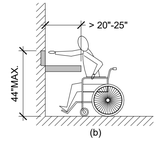


FIG. 308.2.2
OBSTRUCTED HIGH FORWARD REACH

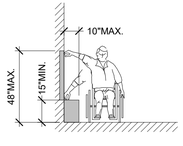
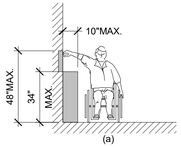


FIG. 308.3.1
UNOBSTRUCTED SIDE REACH



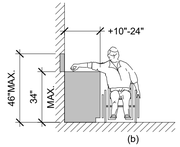


FIG. 308.3.2
OBSTRUCTED HIGH SIDE REACH

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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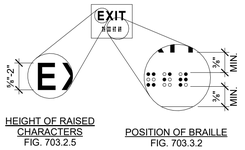
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TYPICAL MOUNTING HEIGHTS & CLEARANCES

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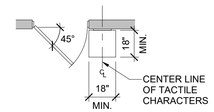
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HEIGHT OF RAISED CHARACTERS
FIG. 703.2.5

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)

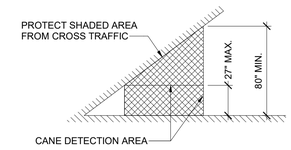


FIG. 307.5
VERTICAL CLEARANCES

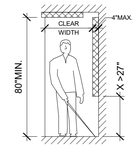


FIG. 307.2
LIMITS OF PROTRUDING OBJECTS

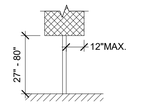


FIG. 307.3 (a)

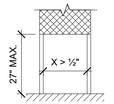
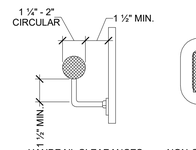


FIG. 307.3 (b)

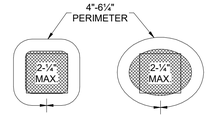
POST-MOUNTED PROTRUDING OBJECTS

PROTRUDING OBJECTS

REF. SECTION 307

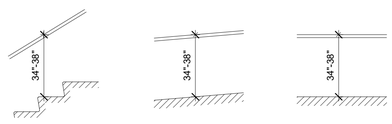


HANDRAIL CLEARANCES
FIG. 505.5 & 505.6



NON-CIRCULAR HANDRAIL CROSS SECTIONS
FIG. 505.7.2

HANDRAIL SIZES & CLEARANCES

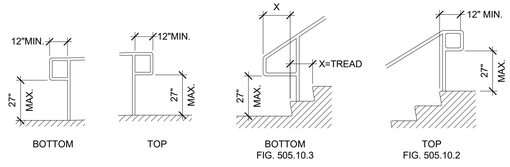


STAIRS
FIG. 505.4 (a)

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

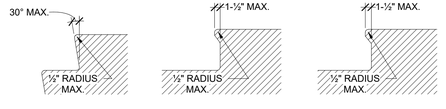


FIG. 504.5 (b)
ANGLED RISER

FIG. 504.5 (c)
CURVED NOSING

FIG. 504.5 (d)
BEVELED NOSING

STAIRWAYS & HANDRAILS

REF. SECTIONS 504 & 505

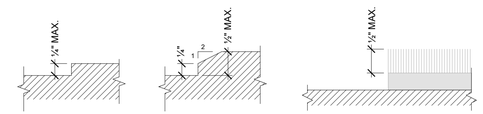
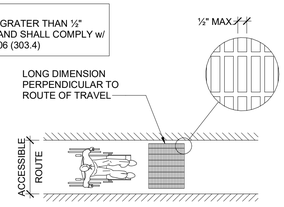


FIG. 303.2
CHANGES IN LEVEL

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

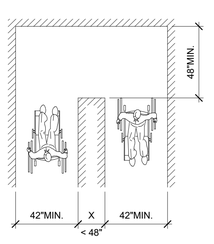


FIG 403.5.2 (a)

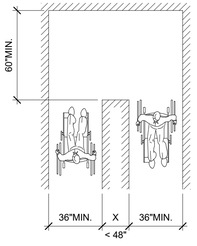
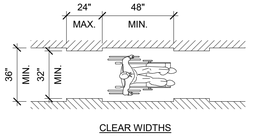


FIG. 403.5.2 (b)

CLEAR WIDTHS AT 180 DEGREE TURNS

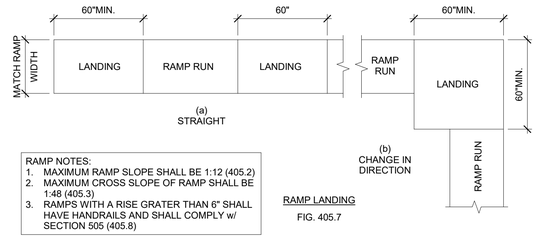


CLEAR WIDTHS
FIG. 403.5.1

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

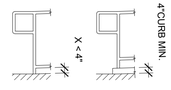


(a)
STRAIGHT

(b)
CHANGE IN DIRECTION

RAMP LANDING
FIG. 405.7

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)



REF. SECTION 405.9.2
BARRIER CURB

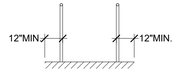


FIG. 405.9.1
EXTENDED FLOOR OR GROUND SURFACE

EDGE PROTECTION
REF. SECTION 405.9

RAMPS

REF. SECTION 405

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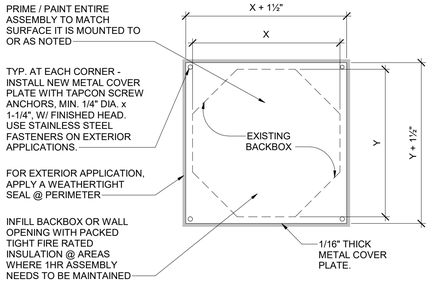
GENERAL DEMOLITION NOTES:

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 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. AFTER DEMOLITION IS COMPLETE PATCH AND REPAIR EXIST. SURFACES TO REMAIN, AS REQUIRED FOR NEW FINISHES.

GENERAL CONSTRUCTION NOTES:

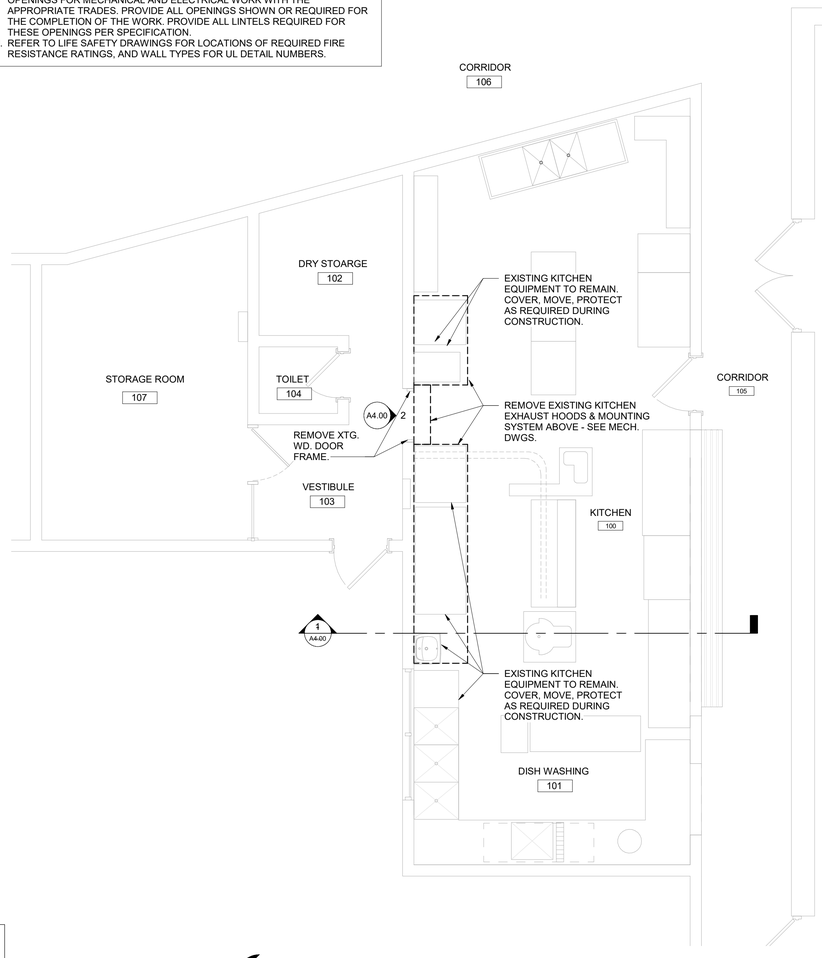
1. EXISTING MATERIAL TO REMAIN SHALL BE PROTECTED FROM DAMAGE AT ALL TIME. EXISTING BUILDING MATERIALS AND/OR FINISHES THAT ARE DAMAGED SHALL BE REPAIRED AND/OR REPLACED RO THE SATISFACTION OF THE OWNER AND ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.
2. PATCH EXISTING WALLS AND FLOOR OPENINGS AFTER 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 ONLT - COORDINATE FINAL LOCATION WITH MEP TRADES.
5. COORDINATE 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 AS 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 SPECIFICATION.
11. REFER TO LIFE SAFETY DRAWINGS FOR LOCATIONS OF REQUIRED FIRE RESISTANCE RATINGS, AND WALL TYPES FOR UL DETAIL NUMBERS.



NOTE: AVERAGE METAL COVER PLATE SIZE IS 12"x12". FIELD VERIFY AFTER REMOVAL OF ELECTRICAL / MECHANICAL EQUIPMENT TO DETERMINE ACTUAL SIZE OF BACKBOX. SIZE NEW COVER PLATE AS INDICATED ABOVE.

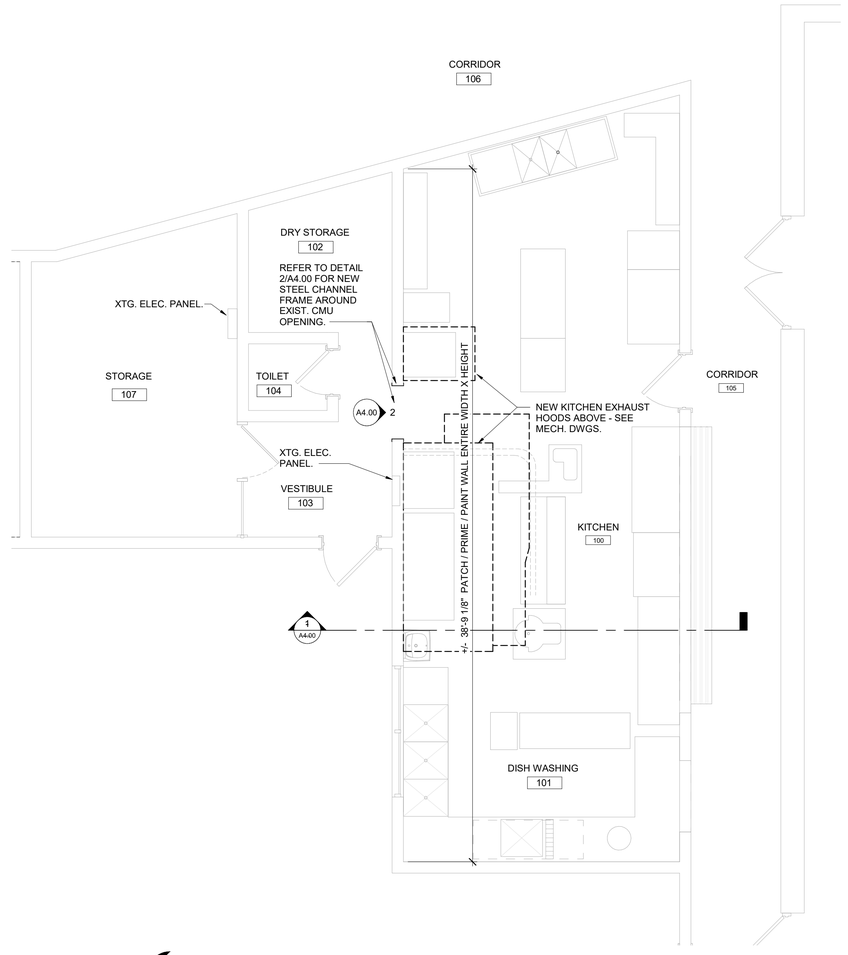
TYP. COVER PLATE

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



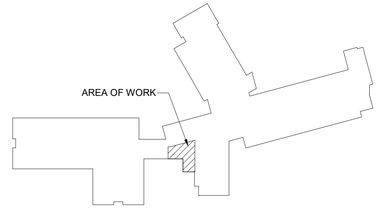
ENLARGED FLOOR PLAN -DEMO

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



ENLARGED FLOOR PLAN - NEW

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



KEY PLAN

SCALE: 1" = 100'-0"

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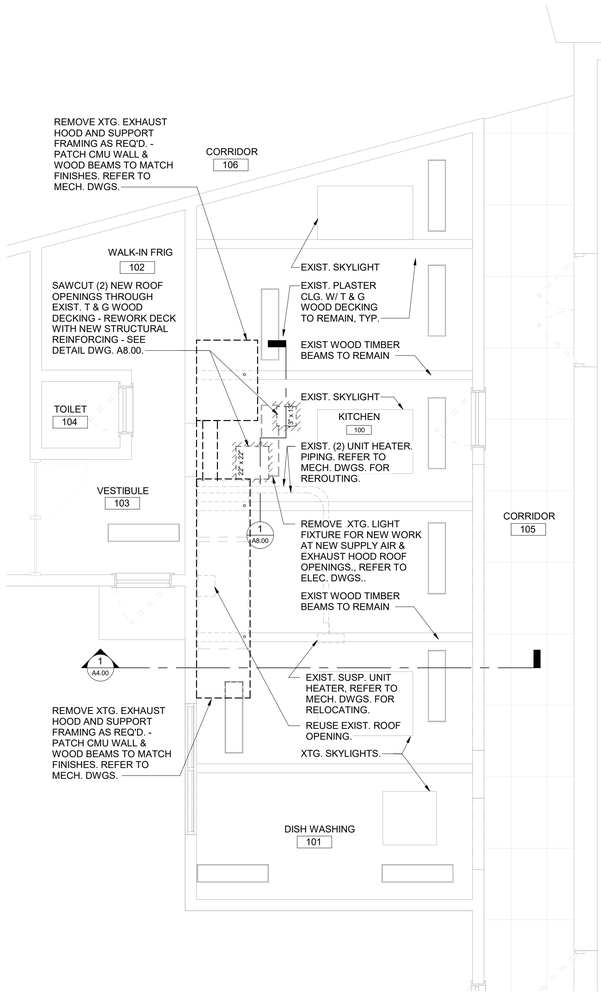
BIDDING

FIRST FLOOR DEMOLITION / NEW PLAN

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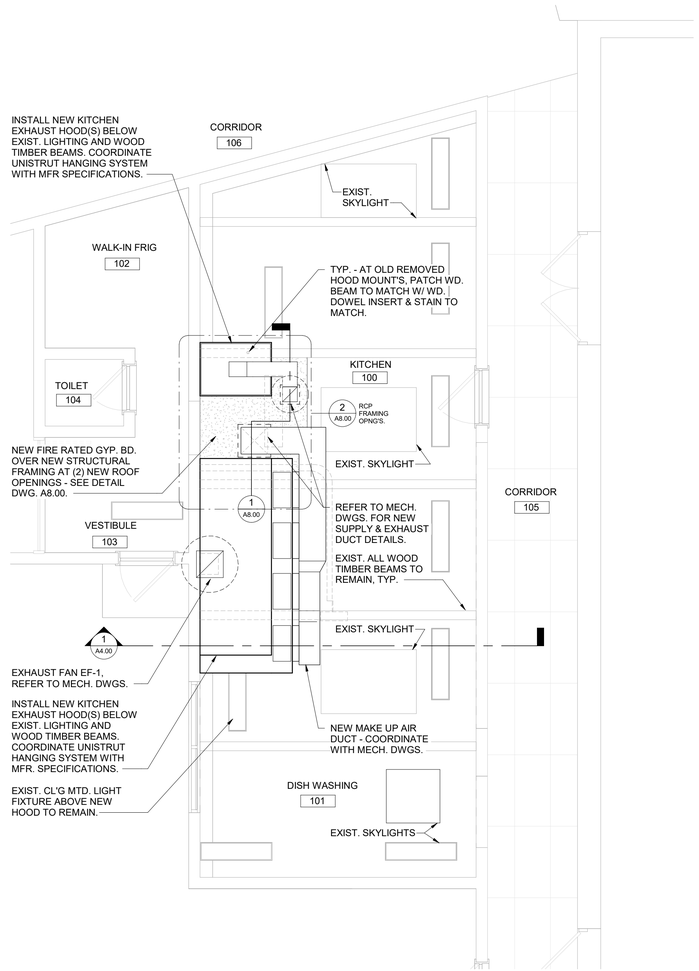
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ENLARGED REFLECTED CEILING PLAN - DEMO

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

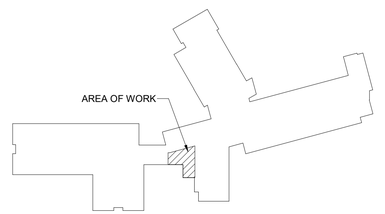


ENLARGED REFLECTED CEILING PLAN - NEW

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

REFLECTED CEILING PLAN LEGEND	
SYMBOL	**DESCRIPTION**
	UL DESIGN L501- INSTALL 5/8" FIRECODE GYPSUM BOARD OVER NEW TREATED WOOD FRAMING AS DETAILED / NOTED. PRIME PAINT.
A.P.	NEW CEILING ACCESS PANEL - COORD. FINAL LOCATION WITH ARCHITECT IN FIELD.
	TYP. MECHANICAL SUPPLY / RETURN 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.



