GENERAL CONSTRUCTION NOTES

1. THE USE OF THESE DOCUMENTS IS RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY WERE PREPARED. REUSE OR REPRODUCTION OF THE DOCUMENTS, (WHOLE OR IN PART) FOR ANY OTHER PURPOSE IS PROHIBITED. CAVA RETAINS ALL RIGHTS OF OWNERSHIP.
2. THE CONTRACTOR AND SUB-CONTRACTORS SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL SAFETY REQUIREMENTS TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS INCLUDING EMPLOYEES AND PROPERTY. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SUB-CONTRACTORS TO INITIATE, MAINTAIN, AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS, AND PROGRAMS IN CONNECTION WITH THE WORK.
3. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL WORK AND FOR THE MEANS, METHODS, PROCEDURES, TECHNIQUES, AND SEQUENCE OF CONSTRUCTION.
4. GENERAL CONTRACTOR SHALL PROVIDE ALL REQUIRED PERMITS, FEES, AND INSPECTIONS AS MAY BE REQUIRED BY GOVERNING BODIES HAVING LEGAL JURISDICTION. BUILDING PERMIT TO BE REIMBURSED BY OWNER.
5. THE GENERAL CONTRACTOR IS TO GUARANTEE ALL WORK INCLUDING WORK DONE BY SUB-CONTRACTORS FOR A PERIOD OF A MINIMUM ONE (1) YEAR COMMENCING WITH THE DATE OF SUBSTANTIAL COMPLETION OF THE WORK, OR AS STATED IN CONTRACT WITH OWNER. WHICHEVER IS GREATER.
6. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SCHEDULING AND MONITORING OF ON-SITE TESTING AND INSPECTION SERVICES AS LISTED IN THE PROJECT MANUAL AND GENERAL CONDITIONS A201.
7. WHEN CONTRACTOR ACCEPTS DELIVERY OF ALL ITEMS NOTED ON PLANS EITHER IN CONTRACT OR NOT IN CONTRACT HE SHALL BE RESPONSIBLE FOR LOSS AND/ OR DAMAGE TO THESE ITEMS.
8. GENERAL CONTRACTOR TO HAVE JOB PHONE AND INTERNET ACCESS ON PREMISES DURING ENTIRE CONSTRUCTION PERIOD TO ENSURE OPEN COMMUNICATION CHANNELS.
9. THE GENERAL CONTRACTOR & EACH SUBCONTRACTOR IS TO HAVE A FULL TIME QUALIFIED SUPERVISOR ON THE SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED.
10. THE CONTRACTOR SHALL MAINTAIN FOR THE ENTIRE DURATION OF THE WORK ALL EXITS, EXIT LIGHTING, FIRE PROTECTION DEVICES, AND ALARMS IN CONFORMANCE WITH ALL APPLICABLE CODES AND ORDINANCES.
11. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS GOVERN. ALL PARTITION LOCATIONS, ALL DOOR AND OPENING LOCATIONS SHALL BE SHOWN ON FLOOR PLAN. IN CASE OF CONFLICT NOTIFY THE ARCHITECT. FLOOR PLAN BY ARCHITECT SUPERSEDES ALL OTHER PLANS. ALL DIMENSIONS MARKED "CLEAR" SHALL BE MAINTAINED AND SHALL ALLOW FOR THICKNESS OF ALL FINISHES INCLUDING CARPET, PAD, CERAMIC TILE, V.C.T., SLATWALL, ETC.
12. ALL DIMENSIONS SHOWN ARE TO FACE OF EXISTING CONDITIONS OR SUBSTRATE UNLESS SPECIFICALLY NOTED OTHERWISE.
13. ALL DIMENSIONS ON ARCHITECTURAL DRAWINGS LOCATING STRUCTURAL ELEMENTS ARE TO CENTERLINE OF STEEL COLUMNS AND STEEL BEAMS UNLESS NOTED OTHERWISE.
14. ALL DIMENSIONS SHOWN ARE NOMINAL DIMENSIONS UNLESS SPECIFICALLY NOTED OTHERWISE.
15. EGRESS DOORS SHALL BE PROVIDED PER IBC SECTIONS 1014 THROUGH 1024.
16. ALL ACCESS PANELS SHALL BE 24" x 30" UNLESS OTHERWISE NOTED.
17. ALL GLASS UNITS LOCATED IN HAZARDOUS LOCATIONS AS INDICATED IN IBC 2406.3 SHALL COMPLY WITH TEST REQUIREMENTS OF CONSUMER PRODUCT SAFETY COMMISSION 16, CFR PART 1201 FOR HUMAN IMPACT LOADS.
18. ALL SAW CUTTING AND CORING LOCATIONS SHALL BE REVIEWED IN FIELD BY THE GENERAL CONTRACTOR PRIOR TO CUTTING/CORING.
19. ALL FASTENERS, CONNECTORS, OR OTHER HARDWARE IN DIRECT CONTACT WITH PRESERVATIVE TREATED OR FIRE RETARDANT TREATED WOOD SHALL BE STAINLESS STEEL TYPE 304 OR TYPE 316, OR HOT-DIPPED GALVANIZED STEEL ASTM A653, CLASS G-185 WITH 1.85 OUNCES OF ZINC PER SQUARE FOOT TO REDUCE THE CORROSION PROCESS .
20. FIREBLOCKING SHALL BE INSTALLED IN CONCEALED SPACES OF STUD WALL AND PARTITIONS, INCLUDING FURRED OR STUDDED-OFF SPACES OF MASONRY OR CONCRETE WALLS, AND AT THE CEILING AND FLOOR OR ROOF LEVELS. PER IBC SECTION 717.2.2.
21. FIREBLOCKING SHALL BE INSTALLED AT ALL INTERCONNECTIONS BETWEEN VERTICAL AND HORIZONTAL SPACES SUCH AS OCCUR AT SOFFITS OVER CABINETS, DROP CEILINGS, COVE CEILINGS AND SIMILAR LOCATIONS. PER IBC SECTION 717.2.3.
22. REQUIRED FLAME SPREAD RATING: INTERIOR FINISH OF WALLS AND CEILINGS SHALL HAVE A FLAME SPREAD RATING NOT GREATER THAN THAT DESIGNATED BY THE CLASS PRESCRIBED FOR THE VARIOUS GROUPS LISTED IN IBC TABLE 803.5, WHEN TESTED IN ACCORDANCE WITH OBC SECTION 803.2.
23. PROVIDE PORTABLE FIRE EXTINGUISHERS WITH U.L. LABEL AND A RATING OF NOT LESS THAN 4A 80B:C WITH 75 FT TRAVEL DISTANCE TO ALL POSITIONS OF BUILDING OR AS DIRECTED BY THE FIRE DEPARTMENT FIELD INSPECTOR.

ACCESSIBILITY INFORMATION

1. ACCESS TO THESE FACILITIES SHALL BE PROVIDED AT PRIMARY ENTRANCES.
2. THE SLOPE OF PUBLIC WALKS SHALL NOT EXCEED MAX. CROSS SLOPE 2%.
3. WALKING SURFACES SLOPING GREATER THAN 2% SHALL BE SLIP RESISTANT.
4. PROVIDE A 60" x 60" MIN. LANDING ON STRIKE SIDE OF DOOR WITH 44" MINIMUM WIDTH IN DIRECTION OF TRAVEL.
5. WALKS SHALL EXTEND 24" TO THE SIDE OF THE STRIKE EDGE OF DOOR OR GATE T HAT SWINGS TOWARD THE WALK.
6. EVERY REQUIRED EXIT DOORWAY SHALL BE SIZED FOR A DOOR NOT LESS THAN 3'-0" WIDE BY 6'-8" HIGH CAPABLE OF OPENING 90 DEGREES AND MOUNTED SO THAT THE CLEAR WIDTH OF THE EXIT SHALL BE A MINIMUM OF 32".
7. THRESHOLDS TO BE A MAXIMUM OF 1/2"ABOVE THE ADJACENT FINISHED FLOOR.
8. MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED 5 LBS FOR INTERIOR DOORS AND 15 LBS FOR EXTERIOR DOORS.
9. THE BOTTOM 10" OF ALL DOORS EXCEPT AUTOMATIC SLIDERS SHALL HAVE A SMOOTH UNINTERRUPTED SURFACE.
10. THE BUILDING SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG) AND ANSI A117.1-2009, INCLUDING BUT NOT LIMITED TO OBC CHAPTER 11.
11. CONTROLS AND OPERATING MECHANISMS SHALL BE ACCESSIBLE AND HAVE MOUNTING HEIGHTS COMPLYING WITH ANSI 4.27.
12. ALL ROOM, DIRECTIONAL, AND INFORMATION SIGNS SHALL BE ACECSSIBLE DESIGN COMPLYING WITH ANSI 4.13 AND 4.30.

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PROJECT DESCRIPTION

TENANT INFILL FOR A FAST-CASUAL RESTAURANT USE IN AN EXISTING SHELL BUILDING. WORK INCLUDES NEW KITCHEN EQUIPMENT, RESTROOMS, AND INTERIORS, INCLUDING MECHANICAL, PLUMBING AND ELECTRICAL WORK.

SIGNAGE IS UNDER SEPARATE SUBMITTAL.

BUILDING CODE INFORMATION

BUILDING CODE	2018 INTERNATIONAL BUILDING CODE
ENERGY CODE	2018 INTERNATIONAL ENERGY CONSERVATION CODE 2018 INTERNATIONAL GREEN CONSTRUCTION CODE
PLUMBING CODE	2018 INTERNATIONAL PLUMBING CODE
MECHANICAL CODE	2018 INTERNATIONAL MECHANICAL CODE
GAS CODE	2018 INTERNATIONAL FUEL GAS CODE
ELECTRICAL CODE	2017 NATIONAL ELECTRICAL CODE
FIRE/LIFE SAFETY CODE	2018 INTERNATIONAL FIRE CODE
ACCESSIBILITY CODE	ICC/ANSI A-117.1-2009 AND ADAAG

TENANT SPACE CODE SUMMARY

FIRE SUPPRESSION:	NONE	IBC SECTION 903
USE GROUPS:	A-2 ASSEMBLY	IBC SECTION 309
CONSTRUCTION TYPE:	VB	IBC SECTION 602
LENGTH OF TRAVEL:	A-2 250'	IBC TABLE 1016.1

SHELL BUILDING CODE SUMMARY

SEPARATION:	2 HR SEPARATED	IBC SECTION 508.3
FIRE SUPPRESSION:	NONE	IBC SECTION 903
USE GROUPS:	A-2, B	IBC SECTION 303
CONSTRUCTION TYPE:	VB	IBC SECTION 304
TENANT LEASE AREA:	2,562 S.F.	IBC SECTION 602.0

1 G000 VICINITY MAP N.T.S.

SHEET INDEX

● DRAWING HAS BEEN ISSUED OR REVISED
○ DRAWING HAS BEEN RE-ISSUED WITH NO REVISIONS

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G002	ACCESSIBILITY DETAILS	●
G003	ACCESSIBILITY DETAILS	●
G100	LIFE SAFETY PLAN	●
G200	DEMISED PREMISES PLAN & NOTES	●
G600	RESPONSIBILITY MATRIX	●
G900	SPECIFICATIONS	●
G901	SPECIFICATIONS	●
G902	SPECIFICATIONS	●
G903	SPECIFICATIONS	●
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A121	FINISH SCHEDULE	●
A130	FURNITURE, FIXTURE & EQUIPMENT PLAN	●
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A141	REFLECTED CEILING PLAN	●
A150	ROOF PLAN	●
A210	EXTERIOR ELEVATIONS	●
A220	INTERIOR ELEVATIONS	●
A410	ENLARGED RESTROOM PLANS	●
A500	DETAILS	●
A501	DETAILS	●
A502	DETAILS	●
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A601	DOOR, HARDWARE & WINDOW SCHEDULES	●
A602	FINISH SCHEDULE	●
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M101	MECHANICAL PLAN	●
M201	MECHANICAL ROOF PLAN	●
M401	MECHANICAL DETAILS	●
M501	MECHANICAL SCHEDULES	●
M701	MECHANICAL SPECIFICATIONS	●
M702	MECHANICAL SPECIFICATIONS	●
PLUMBING		
P000	GENERAL INFORMATION PLUMBING	●
P101	PLUMBING WASTE AND VENT PLAN	●
P201	PLUMBING WATER AND GAS PLAN	●
P301	PLUMBING RISER DIAGRAMS	●
P401	DETAILS PLUMBING	●
P501	PLUMBING SCHEDULES	●
P701	PLUMBING SPECIFICATIONS	●
P702	PLUMBING SPECIFICATIONS	●
P703	PLUMBING SPECIFICATIONS	●
ELECTRICAL		
E000	GENERAL INFORMATION ELECTRICAL	●
E100	ELECTRICAL LIGHTING PLAN	●
E200	ELECTRICAL POWER PLAN	●
E201	ROOF POWER PLAN	●
E202	LOW VOLTAGE PLAN	●
E301	ELECTRICAL SCHEDULES	●
E401	ELECTRICAL SCHEDULES & DETAILS	●
E701	SPECIFICATIONS ELECTRICAL	●
E702	SPECIFICATIONS ELECTRICAL	●

		JUNE 14, 2022
HOOD		
H1.1	CAPTIVE AIRE HOOD DRAWINGS	●
H1.2	CAPTIVE AIRE HOOD DRAWINGS	●
H1.3	CAPTIVE AIRE HOOD DRAWINGS	●
H1.4	CAPTIVE AIRE HOOD DRAWINGS	●
H1.5	CAPTIVE AIRE HOOD DRAWINGS	●
H1.6	CAPTIVE AIRE HOOD DRAWINGS	●
KITCHEN EQUIPMENT		
FS-1	MECHANICAL SCHEDULE	
FS-2	EQUIPMENT PLAN & SCHEDULE	●
FS-3	ELECTRICAL PLAN & SCHEDULE	●
FS-4	PLUMBING PLAN & SCHEDULE	●
FS-5	SPECIAL CONDITIONS PLAN	●
FS-6	MECHANICAL PLAN	●
FS-8	HOLD DIMENSIONS PLAN	●

2 G000 KEY PLAN N.T.S.

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AOR PROJECT NUMBER:
CAV070

ISSUE	DATE
PERMIT	JUN 14, 2022

COVER SHEET

SHEET:
G000

6/15/2022 7:33 AM

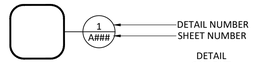
STANDARD ABBREVIATIONS

@	AT
A/C	AIR CONDITIONING
AB	ANCHOR BOLT
ABV	ABOVE
ACT	ACOUSTICAL CEILING TILE
AD	AREA DRAIN
ADA	AMERICAN'S W/ DISABILITIES ACT
ADJ	ADJACENT
ADJT	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AFC	ABOVE FINISHED CEILING
AGG	AGGREGATE
AL	ALUMINUM
ALT	ALTERNATE
ANC	ANCHOR, ANCHORAGE
ANOD	ANODIZED
AP	ACCESS PANEL
ARCH	ARCHITECT, ARCHITECTURAL
ASPH	ASPHALT
BD	BOARD
BEL	BELOW
BL	BASE LINE
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BM	BENCH MARK
BO	BOTTOM OF
BPL	BEARING PLATE
BRG	BEARING
BRK	BRICK
BRKT	BRACKET
BRS	BRASS
BRZ	BRONZE
BS	BOTH SIDES
BUR	BUILT UP ROOFING
CB	CEMENTITIOUS BACKER BOARD
CEM	CEMENT
CG	CORNER GUARD
CL	CENTER LINE
CLG	HT CEILING HEIGHT
CLG	CEILING
CLR	CLEAR, CLEARANCE
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUE, CONTINUOUS
CONTR	CONTRACT(OR)
CORR	CORRUGATED
CPT	CARPET
CSMT	CASEMENT
CTR	COUNTER
DFE	DESIGN FLOOD ELEVATION
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DIV	DIVISION
DN	DOWN
DR	DOOR
DS	DENS SHIELD
DTL	DETAIL
DWG	DRAWING
(E)	EXISTING
EA	EACH
EIFS	EXTERIOR INSULATION & FINISHING SYSTEM
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMER	EMERGENCY
EQ	EQUAL
EQUIP	EQUIPMENT
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER COOLER
EXH	EXHAUST
EXT	EXTERIOR
FA	FIRE ALARM
FD	FLOOR DRAIN
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF EL	FINISH FLOOR ELEVATION
FF	FINISH FLOOR
FIN	FINISH
FIXT	FIXTURE
FLR	FLOOR
FLUOR	FLUORESCENT
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOS	FACE OF STUD
FRT	FIRE RETARDANT TREATED
FT	FOOT (FEET)
FTG	FOOTING
FV	FIELD VERIFY
GA	GAGE, GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GCMU	GLAZED CONCRETE MASONRY
GD	GRADE, GRADING
GL	GLASS, GLAZING
GLAM	GLUED LAMINATE
GB	GYPSUM BOARD
GYP	GYPSUM

H.P.	HIGH POINT
HC	HOLLOW CORE
HCWD	HOLLOW CORE WOOD DOOR
HDWD	HARDWOOD
HDWR	HARDWARE
HM	HOLLOW METAL
HMF	HOLLOW METAL FRAME
HORIZ	HORIZONTAL
HT	HEIGHT
HVAC	HEATING, VENTILATION & COOLING
HW	HOT WATER
ID	INSIDE DIAMETER
IN	INCH
INCL	INCLUDE, (ED), (ING)
INSUL	INSULATION
INT	INTERIOR
JC	JANITOR'S CLOSET
JF	JOINT FILLER
JT	JOINT
KEC	KITCHEN EQUIPMENT CONTRACTOR
KIT	KITCHEN
KPL	KICK PLATE
L	LONG (LENGTH)
L.O.D.	LEASE OUTLINE DRAWING
L.P.	LOW POINT
L/T	LIGHT TRACK
LAM	LAMINATE
LAV	LAVATORY
LBS	POUNDS
LF	LINEAR FOOT
LGL	LAMINATED GLASS
LH	LEFT-HANDED
LL	LANDLORD
LT	LIGHT
LTL	LINTEL
MAT	MATERIAL
MAX	MAXIMUM
MBR	MEMBER
MDO	MEDIUM DENSITY OVERLAY
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MR	MOISTURE RESISTANT GYP. BOARD
MOD	MODIFIED
MTD	MOUNTED
MTL	METAL
NAT	NATURAL
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NR	NOISE REDUCTION
NTS	NOT TO SCALE
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OPP	OPPOSITE
ORD	OVERFLOW ROOF DRAIN
PA	PAINT
PT	PRESSURE TREATED
PBD	PARTICLE BOARD
PERF	PERFORATE(D)
PLAM	PLASTIC LAMINATE
PLBG	PLUMBING
PLT	PLATE
PLYWD	PLYWOOD
POS	POINT OF SALE
PR	PAIR
PTD	PAINTED
PTN	PARTITION
PVC	POLYVINYL CHLORIDE
QT	QUARRY TILE
R	RISER
RAD	RADIUS
RB	RUBBER BASE
RD	ROOF DRAIN
REC	RECESSED
REF	REFERENCE
REQD	REQUIRED
RESIL	RESILIENT
REV	REVISION
RH	RIGHT HAND
RM	ROOM
RO	ROUGH OPENING
ROW	RIGHT OF WAY

SC	SOLID CORE
SCHED	SCHEDULE
SCN	SCREEN
SD	SMOKE DETECTOR
SECT	SECTION
SF	SQUARE FOOT (FEET)
SHT	SHEET
SIM	SIMILAR
SIPS	STRUCTURAL INSULATED PANEL
SND	INS SOUND INSULATION
SPEC	SPECIFICATION
SPK	SPEAKER
SPL	SPECIAL
SQ	SQUARE
SS	STAINLESS STEELOUP
STD	STANDARD
STG	SEATING
STL	STEEL
STN	STAIN
STO	STONE TILE
SUSP	SUSPENDED
SYM	SYMMETRY, (ICAL)
SYS	SYSTEM
T	TREAD
T&G	TONGUE & GROOVE
THK	THICKNESS
THR	THRESHOLD
TO	TOP OF
TOB	TOP OF BEAM
TOC	TOP OF CONCRETE
TOJ	TOP OF JOIST
TOM	TOP OF MASONRY
TOS	TOP OF SLAB
TOS	TOP OF STEEL
TOW	TOP OF WALL
TPG	TOPPING
TYP	TYPICAL
UC	UNDERCUT
UNF	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
UTL	UTILITY
VCT	VINYL COMPOSITE TILE
VERT	VERTICAL
VF	VINYL FABRIC
VG	VERTICAL GRAIN
VIF	VERIFY IN FIELD
VT	VINYL TILE
W/	WITH
W/O	WITHOUT
WA	WALL ANCHOR
WC	WATER CLOSET
WD	WOOD
WF	WIDE FLANGE
WFAB	WALL FABRIC
WH	WATER HEATER
WIN	WINDOW
WP	WORKING POINT
WRB	WATER RESISTIVE BARRIER
WWF	WELDED WIRE FABRIC

SYMBOLS LEGEND



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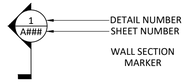
SHEET NUMBER
DETAIL CALLOUT



DETAIL NUMBER
SHEET NUMBER
WALL SECTION MARKER

DETAIL NUMBER
SHEET NUMBER
INDIVIDUAL ELEVATION TAG MARKER

MULTI ELEVATION TAG

KEY NOTE REFERENCE

DOOR NUMBER

WINDOW NUMBER

WALL TYPE MARKER

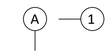
FINISH TYPE MARKER / FURNITURE TYPE

FIXTURE / EQUIPMENT / TYPE MARKER

ROOM NAME

MATCH LINE

ELEVATION MARKER

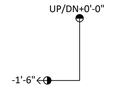


COLUMN REFERENCE GRIDS

CENTERLINE

BREAK LINE

REVISION



STAIR / RAMP DIRECTION SYMBOL

NORTH SYMBOL

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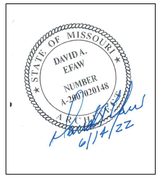

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FOR
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702 H STREET, 2ND FLOOR, WASHINGTON, DC 20001

AOR PROJECT NUMBER:
CAV070

ISSUE	DATE
PERMIT	JUN 14, 2022

ABBREVIATIONS & SYMBOLS

SHEET:
G001

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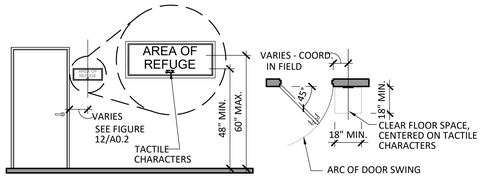


FIGURE 703.3.10
HEIGHT OF RAISED CHARACTERS ABOVE FLOOR

FIGURE 703.3.11
LOCATION OF SIGNS AT DOORS

3 G002 COMMUNICATION ELEMENTS AND FEATURES

1/4" = 1'-0"

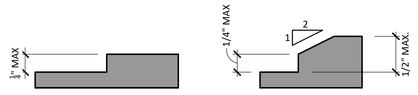


FIGURE 303.2
VERTICAL CHANGE IN LEVEL

FIGURE 303.3
BEVELED CHANGE IN LEVEL

1 G002 CHANGES IN LEVEL

N.T.S.

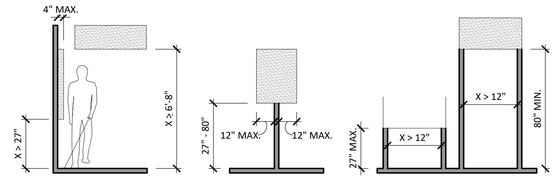
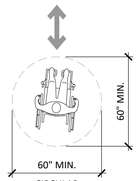


FIGURE 307.2
LIMITS OF PROTRUDING OBJECTS

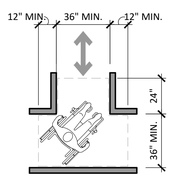
FIGURE 307.3
POST-MOUNTED PROTRUDING OBJECTS

2 G002 PROTRUDING OBJECTS

1/4" = 1'-0"



CIRCULAR
FIGURE 304.3 (a)



T-SHAPED
FIGURE 304.3 (b)

4 G002 WHEELCHAIR TURNING

1/4" = 1'-0"

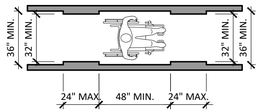
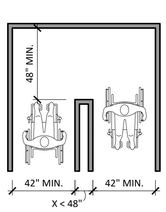
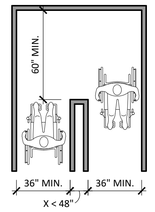


FIGURE 403.5



180 DEGREE TURN

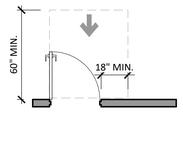


180 DEGREE TURN (EXCEPTION)

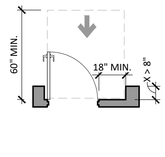
FIGURE 403.5.1
CLEAR WIDTH AT 180 DEGREE TURN

5 G002 CLEAR WIDTH OF AN ACCESSIBLE ROUTE

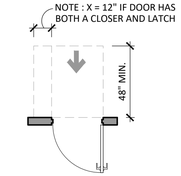
1/4" = 1'-0"



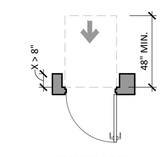
FRONT APPROACH, PULL SIDE
FIGURE 404.2.3.2 (a)



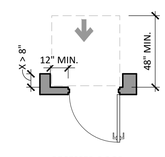
RECESSED DOOR
FRONT APPROACH, PULL SIDE
FIGURE 404.2.3.5 (a)



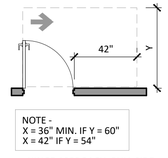
FRONT APPROACH, PUSH SIDE
FIGURE 404.2.3.2 (b)



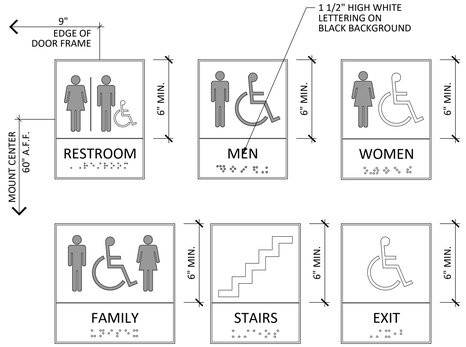
RECESSED DOOR
FRONT APPROACH, PUSH SIDE
FIGURE 404.2.3.5 (b)



RECESSED DOOR
FRONT APPROACH, PUSH SIDE
WITH BOTH CLOSER AND LATCH
FIGURE 404.2.3.2 (c)



HINGE APPROACH, PULL SIDE
FIGURE 404.2.3.2 (c & d)



PROVIDE (1) SIGN PER TOILET COMPLYING WITH ANSI 2009, SECTION 703. SIGN TO HAVE RAISED AND BRAILLE CHARACTERS AND PICTORIAL SYMBOL OF ACCESSIBILITY. MOUNT 5'-0" TO CENTERLINE A.F.F.

BLACK PLASTIC (FIELD) BACKGROUND w/ WHITE RAISED OR DEPRESSED EMBLEMS (NOTE- EMBLEMS & LETTERING MUST BE RAISED OR DEPRESSED MIN. 1/32" TYPICAL)

INTERNATIONAL SYMBOL OF ACCESSIBILITY
FIGURE 703.6.3.1

INTERNATIONAL TDD SYMBOL
FIGURE 703.6.3.2

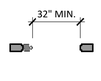
INTERNATIONAL SYMBOL OF ACCESS FOR HEARING LOSS
FIGURE 703.6.3.3

10 G002 ADA SIGNAGE

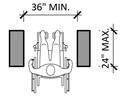
1/4" = 1'-0"

HINGED DOOR
FIGURE 404.2.2 (a)

SLIDING DOOR
FIGURE 404.2.2 (b)



FOLDING DOOR
FIGURE 404.2.2 (c)



DOORWAYS WITHOUT DOORS
FIGURE 404.2.2 (d)

6 G002 CLEAR DOORWAY WIDTH & DEPTH

1/4" = 1'-0"

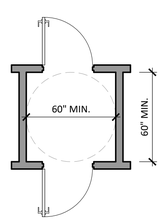


FIGURE 404.2.5 (a)

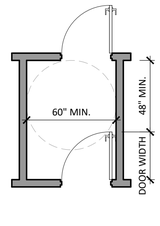


FIGURE 404.2.5 (b)

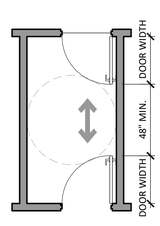
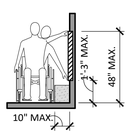
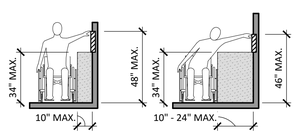


FIGURE 404.2.5 (c)

7 G002 TWO HINGED DOORS IN SERIES

1/4" = 1'-0"



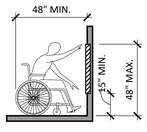


UNOBSTRUCTED SIDE REACH
FIGURE 308.3.1

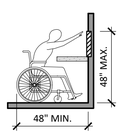
UNOBSTRUCTED HIGH SIDE REACH
FIGURE 308.3.2 (a)

8 G002 SIDE REACH

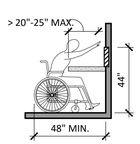
1/4" = 1'-0"



UNOBSTRUCTED
FORWARD REACH
FIGURE 308.2.1



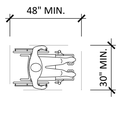
UNOBSTRUCTED HIGH
FORWARD REACH
FIGURE 308.2.2 (a)



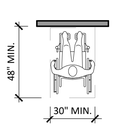
UNOBSTRUCTED HIGH
FORWARD REACH
FIGURE 308.2.2 (b)

9 G002 FORWARD REACH

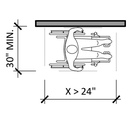
1/4" = 1'-0"



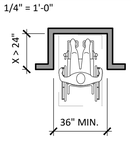
CLEAR FLOOR SPACE
FIGURE 303.5



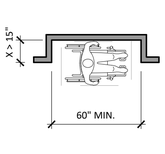
FORWARD APPROACH
FIGURE 303.5 (a)



PARALLEL APPROACH
FIGURE 303.5 (b)



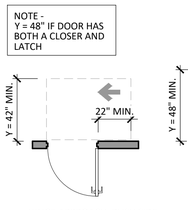
FORWARD APPROACH
FIGURE 305.7 (a)



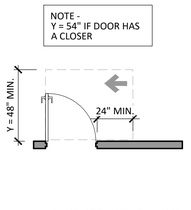
PARALLEL APPROACH
FIGURE 305.7 (b)

11 G002 MINIMUM CLEAR FLOOR SPACE FOR WHEELCHAIRS

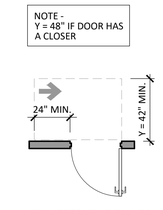
1/4" = 1'-0"



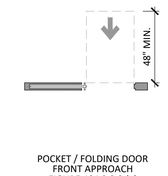
HINGE APPROACH, PUSH SIDE
FIGURE 404.2.3.2 (e)



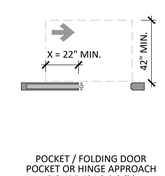
LATCH APPROACH, PULL SIDE
FIGURE 404.2.3.2 (f)



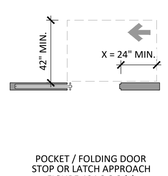
LATCH APPROACH, PUSH SIDE
FIGURE 404.2.3.2 (g)



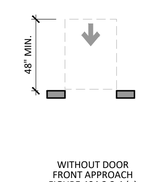
POCKET / FOLDING DOOR
FRONT APPROACH
FIGURE 404.2.3.3 (a)



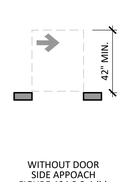
POCKET / FOLDING DOOR
POCKET OR HINGE APPROACH
FIGURE 404.2.3.3 (b)



POCKET / FOLDING DOOR
STOP OR LATCH APPROACH
FIGURE 404.2.3.3 (c)



WITHOUT DOOR
FRONT APPROACH
FIGURE 404.2.3.4 (a)



WITHOUT DOOR
SIDE APPOACH
FIGURE 404.2.3.4 (b)

12 G002 MANEUVERING CLEARANCES AT DOORS

1/4" = 1'-0"

red
architecture + planning
589 west nationwide blvd.
suite b
columbus, ohio 43215
tel: 614.487.8770
fax: 614.487.8777

STATE OF MISSOURI
DAVID A. EBAW
NUMBER A-2007030148
6/14/22

CAVA

CAVA - LEE'S SUMMIT
904 PRYOR RD
LEE'S SUMMIT, MO 64081
FOR
CAVA
702 H STREET, 2ND FLOOR, WASHINGTON, DC 20001

AOR PROJECT NUMBER:
CAV070

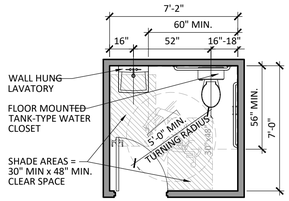
ISSUE	DATE
PERMIT	JUN 14, 2022

ACCESSIBILITY DETAILS

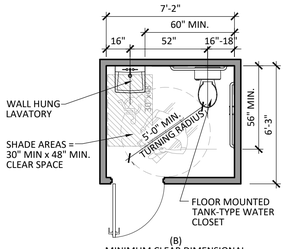
SHEET:
G002

2/3/2022 9:52 AM

NOTE : 30" X 48" OF CLEAR FLOOR SPACE IS REQUIRED IN EVERY RESTROOM. WHEN 30" X 48" CLEAR FLOOR SPACE IS PROVIDED BEYOND THE ARC OF THE DOOR SWING, THE DOOR IS PERMITTED TO SWING INTO THE CLEAR FLOOR SPACE OR CLEARANCE REQUIRED FOR ANY FIXTURE. DOOR MAY SWING INTO A REQUIRED WHEELCHAIR TURNING SPACE. PER 2009 ANSI SECTION 603.2.2, AN EXCEPTION IS MADE IN SINGLE OCCUPANCY TOILET ROOMS TO ALLOW DOOR TO SWING INTO THE REQUIRED FIXTURE CLEAR FLOOR OR GROUND SPACE \ WHEN ANOTHER CLEAR FLOOR OR GROUND SPACE IS PROVIDED OUTSIDE THE RADIUS OF THE DOOR SWING



(A)
MINIMUM CLEAR DIMENSIONAL REQUIREMENTS - INWARD DOOR SWING



(B)
MINIMUM CLEAR DIMENSIONAL REQUIREMENTS - OUTWARD DOOR SWING

1 G003 SINGLE OCCUPANT TOILET ROOM
1/4" = 1'-0"

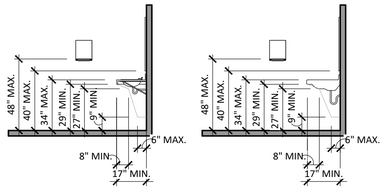
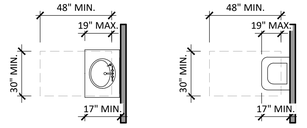
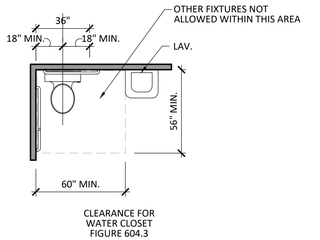


FIGURE 606.3

2 G003 LAV. CLEARANCES
1/4" = 1'-0"

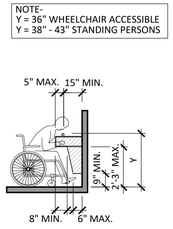


3 G003 LAV. CLEAR FLOOR SPACE
1/4" = 1'-0"



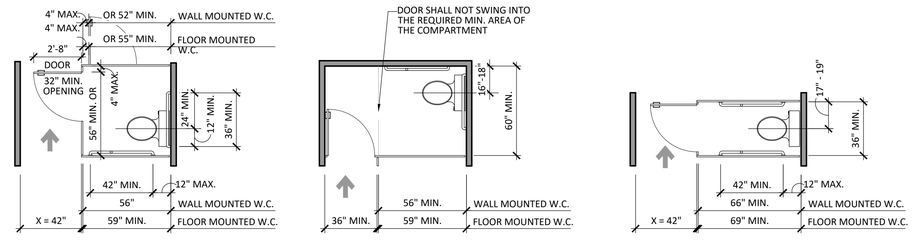
CLEARANCE FOR WATER CLOSET
FIGURE 604.3

4 G003 W.C. CLEAR FLOOR SPACE
1/4" = 1'-0"



SPOUT HEIGHT AND KNEE CLEARANCE
FIGURE 602.5 (b)

5 G003 DRINKING FOUNTAINS
1/4" = 1'-0"

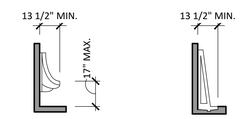


STANDARD STALL
FIGURES 604.9.3.1 (a & b)

STANDARD STALL
(END OF ROW)
FIGURES 604.9.3.1 (c)

AMBULATORY STALL
FIGURES 604.10

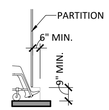
6 G003 TOILET STALLS
1/4" = 1'-0"



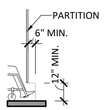
WALL HUNG TYPE
FIGURE 605.2 (a)

STALL TYPE
FIGURE 605.2 (b)

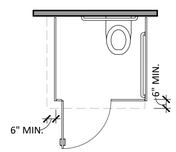
7 G003 URINAL CLEARANCES
1/4" = 1'-0"



ELEVATION ADULT
FIGURE 604.9.5 (a)

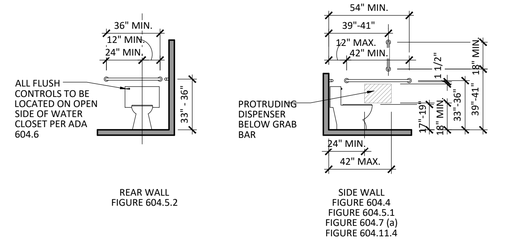


ELEVATION CHILDREN
FIGURE 604.9.5 (b)



PLAN
FIGURE 604.9.5 (c)

8 G003 TOILET STALLS CLEAR HEIGHT
1/4" = 1'-0"



REAR WALL
FIGURE 604.5.2

SIDE WALL
FIGURE 604.4
FIGURE 604.5.1
FIGURE 604.7 (a)
FIGURE 604.11.4

9 G003 WATER CLOSET GRAB BARS & CONTROLS
1/4" = 1'-0"

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FOR
CAVA
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AOR PROJECT NUMBER:
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ACCESSIBILITY DETAILS

SHEET:
G003

LEGEND

- 36" CLEAR PATH
- 44" CLEAR PATH
- EMERGENCY LIGHT
- EXIT SIGN
- POINT OF DIVERGENCE
- DIRECTION OF EGRESS
- 2HR RATED WALL

FIRE EXTINGUISHER NOTES

1. PROVIDE MIN. OF 2 TYPE ABC AND 1 TYPE K FIRE EXTINGUISHERS. G.C. TO VERIFY AND COORDINATE LOCATIONS AND QUANTITIES WITH LOCAL FIRE MARSHAL.
2. PER OFC, THE MINIMUM IS A 2A10BC EXTINGUISHER WITHIN 75' OF TRAVEL DISTANCE OF ALL AREAS.
3. NFPA INSPECTION TAGS SHALL BE ATTACHED TO ALL FIRE EXTINGUISHERS.

LIFE SAFETY PLAN CODED NOTES ⟨#⟩

1. NEW SURFACE MOUNTED TYPE K FIRE EXTINGUISHER.
2. NEW SURFACE MOUNTED TYPE ABC FIRE EXTINGUISHER.
3. POST OCCUPANCY PLACARD IN A CONSPICUOUS PLACE NEAR THE MAIN EXIT DOOR FROM THE SPACE. COORDINATE FINAL LOCATION WITH FIRE MARSHAL.
4. NEW TACTILE EXIT SIGN.
5. EXISTING 2 HR. RATED DEMISING WALL.