KEY PLAN

SCALE: 1" = 100'-0"

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

JOB # 26002

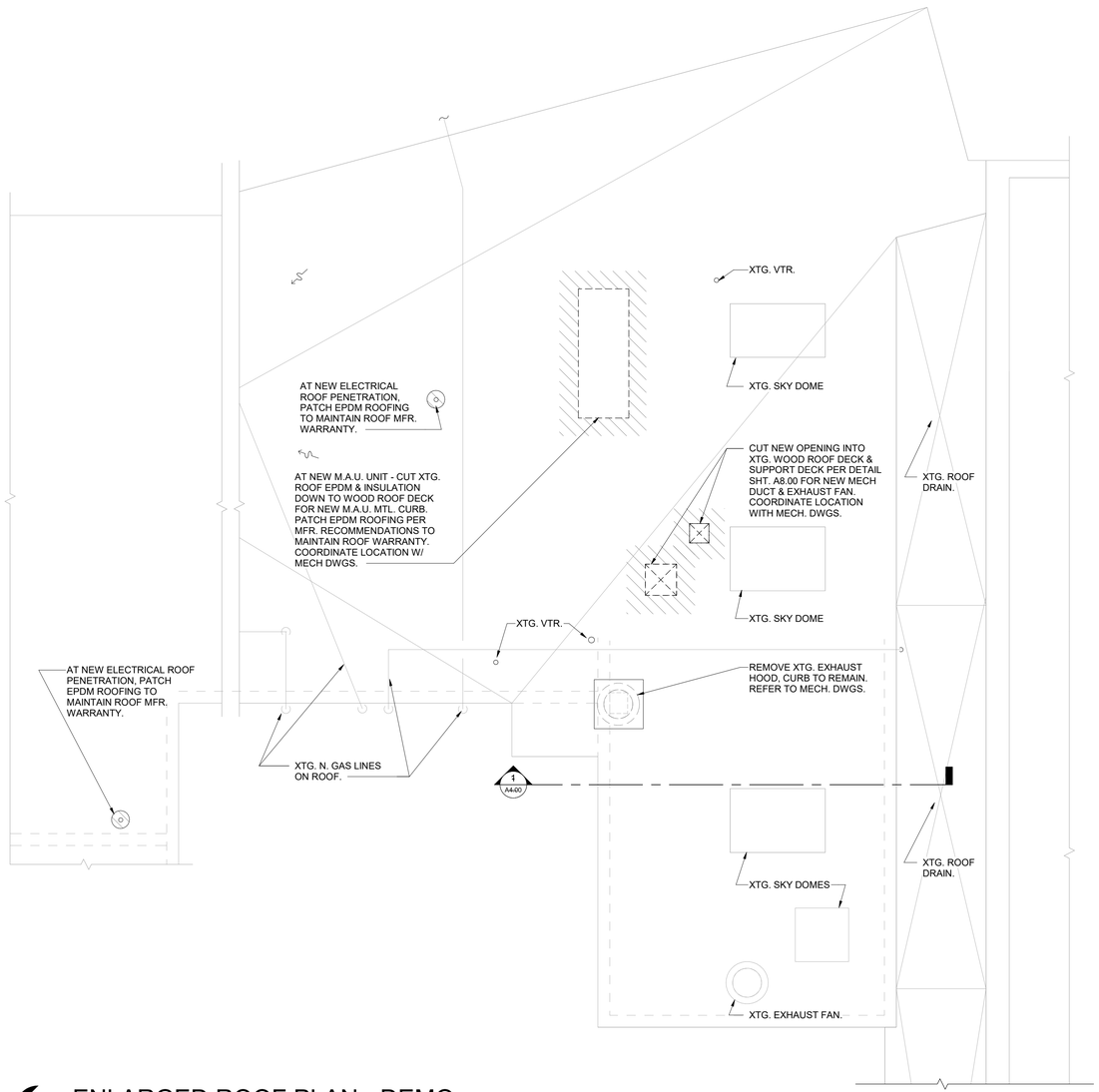
BIDDING

REFLECTED CEILING PLAN DEMO/ NEW

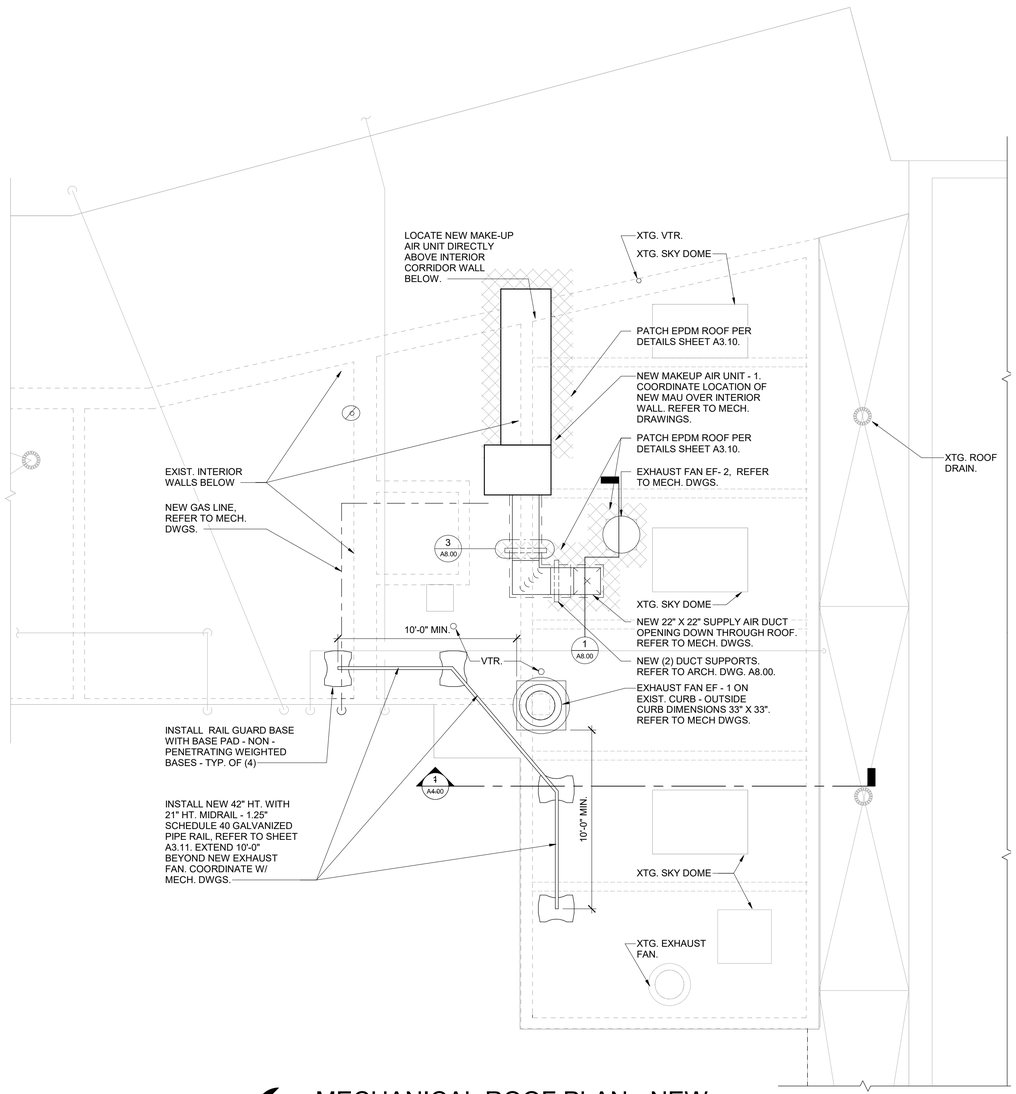
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ENLARGED ROOF PLAN - DEMO
SCALE: 1/4" = 1'-0"



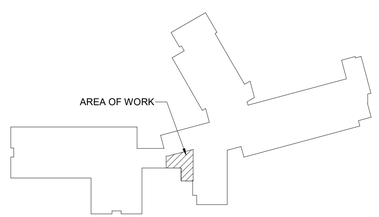
MECHANICAL ROOF PLAN - NEW
SCALE: 1/4" = 1'-0"

GENERAL ROOF NOTES:

1. ROOF SLOPES INDICATED ON THE DRAWINGS ARE TO INDICATE DESIGN INTENT ONLY. CONTRACTOR SHALL ENSURE PROPER DRAINAGE INCLUDING TAPERED INSULATION 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.
5. PROVIDE CRICKETS ON HIGH SIDE OF ROOFTOP UNITS AND OTHER EQUIPMENT - TYP.
6. 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.
7. FOR ALL NEW ROOFING WORK - PATCH EXIST. EPDM ROOF AS REQUIRED SO AS TO MAINTAIN REMAINDER OF ROOF WARRANTY. USE RECOMMENDED EPDM ROOFING REPAIRS & PATCHING TECHNIQUES FOR EPDM ROOFING - SEE MISC. ROOFING DETAILS SHEET A3.10.
8. ASSUME EXISTING INSULATION THICKNESS 5.2 INCHES.

ROOFING LEGEND

- REWORK EXISTING EPDM ROOF IN AREAS OR CURBS, MECHANICAL EQUIPMENT, PENETRATIONS, ETC. MAINTAIN WATERTIGHT ROOF ASSEMBLY.
- NEW EPDM PATCHING AT NEW ROOF OPENINGS. PATCH TO MAINTAIN EXIST. ROOF WARRANTY.
- INDICATES NEW DIRECTION OF SLOPE.
- INDICATES EXISTING DIRECTION OF SLOPE.



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

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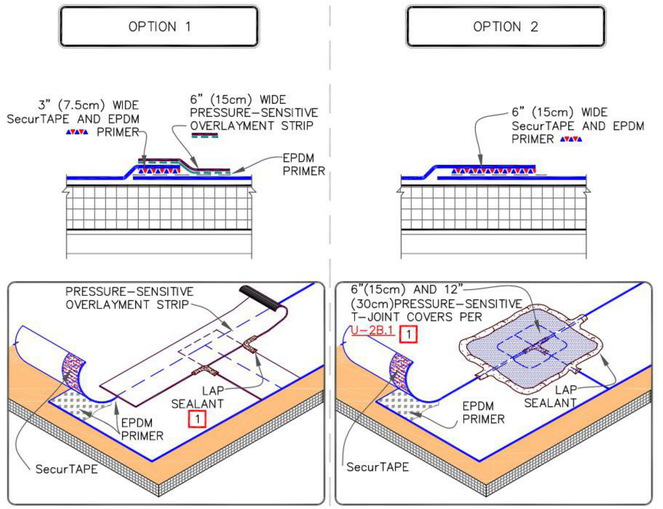
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ROOF PLAN DEMO / NEW

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F.A.T. (FACTORY APPLIED SecurTAPE)

NOTES:

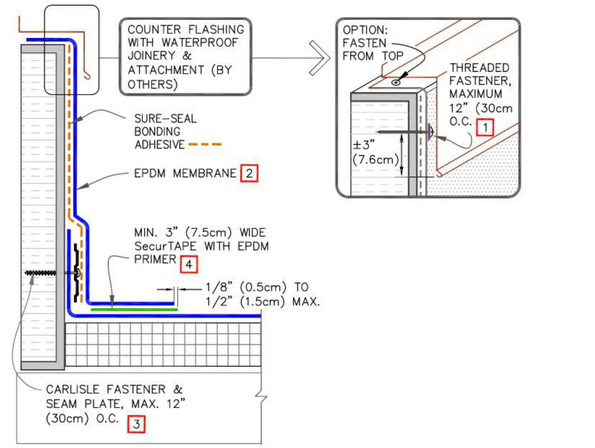
1. APPLY LAP SEALANT AT ALL INTERSECTIONS BETWEEN PRESSURE-SENSITIVE OVERLAYMENT STRIP.
2. REFER TO DETAIL MF-2A.1 FOR MECHANICALLY-FASTENED SPLICES.

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.

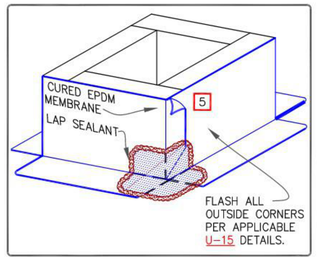
CARLISLE SYNTEC SYSTEMS	EPDM MEMBRANE SPLICE	DETAIL NO. U-2A.1
	MAXIMUM WARRANTY: 30 YEARS	U (UNIVERSAL DETAIL)

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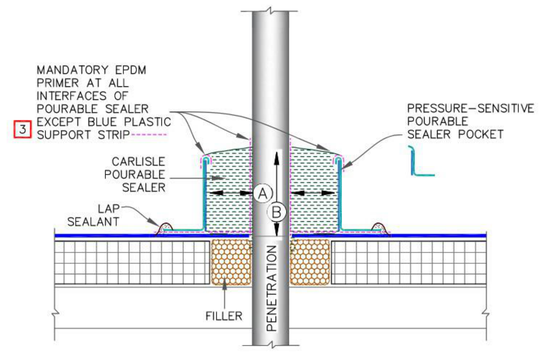
NOTES:

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)

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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	
Ⓐ 1"	2.5	MIN.
Ⓑ 2"	5	MIN.

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

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EXISTING CARLISLE ROOFING - PATCHING AND ALTERATIONS:

1. PATCH, REPAIR, AND REWORK THE EXISTING CARLISLE EPDM ROOFING SYSTEM AT ALL AREAS AFFECTED BY NEW CONSTRUCTION, INCLUDING THE NEW MECHANICAL MAKEUP AIR UNIT, KITCHEN EXHAUST FAN, EQUIPMENT CURBS, SUPPORTS, AND ASSOCIATED PENETRATIONS. PERFORM ALL ROOFING ALTERATIONS THROUGH A CARLISLE'S-AUTHORIZED ROOFING APPLICATOR. BEFORE DISTURBING THE ROOF, VERIFY THE EXISTING ROOF ASSEMBLY AND WARRANTY REQUIREMENTS, AN OBTAIN CARLISLE'S WRITTEN AUTHORIZATION FOR THE PROPOSED WORK AND APPROVAL OF APPLICABLE DETAILS.
2. PROVIDE CARLISLE-FURNISHED APPROVED MATERIALS COMPATIBLE WITH THE EXISTING WARRANTED SYSTEM. REMOVE AFFECTED ROOFING TO SOUND, DRY MATERIALS; REPLACE WET, DAMAGED, OR DISTURBED COMPONENTS; AND RESTORE INSULATION, COVER BOARD, AND AIR/ VAPOR RETARDER CONTINUITY WHERE PRESENT. MATCH EXISTING MEMBRANE TYPE AND THICKNESS AND INSULATION THERMAL PERFORMANCE, UNLESS OTHERWISE APPROVED BY CARLISLE. PROVIDE COMPLETE FLASHINGS, SEAMS, ATTACHMENTS, TERMINATIONS, AND COUNTERFLASHINGS AT NEW CURBS AND PENETRATIONS IN ACCORDANCE WITH CARLISLE'S CURRENT WRITTEN INSTRUCTIONS AND DETAILS APPROVED FOR THE EXISTING SYSTEM AND WARRANTY.
3. COORDINATE ROOFING WORK WITH MECHANICAL, ELECTRICAL, AND STRUCTURAL WORK. MAINTAIN POSITIVE ROOF DRAINAGE AND PROVIDE TEMPORARY WATERTIGHT CLOSURES AT THE END OF EACH WORKDAY AND DURING INCLEMENT WEATHER. PROTECT EXISTING ROOFING FROM CONSTRUCTION DAMAGE. COORDINATE KITCHEN EXHAUST GREASE CONTAINMENT AND CARLISLE - APPROVED ROOF PROTECTION TO PREVENT GREASE OIL CONTACT WITH THE EPDM MEMBRANE.
4. UPON COMPLETION, NOTIFY CARLISLE, ARRANGE MANUFACTURER-REQUIRED INSPECTIONS, AND CORRECT DEFICIENCIES. INCLUDE REQUIRED INSPECTION AND WARRANTY ALTERATIONS FEES IN THE CONTRACT. PROVIDE THE OWNER WITH CARLISLE'S WRITTEN ACCEPTANCE OF THE COMPLETED ALTERATIONS AND CONFIRMATION THAT THE EXISTING WARRANTY REMAINS IN EFFECT FOR ITS REMAINING TERM, INCLUDING COVERAGE OF THE APPROVED ALTERATIONS.