LIFE SAFETY GENERAL NOTES

A. 44 INCHES REQUIRED EGRESS WIDTH FOR OCCUPANCIES OVER 50. IBC SEC 1023

B. NO DEAD END CORRIDORS OVER 20'-0" IN LENGTH. IBC SEC 1018.4

C. MAXIMUM EGRESS TRAVEL DISTANCE TO AN EXIT IS 200'-0". MEASURED AT THE MOST REMOTE POINT ALONG THE NATURAL AND UNOBSTRUCTED PATH OF HORIZONTAL AND VERTICAL TRAVEL TO THE EXIT FOR A SPACE WITH MORE THAN 1 EGRESS. IBC TABLE 1014.3

D. DOORS IN FULLY OPENED POSITION SHALL NOT REDUCE A REQUIRED DIMENSION BY MORE THAN 7 INCHES. IBC SEC 1008.1.8

E. DOORS, WHEN FULLY OPENED, SHALL NOT REDUCE THE REQUIRED MEANS OF EGRESS WIDTH BY MORE THAN 7 INCHES. DOORS IN ANY POSITION SHALL NOT REDUCE THE REQUIRED WIDTH BY MORE THAN ONE HALF. IBC SEC 1005.2

F. MINIMUM DISTANCE BETWEEN SEATS IS 12 INCHES FOR A DISTANCE OF 12'-0" WITH AN ADDITIONAL 1/2" WIDTH FOR EACH 1'-0" OR FRACTION THEREOF BEYOND THE ORIGINAL 12'-0". IBC SEC 1028.1.0.1.1

G. EGRESS ALONG SEATING IS MEASURED 19 INCHES FROM EDGE OF TABLE WHERE MOVEABLE CHAIRS ARE USED, OR FROM THE EDGE OF A FIXED SEAT.

PROJECT DATA

USE	AREA	S.F. / PERSON	OCCUPANT LOAD	FIXED OCCUPANT LOAD	EGRESS REQUIRED O.L. X .20" =	EXITS REQUIRED	EXITS PROVIDED	EGRESS WIDTH PROVIDED
KITCHEN AND UTILITY	1005 SQ. FT.	200	6					
DINING AND CIRCULATION	998 SQ. FT.	15	67					
QUEUE AREA	100 SQ. FT.	5	20					
RESTROOMS	129 SQ. FT.			2 (1 EACH)				
TOTAL	2,232 SQ. FT.		93 OCCUPANTS		18.6"	2	2	110"

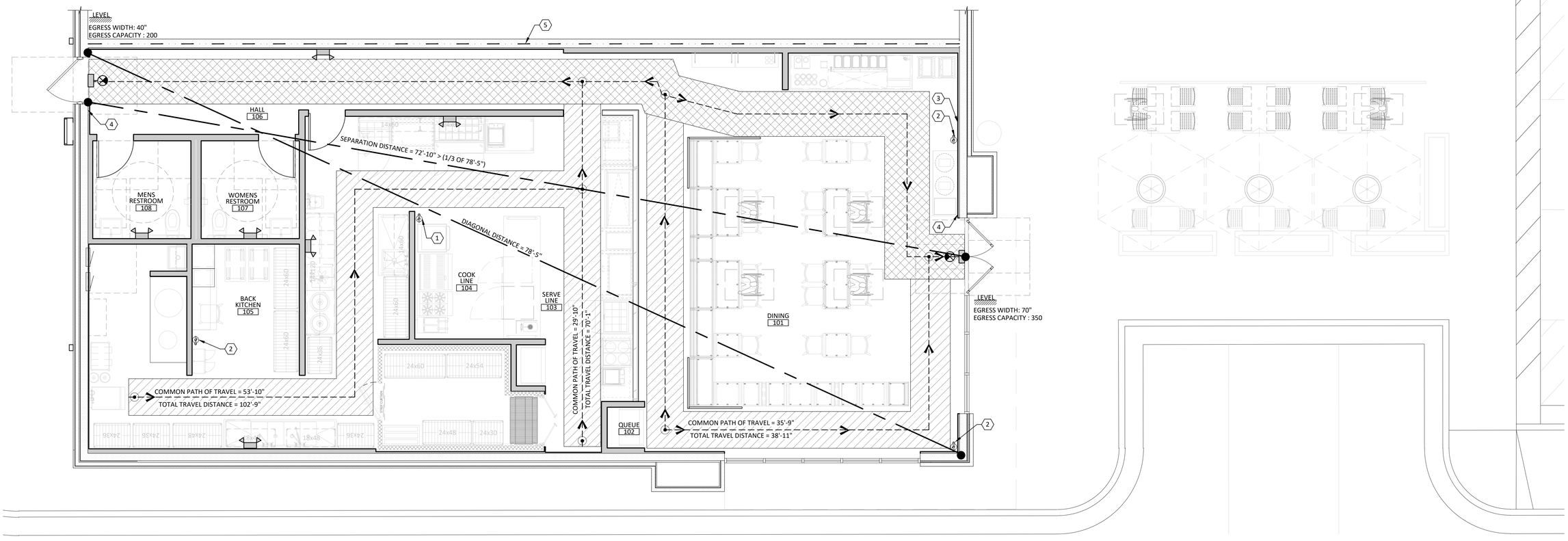
TENANT LEASE AREA - 2,562 SQ. FT.

	INTERIOR	EXTERIOR	A.D.A. SEATS REQUIRED	A.D.A. SEATS PROVIDED
TOTAL SEAT COUNT	30	18	2 SEATS MIN. - INTERIOR 2 SEATS MIN. - EXTERIOR	4 SEATS - INTERIOR 2 SEATS - EXTERIOR

PLUMBING FIXTURES PROVIDED:

FIXTURE	REQUIRED	PROVIDED
WATER CLOSETS (MEN)	1 PER 75	1
WATER CLOSETS (WOMEN)	1 PER 75	1
LAVATORIES (MEN)	1 PER 200	1
LAVATORIES (WOMEN)	1 PER 200	1
SERVICE SINK	1	1

FINISH REQUIREMENTS:	IBC SECTION 803 / 804 / 805 / 806
INTERIOR FINISHES (SPRINKLERED)	A-2
WALL / CEILING - VERTICAL EXITS	CLASS 'B'
EXIT CORRIDORS	CLASS 'B'
OTHER ROOMS	CLASS 'C'
FLOORS - CORRIDORS/STAIRS	DOC FF-1
ROOMS	DOC FF-1
SMOKE DEVELOPED RATING -	450 OR LESS



1 G100 LIFE SAFETY PLAN

1/4" = 1'-0"

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AOR PROJECT NUMBER: CAV070

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LIFE SAFETY PLAN

SHEET: G100

PREMISES PLAN GENERAL NOTES

A. ALL DIMENSIONS TO BE FIELD VERIFIED. NOTIFY ARCHITECT IMMEDIATELY IF DISCREPANCIES ARISE.

B. ALL DIMENSIONS ARE TO FACE OF EXISTING WALLS AND CENTERLINE OF FIXTURES UNLESS OTHERWISE NOTED.

PREMISES PLAN CODED NOTES ⟨#⟩

1. EXISTING DEMISING WALL.
2. REFER TO SLAB PLAN FOR SCOPE AND RESPONSIBILITY OF INTERIOR AND EXTERIOR SLAB WORK.
3. LOCATION OF EXISTING BACKFLOW PREVENTION DEVICE.

SURVEY CHECKLIST

THE FOLLOWING CHECKLIST AND PLAN SHALL BE COMPLETED BY THE GC AFTER TAKING POSSESSION OF AN EMPTY TENANT SPACE OR AFTER COMPLETING DEMOLITION. ALL ITEMS TO BE CHECKED OFF & SIGNED WITH NAME & DATE (COMPLETED BY), AND RETURNED TO THE ARCHITECT BEFORE COMMENCING CONSTRUCTION.

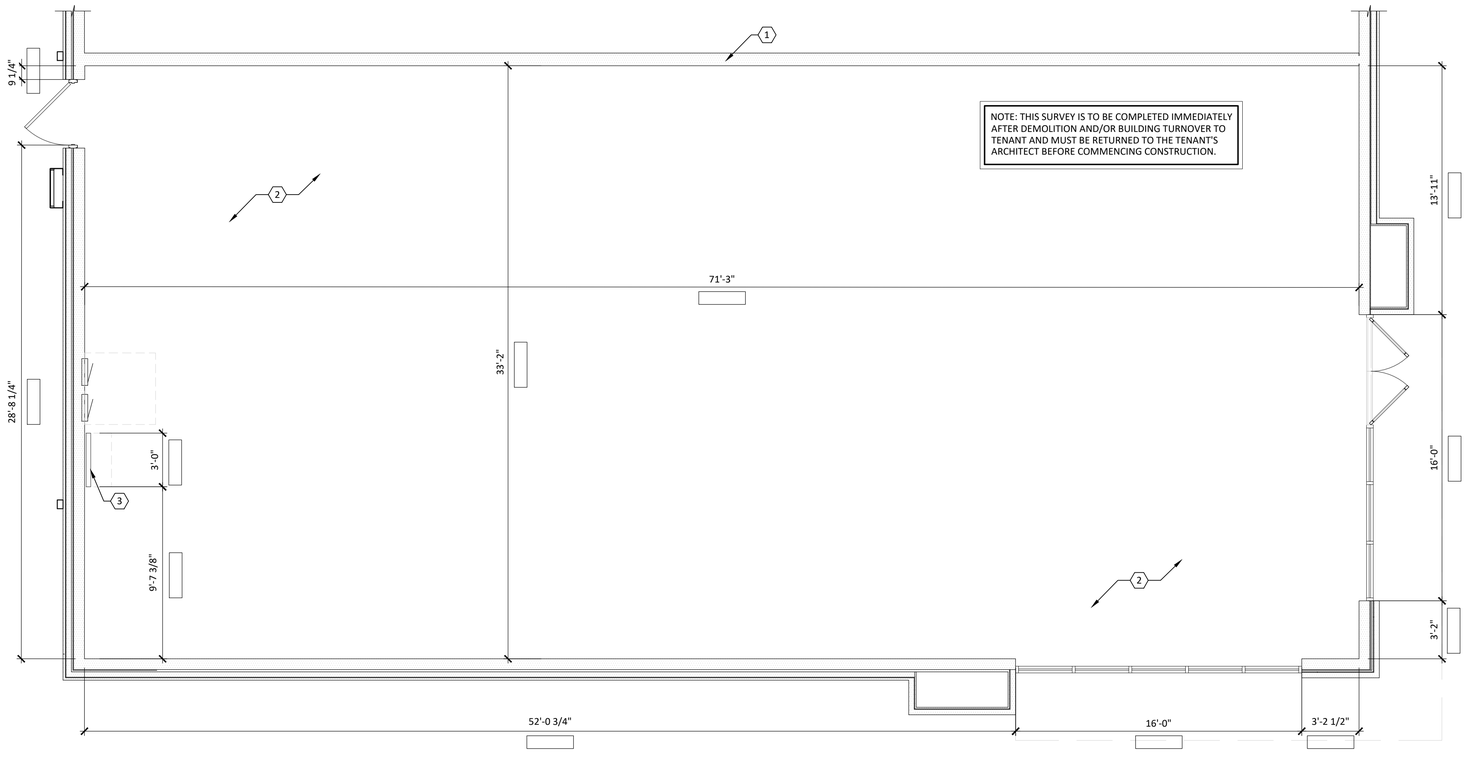
PLEASE COMPLETE ALL DIMENSIONS INDICATED. PLEASE NOTE THAT ALL DIMENSIONS SHOULD BE CLEAR DIMENSIONS (FROM THE INSIDE OF ONE WALL, OR COLUMN, TO THE INSIDE OF ANOTHER). IF CENTER TO CENTER DIMENSIONS ARE REQUIRED IT WILL BE NOTED. ALL DIMENSIONS SHOULD READ 0'-0" TO THE CLOSEST 1/8".

COMPLETED BY: _____

DATE: _____

- ☐ 1. INDICATE LOCATION & HEIGHT, UNDERSIDE OF EXISTING A/C UNIT & DUCTS.(IF APPLICABLE)
- ☐ 2. INDICATE LOCATION & HEIGHT, UNDERSIDE OF EXISTING WASTE PIPE & SIZE. (IF APPLICABLE)
- ☐ 3. INDICATE LOCATION & HEIGHT, UNDERSIDE OF EXISTING ROOF DRAIN & SIZE.
- ☐ 4. INDICATE LOCATION & HEIGHT, UNDERSIDE OF EXISTING MAIN SPRINKLER PIPE & SIZE
- ☐ 5. NOTE DIMENSIONS CORRESPONDING TO THE LETTERS A, B, C, D AND E, BELOW:
  - A - CLEAR HEIGHT UNDERSIDE OF ROOF/DECK.
  - B - CLEAR HEIGHT UNDERSIDE OF JOIST/BEAMS.
  - C - UNDERSIDE OF BULKHEAD
  - D - EXISTING CEILING HEIGHTS
  - E - BEAMS, LINTELS: LOCATE ON PLAN AND DIMENSION IN RELATION TO DEMISING WALL. SHOW CLEAR UNDERSIDE HEIGHTS.
  - F - EXISTING WALL CONDITION (PRECAST PANEL, STUD, GYP. BD. ETC.)
- ☐ 6. VERIFY IF ANY EXISTING COLUMNS OR ROOF DRAINS ARE HIDDEN IN INTERIOR OR DEMISING WALLS.
- ☐ 7. ELEC. PANEL MANUF. & MODEL #

  ☐
- ☐ 8. PRIOR TO CONSTRUCTION START, GC TO VERIFY ALL EXISTING GLAZING IS INTACT. LANDLORD SHALL REPLACE BROKEN GLAZING WITH NEW TO MATCH EXISTING.



NOTE: THIS SURVEY IS TO BE COMPLETED IMMEDIATELY AFTER DEMOLITION AND/OR BUILDING TURNOVER TO TENANT AND MUST BE RETURNED TO THE TENANT'S ARCHITECT BEFORE COMMENCING CONSTRUCTION.

1 G200 DEMISED PREMISES VERIFICATION PLAN

1/4" = 1'-0"

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DEMISED PREMISES PLAN & NOTES

SHEET: G200

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RESPONSIBILITY MATRIX

PRE-CONSTRUCTION	N/A	Existing	Landlord		CAVA		General Contractor		Remarks
			Furnished	Installed	Furnished	Installed	Furnished	Installed	
Building Permits and City Fees					•	•			
Trade / Subcontractor Permits							•	•	
Landlord Construction Fees							•	•	
Barricade/Scaffolding			•	•					if applicable
Coming Soon Vinyl / Banners					•	•			GC to remove vinyl prior to turnover

D1. GENERAL REQUIREMENTS	N/A	Existing	Landlord		CAVA		General Contractor		Remarks
			Furnished	Installed	Furnished	Installed	Furnished	Installed	
Trash Removal / Dumpsters							•	•	
Final Cleaning (2 full cleaning visits)							•	•	Inc. window cleaning, ceiling fixtures, walls, furniture, mirrors/glass, etc.
Floor Protection							•	•	
Temporary Facilities / Utilities							•	•	Inc. barriers, bathroom, power, lighting and heating
Truck OSI Offloading							•	•	Inc. all lighting, millwork, furniture, misc. Ops items
Surety, Completion, Performance Bonds							•	•	if required
Hazardous Material/Abatement		•							

D2. DEMO / SITE WORK	N/A	Existing	Landlord		CAVA		General Contractor		Remarks
			Furnished	Installed	Furnished	Installed	Furnished	Installed	
Demolition		•					•	•	Inc. all temp heaters, lights and receptacles. Scrape fireproofing as required.
Patio Improvements							•	•	repair cracks, fix lights, install or repaint rail
Parking / Sidewalk Improvements							•	•	
General Landscaping							•	•	

D3. CONCRETE	N/A	Existing	Landlord		CAVA		General Contractor		Remarks
			Furnished	Installed	Furnished	Installed	Furnished	Installed	
Trenching/Coring/Sawcutting Concrete Slab							•	•	
Floor Preparation							•	•	Inc. any ramping, floating, leveling and smoothing required
Concrete							•	•	Inc. repairs, trench infills, patching, water heater and safe pads
Floor Leveling		•							1/4" over a 10' span

D4. MASONRY	N/A	Existing	Landlord		CAVA		General Contractor		Remarks
			Furnished	Installed	Furnished	Installed	Furnished	Installed	
General Masonry		•							Inc. any brick, CMU, repointing, etc.

D5. METALS	N/A	Existing	Landlord		CAVA		General Contractor		Remarks
			Furnished	Installed	Furnished	Installed	Furnished	Installed	
Structural Steel		•					•	•	
Metal Staircases (Egress/Convenience)		•							
Blackened Steel Corner Guards							•	•	only in dining room
Stainless Steel Trims, Fillers, Corners and Top					•	•			only in kitchen

D6. CARPENTRY	N/A	Existing	Landlord		CAVA		General Contractor		Remarks
			Furnished	Installed	Furnished	Installed	Furnished	Installed	
Demising Walls - Framing		•							
Demising Walls - Gypsum Board		•							Taped, spackled and ready for prime paint
Outside Walls - Framing		•							
Outside Walls - Gypsum Board		•							Taped, spackled and ready for prime paint
Interior Walls - Framing/Gypsum Board							•	•	Inc. furring, insulation, taping, spackle
Ceiling - Framing							•	•	
Hard Ceiling - Gypsum Board							•	•	
Soft Ceiling - ACT Ceiling & Grid (AT-01)							•	•	
Rough Carpentry							•	•	Inc. all blocking for fixtures, signage, etc.
Finish Carpentry							•	•	Inc. half 1.5" thick wood walls and full height plank walls
Access Panels							•	•	as required

D7. THERMAL & MOISTURE PROTECTION	N/A	Existing	Landlord		CAVA		General Contractor		Remarks
			Furnished	Installed	Furnished	Installed	Furnished	Installed	
Roofing		•					•	•	Inc. flashing for any roof equipment or penetrations created by the GC
Dampproofing & Waterproofing							•	•	only req. if space is above another space or if required by code
Sound Insulation							•	•	only if required in lease or by local code
Wall Insulation							•	•	if required
Roof Insulation		•							
Fireproofing		•					•	•	any patching of existing fireproofing

D8. STOREFRONT / BUILDING	N/A	Existing	Landlord		CAVA		General Contractor		Remarks
			Furnished	Installed	Furnished	Installed	Furnished	Installed	
Exterior Signage & Awnings					•	•			GC to provide power, support backing and termination
Storefront Glass/Entrance System		•							Inc. door threshold
Entry Vestibule		•							Inc. doors and hardware
Rear Door		•							
Exterior Façade Improvements/Paint							•	•	
Window UV Protection Film / Shades					•	•			

D8. DOORS & WINDOWS / GLASS	N/A	Existing	Landlord		CAVA		General Contractor		Remarks
			Furnished	Installed	Furnished	Installed	Furnished	Installed	
Interior Doors, Frames & Hardware							•	•	Inc. emergency push bar and audible alarm.
Sneeze Guard Glass & Trim					•	•			at serve line. Includes SS serve line cap
Mirror							•	•	inc. bathroom mirror

D9. FINISHES	N/A	Existing	Landlord		CAVA		General Contractor		Remarks
			Furnished	Installed	Furnished	Installed	Furnished	Installed	
Waterproofing							•	•	required at wet areas when above another space or dictated by lease or
Concrete Sealing (Dining area)							•	•	
Epoxy Flooring (Kitchen area)							•	•	
Quarry Tile (Kitchen area alternate)							•	•	
Floor/Wall Tile							•	•	
FRP							•	•	
Vinyl Base							•	•	
Paints & Coatings							•	•	
Interior/Window Graphics					•	•			
Interior Signage, Vinyl, Braille Signage					•			•	

D10. SPECIALTIES	N/A	Existing	Landlord		CAVA		General Contractor		Remarks
			Furnished	Installed	Furnished	Installed	Furnished	Installed	
Toilet Partitions							•	•	
Bathroom Accessories / Dispensers							•	•	Refer to Plumbing Schedule
Kitchen paper, soap and chemical dispensers					•	•			

D11. EQUIPMENT	N/A	Existing	Landlord		CAVA		General Contractor		Remarks
			Furnished	Installed	Furnished	Installed	Furnished	Installed	
Kitchen Cooking Equipment					•	•			Ovens, Grills, Fryers, Ranges, Panini Press, Rice Cooker, Shake Machine, Warmer, Ice Machine, Refrigeration/coolers, Walk-In Cooler,
Stainless Steel Tables					•	•			
Stainless Steel Sink (4-comp, prep/hand sink, mop					•	•			
Kitchen Shelving					•	•			
Lockers					•	•			
Dishwasher					•	•			
CO2 Tank					•	•		•	GC to chain to wall
Soda Station and Soda Bag Rack					•	•			GC to provide and install water connection point
Soda Line Tubes from Rack to Soda Station					•	•		•	GC to provide and install 6" conduit
Smallware					•	•			
Cash Safe					•			•	GC to bolt down
Brinks Smart Safe					•	•			

D12. FURNITURE / FURNISHINGS	N/A	Existing	Landlord		CAVA		General Contractor		Remarks
			Furnished	Installed	Furnished	Installed	Furnished	Installed	
Millwork, Tables & Chairs					•			•	Inc. tables, chairs, counters, DO shelf, trash station, gallery grid, POS
Ops Health & Hanging Items					•			•	Inc. Clocks, Punch Clock, Aroma Disp, Mop Holders, Wire Shelves, Key Box, Chem Disp, menu holder, first aid kit,
Outdoor Furniture, Trash Station and Umbrellas						•			
Planters & Plants							•	•	

D13. FIRE & LIFE SAFETY	N/A	Existing	Landlord		CAVA		General Contractor		Remarks
			Furnished	Installed	Furnished	Installed	Furnished	Installed	
Fire Detection Plan Engineering and Permits			•	•					
Fire Alarm Base Building Main Panel		•							
Fire Alarm System (Rough & Devices)		•					•	•	Any modifications of existing system by GC
Fire Detection Devices (Smoke/Heat)			•	•					
Fire Sprinkler Plan Engineering and Permits							•	•	if required
Fire Sprinkler System		•					•	•	Any modifications of existing system by GC
Ansul System					•	•			
Fire Extinguisher (EX-01, FE)							•	•	Inc. FE cabinet

D14. CONVEYING SYSTEM	N/A	Existing	Landlord		CAVA		General Contractor		Remarks
			Furnished	Installed	Furnished	Installed	Furnished	Installed	
Elevators / Escalator	•								
Handicap Lift	•								
Dumbwaiter	•								

D15. PLUMBING	N/A	Existing	Landlord		CAVA		General Contractor		Remarks
			Furnished	Installed	Furnished	Installed	Furnished	Installed	
Plumbing Service (Domestic, Sanitary, Vent)		•							Valved, and capped to tenant space
Plumbing Rough-In (Domestic, Sanitary, Vent)							•	•	Inc. all valves, piping, insulation, caulking
Waste Ejector Pump	•								
Plumbing Fixtures							•	•	Refer to Plumbing Schedule, excludes SS kitchen sinks
Grease Service / Stub		•							
Grease Interceptor					•	•			if required
Gas Service		•							Valved and capped to Blink space
Gas Flue, Water Heater Fresh Air Intake, Roof Penetration and Gooseneck		•							Inc. CPVC interior rough-in and tie-in to water heater
Gas Rough-In							•	•	
Kitchen Equip. Gas Connections							•	•	
Water Heater							•	•	

D15. MECHANICAL	N/A	Existing	Landlord		CAVA		General Contractor		Remarks
			Furnished	Installed	Furnished	Installed	Furnished	Installed	
HVAC Units & Curbs			•	•					
PCU / ESP	•								
HVAC Distribution			•	•					Inc. supply, return, fresh-air ductwork, insulation, dampers
HVAC Unit Start-Up			•	•					
Kitchen Hood					•	•			
Grease Ductwork					•			•	
Kitchen Hood Exhaust Fan Unit					•			•	
Kitchen Hood Fresh Air Intake Unit					•			•	
Bathroom Exhaust Fans & Curbs							•	•	Inc. any related roof work
Bathroom Exhaust Ductwork							•	•	
Temperature Control Wiring & Thermostats			•	•					
Diffusers, Registers & Grilles			•	•					GC to provide louvered opening at drink case and transfer grille at IT
Smoke Evacuation System	•								if required by code. Inc. ductwork
Air Test & Balance Report							•	•	

D16. ELECTRICAL	N/A	Existing	Landlord		CAVA		General Contractor		Remarks
			Furnished	Installed	Furnished	Installed	Furnished	Installed	
Electrical Service into Space		•							
Electric Meter		•							
Main Disconnect Switch		•							
Transformers		•							
Main Distribution Panel		•							
Sub-Panels, Breakers, Switches, Transformers							•	•	includes main breakers from the MDP panel
Wiring, Conduit, Receptacle, Switches, Wiremold etc.							•	•	incl. 6" conduit for soda machine
Light Fixtures (Inc. EM, Exit, Tracks, Lamps)					•			•	
Lighting Control Panels					•			•	
Security Low Voltage Wiring					•	•			GC to provide all required conduit
Security Equipment					•	•			Inc. devices, cameras, panels
Audio Low Voltage Wiring					•	•			GC to provide all required conduit
Audio Equipment/Devices					•	•			Inc. speakers, rack, volume control
Digital Menu Boards Monitors, STB's & Brackets					•	•			GC to provide blocking and power
Pick Up By Car Technology					•	•		•	GC to cut into drive-thru and install wiring. Vendor to terminate and install
IT Low Voltage Phone/Data Wiring					•	•			GC to provide all required conduit
IT Rack, Switches & other Equip. for POS & Server					•	•			Inc. rack, phone, computers and printers

POST CONSTRUCTION	N/A	Existing	Landlord		CAVA		General Contractor		Remarks
			Furnished	Installed	Furnished	Installed	Furnished	Installed	
TCO/CO, Testing & Inspections							•	•	
Special or 3rd Party Inspections					•	•			
Certified MEP As-Built Submittals							•	•	
Warranties/Operation Manuals					•	•	•	•	

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ISSUE	DATE
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RESPONSIBILITY MATRIX & SCHEDULES

SHEET:
G600

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DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01010 - SUMMARY OR WORK

1.1 CONTRACT

A. UNLESS OTHERWISE NOTED. "THE OWNER" OR "THE TENANT" REFERS TO TH EPERSONS, ORGANIZATION AND/OR BUSINESS ENTERING INTO AN AGREEMENT WITH THE CONTRACTOR TO EXECUTE THE WORK INDICATED IN THE CONTRACT DOCUMENTS. "THE LANDLORD" REFERS TO THE PERSON, ORGANIZATION AND/OR BUSINESS THAT OWNS OR IS RESPONSIBLE FOR MANAGING THE PROPERTY ON WHICH THE WORK IS TO BE EXECUTED. THE CONTRACTOR'S RESPONSIBILITIES TO EACH PARTY IS DESCRIBED IN THE SPECIFICATIONS AND DOCUMENTS BELOW.

B. THE "WORK" INCLUDES OWNER IMPROVEMENTS TO AN EXISTING TENANT SPACE AND INCLUDES NEW PARTITIONS, FINISHES AND MODIFICATIONS TO HVAC, PLUMBING, ELECTRICAL, AND FIRE PROTECTION SYSTEMS AND ACCESS CONTROL SYSTEMS.

C. OWNER-FURNISHED ITEMS INCLUDE: FURNITURE, OFFICE EQUIPMENT, TELEPHONE AND AUDIO/VISUAL CABLING AND EQUIPMENT.

D. OWNER-FURNISHED/ CONTRACTOR-INSTALLED ITEMS AS INDICATED IN THE DRAWINGS SHALL BE RECEIVED, PROTECTED, AND INSTALLED AS PART OF THE CONTRACT.

E. PERMITS AND INSPECTIONS

1. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS REQUIRED TO PERFORM THE WORK
2. THE CONTRACTOR IS RESPONSIBLE FOR INSPECTIONS REQUIRED FOR THE JURISDICTION IN WHICH THE WORK IS PERFORMED. VERIFY WITH LOCAL REGULATORY AGENCY EXACT NUMBER, TYPE AND SCHEDULE OR INSPECTIONS REQUIRED FOR THE WORK PRIOR TO COMMENCING WITH THE WORK.
3. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH DOCUMENTATION AND SCHEDULING NECESSARY FOR OCCUPANCY PERMIT.

F. CONTRACT DOCUMENTS

4. THE AIA "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION" AIA DOCUMENT A201, 1997 EDITION, PUBLISHED BY THE AMERICAN INSTITUTE OF ARCHITECTS, HEREINAFTER REFERRED TO AS "GENERAL CONDITIONS", IS HEREBY MADE PART OF THE CONTRACT DOCUMENTS, THE SAME AS IF BOUND HEREIN.
5. THE CONTRACT DOCUMENT CONSIST OF THE FOLLOWING:
   a. OWNER-CONTRACTOR AGREEMENT ("THE CONTRACT")
   b. GENERAL CONDITIONS
   c. DRAWINGS AS DATED IN AGREEMENT ("THE DRAWINGS")
   d. ADDENDA
   e. MODIFICATIONS
6. THE CONTRACT DOCUMENTS ARE INSTRUMENTS OF SERVICE AND SHALL REMAIN THE PROPERTY OF THE ARCHITECT WHETHER THE PROJECT FOR WHICH THEY ARE PREPARED IS EXECUTED OR NOT. THE CONTRACT DOCUMENTS ARE NOT TO BE USED BY THE OWNER, LANDLORD OR TENANT FOR OTHER PROJECTS OR EXTENSIONS TO THE PROJECT NOR ARE THEY TO BE MODIFIED IN ANY MANNER WHATSOEVER EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO THE ARCHITECT.

SECTION 01030 - ALTERNATES AND UNIT PRICES

1.1 GENERAL

A. THE CONTRACTOR SHALL PROVIDE PRICING FOR ALL ALTERNATIVES INDICATED IN THE BID FORM.

B. THE CONTRACTOR SHALL PROVIDE UNIT PRICING FOR ITEMS IDENTIFIED AS REQUESTED BY OWNER.

C. THE OWNER RESERVES THE RIGHT TO REDUCE OR INCREASE THE TOTAL SCOPE OF WORK BY ACCEPTING ANY OF THE ALTERNATIVES OR ADDED/DELETED UNIT PRICE ITEMS.

SECTION 01035 - SUBSTITUTIONS

1.1 GENERAL

A. THE CONTRACTOR'S BID SHALL BE BASED ON PROVIDING ALL SPECIFIED ITEMS. SUBSTITUTIONS SHALL BE CONSIDERED ONLY UNDER THE FOLLOWING CIRCUMSTANCES:
   a. THE ITEM IS SHOWN TO HAVE A PROHIBITIVELY LONG LEAD TIME.
   b. AN ITEM OF EQUAL APPEARANCE AND EQUAL OR GREATER QUALITY TO THE SPECIFIED ITEM CAN BE PROVIDED AT SUBSTANTIAL SAVINGS TO THE OWNER.

B. SUBSTITUTIONS SHALL BE CONSIDERED BY THE ARCHITECT FOR ACCEPTANCE UNDER THE FOLLOWING PROCEDURE:
   a. THE ARCHITECT REQUIRES SEVEN (5) DAYS FOR REVIEW OF THE CONTRACTOR'S REQUEST FOR SUBSTITUTION.
   b. THE CONTRACTOR'S REQUEST FOR SUBSTITUTION SHALL INCLUDE PRODUCT INFORMATION AND SAMPLES AS DEEMED NECESSARY BY THE ARCHITECT OF BOTH THE SPECIFIED ITEM AND PROPOSED SUBSTITUTION. CHARACTERISTICS OF BOTH PRODUCTS SHALL BE CLEARLY IDENTIFIED BY THE ARCHITECT'S EVALUATION.

SECTION 01040 - COORDINATION

1.1 GENERAL COORDINATION

A. COORDINATION WITH BASE BUILDING AND OTHER BUILDING TENANTS:

1. EXERCISE EXTREME CARE AND PRECAUTION DURING CONSTRUCTION OF THE WORK. SCHEDULE WORK TO MINIMIZE DISTURBANCES TO ADJACENT SPACES AND/OR STRUCTURES AND THEIR OCCUPANTS, PROPERTY, PUBLIC THOROUGHFARES, ETC. THE CONTRACTOR SHALL TAKE PRECAUTIONS AND BE RESPONSIBLE FOR THE SAFETY OF THE BUILDING OCCUPANTS FROM CONSTRUCTION PROCEDURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY OVERTIME COSTS INCURRED THEREBY.
2. THE CONTRACTOR SHALL BE REQUIRED TO MEET ALL LANDLORD REQUIREMENTS FOR CONSTRUCTION.
3. THE CONTRACTOR SHALL COORDINATE WITH THE LANDLORD ALL WORK REQUIRED BY THE TENANT THAT OCCURS OUTSIDE THE TENANT SPACE AND IS ON OR WITHIN THE BASE BUILDING. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND INTEGRITY OF ALL PENETRATIONS REQUIRED TO THE EXISTING ROOF AND FOR MEETING ALL LANDLORD REQUIREMENTS.
4. THE CONTRACTOR SHALL REVIEW THE BASE BUILDING CONTRACT DOCUMENTS AND SHALL COMPLY WITH BASE BUILDING REQUIREMENTS AND DESIGN CRITERIA.
5. PRIOR TO DRILLING SLAB PENETRATIONS, THE CONTRACTOR SHALL DO THE FOLLOWING:
   a. CLEARLY IDENTIFY THE LOCATION OF SLAB PENETRATIONS FOR ARCHITECT'S REVIEW.
   b. COORDINATE WITH EXISTING CONDITIONS BELOW SLAB TO INSURE NO CONFLICTS WITH EXISTING DUCTWORK, SPRINKLER PIPING, CEILING CONDITIONS, ETC.
   c. X-RAY PROPOSED SLAB PENETRATION LOCATIONS TO IDENTIFY STRUCTURAL CONFLICTS AS REQUIRED BY LANDLORD.

B. COORDINATION WITH TENANT IN OCCUPIED RENOVATION:

1. COORDINATE HOURS OF OPERATION WITH TENANT PRIOR TO CONSTRUCTION.
2. ALL LOUD CONSTRUCTION SHALL BE PREFORMED OUTSIDE OWNER'S NORMAL HOURS OF OPERATION. LOUD CONSTRUCTION SHALL INCLUDE, BUT NOT LIMITED TO THE FOLLOWING: DEMOLITION, FRAMING, GWB INSTALLATION, DUCTWORK INSTALLATION, PULLING OF ELECTRICAL WIRING.
3. ALL ODOR PRODUCING CONSTRUCTION SHALL BE PERFORMED OUTSIDE THE OWNER'S NORMAL HOURS OF OPERATION. VERIFY ODOR PRODUCING CONSTRUCTION AND REVIEW ALL ITEMS WITH OWNER AND ARCHITECT PRIOR TO INSTALLATION. ODOR PRODUCING CONSTRUCTION SHALL INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING: APPLICATION OF ALKYD OR OIL BASED COATINGS, INSTALLATION OR ITEMS REQUIRING ADHESIVES
4. PROVIDE TEMPORARY DUST-PROOF PARTITIONS AS NECESSARY TO SEPARATE CONSTRUCTION ACTIVITIES FROM OWNER/TENANT OPERATIONS. REVIEW PROPOSED LOCATIONS OF TEMPORARY DUST-PROOF PARTITIONS WITH OWNER AND ARCHITECT PRIOR TO INSTALLATION.

C. COORDINATION WITH OWNER-SUPPLIED ITEMS:

1. MAKE NECESSARY PROVISIONS FOR ITEMS TO BE FURNISHED OR INSTALLED BY OWNER AS INDICATED ON THE DRAWINGS. SUCH PROVISIONS INCLUDE, BUT ARE NOT LIMITED TO, PLUMBING & ELECTRICAL REQUIREMENTS.
2. PROVIDE PROJECTION FOR OWNER-SUPPLIED ITEMS UNTIL COMPLETION OF THE PROJECT.
3. THE CONTRACTOR IS TO INCLUDE THE INSTALLATION COST OF OWNER-SUPPLIED ITEMS UNLESS OTHERWISE NOTED.
4. ANY AMBIGUITY OR NEED FOR CLARIFICATION REGARDING SCOPE OF WORK RELATED TO OWNER-SUPPLIED ITEMS TO BE REVIEWED WITH THE ARCHITECT PRIOR TO COMMENCING WITH THE WORK.
5. TELEPHONE AND DATA WORK SHALL BE COORDINATED BY THE CONTRACTOR WITH OWNER'S REPRESENTATIVE.
6. SECURITY SYSTEM WORK SHALL BE COORDINATED BY THE CONTRACTOR WITH OWNER'S REPRESENTATIVE.

D. CUT AND FIT COMPONENTS FOR ALTERATION OF EXISTING WORK AND INSTALLATION OR NEW YORK. PATCH DISTURBED AREAS TO MATCH ADJACENT MATERIALS AND FINISHES.

E. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THAT NOCONFLICTS EXIST IN LOCATIONS OF ANY MECHANICAL, TELEPHONE, ELECTRICAL, PLUMBING AND SPRINKLER EQUIPMENT (TO INCLUDE PIPING, DUCT WORK, STRUCTURAL MEMBERS AND CONDUIT) AND THAT REQUIRED CLEARENCES FOR INSTALLATIONS AND MAINTENANCE OF ABOVE EQUIPMENT ARE PROVIDED. ELEMENTS IN CONFLICT SHALL BE DETERMINED AND REVIEWED WITH ARCHITECT FOR RESOLUTION PRIOR TO CONSTRUCTION.

F. CONTRACTOR SHALL ORDER AND SCHEDULE DELIVERY MATERIALS IN AMPLE TIME TO AVOID DELAYS IN CONSTRUCTION. IF AN ITEM IS FOUND TO BE UNAVAILABLE OR HAVE LONG A LONG LEAD TIME, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT WITHIN SEVEN (7) DAYS OF CONTRACT AWARD.

DIVISION 1 - GENERAL REQUIREMENTS - cont.

SECTION 01300 - SUBMITTALS

1.1 GENERAL

A. WITHIN SEVEN (7) DAYS OF THE CONTRACT AWARD, THE CONTRACTOR SHALL SUBMIT TO THE ARCHITECT A SCHEDULE OF ALL SUBMITTALS IDENTIFYING ESTIMATED DATE OF SUBMISSION. SUBMITTALS SHALL INCLUDE BUT ARE NOT LIMITED TO:

1. FINISHES
2. CARPET SEAMING DIAGRAM
3. DOORS, FRAMES, AND HARDWARE
4. GLASS
5. METALS
6. MILLWORK
7. EQUIPMENT
8. APPLIANCES
9. MECHANICAL EQUIPMENT, DIFFUSERS, GRILLES, DEVICES, ETC.
10. ELECTRICAL EQUIPMENT, LIGHT FIXTURES, CONTROLS, DEVICES, ETC.
11. PLUMBING EQUIPMENT, FIXTURES, DEVICES, ETC.
12. SPRINKLER PLAN

B. PREPARATION OF SUBMITTALS SHALL BE AS FOLLOWS:

1. SUBMIT ONE (1) REPRODUCIBLE COPY AND TWO (2) PRINTS OF EACH SHOP DRAWING.
2. FOR CATALOG CUTS, BROCHURES, AND OTHER STANDARD PRINTED OR PUBLISHED PRODUCT DATA, SUBMIT NUMBER OF COPIES NEEDED BY CONTRACTOR, PLUS TWO (2) COPIES TO BE RETAINED BY ARCHITECT.
3. THE CONTRACTOR SHALL SUBMIT A MINIMUM OF THREE (3) SAMPLES OF FINISHES. THE ARCHITECT SHALL RETAIN TWO (2) SAMPLES OF FINISHES FOR RECORD AND RETURN A MINIMUM OF ONE SAMPLE TO CONTRACTOR.

C. THE CONTRACTOR SHALL PROVIDE MANUFACTURER'S SPECIFICATIONS, INSTALLATION INSTRUCTIONS, SHOP DRAWINGS AND SAMPLES FOR REVIEW AND APPROVAL PRIOR TO ORDERING OR PROCEEDING WITH THE WORK. NO CONSTRUCTION SHALL PROCEED UNTIL SUBMITTALS ARE APPROVED.

D. CONTRACTOR SHALL ALLOW FIVE (5) WORKING DAYS FOR THE ARCHITECT AND CONSULTANTS TO THE ARCHITECT TO REVIEW SUBMITTALS. ALL SUBMITTALS NOT REVIEWED DIRECTLY BY THE ARCHITECT, BUT RATHER CONSULTANTS TO THE ARCHITECTS, SHALL BE SUBMITTED SIMULTANEOUSLY TO BOTH THE ARCHITECT AND THE CONSULTANT AND SHALL BE NOTED AS SUCH. THE CONTRACTOR SHALL BOT PROCEED WITH WORK UNTIL BOTH THE ARCHITECT AND CONSULTANT HAVE APPROVED THE SUBMITTAL. NO EXTENSION OF THE CONTRACT TIME WILL BE GRANTED BECAUSE OF FAILURE TO PROVIDE SUBMITTALS FOR THE ARCHITECT'S REVIEW COORDINATION IN A TIMELY FASHION.

E. THE ARCHITECT RESERVES THE RIGHT TO REJECT AND AND ALL ITEMS INSTALLED WITHOUT PRIOR REVIEW AND APPROVAL BY THE ARCHITECT.

F. REFER TO SPECIFIED ITEMS FOR SPECIFIC SUBMITTAL REQUIREMENTS.

SECTION 01400 - QUALITY CONTROL

1.1 GENERAL

A. DIMENSIONS AND TOLERANCES:

1. DO NOT SCALE DRAWINGS GOVERN. VERIFY DIMENSIONS WITH FIELD CONDITIONS. IF DISCREPANCIES AND DISCOVERED BETWEEN FIELD CONDITIONS AND DRAWINGS OR BETWEEN DRAWINGS, CONTRACT THE ARCHITECT FOR RESOLUTION BEFORE PROCEEDING.
2. HORIZONTAL DIMENSIONS INDICATED ARE TO/FROM FINISHED FACE OF PARTITION, EXCEPT AS NOTED.
3. VERTICAL DIMENSIONS INDICATED ARE TO/FROM FINISHED FACE OF PARTITION, EXCEPT AS NOTED.
4. FLOOR TOLERANCE: THE CONTRACTOR IS TO IMMEDIATELY VERIFY SLOPE AND REPORT AND DEVIATION OVER A $\frac{1}{4}$ INCH SLOPE IN 10 FEET TO THE ARCHITECT PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LEVELING ALL AREAS TO ACHIEVE A SLOP DEVIATION AND SLIDING DOORS.
5. DIMENSIONS ARE NOT ADJUSTABLE WITHOUT APPROVAL OF THE ARCHITECT UNLESS NOTED (+-).
6. DIMENSIONS INDICATED TO BE "CLEAR" OR "CLR" SHALL BE MAINTAINED. ANY DISCREPANCIES OR VARIATIONS IN THESE DIMENSIONS SHALL BE REVIEWED WITH THE ARCHITECT BEFORE BEGINNING CONSTRUCTION.
7. ANY DIMENSION NOTED "VERIFY" OR "VIF" MUST BE REVIEWED WITH THE ARCHITECT BEFORE BEGINNING CONSTRUCTION.
8. THE CONTRACTOR SHALL CONTINUOUSLY CHECK ARCHITECTURAL AND STRUCTURAL CLEARANCES FOR ACCESSIBILITY OF EQUIPMENT AND MECHANICAL AND ELECTRICAL SYSTEMS. NO ALLOWANCE OF ANY KIND WILL BE MADE FOR THE CONTRACTOR'S FAILURE TO FORESEE MEANS OF INSTALLING EQUIPMENT INTO POSITION INSIDE STRUCTURES.

B. OBSERVATION OF WORK

1. THE ARCHITECT, ACTING AS THE OWNER'S DESIGNATED AGENT FOR DESIGN OF THIS PROJECT, WILL EXERCISE SOLE AUTHORITY FOR DETERMINING CONFORMANCE OF MATERIALS, EQUIPMENT AND SYSTEMS WITH THE INTENT OF THE DESIGN. REVIEW AND ACCEPTANCE OF ITEMS PROPOSED BY CONTRACTOR FOR INCORPORATION INTO THE WORK WILL BE BY THE ARCHITECT. THIS FUNCTION OF THE ARCHITECT WILL APPLY BOTH TO CONTRACT AS INITIALLY SIGNED, AND TO THE CHANGES TO CONTRACT BY MODIFICATION DURING PROGRESS OF WORK.
2. IF AT ANY TIME BEFORE COMMENCEMENT OF WORK, OR DURING PROGRESS THEREOF, THE CONTRACTOR'S METHODS, EQUIPMENT OR APPLIANCES ARE INEFFICIENT OR INAPPROPRIATE FOR SECURING QUALITY OR WORK, OR RATE OF PROGRESS INTENDED BY CONTRACT DOCUMENTS, THE OWNER MAY ORDER THE CONTRACTOR TO IMPROVE THEIR QUALITY OR INCREASE THEIR EFFICIENCY. THIS WILL NOT RELIEVE THE CONTRACTOR OF HIS SURETIES FROM THEIR OBLIGATIONS TO SECURE QUALITY OF WORK AND RATE OF PROGRESS SPECIFIED IN CONTRACT.

C. REFERENCE TO STANDARDS:

1. MATERIALS AND WORKMANSHIP SPECIFIED BY REFERENCE TO NUMBER SYMBOL, TO TITLE OF A SPECIFICATION SUCH AS COMMERCIAL STANDARDS, FEDERAL SPECIFICATION, TRADE ASSOCIATION STANDARD, OR OTHER SIMILAR STANDARD, SHALL COMPLY WITH REQUIREMENTS IN LATEST EDITION OR REVISION THEREOF AND WITH ANY AMENDMENT OR SUPPLEMENT THERETO IN EFFECT ON DATE OF ORIGIN OF THIS PROJECT'S CONTRAST DOCUMENTS. SUCH STANDARD, EXCEPT AS MODIFIED HEREIN, SHALL HAVE FULL FORCE AND EFFECTS AS THOUGH PRINTED IN CONTRACT DOCUMENTS.
2. THE CONTRACTOR SHALL WAIVE "COMMON PRACTICE" AND "COMMON USAGE" AS CONSTRUCTION CRITERIA WHEREVER DETAILS AND CONTRACT DOCUMENTS OR GOVERNING CODES, ORDINANCES, ETC., REQUIRE GREATER QUANTITY OR BETTER QUALITY THAN COMMON PRACTICE OR COMMON USAGE WOULD REQUIRE.

D. EXISTING CONDITIONS:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING CONTRACT DOCUMENTS, FIELD CONDITIONS, AND DIMENSIONS FOR ACCURACY AND CONFIRMING THAT WORK IS BUILDABLE AS SHOWN BEFORE PROCEEDING WITH CONSTRUCTION. CLARIFICATION REGARDING ANY CONFLICTS SHALL BE RECEIVED PRIOR TO RELATED WORK BEING STARTED.
2. THE CONTRACTOR'S SHALL NOTIFY THE OWNER IN WRITING OF ANY DEFICIENCIES IN BASE CONSTRUCTION PRIOR TO THE COMMENCEMENT OF THIS WORK. ANY UNREPORTED DEFICIENCIES WILL BECOME THE RESPONSIBILITY OF THE CONTRACTOR TO CORRECT.

E. IN THE VENT OF CONFLICT BETWEEN THE DRAWINGS AND THE SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN. DETAIL DRAWINGS TAKE PRECEDENCE OVER DRAWINGS OF LARGER SCOPE. SHOULD THE CONTRACTOR AT ANY TIME DISCOVER AN ERROR IN A DRAWING OR SPECIFICATION, OR A DISCREPANCY OR VARIATION BETWEEN DRAWINGS, OR A DISCREPANCY OR VARIATION BETWEEN DIMENSIONS AND MEASUREMENTS AT SITE, OR LACK OF DIMENSIONS OR OTHER INFORMATION, THE CONTRACTOR SHALL NOT PROCEED WITH THE WORK AFFECTED UNTIL CLARIFICATION HAS BEEN MADE.

F. THE CONTRACTOR SHALL COORDINATE AND REVIEW THE LAYOUT AND EXACT LOCATION OF THE ITEMS LISTED BELOW IN THE FIELD PRIOR TO CONSTRUCTION. ANY CONFLICTS THAT ARISE SHALL BE BROUGHT TO THE ARCHITECTS ATTENTION IN WRITING FOR RESOLUTION PRIOR TO PROCEEDING WITH CONSTRUCTION:

1. PARTITIONS
2. DOORS
3. CORE DRILL LOCATIONS
4. ELECTRICAL/TELEPHONE OUTLETS
5. THERMOSTATS
6. LIGHTS SWITCHES
7. LIGHT FIXTURES
8. CHANGES UB CEILING PLACE, AND OTHER CEILING FEATURES
9. VAV BOXES, SUPPLEMENTAL AC UNITS AND OTHERT MECHANICAL, ELECTRICAL, OR PLUMBINGS ITEMS REQUIRING CEILING ACCESS OR AFFECTING CEILING HEIGHT.

G. THE CONTRACTOR SHALL FOLLOW MANUFACTURER'S RECOMMENDED SPECIFICATION & INSTALLATION PROCEDURES. IF THESE ARE CONTRARY TO THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT, IN WRITING IMMEDIATELY, TO RESOLVE DISCREPANCIES PRIOR TO PROCEEDING.

H. ONLY NEW ITEMS OF RECENT MANUFACTURE, OF THE HIGHEST QUALITY, FREE FROM DEFECTS, WILL BE PERMITTED ON THE WORK. REJECTED ITEMS SHALL BE REMOVED IMMEDIATELY FORM THE WORK AND REPLACED WITH ITEMS OF THE QUALITY SPECIFIED. FAILURE TO REMOVE REJECTED MATERIALS AND EQUIPMENT SHALL NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY FOR QUALITY AND CHARACTER OF ITEMS USED NOR FROM ANY OTHER OBLIGATION IMPOSED BY THE CONTRACT.

DIVISION 1 - GENERAL REQUIREMENTS - cont.

SECTION 01400 - QUALITY CONTROL (CONT'D)

I. THE FINISHED WORK SHALL BE FIRM, WELL ANCHORED, IN TRUE ALIGNMENT, PLUMB, LEVEL, WITH SMOOTH, CLEAN, UNIFORM APPEARANCE WITHOUT WAVES, DISTORTIONS, HOLES, MARKS, CRACKS, STAINS, OR DISCOLORATION. JOINTINGS SHALL BE CLOSE FITTING, NEAT AND WELL SCRIBED. THE FINISHED WORK SHALL HAVE NO EXPOSED UNSIGHTLY ANCHORS OR FASTENERS AND SHALL NOT PRESENTS HAZARDOUS, UNSAFE CORNERS. WORK SHALL HAVE THE PROVISION FOR EXPANSION, CONTRACTION, AND SHRINKAGE AS NECESSARY TO PREVENT CRACKS, BUCKLING AND WARPING DUE TO TEMPERATURE AND HUMIDITY CONDITIONS.

J. ATTACHMENTS, CONNECTIONS, OR FASTENINGS OF ANY NATURE ARE TO BE PROPERLY AND PERMANENTLY SECURED IN CONFORMANCE WITH BEST PRACTICE AND THE CONTRACTOR IS RESPONSIBLE FOR IMPROVING THEM ACCORDINGLY. THE DRAWINGS SHOW ONLY SPECIAL CONDITIONS TO ASSIST THE CONTRACTOR. THEY DO NOT ILLUSTRATE EVERY SUCH DETAIL.

K. NO WORK DEFECTIVE IN CONSTRUCTION OR QUALITY OR DEFICIENT IN ANY REQUIREMENTS OF DRAWINGS AND SPECIFICATIONS WILL BE ACCEPTABLE IN CONSEQUENCE OF THE OWNER'S OR ARCHITECT'S FAILURE TO DISCOVER OR TO POINT OUT DEFECTS OR DEFICIENCIES DURING CONSTRUCTION; NOR WILL PRESENCE OF INSPECTORS ON WORK RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR SECURING QUALITY AND PROGRESS OR WORK AS REQUIRED BY THE CONTRACT. DEFECTIVE WORK REVEALED WITHIN REQUIRED TIME GUARANTEES, AS SPECIFIED IN THE CONTRACT, SHALL BE REPLACED BY WORK CONFORMING WITH THE INTENT OF THE CONTRACT. NO PAYMENT WHETHER PARTIAL OR FINAL. SHALL BE CONSTRUED AS AN ACCEPTANCE OF DEFECTIVE WORK OR IMPROPER MATERIALS.

SECTION 0150 - CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

1.1 GENERAL

A. THE CONTRACTOR IS RESPONSIBLE FOR AND SHALL PROVIDE PROTECTION FOR ANY EXISTING FINISHES INCLUDING ELEVATORS, LOBBIES, STAIRS, AND CORRIDORS OF THE BASE BUILDING.

B. THE CONTRACTOR SHALL PROTECT EXISTING BASE BUILDING WINDOW COVERINGS.

C. THE CONTRACTOR SHALL PATCH AND REPAIR FIREPROOFING DAMAGED OR REMOVED DURING PERFORMANCE OF THE WORK. FIREPROOF NEW PENETRATIONS REQUIRED BY THE WORK.

D. DEBRIS SHALL BE REMOVED FROM THE SITE ON A DAILY BASIS. UPON COMPLETION OF THE WORK, REMOVE DEBRIS FROM THE SITE CREATED BY THE WORK PROVIDED UNDER THE CONTRACT AND LEAVE AREAS CLEAN.

E. THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN A JOB SITE TELEPHONE AND E-MAIL CONNECTION.

SECTION 01700 - CONTRACT CLOSEOUT

1.1 GENERAL

A. WHEN THE CONTRACTOR CONSIDERS THAT THE WORK IS SUBSTANTIALLY COMPLETE, THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ARCHITECT A LIST OF ITEMS TO BE COMPLETED OR CORRECTED. THE ARCHITECT SHALL VISIT THE SITE TO DETERMINE THE STATUS OF COMPLETION AND AMEND THE CONTRACTOR'S LIST AS REQUIRED. UPON THE CONTRACTOR'S STATED COMPLETION OF THE ITEMS LISTED TO BE COMPLETED OR CORRECTED, AND PRIOR TO FINAL PAYMENT, THE ARCHITECT SHALL PERFORM A FINAL INSPECTION OF ALL ITEMS LISTED. FAILURE TO COMPLETE LISTED ITEMS, AS DETERMINED BY THE ARCHITECT, SHALL REQUIRE ADDITIONAL SITE VISITS AS NEEDED BY THE ARCHITECT TO DETERMINE FINAL COMPLETION. THE COST OF ANY ADDITIONAL SITE VISITS SHALL BE BILLED HOURLY BASED ON THE ARCHITECTS PUBLISHED HOURLY RATES AND SHALL BE DEDUCTED FROM THE CONTRACTOR'S FINAL PAYMENT.

B. THE FOLLOWING ITEMS SHALL BE SUBMITTED TO THE OWNER BY THE CONTRACTOR BEFORE REQUESTING FINAL PAYMENT:

1. COMPLETE RELEASE OR WAIVER OF LIENS - DOCUMENTATION SHALL BE NOTARIZED AND SIGNED.
2. CERTIFICATES OF INSPECTION APPROVALS FOR REQUIRED OCCUPANCY PERMIT AND SIMILAR APPROVALS OR CERTIFICATIONS BY GOVERNING AUTHORITIES, ASSURING THE OWNER'S FULL ACCESS AND USE OF COMPLETED WORK.
3. A NOTEBOOK CONTAINING WARRANTIES, BONDS, GUARANTEES, AFFIDAVITS AND CERTIFICATES REQUIRED BY THE CONTRACT DOCUMENTS INCLUDE ANY OPERATING AND CLEANING INSTRUCTIONS FOR APPLIANCES, MATERIALS, FINISHES, SYSTEMS AND EQUIPMENT INSTALLED AS PART OF THE WORK.

C. FINAL CLEANING: REMOVE PROTECTIVE COATINGS, COVERINGS, ANY TAGS, LABELS OR OTHER MARKINGS FROM MATERIALS FIXTURES AND EQUIPMENT. CLEAN WALL, FLOOR AND CEILING SURFACES INCLUDING TRIM, OUTLET AND SWITCH PLATES, WINDOWS, WINDOW SILLS, AND WINDOW TREATMENTS. CLEAN PLUMBING FIXTURES TO A SANITARY CONDITION.

DIVISION 2 - SITEWORK

SECTION 02070 - SELECTIVE DEMOLITION

1.1 FIELD CONDITIONS

A. NOTIFY ARCHITECT OF DISCREPANCIES BETWEEN EXISTING CONDITIONS AND DRAWINGS BEFORE PROCEEDING WITH SELECTIVE DEMOLITION.

B. PRIOR TO DEMOLITION, THE CONTRACTOR SHALL SCHEDULE A MEETING WITH THE OWNER AND THE ARCHITECT TO REVIEW ALL ITEMS TO BE SALVAGED. SALVAGED ITEMS MAY NOT NECESSARILY BE INDICATED FOR REUSE. SALVAGED ITEMS MAY INCLUDE:

1. MILLWORK
2. DOORS, FRAMES, AND HARDWARE
3. LAY-IN CEILING PANELS AND CEILING GRID
4. ALL GLASS ENTRANCE SYSTEMS COMPONENTS
5. HVAC DIFFUSERS, GRILLES, EQUIPMENT AND CONTROLS
6. ELECTRICAL EQUIPMENT, LIGHTING FIXTURES AND CONTROLS

1.2 EXECUTION

A. EXTENT OF DEMOLITION IS INDICATED IN THE DRAWINGS.

B. PROTECT FINISHES INDICATED TO REMAIN DURING DEMOLITION.

C. FOLLOWING DEMOLITION, BASE BUILDING PARTITIONS SHOULD BE CLEANED AND PREPARED FOR PROPOSED TENANT CONSTRUCTION PER REVIEW OF ARCHITECT AND THE CONTRACTOR. SURFACES INDICATED ARE EXISTING TO REMAIN SHALL BE RESTORED TO LIKE-NEW CONDITION. SURFACES INDICATED AS EXISTING TO REMAIN AND TO RECEIVE NEW FINISHES SHALL BE PROPERLY PREPARED TO RECEIVE INDICATED FINISHES.

D. EXTENT OF ITEMS TO BE REUSED IS INDICATED IN THE CONTRACT DOCUMENTS. DISPOSE OF REMAINING ITEMS DETERMINED NOT TO BE SALVAGED IN A SAFE, CLEAN, MANNER AND IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

E. MAKE SAFE ABANDONED ELECTRICAL CONDUITS.

F. TERMINATE ABANDONED PLUMBING AT ENTRY TO TENANT SPACE.

DIVISION 3 - CONCRETE

SECTION 03500 - CEMENTITIOUS DECKS AND TOPPINGS

1.1 GENERAL

A. WHERE LEVELING OR PATCHING OF EXISTING CONCRETE FLOOR IS REQUIRED EITHER BECAUSE SURFACE OF SLAB IS NOT WITHIN REQUIRED TOLERANCE OR BECAUSE RESURFACING IS REQUIRED FOR INSTALLATION OF SPECIFIED FINISH, USE A SELF-LEVELING CEMENTITIOUS TOPPING AS INDICATED BELOW.

B. ACCEPTABLE PRODUCTS:

1. ARDEX INC. - K-15 SELF-LEVELING UNDERLAYMENT
2. W.R. BONSAL CO. - SELF-LEVELING UNDERLAYMENT

C. SURFACE PREPARATION:

1. SUBFLOORS SHALL BE SOLID, THOROUGHLY CLEANED, FREE FROM WAX, GREASE, LATEX COMPOUNDS, CURING COMPOUNDS, DUST, AND OTHER SIMILAR FOREIGN MATTER.

DIVISION 4 - MASONRY

2. CRACKS AND PENETRATIONS SHALL BE PATCHED TO PREVENT SEEPAGE OR LEAKING OF TOPPING.
3. TOPPINGS SHALL NOT BE APPLIED OVER GYPSUM, ASPHALT, HOT PATCHES, WATERBASE ADHESIVES, AND MOST KINDS OF LIGHTWEIGHT CONCRETE.
4. SURFACES SCHEDULED TO RECEIVE UNDERLAYMENT TOPPING SHALL BE PRIMED USING A SUITABLE PRIMER, AS A RECOMMENDED BY UNDERLAYMENT MANUFACTURER.

SECTION 04200 - UNIT MASONRY

1.1 DEFINITIONS

A. CMU(S): CONCRETE MASONRY UNIT(S).

B. REINFORCED MASONRY: MASONRY CONTAINING REINFORCING STEEL IN GROUTED CELLS.

1.2 PERFORMANCE REQUIREMENTS

A. PROVIDE STRUCTURAL UNIT MASONRY THAT DEVELOPS INDICATDE NET-AREA COMPRESSIVE STRENGTHS AT 28 DAYS.

1. DETERMINE NET-AREA COMPRESSIVE STRENGTH FROM AVERAGE NET-AREA COMPRESSIVE STRENGTHS OF MASONRY UNITS AND MORTAR TYPES (UNIT-STRENGTH METHOD) ACCORDING TO TABLES 1 AND 2 IN ACI 530.1/ASCE 6/TMS 602.
2. DETERMINE NER-AREA COMPRESSIVE STRENGTH OF MASONRY BY TESTING MASONRY PRISMS ACCORDING TO ASTM C 1314.

1.3 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.

B. SHOP DRAWINGS: FOR THE FOLLOWING:

1. MASONRY UNITS: SHOW SIZES, PROFILES, PROFILES, COURSING, AND LOCATIONS OF SPECIAL SHAPES.
2. REINFORCING STEEL: DETAIL BENDING AND PLACEMENT OF UNIT MASONRY REINFORCING BARS. COMPLY WITH ACI 315, "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT."
3. FABRICATED FLASHING: DETAIL CORNER UNITS, END-DAM UNITS, AND OTHER SPECIAL APPLICATIONS.

1.4 INFORMATIONAL SUBMITTALS

A. MATERIAL CERTIFICATES: FOR EACH TYPE AND SIZE OF THE FOLLOWING:

1. MASONRY UNITS.
   a. INCLUDE DATA ON MATERIAL PROPERTIES.
   b. FOR MASONRY UNITS USED IN STRUCTURAL MASONRY , INCLUDE DATA AND CALCULATIONS ESTABLISHING AVERAGE NET-AREA COMPRESSIVE STRENGTH OF UNITS.
2. CEMENTITIOUS MATERIALS. INCLUDE BRAND, TYPE, AND NAME OF MANUFACTURER.
3. PREBLENDED, DRY MORTAR MIXES. INCLUDE DESCRIPTION OF TYPE AND PROPORTIONS OF INGREDIENTS.
4. GROUT MIXES. INCLUDE DESCRIPTION OF TYPE AND PROPORTIONS O

DIVISION 4 - MASONRY - cont.

SECTION 04200 - UNIT MASONRY (CONT'D)

2.5 MORTAR AND GROUT MATERIALS
- A. REGIONAL MATERIALS: AGGREGATE FOR MORTAR AND GROUT SHALL BE EXTRACTED, HARVESTED, OR RECOVERED, AS WELL AS MANUFACTURED, WITHIN 500 MILES (800 KM) OF PROJECT SITE.
- B. PORTLAND CEMENT: ASTM C 150, TYPE I OR II, EXCEPT TYPE III MAY BE USED FOR COLD-WEATHER CONSTRUCTION, PROVIDE NATURAL COLOR OR WHITE CEMENT AS REQUIRED TO PROVIDE MORTAR COLOR INDICATED.
- C. HYDRATED LIME: ASTM C 207, TYPE S.
- D. MORTAR CEMENT: ASTM C 207, 1329.
- E. COLD-WEATHER ADMIXTURE: NONCHLORIDE, NONCORROSIVE, ACCELERATING ADMIXTURE COMPLYING WITH ASTM C 494/C 494M, TYPE C, AND RECOMMENDED BY MANUFACTURER FOR USE IN MASONRY MORTAR OF COMPOSITION INDICATED.
- F. WATER-REPELLANT ADMIXTURE: LIQUID WATER-REPELLANT MORTAR ADMIXTURE INTENDED FOR USE WITH CMUS CONTAINING INTEGRAL WATER REPELLANT BY SAME MANUFACTURER.
- G. WATER: POTABLE

2.6 REINFORCEMENT
- A. UNCOATED STEEL REINFORCING BARS: ASTM A 615/A 614M OR ASTM A 996/A 996M, GRADE 60 (GRADE 420).
- B. MASONRY JOINT REINFORCEMENT, GENERAL: ASTM A 951/A 951M.

1. INTERIOR WALLS: HOT-DIP GALVANIZED, CARBON STEEL.
2. EXTERIOR WALLS: STAINLESS STEEL.
3. WIRE SIZE FOR SIDE RODS: 0.187-INCH (4.76-MM) DIAMETER.
4. WIRE SIZE FOR CROSS RODS: 0.187-INCH (4.76-MM) DIAMETER.
5. WIRE SIZE FOR VENEER TIES: 0.187-INCH (4.76-MM) DIAMETER.
6. SPACING OF CROSS RODS, TABS, AND CROSS TIES: NOT MORE THAN 16 INCHES (407 MM) O.C.
7. PROVIDE IN LENGTHS IF NOT LESS THAN 10 FEET (3 M), WITH PREFABRICATED CORNER AND TEE UNITS.

- C. MASONRY-JOINT REINFORCEMENT FOR SINGLE-WYTHE MASONRY: EITHER LADDER OR TRUSS TYPE WITH SINGLE PAIR OF SIDE RODS.

2.7 EMBEDDED FLASHING MATERIALS
- A. METAL FLASHING: PROVIDE METAL FLASHING COMPLYING WITH SMACNA'S "ARCHITECTURAL SHEET METAL MANUAL") DIVISION 07 SECTION "SHEET METAL FLASHING AND TRIM" AND AS FOLLOWS:

1. METAL DRIP EDGE: FABRICATE FROM STAINLESS STEEL. EXTEND AT LEAST 3 INCHES (76 MM) INTO WALL AND 1/2 INCH (13 MM) OUT FORM WALL, WITH OUTER EDGE BENT DOWN 30 DEGREES AND HEMMED.
2. METAL SEALANT STOP: FABRICATE FROM STAINLESS STEEL. EXTEND AT LEAST 3 INCHES (76 MM) INTO WALL AND OUT TO EXTERIOR FACE OF WALL. AT EXTERIOR FACE OF WALL, BEND METAL BACK ON ITSELF FOR 3/4 INCH (19 MM) AND DOWN INTO JOINT 1/4 INCH (6 MM) TO FORM A STOP FOR RETAINING SEALANT BACKER ROD.
3. METAL EXPANSION-JOINT STRIPS: FABRICATE FROM STAINLESS STEEL TO SHAPES INDOCATED.

- B. FLEXIBLE FLASHING: USE ONE OF THE FOLLOWING UNLESS OTHERWISE INDICATED:

1. 7-OZ.SQ. FT. (2-KG/SQ. M) COPPER SHEET BONDED BETWEEN 2 LAYERS OF GLASS-FIBER CLOTH. USE ONLY WHERE FLASHING IS FULLY CONCEALED IN MASONRY.
2. RUBBERIZED-ASPHALT FLASHING: COMPOSITE FLASHING PRODUCT CONSISTING OF A PLIABLE, ADHESIVE RUBBERIZED-ASPHALT COMPOUND, BONDED TO A HIGH-DENSITY, CROSS-LAMINATED POLYETHYLENE FILM TO PRODUCE AN OVERALL THICKNESS OF NOT LESS THAN 0.040 INCH (1.02 MM).
3. ELASTOMERIC THERMOPLASTIC FLASHING: COMPOSITE FLASHING PRODUCT FLASHING PRODUCT CONSISTING OF A POLYESTER-REINFORCED ETHYLENE INTERPOLYMER ALLOY.
4. EPDM D 4637, 0.040 INCH (1.0 MM) THICK.

- C. ADHESIVES, PRIMERS, AND SEAM TAPES FOR FLASHING: FLASHING MANUFACTURER'S STANDARD PRODUCTS OR PRODUCTS RECOMMENDED BY FLASHING MANUFACTURER FOR BONDING FLASHING SHEETS TO EACH OTHER AND TO SUBSTRATES.

2.8 MISCELLANEOUS MASONRY ACCESSORIES
- A. COMPRESSIBLE FILLER: PREMOLDED FILLER STRIPS COMPLYING WITH ASTM D 1056, GRADE 2A1; COMPRESSIBLE UP TO 35 PERCENT; OF WIDTH AND THICKNESS INDICATED; FORMULATED FROM NEOPRENE, URETHANE OR PVC.
- B. PREFORMED CONTROL-JOINT GASKETS: MADE FROM STYRENE-BUTADIENE-RUBBER COMPOUND, COMPLYING WITH ASTM D 2000, DESIGNATION M2AA-805 OR PVC, COMPLYING WITH ASTM D 2287, TYPE PVC-65406 AND DESIGNED TO FIR STANDARD SASH BLOCH AND TO MAINTAIN LATERAL STABILITY IN MASONRY WALL; SIZE AND CONFIGURATION AS INDICATED.
- C. BOND-BREAKER STRIPS: ASPHALT-SATURATED, ORGANIC ROOFING FELT COMPLYING WITH ASTM D 226, TYPE A (NO. 15 ASPHALT FELT).

2.9 MASONRY-CELL INSULATION
- A. LOOSE-GRANULAR FILL INSULATION: PERLITE COMPLYING WITH ASTM C 549, TYPE II (SURFACE TREATED FOR WATER REPELLENCY AND LIMITED MOISTURE ABSORPTION) OR TYPE IV (SURFACE TREATED FOR WATER REPELLENCY AND TO LIMIT DUST GENERATION).
- B. MOLDED-POLYSTYRENE INSULATION UNITS: RIGID, CELLULAR THERMAL INSULATION FORMED BY THE EXPANSION OF POLYSTYRENE-RESIN BEADS OR GRANULES IN A CLOSED MOLD TO COMPLY WITH ASTM C 578, TYPE I. PROVIDE SPECIALLY SHAPED UNITS DESIGNED FOR INSTALLING IN CORES OF MASONRY UNITS.

DIVISION 5 - METALS

SECTION 05500 - METAL FABIRCATIONS

1.1 GENERAL
- A. SUBMITTALS

1. SHOP DRAWINGS: SHOW FABRICATION AND INSTALLATION DETAILS FOR METAL FABRICATIONS.
   - a. INCLUDE PLANS, ELEVATIONS, SECTIONS, AND DETAILS OF METAL FABRICATIONS AND THEIR CONNECTIONS. SHOW ANCHORAGE AND ACCESSORY ITEMS.
2. SAMPLES: FOR EACH TYPE AND FINISH.

- B. PRODUCTS

1. METAL SURFACES, GENERAL: PROVIDE MATERIALS WITH SMOOTH, FLAT SURFACES WITHOUT BLEMISHES.
2. FERROUS METALS
   - a. STEEL TUBING: ASTM A 500, COLD-FORMED STEEL TUBING.
   - b. STEEL PIPE: ASTM A 53/A 53M, STANDARD WEIGHT (SCHEDULE 40) UNLESS OTHERWISE INDICATED.
   - c. SLOTTED CHANNEL FRAMING: COLD-FORMED METAL BOX CHANNELS (STRUTS) COMPLYING WITH MFMA-
     - I) SIZE OF CHANNELS: 1-5/8 BY 1-5/8 INCHES (41 BY 41 MM).
     - II) MATERIAL: GALVANIZED STEEL, ASTM A 653/A 653M, WITH G96 (Z275) COATING; 0.079-INCH (2-MM) NOMINAL THICKNESS

- C. FABRICATION

1. SHOP ASSEMBLY: PREASSEMBLE ITEMS IN THE SHOP TO GREATEST EXTENT POSSIBLE. USE CONNECTIONS THAT MAINTAIN STRUCTURAL VALUE OF JOINED PIECES.
2. CUT, DRILL, AND PUNCH METALS CLEANLY AND ACCURATELY. REMOVE BURRS AND EASE EDGES. REMOVE SHARP OR ROUGH AREAS ON EXPOSED SURFACES.
3. WELD CORNERS AND SEAMS CONTINUOUSLY TO COMPLY WITH THE FOLLOWING:
   - a. USE MATERIALS AND METHODS THAT MINIMIZE DISTORTION AND DEVELOP STRENGTH AND CORROSION RESISTANCE OF BASE METALS.
   - b. OBTAIN FUSION WITHOUT UNDERCUT OR OVERLAP.
   - c. REMOVE WELDING FLUX IMMEDIATELY.
   - d. AT EXPOSED CONNECTIONS, FINISH EXPOSED WELDS AND SURFACES SMOOTH AND BLENDED.
4. FORM EXPOSED CONNECTIONS WITH HAIRLINE JOINTS, FLUSH AND SMOOTH, USING CONCEALED FASTENERS OR WELDS WHERE POSSIBLE. LOCATE JOINTS WHERE LEAST CONSPICUOUS.
5. FABRICATE SEAMS AND OTHER CONNECTIONS THAT WILL BE EXPOSED TO WEATHER IN A MANNER TO EXCLUDE WATER. PROVIDE WEEP HOLES WHERE WATER MAY ACCUMULATE.
6. WHERE UNITS ARE INDICATED TO BE CAST INTO CONCRETE OR BUILT INTO MASONRY, EQUIP WITH INTEGRALLY WELDED STEEL STRAP ANCHORS NOT LESS THAN 24 INCHES (600 MM) O.C.
7. MISCELLANEOUS FRAMING AND SUPPORTS
   - a. GENERAL: PROVIDE STEEL FRAMING AND SUPPORTS NOT SPECIFIED IN OTHER SECTIONS AS NEEDED TO COMPLETE THE WORK.
   - b. FABRICATE UNITS FROM STEEL SHAPES, PLATES, AND BARS OF WELDED CONSTRUCTION UNLESS OTHERWISE INDICATED. FABRICATE TO SIZES, SHAPES, AND PROFILES INDICATED AND AS NECESSARY TO RECEIVE ADJACENT CONSTRUCTION.
   - c. WHERE WOOD NAILERS ARE ATTACHED TO GLIDERS WITH BOLTS OR LAG SCREWS, DRILL OR PUNCH HOLES AT 24 INCHES (600 MM) O.C.

DIVISION 5 - METALS - cont.

SECTION 05500 - METAL FABIRCATIONS (CONT'D)

1.1 GENERAL
- A. SUBMITTALS

1. SHOP DRAWINGS: SHOW FABRICATION AND INSTALLATION DETAILS FOR METAL FABRICATIONS.
   - a. INCLUDE PLANS, ELEVATIONS, SECTIONS, AND DETAILS OF METAL FABRICATIONS AND THEIR CONNECTIONS. SHOW ANCHORAGE AND ACCESSORY ITEMS.
2. SAMPLES: FOR EACH TYPE AND FINISH.

- B. PRODUCTS

1. METAL SURFACES, GENERAL: PROVIDE MATERIALS WITH SMOOTH, FLAT SURFACES WITHOUT BLEMISHES.
2. FERROUS METALS
   - a. STEEL TUBING: ASTM A 500, COLD-FORMED STEEL TUBING.
   - b. STEEL PIPE: ASTM A 53/A 53M, STANDARD WEIGHT (SCHEDULE 40) UNLESS OTHERWISE INDICATED.
   - c. SLOTTED CHANNEL FRAMING: COLD-FORMED METAL BOX CHANNELS (STRUTS) COMPLYING WITH MFMA-
     - I) SIZE OF CHANNELS: 1-5/8 BY 1-5/8 INCHES (41 BY 41 MM).
     - II) MATERIAL: GALVANIZED STEEL, ASTM A 653/A 653M, WITH G96 (Z275) COATING; 0.079-INCH (2-MM) NOMINAL THICKNESS

- C. FABRICATION

1. SHOP ASSEMBLY: PREASSEMBLE ITEMS IN THE SHOP TO GREATEST EXTENT POSSIBLE. USE CONNECTIONS THAT MAINTAIN STRUCTURAL VALUE OF JOINED PIECES.
2. CUT, DRILL, AND PUNCH METALS CLEANLY AND ACCURATELY. REMOVE BURRS AND EASE EDGES. REMOVE SHARP OR ROUGH AREAS ON EXPOSED SURFACES.
3. WELD CORNERS AND SEAMS CONTINUOUSLY TO COMPLY WITH THE FOLLOWING:
   - a. USE MATERIALS AND METHODS THAT MINIMIZE DISTORTION AND DEVELOP STRENGTH AND CORROSION RESISTANCE OF BASE METALS.
   - b. OBTAIN FUSION WITHOUT UNDERCUT OR OVERLAP.
   - c. REMOVE WELDING FLUX IMMEDIATELY.
   - d. AT EXPOSED CONNECTIONS, FINISH EXPOSED WELDS AND SURFACES SMOOTH AND BLENDED.
4. FORM EXPOSED CONNECTIONS WITH HAIRLINE JOINTS, FLUSH AND SMOOTH, USING CONCEALED FASTENERS OR WELDS WHERE POSSIBLE. LOCATE JOINTS WHERE LEAST CONSPICUOUS.
5. FABRICATE SEAMS AND OTHER CONNECTIONS THAT WILL BE EXPOSED TO WEATHER IN A MANNER TO EXCLUDE WATER. PROVIDE WEEP HOLES WHERE WATER MAY ACCUMULATE.
6. WHERE UNITS ARE INDICATED TO BE CAST INTO CONCRETE OR BUILT INTO MASONRY, EQUIP WITH INTEGRALLY WELDED STEEL STRAP ANCHORS NOT LESS THAN 24 INCHES (600 MM) O.C.
7. MISCELLANEOUS FRAMING AND SUPPORTS
   - a. GENERAL: PROVIDE STEEL FRAMING AND SUPPORTS NOT SPECIFIED IN OTHER SECTIONS AS NEEDED TO COMPLETE THE WORK.
   - b. FABRICATE UNITS FROM STEEL SHAPES, PLATES, AND BARS OF WELDED CONSTRUCTION UNLESS OTHERWISE INDICATED. FABRICATE TO SIZES, SHAPES, AND PROFILES INDICATED AND AS NECESSARY TO RECEIVE ADJACENT CONSTRUCTION.
   - c. WHERE WOOD NAILERS ARE ATTACHED TO GLIDERS WITH BOLTS OR LAG SCREWS, DRILL OR PUNCH HOLES AT 24 INCHES (600 MM) O.C.

- D. STEEL AND IRON FINISHES

1. GALVANIZING: HOT-DIP GALVANIZE ITEMS AS INDICATED TO COMPLY ASTM A 153/A 153M FOR STEEL AND IRON HARDWARE WITH ASTM A 123/A 123M FOR OTHER STEEL AND IRON PRODUCTS.
2. SHOP PRIME IRON AND STEEL ITEMS NOT INDICATED TO BE GALVANIZED UNLESS THEY ARE TO BE EMBEDDED IN CONCRETE, SPRAYED-ON FIREPROOFING, OR MASONRY, OR UNLESS OTHERWISE INDICATED.

- E. EXECUTION

1. INSTALLATION, GENERAL
   - a. CUTTING, FITTING, AND PLACEMENT: PERFORM CUTTING, DRILLING, AND FITTING REQUIRED FOR INSTALLING METAL FABRICATIONS. SET METAL FABRICATIONS ACCURATELY IN LOCATION, ALIGNMENT, AND ELEVATION; WITH EDGES AND SURFACES LEVEL, PLUMB, TRUE, AND FREE OF RACK; AND MEASURED FORM ESTABLISHED LINES AND LEVELS.
   - b. FIT EXPOSED CONNECTIONS ACCURATELY TOGETHER TO FORM HAIRLINE JOINTS. WELD CONNECTIONS THAT ARE NOT TO BE LEFT AS EXPOSED JOINTS BUT CANNOT BE SHOP WELDED BECAUSE OF SHIPPING SIZE LIMITATIONS. DO NOT WELD, CUT, OR ABRADE SURFACES OF EXTERIOR UNITS THAT HAVE BEEN HOT-DIP GALVANIZED AFTER FABRICATION AND ARE FOR BOLTED OR SCREWED FIELD CONNECTIONS.
   - c. FIELD WELDING: COMPLY WITH THE FOLLOWING REQUIREMENTS:
     - I) USE MATERIALS AND METHODS THAT MINIMIZE DISTORTION AND DEVELOP STRENGTH AND CORROSION RESISTANCE OF BASE MATERIALS.
     - II) OBTAIN FUSION WITHOUT UNDERCUT OR OVERLAP.
     - III) REMOVE WELDING FLUX IMMEDIATELY.
     - IV) AT EXPOSED CONNECTIONS, FINISH EXPOSED WELDS AND SURFACES SMOOTH AND BLENDED.
   - d. FASTENING TO IN-PLACE CONSTRUCTION: PROVIDE ANCHORAGE DEVICES AND FASTENERS WHERE METAL FABRICATIONS ARE REQUIRED TO BE FASTENED TO IN-PLACE CONSTRUCTION.
2. ADJUSTING AND CLEANING
   - a. TOUCHUP PAINTING: IMMEDIATELY AFTER ERECTION, CLEAN FIELD WELDS, BOLTED CONNECTIONS, AND ABRADED AREAS. PAINT UNCOATED AND ABRADED AREAS WITH THE SAME MATERIAL AS USED FOR SHOP PAINTING TO COMPLY WITH SSPC-PA 1 FOR TOUCHING UP SHOP-PAINTED SURFACES.
   - b. GALVANIZED SURFACES: CLEAN FIELD WELDS, BOLTED CONNECTIONS, AND ABRADED AREAS AND REPAIR GALVANIZING TO COMPLY WITH ASTM A 780.