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MISC. ROOF DETAILS

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SAFEPRO BALLASTED GUARDRAIL SYSTEMS

SafePro SAFETY PRODUCTS

Guardrail system is 13 psi per base

Units nest together for easy storage and transportation

Exceeds OSHA load rating requirements

Non-Penetrating design with support pad (sold separately)

COMPLIANCE MADE EASY

SafePro Ballasted Guardrail Systems are a passive safety solution that offers fall protection without the need for engineering, training, annual inspections, or additional personal protective equipment like harnesses or lanyards. In addition to rooftop applications, guardrail can be installed along open-sided walking surfaces, terraces, balconies, stairways, ramps, and landings that expose workers to a fall of 4' or greater, making them one of the most efficient and cost-effective ways to comply with OSHA requirements. SafePro is able to supply guardrail that can be ballasted for non-penetration solutions or securely mounted to appropriate structural surfaces.



WHY CHOOSE SAFEPRO?

SafePro is an industry-leading provider of safety solutions for workers exposed to fall hazards. We collaborate with building owners, contractors, and architects to design and manufacture fall protection solutions for a variety of applications, in a variety of industries.

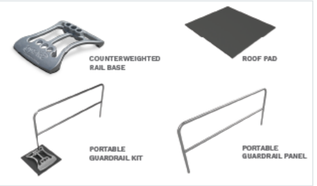
SafePro SAFETY PRODUCTS

CONTACT US
Phone: (877) 723-3570
info@safeprosafety.com
safeprosafety.com

Scan this code to learn more about SafePro Products

PORTABLE GUARDRAIL

Designed to be easily installed section-by-section, the Portable Guardrail system quickly adapts to provide passive control of fall hazards. Portable guardrail is used with SafePro's patented ballasted guardrail base. All prefabricated railing sections are available in hot-dipped galvanized or powder coated safety yellow, or several available custom colors. Available in 5ft, 8ft, and 10ft lengths.



COMPONENT GUARDRAIL

Component guardrail is site-specific, permanent fall protection designed for any project and features Strongtight components that ensure a solid, minimal movement system. The SafePro patented ballasted guardrail base uses proprietary geometry to achieve maximum safety with minimal weight, and disperses weight across a large footprint to ensure that a roof's membrane is never compromised. Guardrail may also be mounted directly to appropriate surfaces when a fixed installation is required.



SafePro SAFETY PRODUCTS

CONTACT US
Phone: (877) 723-3570
info@safeprosafety.com
safeprosafety.com

0325264 V2 2026

ROOFTOP GUARDRAIL SYSTEM - GENERAL NOTES

1. PROVIDE A COMPLETE, PERMANENTLY INSTALLED, FREESTANDING, NONPENETRATING, BALLASTED CONTOURED COMPONENT GUARDRAIL SYSTEM AT LOCATIONS SHOWN ON DRAWINGS. BASIS OF DESIGN: SAFEPRO SAFETY PRODUCTS CONTOURED PIPE AND COMPONENT GUARDRAIL SYSTEM WITH MANUFACTURED COUNTERWEIGHTED BASES, OR APPROVED EQUAL IN ACCORDANCE WITH PROJECT SUBSTITUTION REQUIREMENTS.
2. INSTALL GUARDRAILS ALONG EXPOSED ROOF EDGES ADJACENT TO THE NEW ROOFTOP EXHAUST HOOD AND EQUIPMENT AS INDICATED. WHERE COMPONENTS REQUIRING SERVICE ARE WITHIN 10'-0" OF AN UNPROTECTED ROOF EDGE WITH A DROP GREATER THAN 30", EXTEND GUARDRAILS AT LEAST 30" BEYOND EACH END OF SUCH COMPONENTS, MEASURED PARALLEL TO THE ROOF EDGE. PROVIDE GREATER EXTENTS WHERE SHOWN.
3. PROVIDE TOP RAIL AT LEAST 42" ABOVE THE ADJACENT FINISHED WALKING SURFACE, WITH INTERMEDIATE RAIL APPROXIMATELY MIDWAY BETWEEN TOP RAIL AND WALKING SURFACE. PREVENT PASSAGE OF A 21"- DIAMETER SPHERE. ORIENT CONTOURED POSTS TO LEAN INWARD, AWAY FROM THE ROOF EDGE.
4. PROVIDE A SYSTEM COMPLYING WITH APPLICABLE BUILDING AND MECHANICAL CODES AND WORKPLACE FALL - PROTECTION REQUIREMENTS. DESIGN TOP RAIL FOR A MINIMUM 200-LB CONCENTRATED LOAD IN ANY DIRECTION AND INTERMEDIATE RAIL FOR A MINIMUM 150-LB LOAD DOWNWARD OR OUTWARD. SATISFY ALL ADDITIONAL APPLICABLE CODE LOADS AND DEFLECTION LIMITS.
5. PROVIDE GALVANIZED CAST-IRON COUNTERWEIGHTED BASES AND HOT-DIP GALVANIZED RAILS AND FITTINGS, UNLESS OTHERWISE INDICATED. INCLUDE ALL POSTS, CONNECTIONS, END RETURNS, OUTRIGGERS, ADDITIONAL COUNTERWEIGHTS, AND ACCESSORIES REQUIRED FOR THE COMPLETE CONFIGURATION. PROVIDE GATES AND TOEBOARDS WHERE INDICATED OR REQUIRED. DETERMINE BASE SPACING, ORIENTATION, AND BALLAST QUANTITIES FROM THE MANUFACTURER'S ENGINEERED LAYOUT.
6. INSTALL A MANUFACTURER - APPROVED, UV-RESISTANT ROOF PROTECTION PAD BENEATH EACH COUNTERWEIGHTED BASE AND OTHER COMPONENT BEARING ON THE EXISTING EPDM ROOF. PADS SHALL EXTEND BEYOND ALL BASE CONTACT SURFACES AND SHALL BE APPROVED BY BOTH THE GUARDRAIL AND ROOFING MANUFACTURERS FOR COMPATIBILITY, THICKNESS, AND PERMANENT EXTERIOR USE.
7. MAINTAIN A NONPENETRATING INSTALLATION. DO NOT DRILL, SCREW, OR OTHERWISE FASTEN THROUGH THE EXISTING ROOF MEMBRANE, FLASHINGS, OR ROOF ASSEMBLY. DO NOT ATTACH GUARDRAILS RO EQUIPMENT, CURBS, OR PIPING. CLEAN CONTACT AREAS BEFORE PLACING PADS AND BASES; DO NOT DRAG COMPONENTS ACROSS THE ROOF.
8. SUBMIT PRODUCT DATA, INSTALLATION INSTRUCTIONS, AND ENGINEERED SHOP DRAWINGS AND CALCULATIONS SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROJECT JURISDICTION. SHOW COMPLETE LAYOUT, HEIGHTS, BASE SPACING, END CONDITIONS, BALLAST, ROOF PADS, AND SUPPORT REACTIONS. ADDRESS PROJECT WIND LOADS, ROOF SLOPE, AND RESISTANCE TO SLIDING AND OVERTURNING.
9. BEFORE INSTALLATION, VERIFY THAT EXISTING ROOF FRAMING AND DECK CAN SUPPORT THE INSTALLED SYSTEM AND CONSTRICTION LOADS. VERIFY ACCEPTABLE BEARING PRESSURES FOR THE INSULATION, COVER BOARD, AND ROOD MEMBRANE. USE ACTUAL ASSEMBLED SYSTEM LOADS, INCLUDING ADDITIONAL BALLAST. REPORT INADEQUATE OR UNSUITABLE CONDITIONS TO ARCHITECT BEFORE PROCEEDING.
10. COORDINATE INSTALLATION WITH EXHAUST EQUIPMENT, SERVICE ACCESS, EQUIPMENT DOOR SWINGS, PIPING, AND ROOF DRAINAGE. MAINTAIN REQUIRED WORKING CLEARANCES AND KEEP EQUIPMENT SERVICE AREAS AND ASSOCIATED ACCESS ON THE PROTECTED SIDE OF THE GUARDRAIL. DO NOT OBSTRUCT DRAINS, SCUPPERS, OR DRAINAGE PATHS.
11. INSTALL THROUGH QUALIFIED PERSONNEL IN ACCORDANCE WITH APPROVED SHOP DRAWINGS AND MANUFACTURER'S WRITTEN INSTRUCTIONS. PROTECT EXISTING ROOFING THROUGHOUT THE WORK. HAVE INSTALLATION-RELATED ROOF DAMAGE REPAIRED BY A ROOFING CONTRACTOR APPROVED BY THE ROOFING MANUFACTURER, USING APPROVED MATERIALS AND METHODS THAT PRESERVE THE EXISTING ROOF WARRANTY.
12. BEFORE TURNOVER, INSPECT AND DOCUMENT COMPLETED INSTALLATION, INCLUDING CONNECTIONS, BALLAST, ROOF PADS, AND REQUIRED CLEARANCES. PROVIDE OWNER WITH RECORD LAYOUT, WARRANTIES, AND INSPECTION AND MAINTENANCE INSTRUCTIONS. SO NOT USE GUARDRAIL AS A PERSONAL FALL-ARREST ANCHORAGE.

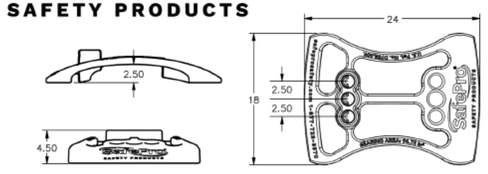
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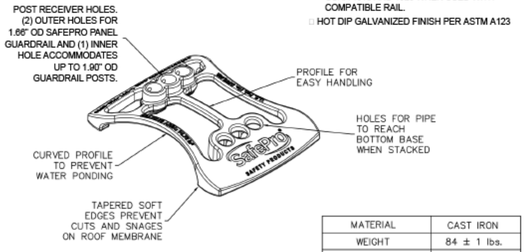
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SafePro® SAFETY PRODUCTS

TECHNICAL DATA SHEET
BALLASTED GUARDRAIL BASE



INFORMATION:
- THIS COUNTERWEIGHTED GUARDRAIL BASE HAS BEEN DESIGNED TO MEET OR EXCEED OSHA 1910 AND 1926 WHEN USED WITH COMPATIBLE RAIL.
- HOT DIP GALVANIZED FINISH PER ASTM A123

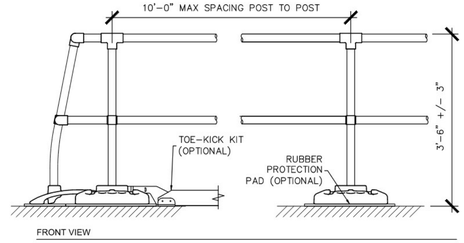


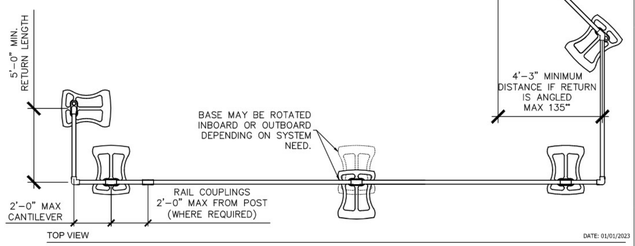
MATERIAL	CAST IRON
WEIGHT	84 ± 1 lbs.
FOOTPRINT	94.72 in²
ROOF PRESSURE	0.9 psi

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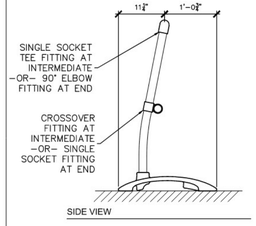
SafePro® SAFETY PRODUCTS

TECHNICAL DATA SHEET
BALLASTED CONTOURED COMPONENT GUARDRAIL SYSTEM





DATE: 01/01/2023



1. RETURNS ARE REQUIRED AT EACH SYSTEM END AND MUST BE A MINIMUM OF 5'. SPACING BETWEEN ANY POSTS MAY NOT EXCEED 10'.
2. SYSTEM SHALL HAVE A TOP AND MID RAIL IN ACCORDANCE WITH OSHA STANDARDS – 29 CFR 1910.29 (B)(1). THE GUARDRAIL IS CERTIFIED FOR USE IN FACTORIES, INDUSTRIAL, AND STORAGE OCCUPANCIES, IN AREAS THAT ARE NOT ACCESSIBLE TO THE PUBLIC AND THAT SERVE AN OCCUPANT LOAD NO GREATER THAN 50 AS PER ASCE 7–10 4.5.1 (2).
3. RAILING MUST BE DESIGNED TO WITHSTAND A LOAD OF 200 LB (90.7 KG), MINIMUM, IN ANY DIRECTION TO ALL COMPONENTS WITHOUT FAILING IN ACCORDANCE WITH OSHA REGULATION 29 CFR 1926.502 AND 29 CFR 1910.29. THIS LOADING REPRESENTS AN INDIVIDUAL ACCIDENTALLY IMPACTING THE RAIL. DO NOT INTENTIONALLY LOAD THE GUARDRAIL.
4. THE BALLASTED GUARDRAIL SYSTEM IS DESIGNED TO WITHSTAND AN ASCE 7–16 ULTIMATE WIND LOAD OF UP TO 130 MPH ON A RISK CATEGORY II BUILDING WITH EXPOSURE CATEGORY B. THE STANDARD DESIGN CONFIGURATION MAY BE RECONFIGURED BY SAFEPRO TO ACCOMMODATE ALTERNATE SITE CONDITIONS.
5. TOP RAIL MUST BE 42" (±3") VERTICAL FROM THE WALKING SURFACE. THE MIDRAIL SHOULD BE MID WAY BETWEEN THE TOP RAIL AND THE HIGHEST EXPOSED EDGE. TOE KICKS, IF INSTALLED, SHOULD BE ¼" OFF THE WALKING SURFACE TO PREVENT PONDING.
6. SYSTEM SHOULD BE USED ON A FLAT SURFACE NOT TO EXCEED ½:12 PITCH.
7. INTEGRATED RUBBER PROTECTION PAD MAY BE USED ON ROOF MEMBRANE FOR ROOF PROTECTION. DO NOT INSTALL ON SLIPPERY SURFACES SUCH AS METAL OR TROWEL FINISHED CONCRETE.
8. REMOVE ALL LOOSE GRAVEL AND/OR MATERIALS IN THE VICINITY OF THE COUNTERWEIGHTED BASE. BASES MUST BE PLACED ON SOUND SUBSTRATE.
9. WHEN PARAPET DOES NOT EXIST, FRONT EDGE OF THE BASE SHALL BE SET BACK A MINIMUM OF 18" FROM THE LEADING EDGE.
10. REFER TO SAFEPRO BALLASTED GUARDRAIL INSTALLATION MANUAL PRIOR TO INSTALLATION OF THESE PRODUCTS.

	PIPE	BRACKETS/BASES
MATERIAL	ASTM A53	CAST IRON, GALV.
QUALITY	100% VISUAL INSPECTION	
COLOR	METALLIC	DULL METALLIC

PROPRIETARY AND CONFIDENTIAL
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KITCHEN EXHAUST HOOD REPLACEMENT & RELATED WORK

AT
IDA ELEMENTARY SCHOOL
7900 IDA STREET, IDA, MICHIGAN 48140

FOR
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3145 PRAIRIE STREET, IDA, MICHIGAN, 48140

JOB # 26002

BIDDING

MANUFACTURER ROOF TOP GUARD RAIL DETAILS

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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 WARMINTERIOR 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.
2. PLACING REINFORCING BARS, CRSI.
   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.
8. SLABS ON GRADE OR SLABS ON JOIST: 6"x6" - W2.1 X W2.1 W.W.F. UNLESS OTHERWISE NOTED
   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

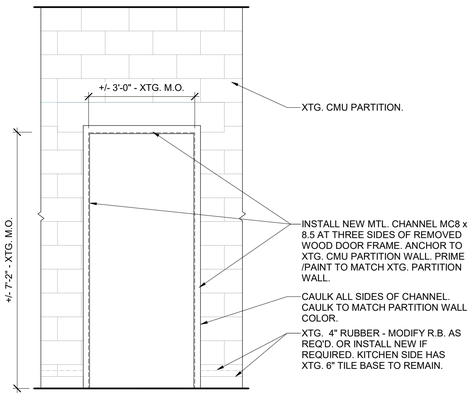
STRUCTURAL STEEL

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.