DIVISION 6 - WOODS AND PLASTICS

SECTION 06100 - ROUGH CARPENTRY

1.1 GENERAL
- A. SUBMITTALS: NONE REQ'D
- B. PRODUCTS

1. LUMBAR: DOC PS 20 AND APPLICABLE RULED OF GRADING AGENCIES INDICATED. IF NO GRADING AGENCY IS INDICATED, PROVIDE LUMBAR THAT COMPLIES WITH THE APPLICABLE RULES OF ANY RULES-WRITING AGENCY CERTIFIED BY THE ALSO BOARD OF REVIEW. PROVIDE LUMBAR GRADED BY AN AGENCY CERTIFIED BY THE ALSO BOARD REVIEW TO INSPECT AND GRADE LUMBAR UNDER THE RULES INDICATED.
2. USE INTERIOR TYPE A FIRE-RETARDANT-TREATED MATERIALS FOR CONCEALED BLOCKING IN WALLS, AND FRAMING FOR RAISED PLATFORMS, FOR EXPOSED ITEMS INDICATED TO RECEIVE A STAINED OR NATURAL FINISH, USE CHEMICAL FORMULATIONS THAT DO NOT BLEED THROUGH, CONTAIN COLORANTS, OR OTHERWISE ADVERSELY.
3. PROVIDE MISCELLANEOUS LUMBAR INDICATED AND LUMBAR FOR SUPPORT OR ATTACHMENT OF OTHER CONSTRUCTION, INCLUDING BLOCKING, NAILERS, GROUNDS.
4. PLYWOOD BACKING PANELS AT TELEPHONE AND ELECTRICAL EQUIPMENT BACKING PANELS: DOC PS 1, EXTERIOR, AC FIRE-RETARDANT TREATED, IN THICKNESS INDICATED OR, IF NOT INDICATED, NOT LESS THAN 3/4-INCH (19-MM) NOMINAL THICKNESS.

- C. INSTALLATION, GENERAL

1. PROVIDE BLOCKING AND FRAMING AS INDICATED AND AS REQUIRED TO SUPPORT FACING MATERIALS, FIXTURES AND SPECIALTY ITEMS.
2. PROVIDE FIRE BLOCKING IN FURRED SPACES, STUD SPACES, AND OTHER CONCEALED CAVITIES AS INDICATED AN AS REQUIRED BY CODE.

DIVISION 6 - WOODS AND PLASTICS - cont.

SECTION 06200 - FINISH CARPENTRY (CONT'D)

1.1 GENERAL
- A. SUBMITTALS:

1. SHOP DRAWINGS AND HARDWARE CATALOG CUTS OF ALL MILLWORK HARDWARE FOR REVIEW BY THE ARCHITECT IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. SHOP DRAWINGS SHALL SHOW THE DESIGN AND DIMENSIONS, AND CLEARLY INDICATE IN LARGE SCALE THE CONSTRUCTION OF THE VARIOUS COMPONENTS, REINFORCEMENTS, AND ALL OTHER PERTINENT DATA AND INFORMATION AS REQUIRED FOR CONSTRUCTION. ANY VARIATION FROM THE DRAWINGS MUST BE CLEARLY NOTED AS A VARIATION FROM THE REQUIREMENTS. FABRICATION OF MILLWORK SHALL NOT PROCEED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED BY THE ARCHITECT.
2. THREE (3) 8" X 10" SAMPLES OF ALL MILLWORK FINISHES (INCLUDING SOLID SURFACES AND METAL) FOR APPROVAL. tHE ARCHITECT SHALL RETAIN TWO (2) SAMPLES OF FINISHES FOR RECORD AND RETURN A MINIMUM OF ONE SAMPLE TO CONTRACTOR. IN CIRCUMSTANCES AS APPROPRIATE SIZE OF SAMPLES MAY BE REDUCED IF REQUESTED IN WRITING BY CONTRACTOR AND APPROVED BY ARCHITECT PRIOR TO SUBMISSION. FINISHING OF MILLWORK SHALL NOT PROCEED UNTIL SAMPLES HAVE BEEN REVIEWED.
3. THE CONTRACTOR SHALL PROVIDE THE ARCHITECT WITH ANTICIPATED DELIVERY DATE FOR ALL MILLWORK. THE CONTRACTOR SHALL CONTINUE TO MONITOR IN WRITING THE ANTICIPATED DELIVERY DATES UNTIL ALL FINISH MATERIALS HAVE BEEN RECEIVED.

- B. VERIFICATION OF EXISTING CONDITIONS:

1. BEFORE PROCEEDING WITH THE MILLWORK, THE CONTRACTOR IS TO OBTAIN FIELD MEASUREMENTS, VERIFY DIMENSIONS, AND PROVIDE SHOP DRAWINGS AND DETAILS TO ENSURE AN ACCURATE FIT. ANY VARIANCE FOUND IN THE FIELD MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO FABRICATION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE MILLWORK SUBCONTRACTOR ANY REVISIONS OR CLARIFICATIONS ISSUED BY THE ARCHITECT.
2. THE CONTRACTOR SHALL PROVIDE FIELD LAYOUT OF ALL WORK AND REPORT AND DISCREPANCIES TO THE ARCHITECT.

- C. PRODUCTS:

1. FINISH MATERIALS:
   - a. WOOD SPECIES AND CUT FOR TRANSPARENT FINISH AS INDICATED ON FINISH SCHEDULE.
   - b. WOOD SPECIES FOR OPAQUE FINISH: ANY CLOSED-GRAIN HARDWOOD.
   - c. HIGH-PRESSURE DECORATIVE LAMINATE AS INDICATED ON FINISH SCHEDULE.
2. WOOD PRODUCTS:
   - a. RECYCLED CONTENT OF MEDIUM-DENSITY FIBERBOARD AND PARTICLEBOARD: PROVIDE PRODUCTS WITH AN AVERAGE RECYCLED CONTENT SO POSTCONSUMER RECYCLED CONTENT PLUS ONE-HALF OF PRECONSUMER RECYCLED CONTENT IS NOT LESS THAN 30 PERCENT.
   - b. HARDBOARD: AHA A135.4.
   - c. MEDIUM-DENSITY FIBERBOARD: ANSI A208.2, GRADE MD, MADE WITH BINDER CONTAINING NO UREA FORMALDEHYDE.
3. CABINET HARDWARE AND ACCESSORIES
   - a. GENERAL: PROVIDE CABINET HARDWARE AND ACCESSORY MATERIALS ASSOCIATED WITH ARCHITECTURAL WOORDWORK, EXCEPT FOR ITEMS SPECIFIED IN DIVISION 8 SECTION "DOOR HARDWARE (SCHEDULED BY DESCRIBING PRODUCTS)."
   - b. FRAMELESS CONCEALED HINGES (EUROPEAN TYPE): BHMA A156.9, B01602, 170 DEGREES OF OPENING, SELF-CLOSING.
   - c. BLACK-MOUNTED PULLS: DOUG MOCKETT DP3B BLACK-MOUNTED PULLS OR APPROVED EQUAL
   - d. DRAWER SLIDES: BHMA A156.9, B05091.
     - I) STANDARD DUTY (GRADE 1, GRADE 2, AND GRADE 3): SIDE MOUNTED AND EXTENDING UNDER BOTOTM EDGE DRAWER; FULL-EXTENSION TYPE; ZINC-PLATED STEEL WITH POLYMER ROLLERS
     - II) BOX DRAWER SLIDES: GRADE 1; FOR DRAWERS NOT MORE THAN 6 INCHES (150 MM) HIGH AND 24 INCHES (600 MM) WIDE.
     - III) PENCIL DRAWER SLIDES: GRADE 1; FOR DRAWERS NOT MORE THAN 3 INCHES (75 MM) HIGH AND 24 INCHES (600 MM) WIDE.
   - e. DOOR LOCKS: BHMA A156.11, E07121.
   - f. DRAWER LOCKS: BHMA A156.11, E07041.
   - g. EXPOSED HARDWARE FINISHES: BRIGHT CHROMIUM PLATED (BHMA 625 OR BHMA 651) UNLESS NOTED OTHERWISE ON DRAWINGS.

- D. EXECUTION OF THE WORK:

1. THE METHOD MANUFACTURING, FABRICATING AND INSTALLING MILLWORK AND EQUIPMENT AND IT'S STRUCTURAL COMPONENTS DEFINED IN THE CONTRACT DOCUMENTS IS REPRESENTATIVE AND INDICATES DESIGN INTENT ONLY. IF THE MATERIALS, DETAILS OR DIMENSIONAL PROPERTIES ARE AT A VARIANCE WITH THE CONTRACTOR'S OR MANUFACTURER'S RECOMMENDATIONS, ALTERNATE DETAILS WILL BE CONSIDERED FOR REVIEW WHEN SHOP DRAWINGS ARE SUBMITTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO GUARANTEE THAT THE MILLWORK AND EQUIPMENT WILL HAVE PROPER SUPPORT, STABILITY, AND FAULT-FREE PERFORMANCE. ALL WORK SHALL CONFORM TO ARCHITECTURAL WOODWORK INSTITUTE (AWI) STANDARDS FOR PREMIUM CONSTRUCTION.
2. IT IS THE INTENT OF THE ARCHITECT THAT THEIR HARDWARE REPRESENT THE HIGHEST QUALITY AND LASTING DURABILITY FOR IT'S SPECIFIC FUNCTION. IF, THE THE OPINION OF THE CONTRACTOR, THE HARDWARE INDICATED ON THE DRAWINGS DOES NOT REPRESENT THE ABOVE-STATED INTENT, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IN WRITING WITH STATED REASONS AND PROPOSED SUBSTITUTIONS.
3. MILLWORK INDICATED TO HAVE TRANSPARENT FINISHES SHALL BE CONSTRUCTED ACCORDING TO AWI STANDARDS FOR PREMIUM GRADE CONSTRUCTION.
4. MILLWORK COVERED IN WOOD VENEER OR PLASTIC LAMINATE SHALL BE FABRICATED AND ASSEMBLED BY SKILLED WORKMEN TO THE COMPLETE SATISFACTION OF THE ARCHITECT. REINFORCING AS REQUIRED TO ENSURE A RIGID AND SECURE ASSEMBLY SHALL BE PROVIDED, EVEN IF NOT DETAILED ON THE DRAWINGS. EXPOSED SURFACES SHALL BE FREE FROM DENTS, TOOL MARKS, WARPAGE, BUCKLE, GLUE AND OPEN JOINTS. ALL JOINT CORNERS AND MITER CONNECTIONS SHALL BE MADE TIGHTLY SO THAT THE THREADS ARE ENTIRELY CONCEALED. ALL EXPOSED LAMINATE JOINTS SHALL BE SHOWN ON SHOP DRAWINGS AND REVIEWED BY THE ARCHITECT.
5. FOR MILLWORK INDICATING PLASTIC LAMINATE EXTERIOR FINISHED SURFACES, PROVIDE GREY MELAMINE AS THE INTERIOR CABINET AND DRAWER SURFACE FINISH (UNLESS OTHERWISE NOTED IN THE DRAWINGS AND DETAILS).
6. INSTALL MILLWORK TO BE PLUMB, LEVEL, TRUE AND STRAIGHT WITH NO DISTORTIONS. SHIM AS REQUIRED USING CONCEALED SHIMS.
7. SCRIBE AND CUT WORK TO FIT ADJOINING WORK AND REFINISH CUT SURFACES OR REPAIR DAMAGED FINISH AT CUTS. PROVIDE CLEAR SEALANT AT ALL JOINTS.
8. ANCHOR MILLWORK TO BUILT-IN BLOCKING OR DIRECTLY ATTACH TO SUBSTRATE. SECURE TO GROUNDS, STRAPPING AND BLOCKING WITH COUNTER-SUNK, CONCEALED FASTENERS AND BLIND NAILING AS REQUIRED FOR A COMPLETE INSTALLATIONS.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING CERTAIN THAT MILLWORK ITEMS ARE NOT DELIVERED UNITL AREAS ARE SUFFICIENTLY DRY SO THAT THE MILLWORK WILL NOT BE DAMAGED BY EXCESSIVE CHANGES IN MOISTURE CONTENT. ALL DELIVERED UNITS SHALL MATCH THE FINAL APPROVED SHOP DRAWINGS AND SAMPLES. UNITS WHICH ARE MARRED, CHIPPED OR OTHERWISE DAMAGED SHALL BE REPAIRED OR REPLACED AS DETERMINED BY THE ARCHITECT. UNITS SHALL BE PROTECTED DURING SHIPMENT AND INSTALLATION. AFTER INSTALLATION OF UNITS IN THEIR PROPER LOCATION, ALL PROTECTION SHALL BE REMOVED AND ALL SURFACES THOROUGHLY CLEANED TO THE COMPLETE SATISFACTION OF THE ARCHITECT. SURFACES SHALL THEN BE RECOVERED AND PROTECTED.
10. REPAIR OR REPLACE DAMAGED OR DEFECTIVE MILLWORK WHEREVER DEEMED NECESSARY. IF MILLWORK CANNOT BE ADEQUATELY REPAIRED, IT SHALL BE REPLACED TO THE SATISFACTION OF THE ARCHITECT.
11. ALL STANDING AND RUNNING TRIM PIECES SHALL BE PLAIN SAWN HARDWOOD GRADE I LUMBER TO MEET AWI REQUIREMENTS FOR PREMIUM GRADE.

SECTION 062013 - EXTERIOR FINISH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
- A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY
- A. SECTION INCLUDES:

1. EXTERIOR DECKING.

- B. RELATED REQUIREMENTS:

1. SECTION 055000 "METAL FABRICATIONS" FOR METAL SUPPORTS OF EXTERIOR BENCH SLATS.
2. SECTION 064013 "EXTERIOR ARCHITECTURAL WOODWORK" FOR EXTERIOR WOOD VENEER COMPOSITE PANEL ASSEMBLIES.

1.3 ACTION SUBMITTALS
- A. PRODUCT DATA: FOR EACH TYPE OF PROCESS AND FACTORY-FABRICATED PRODUCT. INDICATE COMPONENT MATERIALS, DIMENSIONS, PROFILES, TEXTURES, AND COLORS AND INCLUDE CONSTRUCTION AND APPLICATION DETAILS.

1. INCLUDE DATA FOR WOOD-PRESERVATIVE TREATMENT FROM CHEMICAL-TREATMENT MANUFACTURER AND CERTIFICATION BY TREATING PLANT THAT TREATED MATERIALS COMPLY WITH REQUIREMENTS. INDICATE TYPE OF PRESERVATIVE USED AND NET AMOUNT PF PRESERVATIVE RETAINED. INCLUDE CHEMICAL-TREATMENT MANUFACTURER'S WRITTEN INSTRUCTIONS FOR FINISHING TREATED MATERIAL.

DIVISION 6 - WOODS AND PLASTICS - cont.

SECTION 062013 - EXTERIOR FINISH AND CARPENTRY (CONT'D)

2. FOR PRODUCTS RECEIVING A WATERBORNE TREATMENT, INCLUDE STATEMENT THAT MOISTURE CONTENT OF TREATED MATERIALS REDUCED BEFORE SHIPMENT TO PROJECT SITE TO LEVELS SPECIFIED.
3. INCLUDE COPIES OF WARRANTIES FROM CHEMICAL-TREATMENT MANUFACTURERS FOR EACH TYPE OF TREATMENT.

- B. SAMPLES FOR INITIAL SELECTION: FOR EACH TYPE OF PRODUCT INVOLVING SELECTION OF COLORS, PROFILES, OR TEXTURES.
- C. SAMPLES FOR VERIFICATION:

1. FOR EACH SPECIES AND CUT OF LUMBER AND PANEL PRODUCTS, WITH 1/2 OF EXPOSED SURFACE FINISHED; 50 SQ. IN. FOR LUMBER AND 8 BY 10 INCHES FOR PANELS.

1.4 INFORMATIONAL SUBMITTALS
- A. COMPLIANCE CERTIFICATES:

1. FOR LUMBER THAT IS NOT MARKED WITH GRADE STAMP.
2. FOR PRESERVATIVE-TREATED WOOD THAT IS NOT MARKED WITH TREATMENT-QUALITY MARK.

- B. EVALUATION REPORTS: FOR THE FOLLOWING, FROM ICC-ES:

1.5 DELIVERY, STORAGE, AND HANDLING
- A. STACK LUMBER, PLYWOOD, AND OTHER PANELS FLAT WITH SPACERS BETWEEN EACH BUNDLE TO PROVIDE AIR CALCULATION. PROTECT MATERIALS FROM WEATHER BY COVERING WITH WATERPROOF SHEETING ANCHORED. PROVIDE THE AR CIRCULATION AROUND STACKS AND UNDER COVERINGS

1.6 FIELD CONDITIONS
- A. WEATHER LIMITATIONS: PROCEED WITH INSTALLATION ONLY WHEN EXISTING AND FORECAST WEATHER CONDITIONS PERMIT WORK TO BE PERFORMED AND AT LEAST ONE COAT PF SPECIFIED FINISH CAN BE APPLIED WITHOUT EXPOSURE TO RAIN, SNOW, OR DAMPNESS.
- B. DO NOT INSTALL FINISH CARPENTRY MATERIALS THAT ARE WET, MOISTURE DAMAGED, OR MOLD DAMAGED.

1. INDICATIONS THAT MATERIALS ARE WET OR MOISTURE DAMAGED INCLUDE, BUT ARE NOT LIMITED TO, DISCOLORATION, SAGGING, OR IRREGULAR SHAPE.
2. INDICATIONS THAT MATERIALS ARE MOLD DAMAGED INCLUDE, BUT ARE NOT LIMITED TO, FUZZY OR SPLOTCHY SURFACE CONTAMINATION AND DISCOLORATION.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL
- A. LUMBER: DOC PS 20.
- B. FACTORY MARK EACH PIECE OF LUMBER WITH GRADE STAMP OF INSPECTION AGENCY INDICATING GRADE, SPECIES, MOISTURE CONTENT AT TIME OF SURFACING, AND MILL.

1. FOR EXPOSED LUMBER, MARK GRADE STAMP ON BACK OF EACH PIECE, OR OMIT GRADE STAMP AND PROVIDE CERTIFICATIONS OF GRADE COMPLIANCE ISSUED BY INSPECTION AGENCY.

2.2 DECKING
- A. LUMBER OF UNFINISHED APPLICATIONS:

1. SPECIES AND GRADE: IPE (TABEBUIA SPP.), HEARTWOOD, S-DRY OR KD, SELECT.
2. MOISTURE CONTENT: 12 PERCENT
3. DRESSING: DRY.
4. FINGER JOINTING: NOT ALLOWED.
5. FACE SURFACE: SURFACED (SMOOTH).

2.3 MISCELLANEOUS MATERIALS
- A. FASTENERS FOR BENCH SLATS: PROVIDE STAINLESS STEEL, HEX

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

SECTION 071416 - COLD FLUID-APPLIED WATERPROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT =, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY
B. SECTION INCLUDES:
1. SINGLE-COMPONENT POLYURETHANE WATERPROOFING.

1.3 PERFORMANCE REQUIREMENTS
C. PROVIDE WATERPROOFING MEMBRANE ASSEMBLY THAT PREVENTS THE PASSAGE OF WATER.

1.4 ACTION SUBMITTALS
D. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED. INCLUDE MANUFACTURER'S WRITTEN INSTRUCTIONS FOR EVALUATING, PREPARING, AND TREATING SUBSTRATE, TECHNICAL DATA, AND TESTED PHYSICAL AND PERFORMANCE PROPERTIES OF WATERPROOFING.
B. SHOP DRAWINGS: SHOW LOCATIONS AND EXTENT OF WATERPROFFING, INSULATION AND DRAINAGE PANEL. INCLUDE DETAILS FOR SUBSTRATE JOINTS AND CRACKS, SHEET FLASHINGS, PENETRATIONS, INSIDE AND OUTSIDE CORNERS, TIE-INS WITH ADJOINING WATERPROOFING, FLASHINGS AND OTHER TERMINATION CONDITIONS.
1. INCLUDE SETTING DRAWINGS SHOWING LAYOUT, SIZES, SECTIONS, PROFILES, AND JOINT DETAILS OF PEDESTAL-SUPPORTED CONCRETE PAVERS.
2. SHOW INSTALLATION DETAILS FOR TERMINATION CONDITIONS AT GRADE AND AT OTHER BARRIER ASSEMBLIES AND WATERPROOFING SYSTEMS.
C. SAMPLES: FOR THE FOLLOWING PRODUCTS:
1. FLASHING SHEET, 10 BY 8 INCHES.

1.5 INFORMATIONAL SUBMITTALS
D. QUALIFICATION DATA: FOR INSTALLER.
B. PRODUCT TEST REPORTS: FOR WATERPROOFING, BASED ON EVALUATION OF COMPREHENSIVE TESTS BY A QUALIFIES TESTING AGENCY.
C. FIELD QUALITYOCONTROL REPORTS.
D. WARRANTY: SAMPLE OF SPECIAL WARRANTY.

1.6 QUALITY ASSURANCE
E. INSTALLER QUALIFICATIONS: A FIRM THAT IS ACCEPTABLE TO WATERPROOFING MANUFACTURER FOR INSTALLATION OF WATERPROOFING REQUIRED FOR THIS PROJECT.

1.7 DELIVERY, STORAGE, AND HANDLING
F. DELIVER LIQUID MATERIALS TO PROJECT SITE IN ORIGINAL CONTAINERS WITH SEALS UNBROKEN, LABELED WITH MANUFACTURER'S NAME, PRODUCT BRAND NAME AND TYPE, DATE OF MANUFACTURE, SHELF LIFE, AND DIRECTIONS FOR STORING AND MIXING WITH OTHER COMPONENTS.
B. STORE LIQUID IN THEIR ORIGINAL UNDAMAGED CONTAINERS IN A CLEAN, DRY, PROTECTED LOCATION AND WITHIN THE TEMPERATURE RANGE REQUIRED BY WATERPROOFING MANUFACTURER.
C. REMOVE AND REPLACE LIQUID MATERIALS THAT CANNOT BE APPLIED WITHIN THEIR STATED SHELF LIFE.
D. PROTECT STORED MATERIALS FORM DIRECT SUNLIGHT.

1.8 PROJECT CONDITIONS
E. ENVIRONMENTAL LIMITATIONS: APPLY WATERPROOFING WITHIN THE RANGE OF AMBIENT AND SUBSTRATE TEMPERATURES RECOMMENDED BY WATERPROOFING MANUFACTURER. DO NOT APPLY WATERPROOFING TO A DAMP OR WET SUBSTRATE, WHEN RELATIVE HUMIDITY EXCEEDS 85 PERCENT, OR WHEN TEMPERATURES ARE LESS THAN 5 DEG F ABOVE DEW POINT.
1. DO NOT APPLY WATERPROOFING IN SNOW, RAIN, FOG, OR MIST, OR WHEN SUCH WEATHER CONDITIONS ARE IMMINENT DURING APPLICATION AND CURING PERIOD.
F. MAINTAIN ADEQUATE VENTILATION DURING APPLICATION AND CURING OF WATERPROOFING MATERIALS.

PART 2 - PRODUCTS

2.1 WATERPROOFING MATERIALS, GENERAL
G. PROVIDE WATERPROOFING MATERIALS RECOMMENDED BY MANUFACTURER TO BE COMPATIBLE WITH ONE ANOTHER AND ABLE TO DEVELOP BOND TO SUBSTRATE UNDER CONDITIONS OF SERVICE AND APPLICATION, AS DEMONSTRATED BY WATERPROOFING MANUFACTURER BASED ON TESTING AND FIELD EXPERIENCE.
1. PRODUCE WATERPROOFING MATERIALS SUITABLE FOR APPLICATION TO VERTICAL, HORIZONTAL, AND SLOPED SUBSTANCES, AS APPLICABLE.
2. PROVIDE WATERPROOFING MATERIALS WITH NOT LESS THAN 40 PERCENT SOLIDS.

2.2 SINGLE-COMPONENT POLYURETHANE WATERPROOFING
D. SINGLE-COMPONENT, MODIFIED POLYURETHANE WATERPROOFING: COMPLY WITH ASTM C 836 AND WITH MANUFACTURER'S WRITTEN PHYSICAL REQUIREMENTS.
1. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS AVAILABLE PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
a. CARLISLE COATINGS & WATERPROOFING INC.; CCW-525.
b. CETCO; LDC 60
c. TREMCO INCORPORATED; TREMPROOF 60.

2.3 AUXILIARY MATERIALS
E. GENERAL: PROVIDE AUXILIARY MATERIALS RECOMMENDED BY MANUFACTURER TO BE COMPATIBLE WITH ONE ANOTHER AND WITH WATERPROOFING, AS DEMONSTRATED BY WATERPROOFING MANUFACTURER, BASED ON TESTING AND FIELD EXPERIENCE.
B. PRIMER: MANUFACTURER'S STANDARD, FACTORY-FORMULATED POLYURETHANE OR EPOXY PRIMER.
C. SHEET FLASHING: 50-MIL-MINIMUM, NONSTAINING, UNCURED SHEET NEOPRENE.
1. ADHESIVE: MANUFACTURER'S STANDARD, FACTORY-FORMULATED POLYURETHANE OR EPOXY PRIMER.
D. JOINT REINFORCING STRIP: MANUFACTURER'S RECOMMENDED FIBERGLASS MESH OR POLYESTER FABRIC.
E. JOINT SEALANT: MULTICOMPONENT POLYURETHANE SEALANT, COMPATIBLE WITH WATERPROOFING WITH WATERPROOFING, COMPLYING WITH ASTM C 920 TYPE M, CLASS 25; GRADE NS FOR SLOPING AND VERTICAL APPLICATIONS OR GRADE P FOR DECK APPLICATIONS; USE NT EXPOSURE; AND AS RECOMMENDED BY MANUFACTURER FOR SUBSTRATE AND JOINT CONDITIONS.
1. BACKER ROD: CLOSED-CELL POLYETHYLENE FOAM.

2.4 PROTECTION COURSE
F. PROTECTION COURSE: ASTM D 6506, SEMIRIGID SHEETS OF FIBERGLASS OR MINERAL-REINFORCED-ASPHALTIC CORE, PRESSURE LAMINATED BETWEEN TWO ASPHALT-SATURATED FIBROUS LINERS AND AS FOLLOWS:
1. THICKNESS: 1/8 INCH, NOMINAL, FOR VERTICAL APPLICATIONS; 1/4 INCH, NOMINAL, ELSEWHERE.
2. ADHESIVE: RUBBER-BASED SOLVENT TYPE RECOMMENDED BY WATERPROOFING MANUFACTURER FOR TYPE OF PROTECTION COURSE.

PART 3 - EXECUTION

3.1 SURFACE PREPARATION
G. CLEAN AND PREPARE SUBSTRATE ACCORDING TO MANUFACTURER'S WRITTEN RECOMMENDATIONS. PROVIDE CLEAN, DUST-FREE, AND DRY SUBSTRATE FOR WATERPROOFING APPLICATION.
B. MASK OFF ADJOINING SURFACES NOT RECEIVING WATERPROOFING TO PREVENT SPILLAGE OR OVERSPRAY AFFECTING OTHER CONSTRUCTION.
C. CLOSE OFF DECK DRAINS AND OTHER DECK PENETRATIONS TO PREVENT SPILLAGE AND MIGRATION OF WATERPROOFING FLUIDS.
D. REMOVE GREASE, OIL, BITUMEN, FORM-RELEASE AGENTS, PAINTS, CURING COMPOUNDS, ACID RESIDUES, AND OTHER PENETRATING CONTAMINANTS OR FILM-FORMING COATINGS FROM CONCRETE.
E. REMOVE FINS, RIDGES, AND OTHER PROJECTIONS AND FILL HONEYCOMB, AGGREGATE POCKETS, AND OTHER VOIDS.

3.2 PREPARATION AT TERMINATIONS AND PENETRATIONS
F. PREPARE VERTICAL AND HORIZONTAL SURFACES AT TERMINATIONS AND PENETRATIONS THROUGH WATERPROOFING AND AT EXPANSION JOINTS, DRAINS, AND SLEEVES ACCORDING TO ASTM C 898, ASTM C 1471 AND MANUFACTURER'S WRITTEN INSTRUCTIONS.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION cont.

SECTION 071416 - COLD FLUID-APPLIED WATERPROOFING (CONT'D)

B. PRIME SUBSTRATE UNLESS OTHERWISE INSTRUCTED BY WATERPROOFING MANUFACTURER.
C. APPLY WHEN WATERPROOFING IN TWO SEPARATE APPLICATIONS, EMBED A JOINT REINFORCING STRIP IN THE FIRST PREPARATION COAT WHEN RECOMMENDED BY WATERPROOFING MANUFACTURER.
1. PROVIDE SEALANT CANTS AROUND PENETRATIONS AND AT INSIDE CORNERS OF DECK-TO-WALL BUTT JOINTS WHEN RECOMMENDED BY WATERPROOFING MANUFACTURER.

3.3 JOINT AND CRACK TREATMENT
D. PREPARE, TREAT, ROUT, AND FILL JOINTS AND CRACKS IN SUBSTRATE ACCORDING TO ASTM C 898, ASTM C 1471 AND WATERPROOFING MANUFACTURER'S WRITTEN INSTRUCTIONS. REMOVE DUST AND DIRT FROM JOINTS AND CRACKS, COMPLYING WITH ASTM D 4258, BEFORE COATING SURFACES.
1. COMPLY WITH ASTM C 1193 FOR JOINT-SEALANT INSTALLATION.
2. APPLY BOND BREAKER BETWEEN SEALANT AND PREPARATION STRIP.
3. PRIME SUBSTRATE AND APPLY A SINGLE THICKNESS OF PREPARATION STRIP EXTENDING A MINIMUM OF 3 INCHES ALONG EACH SIDE OF JOINT. APPLY WATERPROOFING IN TWO SEPARATE APPLICATIONS AND EMBED A JOINT REINFORCING STRIP IN THE FIRST PREPARATION COAT.
B. INSTALL SHEET FLASHING AND BOND TO DECK AND WALL SUBSTRATES WHERE INDICATED OR REQUIRED ACCORDING TO WATERPROOFING MANUFACTURER'S WRITTEN INSTRUCTIONS.
1. EXTEND SHEET FLASHING ONTO PERPENDICULAR SURFACES AND OTHER WORK PENETRATING SUBSTRATE ACCORDING TO ASTM C 898.

3.4 WATERPROOFING APPLICATION
A. APPLY WATERPROOFING ACCORDING TO ASTM C 898, ASTEM C 1471 AND MANUFACTURER'S WRITTEN INSTRUCTIONS .
B. APPLY PRIMER OVER PREPARED SUBSTRATE.
C. UNREINFORCED WATERPROOFING APPLICATIONS: MIX MATERIALS AND APPLY WATERPROOFING BY SPRAY, ROLLER, NOTCHED, SQUEEGEE, TOWEL, OR OTHER APPLICATION METHOD SUITABLE TO SLOPE OF SUBSTRATE.
1. APPLY ONE OR MORE COATS OF WATERPROOFING TO OBTAIN A SEAMLESS MEMBRANE FREE OF ENTRAPPED GASES, WITH AN AVERAGE DRY FILM THICKNESS OF 60 MILS AND A MINIMUM DRY FILM THICKNESS OF 50 MILS AT ANY POINT.
2. APPLY WATERPROOFING TO PREPARED WALL TERMINATIONS AND VERTICAL SURFACES.
D. INSTALL PROTECTION COURSE WITH BUTTED JOINTS OVER NOMINALLY CURED MEMBRANE BEFORE STARTING SUBSEQUENT CONSTRUCTION OPERATIONS.

3.5 CURING, PROTECTION, AND CEILING
A. CURE WATERPROOFING ACCORDING TO MANUFACTURER'S WRITTEN RECOMMENDATIONS, TAKING CARE TO PREVENT CONTAMINATION AND DAMAGE DURING APPLICATION STAGES AND CURING.
3. DO NOT PERMIT FOOT OR VEHICULAR TRAFFIC ON UNPROTECTED MEMBRANE.
B. PROTECT WATERPROOFING FROM DAMAGE AND WEAR DURING REMAINDER OF CONSTRUCTION PERIOD.
C. CLEAN SPILLAGE AND SOILING FROM ADJACENT CONSTRUCTION USING CLEARING AGENTS AND PROCEDURES RECOMMENDED BY MANUFACTURER OF AFFECTED CONSTRUCTION.

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY
A. SECTION INCLUDES:
1. SILICONE JOINT SEALANTS.
2. URETHANE JOINT SEALANTS.

1.3 PRECONSTRUCTION TESTING
A. PRECONSTRUCTION FIELD ADHESION TESTING: BEFORE INSTALLING SEALANTS, FIELD TEST THEIR ADHESION TO PROJECT JOINT SUBSTRATES AS FOLLOWS:
1. LOCATE TEST JOINTS WHERE INDICATED ON PROJECT OR, IF NOT INDICATED , AS DIRECTED BY ARCHITECT.
2. CONDUCT FIELD TESTS FOR EACH APPLICATION INDICATED BELOW:
a. EACH KIND OF SEALANT AND JOINT SUBSTRATE INDICATED.
3. NOTIFY ARCHITECT THREE DAYS IN ADVANCE OF DATES AND TIMES WHEN TEST JOINTS WILL BE ERECTED.
a. TEST METHOD: TEST JOINT SEALANTS ACCORDING TO METHOD A, FIELD-APPLIED SEALANT JOINT HAND PULL TAB, IN APPENDIX X1 IN ASTM C 1193 OR METHOD A, TAIL PROCEDURE, IN ASTM C 1521..
1) FOR JOINTS WITH DISSIMILAR SUBSTRATES, VERIFY ADHESION TO EACH SUBSTRATE SEPARATELY; EXTEND CUT ALONG ONE SIDE, VERIFYING ADHESION TO OPPOSITE SIDE. REPEAT PROCEDURE FOR OPPOSITE SIDE.
4. REPORT WHETHER SEALANT FAILED TO ADHERE TO JOINT SUBSTRATES OR TORE COHESIVELY. INCLUDE DATA ON PULL DISTANCE USED TO TEST EACH KIND OF PRODUCT AND JOINT SUBSTRATE. FOR SEALANTS THAT FAIL ADHESIVELY, RETEST UNTIL SATISFACTORY ADHESION IS OBTAINED.
5. EVALUATION OF PRECONSTRUCTION FIELD-ADHESION-TEST RESULTS: SEALANTS NOT EVIDENCING ADHESIVE FAILURE FROM TESTING, IN ABSENCE OF OTHER INDICATIONS OF NONCOMPLIANCE WITH REQUIREMENTS, WILL BE CONSIDERED SATISFACTORY. DO NOT USE SEALANTS THAT FAIL TO ADHERE TO JOINT SUBSTRATES DURING TESTING.

1.4 ACTION SUBMITTALS
A. PRODUCT DATE: FOR EACH JOINT-SEALANT PRODUCT INDICATED.
B. SAMPLES FOR INITIAL SELECTION: MANUFACTURER'S COLOR CHARTS CONSISTING OF STRIPS OF CURED SEALANTS SHOWING THE FULL RANGE OF COLORS AVAILABLE FOR EACH PRODUCT EXPOSED TO LAW.
C. SAMPLES FOR VERIFICATION: FOR EACH KIND AND COLOR OF JOINT SEALANT REQUIRED, PROVIDE SAMPLES WITH JOINT SEALANTS IN 1/2-INCH-WIDE JOINTS FORMED BETWEEN TWO 6-INCH-LONG STRIPS OF MATERIAL MATCHING THE APPEARANCE OF EXPOSED SURFACES ADJACENT TO JOINT SEALANTS.
D. JOINT-SEALANT SCHEDULE: INCLUDE THE FOLLOWING INFORMATION:
1. JOINT-SEALANT APPLICATION, JOINT LOCATION, AND DESIGNATION.
2. JOINT-SEALANT MANUFACTURER AND PRODUCT NAME.
3. JOINT-SEALANT FORMULATION.
4. JOINT-SEALANT COLOR.

1.5 INFORMATIONAL SUBMITTALS
A. QUALIFICATION DATA: FOR QUALIFIED INSTALLER.
B. PRODUCT CLASSIFICATION: FOR EACH KIND OF JOINT SEALANT AND ACCESSORY, FROM MANUFACTURER.
C. PRODUCT TEST REPORTS: BASED ON EVALUATION OF COMPREHENSIVE TESTS PERFORMED BY A QUALIFIED TESTING AGENCY, INDICATING THAT THE SEALANTS COMPLY WITH REQUIREMENTS.
D. PRECONSTRUCTION FIELD-ADHESION TEST REPORTS: INDICATE WHICH SEALANTS AND JOINT PREPARATION METHODS RESULTED IN OPTIMUM ADHESION TO JOINT SUBSTRATES BASED ON TESTING SPECIFIED IN "PRECONSTRUCTION TESTING" ARTICLE.
E. FIELD-ADHESION TEST REPORTS: FOR EACH SEALANT APPLICATION TESTED.

1.6 QUALITY ASSURANCE
A. INSTALLER QUALIFICATIONS: MANUFACTURER'S AUTHORIZED REPRESENTATIVE WHO IS TRAINED AND APPROVED FOR INSTALLATION OF UNITS REQUIRED FOR THIS PROJECT.
B. SOURCE LIMITATIONS: OBTAIN EACH KIND OF JOINT SEALANT FROM SINGLE SOURCE FROM SINGLE MANUFACTURER.
C. MOCKUPS: INSTALL SEALANT IN MOCKUPS OF ASSEMBLIES SPECIFIED IN OTHER SECTIONS THAT ARE INDICATED TO RECEIVE JOINT SEALANTS SPECIFIED IN THIS SOLUTION. USE MATERIALS AND INSTALLATION METHODS SPECIFIED IN THIS SECTION.

1.7 PROJECT CONDITIONS
A. DO NOT PROCEED WITH INSTALLATION OF JOINT SEALANTS UNDER THE FOLLOWING CONDITIONS:
1. WHEN AMBIENT AND SUBSTRATE TEMPERATURE CONDITIONS ARE OUTSIDE LIMITS PERMITTED BY JOINT-SEALANT MANUFACTURER OR ARE BELOW 40 DEGREE F.
2. WHEN JOINT SUBSTRATES ARE WET.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION cont.

SECTION 079200 - JOINT SEALANTS (CONT'D)

3. WHERE JOINT WIDTHS ARE LESS THAN THOSE ALLOWED BY JOINT-SEALANT MANUFACTURER FOR APPLICATIONS INDICATED.
4. WHERE CONTAMINANTS CAPABLE OF INTERFERING WITH ADHESION HAVE NOT YET BEEN REMOVED FROM JOINT SUBSTANCES .

2.1 MATERIALS, GENERAL
A. COMPATIBILITY: PROVIDE JOINT SEALANTS, BACKINGS, AND OTHER RELATED MATERIALS THAT ARE COMPATIBLE WITH ONE ANOTHER AND WITH JOINT SUBSTRATES UNDER CONDITIONS OF SERVICE AND APPLICATION, AS DEMONSTRATED BY JOINT-SEALANT MANUFACTURER, BASED ON TESTING AND FIELD EXPERIENCE.
B. STAIN-TEST-RESPONSE CHARACTERISTICS: WHERE SEALANTS ARE SPECIFIED TO BE NONSTAINING TO PORPUS SUBSTRATES INDICATED FOR PROJECT.
C. COLORS OF EXPOSED JOINT SEALANTS: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE, FOR EACH APPLICATION AND SUBSTRATE.

2.2 SILICONE JOINT SEALANTS
A. SINGLE-COMPONENT, NONSAG, NON-STAINING, NEUTRAL-CURING SILICONE JOINT SEALANT: ASTM C 920, TYPE S, GRADE NS, CLASS 50, FOR USE NT.
1. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
a. DOW CORNING CORPORATION; 795.
b. GE SEALANTS; SILPRUF NB SCS9000.
c. PECORA CORPORATION; 895 NST.
d. TREMCO, SPECTRUM 3.