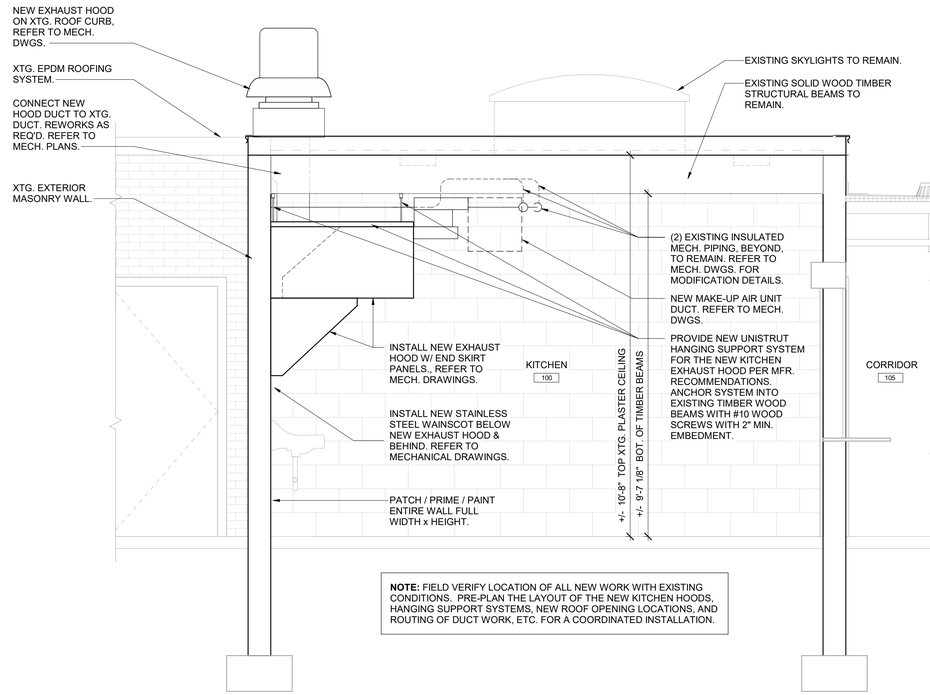
LINTEL SCHEDULE

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.



2 A1.00 XTG. KITCHEN DOOR FRAMING DETAIL
SCALE: 1/2" = 1'-0"



NOTE: FIELD VERIFY LOCATION OF ALL NEW WORK WITH EXISTING CONDITIONS. PRE-PLAN THE LAYOUT OF THE NEW KITCHEN HOODS, HANGING SUPPORT SYSTEMS, NEW ROOF OPENING LOCATIONS, AND ROUTING OF DUCT WORK, ETC. FOR A COORDINATED INSTALLATION.

1 A1.00 KITCHEN CROSS SECTION - NEW WORK
SCALE: 1/2" = 1'-0"

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KITCHEN EXHAUST HOOD REPLACEMENT & RELATED WORK

AT **IDA ELEMENTARY SCHOOL**
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FOR **IDA PUBLIC SCHOOLS**
3145 PRAIRIE STREET, IDA, MICHIGAN, 48140

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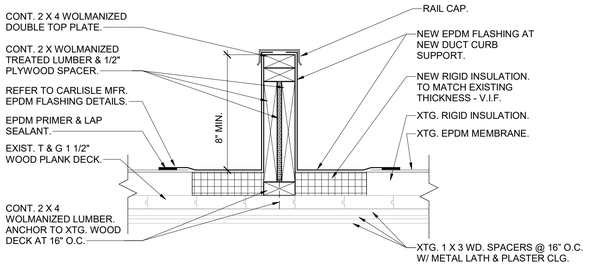
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EXISITNG KITCHEN CROSS SECTION & DETAILS - NEW WORK

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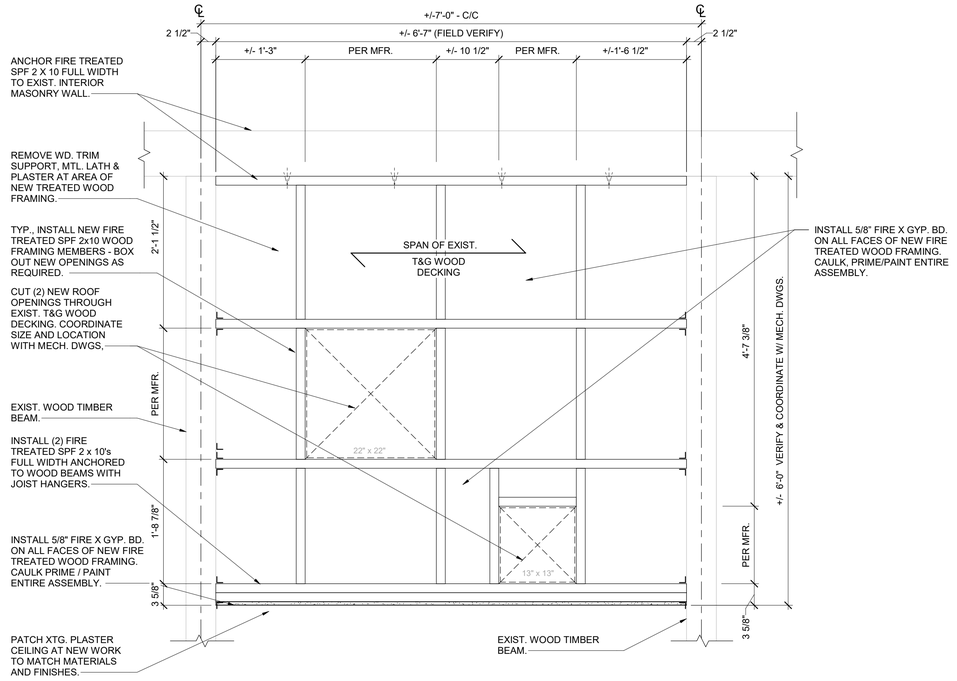
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3 A3.00 DUCT CURB SUPPORT DETAIL

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

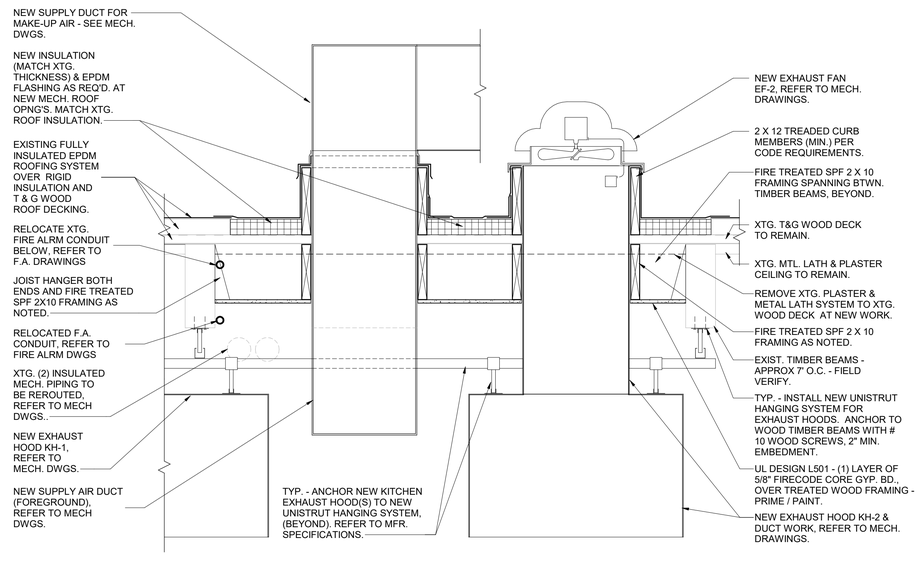


2 A2.00 ENLARGED RCP AT NEW ROOF OPENINGS

SCALE: 1" = 1'-0"

KITCHEN EXHAUST HOOD - UNISTRUT SUPPORT SYSTEM

1. PROVIDE COMPLETE ENGINEERED UNISTRUT OR APPROVED EQUAL STEEL CHANNEL SUPPORT SYSTEM, INCLUDING THREADED HANGER RODS, FITTINGS, BRACING, FASTENERS, AND CONNECTIONS TO EXISTING STRUCTURE. INSTALL IN ACCORDANCE WITH HOOD AND SUPPORT SYSTEM MANUFACTURERS' REQUIREMENTS.
2. VERIFY ACTUAL HOOD WEIGHT WITH MANUFACTURER, INCLUDING FILTERS, ATTACHED PLENUMS, ACCESSORIES, AND HOOD-SUPPORTED FIRE SUPPRESSION COMPONENTS. INCLUDE SUPPORT SYSTEM SELF-WEIGHT AND OTHER APPLICABLE LOADS IN DESIGN. IDENTIFY TOTAL SUPPORTED WEIGHT AND REACTION AT EACH STRUCTURAL ATTACHMENT ON SHOP DRAWINGS.
3. FIELD VERIFY EXISTING STRUCTURAL MEMBER MATERIALS, SIZES, SPACING, LOCATIONS, AND CONDITION BEFORE FABRICATION. VERIFY CAPACITY OF EXISTING STRUCTURE FOR EXISTING AND PROPOSED LOADS AND DESIGN REQUIRED REINFORCEMENT. ATTACH SUPPORTS TO VERIFIED LOAD-BEARING STRUCTURE; DO NOT SUPPORT FROM CEILING GRID, ROOF DECK, DUCTWORK, OR NONSTRUCTURAL COMPONENTS.
4. SUBMIT DIMENSIONED SUPPORT LAYOUT AND STRUCTURAL CALCULATIONS PREPARED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROJECT JURISDICTION FOR ARCHITECT/ENGINEER REVIEW BEFORE FABRICATION OR INSTALLATION. INDICATE CHANNEL SIZES, GAUGES, SPANS, ORIENTATION, HANGER ROD SIZES AND LOCATIONS, BRACING, AND CONNECTION DETAILS. ALIGN HANGERS WITH ALL MANUFACTURER-REQUIRED HOOD SUPPORT POINTS. COORDINATE WITH DUCTWORK, PIPING, LIGHTING, AND REQUIRED ACCESS.
5. PROVIDE ENGINEER-DESIGNED BOLTS, BEAM CLAMPS, OR ANCHORS SUITABLE FOR THE VERIFIED EXISTING STRUCTURE AND OVERHEAD LOADING. IDENTIFY FASTENER TYPE, SIZE, GRADE, QUANTITY, SPACING, REQUIRED EMBEDMENT, EDGE DISTANCES, AND INSTALLATION TORQUE, AS APPLICABLE. SELECT COMPONENTS USING MANUFACTURER-PUBLISHED ALLOWABLE CAPACITIES FOR THE ACTUAL LOAD AND CONNECTION CONFIGURATION. DO NOT CUT, DRILL, OR WELD EXISTING STRUCTURAL MEMBERS EXCEPT AS SPECIFICALLY DETAILED BY THE STRUCTURAL ENGINEER.
6. INSTALL HOOD LEVEL AT REQUIRED ELEVATION, WITH HANGERS ENGAGED AND LOADS DISTRIBUTED AS DESIGNED. PROVIDE LATERAL RESTRAINT AND SEISMIC BRACING AS REQUIRED. SUPPORT EXHAUST DUCTWORK INDEPENDENTLY OF HOOD. MAINTAIN REQUIRED CLEARANCES AND RESTORE DISTURBED FIREPROOFING AND FIRE-RESISTANCE-RATED ASSEMBLIES.



1 A2.00 DUCT / EXHAUST HOOD SECTION DETAIL

SCALE: 1" = 1'-0"

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HVAC SYSTEM SPECIFICATIONS

PART 1 GENERAL

1.01. 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 REVISIONS 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 ENGINEER.

1.02. 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 BEAMS, PIPING, FIXTURES, ETC. ANY NECESSARY MAJOR DEVIATION SHALL BE REFERRED TO THE ENGINEER 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 ENGINEER, 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 PIPING, 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.

1.03. 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.

1.04. 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, PLUMBING OR ARCHITECTURAL 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 ENGINEER, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL SUCH MATERIALS AND/OR EQUIPMENT REQUIRED BY THE SYSTEM AT NO ADDITIONAL COST TO THE OWNER.

1.05. 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.

1.06. PRODUCT SUBSTITUTIONS: THE MANUFACTURERS LISTED IN THE EQUIPMENT SCHEDULES 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.

1.07. 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. MBC	H. UL
C. MMC	I. NEC
D. LOCAL CODES & ORDINANCES	J. AMCA
E. ASHRAE	K. SMACNA
F. ANSI	

1.08. 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.

1.09. 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.

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

PART 2 MISCELLANEOUS PRODUCTS

2.01. 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. EXTERIOR INSTALLED DUCTWORK: LAMINATED PLASTIC. INCLUDE CONTACT-TYPE, PERMANENT ADHESIVE. EXTERIOR LOCATED DUCTWORK TAGS SHALL BE ADHERED SECURELY AND APPROPRIATELY TO DUCTWORK AND ABLE TO STAY ADHERED DURING ALL CLIMATE CHANGES.
   3. LETTER SIZE: 1" HIGH LETTERS.
   4. COLOR CODES: USE THE FOLLOWING BACKGROUND COLORS WITH WHITE LETTERING.
      a. BLUE: FOR SUPPLY AIR DUCT MAINS.
      b. RED: FOR RETURN AIR DUCT MAINS.
      c. GREEN: FOR EXHAUST AIR DUCT MAINS.
      d. YELLOW: FOR OUTSIDE AIR DUCT MAINS.
   5. 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.

2.02. 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 EQUIPPING 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.

2.03. 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.

2.04. 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.

2.05. 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.

2.06. 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. ISOLATION RAIL SYSTEM: SPRING COMPONENTS SHALL BE ONE INCH (1") DEFLECTION, FREE STANDING, UNHOUSED, LATERALLY STABLE STEEL SPRINGS. SPRINGS SHALL HAVE A LATERAL STIFFNESS GREATER THAN 1.0 TIMES THE RATED VERTICAL STIFFNESS AND SHALL BE DESIGNED FOR 50% OVERLOAD TO SOLID. SPRINGS SHALL BE COLOR CODED TO INDICATE LOAD CAPACITY. RAILS SHALL PROVIDE CONTINUOUS SUPPORT FOR THE ROOF-TOP EQUIPMENT HOUSING AND STRUCTURE BORNE VIBRATION FROM ROTATING AND MECHANICAL EQUIPMENT IN THE ROOF-TOP PACKAGE. RAIL ASSEMBLY SHALL CONSIST OF EXTRUDED ALUMINUM TOP AND BOTTOM MEMBERS CONNECTED WITH SPRING ISOLATORS AND A CONTINUOUS AIR AND WATER TIGHT SEAL. THE SEAL SHALL BE A BEADED ELASTOMETRIC MATERIAL RETAINED IN A KEY WAY ALONG THE TOP EXTRUSION. THE WEATHER STRIP SHALL BE SEALED ALONG THE BOTTOM WITH AN ALUMINUM FASCIA STRIP. RAIL ASSEMBLIES SHALL INCORPORATE MEANS FOR ATTACHMENT TO THE BUILDING AND THE SUPPORTED EQUIPMENT AND SHALL INCORPORATE ADDITIONAL STIFFENING MEMBERS IF NECESSARY TO ASSURE STABILITY. VIBRATION ISOLATORS SHALL BE SELECTED BY THE MANUFACTURER FOR EACH SPECIFIC APPLICATION TO COMPLY WITH DEFLECTION REQUIREMENTS. ROOF CURB RAILS SHALL BE SIMILAR TO MODEL "RSH" AS MANUFACTURED BY KINETICS NOISE CONTROL INC.
   3. ROOF CURBS SHALL BE FURNISHED BY MECHANICAL CONTRACTOR. RESPONSIBILITY OF INSTALLATION SHALL BE BY THE MECHANICAL CONTRACTOR.

PART 3 SHEETMETAL PRODUCTS

3.01. FLEXIBLE CONNECTIONS:

A. GENERAL: FURNISH AND INSTALL FLEXIBLE CONNECTIONS AT THE INLET AND DISCHARGE OF ALL DUCTED FAN-POWERED EQUIPMENT, UNLESS NOTED OTHERWISE. FABRICS, COATING 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.

D. OUTDOOR CONNECTORS. 26 OZ./SQ. YD. WOVEN FIBERGLASS WITH HYPALON COATING.

3.02. 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 BLADE 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 BEARINGS 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.

3.03 BRANCH TAKE-OFFS: ALL 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 DUCTWORK SHALL BE GALVANIZED SHEET METAL (LOCKSEAM, (26 GAUGE MINIMUM). INSULATE ALL DUCTWORK IN ACCORDANCE WITH THE "DUCTWORK MATERIAL CONSTRUCTION & INSULATION SCHEDULE".

3.04. 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. LOW 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/SOUNDLINING: 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. 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.

3.05. HVAC SYSTEM SMOKE DETECTORS: PROVID DUCT-MOUNTED, 120 VOLT, PHOTOELECTRIC TYPE SMOKE DETECTOR AS INDICATED ON THE PLANS. COMPLETE WITH BATTERY BACK-UP, BUILT-IN AUDIBLE AND VISUAL SIGNALS, AND AUXILIARY RELAYS FOR EQUIPMENT SHUTDOWN, MONITORING SYSTEM NOTIFICATION AND REMOTE AUDIBLE AND VISUAL SIGNAL. SMOKE DETECTORS SHALL BE MANUFACTURED BY SIMPLEX, GENTEX, E.S.T. SYSTEM SENSOR/PITTWAY, SEIMANS OR ENGINEER APPROVED EQUAL. A REMOTE AUDIBLE AND VISUAL SIGNAL SHALL BE PROVIDED IN AN APPROVED (BUILDING CODE OFFICIAL) LOCATION FOR EACH UNIT, EDWARDS CAT. NO. 6536-F5 HORN/STROBE WITH STEP-DOWN TRANSFORMER OR ENGINEER APPROVED EQUAL. EACH DEVICE SHALL BE INTERLOCKED WITH THE RESPECTIVE HVAC UNIT'S DUCT MOUNTED SMOKE DETECTOR. IN ADDITION, EACH HVAC UNIT SHALL BE INTERLOCKED WITH A SINGLE, AUDIBLE DETECTOR MALFUNCTION INDICATOR LOCATED IN AN APPROVED (BUILDING CODE OFFICIAL) LOCATION AND PROVIDED WITH A COVER PLATE AND NAMEPLATE. THE SIGNAL DEVICES MENTIONED ABOVE SHALL BE FURNISHED, INSTALLED AND WIRED BY THE ELECTRICAL CONTRACTOR.

PART 4 PIPING PRODUCTS

4.01. NATURAL GAS PIPING

A. 2" AND SMALLER, LESS THAN 5 PSI: SCHEDULE 40, BLACK STEEL, ASTM A-53 WITH SCREWED JOINTS AND150# BLACK MALLEABLE IRON FITTINGS. ALL NATURAL GAS PIPING LOCATED OUTDOORS SHALL BE PRIMED AND PAINTED YELLOW WITH TWO COATS OF COMMERCIAL GRADE EXTERIOR PAINT, OR IN ACCORDANCE WITH THE OWNER'S REQUIREMENTS.

4.02 NATURAL GAS VALVES

A. BALL, 2" AND SMALLER: 125 PSI, SCREWED ENDS, SIDE TAP, BRONZE BODY, TEFLON TRIM. APOLLO #GB-50.

B. APPROVED MANUFACTURERS: WATTS, APOLLO, NIBCO.

PART 5 VENTILATOR PRODUCTS

5.01. UPBLAST CENTRIFUGAL ROOF FANS (EF-1 & EF-2):

A. MANUFACTURER: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
   1. ACME ENGINEERING & MANUFACTURING CORP.
   2. COOK (LORENZ) CO.
   3. GREENHECK FAN CORP.
   4. HARTZELL FAN INC.
   5. PENN AND BARRY

B. DESCRIPTION: DIRECT DRIVEN CENTRIFUGAL UPBLAST FAN, CONSISTING OF HOUSING, WHEEL, FAN SHAFT, BEARINGS, MOTOR AND DISCONNECT SWITCH, INSULATING HEAT BAFFLE (EF-1 ONLY), GREASE TRAP (EF-1 ONLY), DRIVE ASSEMBLY, CURB BASE, AND ACCESSORIES.

C. HOUSING: REMOVABLE MOTOR MOUNT COVER, ALUMINUM WINDBRAND TO DIRECT EXHAUST AIR UPWARD, SEAMLESS, ONE PIECE ALUMINUM BASE WITH VENTURI INLET CONE.

D. FAN WHEELS: ALUMINUM HUB AND WHEEL WITH BACKWARD INCLINED BLADES.

E. DIRECT DRIVE MOTOR ASSEMBLY: RESILIENTLY MOUNTED TO THE HOUSING, WITH THE FOLLOWING FEATURES:
   1. FAN SHAFT: TURNED, GROUND, AND POLISHED STEEL DRIVE SHAFT KEYED TO WHEEL HUB.
   2. SHAFT BEARINGS: PERMANENTLY LUBRICATED, PERMANENTLY SEALED, SELF ALIGNING BALL BEARINGS.
   3. FAN MOTOR ISOLATED FROM EXHAUST AIR STREAM.

F. ACCESSORIES: THE FOLLOWING ITEMS ARE REQUIRED AS INDICATED:
   1. DISCONNECT SWITCH: NEMA 3R WEATHER PROOF DISCONNECT SWITCH.
   2. BIRD SCREENS: REMOVABLE 1/2 INCH MESH, ALUMINUM OR BRASS WIRE.
   3. ROOF CURBS: GALVANIZED STEEL; MITERED AND WELDED CORNERS; 2 INCH THICK, RIGID, FIBERGLASS INSULATION ADHERED TO INSIDE WALLS; AND 2-INCH WOOD NAILER. SIZE AS REQUIRED TO SUIT ROOF OPENING AND FAN BASE, WITH OVERALL HEIGHT AS REQUIRED TO MEET CODE REQUIREMENTS OF A 40" MINIMUM DISCHARGE HEIGHT ABOVE ROOF. CURB CONSTRUCTION SHALL CONFORM TO THE ROOF PITCH. PROVIDE A LEVEL TOP SURFACE.
   4. ACCESS: HINGED ACCESS TO ALLOW FAN TO SWING AWAY FOR CLEANING OF FAN AND DUCTWORK.

PART 6 AIR HANDLING PRODUCTS

6.01. INDIRECT FIRED KITCHEN MAKE-UP AIR UNIT (MAU-1):

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
   1. CAPTIVE-AIRE
   2. GREENHECK
   3. HASTINGS
   4. REZNOR

B. DESCRIPTION: FACTORY ASSEMBLED AND TESTED, DESIGNED FOR OUTDOOR INSTALLATION AND CONSISTING OF SUPPLY FAN, FILTERS, MOTORIZED DAMPER AND INDIRECT GAS FIRED HEATER.

C. CASING: MANUFACTURER'S STANDARD CONSTRUCTION WITH REMOVABLE PANELS FOR ACCESS TO FAN, HEATING COMPONENTS, FILTERS, CONTROLS AND BAKED-ON ENAMEL FINISH.

D. FILTERS: ALUMINUM MESH, WASHABLE FILTERS. FILTERS SHALL BE U.L. CLASSIFIED.

E. HEAT EXCHANGER (INDIRECT FIRED APPLICATION): INDIRECT FIRED NATURAL GAS HEATER. HEATER SHALL BE A.G.A. DESIGN CERTIFIED AND C.G.A. APPROVED. HEATER SHALL INCLUDE 409 (MINIMUM) STAINLESS STEEL HEAT EXCHANGERS WITH AN ALUMINIZED STEEL CASING, AND THE FOLLOWING GAS TRAIN CONTROLS.
   1. MAIN GAS PRESSURE REGULATOR
   2. MAIN MODULATING GAS VALVE
   3. ELECTRIC SPARK IGNITION PILOT RELIGHT SYSTEM
   4. SAFETY PILOT

F. CONTROLS: PROVIDE PREWIRED CONTROLS WITH AN INTEGRAL MASTER DISCONNECT SWITCH WITH FUSE BLOCKS FOR MAIN POWER CONNECTION, MAGNETIC MOTOR STARTERS WITH THERMAL OVERLOADS AND MANUAL RESET, CONTROL TRANSFORMER AND DISTRIBUTION TERMINAL CONTROL TRIP FOR CONTROL WIRING CONNECTION. ALL ELECTRICAL COMPONENTS SHALL BE U.L. LISTED, APPROVED OR CLASSIFIED WHERE APPLICABLE AND WIRED IN COMPLIANCE WITH THE NATIONAL ELECTRICAL CODE. WIRING SHALL BE COMPLETE, REQUIRING ONLY ONE POINT FIELD CONNECTION FOR POWER SERVICE AND ONE-POINT FIELD CONNECTION FOR CONTROL VOLTAGE.

G. BLOWER SECTION: DIRECT DRIVEN BLOWER WHEELS SHALL BE STATICALLY AND DYNAMICALLY BALANCED FORWARDLY CURVED, DOUBLE WIDTH, DOUBLE INLET, CLASS 1. BLOWER WHEELS SHALL BE MOUNTED ON SOLID TURNED GROUND SHAFT WITH KEYWAY FOR DRIVEN SHAFT. BALL BEARINGS SHALL BE SELF ALIGNING, PERMANENTLY OR PRE-LUBRICATED PILLOW BLOCK OR FLANGE MOUNTED. BLOWER HOUSINGS, BEARINGS AND ADJUSTABLE MOTOR BASE SHALL BE MOUNTED ON REINFORCED FRAME TO INSURE RIGIDITY AND QUIET OPERATION.

H. MOTOR: MOTOR SHALL BE A T-FRAME, OPEN DRIP PROOF TYPE WITH PRE-LUBRICATED BALL BEARINGS.

I. ACCESSORIES: REFER TO SCHEDULE FOR APPLICABLE ACCESSORIES.

PART 7 EXHAUST HOOD PRODUCTS

7.01. KITCHEN EXHAUST HOOD (KH-1, TYPE 1):

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
   1. CAPTIVE-AIRE
   2. GAYLORD
   3. GREENHECK
   4. KEES

B. DESCRIPTION: FURNISH AND INSTALL A TYPE I, WALL MOUNTED CANOPY HOOD WITH EXHAUST DUCT CONNECTION. THE INSIDE EDGE O

DUCTWORK MATERIAL CONSTRUCTION & INSULATION SCHEDULE

(REFER TO SPECIFICATIONS PARAGRAPH 3.04 ON DRAWING M1.01 FOR ADDITIONAL REQUIREMENTS.)

SYSTEM EQUIPMENT	DUCTWORK SERVICE	DUCTWORK PRESSURE CLASS ("W.C.)	SMACNA SEAL CLASS	DUCTWORK CONSTRUCTION	INSULATION	REMARKS
TYPE 1 KITCHEN HOOD EXHAUST	EXHAUST AIR (GREASE LADEN)	N/A	N/A	RECTANGULAR DUCT: METAL-FAB INC., OR ENGINEER APPROVED EQUAL, ZERO CLEARANCE PRE FABRICATED GREASE DUCTWORK OR ENGINEER APPROVED EQUAL. 3" CERAMIC INSULATION, OUTER CASING SHALL BE MINIMUM 304 STAINLESS STEEL INTERIOR GREASE DUCT 20 GAUGE STAINLESS STEEL. INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS, UL 1978 STANDARD FOR GREASE DUCTS, UL2221 TESTS OF FIRE RESISTIVE DUCT ENCLOSURES AND ALL MMC REQUIREMENTS. RECTANGULAR DUCT: 16 GAUGE MINIMUM NO. 304 STAINLESS STEEL WITH #3 FINISH. SEAMS AND JOINTS ON ALL KITCHEN HOOD EXHAUST SHALL BE MADE WITH A CONTINUOUS LIQUID-TIGHT WELD ON THE EXTERNAL SURFACE OR THE DUCT SYSTEM. IN COMPLIANCE WITH MICHIGAN MECHANICAL CODE CHAPTER 5.	GREASE LADEN EXHAUST DUCTS 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. WHEREVER INSULATED FACTORY-BUILT GREASE DUCT IS INSTALLED, EXTERNAL INSULATION SHALL NOT BE REQUIRED.	1, 3 & 4
TYPE 2 KITCHEN HOOD EXHAUST	EXHAUST AIR	+/- 2.0	C	RECTANGULAR DUCT: GALVANIZED SHEET METAL	NOT REQUIRED.	1, 2 & 3
KITCHEN HOOD MAKE-UP AIR	MAKE-UP AIR	+/- 2.0	C	RECTANGULAR DUCT: GALVANIZED SHEET METAL DUCT	INTERIOR "EXPOSED" APPLICATIONS: USE 1-INCH RIGID FIBERGLASS BOARD INSULATION. ALL EXPOSED INSULATED DUCTS SHALL BE COVERED IN PVC JACKET. EXTERIOR APPLICATIONS: ALL DUCTWORK ROUTED OUTDOORS SHALL BE INSULATED WITH 2" THICK FLEXIBLE UNICELLULAR SHEETS, (SIMILAR TO ARMAFLEX AND RATED AS ASTM TYPE 2). JACKET ALL OUTDOOR DUCTWORK WITH 0.20 MIL (MINIMUM) ALUMINUM SHEETS. JACKETING MATERIALS SHALL FORM A WATER TIGHT SEALED COVER AROUND ALL INSULATED EXTERIOR DUCTWORK.	1, 2 & 3

REMARKS:
1. ALL DUCT SIZES INDICATED ON DRAWINGS REPRESENT INTERNAL NET DIMENSIONS.
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 THIS SHEET.
4. SEAMS AND JOINTS SHALL BE CONSTRUCTED WITH LIQUID-TIGHT, CONTINUOUS WELDS ON THE EXTERNAL SURFACE OF THE DUCT.

FAN SCHEDULE

(REFER TO SPECIFICATIONS PARAGRAPH 5.01 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					
EF-1	M2.01	KITCHEN EXHAUST HOOD KH-1	GREASE EXHAUST	2,400	1.0	1,050	0.66	DIRECT	YES	NO	YES	12.8	2	230/3	A	200	26.5 x 26.5	GREENHECK CUE-180-VG	1, 2, 3, 4, 5 & 6
EF-2	M2.01	KITCHEN EXHAUST HOOD KH-2	HEAT EXHAUST	675	0.9	1,616	0.19	DIRECT	YES	YES	YES	9.5	1/4	115/1	B	110	18.5 x 18.5	GREENHECK CUE-099-VG	1, 2, 3, 4 & 5

MEANS OF CONTROL: FAN SHALL SEQUENCE IN CONJUNCTION WITH...
A ...HOOD MOUNTED TEMPERATURE SENSOR (SENSOR BY HOOD MANUFACTURER, WIRED BY MECHANICAL CONTRACTOR)
B ...HOOD MOUNTED SWITCH (SWITCH BY HOOD MANUFACTURER, WIRED BY ELECTRICAL CONTRACTOR)

REMARKS:
1. FURNISH FAN WITH ROOF CURB.
2. FURNISH DUCTWORK CONNECTING TO FAN IN ACCORDANCE WITH THE "DUCTWORK MATERIAL CONSTRUCTION SCHEDULE" FOUND ON THIS DRAWING.
3. FURNISH FAN WITH MOTORIZED BACKDRAFT DAMPER.
4. FURNISH FAN MOTOR WITH THERMAL OVERLOADS.
5. FURNISH FAN WITH ELECTRONICALLY COMMUTATED (EC) MOTOR. MOTOR SHALL INCLUDE SPEED CONTROLLER DIAL ON MOTOR.
6. FURNISH FAN WITH INSULATING HEAT BAFFLE AND GREASE TRAP.

KITCHEN EXHAUST HOOD SCHEDULE

(REFER TO SPECIFICATIONS PARAGRAPHS 7.01 & 7.02 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	128" x 48"	(1) 15x15	(4) 24x12	2,400	0.62	2,160	0.01	GREENHECK GXEW-128.00-S	1, 2, 3, 4, 5, 7, 8, 9, 10 & 11
KH-2	KITCHEN	36" x 48"	(1) 9x6	N/A	600	0.307	0	N/A	GREENHECK GD-36.00-S	6

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 SUPPRESSANT AGENT. HOOD SHALL BE A LISTED AND LABELED, FACTORY BUILT COMMERCIAL EXHAUST HOOD WITH U.L. CLASSIFIED FILTERS.
3. HOOD SHALL BE FURNISHED WITH LED 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 SUPPLY PLENUM DISCHARGE.
6. HOOD SHALL BE FURNISHED WITH MOUNTED EXHAUST FAN SWITCH.
7. HOOD SHALL BE FURNISHED WITH MOUNTED TEMPERATURE SENSOR.
8. HOOD SHALL BE FURNISHED WITH MOUNTED LIGHT SWITCH.
9. PROVIDE ZERO CLEARANCE REDUCTION SYSTEM, CONSISTING OF ONE INCH THICK LAYER OF OWENS CORNING, JOHNS MANVILLE OR KNAUF, TYPE 475 INSULATION, INSTALLED ON TOP OF THE HOOD AND HELD SECURELY IN PLACE.
10. PROVIDE STAINLESS STEEL MINI END SKIRT FOR RIGHT SIDE OF HOOD, BETWEEN HOOD AND DOORWAY.
11. PROVIDE FULL HOOD WIDTH STAINLESS STEEL BACKSPLASH, IN ACCORDANCE WITH MMC 507.2.6, EXTENDING FROM FLOOR TO TOP OF HOOD.