2.3 URETHANE JOINT SEALANTS
A. SINGLE-COMPONENT, POURABLE, TRAFFIC-GRADE, URETHANE JOINT SEALANT: ASTM C 920, TYPE S, GRADE P, CLASS 25, FOR USE T.
1. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
a. PECORA CORPORATION; OREXPAN NR-201.
b. TREMCO INCORPORATED; VULKEM 45.

2.4 JOINT SEALANT BACKING
A. GENERAL: PROVIDE SEALANT BACKINGS OF MATERIAL THAT ARE NONSTAINING; ARE COMPATIBLE WITH JOINT SUBSTANCES, SEALANTS, PRIMERS, AND OTHER JOINT FILLERS; AND ARE APPROVED FOR APPLICATIONS INDICATED BY SEALANT MANUFACTURER BASED ON FIELD EXPERIENCE AND LABORATORY TESTING.
B. CYLINDRICAL SEALANT BACKINGS: ASTM C 1330, TYPE C (CLOSED-CELL MATERIAL WITH A SURFACE SKIN), AND OF SIZE AND DENSITY TO CONTROL SEALANT DEPTH AND OTHERWISE CONTRIBUTE TO PRODUCING OPTIMUM SEALANT PERFORMANCE.
C. CORK JOINT FILLER: RESILIENT AND NONEXTRUDING, ASTM D1752, TYPE II AND AASHTO M 153, TYPE II.

PART 3 - EXECUTION

3.1 EXAMINATION
A. EXAMIINE JOINTS INDICATED TO RECEIVE JOINT SEALANTS, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR JOINT CONFIGURATION, INSTALLATION TOLERANCES, AND OTHER CONDITIONS AFFECTING JOINT-SEALANT PERFORMANCE.
B. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

3.2 PREPARATION
A. SURFACE CLEANING OF JOINTS: CLEAN OUT JOINTS IMMEDIATELY BEFORE INSTALLING JOINT SEALANTS TO COMPLY WITH JOINT-SEALANT MANUFACTURER'S WRITTEN INSTRUCTIONS AND THE FOLLOWING REQUIREMENTS:
1. REMOVE ALL FOREIGN MATERIAL FROM JOINT SUBSTANCES THAT COULD INTERFERE WITH ADHESION OF JOINT SEALANT, INCLUDING DUST, PAINTS (EXCEPT FOR PERMANENT, PROTECTIVE COATINGS TESTED AND APPROVED FOR SEALANT ADHESION AND COMPATIBILITY BY SEALANT MANUFACTURER), OLD JOINT SEALANTS, OIL, GREASE, WATERPROOFING, WATER REPELLENTS, WATER, SURFACE DIRT, AND FROST.
2. CLEAN POROUS JOINT SUBSTRATE SURFACES BY BRUSHING, GRINDING, MECHANICAL ABRADING, OR A COMBINATION OF THESE METHODS TO PRODUCE A CLEAN, SOUND SUBSTRATE CAPABLE OF DEVELOPING OPTIMUM BOND WITH JOINT SEALANTS. REMOVE LOOSE PARTICLES REMAINING AFTER CLEANING OPERATIONS ABOVE BY VACUUMING OR BLOWING OUT JOINTS WITH OIL-FREE COMPRESSED AIR. POROUS JOINT SUBSTRATES INCLUDE THE FOLLOWING:
a. CONCRETE
b. MASONRY
3. REMOVE LAITANCE AND FORM-RELEASE AGENTS FROM CONCRETE.
4. CLEAN NONPOROUS JOINT SUBSTRATE SURFACES WITH CHEMICAL CLEANERS OR OTHER MEANS THAT DO NOT STAIN, HARM SUBSTRATES, OR LEAVE RESIDUES CAPABLE OF INTERFERING WITH ADHESION OF JOINT SEALANTS. NONPOROUS JOINT SUBSTRATES INCLUDE THE FOLLOWING:
c. METAL.
B. JOINT PRIMING: PRIME JOINT SUBSTANCES WHERE RECOMMENDED BY JOINT-SEALANT MANUFACTURER OR AS INDICATED BY PRECONSTRUCTION JOINT-SEALANT-SUBSTRATE TESTS OR PRIOR EXPERIENCE. APPLY PRIMER TO COMPLY WITH JOINT-SEALANT MANUFACTURER'S WRITTEN INSTRUCTIONS. CONFINE PRIMERS TO AREAS OF JOINT-SEALANT BOND; DO NOT ALLOW SPILLAGE MIGRATION ONTO ADJOINING SURFACES.
C. MASKING TAPE: USE MASKING TAPE WHERE REQUIRED TO PREVENT CONTRACT OF SEALANT OR PRIMER WITH ADJOINING SURFACES THAT OTHERWISE WOULD BE PERMANENTLY STAINED OR DAMAGED BY SUCH CONTRACT OR BY CLEARING METHODS REQUIRED TO REMOVE SEALANT SMEARS. REMOVE TAPE IMMEDIATELY AFTER TOOLING WITHOUT DISTURBING JOINT SEAL.

3.3 INSTALLATION OF JOINT SEALANTS
A. GENERAL: COMPLY WITH JOINT-SEALANT MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS FOR PRODUCTS AND APPLICATIONS INDICATED, UNLESS MORE STRINGENT REQUIREMENTS APPLY.
B. SEALANT INSTALLATION STANDARD: COMPLY WITH RECOMMENDATIONS IN ASTM C 1193 FOR USE OF JOINT SEALANTS AS APPLICABLE TO MATERIALS, APPLICATIONS, AND CONDITIONS INDICATED.
C. INSTALL SEALANT BACKINGS OF KIND INDICATED TO SUPPORT SEALANTS DURING APPLICATION AND AT POSITION REQUIRED TO PRODUCE CROSS-SECTIONAL SHAPES OF INSTALLED SEALANTS RELATIVE TO JOINT WIDTHS THAT ALLOW OPTIMUM SEALANT MOVEMENT CAPABILITY.
1. DO NOT LEAVE GAPS BETWEEN ENDS OF SEALANT BACKINGS.
2. DO NOT STRETCH, TWIST, PUNCTURE, OR TEAR SEALANT BACKINGS.
3. REMOVE ABSORBENT SEALANT BACKINGS THAT HAVE BECOME WET BEFORE SEALANT APPLICATION AND REPLACE THEM WITH DRY MATERIALS.
D. INSTALL SEALANTS USING PROVEN TECHNIQUES THAT COMPLY WITH THE FOLLOWING AND AT THE SAME TIME BACKINGS ARE INSTALLED:
1. PLACE SEALANTS SO THEY DIRECTLY CONTACT AND FULLY WET JOINT SUBSTRATES.
2. COMPLETELY FILL RECESSES IN EACH JOINT CONFIGURATION.
3. PRODUCE UNIFORM, CROSS-SECTIONAL SHAPES AND DEPTHS RELATIVE TO JOINT WIDTHS THAT ALLOW OPTIMUM SEALANT MOVEMENT CAPABILITY.
E. TOOLING OF NONSAG" IMMEDIATELY AFTER SEALANT APPLICATION AND BEFORE SKINNING OR CURING BEGINS, TOOL SEALANTS ACCORDING TO REQUIREMENTS SPECIFIED IN SUBPARAGRAPHS BELOW TO FORM SMOOTH, UNIFORM BEADS OF CONFIGURATION INDICATED; TO ELIMINATE AIR POCKETS; AND TO ENSURE CONTACT AND ADHESION OF SEALANT WITH SIDES OF JOINT.
1. REMOVE EXCESS SEALANT FROM SURFACES ADJACENT TO JOINTS.
2. USE TOOLING AGENTS THAT ARE APPROVED IN WRITING BY SEALANT MANUFACTURER AND THAT DO NOT DISORDER SEALANTS OR ADJACENT SURFACES.
3. PROVIDE CONCAVE JOINT PROFILE PER FIGURE 8A IN ASTM C 1193, UNLESS OTHERWISE INDICATED.
d. USE MASKING TAPE TO PROTECT SURFACES ADJACENT TO RECESSED TOLLED JOINTS.

3.4 FIELD QUALITY CONTROL
A. FIELD-ADHESION TESTING: FIELD TEST JOINT-SEALANT ADHESION TO JOINT SUBSTRATES AS FOLLOWS:

DIVISION 7 - THERMAL AND MOISTURE PROTECTION cont.

SECTION 079200 - JOINT SEALANTS (CONT'D)

1. EXTENT OF TESTING: TEST COMPLETED AND CURED SEALANT JOINTS AS FOLLOWS:
a. PERFORM 1 TEST FOR EACH 1000 FEET OF JOINT LENGTH THEREAFTER OR 1 TEST PER EACH FLOOR PER ELEVATION.
2. TEST METHOD: TEST JOINT SEALANTS ACCORDING TO METHOD A, FIELD-APPLIED SEALANT JOINT HAND PULL TAB, IN APPENDIX X1 IN ASTM C 1193 OR METHOD A, TAIL PROCEDURE, IN ASTM C 1521.
a. FOR JOINTS WITH DISSIMILAR SUBSTRATES, VERIFY ADHESION TO EACH SUBSTRATE SEPARATELY; EXTEND CUT ALONG ONE SIDE, VERIFYING ADHESION TO OPPOSITE SIDE. REPEAT PROCEDURE FOR OPPOSITE.
3. INSPECT TESTED JOINTS AND REPORT ON THE FOLLOWING:
a. WHETHER SEALANTS FILLED JOINTS CAVITIES AND ARE FREE OF VOIDS.
b. WHETHER SEALANTS DIMENSIONS AND CONFIGURATIONS COMPLY WITH SPECIFIED REQUIREMENTS.
c. WHETHER SEALANTS IN JOINTS CONNECTED TO PULLED-OUT PORTION FAILED TO ADHERE TO JOINT SUBSTANCES OR TORE COHESIVELY. INCLUDE DATE ON PULL DISTANCE USED TO TEST EACH KIND OF PRODUCT AND JOINT SUBSTRATE. COMPARE THESE RESULTS TO DETERMINE IF ADHESION PASSES SEALANT MANUFACTURER'S FIELD-ADHESION HAND-PULL TEST CRITERIA.
4. RECORD TEST RESULTS IN A FIELD-ADHESION-TEST LONG. INCLUDE DATES WHEN SEALANTS WERE INSTALLED, NAMES OF PERSONS WHO INSTALLED SEALANTS, TEST DATES, TEST LOCATIONS, WHETHER JOINTS WERE PRIMED, ADHESION RESULTS AND PERCENT ELONGATIONS, SEALANTS FILL, SEALANT CONFIGURATION, AND SEA;LANT DIMENSIONS.
5. REPAIR SEALANTS PULLED FROM TEST AREA BY APPLYING NEW SEALANTS FOLLOWING SAME PROCEDURES USED ORIGINALLY TO SEAL JOINTS. ENSURE THAT ORIGINAL SEALANT SURFACES ARE CLEAN AND THAT NEW SEALANT CONTACTS ORIGINAL SEALANT.
B. EVALUATION OF FIELD-ADHESION TEST RESULTS: SEALANTS NOT EVIDENCING ADHESIVE FAILURE FROM TESTING OR NONCOMPLIANCE WITH OTHER INDICATED REQUIREMENTS WILL BE CONSIDERED SATISFACTORY. REMOVE SEALANTS THAT FAIL ADHERE TO JOINT SUBSTRATES DURING TESTING OR TO COMPLY WITH OTHER REQUIREMENTS. RETEST FAILED APPLICATIONS UNTIL TEST RESULTS PROVE SEALANTS COMPLY WITH INDICATED REQUIREMENTS.

3.5 CLEANING
A. CLEAN OF EXCESS SEALANT OR SEALANT SMEARS ADJACENT TO JOINTS AS THE WORK PROGRESSES BY METHODS AND WITH CLEANING MATERIALS APPROVED IN WRITING BY MANUFACTURERS OF JOINT SEALANTS AND OF PRODUCTS IN WHICH JOINTS OCCUR.

3.6 PROTECTION
A. PROTECT JOINT SEALANTS DURING AND AFTER CURING PERIOD FROM CONTACT WITH CONTAMINATING SUBSTANCES AND FROM DAMAGE RESULTING FROM CONSTRUCTION OPERATIONS OR OTHER CAUSES SP SEALANTS ARE WITHOUT DETERIORATION OR DAMAGE AT TIME OF SUBSTANTIAL COMPLETION. IF, DESPITE SUCH PROTECTION, DAMAGE OR DETERIORATION OCCURS, CUT OUT AND REMOVE DAMAGED OR DETERIORATED JOINT SEALANTS IMMEDIATELY SO INSTALLATIONS WITH REPAIRED AREAS ARE INDISTINGUISHABLE FROM ORIGINAL WORK.

3.7 JOINT-SEALANT SCHEDULE
A. JOINT-SEALANT APPLICATION: EXTERIOR JOINTS IN HORIZONTAL TRAFFIC SURFACES.
1. JOINT LOCATIONS:
a. CONTROL AND EXPANSION JOINTS IN BRICK PAVERS
b. ISOLATION AND CONTRACTION JOINTS IN CAST-IN-PLACE CONCRETE PAVING AND SLABS.
c. ISOLATION JOINTS IN NON-METALLIC, NON-SHRINK GROUTING.
d. ISOLATION AND CONTRACTION JOINTS IN ASPHALT PAVING.
e. JOINTS BETWEEN DIFFERENT MATERIALS LISTED ABOVE.
f. OTHER JOINTS AS INDICATED.
2. URETHANE JOINT SEALANT: SINGLE COMPONENT, POURABLE, TRAFFIC-GRADE, CLASS 25.
B. JOINT-SEALANT APPLICATION: EXTERIOR JOINTS IN VERTICAL SURFACES AND HORIZONTAL NONTRAFFIC SURFACES.
1. JOINT LOCATIONS:
a. CONSTRUCTION JOINTS IN CAST-IN-PLACE CONCRETE.
b. CONTROL AND EXPANSION JOINTS IN UNIT MASONRY.
c. JOINTS BETWEEN DECORATIVE FORMED METAL PANELS.
d. JOINTS BETWEEN DIFFERENT MATERIALS LISTED ABOVE.
e. PERIMETER JOINTS BETWEEN MATERIALS LISTED ABOVE AND FRAMES OF DOORS.
f. CONTROL, EXPANSION AND PERIMETER JOINTS IN CEILINGS AND OTHER OVERHEAD SURFACES.
g. OTHER JOINTS AS INDICATED.
2. SILICONE JOINT SEALANT: SINGLE COMPONENT, NON-STAINING, NONSAG, NEUTRAL CURING, CLASS 50.

DIVISOIN 8 - DOORS AND WINDOWS

SECTION 08100 - STEEL DOORS AND FRAMES

1.1 GENERAL
A. SUBMITTALS
1. SHOP DRAWINGS:
a. SUBMIT SHOP DRAWINGS THAT SHOW ELEVATIONS OF EACH DOOR DESIGN, DOOR CONSTRUCTION DETAILS, AND METHODS OF ASSEMBLING SECTIONS, HARDWARE LOCATIONS, AND INSTALLATION METHODS, DIMENSIONS, AND SHAPES OF MATERIALS, ANCHORAGE AND FASTENING METHODS, DOOR FRAME TYPES AND DETAILS, WALL OPENING CONSTRUCTION DETAILS, AND FINISH REQUIREMENTS.
b. INDICATE LOCATION OF EACH UNIT IN PROJECT.
c. SHOP DRAWINGS SUBMITTAL SHALL BE COORDINATED W

DIVISOIN 8 - DOORS AND WINDOWS cont.

SECTION 08100 - STEEL DOORS AND FRAMES (CONT'D)

E. FINISHES

1. SHOP PRIMING:
   a. DOORS AND FRAMES SHALL BE CHEMICALLY TREATED TO ENSURE MAXIMUM PAINT ADHESION AND COATED, ON EXPOSED SURFACES, WITH A RUST-INHIBITIVE PRIMER SUITABLE AS A BASE FOR FINISH PAINTS.
   b. APPLY PRIMER OF EVEN CONSISTENCY TO PROVIDE A UNIFORM FINISHED SURFACE. ALLOW TO FULLY CARE BEFORE SHIPMENT.

F. FRAME TOLERANCES:

1. SQUARENESS: +/- 1/16" (1.5 MM)
   a. MEASURED ON A LINE 90 DEGREES FROM ONE JAMB, AT UPPER CORNER OF FRAME AT OTHER JAMB.
2. ALIGNMENT: +/- 1/16" (1.5 MM)
   a. MEASURED ON JAMBS ON A HORIZONTAL LINE PARALLEL TO PLANE OF WALL
3. TWIST: +/- 1/16" (1.5 MM)
   a. MEASURED AT FACE CORNERS OF JAMBS ON PARALLEL LINE PERPENDICULAR TO PLANE OF WALL.
4. PLUMBNESS: +/- 1/16" (1.5 MM)
   a. MEASURED ON JAMBS AT FLOOR

G. DOOR CLEARANCE SUBJECT TO +/- 1/32" (.08 MM) TOLERANCE:

1. HEAD AND JAMBS: 1/8" (3 MM)
2. UNDERCUT DOORS SUFFICIENTLY TO ALLOW CLEARANCE ABOVE FINISH FLOORS AND WHERE INDICATED ON DRAWINGS TO ALLOW FOR ADEQUATE AIR TRANSFER.
   a. WHERE SCHEDULED FLOOR FINISHED MATERIAL IS LESS THAN 1/2" (12 MM) THICK, ALLOW NOT MORE THAN 5/8" (16 MM) ABOVE TOP OF SUBSTANCE TO WHICH IT IS APPLIED.
   b. WHERE SCHEDULED FLOOR FINISH MATERIAL IS MORE THAN 1/2" (21 MM) THICK, ALLOW NOT MORE THAN 1/4" (6 MM) ABOVE FINISH MATERIAL.
   c. WHERE A THRESHOLD IS USED, ALLOW NOT MORE THAN $\frac{1}{4}$" (6 MM) ABOVE THRESHOLD.

H. ADJUSTMENTS

1. PRIME-COAT TOUCH-UP:
   a. SAND SMOOTH ALL RUSTED OR DAMAGED AREAS OF PRIME COAT AND TOUCH-UP WITH COMPATIBLE AIR-DRYING PRIMER
   b. TOUCH-UP AREAS SHALL NOT BE OBVIOUS.
2. FINAL ADJUSTMENTS:
   a. CHECK AND RE-ADJUST OPERATING FINISH HARDWARE JUST PRIOR TO FINAL INSPECTION AND AFTER PAINTING HINGES IF HINGES AND INDICATED TO BE PAINTED.
   b. REMOVE AND REPLACE DEFECTIVE WORK.

SECTION 08411 - ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

1.1 GENERAL

A. PERFORMANCE REQUIREMENTS

1. DELEGATED DESIGN: DESIGN ALUMINUM-FRAMED, INCLUDING COMPREHENSIVE ENGINEERING ANALYSIS BY A QUALIFIED PROFESSIONAL ENGINEER, USING PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA INDICATED.
2. WIND LOADS: 90 MPH (40 M/S).
3. DEFLECTION OF FRAMING MEMBERS:
   a. DEFLECTION NORMAL TO WALL PLANE: LIMITED TO EDGE OF GLASS IN A DIRECTION PERPENDICULAR TO GLASS PLANE SHALL NOT EXCEED L/175 OF THE GLASS EDGE LENGTH FOR EACH INDIVIDUAL GLAZING LITE OR AN AMOUNT THAT RESTRICTS EDGE DEFLECTION OF INDIVIDUAL GLAZING LITES TO 3/4 INCH (19 MM), WHICHEVER IS LESS.
   b. DEFLECTION PARALLEL TO GLAZING PLANE: LIMITED TO L/360 OF CLEAR SPAN OR 1/8 INCH (3.2 MM), WHICHEVER IS SMALLER.

B. SUBMITTALS

1. SHOP DRAWINGS: FOR ALUMINUM-FRAMED SYSTEMS. INCLUDE PLANS, ELEVATIONS, SECTIONS, DETAILS, AND ATTACHMENTS TO OTHER WORK.
2. SAMPLES: FOR EACH TYPE OF EXPOSED FINISH REQUIRED.
3. ENTRANCE DOOR HARDWARE SCHEDULE: PREPARED BY OR UNDER THE SUPERVISION OF SUPPLIER, DETAILING FABRICATION AND ASSEMBLY OF ENTRANCE DOOR HARDWARE, AS WELL AS PROCEDURES AND DIAGRAMS.
4. DELEGATED-DESIGN SUBMITTAL: FOR ALUMINUM-FRAMES SYSTEMS INDICATED TO COMPLY WITH PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA, INCLUDING ANALYSIS DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.

C. QUALITY ASSURANCE

1. ENGINEERING RESPONSIBILITY: PREPARE DATA FOR ALUMINUM-FRAMED SYSTEMS, INCLUDING SHOP DRAWINGS, BASED ON TESTING AND ENGINEERING ANALYSIS OF MANUFACTURER'S STANDARD UNITS IN SYSTEMS SIMILAR TO THOSE INDICATED FOR THIS PROJECT.
2. PRODUCT OPTIONS: INFORMATION ON DRAWINGS AND IN SPECIFICATIONS ESTABLISHES REQUIREMENTS FOR SYSTEMS' AESTHETIC EFFECTS AND PERFORMANCE CHARACTERISTICS. AESTHETIC EFFECTS ARE INDICATED BY DIMENSIONS, ARRANGEMENTS, ALIGNMENT, AND PROFILES OF COMPONENTS AND ASSEMBLIES AS THEY RELATE TO SIGHTLINES, TO ONE ANOTHER, AND TO ADJOINING CONSTRUCTION. PERFORMANCE CHARACTERISTICS ARE INDICATED BY CRITERIA SUBJECT TO VERIFICATION BY ONE OR MORE METHODS INCLUDING PERCONSTRUCTION TESTING, FIELD TESTING, AND IN-SERVICE PERFORMANCE.
3. ACCESSIBLE ENTRANCES" COMPLY WITH APPLICABLE PROVISIONS IN THE U.S. ARCHITECTURAL & TRANSPORTATION BARRIERS COMPLIANCE BOARD'S ADA-ABA ACCESSIBILITY GUIDELINES AND ICC/ANSI A117.1.
4. SOURCE LIMITATIONS FOR ALUMINUM-FRAMED SYSTEMS: OBTAIN FROM SINGLE SOURCE FROM SINGLE MANUFACTURER.

D. PRODUCTS

1. MANUFACTURERS
   a. MANUFACTURER'S: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
      ARCADIA, INC.
      ARCH ALUMINUM & GLASS CO. INC.
      CMI ARCHITECTURAL.
      EFCO CORPORATION.
      KAWNEER NORTH AMERICA; AN ALCOA COMPANY.
      YKK AP AMERICA INC.
      RACO INC.
2. FRAMING SYSTEMS
   a. FRAMING MEMBERS: MANUFACTURER'S STANDARD EXTRUDED-ALUMINUM FRAMING MEMBERS OF THICKNESS REQUIRED AND REINFORCED TO SUPPORT IMPOSED LOADS.
   b. CONSTRUCTION OF EXTERIOR: THERMALLY BROKEN.
      GLAZING SYSTEM: RETAINED MECHANICALLY WITH GASKETS ON FOUR SIDES.
      GLAZING PLANE: FRONT.
   c. BRACKETS AND REINFORCEMENTS: MANUFACTURER'S STANDARD HIGH-STRENGTH ALUMINUM WITH NONSTANDING, NONFERROUS SHIMS FOR ALIGNING SYSTEM COMPONENTS.
   d. FASTENERS AND ACCESSORIES: MANUFACTURER'S STANDARD CORROSION-RESISTANT, NONSTAINING, NONBLEEDING FASTENERS AND ACCESSORIES COMPATIBLE WITH ADJACENT MATERIALS.
   e. FRAMING SYSTEM GASKETS AND SEALANTS: MANUFACTURER'S STANDARD, RECOMMENDED BY MANUFACTURER FOR JOINT TYPE.
3. GLAZING SYSTEMS
   a. GLAZING GASKETS: MANUFACTURER'S STANDARD COMPRESSION TYPES; REPLACEABLE, MOLDED OR EXTRUDED, OF PROFILE AND HARDNESS REQUIRED TO MAINTAIN WATERTIGHT SEAL.
   b. SPACERS AND SETTING BLOCKS: MANUFACTURER'S STANDARD ELASTOMERIC TYPE.
4. ENTRANCE DOORS SYSTEMS
   a. ENTRANCE DOORS: MANUFACTURER'S STANDARD GLAZED ENTRANCE DOORS FOR MANUAL-SWING OPERATION.
      DOOR CONSTRUCTION: 1-3/4-INCH (44.5-MM) OVERALL THICKNESS, MINIMUM 0.125-INCH-(3.2-MM) THICK, EXTRUDED-ALUMINUM TUBULAR RAIL AND STILE MEMBERS. MECHANICALLY FASTEN CORNERS WITH REINFORCING BRACKETS THAT ARE DEEPLY PENETRATED AND FILLED WELDED OR THAT INCORPORATE CONCEALED TIE RODS.
   b. GLAZING STOPS AND GASKETS: SQUARE EDGE, SNAP-ON, EXTRUDED-ALUMINUM STOPS AND PERFORMED GASKETS WITH NON-REMOVABLE GLAZING STOPS ON OUTSIDE OF DOORS.
   c. ENTRANCE DOOR HARDWARE: AS INDICATED ON DRAWINGS AND AS SPECIFIED IN DIVISION 8 SECTION "DOOR HARDWARE."

E. FABRICATION

1. FORM OR EXTRUDE ALUMINUM SHAPES BEFORE FINISHING.
2. WELD IN CONCEALED LOCATIONS TO GREATEST EXTENT POSSIBLE TO MINIMIZE DISTORTION OR DISCOLORATION OF FINISH. REMOVE WELD SPATTER AND WELDING OXIDES FROM EXPOSED SURFACES BY DE-SCALING OR GRINDING.
3. FRAMING MEMBERS, GENERAL: FABRICATE COMPONENTS THAT, WHEN ASSEMBLED THAT THE FOLLOWING CHARACTERISTICS:

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DIVISION 8 - DOORS AND WINDOWS cont.

SECTION 08411 - ALUMINUM FRAMED ENTRANCES AND STOREFRONTS (CONT'D)

   a. PROFILES THAT ARE SHARP, STRAIGHT, AND FREE OF DEFECTS OR DEFORMATIONS.
   b. ACCURATELY FITTED JOINTS WITH ENDS COPED OR MITERED.
   c. MEANS TO DRAIN WATER PASSING JOINTS, CONDENSATION WITHIN FRAMING MEMBERS, AND MOISTURE MIGRATING WITHIN THE SYSTEM TO EXTERIOR.
   d. PHYSICAL AND THERMAL ISOLATION OF GLAZING FORM FRAMING MEMBERS.
   e. ACCOMMODATIONS FOR THERMAL AND MECHANICAL MOVEMENTS OF GLAZING AND FRAMING TO MAINTAIN REQUIRED GLAZING EDGE CLEARANCES.
   f. PROVISIONS FOR FIELD REPLACEMENT OF GLAZING FROM INTERIOR FOR VISION GLASS AND EXTERIOR FOR SPANDREL GLAZING OR METAL PANELS.
   g. FASTENERS, ANCHORS, AND CONNECTION DEVICES THAT ARE CONCEALED FROM VIEW TO GREATEST EXTENT POSSIBLE.
4. MECHANICALLY GLAZED FRAMING MEMBERS: FABRICATE FOR FLUSH GLAZING WITHOUT PROJECTING STOPS.
5. ENTRANCE DOOR FRAMES: REINFORCE AS REQUIRED TO SUPPORT LOADS IMPOSED BY DOOR OPERATION AND FOR INSTALLING ENTRANCE DOOR HARDWARE.
6. ENTRANCE DOOR: REINFORCE DOORS AS REQUIRED FOR INSTALLING ENTRANCE DOOR HARDWARE.
7. ENTRANCE DOOR HARDWARE INSTALLATION: FACTORY INSTALL ENTRANCE DOOR HARDWARE TO THE GREATEST EXTENT POSSIBLE. CUT, DRILL, AND TAP FOR FACTORY-INSTALLED ENTRANCE DOOR HARDWARE BEFORE APPLYING FINISHED.

F. INSTALLATION

1. GENERAL:
   a. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
   b. DO NOT INSTALL DAMAGED COMPONENTS.
   c. FIT JOINTS TO PRODUCE HAIRLINE JOINTS FREE OF BURRS AND DISTORTION.
   d. RIGIDLY SECURE NON-MOVEMENT JOINTS.
   e. INSTALL ANCHORS WITH SEPARATES AND ISOLATORS TO PREVENT METAL CORROSION AND ELECTROLYTIC DETERIORATION.
   f. SEAL JOINTS WATERTIGHT UNLESS OTHERWISE INDICATED.
2. WHERE ALUMINUM AT EXTERIOR DOORS WILL CONTACT DISSIMILAR METALS, PROTECT AGAINST GALVANIC ACTION BY PAINTING CONTRACT SURFACES WITH PRIMER OR APPLYING SEALANT OR TAPE, OR BY INSTALLING NONCONDUCTIVE SPACERS AS RECOMMENDED BY MANUFACTURER FOR THIS PURPOSE. WHERE ALUMINUM WILL CONTACT CONCRETE OR MASONRY, PROTECT AGAINST CORROSION. BY PAINTING CONTRACT SURFACES WITH BITUMINOUS PAINT.
3. INSTALL COMPONENTS PLUMB AND TRUE IN ALIGNMENT WITH ESTABLISHED LINES AND GRADES, AND WITHOUT WARP OR RACK AND PRODUCE SMOOTH OPERATION AND TIGHT FIT AT CONTACT POINTS.
4. INSTALL EXTERIOR DOOR AND SOUND RATED INTERIOR DOORS TO PRODUCE WEATHERTIGHT ENCLOSURE AND TIGHT FIT AT WEATHER STRIPPING AND SOUNDPROOF GASKETING AND INSTALL COMPONENTS TO DRAIN WATER PASSING JOINTS, CONDENSATION OCCURRING WITHIN FRAMING MEMBERS, AND MOISTURE MIGRATING WITHIN THE SYSTEM TO EXTERIOR. SET CONTINUOUS SILL MEMBERS AND FLASHING IN FULL SEALANT BED.
5. SOUND RATED INTERIOR DOOR TO PRODUCE A TIGHT FIT AT SOUNDPROOF GASKETING AND INSTALL COMPONENTS.

SECTION 08450 - ALL-GLASS ENTRANCES

1.1 GENERAL

A. SUBMITTALS

1. SUBMIT MANUFACTURER'S LITERATURE DESCRIBING PRODUCTS TO BE PROVIDED.
2. SHOP DRAWINGS
   a. SUBMIT SHOP DRAWINGS FOR SYSTEM. SHOW ANCHORAGE, FIELD CONNECTIONS, AND GLAZING FOR COMPONENT PARTS AND PREPARE COORDINATION DETAILS FOR ENTIRE SYSTEM INCLUDING FRAMING AND BRACING TO STRUCTURE.
3. SAMPLES:
   a. EXTRUSIONS: 6" LENGTHS
   b. SHEET OR PLATE MATERIALS: 6" SQUARES
   c. SAMPLE SIZE" 8"X10"

B. QUALITY ASSURANCE

1. REGULATORY REQUIREMENTS:
   a. PROVIDE GLAZING AT HAZARDOUS LOCATIONS AS DETERMINED BY CPSC 16 CFR 1201. GLAZING SHALL BE IN COMPLIANCE WITH CONSUMER PRODUCT SAFETY ACT AND SHALL HAVE BEEN TESTED AND LABELED.
   b. SAFETY GLAZING SHALL CONFORM TO REQUIREMENTS OF ANSI Z97.1.

C. MATERIALS

1. GLASS: TEMPERED; ASTM C1048
   a. CLASSIFICATIONS: ASTM C1036; TYPE 1, CLASS 1, QUALITY Q[3]
   b. THICKNESS: 1/2 MIN"
   c. COLOR: CLEAR
2. CONTINUOUS RAIL FITTINGS:
   a. TOP RAIL: 1 3/4" X 4" NOMINAL
   b. BOTTOM RAIL: 1 3/4" X 4" NOMINAL
   c. FINISH: US26
   d. ACCEPTABLE MANUFACTURERS:
      BLUMCRAFT
      BRITE VUE GLASS
      GUARDIAN/FALCONER-
      VIRGINIA GLASS
      DORMA
3. PATCH FITTINGS:
   a. SIZE AS INDICATED ON DRAWINGS
   b. FINISH: US26
   c. ACCEPTABLE MANUFACTURERS:
      BLUMCRAFT
      BRITE VUE GLASS
      GUARDIAN/FALCONER-
      VIRGINIA GLASS
      DORMA

D. DOOR HARDWARE

1. SEE SECTION 08700 HARDWARE

E. INSTALLATION

1. ALL-GLASS ENTRANCE SYSTEMS:
   a. INSTALL ALL-GLASS ENTRANCE SYSTEM IN COMPLIANCE WITH MANUFACTURER'S INSTRUCTIONS.
   b. USE METHOD OF ATTACHMENT TO STRUCTURE TO PERMIT SUFFICIENT ADJUSTMENT TO ACCOMMODATE CONSTRUCTION TOLERANCES AND IRREGULARITIES.
   c. FIT, ALIGN, AND ADJUST DOOR ASSEMBLIES PLUMB AND LEVEL, TO PROVIDE A SMOOTH OPERATION.
   d. CLEARANCES:

I. DOOR HEAD AND JAMBS: 1/8"

II. DOOR SILLS: 1/4" .

III. BUTT GLAZING JOINT: 3/8", EXCEPT BETWEEN SIDELIGHTS AND GLASS TRANSOMS, WHICH SHALL BE 1/8"

SECTION 08700 - HARDWARE

1.1 GENERAL

A. SUBMITTALS:

1. SUBMIT MANUFACTURER'S LITERATURE DESCRIBING PRODUCTS TO BE PROVIDED.
2. SUBMIT A MINIMUM OF 3 COPIES OF HARDWARE SCHEDULE. INDICATE LOCATION OF HARDWARE SET, CROSS-REFERENCED TO INDICATIONS ON DRAWINGS, MANUFACTURER'S NAME AND PRODUCT NUMBER, FINISH, AND OTHER SIMILAR INFORMATION DESCRIBING HARDWARE TO BE PROVIDED.

B. REGULATORY REQUIREMENTS:

1. FEDERAL ACCESSIBILITY REGULATIONS:
   a. AMERICANS WITH DISABILITIES ACT - ADA
   b. UNIFORM FEDERAL ACCESSIBILITY STANDARDS - UFAS
2. NATIONAL FIRE PROTECTION ASSOCIATION:
   a. NFPA 80 STANDARD FOR FIRE DOORS AND WINDOWS
   b. NFPA 101 LIFE SAFETY CODE
   c. NFPA 105 SMOKE- AND DRAFT-CONTROL DOOR ASSEMBLIES.

DIVISION 8 - DOORS AND WINDOWS cont.

SECTION 08700 - HARDWARE (CONT'D)

C. GENERAL REQUIREMENTS:

1. ITEMS OF HARDWARE NOT DEFINITELY SPECIFIED, BUT NEEDED FOR SATISFACTORY INSTALLATION OF HARDWARE SHALL BE PROVIDED. SUCH ITEMS SHALL BE OF TYPE AND QUALITY SUITABLE FOR SERVICE NEEDED AND COMPARABLE TO ADJACENT HARDWARE.
2. SECURITY VENDOR AND COORDINATE INSTALLATION OF SECURITY DEVICES WITH GC AND SHALL BE ENSURE SYSTEM MEETS ALL SPECIAL LOCKING REQUIREMENTS REQUIRED BY CODE. SECURITY AND VEND SHALL INSTALL DEVICES AS SHOWN ON ARCHITECTURAL DRAWINGS AND WHERE A DEVICE IS OT SHOWN, SHALL CONSULT WITH ARCHITECT FOR LOCATION. ALL DEVICES INSTALLED IN LOCATION NOT APPROVES BY ARCHITECT SHALL BE RELOCATED. ALL WORK ASSOCIATED WITH RELOCATION OF DEVICES, INCLUDING PATCHING AND REPLACING WALL OR CEILING FINISHES, SHALL BE THE RESPONSIBILITY OF THE GC.
3. VERIFY KEYING REQUIREMENTS WITH OWNER AND TENANT. FURNISH 2 KEYS PER LOCK WITH A MAXIMUM OF 8 KEYS PER KEYED ALIKE.

D. PRODUCTS: AS INDICATED IN DOOR HARDWARE SETS.

1.2 EXECUTION

A. FABRICATION

1. BASE METALS: PRODUCE DOOR HARDWARE UNITS OF BASE METAL, FABRICATED BY FORMING METHODS INDICATED, USING ALUMINUM FASTENERS ARE NOT PERMITTED. PROVIDE PHILLIPS FLAT-HEAD SCREWS WITH FINISHED HEADS TO MATCH SURFACE OF DOOR HARDWARE, UNLESS OTHERWISE INDICATED.
2. FASTENERS: PROVIDE SCREWS ACCORDING TO COMMERCIALLY RECOGNIZED INDUSTRY STANDARDS FOR APPLICATION INTENDED, EXCEPT ALUMINUM FASTENERS ARE NOT PERMITTED. PROVIDE PHILIPS FLAT-HEAD SCREWS WITH FINISHED HEADS TO MATCH SURFACE OF DOOR HARDWARE, UNLESS OTHERWISE INDICATED. COMPLY WITH NFPA 80 FOR FASTENERS OF DOOR HARDWARE IN FIRE-RATED APPLICATIONS.
   a. COMPLY WITH NFPA 80 FOR FASTENERS FOR DOORS HARDWARE IN FIRE RATED APPLICATIONS.
3. FINISHES: BHMA A156.18, AS INDICATED IN DOOR HARDWARE SETS.

B. INSTALLATION

1. STEEL DOORS AND FRAMES: COMPLY WITH DHI A115 SERIES. DRILL AND TAP DOORS AND FRAMES SURFACE-APPLIED DOOR HARDWARE ACCORDING TO ANSI A250.6.
2. WOOD DOORS: COMPLY WITH DHI A115-W SERIES.
3. MOUNTING HEIGHTS" MOUNT DOOR HARDWARE UNITS AT HEIGHTS INDICATED ON DRAWINGS AND AS FOLLOWS UNLESS OTHERWISE INDICATED OR REQUIRED TO COMPLY WITH GOVERNING REGULATION. - DHI'S "RECOMMENDED LOCATIONS FOR ARCHITECTURAL HARDWARE"
4. INSTALL EACH DOOR HARDWARE ITEM, TO COMPLY WITH MANUFACTURER'S WRITHEN INSTRUCTIONS. WHERE CUTTING AND FITTING ARE REQUIRED TO INSTALL DOOR HARDWARE ONTO OR INTO SURFACES THAT ARE LATER TO BE PAINTED OR FINISHED IN ANOTHER WAY, COORDINATE REMOVAL, STORAGE, AND REINSTALLATION OF SURFACE PROTECTIVE TRIM UNITS WITH FINISHING WORK SPECIFIED IN DIVISION 9 SECTIONS. DO NOT INSTALL SURFACE-MOUNTED ITEMS UNTIL FINISHES HAVE BEEN COMPLETED ON SUBSTANCES INVOLVED.
5. BOXED POWER SUPPLIES: LOCATE POWER SUPPLIES AS INDICATED OR, IF NOT INDICATED, ABOVE ACCESSIBLE CEILINGS OR IN ELECTRICAL EQUIPMENT ROOM(S). VERIFY LOCATION WITH ARCHITECT. PROVIDE THE LEAST NUMBER OF POWER SUPPLIES REQUIRED TO ADEQUATELY SERVE DOORS WITH ELECTRIFIED DOOR HARDWARE.
6. THRESHOLDS: SET THRESHOLDS FOR EXTERIOR AND ACOUSTICAL DOORS IN FULL BED OF SEALANT.
7. ADJUSTMENT: ADJUST AND CHECK LACK OPERATING ITEM OF DOOR HARDWARE AND EACH DOOR TO ENSURE PROPER OPERATION OR FUNCTION OF EVERY UNIT. REPLACE UNITS THAT CANNOT BE ADJUSTED TO OPERATE AS INTENDED. ADJUST DOOR CONTROL DEVISES TO COMPENSATE FOR FINAL OPERATION OF HEATING AND VENTILATING EQUIPMENT AND TO COMPLY WITH REFERENCED ACCESSIBILITY REQUIREMENTS.
8. DOOR CLOSERS: UNLESS OTHERWISE REQUIRED BY AUTHORITIES HAVING JURISDICTION, ADJUST SWEEP PERIOD SO THAT, FROM AN OPEN POSITION OF 70 DEGREES, THE DOOR WILL TAKE AT LEAST 3 SECONDS TO MOVE TO A POINT 3 INCHES (75 MM) FROM THE LATCH, MEASURED TO THE LEADING EDGE OF THE DOOR.