PIPE MATERIAL CONSTRUCTION & INSULATION SCHEDULE

SERVICE DESCRIPTIONS	ABBREVIATION	PIPING MATERIAL	MEANS OF CONNECT	FITTINGS RATING	INSULATION
HEATING HOT WATER	HWS & HWR	1-1/4" & SMALLER: TYPE L HARD COPPER — OR	SOLDER OR PRESS	WROUGHT	FIBERGLASS WITH THE FOLLOWING THICKNESS: < 1-1/2" = 1.5" ≥ 1-1/2" = 2"
		1-1/4" & SMALLER: SCHEDULE 40 BLACK STEEL, ASTM A53-S-A-ERW	THREAD & COUPLE	150 PSIG	
		1-1/2": TYPE L HARD COPPER — OR	SOLDER OR PRESS	WROUGHT	
		1-1/2": SCHEDULE 40 BLACK STEEL, ASTM A53-S-A-ERW	THREAD & COUPLE	150 PSIG	

INDIRECT GAS FIRED MAKE-UP AIR UNIT SCHEDULE (100% OUTSIDE AIR)

(REFER TO SPECIFICATIONS PARAGRAPH 6.01 ON DRAWING M1.01 FOR ADDITIONAL REQUIREMENTS.)

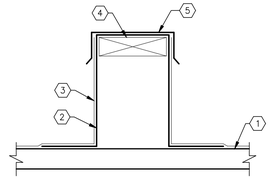
TAG #	DWG #	AREA SERVED	CFM	INPUT MBH	OUTPUT MBH	TURNDOWN RATIO	AIR TEMP RISE(°F)	ESP ("WC)	HP	MAX/MIN NG INLET PRESS. ("WC)	ELECTRICAL DATA			APPROX. WEIGHT W/ CURB (LBS)	MAKE/ MODEL	REMARKS
											MCA	MOCP	VOLTS/ PHASE			
MAU-1	M2.01	KITCHEN HOOD KH-1	2,160	250	202.5	4:1	86.7	1.0	1	14 / 6	7.0	15.0	230/3	1,200	GREENHECK IGX-P112-H12-MF-I	1, 2, 3, 4, 5, 6, 7 & 8

REMARKS:
1. FURNISH GAS PRESSURE REGULATOR IN ACCORDANCE WITH UTILITY COMPANY CRITERIA.
2. FURNISH UNIT WITH A GAS TRAIN WHICH IS IN COMPLIANCE WITH THE OWNER'S INSURANCE REQUIREMENTS. (STARTER BY ELECTRICAL CONTRACTOR)
3. FURNISH UNIT WITH DOWNSTREAM PLENUM, DISCHARGE DAMPERS, OUTSIDE AIR HOOD, MOISTURE ELIMINATORS, 2 INCH METAL WASHABLE FILTERS, MOTOR STARTER, 409 STAINLESS STEEL DRIP PAN AND INSULATED CABINET.
4. FURNISH A 24 INCH HIGH ROOF CURB.
5. FURNISH UNIT WITH HIGH EFFICIENCY MOTOR.
6. FURNISH UNIT WITH CONTROL CENTER.
7. FURNISH UNIT WITH MOTORIZED INTAKE DAMPER.
8. UNIT SHALL BE INTERLOCKED WITH KITCHEN HOOD KH-1 HEAT SENSOR.

AIR BALANCE SCHEDULE

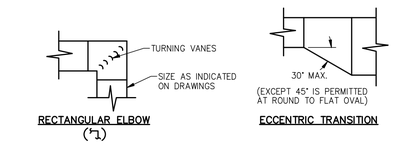
TAG	SUPPLY AIR (CFM)	RETURN AIR (CFM)	OUTSIDE AIR (CFM)	EXHAUST AIR (CFM)	RESULTING PRESSURE
MAU-1	2,160	0	2,160	0	+ 2,160
KH-1 / EF-1	0	0	0	2,400	- 2,400
KH-2 / EF-2	0	0	0	600	- 675 *
TOTALS	2,160	0	2,160	3,000	- 915

* INTERMITTENT OPERATION

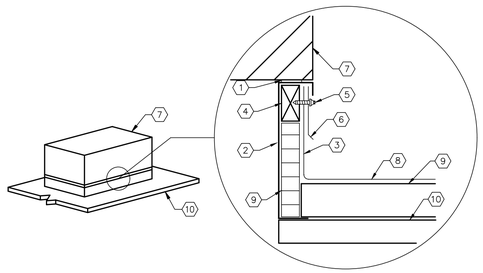


1. ROOF DECK
2. 8" HIGH x 3-1/2" WIDE x LENGTH OF EQUIPMENT
3. ROOF MEMBRANE
4. WOOD NAILER
5. RAIL CAP

E M2.01 DUCT SUPPORT ROOF RAIL DETAIL
NO SCALE



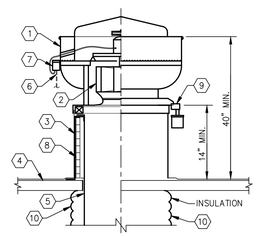
A M2.01 DUCTWORK TRANSITION DETAILS
NO SCALE (SINGLE LINE, AS SHOWN ON DRAWING.)



1. GASKET MATERIAL
2. ROOF CURB
3. FLASHING MEMBRANE (8" MINIMUM HEIGHT)
4. WOOD NAILER
5. GASKETED FASTENERS (MINIMUM TWO FASTENERS PER SIDE)
6. REMOVABLE SHEET METAL COUNTERFLASHING
7. HVAC UNIT
8. ROOF MEMBRANE
9. THERMAL INSULATION
10. ROOF DECK

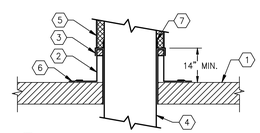
NOTE:
A. INSTALL ROOF TOP EQUIPMENT DEAD LEVEL IN BOTH DIRECTIONS.
B. ROOF DECKING SHALL BE CONTINUOUS WITHIN THE CURB PERIMETER EXCEPT FOR OPENINGS LARGE ENOUGH TO ACCOMMODATE THE PASSAGE OF DUCTS.
C. INSTALL FLEXIBLE DUCT CONNECTION AT SUPPLY AND RETURN AIR CONNECTIONS TO UNIT.

B M2.01 ROOF MOUNTED EQUIPMENT SUPPORT DETAIL
NO SCALE



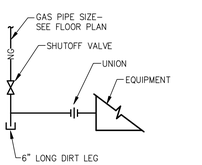
1. ALUMINUM CASING
2. CENTRIFUGAL FAN
3. PRE-FABRICATED GALVANIZED STEEL FAN CURB, FURNISHED AND INSTALLED BY M.C.
4. ROOF CONSTRUCTION ASSEMBLY
5. EXHAUST DUCTWORK. REFER TO FLOOR PLAN(S) FOR SIZE & CONFIGURATION
6. EXTERNAL WIRING LIQUID TIGHT FLEXIBLE CONDUIT BY ELECTRICAL CONTRACTOR
7. DISCONNECT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

C M2.01 UPBLAST EXHAUST FAN DETAIL
NO SCALE (EF-1 & EF-2)



1. ROOF STRUCTURE
2. SELF-FLASHING ALUMINUM ROOF CURB, FURNISHED AND INSTALLED BY M.C.
3. CURB CAP SECURED TO CURB NAILER
4. DUCTWORK. SEE PLANS FOR SIZE AND ROUTING.
5. RIGID DUCT INSULATION WITH ALUMINUM JACKET.
6. FLASHING AND COUNTER FLASHING.
7. SOLDER ALUMINUM INSULATION JACKET TO CURB LAP FOR WATERTIGHT SEAL.

D M2.01 DUCT ROOF CURB DETAIL
NO SCALE



F M2.01 GAS CONNECTION DETAIL
NO SCALE

COMcheck Software Version COMcheckWeb

Mechanical Compliance Certificate

Project Information

Energy Code:	90.1 (2019) Standard
Project Title:	Kitchen Exhaust Hood Replacement
Location:	Monroe, Michigan
Climate Zone:	5a
Project Type:	Alteration

Construction Site:
7900 Ida Street
Ida, Michigan 48140

Owner/Agent:
Ida Public Schools
3145 N. Prairie Street
Ida, Michigan 48140

Designer/Contractor:
Klienfelder
5201 Levis Commons Blvd
Perrysburg, Ohio 43551

Mechanical Systems List

Quantity System Type & Description

1 Makeup Air Unit MAU-1
Heating: 1 each - Central Furnace, Gas, Capacity = 250 kBtu/h
Proposed Efficiency = 81.00% Et, Required Efficiency: 81.00 % Et
Fan System: FAN SYSTEM 1 | MAU-1 -- Compliance (Motor nameplate HP and fan efficiency method) : Passes

Fans:
FAN 1 Supply, Constant Volume, 2160 CFM, 1.0 motor nameplate hp, 1.00 fan energy index

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.

Michael P. White - Mechanical Designer (Name - Title) | Michael P. White (Signature) | 10/29/2026 (Date)

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Perrysburg, OH 43551 | 419.352.7537

11/02/2026
STATE OF MICHIGAN
EMILY RENEE SCHWARZKOPF
6201063334
REGISTERED PROFESSIONAL ENGINEER
Emily Renee Schwarzkopf

DATE	DESCRIPTION
11.09.2026	BIDDING & STATE REVIEW

KITCHEN EXHAUST HOOD REPLACEMENT & RELATED WORK
AT
IDA ELEMENTARY SCHOOL
7900 IDA STREET, IDA, MI 48140
FOR
IDA PUBLIC SCHOOLS
3145 N. PRAIRIE STREET, MONROE, MI 48140

JOB # 26002

MECHANICAL SCHEDULES & DETAILS
M1.02

L:\Kohler Architecture Inc\27000897.001A-IDA Elementary Kitchen Hoo\Working\4_DRAWINGS\27000897M1.02.dwg 11/02/26 11:37:47 MWhite
COPYRIGHT © 2026 KOHLER ARCHITECTURE, INC. COPYING THIS DRAWING IS PROHIBITED AND SUBJECT TO PROSECUTION.

DEMOLITION PLAN NOTES:

(0A) REMOVE PORTION OF EXISTING HYDRONIC PIPING TO ALLOW FOR INSTALLATION OF NEW DUCTWORK. PREPARE REMAINING PIPING FOR CONNECTION OF NEW PIPE IN SAME LOCATION.

(0B) DISCONNECT AND REMOVE EXISTING BRIDGE DUCT, CONNECTING THE TWO EXISTING EXHAUST HOODS.

(0C) DISCONNECT AND REMOVE EXISTING EXHAUST DUCT UP THROUGH ROOF. PREPARE REMAINING ROOF OPENING FOR REUSE. COORDINATE WITH GENERAL CONTRACTOR.

NEW WORK PLAN NOTES:

(A) GAS-FIRED COOKING APPLIANCE UNDER EXHAUST HOOD. EDGE OF EXHAUST HOOD SHALL EXTEND MINIMUM 6" BEYOND OUTER EDGE OF EACH APPLIANCE.

(B) TRANSITION AND OFFSET FROM 15x15 HOOD CONNECTION TO 18x18 EXHAUST AIR DUCT UP THROUGH ROOF TO EXHAUST FAN EF-1.

(C) OFFSET EXISTING HYDRONIC PIPING UP AND OVER NEW SUPPLY DUCTWORK.

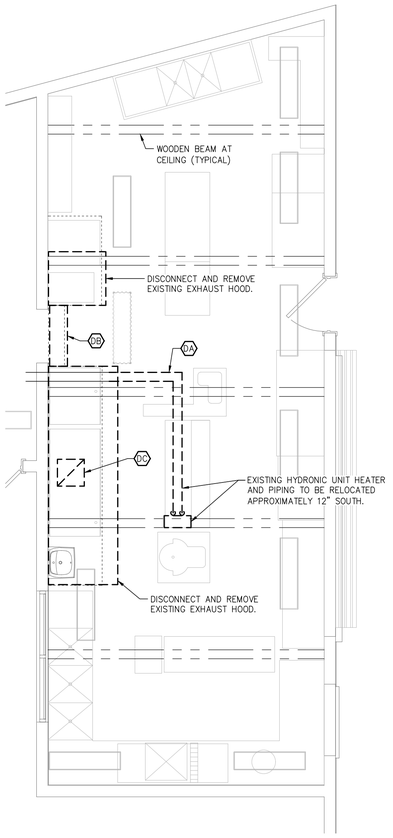
(D) PROVIDE FIXED OR ADJUSTABLE HEIGHT ROOFTOP PIPE STANDS WITH MAXIMUM SPACING OF 10 FEET UNLESS CLOSER SPACING IS REQUIRED DUE TO WEIGHT OF PIPE; MIRO #RAH, OR EQUIVALENT. TREATED WOOD BLOCKING SHALL NOT BE USED.

(E) COVER NEW AND EXISTING, INSULATED HYDRONIC PIPING IN KITCHEN WITH PVC JACKETING.

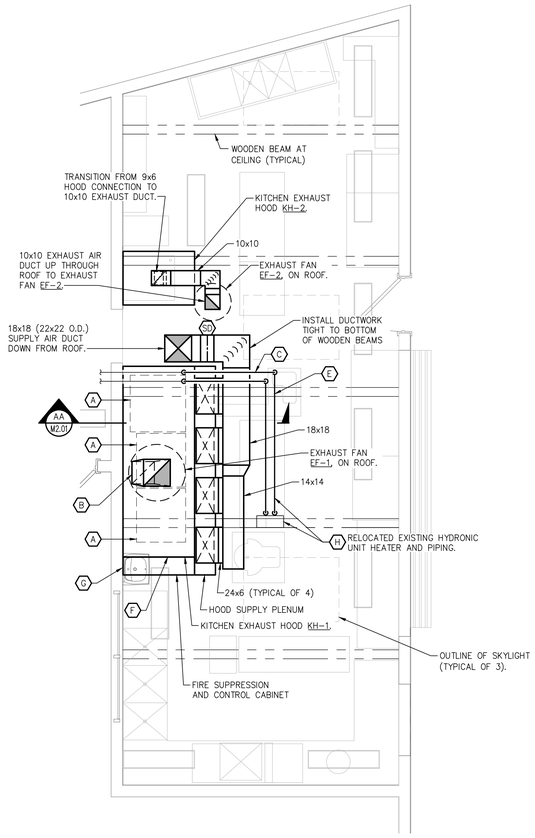
(F) MOUNT HOOD TO G.C. PROVIDED UNISTRUT SYSTEM. COORDINATE INSTALLATION WITH G.C.

(G) STAINLESS STEEL BACKSPLASH PANEL EXTENDS 18" BEYOND THE EDGE OF THE HOOD. CONTRACTOR SHALL VERY NEATLY AND CAREFULLY NOTCH OUT THE PANEL TO ACCOMMODATE EXISTING HAND SINK, PIPING AND ELECTRICAL COMPONENTS. COORDINATE INSTALLATION WITH G.C. AND E.C.

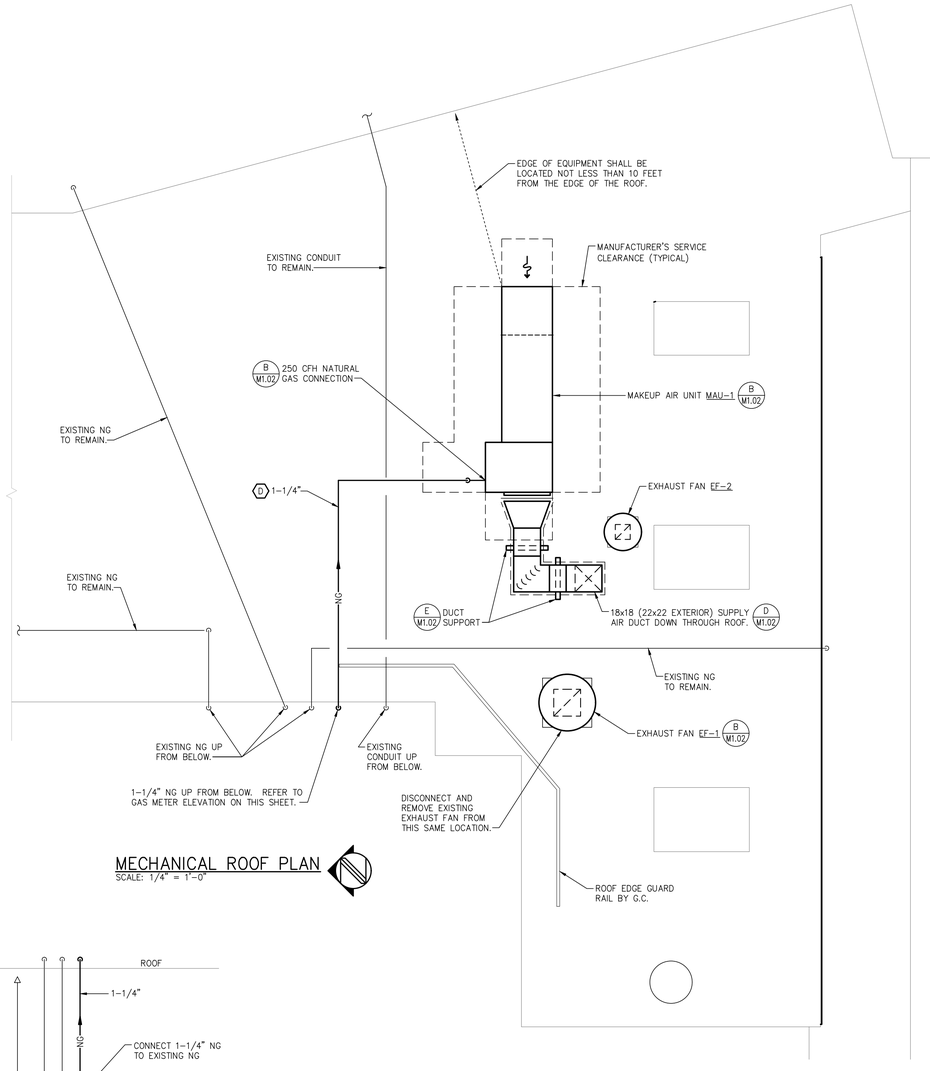
(H) CONTRACTOR SHALL DRAIN AND REFILL SYSTEM TO MATCH EXISTING CHEMICAL TREATMENT REQUIREMENTS, USING OWNER PROVIDED CHEMICAL TREATMENT.



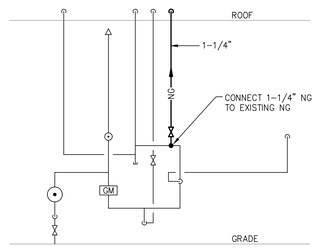
MECHANICAL DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



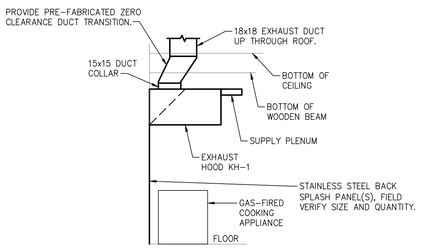
MECHANICAL NEW WORK PLAN
SCALE: 1/4" = 1'-0"



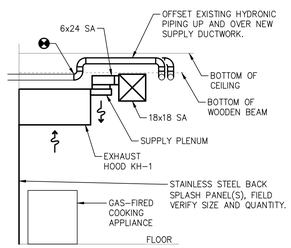
MECHANICAL ROOF PLAN
SCALE: 1/4" = 1'-0"



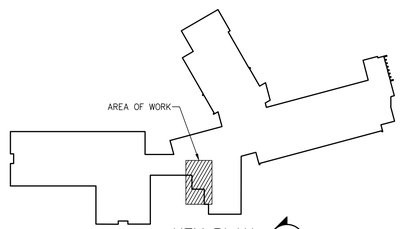
ELEVATION AT GAS METER
SCALE: NONE



SECTION AT KH-1 EXHAUST DUCT
SCALE: 1/4" = 1'-0"



MECHANICAL SECTION 'AA'
SCALE: 1/4" = 1'-0"



KEY PLAN
SCALE: NO SCALE

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 DRAWING M1.02.
4. ROOF CURBS SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR. REFER TO ARCHITECTURAL DRAWINGS FOR ROOF CONSTRUCTION.
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. MAINTAIN REQUIRED MANUFACTURERS' CLEARANCES ON ALL EQUIPMENT.
8. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS AND DETAIL "A" ON DRAWING M1.02.
9. CONTRACTOR SHALL VERIFY CLEARANCES ON ROOF AND BELOW CEILING PRIOR TO FABRICATION OF DUCTWORK. COORDINATE EXACT LOCATION OF DUCTWORK WITH ELECTRICAL AND GENERAL CONTRACTORS.
10. OFFSET SUPPLY AND EXHAUST AIR DUCT DROPS FROM ROOF AS INDICATED TO AVOID STRUCTURAL FRAMING. REFER TO ARCHITECTURAL PLANS FOR STRUCTURAL LAYOUT.
11. ALL ROOF MOUNTED EQUIPMENT REQUIRING SERVICE SHALL BE LOCATED A MINIMUM OF 10'-0" FROM THE EDGE OF ROOF.

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11/02/2026
STATE OF MICHIGAN
EMILY RENEE SCHWARZKOPF
6201063334
REGISTERED PROFESSIONAL ENGINEER
Emily R. Schwarzkopf

DATE	DESCRIPTION
11.09.2026	BIDDING & STATE REVIEW

KITCHEN EXHAUST HOOD REPLACEMENT & RELATED WORK

IDA ELEMENTARY SCHOOL
7900 IDA STREET, IDA, MI 48140

IDA PUBLIC SCHOOLS
3145 N. PRAIRIE STREET, MONROE, MI 48140

AT FOR

JOB # 26002

MECHANICAL PLANS

M2.01

L:\Kohler Architecture Inc\27000897.001A-IDA Elementary Kitchen Hoo\Working\4_DRAWINGS\27000897M2.01.dwg 11/02/26 11:11:57 MWhite

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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 ENGINEER.

1.03 VERIFICATION:

A. 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 ENGINEER 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 ENGINEER, ALL REQUIRED COMPONENTS WITH WORK TOGETHER FOR THE EQUIPMENT SUPPLIED. ANY ADDITIONAL COST WILL BE THE SOLE RESPONSIBILITY OF THIS CONTRACTOR.

B. 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 AND/OR ENGINEER 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 CONSTRUCTION, WITH THE APPROVAL OF THE ARCHITECT AND/OR ENGINEER, BE PREPARED BY THE CONTRACTOR AT THEIR OWN EXPENSE. WHERE SUCH APPROVED DEVIATION REQUIRES A DIFFERENT QUANTITY AND ARRANGEMENT OF CONDUIT, WIRING, SWITCHES, 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.

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.

1.07 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 (PROVIDING ADEQUATE 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 OPERATIONS 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 AND/OR ENGINEER, 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 AND/OR ENGINEER.

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 PANELBOARDS, 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 GROUNDED 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 OR PRESS-CAGE (HUBBELL 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 FEEDER 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 2" 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 PANELS AND SWITCHBOARDS, 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 200 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 SPECIFICATION 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 ZINC RICH, GALVANIZING SPRAY OR, INSURE 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.

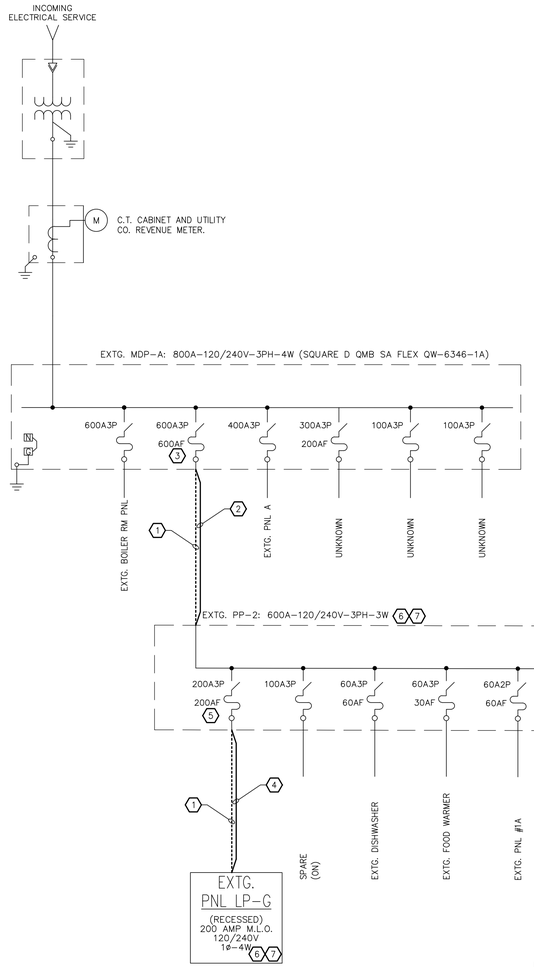
G. SURFACE METAL RACEWAYS: WHERE SPECIFICALLY NOTED, OR APPROVED BY THE ENGINEER, INTERIOR CONDUIT MAY BE SURFACE MOUNTED METAL RACEWAY WITH IVORY PAINTED FINISH, INSTALLED PER NEC 386, COMPLETE WITH MATCHING ELBOWS, BOXES, FITTINGS, AND ACCESSORIES, FOR A COMPLETE, GROUNDED RACEWAY SYSTEM; WIREMOLD V700 SERIES OR HUBBELL 750-IV SERIES. MINIMUM SIZE OF 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 WIRE 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. SUPPORTS: FURNISH AND INSTALL ALL REQUIRED MISCELLANEOUS STEEL SUPPORTS FOR RACEWAYS, BOXES, PANELBOARDS, FIXTURES, CABINETS, BOXES, ETC. ALL EQUIPMENT SHALL BE RIGIDLY SUPPORTED FROM THE BUILDING STRUCTURE, WITH COMPONENTS RATED FOR TWICE THE ACTUAL LOAD OR WEIGHT OF 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.

"EXTG. 800A SERVICE" LOAD & UV LOAD SUMMARIES				
LOAD TYPE		CONNECTED VA	DEMAND FACTOR	DEMAND VA
EXISTING LOAD **	NEC 220.87	107927	125.00%	134909
REMOVED LOADS		-6120	100%	-6120
HVAC EQUIPMENT	NEC 220.60	6849	100%	6849
TOTAL LOAD IN VA		108656		135638
TOTAL AMPS @ 240VOLT-3PHASE		262		327

** EXISTING LOAD CONSISTS OF HIGHEST ELECTRICAL DEMAND RECORDED IN FEBRUARY 2026 PLUS NEC 220.87 OF 125%.



PARTIAL SINGLE-LINE DIAGRAM

N.T.S.

SINGLE LINE NOTES:

1. DISCONNECT, CUT, CAP AND ABANDON EXISTING UNDERGROUND FEEDERS.
2. FURNISH AND INSTALL NEW FEEDER TO EXISTING PANEL PP-2 IN KITCHEN SUPPLY RM, 2(4#500KCMIL + #1/0G) - 3 1/2"C. SEE SHEET E2.01 FOR FEEDER ROUTE. COORDINATE ANY TEMPORARY POWER OUTAGE WITH OWNER.
3. FURNISH AND INSTALL (3) NEW FUSES TO MATCH EXISTING FUSE TYPE AND STYLE.
4. FURNISH AND INSTALL NEW FEEDER TO EXISTING PANEL LP-G IN VESTIBULE, 3#3/0 + #6G - 2"C. SEE SHEET E2.01 FOR FEEDER ROUTE. COORDINATE ANY TEMPORARY POWER OUTAGE WITH OWNER.
5. FURNISH AND INSTALL (2) NEW FUSES TO MATCH EXISTING FUSE TYPE AND STYLE.
6. FURNISH AND INSTALL NEW GROUNDING BUS BAR. CONNECT ALL EQUIPMENT GROUNDING CONDUCTORS AND ENSURING PROPER SEPARATION FROM THE NEUTRAL BUS TO COMPLY WITH NEC SAFETY STANDARDS.
7. FIELD INVESTIGATE BRANCH CIRCUITS FED FROM PANEL. DISCONNECT AND REMOVE CONDUCTORS NO LONGER IN USE AND CAP ABANDONED CONDUITS AS NEEDED. UPDATE PANEL TAGS OR DIRECTORY AS REQUIRED TO REFLECT CURRENT BRANCH CIRCUITS.
8. 3#12 & #12G - 1/2"C

(EXISTING CIRCUITING)

PANELBOARD SCHEDULE

EXISTING PANEL: LP-G
MAINS: 200A M.L.O.
VOLTS: 120/240V-1ø-3W-SN
MOUNTING: RECESSED

NOTES: SQUARE D NQO (Q025-303)
1 GFCI BREAKER
2 30 MILLIAMP EQUIPMENT GROUND FAULT TRIP
3 SHUNT TRIP
4 ARC FAULT
5 SWITCHED NEUTRAL
6 MOTOR OPERATED
7 NON-CONSEQUENT LOAD
8
65 KAIC

	LOAD DESCRIPTION	NOTES	VOLT AMPS	C.B. AMP	C.B. P	A	B	C.B. P	C.B. AMP	VOLT AMPS	NOTES	LOAD DESCRIPTION	
1	MIXER CENTER		500	20	1	1000		1	20	500		KITCH HOOD LTS & CLK	2
3	SOUTH & EAST PLUGS		500	20	1		1000	1	20	500		FAN IN KITCH STOR	4
5	TOILETS		500	20	1	700		1	20	200		WALKIN COOLER LTS	6
7	SOUTH & EAST PLUGS		500	20	1		1000	1	20	500		UNKNOWN	8
9	MILK COOLER		800	20	1	1600		1	20	800		REFRIG WEST CENTER	10
11	REFRIGERATOR		800	20	1		1300	1	20	500		UNKNOWN	12
13	NORTH PLUG		180	20	1	680		1	20	500		KITCHEN LTS EAST	14
15	UNIT HTR		1000	20	1		1500	1	20	500		NORTH & EAST PLUGS	16
17	NEW OVEN FAN		500	20	1	1000		1	20	500		DISHWASHER FAN	18
19	SPACE		0	20	1		0	1	20	0		SPACE	20
21	GARBAGE DISP. WEST		1000	20	2	2000		2	20	1000		FOOD WARMER	22
23	--		1000	20	2		2000	2	20	1000		--	24
25	SPACE		0	20	1	0		1	20	0		SPACE	26
27	SPACE		0	20	1		0	1	20	0		SPACE	28
29	SPACE		0	20	1	0		1	20	0		SPACE	30
	HANDLE TIE					6980	6800						
	HANDLE LOCK					BALANCE 101%	99%						

TOTAL LOAD: 13780 TOTAL AMPS: 57.4

(NEW CIRCUITING)

PANELBOARD SCHEDULE (1)(2)

EXISTING PANEL: LP-G
MAINS: 200A M.L.O.
VOLTS: 120/240V-1ø-3W-SN
MOUNTING: RECESSED

NOTES: SQUARE D NQO (Q025-303)
1 GFCI BREAKER
2 30 MILLIAMP EQUIPMENT GROUND FAULT TRIP
3 SHUNT TRIP
4 ARC FAULT
5 SWITCHED NEUTRAL
6 MOTOR OPERATED
7 NON-CONSEQUENT LOAD
8
65 KAIC

		LOAD DESCRIPTION	NOTES	VOLT AMPS	C.B. AMP	C.B. P	A	B	C.B. P	C.B. AMP	VOLT AMPS	NOTES	LOAD DESCRIPTION	
	1	MIXER CENTER		500	20	1	1000		1	20	500		KITCH HOOD LTS & CLK	2
	3	SOUTH & EAST PLUGS		500	20	1		1000	1	20	500		FAN IN KITCH STOR	4
	5	TOILETS		500	20	1	700		1	20	200		WALKIN COOLER LTS	6
	7	SOUTH & EAST PLUGS		500	20	1		1000	1	20	500		UNKNOWN	8
	9	MILK COOLER		800	20	1	1600		1	20	800		REFRIG WEST CENTER	10
	11	REFRIGERATOR		800	20	1		1300	1	20	500		UNKNOWN	12
	13	NORTH PLUG		180	20	1	680		1	20	500		KITCHEN LTS EAST	14
	15	UNIT HTR		1000	20	1		1500	1	20	500		NORTH & EAST PLUGS	16
	17	NEW OVEN FAN		500	20	1	1000		1	20	500		DISHWASHER FAN	18
	19	SPACE		0	20	1		0	1	20	0		SPACE	20
	21	GARBAGE DISP. WEST		1000	20	2	2000		2	20	1000		FOOD WARMER	22
	23	--		1000	20	2		2000	2	20	1000		--	24
(3)	25	**EF-2**		**480**	**15**	1	480		1	20	0		SPACE	26
	27	SPACE		0	20	1		0	1	20	0		SPACE	28
	29	SPACE		0	20	1	0		1	20	0		SPACE	30
		HANDLE TIE					7460	6800						
		HANDLE LOCK					BALANCE 100%	95%						

TOTAL LOAD: 14260 TOTAL AMPS: 59.4

PANEL NOTES

(1) PANEL DIRECTORIES REFLECT INFORMATION OBSERVED FROM FIELD PICTURES AND EXISTING DRAWINGS. EXISTING BRANCH CIRCUIT LOADS ARE ESTIMATED. CONTRACTOR SHALL FIELD VERIFY CIRCUIT DESIGNATIONS ASSOCIATED WITH RENOVATIONS AND FIELD VERIFY LOAD FOR ANY CIRCUIT MODIFIED OR EXTENDED AS PART OF THIS PROJECT. E.C. SHALL MAINTAIN BRANCH CIRCUIT WIRING CONTINUITY TO EXISTING DEVICES REMAINING.

(2) PROVIDE NEATLY UPDATED CIRCUIT DIRECTORY AT PROJECT COMPLETION.