DIVISION 9 - FINISHES

SECTION 09000 - GENERAL FINISH NOTES

1.1 GENERAL

A. SUBMITTALS:

1. THE CONTRACTOR SHALL SUBMIT A MINIMUM OF THREE (3) 8"210" SQUARE SAMPLES OF EACH SCHEDULED FINISH FOR REVIEW BY THE ARCHITECT. THE ARCHITECT SHALL RETAIN TWO (2) SAMPLES OF FINISHES FOR RECORD AND RETURN A MINIMUM OF ONE SAMPLE TO CONTRACTOR.
2. THE CONTRACTOR SHALL ADVISE THE ARCHITECT OF LOCATIONS OF CHANGES IN DYE LOTS, BATCHES OR SIMILAR COLOR SHIFTS.

B. QUALITY ASSURANCE:

1. BEFORE PROCEEDING WITH PROCUREMENT OF FINISHES, THE CONTRACTOR SHALL FIELD VERIFY DIMENSIONS TO ASSURE THE SUFFICIENT QUANTITIES OF MATERIALS ARE ORDERED TO COMPLETE THE WORK.
2. THE CONTRACTOR SHALL REFER TO THE DRAWINGS FOR SPECIFIC LOCATIONS OF FINISHES. SHOULD THE CONTRACTOR FIND ANY DISCREPANCIES, OMISSIONS, AMBIGUITIES OR CONFLICTS ON THE PLANS, THE CONTRACTOR SHALL BRING THE ITEMS(S) TO THE ATTENTION OF THE ARCHITECT FOR DIRECTION, BEFORE ORDERING MATERIALS OR PROCEEDING WITH ANY WORK IN QUESTION.
3. FINISHES TO BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND INSTRUCTIONS AND IN A MANNER CONSISTENT WITH THE HIGHEST QUALITY STANDARDS OF WORKMANSHIP.
4. WHERE THERE IS A QUESTION AS TO THE ACCEPTABLE LEVEL OF QUALITY FOR THE INSTALLATION OF ANY MATERIALS, THE ARCHITECT SHALL ACT AS MEDIATOR.
5. UPON RECEIPT FROM THE MANUFACTURER, INSPECT MATERIALS FOR DEFECTS, FLAWS, SHIPPING DAMAGE, CORRECT COLOR AND PATTERN. PRIOR TO BEGINNING WORK, DAMAGED OR WRONG MATERIALS SHALL BE RETURNED TO THE MANUFACTURER FOR IMMEDIATE REPLACEMENT TO PREVENT DELAYS IN THE COMPLETION OF THE WORK.
6. COMPLIANCE WITH THE MANUFACTURER'S REQUIREMENTS FOR HANDLING, STORAGE, INSTALLATION AND PROTECTION IS THE EXCLUSIVE RESPONSIBILITY OF THE CONTRACTOR.
7. FINISHES SHALL EXTEND OVER, AND/OR BEHIND ANY ITEM OF BUILT-IN MILLWORK, EQUIPMENT, MIRRORS, ETC., AS INDICATED ON THE DRAWINGS.

SECTION 09250 - GYPSUM BOARD

1.1 GENERAL

A. SUBMITTALS

1. PRODUCT DATA: SUBMIT MANUFACTURER'S SPECIFICATIONS AND INSTALLATION INSTRUCTIONS WITH PROJECT CONDITIONS AND MATERIALS CLEARLY IDENTIFIED OR DETAILED FOR EACH REQUIRED SYSTEM.

B. GENERAL

1. FIRE RESISTANCE RATINGS: WHERE FIRE RESISTANCE CLASSIFICATIONS ARE INDICATED, PROVIDE MATERIALS AND APPLICATION PROCEDURES IDENTICAL TO THOSE LISTED BY UL OR TESTED ACCORDING TO ASTM E119 FOR TYPE OF CONSTRUCTION SHOWN.
2. ACOUSTICAL RATINGS: WHERE SOUNDS RATINGS ARE INDICATED, PROVIDE MATERIALS AND APPLICATION PROCEDURES IDENTICAL TO THOSE TESTED BY MANUFACTURER TO ACHIEVE SOUND TRANSMISSION CLASS (STC) SCHEDULED OR INDICATED IN ACCORDANCE WITH ASTM E90.
3. REFERENCE STANDARDS:
   a. APPLICABLE REQUIREMENTS OF ASTM C754 FOR INSTALLATION OF STEEL FRAMING.
   b. INSTALL GYPSUM BOARD IN ACCORDANCE WITH APPLICABLE REQUIREMENTS AND RECOMMENDATIONS OF GYPSUM ASSOCIATION GA 216, "RECOMMENDED SPECIFICATIONS FOR THE APPLICATION AND FINISHING OF GYPSUM BOARDS" EXCEPT FOR MORE STRINGENT REQUIREMENTS OF MANUFACTURER.
   c. APPLY ACOUSTICAL SEALANT IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF ASTM C919.
4. INSTALL INTERIOR GYPSUM BOARD IN THE FOLLOWING LOCATIONS:
   a. REGULAR TYPE: VERTICAL SURFACES, UNLESS OTHERWISE INDICATED.
   b. TYPE X: WHERE REQUIRED FOR FIRE-RESISTANCE-RATED ASSEMBLY.
   c. TYPE C: WHERE REQUIRED FOR SPECIFIC FIRE-RESISTANCE-RATED ASSEMBLY INDICATED.
   d. CEILING TYPE: CEILING SURFACES.
   e. FOIL-BACKED TYPE: AS INDICATED ON DRAWINGS.
   f. MOISTURE- AND MOLD-RESISTANT TYPE: AS INDICATED ON DRAWINGS.
   g. IMPACT-RESISTANT TYPE: AS INDICATED ON DRAWINGS.
5. WHEN POSSIBLE, SOURCE GYPSUM BOARD AS MIN. 75% RECYCLED CONTENT.

C. PRODUCTS

1. GYPSUM BOARD:
   a. ASTM C1396 (SECTION 5), REGULAR TYPE EXCEPT WHERE TYPE X FIRE RESISTANT TYPE IS INDICATED OR REQUIRED TO MEET UL ASSEMBLY TYPES.
   b. EDGES: TAPERED.
   c. THICKNESS: 5/8 INCH, UNLESS OTHERWISE INDICATED
   d. WHERE CURVED GYPSUM BOARD CONSTRUCTION IS INDICATED, USE 1/4 INCH FLEXIBLE FACING BOARD.

DIVISION 9 - FINISHES cont.

SECTION 09250 - GYPSUM BOARD (CONT'D)

   e. TYPICAL PARTITIONS AND CEILINGS: USG SHEETROCK® SW, FIRECODE® OR FIRECODE® "C" CORE OR EQUAL
   f. FOR FIRE-RATED WALLS: USG ULTRACODE® OR EQUAL
   g. USE GYPSUM BOARD AND JOINT COMPOUND WITH LITTLE OR NO VOCS AND FORMALDEHYDE EMISSIONS. GYPSUM BOARD SHALL HAVE A MINIMUM OF 5% POST-CONSUMER AND 20% POST-INDUSTRIAL (NATION-WIDE AVERAGE FOR COMPANY) AS DEFINED BY FTC (FEDERAL TRADE COMMISSION) BY USG
2. MOISTURE & MOLD RESISTANT
   a. ASTM C1396 (SECTION 5), REGULAR TYPE EXCEPT WHERE TYPE X FILE RESISTANT TYPE IS INDICATED OR REQUIRED TO MEET UL ASSEMBLY TYPES.
   b. EDGES: TAPERED.
   c. 5/8 INCH. USG SHEETROCK® BRAND MOLD TOUGH™ FIRECODE (TYPE X), FIRECODE® C CORE OR ULTRACODE® CORE OR EQUAL.
3. CEMENT BACKER BOARD:
   a. AGGREGATED PORTLAND CEMENT BOARD WITH WOVEN GLASS FIBER MESH FACING; COMPLYING WITH ANSI A118.9.
   b. 1/2 INCH. USG DUROCK CEMENT BOARD OR EQUAL
4. METAL STUDS AND RUNNERS:
   a. ASTM C645, "C" SHAPED WITH HOT-DIPPED GALVANIZED COATING.
   b. PROVIDE 25 GAUGE STUDS, EXCEPT AS OTHERWISE INDICATED OR SPECIFIED, DEPTH AS INDICATED. PROVIDE HEAVIER GAUGE IF REQUIRED.
   c. AT DOOR (AND BORROWED LIGHT) FRAMES, PROVIDE (2) 25 GAUGE MINIMUM STUDS AT EACH JAMB. WHERE WALL IS INDICATED OR SPECIFIED TO BE TYPICALLY FRAMED WITH 20 GAUGE STUDS, PROVIDE (2) 20 GAUGE STUDS AT EACH JAMB.
   d. PROVIDE 20 GAUGE STUDS AT WALLS TO RECEIVE CEMENT BACKER BOARD, AND WATER RESISTANT GYPSUM BOARD WITH CERAMIC TILE FACING.
   e. PROVIDE RUNNER GAUGE AS RECOMMENDED BY STUD MANUFACTURER.
5. METAL FURRING CHANNELS:
   a. HAT SHAPED: ASTM C645, 7/8 INCH HIGH, 25 GAUGE, WITH G40 HOT-DIPPED GALVANIZED COATING PER ASTM A525.
   b. PROVIDE 20 GAUGE AT FURRING TO RECEIVE TILE BACKER BOARD.
   c. RESILIENT: MANUFACTURER'S STANDARD TYPE DESIGNED TO REDUCE SOUND TRANSMISSION; 1/2 INCH DEEP, 25 GAUGE STEEL WITH G40 HOT-DIPPED GALVANIZED COATING PER ASTM A525.
6. CEILING SOFFIT SUPPORT MATERIALS
   a. HANGER ANCHORAGE DEVICES: SCREWS, CLIPS, BOLTS OR OTHER DEVICES COMPATIBLE WITH INDICATED STRUCTURAL ANCHORAGE FOR CEILING HANGERS AND WHOSE SUITABILITY HAS BEEN PROVEN THROUGH STANDARD CONSTRUCTION PRACTICES OR BY CERTIFIED TEST DATA.
   b. POWDER-ACTUATED FASTENERS IN CONCRETE: FABRICATED FROM CORROSION-RESISTANT MATERIALS, WITH CLIPS OR OTHER ACCESSORY DEVICES FOR ATTACHING HANGERS
   c. STEEL WIRE OR RODS, SIZES TO COMPLY WITH REQUIREMENTS OF ASTM C754 FOR CEILING OR SOFFIT AREA AND LOADS TO BE SUPPORTED.
7. PROPRIETARY CEILING FRAMING SYSTEMS:
   a. ACCEPTABLE PRODUCT: EQUIVALENT TO DRYWALL SUSPENSION SYSTEM BY USG.
8. METAL TRIM FOR GYPSUM BOARD:
   a. CORNER BEADS: EQUIVALENT TO DURABEAD NO. 103 BY USG.
   b. CASING BEADS (EDGE BEADS): EQUIVALENT TO 200A BY USG.
   c. L SHAPE: B4 SERIES BY USG; J SHAPE: B9 SERIES BY USG.
9. SPECIAL TRIM AND REVEALS: EXTRUDED ALUMINUM ALLOY 6063-T5, PROFILES AS INDICATED. PROFILES CALLED OUT IN DRAWINGS AS BASIS OF DESIGN FROM PITCON. OTHER ACCEPTABLE MANUFACTURERS INCLUDE: FRY REGLET AND GORDON.

D. METAL FRAMING INSTALLATION

1. ALIGN AND SECURE METAL RUNNER TRACKS ACCURATELY TO PARTITION LAYOUT AT BOTH FLOOR AND CEILING AND PROVIDE FASTENERS APPROPRIATE TO SUBSTRATE CONSTRUCTION AS RECOMMENDED BY MANUFACTURER.
2. METAL STUD FRAMING SHALL CONFORM TO ASTM C754 AS FOLLOWERS:

STUD DEPTH	GWB LAYERS	MAX HEIGHT*	STUD SPACING
2 1/2"	ONE	11'-8"	16"
2 1/2"	ONE	10'-8"	24"
2 1/2"	TWO	12'-7"	24"
3 5/8"	ONE	15'-5"	16"
3 5/8"	ONE	13

DIVISION 9 - FINISHES CONT.

SECTION 09250 - GYPSUM BOARD (CONT'D)

6. SOUND RATED CONSTRUCTION
   a. INSTALL SOUND ATTENUATION BLANKETS IN SOUND RATED PARTITIONS AND CEILINGS WHERE INDICATED.
   b. COMPLETELY FILL SPACE BETWEEN STUDS AND FRAMING TO FULL HEIGHT OF PARTITION WALL OR FULL AREA OF CEILING.
   c. FIT CAREFULLY BEHIND ELECTRICAL OUTLETS AND OTHER WORK PENETRATING SOUND RATED CONSTRUCTION.
   d. AT PARTITION WALLS, PROVIDE CONTINUOUS BEADS OF ACOUSTIC SEALANT AT JUNCTURE OF BOTH FACES OF RUNNERS WITH FLOOR AND CEILING CONSTRUCTION, AND WHEREVER GYPSUM BOARD ABUTS DISSIMILAR MATERIALS, PRIOR TO INSTALLATION OF GYPSUM BOARD.
   e. AT CEILINGS, PROVIDE CONTINUOUS BEADS OF SEALANT WHEREVER GYPSUM BOARD ABUTS DISSIMILAR MATERIALS.
   f. PROVIDE CONTINUOUS BEAD OF SEALANT BEHIND FACES OF CONTROL JOINTS PRIOR TO INSTALLATION OF CONTROL JOINT ACCESSORIES.
   g. AFTER INSTALLATION OF GYPSUM BOARD BASE LAYERS, CUT FACE LAYER SHEETS 1/2 INCH LESS THAN FLOOR TO CEILING HEIGHT AND POSITION WITH 1/2 INCH OPEN SPACE BETWEEN GYPSUM BOARD AND FLOOR, CEILING AND DISSIMILAR VERTICAL CONSTRUCTION. FILL 1/4 INCH OPEN SPACE WITH CONTINUOUS SEALANT BEADS AFTER INSTALLATION OF FACE LAYER.
   h. AT OPENINGS AND CUTOUTS, FILL OPEN SPACES BETWEEN GYPSUM BOARD AND FIXTURES, CABINETS, DUCTS AND OTHER FLUSH OR PENETRATING ITEMS, WITH CONTINUOUS BEAD OF SEALANT.
   i. SEAL SIDES AND BACKS OF ELECTRICAL BOXES TO COMPLETELY CLOSE OFF OPENINGS AND JOINTS.
   j. WHERE SOUND RATED PARTITION WALLS INTERSECT NON-RATED GYPSUM BOARD PARTITION WALLS, EXTEND SOUND-RATED CONSTRUCTION TO COMPLETELY CLOSE SOUND FLANKING PATHS THROUGH NON-RATED CONSTRUCTION AND SEAL JOINTS BETWEEN FACE LAYERS AT VERTICAL INTERIOR ANGLES OF INTERESTING PARTITIONS.
7. USE SAME FASTENERS TO ANCHOR TRIM ACCESSORY FLANGES AS REQUIRED TO FASTEN GYPSUM BOARD TO SUPPORTS, UNLESS OTHERWISE RECOMMENDED BY TRIM MANUFACTURER. INSTALL METAL CORNER BEADS AT EXTERNAL CORNERS AND METAL CASING BEAD TRIM WHENEVER EDGE OF GYPSUM BOARD WOULD OTHERWISE BE EXPOSED OR SEMI-EXPOSED.
8. INSTALL CONTROL JOINTS WITHIN LONG RUNS OR PARTITIONS, CEILINGS OR SOFFITS AT APPROXIMATELY 30'0" ON CENTER OR AS INDICATED. WHERE GYPSUM BOARD IS VERTICALLY CONTINUOUS, AS A STAIRWELLS, PROVIDE HORIZONTAL CONTROL JOINTS AT EACH FLOOR LEVEL.
9. SPECIAL TRIM: INSTALL AS INDICATED ON DRAWINGS AND IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

F. FINISHING

1. PROVIDE LEVELS OF GYPSUM BOARD FINISH FOR LOCATIONS AS FOLLOWS IN ACCORDANCE WITH GYPSUM ASSOCIATION GA 214, "RECOMMENDED SPECIFICATION: LEVELS OF GYPSUM BOARD FINISH".
   a. LEVEL 1: CEILING PLENUM AREAS AND CONCEALED AREAS, EXCEPT PROVIDE HIGHER LEVEL OF FINISH AS REQUIRED TO COMPLY WITH FIRE RESISTANCE RATINGS AND ACOUSTICAL RATINGS.
   b. LEVEL 2: GYPSUM BOARD SUBSTRATE AT TILE STONE, EXCEPT REMOVE TOOL MARKS AND RIDGES.
   c. LEVEL 3: GYPSUM BOARD SURFACES, WHERE TEXTURED FINISHES OR HEAVY VINYL WALL PAPERING WILL BE USED
   d. LEVEL 4: GYPSUM BOARD SURFACES, EXCEPT WHERE ANOTHER FINISH LEVEL IS INDICATED
   e. LEVEL 5: GYPSUM BOARD SURFACES REQUIRING EXTRA SMOOTH SURFACE FOR CRITICAL LIGHT, WHERE INDICATED USING SPRAY-APPLIED PRIMER-SURFACER, TUFF-HIDE OR WATERED-DOWN JOINT COMPOUND SKIM COAT OVER WHOLE SURFACE.
2. CEMENTITIOUS BACKER BOARD: PREPARE AND FINISH JOINTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
3. WOOD BLOCKING SHALL BE FIRE RETARDANT TREATED (FRT). INSTALL WOOD BLOCKING AS REQUIRED IN PARTITIONS AT WALL HUNG SHELVING, CABINETS, ARTWORK, TOILET PARTITIONS AND ACCESSORIES, ETC. VERIFY BLOCKING REQUIREMENTS WITH MILLWORK SUBCONTRACTOR AND REVIEW WITH THE ARCHITECT FOR ACCEPTANCE PRIOR INSTALLATION.

SECTION 09300 - TILE

1.1 REFERENCES
- A. ANSI A108 1999 - SPECIFICATIONS FOR INSTALLATION OF CERAMIC TILE
- B. ANSI A118 1999 - STANDARD SPECIFICATION FOR MORTAR AND GROUT
- C. ANSI A136.1, 1999 - ORGANIC ADHESIVES FOR INSTALLATION OF CERAMIC TIME
- D. ANSI A137.1, 1998 - SPECIFICATIONS FOR CERAMIC TILE
- E. ASTM C50 - STANDARD SPECIFICATION FOR PORTLAND CEMENT
- F. ASTM C241 - TEST METHOD FOR ABRASION RESISTANCE OF STONE SUBJECTED TO FOOT TRAFFIC
- G. ASTM C615 - SPECIFICATION FOR GRANITE DIMENSION STONE
- H. ASTM C629 - SPECIFICATION FOR SLATE DIMENSION STONE
- I. ASTM C1028 - TEST METHOD FOR DETERMINING THE STATIC COEFFICIENT OF FRICTION OR CERAMIC TILE AND OTHER LIKE SURFACES BY THE HORIZONTAL DYNAMOMETER PULL METER METHOD.
- J. ASTM D4397 - SPECIFICATION POLYETHYLENE SHEETING FOR CONSTRUCTION, INDUSTRIAL, AND AGRICULTURAL APPLICATIONS
- K. TCA (HB) - HANDBOOK FOR CERAMIC TILE INSTALLATION; TILE COUNCIL PF AMERICA, INC.

1.2 PERFORMANCE REQUIREMENTS
- A. STATIC COEFFICIENT OF FRICTION: TILE ON WALKWAY SURFACES SHALL BE PROVIDED WITH THE FOLLOWING VALUES AS DETERMINED BY TESTING IN CONFORMANCE WITH ASTM C 1028.

1. LEVEL SURFACES: MINIMUM OF 0.6 (WET).
2. STEP TREADS: MINIMUM OF 0.6 (WET).
3. RAMP SURFACES: MINIMUM OF 0.8 (WEST)

1.5 SUBMITTALS
- A. SUBMIT UNDER PROVISIONS OF SECTION 01300.
- B. MANUFACTURER'S DATA SHEETS ON EACH PRODUCT TO BE USED, INCLUDING:

1. PREPARATION INSTRUCTIONS AND RECOMMENDATIONS.
2. STORAGE AND HANDLING REQUIREMENTS AND RECOMMENDATIONS.
3. INSTALLATION METHODS.
   - C. SHOP DRAWINGS: INDICATE TILE LAYOUT, PATTERNS, COLOR ARRANGEMENT, PERIMETER CONDITIONS, CORNER CONDITIONS, JUNCTIONS WITH DISSIMILAR MATERIALS, CONTROL AND EXPANSION JOINTS, THRESHOLDS, CERAMIC ACCESSORIES, AND SETTING DETAILS.
   - D. SELECTION SAMPLES: SAMPLES OF ACTUAL TILES FOR SELECTION .
   - E. SAMPLES: MOUNT TILE AND APPLY GROUT ON TWO PLYWOOD PANELS, MINIMUM 24 BY 24 INCH IN SIZE ILLUSTRATING PATTERN, COLOR VARIATIONS, AND GROUT JOINT SIZE VARIATIONS.
   - F. MANUFACTURER'S CERTIFICATE:

1. CERTIFY THAT PRODUCTS MEET OR EXCEED SPECIFIED REQUIREMENTS.
2. FOR EACH SHIPMENT, TYPE AND COMPOSITION OF TILE PROVIDE A MASTER GRADE CERTIFICATE SIGNED BY THE MANUFACTURER AND THE INSTALLER CERTIFYING THAT PRODUCTS MEET OR EXCEED THE SPECIFIED REQUIREMENTS OF ANSI A137.1.
   - G. MAINTENANCE STAT: INCLUDE RECOMMENDED CLEANING METHODS, CLEANING MATERIALS, STAIN REMOVAL METHODS, AND POLISHES AND WAXES.

1.6 QUALITY ASSURANCE
- A. MAINTAIN ONE COPY EACH OF ALL REFERENCED STANDARDS AND SPECIFICATIONS ON SITE. INCLUDE THE TCA HANDBOOK, ANSI A108 SERIES, ANSI A118 SERIES ANSI A136.1 AND ANSI A137.1 AND OTHERS AS SPECIFIED UNDER PARAGRAPH REFERENCES.
- B. INSTALLER QUALIFICATIONS: COMPANY SPECIALIZING IN PERFORMING THE WORK OF THIS SECTION WITH MINIMUM 10 YEARS EXPERIENCE.
- C. SINGLE SOURCE RESPONSIBILITY:

1. OBTAIN EACH TYPE AND COLOR OF TILE FROM A SINGLE SOURCE.
2. OBTAIN EACH TYPE AND COLOR OF MORTAR, ADHESIVE AND GROUT FROM HE SAME SOURCE.

1.7 DELIVERY, STORAGE, AND HANDLING
- A. DELIVER AND STORE PRODUCTS IN MANUFACTURER'S UNOPENED PACKAGING UNTIL READY FOR INSTALLATION.
- B. PROTECT ADHESIVES AND LIQUID ADDITIVES FROM FREEZING OR OVERHEATING IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- C. STORE TILE AND SETTING MATERIALS ON ELEVATED PLATFORMS, UNDER COVER AND IN A DRY LOCATION AND PROTECT FROM CONTAMINATION, DAMPNESS, FREEZING OR OVERHEATING.

1.8 ENVIRONMENTAL REQUIREMENTS
- A. DO NOT INSTALL ADHESIVES TO AN UNVENTILATED ENVIRONMENT.
- B. MAINTAIN AMBIENT AND SUBSTRATE TEMPERATURE OF 50 DEGREES F (10 DEGREES C) DURING INSTALLATION OF MORTAR MATERIALS.

DIVISION 9 FINISHES cont.

SECTION 09300 - TILE (CONT'D)

1.8 ENVIRONMENTAL REQUIREMENTS
- A. DO NOT INSTALL ADHESIVES IN AN UNVENTILATED ENVIRONMENT.
- B. MAINTAIN AMBIENT AND SUBSTRATE TEMPERATURE OF 50 DEGREES F (10 DEGREES C) DURING INSTALLATION OR MORTAR MATERIALS.

1.9 EXTRA MATERIALS
- A. BEYOND MATERIAL REQUIRED FOR COMPLETION OF THE JOB USING SINGLE SOURCE MATERIAL, EXTRA MATERIAL SHALL BE PROVIDED TO OWNER AT COMPLETION OF JOB. PROVIDE MIN. 5 SQ FT OF EACH SIDE, COLOR, AND SURFACE FINISH OF FIELD TILE SPECIFIED AND MINIMUM 10 PIECES OF TRIM, CORNER, COVE OR SPECIALTY TILE.

2.1 MANUFACTURES
- A. ACCEPTABLE MANUFACTURER: SEE FINISH SCHEDULE FOR SPECIFIED MANUFACTURERS REQUESTS FOR SUBSTITUTIONS WILL BE CONSIDERED IN ACCORDANCE WITH PROVISIONS OF SECTION 01600.

2.2 TILE
- A. GENERAL: PROVIDE TILE THAT COMPLIES WITH ANSI A137.1 FOR TYPES, COMPOSITIONS AND CHARACTERISTICS INDICATED. PROVIDE TILE IN THE LOCATIONS AND OF THE TYPES COLORS AND PATTERN INDICATED ON THE DRAWINGS AND IDENTIFIED IN THE SCHEDULE AND THE END OF THIS SECTION. TILE SHALL ALSO BE PROVIDED IN ACCORDANCE WITH THE FOLLOWING.

1. FACTORY BLENDING: FOR TILE EXHIBITING COLOR VARIATIONS WITHIN THE RANGES SELECTED UNDER SUBMITTAL OD SAMPLES, BLEND TILE IN THE FACTORY AND PACKAGE SO TILE TAKEN FROM ONE PACKAGE SHOWS THE SAME RANGE OF COLORS AS THOSE TAKEN FROM OTHER PACKAGES.
2. MOUNTING: FOR FACTORY MOUNTED TILE, PROVIDE BACK OR EDGE MOUNTED TILE ASSEMBLIES AS STANDARD WITH THE MANUFACTURER, UNLESS OTHERWISE SPECIFIED.
3. FACTORY APPLIED TEMPORARY PROTECTIVE COATINGS: WHERE INDICATED UNDER TILE TYPE, PROTECT EXPOSED SURFACES OF TILE AGAINST ADHERENCE OR MORTAR AND GROUT BY PRE-COATING WITH A CONTINUOUS FILM OF PETROLEUM PARAFFIN WAX APPLIED HOT. DO NOT COAT UNEXPOSED TILE SURFACES.
   - B. FIELD TILE: AS PER SPECIFIED IN FINISH SCHEDULE.
   - C. TRIM UNITS: MATCHING BULLNOSE, COVE, COVE BASE, AND WINDOW SILL OR STEP NOSING SHAPES IN SIZES COORDINATED WITH FIELD TILE, UNLESS OTHERWISE SPECIFIED IN FINISH SCHEDULE.

2.3 TRIM AND ACCESSORIES
- A. NON-CERAMIC TRIM: SATIN NATURAL ANODIZED EXTRUDED ALUMINUM, STAINLESS STEEL, BRASS, ETC, STYLE AND DIMENSIONS TO SUIT APPLICATION, FOR SETTING USING TILE MORTAR OR ADHESIVE; USE IN THE FOLLOWING LOCATIONS:

1. OPEN EDGES OF FLOOR TILE.
2. TRANSITION BETWEEN FLOOR FINISHES OF DIFFERENT HEIGHTS.
3. THRESHOLDS AT DOOR OPENINGS
4. EXPANSION AND CONTROL JOINTS, FLOOR AND WALL
   - B. STONE THRESHOLDS: PROVIDE STONE THRESHOLDS UNIFORM IN COLOR AND FINISH AND FABRICATED AS FOLLOWS:

1. MATERIALS: AS SPECIFIED IN FINISH SCHEDULE
   a. MARBLE, COMPLYING WITH ASTM C 503 FOR EXTERIOR USE AND WITH A MINIMUM ABRASIVE HARDNESS OF 10 WHEN TESTED IN ACCORDANCE WITH ASTM C 241.
   b. GRANITE COMPLYING WITH ASTM C 614.
   c. STATE COMPLYING WITH ASTM C 629, ABRASION RESISTANT, NON-FADING FOR INTERIOR USE WITH A HONED FINISH.
2. COLOR/FINISH:
   a. AS SELECTED FROM THE MANUFACTURERS STANDARD RANGE.
3. SIZE:
   a. FABRICATE: FULL DEPTH OF JAMB BY FULL WIDTH OF WALL OR FRAME OPENING; 1/2 INCH (12 MM) THICK; BEVELED ONE LONG EDGE WITH RADIUSED CORNER ON TOP SIDE; WITHOUT HOLES, CRACKS, OR OPEN SEAMS. UNLESS OTHERWISE DETAILED
4. PROVIDE TRANSITION BETWEEN TILE SURFACE AND ADJOINING FINISHES AND AT THE FOLLOWING LOCATIONS"
   a. AT DOORWAYS WHERE TILE TERMINATES.
   b. AT OPEN EDGES OF FLOOR TILE WHERE ADJACENT FINISH IS A DIFFERENT HEIGHT.

2.4 SETTING MATERIALS
- A. ORGANIC ADHESIVE: ANSI A136.1, THINSET BOND TYPE; USE TYPE I IN AREAS SUBJECT TO PROLONGED MOISTURE EXPOSURE.
- B. EPOXY ADHESIVE: ANSI A118.3, THINSET BOND TYPE.
- C. MORTAR BED MATERIALS:

1. PORTLAND CEMENT: ASTM C150, TYPE 1, GRAY OR WHITE
2. HYDRATED LIME: ASTM C207, TYPE S.
3. STAND: ASTM C144, FINE.
4. LATEX ADDITIVE: AS APPROVED.
5. WATER: CLEAN AND POTABLE.
   - D. MORTAR BOND COAT MATERIALS:

1. DRY-SET PORTLAND CEMENT TYPE: ANSI A118.1.
2. LATEX-PORTLAND CEMENT TYPE: ANSI A118.4.
3. EPOXY: ANSI A118.3, 100 PERCENT SOLIDS.
   - E. STANDARD GROUT: CEMENT GROUT, SANDED OR UNSANDED, AS SPECIFIED IN ANSI A118.6; COLOR AS SELECTED.
   - F. POLYMER MODIFIED CEMENT GROUT, SANDED OR UNSANDED, AS SPECIFIED IN ANSI A118.7; COLOR AS SELECTED.
   - G. EPOXY GROUT: ANSI A118.8, 100 PERCENT SOLIDS EPOXY GROUT; COLOR AS SELECTED.
   - H. SILICONE SEALANT: SILICONE SEALANT, MOISTURE AND MILDEW RESISTANT TYPE; USE FOR SHOWER FLOORS AND SHOWER WALLS.
   - I. WATERPROOFING/ISOLATION MEMBRANE AT FLOORS: MEMBRANE IN ACCORDANCE WITH ANSI A118.10 AND AS FOLLOWS: UN-REINFORCED, FLUID-APPLIED ELASTOMERIC MEMBRANE.

1. GBP: REDGARD OR EQUAL.
   - J. MEMBRANE AT WALLS: UN-REINFORCED, FLUID-APPLIED EALSTOMERIC MEMBRANE.
   - K. MEMBRANE AT WALLS: 4 MIL (0.1 MM) THICK POLYETHYLENE FILM, ASTM D4397.
   - L. CEMENTITIOUS BACKER BOARD: ANSI A118.9; HIGH DENSITY, CEMENTITIOUS, GLASS FIBER REINFORCED WITH 2 INCH (50 MM) WITH COATED GLASS FIBER TAPE FOR JOINTS AND CORNERS:

1. THICKNESS: 1/4 INCH (6 MM).
2. THICKNESS: 1/2 INCH (13 MM).
3. THICKNESS: 5/8 INCH (16 MM).

3.1 EXAMINATION
- A. VERIFY THAT WALL SURFACES ARE FREE OF SUBSTANCES WHICH WOULD IMPAIR BONDING OF SETTING MATERIALS, SMOOTH AND FLAT WITHIN TOLERANCES SPECIFIED IN ANSI A137.1, AND ARE READY TO RECEIVE TILE.
- B. VERIFY THE SUB-FLOOR SURFACES ARE DUST-FREE, AND FREE OF SUBSTANCES WHICH WOULD IMPAIR BONDING IF SETTING MATERIALS TO SUB-FLOOR SURFACES, AND ARE SMOOTH AND FLAT WITHIN TOLERANCES SPECIFIED IN ANSI A137.1.
- C. VERIFY THAT CONCRETE SUB-FLOOR SURFACES ARE READY TO TILE INSTALLATION BY TESTING FOR MOISTURE EMISSION RATE AND ALKALINITY; OBTAIN INSTRUCTIONS IF TEST RESULTS ARE NOT WITHIN LIMITS RECOMMENDED BY TILE MANUFACTURER AND SETTING MATERIALS MANUFACTURER.
- D. VERIFY THAT REQUIRED FLOOR-MOUNTED UTILITIES ARE IN CORRECT LOCATION.

3.2 PREPARATION
- A. PROTECT SURROUNDING WORK FROM DAMAGE.
- B. REMOVE ANY CURING COMPOUNDS OR OTHER CONTAMINATES.
- C. VACUUM CLEAN SURFACES AND DAMP CLEAN.
- D. SEAL SUBSTRATE SURFACE CRACKS WITH FILLER. LEVEL EXISTING SUBSTRATE SURFACES TO ACCEPTABLE FLATNESS TOLERANCES.
- E. INSTALL CEMENTITIOUS BACKER BOARD IN ACCORDANCE WITH ANSI A108.11 AND BOARD MANUFACTURER'S INSTRUCTIONS. TAPE JOINTS AND CORNERS, COVER WITH SKIM COAT OF DRY-SET MORTAR TO A FEATHER EDGE.
- F. PREPARE SUBSTRATE SURFACES FOR ADHESIVE INSTALLATION IN ACCORDANCE WITH ADHESIVE MANUFACTURER'S INSTRUCTIONS.

3.3 INSTALLATION - GENERAL
- A. INSTALL TILE AND GROUT IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF ANSI A108.1 THROUGH A108.13, MANUFACTURER'S INSTRUCTIONS, AND TCA HANDBOOK RECOMMENDATIONS.
- B. LAY TILE TO PATTERN INDICATED. ARRANGE PATTERN SO THAT A FULL TILE OR JOINT IS CENTERED ON EACH WALL AND THAT NO TILE LESS THAN 1/2 WIDTH IS USED. DO NOT INTERRUPT TILE PATTERN THROUGH OPENINGS.

DIVISION 9 FINISHES cont.

SECTION 09300 - TILE (CONT'D)

- C. CUT AND FIT TILE TO PENETRATIONS THROUGH TILE, LEAVING SEALANT JOINT SPACE. FROM CORNERS AND BASES NEATLY. ALIGN FLOOR JOINTS.
- D. PLACE TILE JOINTS UNIFORM IN WIDTH, SUBJECT TO VARIANCE IN TOLERANCE ALLOWED IN TILE SIZE. MAKE JOINTS WATERTIGHT, WITHOUT VOIDS, CRACKS, EXCESS MORTAR, OR EXCESS GROUT.
- E. FORM INTERNAL ANGLES SQUARE AND EXTERNAL ANGLES BULLNOSED OR CORNER TRIM PIECES AS INDICATED IN DRAWINGS. STAGGER DIRECTION OF BLUENOSED EXTERNAL ANGLES AS INDICATED IN DRAWINGS.
- F. INSTALL CERAMIC ACCESSORIES RIGIDLY IN PREPARED OPENINGS.
- G. INSTALL NON-CERAMIC TRIM IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- H. INSTALL THRESHOLDS WHERE INDICATED.
- I. SOUND TILE AFTER SETTING. REPLACE HOLLOW SOUNDING UNITS.
- J. KEEP EXPANSION JOINTS FREE OF ADHESIVE OR GROUT. APPLY SEALANT TO JOINTS.
- K. ALLOW TILE TO SET FOR A MINIMUM OF 48 HOURS PRIOR TO GROUTING.
- L. GROUT TILE JOINTS. USE STANDARD GROUT UNLESS OTHERWISE INDICATED.
- M. APPLY SEALANT TO JUNCTION OF TILE AND DISSIMILAR MATERIALS AND JUNCTION OF DISSIMILAR PLANES.

3.4 INSTALLATION - FLOORS - THIN-SET METHODS
- A. OVER EXTERIOR CONCRETE SUBSTANCES, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD F102,WITH STANDARD GROUT.
- B. OVER INTERIOR CONCRETE SUBSTRATES, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHODS F113, DRY-SET OR LATEX-PORTLAND CEMENT BOND COAT, WITH STANDARD GROUT, UNLESS OTHERWISE INDICATED.

1. WHERE WATERPROOFING MEMBRANE IS INDICATED, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD F122, WITH LATEX-PORTLAND CEMENT GROUT.
2. WHERE EPOXY BOND COAT AND GROUT ARE INDICATED, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD F131.
   - C. OVER WOOD SUBSTRATES, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD F142, WITH STANDARD GROUT, UNLESS OTHERWISE INDICATED.

1. WHERE EPOXY BOND COAT AND GROUT ARE INDICATED, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD F143.

3.5 INSTALLATION - FLOOR - MORTAR BED METHODS
- A. OVER EXTERIOR CONCRETE SUBSTANCES, INSTALL IN ACCORDANCE WITH TCA F101, BONDED, WITH STANDARD GROUT.
- B. OVER INTERIOR CONCRETE SUBSTRATES, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD F111, WITH CLEAVAGE MEMBRANE, UNLESS OTHERWISE INDICATED.

1. WHERE WATERPROOFING MEMBRANE IS INDICATED, WITH STANDARD GROUT OR NO MENTION OF GROUT TYPE, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD F121.
2. WHERE EPOXY BOND COAT AND GROUT ARE INDICATED, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD F132, BONDED.
3. WHERE EPOXY OR FURAN GROUT IS INDICATED, BUT NOT EPOXY OR FURAN BOND COAT, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD F114, WITH CLEAVAGE MEMBRANE.
   - C. OVER WOOD SUBSTRATES, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD F141, WITH STANDARD GROUT, UNLESS OTHERWISE INDICATED.
   - D. CLEAVAGE MEMBRANE: LAP EDGES AND ENDS.
   - E. WATERPROOFING MEMBRANE: INSTALL AS SPECIFIED IN ANSI A108.13.
   - F. MORTAR BED THICKNESS: 1-1/4 TO 2 INCH (32 TO 51 MM) MAXIMUM, UNLESS OTHERWISE INDICATED.

3.6 INSTALLATION - KITCHEN AND BAR DIE WALLS
- A. AT TILED KITCHEN AND BAR INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD B415, MORTAR BED FLOOR, AND W244, THIN-SET OVER CEMENTITIOUS BACKER UNIT WALLS.
- B. INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD B412, OVER CEMENTITIOUS BACKER UNITS WITH WATERPROOFING MEMBRANE EXTENDING UP WALLS 6" MIN.
- C. GROUT WITH STANDARD GROUT AS SPECIFIED ABOVE.
- D. SEAL JOINTS BETWEEN TILE WORK AND OTHER WORK WITH SEALANT.

3.7 INSTALLATION - WALL TILE
- A. OVER CEMENTITIOUS BACKER UNITS ON STUDS, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD W244, USING MEMBRANE AT TOILET ROOMS.
- B. OVER CEMENTITIOUS BACKER UNITS INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD W223, ORGANIC ADHESIVE.
- C. OVER GYPSUM WALLBOARD ON WOOD OR METAL STUDS INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD W243, THIN-SET WITH DRY-SET OR LATEX-PORTLAND CEMENT BOND COAT, UNLESS OTHERWISE INDICATED.