(3) E.C. SHALL FURNISH AND INSTALL NEW CIRCUIT BREAKER TO MATCH EXISTING IN TYPE, STYLE, MANUFACTURER, AND AIC RATING.

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11/02/2026

STATE OF MICHIGAN
Nicole L Winhoven-Kamm
License No. 6201315796
LICENSED PROFESSIONAL ENGINEER

DATE	DESCRIPTION
11.09.2026	BIDDING & STATE REVIEW

KITCHEN EXHAUST HOOD REPLACEMENT & RELATED WORK

AT

IDA ELEMENTARY SCHOOL
7900 IDA STREET, IDA, MI 48140

FOR

IDA PUBLIC SCHOOLS
3145 N. PRAIRIE STREET, MONROE, MI 48140

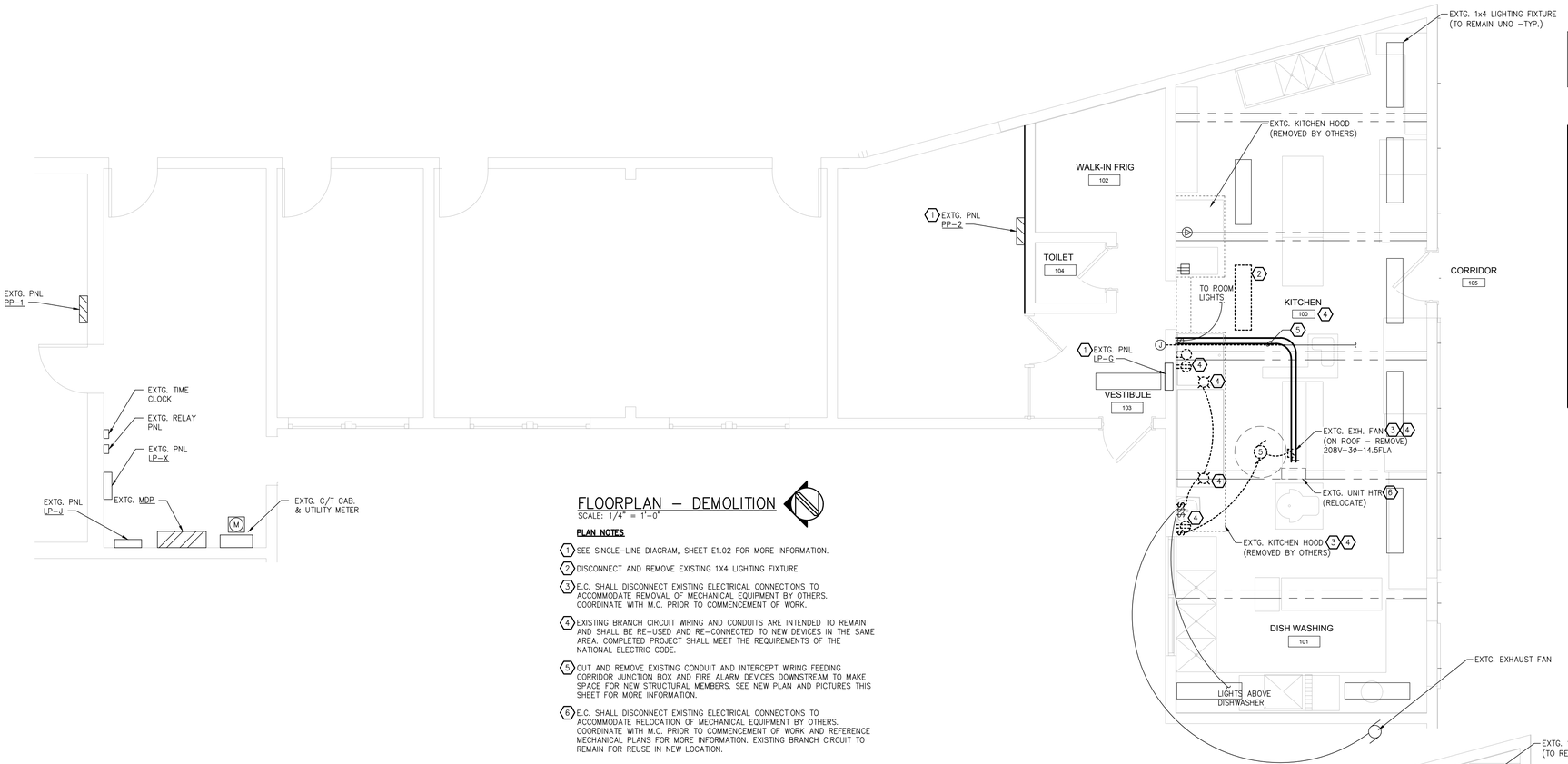
JOB # 26002

ELECTRICAL SINGLE-LINE DIAGRAM & PANEL SCHEDULES

E1.02

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

PLAN NOTES

1. SEE SINGLE-LINE DIAGRAM, SHEET E1.02 FOR MORE INFORMATION.
2. DISCONNECT AND REMOVE EXISTING 1X4 LIGHTING FIXTURE.
3. E.C. SHALL DISCONNECT EXISTING ELECTRICAL CONNECTIONS TO ACCOMMODATE REMOVAL OF MECHANICAL EQUIPMENT BY OTHERS. COORDINATE WITH M.C. PRIOR TO COMMENCEMENT OF WORK.
4. EXISTING BRANCH CIRCUIT WIRING AND CONDUITS ARE INTENDED TO REMAIN AND SHALL BE RE-USED AND RE-CONNECTED TO NEW DEVICES IN THE SAME AREA. COMPLETED PROJECT SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE.
5. CUT AND REMOVE EXISTING CONDUIT AND INTERCEPT WIRING FEEDING CORRIDOR JUNCTION BOX AND FIRE ALARM DEVICES DOWNSTREAM TO MAKE SPACE FOR NEW STRUCTURAL MEMBERS. SEE NEW PLAN AND PICTURES THIS SHEET FOR MORE INFORMATION.
6. E.C. SHALL DISCONNECT EXISTING ELECTRICAL CONNECTIONS TO ACCOMMODATE RELOCATION OF MECHANICAL EQUIPMENT BY OTHERS. COORDINATE WITH M.C. PRIOR TO COMMENCEMENT OF WORK AND REFERENCE MECHANICAL PLANS FOR MORE INFORMATION. EXISTING BRANCH CIRCUIT TO REMAIN FOR REUSE IN NEW LOCATION.

GENERAL NOTES

E.C. SHALL COORDINATE WITH MECHANICAL DRAWINGS AND CONTRACTOR FOR PROJECT SCOPE AND SEQUENCE OF CONSTRUCTION BEFORE COMMENCING ANY WORK.

EXISTING FIRE ALARM SYSTEM GENERAL NOTES:

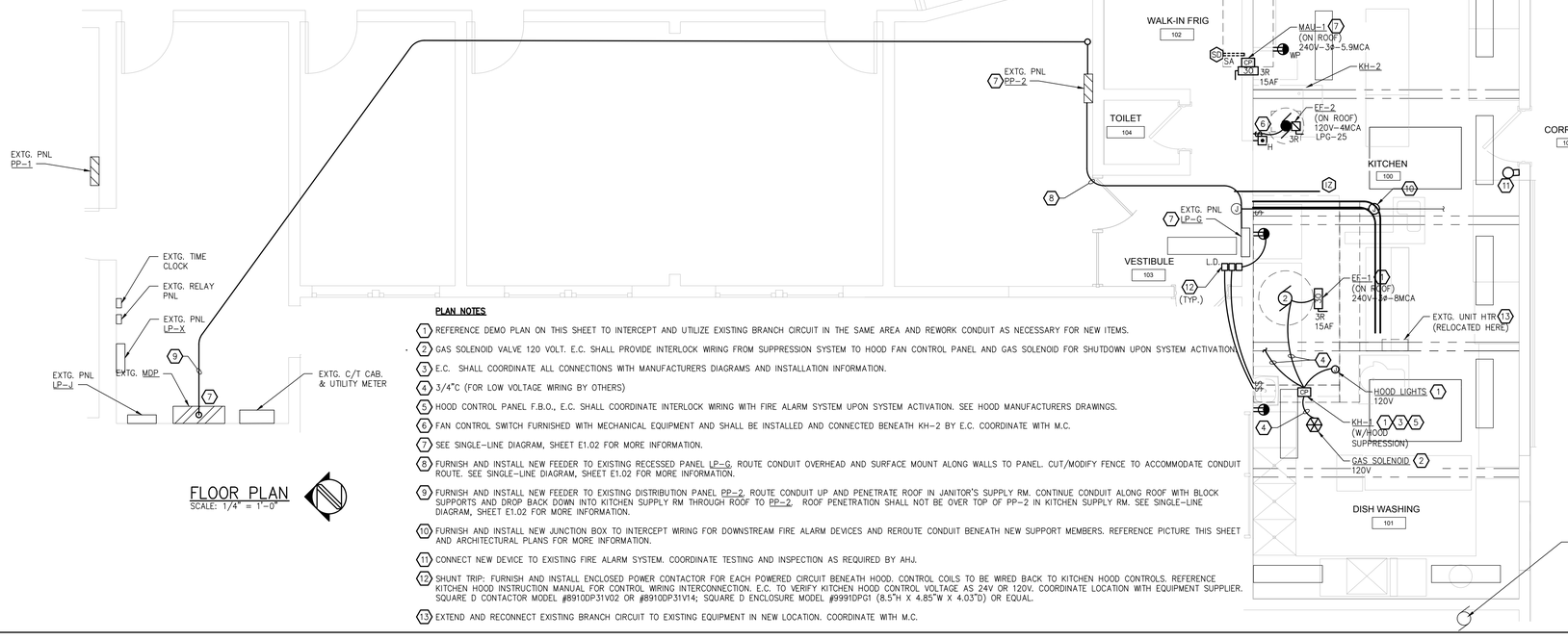
A. DESIGN DOCUMENTS ARE DIAGRAMMATIC ONLY FOR AREAS IN SCOPE AND NOT THE WHOLE BUILDING. CONTRACTOR SHALL FIELD VERIFY PRIOR TO BID, EXISTING FIRE ALARM SYSTEM CAPACITY AND EXPANSION CAPABILITY/LIMITATION OF ADDING NEW INDICATED DEVICES TO THE EXISTING SYSTEM PER CODE. CONTRACTOR SHALL COORDINATE WITH CERTIFIED FIRE ALARM DESIGNER/INSTALLER TO PROVIDE UPGRADES TO THE EXISTING SYSTEM TO ACCOMMODATE ADDITION OF NEW DEVICES OR PROVIDE A NEW SYSTEM AND DEVICES FOR WHOLE BUILDING AS REQUIRED PER CODE AND AHJ FOR BUILDING/OCCUPANCY TYPE. CERTIFIED FIRE ALARM DESIGNER/INSTALLER SHALL PROVIDE AND SUBMIT DESIGN DOCUMENTS AS REQUIRED FOR APPROVAL AND PERMIT.

B. NEW DEVICES, SMOKE DETECTORS, DUCT DETECTORS, HORN(SPEAKER)/STROBE AND STROBE DEVICES SHALL BE COMPATIBLE WITH EXISTING FIRE ALARM SYSTEM AND OF SIMILAR TYPE MODEL AS EXISTING DEVICES. CANDELA AND dB RATING PER NFPA 72. PROVIDE RELEASE TO DOORS WITH ACCESS CONTROL UPON FIRE ALARM SIGNAL. PROVIDE 'NAC' PANEL AND NAC CARD TO EXISTING FIRE ALARM PANEL AS NEEDED. PROVIDE 120V POWER TO NAC POWER SUPPLY. PROVIDE ALL POWER-LIMITED TWISTED SHIELDED FPLP CABLING, # 14 THHN/THWN LOW VOLTAGE CONDUCTORS AND #12 THHN/THWN LINE VOLTAGE CONDUCTORS AND CONDUIT. PROVIDE ALL CONDUIT, J-BOXES, CABLING, CARDS, MODULES, RELAYS, PROGRAMMING AND START-UP. PROVIDE SURFACE MOUNTED RACEWAYS AND BOXES AS INDICATED FOR EXISTING WALLS.

C. PROVIDE RACEWAY FOR EACH LOW VOLTAGE DEVICE AS FOLLOWS: VERTICAL CABLE RUNS IN 3/4" CONDUIT (WITH PULL STRING AND INSULATED BUSHING STUBBED ABOVE AN ACCESSIBLE CEILING OR JOIST SPACE AND HORIZONTAL CABLE RUNS IN J-HOOKS, EVERY 3' TO 4'. PROVIDE EACH LOW VOLTAGE DEVICE WITH A ONE-GANG DEEP J-BOX FLUSH IN WALL OR CEILING. SEE OTHER NOTES AND DRAWINGS FOR FIRE ALARM DEVICE, CABLE, PANEL, EQUIPMENT, ETC. REQUIREMENTS. PROVIDE 120V ELECTRICAL CONNECTION OR DUPLEX RECEPTACLE TO FIRE ALARM DEVICES, PANELS, AND POWER SUPPLIES.



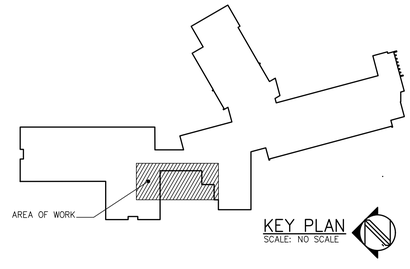




FLOOR PLAN
SCALE: 1/4" = 1'-0"

PLAN NOTES

1. REFERENCE DEMO PLAN ON THIS SHEET TO INTERCEPT AND UTILIZE EXISTING BRANCH CIRCUIT IN THE SAME AREA AND REWORK CONDUIT AS NECESSARY FOR NEW ITEMS.
2. 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.
3. E.C. SHALL COORDINATE ALL CONNECTIONS WITH MANUFACTURERS DIAGRAMS AND INSTALLATION INFORMATION.
4. 3/4"C (FOR LOW VOLTAGE WIRING BY OTHERS)
5. HOOD CONTROL PANEL F.B.O., E.C. SHALL COORDINATE INTERLOCK WIRING WITH FIRE ALARM SYSTEM UPON SYSTEM ACTIVATION. SEE HOOD MANUFACTURERS DRAWINGS.
6. FAN CONTROL SWITCH FURNISHED WITH MECHANICAL EQUIPMENT AND SHALL BE INSTALLED AND CONNECTED BENEATH KH-2 BY E.C. COORDINATE WITH M.C.
7. SEE SINGLE-LINE DIAGRAM, SHEET E1.02 FOR MORE INFORMATION.
8. FURNISH AND INSTALL NEW FEEDER TO EXISTING RECESSED PANEL LP-G, ROUTE CONDUIT OVERHEAD AND SURFACE MOUNT ALONG WALLS TO PANEL. CUT/MODIFY FENCE TO ACCOMMODATE CONDUIT ROUTE. SEE SINGLE-LINE DIAGRAM, SHEET E1.02 FOR MORE INFORMATION.
9. FURNISH AND INSTALL NEW FEEDER TO EXISTING DISTRIBUTION PANEL PP-2, ROUTE CONDUIT UP AND PENETRATE ROOF IN JANITOR'S SUPPLY RM. CONTINUE CONDUIT ALONG ROOF WITH BLOCK SUPPORTS AND DROP BACK DOWN INTO KITCHEN SUPPLY RM THROUGH ROOF TO PP-2. ROOF PENETRATION SHALL NOT BE OVER TOP OF PP-2 IN KITCHEN SUPPLY RM. SEE SINGLE-LINE DIAGRAM, SHEET E1.02 FOR MORE INFORMATION.
10. FURNISH AND INSTALL NEW JUNCTION BOX TO INTERCEPT WIRING FOR DOWNSTREAM FIRE ALARM DEVICES AND REROUTE CONDUIT BENEATH NEW SUPPORT MEMBERS. REFERENCE PICTURE THIS SHEET AND ARCHITECTURAL PLANS FOR MORE INFORMATION.
11. CONNECT NEW DEVICE TO EXISTING FIRE ALARM SYSTEM. COORDINATE TESTING AND INSPECTION AS REQUIRED BY AHJ.
12. SHUNT TRIP: FURNISH AND INSTALL ENCLOSED POWER CONTACTOR FOR EACH POWERED CIRCUIT BENEATH HOOD. 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. COORDINATE LOCATION WITH EQUIPMENT SUPPLIER. SQUARE D CONTACTOR MODEL #8910DP31V02 OR #8910DP31V14; SQUARE D ENCLOSURE MODEL #9991DPG1 (8.5"H X 4.85"W X 4.03"D) OR EQUAL.
13. EXTEND AND RECONNECT EXISTING BRANCH CIRCUIT TO EXISTING EQUIPMENT IN NEW LOCATION. COORDINATE WITH M.C.



KEY PLAN
SCALE: NO SCALE

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FOR

JOB # 26002

FIRST FLOOR LIGHTING & POWER PLANS

E2.01

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