1. WHERE MORTAR BOARD IS INDICATED, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD W222, ONE COAT METHOD.
2. WHERE WATERPROOFING MEMBRANE IS INDICATED OTHER THAN AT KITCHEN AND BAR WALLS, INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD W222, ONE COAT METHOD.
   - D. OVER INTERIOR CONCRETE AND MASONRY INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD W202, THIN-SET WITH DRY-SET OR LATEX-PORTLAND CEMENT BOND COAT.
   - E. OVER WOOD STUDS WITHOUT BACKER INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD W231, MORTAR BED, WITH MEMBRANE WHERE INDICATED.
   - F. OVER METAL STUDS WITHOUT BACKER INSTALL IN ACCORDANCE WITH TCA HANDBOOK METHOD W241, MORTAR BED, MEMBRANE WHERE INDICATED.

3.8 CLEANING
- A. CLEAN TILE AND GROUT SURFACES

3.9 PROTECTION OF FINISHED WORK
- A. DO NOT PERMIT TRAFFIC OVER FINISHED FLOOR SURFACE FOR 72 HOURS AFTER INSTALLATION.
- B. COVER FLOOR WITH KRAFT PAPER AND PROTECT FROM DIRT AND RESIDUE FROM OTHER TRADES.
- C. WHERE FLOOR WILL BE EXPOSED FOR PROLONGED PERIODS COVER WITH PLYWOOD OR OTHER SIMILAR TYPE WALKWAYS.

SECTION 09510 - ACOUSTICAL CEILING TILE

1.1 GENERAL
- A. SUBMITTALS

1. SUBMITTALS
   - a. ACOUSTICAL CEILING PANELS: 6" X 6" MINIMUM
   - b. SUSPENSION SYSTEM COMPONENTS: 12" IN LENGTH
- B. QUALITY ASSURANCE

1. TO THE GREATEST EXTENT POSSIBLE, MATERIALS, INCLUDING EXPOSED WALL MOLDING, SUSPENSIONS SYSTEMS, AND ACCESSORIES, SHALL BE PRODUCTS OF A SINGLE MANUFACTURER OR ITEMS STANDARD WITH MANUFACTURER OF ACOUSTICAL CEILING PANEL UNITS.
   - C. MATERIALS

1. ACOUSTICAL TILES AND SUSPENSION SYSTEM AS SCHEDULED IN DRAWINGS. PROVIDE MANUFACTURER STANDARD COMPONENTS AS SHOWN IN DETAILS.
   - D. INSTALLATION

1. GRID SYSTEM:
   a. INSTALL GRID SYSTEM IN COMPLIANCE WITH ASTM C636, MANUFACTURER'S INSTRUCTIONS, AND AS SUPPLEMENTED IN THIS SECTION.
   b. INSTALL GRID SYSTEM IN A TRUE, EVEN PLANE AND IN STRAIGHT COURSES AS INDICATED ON DRAWINGS AND ACCEPTED SHOP DRAWINGS.
   c. COORDINATE AND FIT CEILING COMPONENTS TO GRILLES, LIGHTING FIXTURES, AND OTHER RELATED ITEMS. IN DETERMINING LOCATION AND SPACING OF HANGERS AND PRIMARY RUNNERS, TAKE INTO CONSIDERATION WEIGHT OF GRILLES, LIGHT FIXTURES, ETC., THAT ARE TO BE INSTALLED IN CONJUNCTION WITH ACOUSTICAL CEILINGS.
   d. PROVIDE STABILIZER BARS, CLIPS, SPLICES, AND EDGE MOLDINGS NEEDED FOR A COMPLETE INSTALLATION.
   e. HANG GRID SYSTEM INDEPENDENT OF WALLS, COLUMNS, DUCTS, PIPES AND CONDUIT. WHERE CARRYING MEMBERS ARE SPLICED, AVOID VISIBLE DISPLACEMENT OF FACE PLANE OF ADJACENT MEMBERS.
   f. WHERE DUCTS OF OTHER EQUIPMENT PREVENT REGULAR SPACING IF HANGERS, REINFORCE NEAREST AFFECTED HANGERS AND RELATED CARRYING CHANNELS TO SPACE EXTRA DISTANCE.
   g. DO NOT SUPPORT COMPONENTS ON MAIN RUNNERS OR CROSS RUNNERS IF WEIGHT CAUSES TOTAL DEAD LOAD TO EXCEED MAXIMUM DEFLECTION LIMITATIONS. SUPPORT FIXTURE LOADS BY SUPPLEMENTARY HANGERS LOCATED WITHIN 6" (150 MM) OF EACH CORNER; OR SUPPORT COMPONENTS INDEPENDENTLY.
   h. DO NOT ECCENTRICALLY LOAD SYSTEM, OR PRODUCE ROTATION OF RUNNERS.
2. MOLDINGS AND TRIM

DINISION 9 FINISHES cont.

SECTION 09510 - ACOUSTICAL CEILING TILE (CONT'D)

   a. INSTALL WALL MOLDINGS AT INTERSECTION OF SUSPENDED CEILING AND VERTICAL SURFACES, USING LONGEST PRACTICAL LENGTHS. PROVIDE MOLDINGS AT JUNCTIONS WITH OTHER INTERRUPTIONS AND AS NEEDED TO COVER EDGES OF ACOUSTICAL CEILING PANELS.
   b. ATTACH MOLDINGS AND TRIMS WITH SCREWS SPACED NOT MORE THAT 16" (400 MM) ON CENTER AND WITHIN 3" (75 MM) OF ENDS OF EACH PIECE BEING INSTALLED.
   c. MOLDINGS AND TRIM SHALL BE LEVEL WITH SUSPENSION SYSTEM AND WITHIN TOLERANCES SPECIFIED FOR SUSPENSION SYSTEM.
   d. MITER CORNERS AND ALIGN BUTT JOINTS WHERE WALL MOLDINGS INTERSECT TO FORM TIGHT, HAIRLINE JOINTS.
   e. FACE RIVETING OF MOLDINGS AND TRIM SHALL NOT BE ACCEPTABLE.
3. TOLERANCES
   a. DEFLECTION OF GRID COMPONENTS SHALL NOT EXCEED 1/360 OF SPAN.
   b. VARIATION FROM FLAT AND LEVEL SURFACE: 1/8" (3 MM) IN 10 FEET (3000 MM) MAXIMUM.
   c. VARIATION FROM PLUMB OF GRID MEMBERS: 2 DEGREES MAXIMUM; CAUSED BY ECCENTRIC LOADS.
- E. ADJUSTING AND CLEANING

1. FOLLOW GRID SYSTEM MANUFACTURER'S RECOMMENDATIONS FOR METHODS AND MATERIALS TO CLEAN AND TOUCH-UP EXPOSED COMPONENTS.
2. REPLACE COMPONENTS WHICH ARE DISCOLORED OR DAMAGED IN ANY WAY, IN A MANNER WHICH RESULTS IN GRID SYSTEM SHOWING NO EVIDENCE OF REPLACEMENT WORK.

SECTION 09650 - RESILIENT FLOORING

1.1 GENERAL
- A. SUBMITTALS:

1. VINYL COMPOSITION TILE SAMPLE
2. BLACK RESILIENT TRANSITION/REDUCER STRIP (PROVIDED AT CHANGES IN FLOORING).
3. VINYL COVE AND STRAIGHT BASE.
   - B. PREPARE THE EXISTING, BASE BUILDING SLAB PRIOR TO INSTALLATION OF THE SCHEDULED FLOORING. ALL SURFACES SHALL BE SEALED, SIZED OR PROPERLY PREPARED PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS. THE CONTRACTOR SHALL FLASH PATCH ALL UNEVEN FLOOR SLAB SURFACES IN ORDER TO PROVIDE A FLAT, SMOOTH AND CONTINUOUS FLOOR SURFACE.
   - C. VCT SHALL BE LAID IN STRAIGHT (NOT BASKET WEAVE) DIRECTION. REFER TO DRAWINGS FOR COLOR PATTERNS AND DIRECTION.
   - D. 2 1/2" COVE BASED SHALL BE USED AT ALL VCT LOCATIONS. 2 1/2" STRAIGHT BASE SHALL BE USED AT CARPET LOCATIONS UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL USE INSIDE AND OUTSIDE CORNERS AND END STOPS FOR ALL AREAS SPECIFIED. USE ROLL GOODS ONLY. NE SEAM SHALL OCCUR WITHIN 6" OF AN OUTSIDE CORNER.
   - E. INSTALL BLACK RESILIENT TRANSITION/REDUCER STRIP BETWEEN VCT AND OTHER FLOOR FINISHES.

SECTION 096513 - RESILIENT WALL BASE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
- A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY
- A. SECTION INCLUDES:

1. RESILIENT WALL BASE.

1.3 SUBMITTALS
- A. PRODUCT DATA: FOR EACH TYPE

DIVISION 9 - FINISHES cont.

SECTION 096513 - RESILIENT WALL BASE (CONT'D)

2.10 INSTALLATION MATERIALS
- A. ADHESIVES: AS RECOMMENDED BY TARKETT TO MEET SITE CONDITIONS
1. TARKETT 960 COVE BASE ADHESIVE (POROUS APPLICATIONS)
2. TARKETT 946 PREMIUM CONTACT BOND ADHESIVE (NON-POROUS APPLICATIONS)

PART 3 - EXECUTION

3.1 EXAMINATION
- A. EXAMINE SUBSTRATES, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR MAXIMUM MOISTURE CONTENT AND OTHER CONDITIONS AFFECTING PERFORMANCE OF THE WORK.
- B. VERIFY THE FINISHES OF SUBSTRATES COMPLY WITH TOLERANCES AND OTHER REQUIREMENTS SPECIFIED IN OTHER SECTIONS AND THAT SUBSTRATES ARE FREE OF CRACKS, RIDGES, DEPRESSIONS, SCALE, AND OTHER SECTIONS AND THAT SUBSTRATES ARE FREE OF CRACKS, RIDGES, DEPRESSIONS, SCALE, AND FOREIGN DEPOSITS THAT MIGHT INTERFERE WITH ADHESION OF RESILIENT PRODUCTS.
- C. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

3.2 PREPARATION
- A. PREPARE SUBSTRATES ACCORDING TO TARKETT'S WRITTEN INSTRUCTIONS TO ENSURE ADHESION OF RESILIENT WALL BASE.
- B. FILL CRACKS, HOLES, AND DEPRESSIONS IN SUBSTRATES WITH TROWELABLE LEVELING AND PATCHING COMPOUND AND REMOVE BUMPS AND RIDGES TO PRODUCE A UNIFORM AND SMOOTH SUBSTRATE.
- C. MOVE RESILIENT PRODUCTS AND INSTALLATION MATERIALS INTO SPACES WHERE THEY WILL BE INSTALLED AT LEAST 48 HOURS IN ADVANCE OF INSTALLATION.
- D. VACUUM CLEAN SUBSTRATES TO BE COVERED BY RESILIENT PRODUCTS IMMEDIATELY BEFORE INSTALLATION.

3.3 RESILIENT BASE INSTALLATION
- A. COMPLY WITH TARKETT'S WRITTEN INSTRUCTIONS FOR INSTALLING RESILIENT BASE.
- B. APPLY RESILIENT BASE TO WALLS, COLUMNS, PILASTERS, CASEWORK AND CABINETS IN TOE SPACES, AND OTHER PERMANENT FIXTURES IN ROOMS AND AREAS WHERE BASE IS REQUIRED.
- C. INSTALL RESILIENT BASE IN LENGTHS AS LONG AS PRACTICABLE WITHOUT GAPS AT SEAMS AND WITH TOPS OF ADJACENT PIECES ALIGNED.
- D. TIGHTLY ADHERE RESILIENT WALL BASE TO SUBSTRATE THROUGHOUT LENGTH OF EACH PIECE, WITH BASE IN CONTINUOUS CONTACT WITH HORIZONTAL AND VERTICAL SUBSTANCES.
- E. DO NOT STRETCH RESILIENT BASE DURING INSTALLATION.

3.4 CLEANING AND PROTECTION
- A. COMPLY WITH TARKETT'S WRITTEN INSTRUCTIONS FOR CLEANING AND PROTECTION OF RESILIENT PRODUCTS.
- B. PERFORM THE FOLLOWING OPERATIONS IMMEDIATELY AFTER COMPLETING RESILIENT PRODUCT INSTALLATION:
1. REMOVE ADHESIVE AND OTHER BLEMISHES FROM EXPOSED SURFACES.
- C. PROTECT RESILIENT PRODUCTS FROM MARS, MARKS, INDENTATIONS, AND OTHER DAMAGE FROM CONSTRUCTION OPERATIONS AND PLACEMENT OF EQUIPMENT AND FIXTURES DURING REMAINDER OF CONSTRUCTION PERIOD.
- D. END OF SECTION 09.65.13

SECTION 09780 - SEAMLESS EPOXY-QUARTZ FLOORING - ARMOR-REZ CQ 100

PART 1 - GENERAL

1.2 SUMMARY
- A. SECTION INCLUDES:
1. MOISTURE VAPOR EMISSION TESTING
2. SURFACE PREPARATION
3. WATERPROOF MEMBRANE (IF REQUIRED)
4. FURNISHINGS AND INSTALLATION OF SEAMLESS EPOXY-QUARTZ FLOORING
- B. RELATED REQUIREMENTS:
1. SECTION 099316 "DECORATIVE CONCRETE STAINING" FOR SURFACE PREPARATION AND THE APPLICATION OF STAINS AND SEALERS O ON EXTERIOR CONCRETE PAVING SUBSTANCES.

1.6 QUALITY ASSURANCE
1. ALL MATERIALS USED IN THE SEAMLESS EPOXY-QUARTZ FLOORING SYSTEM SHALL BE MANUFACTURED BY A SINGLE MANUFACTURER TO ENSURE COMPATIBILITY AND PRIOR BONDING
2. APPLICATOR SHALL BE APPROVED BY THE MANUFACTURER AND SHALL HAVE A MINIMUM OF 3 YEARS EXPERIENCE IN INSTALLING SEAMLESS EPOXY FLOORS

1.7 DELIVERY, STORAGE AND HANDLING
1. ALL MATERIALS SHALL BE DELIVERED TO THE JOB SITE IN UNOPENED CONTAINERS CLEARLY LABELED BY THE MANUFACTURER AND STORED IN A DRY LOCATION AT A MINIMUM OF 65 DEGREES

1.8 WARRANTY
1. MANUFACTURER'S SHALL GUARANTEE THAT HIS MATERIALS ARE FREE FROM DEFECTS AND COMPLY WITH HIS PUBLISHED SPECIFICATIONS.
2. APPLICATOR SHALL WARRANTY AGAINST FAULTY WORKMANSHIP FOR A PERIOD OF 3 YEARS FROM SUBSTANTIAL COMPLETION OF THE PROJECT.

PART 2 - PRODUCTS

2.01 MANUFACTURERS
- A. RESIN SYSTEM AND GRADED SILICA FILLER SHALL BE AS SUPPLIED BY ARIZONA POLYMER FLOORING, PHOENIX, ARIZONA
- B. BROADCAST AGGREGATE SHALL BE SUPPLIED BY:
1. SPECTRAQUARTZ
2. GORDON SAND
3. OTHER SUITABLE MANUFACTURER
- C. ELASTOMERIC CAULKING COMPOUNDS SHALL BE SUPPLIED BY:
1. VULKEM
2. SIKA
3. SONNEBORN

2.02 MATERIALS
- A. SEAMLESS EPOXY-QUARTZ FLOORING SHALL CONSIST OF 100% SOLIDS CLEAR EPOXY 400 AND 28 MESH COLOR QUARTZ AGGREGATE.
- B. TWO-COMPONENT ALIPHATIC POLYURETHANE 100 OR POLYURETHANE 501 SHALL BE USED AS THE FINISH COAT FOR SYSTEMS REQUIRING A MOPPABLE TEXTURE.

2.03 SYSTEM DESCRIPTION
- A. FLOORING SYSTEM TO BE 1/8" THICK WITH COLOR AND TEXTURE TO MATCH THE SAMPLE CHOSEN.
- B. FINISHED FLOORING SYSTEM SHALL HAVE THE FOLLOWING PERFORMANCE CHARACTERISTICS:
1. COMPRESSIVE STRENGTH (ASTM C 579): 9500 PSI.
2. TENSILE STRENGTH (ASTM C 307): 2500 PSI
3. FLEXURAL STRENGTH (ASTM C 580): 4200 PSI
4. HARDNESS SHORE D (ASTM D 2240): 85
5. IMPACT RESISTANCE (ASTM D 2794): PASSES 160 INCH POUNDS.
6. THERMAL SHOCK RESISTANCE (ASTM D 1044): PASSES
7. TABOR ABRASION (ASTM D 1044): 34 MG. LOSS
8. WATER ABSORPTION (ASTM D 543): 0.2%
9. BOND STRENGTH (ACI 503.4-2.3.2): 350 PSI, CONCRETE FAILURE
10. USDA APPROVAL: APPROVED
- C. CHEMICAL RESISTANCE: (ASTM D 1308 - 7 DAY EXPOSURE) UNAFFECTED BY THE FOLLOWING:
1. URINE
2. BLOOD
3. GASOLINE
4. BRAKE FLUID
5. MINERAL SPIRITS
6. 25% HYDROCHLORIC ACID

DIVISION 9 FINISHES cont.

SECTION 09780 - SEAMLESS EPOXY QUARTZ FLOORING - ARMOR-REZ CQ 100 (CONT'D)

7. 25% SULFURIC ACID
8. 10% ACETIC ACID

PART 3 - EXECUTION

3.01 EXAMINATION
- A. VERIFICATION OF CONDITIONS:
1. INSPECT SURFACES TO RECEIVE EPOXY FLOORING.
2. CONDUCT CALCIUM CHLORIDE MOISTURE VAPOR EMISSION TESTING ACCORDING TO ASTM 1896-04. IF TEST READING IS ABOVE THREE POUND, CONSULT ARIZONA POLYMER FLOORING BEFORE PROCEEDING.
3. BEFORE STARTING WORK, REPORT IN WRITING TO THE ARCHITECT ANY UNSATISFACTORY CONDITION.
4. APPLICATION OF ANY MATERIAL SHALL SIGNIFY HAT SURFACES HAVE BEEN INSPECTED AND ARE SATISFACTORY.

3.02 SURFACE PREPARATION
- A. SURFACES TO RECEIVE FLOORING SYSTEM SHALL BE ABRADED TO MINIMUM OF 5 MIL PROFILE USING SHOT BLASTING OR ACID ETCHING. IF ACID ETCHING IS USED, IT SHALL BE DONE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS. ETCHING SHALL BE ACCOMPLISHED USING A MECHANICAL SCRUBBER WITH AN AGGRESSIVE "NYLOGRIT" TYPE BRUSH.
- B. FILL ALL CRACKS, HOLES AND JOINTS WITH EPOXY 300 FLEX PASTE PRIOR TO APPLICATION OF FLOORING SYSTEM. TRUE EXPANSION JOINTS SHALL BE MARKED FOR SAWCUTTING AFTER INSTALLATION OF THE FLOORING SYSTEM.

3.03 INSTALLATION
- A. ALLOW SUFFICIENT TIMED FOR THE INSTALLATION OF THE FLOORING SYSTEM. AT NO TIME SHALL THE SPEED OF PROJECT COMPLETION BE ALLOWED TO DETRIMENTALLY AFFECT THE APPLICATION.
- B. PROVIDE SUFFICIENT LIGHT, POWER, HEAT AND WORKING CONDITIONS TO PERMIT PROPER APPLICATION OF THE MATERIAL. SUBSTRATE TEMPERATURE SHALL BE AT A MINIMUM OF 50 DEGREES FAHRENHEIT DURING APPLICATION AND FOR 48 HOURS THEREAFTER.
- C. IF WATERPROOFING IS REQUIRED, APPLY ELASTOMERIC POLYURETHANE 300 ACCORDING TO MANUFACTURER'S INSTRUCTIONS TO ACHIEVE A 40 MIL MEMBRANE.
- D. INSTALL COVED BASE IF REQUIRED TO A THICKNESS OF $\frac{1}{4}$" TO $\frac{1}{2}$". COVE SHALL BE 4" TO 6" HIGH WITH $\frac{3}{4}$" TO 1" RADIUS AND TERMIBATED WITH A METAL PR PLASTIC EDGE STRIP. COVE SHALL BE REASONABLY SMOOTH AND UNIFORM IN APPEARANCE TO PROVIDE AN EASILY CLEANED SURFACE. THE SEAM BETWEEN THE COVED BASE AND THE WALL SHALL BE SEALED WITH AN ELASTOMERIC POLYURETHANE CAULKING.
- E. FLOORING SYSTEM SHALL BE INSTALLED USING THE DOUBLE BROADCAST TO ACHIEVE THE SPECIFIED THICKNESS.
1. BASE RESIN SHALL CONSIST OF EPOXY 400 CLEAR 100% SOLIDS EPOXY BINDER.
2. BROADCAST AGGREGATE FOR THE FIRST BROADCAST MAY BE 20-30 MESH MONTEREY TYPE SAND OR 28 MESH COLOR QUARTZ
3. BROADCAST AGGREGATE FOR THE SECOND BROADCAST SHALL BE BLENDED 28 MESH COLOR QUARTZ. COLOR BLEND SHALL BE CHOSEN BY THE OWNER.
- F. AREAS TO RECEIVE A MOPPABLE TEXTURE SHALL BE SANDED WITH 60-80 GRIT SANDPAPER AND FINISHED WITH POLYURETHANE 100 OR POLYURETHANE 501.
- G. IF THE FLOOR HAS BEEN INSTALLED OVER TRUE EXPANSION JOINTS, SAWCUT THROUGH THE FINISHED FLOOR AND CAULK THE JOINTS WITH ELASTOMERIC POLYURETHANE CAULK.

3.04 FIELD QUALITY CONTROL
- A. INSTALLER SHALL MONITOR THE THICKNESS OF THE SYSTEM AS THE WORK PROGRESSES. AREAS FOUND TO NOT MEET THE REQUIRED THICKNESS SHALL RECEIVE ADDITIONAL MATERIAL UNTIL SPECIFIED THICKNESS IS ATTAINED.

3.05 PROTECTION
- A. INSTALLATION AREAS MUST BE KEPT FREE FROM TRAFFIC AND OTHER TRADES DURRING THE APPLICATION PROCEDURE AND CURE TIME.

SECTION 09900 - PAINTING

1.1 GENERAL
- A. SUBMITTALS
1. PROVIDE A MINIMUM OF THREE 8" X 10" SAMPLES FOR EACH COLOR AND EACH FINISH INDICATED IN THE FINISH SCHEDULE.
- B. PRODUCTS
1. SEE FINISH SCHEDULE FOR MANUFACTURERS, COLOR AND FINISHES.
- C. EXECUTION
1. GENERAL:
   a. PRIOR TO PAINT APPLICATION, THE CONTRACTOR SHALL SCHEDULE A REVIEW OF FINAL PAINT COLOR LOCATIONS WITH THE ARCHITECT IN THE FIELD.
   b. SEE FINISH PLAN AND INTERIOR ELEVATIONS FOR SPECIFIC LOCATIONS OF PAINT COLORS AND FINISHES.
   c. WHERE PAINTS OF TWO DIFFERENT TYPES OR COLOR ABUT, THE SEAM SHALL BE ON AN INSIDE CORNER ONLY.
   d. FINAL COAT OF PAINT SHALL BE ROLL APPLIED AT ALL GWB SURFACES.
2. PREPARATION:
   a. REMOVE BLISTERED, PEELING AND SCALING PAINT OR CHALK DEPOSITS TO SOUND SUBSTRATES.
   b. COMPLETELY REMOVE SEALANTS OR CAULKING.
   c. DULL GLOSSY SURFACES.
   d. AT METAL SURFACES, REMOVE RUST, OIL, GREASE AND OTHER CONTAMINANTS HARMFUL TO PAINTING. SAND CLEAN AND SPOT PRIME.
   e. AT GWB SURFACES; REPAIR SURFACE DEFECTS WITH JOINT COMPOUND, FILL FLUSH AND SAND SMOOTH. CLEAN SURFACES OF DUST. GREASE AND DIRT.
   f. AT WOOD SURFACES; SAND SMOOTH AND REMOVE DUST. COUNTERSINK NAILS AND FILL NAIL HOLES, CRACKS AND OPEN JOINTS WITH PUTTY OR WOOD FILLER.
3. APPLICATION (UNLESS NOTED OTHERWISE):
   a. AT GWB SURFACES:
      ONE (1) PRIMER COAT: VINYL ACRYLIC PRIMER SEALER.
      TWO (2) FINISH COATS: VINYL ACRYLIC LATEX; EGGSHELL FINISH @ WALLS, FLAT @ CEILINGS.
   b. AT INTERIOR WOOD SURFACES TO BE PAINTED:
      ONE (1) TINTED PRIMER COAT TO MATCH FINISH COAT FOLOR: ALKYD ENAMEL UNDERBODY.
      TWO (2) FINISH COATS: VINYL ACRYLIC LATEX SEMI-GLOSS ENAMEL.
   c. AT INTERIOR METAL SURFACES TO BE PAINTED:
      ONE (1) PRIMER COAT: RUST-INHIBITING ALKYD PRIMER.
      TWO (2) FINISH COATS: ALKYD GLASS ENAMEL.
4. CLEAN-UP:
   a. THE CONTRACTOR SHALL PROVIDE ONE FINAL TOUCH-UP OF PAINT SURFACES AFTER THE OWNER HAS MOVED INTO THE SPACE.

SECTION 099113 - EXTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
- A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY
- A. SECTION INCLUDES SURFACE PREPARATION AND THE APPLICATION OF PAINT SYSTEMS ON THE FOLLOWING EXTERIOR SUBSTRATES:
1. CONCRETE
2. CLAY MASONRY
3. STEEL
4. GALVANIZED METAL
5. WOOD
6. EXTERIOR PORTLAND CEMENT PLASTER (STUCCO)
7. EXTERIOR GYPSUM BOARD
- B. RELATED REQUIREMENTS:
1. SECTION 099316 "DECORATIVE CONCRETE STAINING" FOR SURFACE PREPARATION AND THE APPLICATION OF STAINS AND SEALERS ON EXTERIOR CONCRETE PAVING SUBSTRATES.

DIVISION 9 FINISHES cont.

SECTION 099113 - EXTERIOR PAINTING (CONT'D)

1.3 DEFINITIONS
- A. GLOSS LEVEL 1: NOT MORE THAN 5 UNITS AT 60 DEGREES AND 10 UNITS AT 85 DEGRESS, ACCORDING TO ASTM D 523.
- B. GLOSS LEVEL 3: 10 TO 25 UNITS AT 60 DEGREES AND 10 TO 35 UNITS TO 85 DEGRESS, ACCORDING TO ASTM D 523.
- C. GLOSS LEVEL 4: 20 TO 35 UNITS AT 60 DEGREES AND NOT LESS THAN 35 UNITS AT 85 DEGREES, ACCORDING TO ASTM D 523.
- D. GLOSS LEVEL 5: 35 TO 70 UNITS AT 60 DEGREES, ACCORDING TO ASTM D 523.
- E. GLOSS LEVEL 6: 70 TO 85 UNITS AT 60 DEGREES, ACCORDING TO ASTM D 523.
- F. GLOSS LEVEL 7: MORE THAN 85 UNITS AT 60 DEGREES, ACCORDING TO ASTM D 523.

1.4 ACTION SUBMITTALS
- A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT, INCLUDE PREPARATION REQUIREMENTS AND APPLICATION INSTRUCTIONS.
- B. SAMPLES FOR INITIAL SELECTION: FOR EACH TYPE OF TOPCOAT PRODUCT.
- C. SAMPLES FOR VERIFICATION: FOR EACH TYPE OF PAINT SYSTEM AND EACH COLOR AND GLOSS OF TOPCOAT.
1. SUBMIT SAMPLES ON RIGID BACKING, 8 INCHES SQUARE.
2. STEP COATS ON SAMPLES TO SHOW EACH COAT REQUIRED FOR SYSTEM.
3. LABEL EACH COAT OF EACH SAMPLE.
4. LABEL EACH SAMPLE FOR LOCATION AND APPLICATION AREA.
- D. PRODUCT LISTS: FOR EACH PRODUCT INDICATED, INCLUDE THE FOLLOWING.
1. CROSS-REFERENCE TO PAINT SYSTEM AND LOCATIONS PF APPLICATION AREAS. USE SAME DESIGNATIONS INDICATED ON DRAWINGS AND IN SCHEDULES.
2. PRINTOUT OF CURRENT "MPI APPROVED PRODUCTS LIST" FOR EACH PRODUCT CATEGORY SPECIFIED, WITH THE PROPOSED PRODUCT HIGHLIGHTED.
3. VOC CONTENT.

1.5 MAINTENANCE MATERIAL SUBMITTALS
- A. FURNISH EXTRA MATERIALS, FROM THE SAME PRODUCT RUN, THAT MATCH PRODUCTS INSTALLED AND THAT ARE PACKAGED WITH PROTECTIVE COVERING FOR STORAGE AND IDENTIFIED WITH LABELS DESCRIBING CONTENTS.
1. PAINT: 5 PERCENT, BUT NOT LESS THAN 1 GAL. OF EACH MATERIAL AND COLOR APPLIED

1.6 QUALITY ASSURANCE
- A. MOCKUPS: APPLY MOCKUPS OF EACH PAINT SYSTEM INDICATED AND EACH COLOR AND FINISH SELECTED TO VERIFY PRELIMINARY SELECTIONS MADE UNDER SAMPLE SUBMITTALS AND TO DEMONSTRATE AESTHETIC EFFECTS AND SET QUALITY STANDARDS FOR MATERIALS AND EXECUTION.
1. ARCHITECT WILL SELECT ONE SURFACE TO REPRESENTS SURFACES AND CONDITIONS FOR APPLICATIONS OF EACH PAINT SYSTEM SPECIFIED IN PART 3.
   a. VERTICAL AND HORIZONTAL SURFACES: PROVIDE SAMPLES OF AT LEAST 100 SQ. FT.
   b. OTHER ITEMS: ARCHITECT WILL DESIGNATE ITEMS OR AREAS REQUIRED.
2. FINAL APPROVAL OF COLOR SELECTIONS WILL BE BASED ON MOCKUPS.
   a. IF PRELIMINARY COLOR SELECTIONS ARE NOT APPROVED, APPLY ADDITIONAL MOCKUPS OF ADDITIONAL COLORS SELECTED BY ARCHITECT AT NO ADDED COST TO OWNER.
3. APPROVAL OF MOCKUPS DOES NOT CONSTITUTE APPROVAL OF DEVIATIONS FROM THE CONTRACT DOCUMENTS CONTAINED IN MOCKUPS UNLESS ARCHITECT SPECIFICALLY APPROVES SUCH DEVIATIONS IN WRITING.
4. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, APPROVED MOCKUPS MAY BECOME PART OF THE COMPLETED WORK IN UNDISTURBED AT TIME OF SUBSTANTIAL COMPLETION.

1.7 DELIVERY, STORAGE, AND HANDLING
- A. STORE MATERIALS NOT IN USE IN TIGHTLY COVERED CONTAINERS IN WELL-VENTILATED AREAS WITH AMBIENT TEMPERATURES CONTINUOUSLY MAINTAINED AT NOT LESS THAN 45 DEG F.
1. MAINTAIN CONTAINERS IN CLEAN CONDITION, FREE OF FOREIGN MATERIALS AND RESIDUE.
2. REMOVE RAGS AND WASTE FROM STORAGE AREAS DAILY.

1.8 FIELD CONDITIONS
- A. APPLY PAINTS ONLY WHEN TEMPERATURE OF SURFACES TO BE PAINTED AND AMBIENT AIR TEMPERATURES ARE BETWEEN 50 AND 95 DEG F.
- B. DO NOT APPLY PAINTS IN SNOW, RAIN, FOG, OR MIST; WHEN RELATIVE HUMIDITY EXCEEDS 85 PERCENT; AT TEMPERATURES LESS THAN 5 DEG F ABOVE THE DEW POINT; OR TO DAMP OR WET SURFACES.

PART 2 - PRODUCTS

2.1 MANUFACTURERS
- A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE. BUT ARE LIMITED TO, THE FOLLOWING:
1. BENJAMIN MOORE & CO.
2. CLOVERDALE PAINT.
3. DURON, INC.
4. ICI PAINTS.
5. KELLEY-MOORE PAINTS.
6. PPG ARCHITECTURAL FINISHES, INC.
7. SHERWIN-WILLIAMS COMPANY (THE).

2.2 PAINT, GENERAL
- A. MPI STANDARDS: PROVIDE PRODUCTS THAT COMPLY WITH MPI STANDARDS INDICATED AND THAT ARE LISTED IN ITS "MPI APPROVED PRODUCTS LIST."
- B. MATERIAL COMPATIBILITY:
1. PROVIDE MATERIALS FOR USE WITHIN EACH PAINT SYSTEM THAT ARE COMPATIBLE WITH ONE ANOTHER AND SUBSTANCES INDICATED, UNDER CONDITIONS OF SERVICE AND APPLICATION AS DEMONSTRATED BY MANUFACTURER, BASED ON TESTING AND FIELD EXPERIENCE.
2. FOR EACH COAT IN A PAINT SYSTEM, PROVIDE PRODUCTS RECOMMENDED IN WRITING BY MANUFACTURERS OF TOPCOAT FOR USE IN PAINT SYSTEM AND ON SUBSTRATE INDICATED.
- C. VOC CONTENT: PROVIDE MATERIALS THAT COMPLY WITH VOC LIMITS OF AUTHORITIES HAVING JURISDICTION.
- D. COLORS: MATCH ARCHITECT'S SAMPLES.

PART 3 - EXECUTION

3.1 EXAMINATION
- A. EXAMINE SUBSTRATES AND CONDITIONS, WITH APPLICATOR PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR MAXIMUM MOISTURE CONTENT AND OTHER CONDITIONS AFFECTING PERFORMANCE OF THE WORK.
- B. MAXIMUM MOISTURE CONTENT OF SUBSTRATES: WHEN MEASURED WITH AN ELECTRONIC MOISTURE METER AS FOLLOWS:
1. CONCRETE: 12 PERCENT
2. MASONRY (CLAY AND CMU): 12 PERCENT
3. WOOD: 15 PERCENT
4. PORTLAND CEMENT PLASTER: 12 PERCENT
5. GYPSUM BOARD: 12 PERCENT
- C. PORTLAND CEMENT PLASTER SUBSTRATES: VERIFY THAT PLASTER IS FULLY CURED.
- D. EXTERIOR GYPSUM BOARD SUBSTRATES: VERIFY THAT FINISHING COMPOUND IS SANDED SMOOTH.
- E. VERIFY SUITABILITY OF SUBSTRATES, INCLUDING SURFACE CONDITIONS AND COMPATIBILITY WITH EXISTING FINISHES AND PRIMERS.
- F. PROCEED WITH COATING APPLICATION ONLY AFTER SATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
1. APPLICATION WITH COATING INDICATES ACCEPTANCE OF SURFACES AND CONDITIONS.

3.2 PREPARATION
- A. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND RECOMMENDATIONS IN "MPI MANUAL" AND "MPI MAINTENANCE REPAINTING MANUAL" APPLICABLE TO SUBSTRATES AND PAINT SYSTEMS INDICATED.
- B. REMOVE HARDWARE, COVERS, PLATES, AND SIMILAR ITEMS ALREADY IN PLACE THAT ARE REMOVABLE AND ARE NOT TO BE PAINTED. IF REMOVAL IS IMPRACTICAL OR IMPOSSIBLE BECAUSE OF SIZE OR WRIGHT OF ITEM, PROVIDE SURFACE-APPLIED PROTECTION BEFORE SURFACE PREPARATION AND PAINTING.
1. AFTER COMPLETING PAINTING OPERATIONS, USE WORKERS SKILLED IN THE TRADES INVOLVED TO REINSTALL ITEMS THAT WERE REMOVED. REMOVE SURFACE-APPLIED PROTECTION.

DINISION 9 FINISHES cont.

SECTION 099113 - EXTERIOR PAINTING (CONT'D)

- C. CLEAN SUBSTRATES OF SUBSTRATES THAT COULD IMPAIR BOND OF PAINTS, INCLUDING DUST, DIRT, OIL, GREASE, AND INCOMPATIBLE PAINTS AND ENCAPSULANTS.
1. REMOVE INCOMPATIBLE PRIMERS AND RE-PRIME SUBSTRATE WITH COMPATIBLE PRIMERS OR APPLY TIE COAT AS REQUIRED TO PRODUCE PAINT SYSTEMS INDICATED.
- D. CONCRETE SUBSTRATES: REMOVE RELEASE AGENTS, CURING COMPOUNDS, EFFLORESCENCE, AND CHALK. DO NOT PAINT SURFACES IF MOISTURE CONTENT OR ALKALINITY OF SURFACES TO BE PAINTED EXCEEDS THAT PERMITTED IN MANUFACTURER'S WRITTEN INSTRUCTIONS.
- E. MASONRY SUBSTRATES: REMOVE EFFLORESCENCE AND CHALK. DO NOT PAINT SURFACES IF MOISTURE CONTENT OR ALKALINITY OF SURFACES OR MORTAR JOINTS EXCEEDS THAT PERMITTED IN MANUFACTURER'S WRITTEN INSTRUCTIONS.
- F. STEEL SUBSTRATES: REMOVE RUST, LOOSE MILL SCALE, AND SHOP PRIMER IF ANY. CLEAN USING METHODS RECOMMENDED IN WRITING BY PAINT MANUFACTURER, BUT NOT LESS THAN THE FOLLOWING:
1. SSPC-SP 3, "POWER TOOL CLEANING."
- G. GALVANIZED-METAL SUBSTRATES: REMOVE GREASE AND OIL RESIDUE FROM GALVANIZED SHEET METAL BY MECHANICAL METHODS TO PRODUCE CLEAN, LIGHTLY ETCHED SURFACES THAT PROMOTE ADHESION OF SUBSEQUENTLY APPLIED PAINTS.
- H. WOOD SUBSTRATES:
1. SCRAPE AND CLEAN KNOTS. BEFORE APPLYING PRIMER, APPLY COAT OF KNOT SEALER RECOMMENDED IN WRITING BY TOPCOAT MANUFACTURER FOR EXTERIOR USE IN PAINT SYSTEM INDICATED.
2. SAND SURFACES THAT WILL BE EXPOSED TO VIEW, AND DUST OFF.
3. PRIME EDGES, ENDS, FACES, UNDERSIDES, AND BACKSIDES OF WOOD.
4. AFTER PRIMING, FILL HOLES AND IMPERFECTIONS IN THE FINISH SURFACES WITH PUTTY OR PLASTIC WOOD FILLER. SAND SMOOTH WHEN DRIED.

3.3 APPLICATION
- A. APPLY PAINTS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AND RECOMMENDATIONS IN "MPI MANUAL."
1. USE APPLICATORS AND TECHNIQUES SUITED FOR PAINT AND SUBSTRATE INDICATED.
2. PAINT SURFACES BEHIND MOVEABLE ITEMS SAME AS SIMILAR EXPOSED SURFACES. BEFORE FINAL INSTALLATION, PAINT SURFACES BEHIND PERMANENTLY FIXED ITEMS WITH PRIME COAT ONLY.
3. PAINT BOTH SIDES AND EDGES OF EXTERIOR DOORS AND ENTIRE EXPOSED SURFACE OF EXTERIOR DOOR FRAMES.
4. DO NOT PAINT OVER LABELS OF INDEPENDENT TESTING AGENCIES OR EQUIPMENT NAME, IDENTIFICATION, PERFORMANCE RATING, OR NOMENCLATURE PLATES.
5. PRIMERS SPECIFIED IN PAINTING SCHEDULES MAY BE OMITTED ON ITEMS THAT ARE FACTORY PRIMED OR FACTORY FINISHED IF ACCEPTABLE TO TOPCOAT MANUFACTURERS.
- B. IF UNDERCOATS OR OTHER CONDITIONS SHOW THROUGH TOPCOAT, APPLY ADDITIONAL COATS UNTIL CURED FILM HAS A UNIFORM PAINT FINISH, COLOR, AND APPEARANCE.
- C. APPLY PAINTS TO PRODUCE SURFACE FILMS WITHOUT CLOUDINESS, SPOTTING, HOLIDAYS, LAPS, BRISH MARKS, ROLLER TRACKING , RUNS, SAGS, ROPINESS, OR OTHER SURFACE IMPERFECTIONS. CUT IN SHARP LINES AND COLOR BREAKS.
- D. PAINTING FIRE SUPPRESSION, PLUMBING, HVAC, ELECTRICAL, COMMUNICATION, AND ELECTRONIC SAFETY AND SECURITY WORK:
1. PAINT THE FOLLOWING WORK WHERE EXPOSED TO VIEW:
   a. EQUIPMENT, INCLUDING PANELBOARDS AND SWITCH GEAR
   b. UN-INSULATED METAL PIPING
   c. UN-INSULATED PLASTIC PIPING
   d. PIPE HANGERS AND SUPPORTS
   e. METAL CONDUIT
   f. PLASTIC CONDUIT
   g. TANKS THAT DO NOT HAVE FACTORY-APPLIED FINAL FINISHES

3.4 CLEANING AND PROTECTION
- A. AT END OF EACH WORKDAY, REMOVE RUBBISH, EMPTY CANS, RAGS, AND OTHER DISCARDED MATERIALS FROM PROJECT SITE.
- B. AFTER COMPLETING PAINT APPLICATION, CLEAN SPATTERED SURFACES. REMOVE SPATTERED PAINTS BY WASHING, SCRAPING, OR OTHER METHODS. DO NOT SCRATCH OR DAMAGE ADJACENT FINISHED SURFACES.
- C. PROTECT WORK OF OTHER TRADES AGAINST DAMAGE FROM PAINT APPLICATION. CORRECT DAMAGE TO WORK OF OTHER TRADES BY CLEANING, REPAIRING, REPLACING, AND REFINISHING, AS APPROVED BY ARCHITECT, AND LEAVE IN AN UNDAMAGED CONDITION.
- D. AT COMPLETION OF CONSTRUCTION ACTIVITIES OF OTHER TRADES, TOUCH UP AND RESTORE DAMAGED OR DEFACED PAINTED SURFACES.

3.5 EXTERIOR PAINTING SCHEDULE
- A. CONCRETE SUBSTRATES, NON-TRAFFIC SURFACES:
1. LATEX SYSTEM:
   a. PRIME COAT: LATEX, EXTERIOR, MATCHING TOPCOAT.
   b. INTERMEDIATE COAT: LATEX, EXTERIOR, MATCHING TOPCOAT.
   c. TOPCOAT: LATEX, EXTERIOR SEMI-GLOSS (GLOSS LEVEL 5), MPI #11.
- B. CLAY-MASONRY SUBSTRATES:
1. HIGH-BUILD LATEX SYSTEM: DRY FILM THICKNESS NOT LESS THAN 10 MILS.
   a. PRIME COAT: AS RECOMMENDED IN WRITING BY TOPCOAT MANUFACTURER.
   b. INTERMEDIATE COAT: AS RECOMMENDED IN WRITING BY TOPCOAT MANUFACTURER.
   c. TOPCOAT: LATEX, EXTERIOR, HIGH BUILD, MPI #40.
- C. STEEL SUBSTRATES:
1. WATER-BASED LIGHT INDUSTRIAL COATING SYSTEM:
   a. PRIME COAT: PRIMER, ALKYD, ANTI-CORROSIVE FOR METAL, MPI #79.
   b. INTERMEDIATE COAT: LIGHT INDUSTRIAL COATING, EXTERIOR, WATER BASED, MATCHING TOPCOAT.
   c. TOPCOAT: LIGHT INDUSTRIAL COATING, EXTERIOR, WATER-BASED, SEMI-GLOSS (GLOSS LEVEL 5), MPI #163.
- D. GALVANIZED-METAL SUBSTRATES:
1. WATER-BASED LIGHT INDUSTRIAL COATING SYSTEM:
   a. PRIME COAT: PRIMER, GALVANIZED METAL, AS RECOMMENDED IN WRITING BY TOPCOAT MANUFACTURER FOR EXTERIOR USE ON GALVANIZED-METAL SUBSTRATES WITH TOPCOAT INDICATED.
   b. INTERMEDIATE COAT: LIGHT INDUSTRIAL COATING, EXTERIOR, WATER BASED, MATCHING TOPCOAT.
   c. TOPCOAT: LIGHT INDUSTRIAL COATING, EXTERIOR, WATER BASED, SEMI-GLOSS (GLOSS LEVEL 5), MPI #163.
- E. WOOD SUBSTRATES: INCLUDING PLYWOOD SOFFITS.
1. LATEX OVER ALKYD PRIMER SYSTEM:
   a. PRIME COAT: PRIMER, ALKYD FOR EXTERIOR WOOD, MPI #5.
   b. INTERMEDIATE COAT: LATEX, EXTERIOR, MATCHING TOPCOAT.
   c. TOPCOAT: LATEX, EXTERIOR FLAT (GLOSS LEVEL 1), MPI #10.
- F. PORTLAND CEMENT PLASTER SUBSTRATES:
2. LATEX OVER ALKALI-RESISTANT PRIMER SYSTEM:
   a. PRIME COAT: PRIMER, ALKALI RESISTANT, WATER BASED, MPI #3.
   b. INTERMEDIATE COAT: LATEX, EXTERIOR, MATCHING TOPCOAT.
   c. TOPCOAT: LATEX, EXTERIOR FLAT (GLOSS LEVEL 1), MPI #10.
- G. EXTERIOR GYPSUM BOARD SUBSTRATES:
1. LATEX SYSTEM:
   a. PRIME COAT: LATEX, EXTERIOR, MATCHING TOPCOAT.
   b. INTERMEDIATE COAT: LATEX, EXTERIOR, MATCHING TOPCOAT.
   c. TOPCOAT: LATEX, EXTERIOR FLAT (GLOSS LEVEL 1), MPI #

DIVISION 9 - FINISHES CONTD.

GENERAL SPECIFICATION BOOTH / BANQUETTE cont.d'

WHERE SINUOUS (NO SAG) SPRINGS ARE SPECIFIED OR OTHERWISE APPROVED BY THE DESIGNER, SPRINGS SHALL BE CONSTRUCTED OF 8 GAUGE SPRING WIRE AT 5 INCHES OR LESS ON CENTER. MANUFACTURER SHALL PROVIDE NOISE COATED SPRING CLIPS AND LATERAL STABILIZING WRAPPED EDGE WIRE. MANUFACTURER SHALL PROVIDE 2 OZ BONDED POLYESTER DECK INSULATOR.

BACK SPRINGING: SINUOUS (NO-SAG) CONSTRUCTION USING 11 OR 12 GAUGE WIRE WITH LATERAL STABILIZING WRAPPED EDGE WIRE.

MANUFACTURER TO SUBMIT REPRODUCIBLE SHOP DRAWINGS TO THE ARCHITECT FOR APPROVAL PRIOR TO PRODUCTION.

DO SUBSTITUTIONS OR CHANGES OF EXPLICITLY SPECIFIED MATERIALS ARE TO BE MADE UNLESS APPROVED BY THE ARCHITECT.

MANUFACTURER TO MAKE ALTERNATE SIZE RECOMMENDATIONS TO ARCHITECT IF SCALE AND PROPORTION ARE NOT APPROPRIATE.

ALL UPHOLSTERED AND CHAIR SEATING MUST MEET APPLICABLE CODES.

CONSTRUCTION: FRAME TO BE CONSTRUCTED OF FIVE QUARTER KILN-DRIED HARDWOOD, REINFORCED WITH CORNER BLOCKS, GLUED AND SCREWED TO RAIL. ALL RAILS AND POSTS TO BE DOUBLE DOWELED, SCREWED AND GLUED IN PLACE. COMPONENTS TO BE FIRE-RETARDANT.

MANUFACTURER TO USE CONTRACT FIRM, FIRE-RETARDANT FOAM. STANDARD FOAM TO BE POLYDACRON WRAP WITH MUSLIN COVER OTHERWISE NOTED. FORM CORE AND WRAP MUST PASS CAL 117.

CUSHIONS TO BE FABRICATED USING POLYESTER WRAPPED IN HIGH RESILIENT POLYURETHANE UNLESS OTHERWISE NOTED.

MANUFACTURER AND/OR PA TO CONFIRM YARDAGE OR SQUARE FOOTAGE UPHOLSTERY REQUIREMENTS PRIOR TO FABRICATION.

MANUFACTURER TO SUBMIT FINISH SAMPLES, EITHER STANDARD OR CUSTOM, TO ARCHITECT FOR APPROVAL PRIOR FABRICATION.

FABRICS FOR A SINGLE PIECE OF UPHOLSTERED FURNITURE SHOULD BE FROM THE SAME DYE LOT.

ALL INTERNAL (HINGES, SCREWS, BOLTS, ETC.) TO BE CORROSION PROOF.

ALL WOOD LEGS TO BE SEALED ON THE UNDERSIDE.

MANUFACTURER TO PROVIDE HEAVY-DUTY CARPET GLIDES OR LEVELERS FOR LEGS AS SPECIFIED.

DEALER/MANUFACTURER TO PROVIDE DELIVERY OF SEATING TO INSIDE OF SPACE, UN-CRAFTING AND REMOVAL OF DEBRIS FOR CONTRACTOR INSTALLATION, UNLESS OTHERWISE NOTED.

WOOD SPECIES ON ALL EXPOSED SOLIDS AND/OR VENEERS TO BE PREMIUM GRADE HARDWOOD UNLESS OTHERWISE NOTED.

ALL DIMENSIONS ARE TO BE COORDINATED WITH THE ARCHITECT PRIOR TO ORDERING.

MANUFACTURER TO FOLLOW WOOD GRAIN DIRECTION PER ARCHITECT'S DRAWINGS.

IN THE EVENT THAT LOCAL CODES EXCEED THE REQUIREMENTS CONTAINED HEREIN, THE LOCAL CODES MUST BE INTERPRETED AS MINIMUM REQUIREMENTS.

16050 BASIC MATERIALS
(NOTE: REFER TO ENGINEERING DRAWINGS FOR COMPLETE ELECTRICAL SPECIFICATIONS.)

A. ELECTRICAL RECEPTACLES SHALL BE DECORA BY LEVITON (800-323-8920). COLOR SHALL BE BLACK EXCEPT FOR RECEPTACLES ON DEDICATED CIRCUITS WHICH SHALL BE GRAY AND ISOLATED GROUND RECEPTACLES WHICH SHALL BE ORANGE. RECEPTACLE FACEPLATES SHALL BE STEEL WITH A SATIN OR BRUSHED FINISH.
B. SWITCHES SHALL BE DECORA BY LEVITON (800-323-8920). COLOR SHALL BE BLACK. SWITCH FACEPLATES SHALL BE STAINLESS STEEL WITH A SATIN OR BRUSHED FINISH.
C. DIMMERS SHALL BE DECORA BY LEVITON (800-323-8920) PR VISUALLY MATCH DECORA STYLE. DIMMERS SHALL BE COMPATIBLE WITH LIGHT FIXTURES AND BALLASTS. COLOR SHALL BE BLACK. FACEPLATES SHALL BE STAINLESS STEEL WITH A SATIN OR BRUSHED FINISH WHERE POSSIBLE - FACEPLATES SHALL MATCH DIMMER AT OTHER LOCATIONS.

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DAVID A. EFAW
NUMBER A-2007020148
APPROVED
6/14/22

CAVA

CAVA - LEE'S SUMMIT
904 PRYOR RD
LEE'S SUMMIT, MO 64081
FOR
CAVA
702 H STREET, 2ND FLOOR, WASHINGTON, DC 20001

AOR PROJECT NUMBER:
CAV070

ISSUE	DATE
PERMIT	JUN 14, 2022

SPECIFICATIONS

SHEET:
G906

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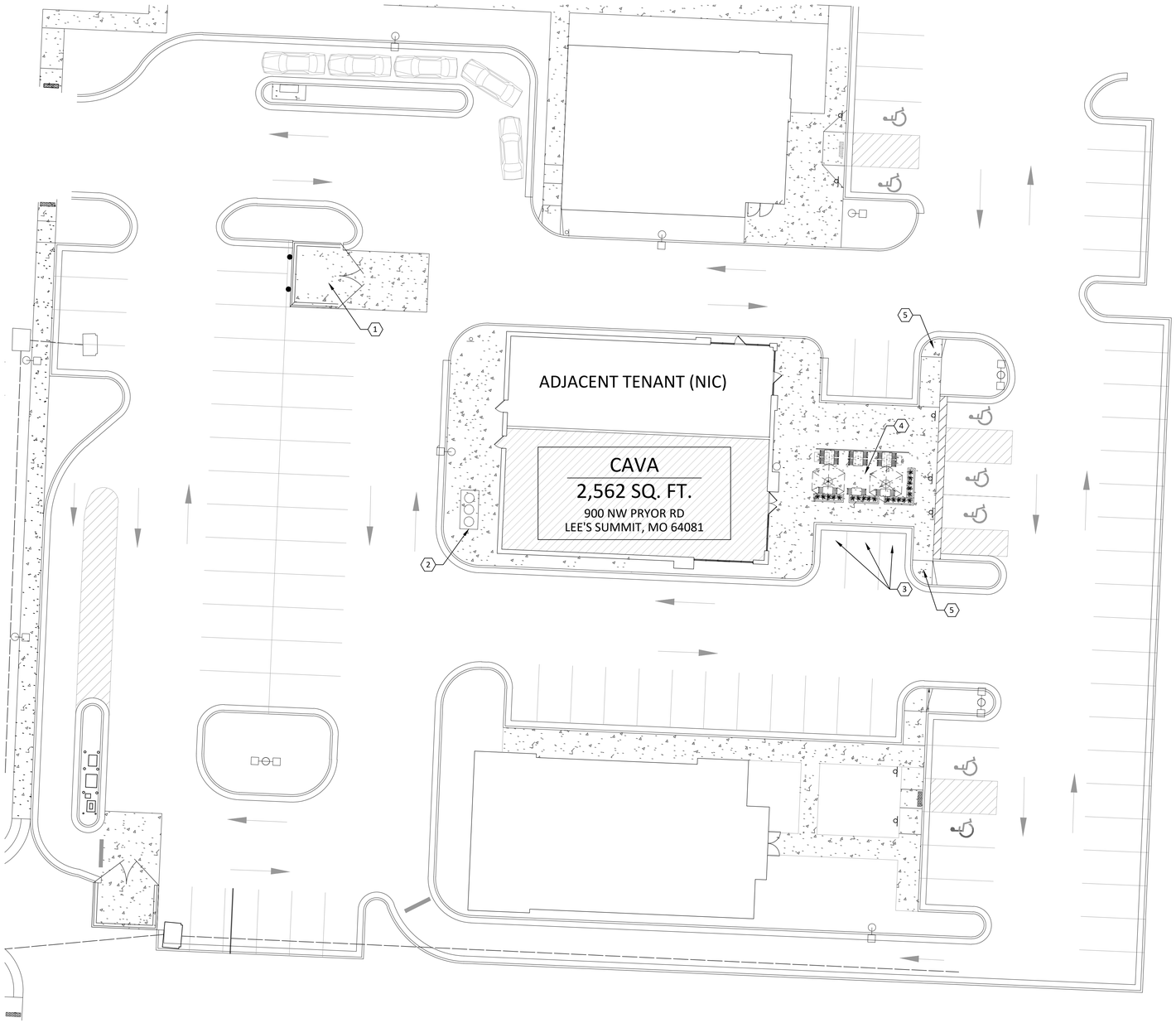
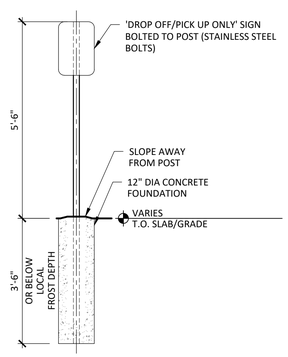
SITE PLAN CODED NOTES

1. EXISTING TRASH ENCLOSURE.
2. EXISTING GREASE INTERCEPTOR.
3. CARRYOUT PARKING SPACE. REFER TO 2/A010 FOR CARRY OUT SIGNAGE DETAILS.
4. NEW PATIO.
5. EXISTING ADA RAMP.



1 / A010 SITE PLAN
1/16" = 1'-0"



2 / A010 CARRY OUT PARKING SIGN DETAIL
1/2" = 1'-0"

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STATE OF MISSOURI
DAVID A. EFAW
NUMBER A-2007020148
REGISTERED ARCHITECT
6/14/22

CAVA

CAVA - LEE'S SUMMIT
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FOR
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702 H STREET, 2ND FLOOR, WASHINGTON, DC 20001

AOR PROJECT NUMBER:
CAV070

ISSUE	DATE
PERMIT	JUN 14, 2022

SITE PLAN

SHEET:
A010

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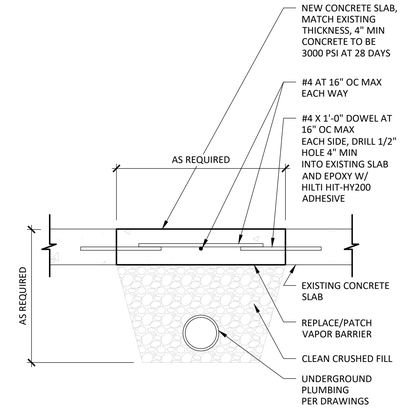


2 / A100 TYP. SLAB TRENCH DETAIL

1 1/2" = 1'-0"

SLAB PLAN CODED NOTES

1. NEW FLOOR SINK/DRAIN - REFER TO PLUMBING DRAWINGS.
2. REFER TO A101 FOR SLAB INFILL.
3. NEW LAVATORY, REFER TO PLUMBING DRAWINGS.
4. NEW WATER CLOSET, REFER TO PLUMBING DRAWINGS.
5. NEW MOP SINK, REFER TO PLUMBING DRAWINGS.
6. NEW KITCHEN HAND SINK, REFER TO PLUMBING DRAWINGS.
7. NEW 3" CONCRETE CURB. NEW BRINKS SAFE TO BE MOUNTED ON CURB. REFER TO DETAIL 8/A501.
8. 4" CONCRETE CURB FOR WATER HEATER AND WATER SOFTENER. REFER TO SIMILAR DETAIL 8/A501.
9. PROVIDE SCHEDULED 40 PVC CONDUIT AND FITTINGS WITH SOLVENT-WELDED JOINTS. PROVIDE LONG SWEEP ELBOWS AT BOTH ENDS, WITH A MINIMUM 16 INCH RADIUS. SEAL ENDS OF CONDUIT WITH FOAM AFTER SYRUP LINE IS INSTALLED IN CONDUIT. INSTALL PVC CAP WITH HOLE FOR SODA LINES ON EACH END OF THE CONDUIT. CAULK HOLE IN PVC CAP AROUND SODA BUNDLE. STUB PIPE ABOVE FLOOR AT LOCATIONS SHOWN ON THE ARCHITECTURAL FLOOR PLAN. TRIM PIPE 6" A.F.F., TYP. FOR BOTH ENDS. SEAL FLOOR PENETRATION WITH FLEXIBLE, WATERPROOF MATERIAL TO COMPENSATE FOR PIPE EXPANSION, TYP. FOR FLOOR PENETRATIONS.

SYMBOLS

	FLOOR SINK, REFER TO PLUMBING DRAWINGS
	FLOOR DRAINS, REFER TO PLUMBING DRAWINGS

SLAB PLAN GENERAL NOTES

A. THIS DRAWING IS PART OF A COORDINATED SET OF DOCUMENTS. DO NOT SEPARATE BOUND SETS.

B. DRAWINGS AND DIMENSIONS OF THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM OWNER'S PERMIT DRAWINGS. BE ALERT TO DIMENSIONAL DISCREPANCIES, STRUCTURAL SUPPORTS AND OTHER ELEMENTS CONCEALED IN WALLS, NOT SHOWN. REPORT DISCREPANCIES PRIOR TO PROCEEDING.

C. IN THE EVENT OF INCONSISTENCIES BETWEEN ARCHITECTURAL AND CONSULTANT BASE PLANS CONTACT ARCHITECT TO REPORT DISCREPANCIES PRIOR TO PROCEEDING WITH AFFECTED WORK.

D. DO NOT SCALE DRAWINGS FOR CONSTRUCTION DIMENSIONS OR TOLERANCES. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER DRAWINGS. REQUEST CLARIFICATION IN WRITING PRIOR TO PROCEEDING.

E. DIMENSIONS ARE TO FACE OF FINISH UNLESS NOTED OTHERWISE.

F. DIMENSIONS AND CLEARANCES SHOWN ON DRAWINGS RELATING TO ACCESSIBILITY OR EGRESS ARE FROM FACE OF FINISH MATERIAL. ALLOW FOR FINISHES IN FABRICATING AND/OR INSTALLING ITEMS. REPORT DISCREPANCIES PRIOR TO PROCEEDING WITH AFFECTED ITEMS.

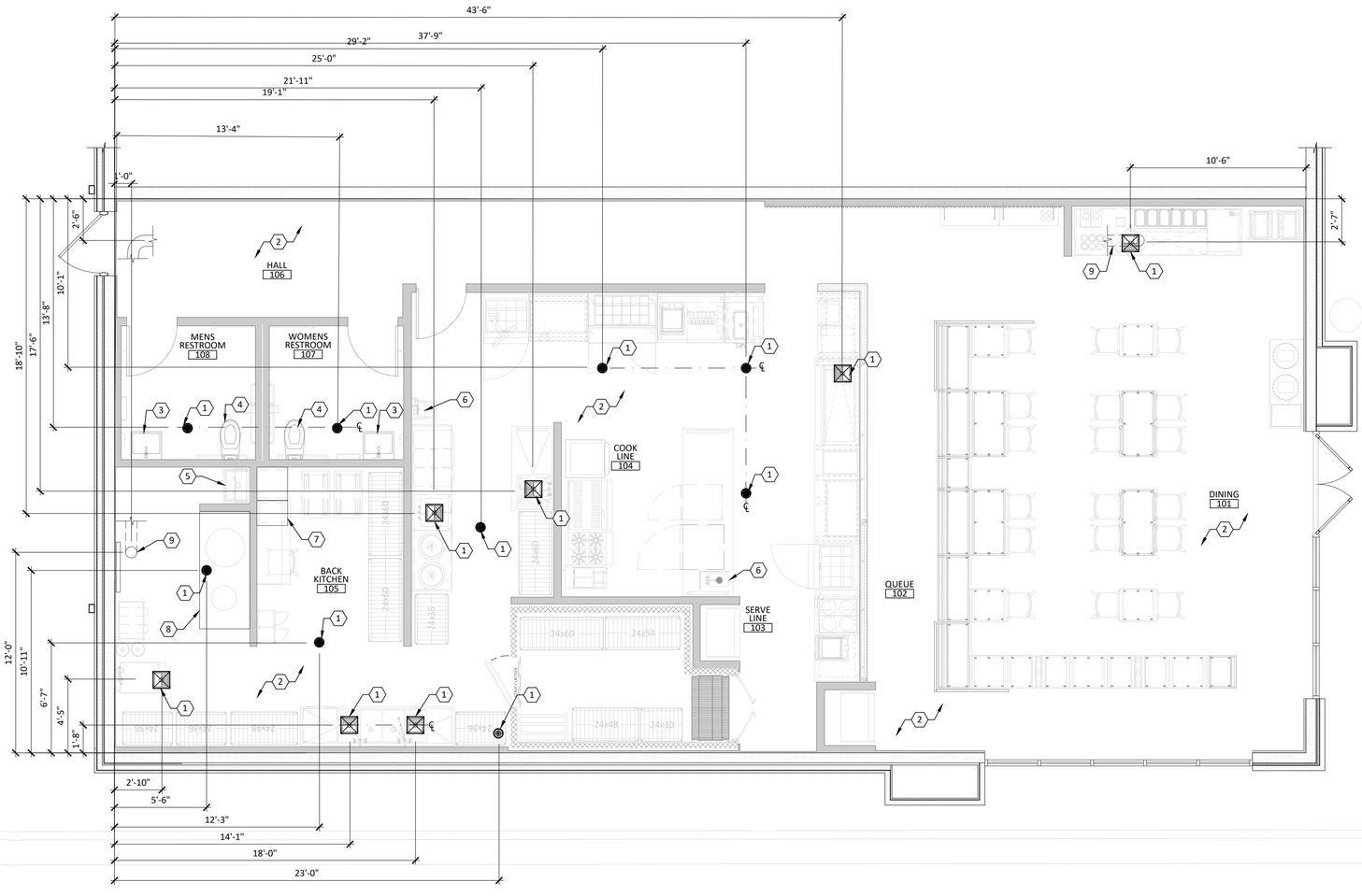
G. COORDINATE DIMENSIONS ON PLANS AND FIELD VERIFY PRIOR TO CONSTRUCTION. REPORT DISCREPANCIES PRIOR TO PROCEEDING WITH AFFECTED WORK.

H. EXISTING CONDITIONS ARE TO REMAIN AND BE PROTECTED IN PLACE DURING THE COURSE OF CONSTRUCTION UNLESS SPECIFICALLY NOTED OTHERWISE.

I. FLOOR SINKS TO BE INSTALLED FLUSH WITH FINISH FLOOR ELEVATION.

J. WITHIN 2'-0" OF ALL FLOOR DRAINS, PROVIDE 1/8" ON 12" SLOPE TO FLOOR DRAINS.

K. PROVIDE 10 MIL VAPOR BARRIER UNDER NEW SLAB POUR.



1 / A100 SLAB PLAN

1/4" = 1'-0"

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STATE OF MISSOURI
DAVID A. EFAW
NUMBER A-2007020148
6/14/22

CAVA

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FOR
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702 H STREET, 2ND FLOOR, WASHINGTON, DC 20001

AOR PROJECT NUMBER: CAV070

ISSUE	DATE
PERMIT	JUN 14, 2022

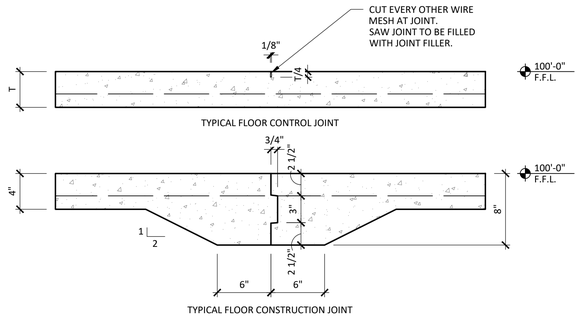
SLAB PLAN

SHEET: A100

6/13/2022 8:24 AM

SLAB PLAN CODED NOTES (#)

1. LINE INDICATES CONTROL/CONSTRUCTION JOINT. CONTROL JOINTS TO OCCUR EVERY 10'-0". REFER TO 3/A100. TYP.
2. PROVIDE #4 X 16" LONG DOWELS TO EXISTING SLAB @ 24" O.C.. DRILL AND EPOXY 4 1/2" INTO EXISTING WITH HIT-HY200 ADHESIVE, TYP.
3. PROVIDE (2) #4 X 4'-0" LONG, SET 1-1/2" FROM TOP OF SLAB, CENTERED ON ALL RE-ENTRANT SLAB CORNERS. REFERENCE 2/A100 FOR SIMILAR DETAIL.



2 / A101 FLOOR JOINT DETAILS

1 1/2" = 1'-0"

SLAB PLAN GENERAL NOTES

A. THIS DRAWING IS PART OF A COORDINATED SET OF DOCUMENTS. DO NOT SEPARATE BOUND SETS.

B. DRAWINGS AND DIMENSIONS OF THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM OWNER'S PERMIT DRAWINGS. BE ALERT TO DIMENSIONAL DISCREPANCIES, STRUCTURAL SUPPORTS AND OTHER ELEMENTS CONCEALED IN WALLS, NOT SHOWN. REPORT DISCREPANCIES PRIOR TO PROCEEDING.

C. IN THE EVENT OF INCONSISTENCIES BETWEEN ARCHITECTURAL AND CONSULTANT BASE PLANS CONTACT ARCHITECT TO REPORT DISCREPANCIES PRIOR TO PROCEEDING WITH AFFECTED WORK.

D. DO NOT SCALE DRAWINGS FOR CONSTRUCTION DIMENSIONS OR TOLERANCES. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER DRAWINGS. REQUEST CLARIFICATION IN WRITING PRIOR TO PROCEEDING.

E. DIMENSIONS ARE TO FACE OF FINISH UNLESS NOTED OTHERWISE.

F. DIMENSIONS AND CLEARANCES SHOWN ON DRAWINGS RELATING TO ACCESSIBILITY OR EGRESS ARE FROM FACE OF FINISH MATERIAL. ALLOW FOR FINISHES IN FABRICATING AND/OR INSTALLING ITEMS. REPORT DISCREPANCIES PRIOR TO PROCEEDING WITH AFFECTED ITEMS.

G. COORDINATE DIMENSIONS ON PLANS AND FIELD VERIFY PRIOR TO CONSTRUCTION. REPORT DISCREPANCIES PRIOR TO PROCEEDING WITH AFFECTED WORK.

H. EXISTING CONDITIONS ARE TO REMAIN AND BE PROTECTED IN PLACE DURING THE COURSE OF CONSTRUCTION UNLESS SPECIFICALLY NOTED OTHERWISE.

I. FLOOR SINKS TO BE INSTALLED FLUSH WITH FINISH FLOOR ELEVATION.

J. WITHIN 2'-0" OF ALL FLOOR DRAINS, PROVIDE 1/8" ON 12" SLOPE TO FLOOR DRAINS.

K. PROVIDE 10 MIL VAPOR BARRIER UNDER NEW SLAB POUR.

SYMBOLS

	FLOOR SINK, REFER TO PLUMBING DRAWINGS
	FLOOR DRAINS, REFER TO PLUMBING DRAWINGS

SPECIFICATIONS

DIVISION 3 - CONCRETE

SECTION 03300 - CAST-IN-PLACE CONCRETE

1.1 GENERAL: PROVIDE CAST-IN-PLACE CONCRETE WORK IN ACCORDANCE WITH THE GENERAL STRUCTURAL NOTES, STRUCTURAL DRAWING AND DETAILS. FOLLOW SHELL BUILDING DOCUMENTS FOR SPECIFICATIONS, JOINTS AND GEOTECH.

A. STANDARDS: MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE FOLLOWING:
1. ACI 117 "STANDARD TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS."
2. ACI 301 "STRUCTURAL CONCRETE FOR BUILDINGS."
3. ACI 305R "RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING."
4. ACI 306R "RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING."
5. ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT."
6. ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."

2.1 MATERIALS:

A. UNDER SLAB VAPOR RETARDER: 10 MIL VAPOR BARRIER MINIMUM MEETING OR EXCEEDING ASTM E1745 PERFORMANCE CRITERIA FOR CLASS C VAPOR RETARDERS.
1. SEAM TAPE: HIGH DENSITY POLYETHYLENE TAPE WITH PRESSURE SENSITIVE ADHESIVE.
2. PIPE BOOTS: SHOP OR SITE FABRICATED FROM VAPOR RETARDER MATERIAL AND SEAM TAPE.

A. CONCRETE:
1. PORTLAND CEMENT: ASTM C150, TYPE I
2. AGGREGATE: ASTM C33.
3. WATER: CLEAN AND POTABLE.
4. REINFORCEMENT: WHEN REQUIRED, COMPLY WITH DRAWINGS REINFORCEMENT REQUIREMENTS. 6X6 W2.1XW2.1 WELDED WIRE MESH.
5. COMPRESSIVE STRENGTH: MINIMUM 4000 PSI AT 28 DAYS.
6. ADMIXTURES: ALL ADMIXTURES SHALL BE APPROVED BY THE TENANT'S CONSTRUCTION MANAGER PRIOR TO PLACEMENT IN THE CONCRETE MIX.

C. TOPPING CONCRETE: WHEN REQUIRED TO SUIT INSTALLATION CONDITIONS, ARDEX DIAMA-TOP OF ARDEX ENGINEERED CEMENTS S12-7339, INTERNET WWW.ARDEX.COM
1. ULTRAFLOR ARDEX DIAMA-TOP, SELF-LEVELING CONCRETE REPAIR MATERIAL.
2. ANY PINHOLES THAT NEED TO BE FILLED SHALL BE FILLED WITH ARDEX DIAMA-FILL FILLING COMPOUND FOR POLISHED CONCRETE, CONCRETE TERRAZZO AND OTHER CEMENTITIOUS WEAR SURFACES APPLIED AT THE APPROPRIATE TIME DURING THE POLISHING PROCESS.
3. THE PRIMER FOR AREAS TO RECEIVE ARDEX DIAMA-TOP WILL BE ARDEX EP 2000 SUBSTRATE PREPARATION EPOXY.
4. INSTALLATION SHALL BE PERFORMED BY FACTORY-TRAINED PROFESSIONAL APPLICATORS IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.

3.1 INSTALLATION

A. VAPOR RETARDER: PLACE, PROTECT AND REPAIR VAPOR RETARDER SHEETS IN ACCORDANCE WITH ASTM E1643 AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.
1. PROVIDE A SINGLE LAYER OF VAPOR RETARDER MATERIAL OVER LEVEL COMPACTED SLAB BASE.
2. LAP JOINTS AND SEAMS 6 INCHES AND SEAL WITH SEAM TAPE.
3. SEAL ALL PENETRATIONS AND REPAIR DAMAGED AREAS BEFORE CONCRETE PLACEMENT.

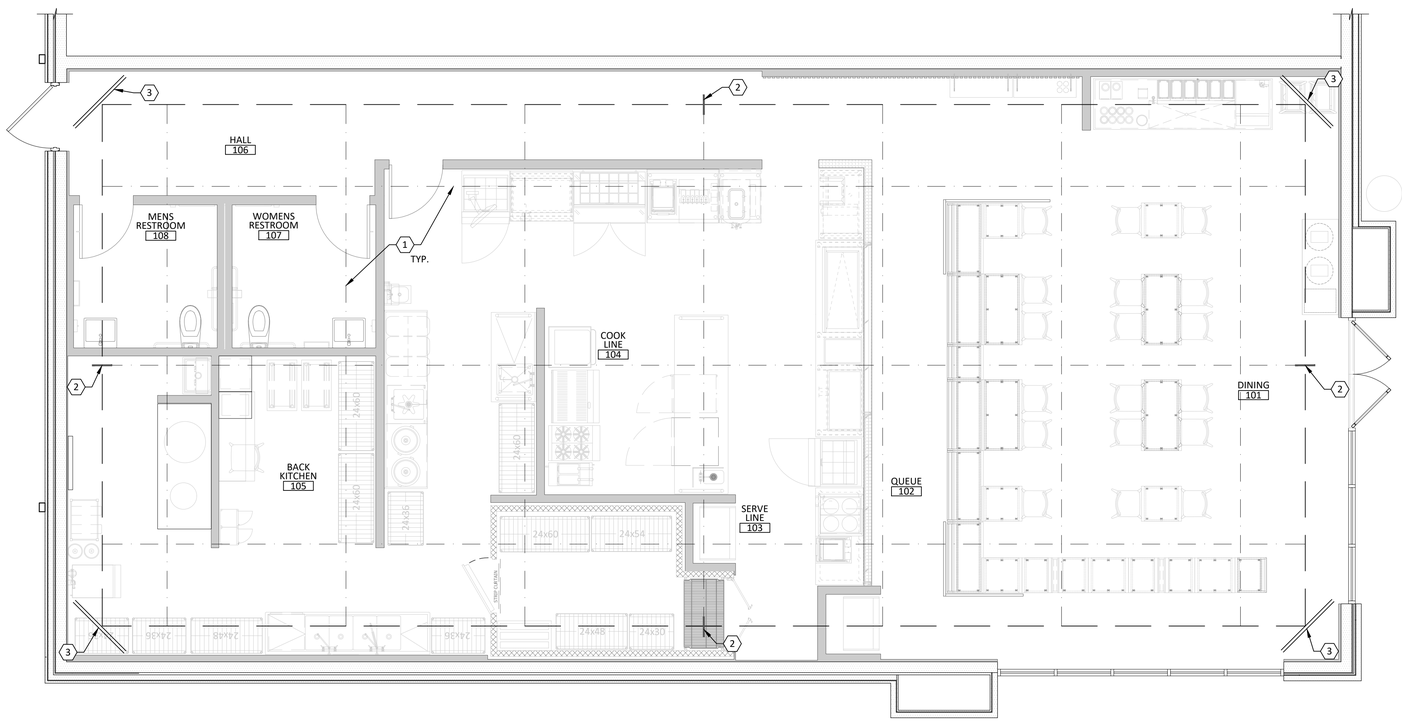
B. REINFORCEMENT PLACE AND INSPECT ALL REINFORCING STEEL BEFORE CONCRETE IS PLACED.

C. CONCRETE PLACEMENT:
1. PLACE CAST-IN-PLACE CONCRETE IN ACCORDANCE WITH ACI 301 AND ACI 305R AND 306R RECOMMENDED PRACTICES FOR HOT WEATHER AND COLD WEATHER CONCRETING. DO NOT PLACE CONCRETE WHEN TEMPERATURE IS BELOW 40 DEGREES F.
2. WET CURE CONCRETE IN ACCORDANCE WITH ACI 301, USING MOIST CURING OR MOISTURE-RETAINING COVERS

D. FINISH: EXCEPT WHERE ADDITIONAL FLOOR FINISH IS SCHEDULED, PROVIDE A SMOOTH STEEL TROWEL FINISH.
1. EXPOSED CONCRETE USED AS A FINISH FLOOR SURFACE SHALL HAVE A SMOOTH FINISHED SURFACE, UNIFORM IN TEXTURE AND APPEARANCE AND FREE OF TROWEL MARKS AND OTHER DEFECTS AFFECTING EASE OF MAINTENANCE.
2. GRIND SMOOTH SURFACE DEFECTS AS DIRECTED BY THE TENANT'S CONSTRUCTION MANAGER.

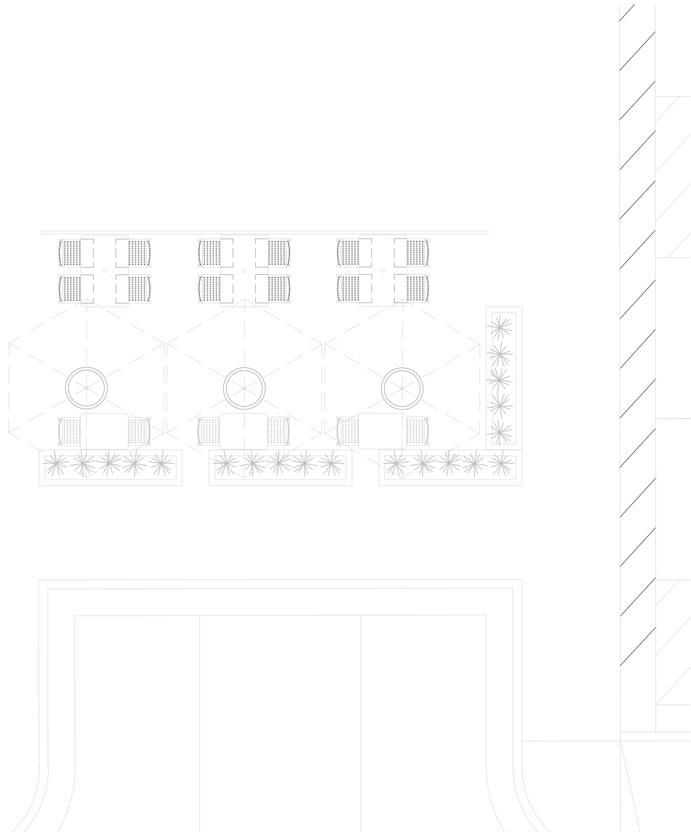
E. TESTING: WHEN REQUIRED, COMPLY WITH DRAWINGS AND SPECIFICATION SECTIONS TESTING REQUIREMENTS.

F. TOPPING CONCRETE: PREPARE CONCRETE FLOOR SLAB SUBSTRATE SURFACES, PRIME SUBSTRATE SURFACES, MIX, INSTALL AND FINISH TOPPING CONCRETE IN ACCORDANCE WITH MANUFACTURER'S APPLICATION INSTRUCTIONS.



1 / A101 SLAB INFILL PLAN

1/4" = 1'-0"



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AOR PROJECT NUMBER: CAV070

ISSUE	DATE
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SLAB INFILL PLAN

SHEET: A101

6/13/2022 8:24 AM

FLOOR PLAN CODED NOTES

1. OPENING FOR WALK IN COOLER. APPLY SUBSTRATE AND TILE DIRECTLY TO FACE OF COOLER ON FRONT OF COOLER.
2. EXISTING STOREFRONT TO REMAIN, UNLESS NOTED OTHERWISE. WINDOWS ARE FIXED AND NON-OPERABLE.
3. PROVIDE 24 GA. GALVANIZED METAL BEHIND SHEATHING 18" BEYOND EDGE OF HOOD IN ALL DIRECTIONS.
4. WALLS TO ALIGN.
5. NEW WALK-IN COOLER. REFER TO KES DRAWINGS.
6. EXISTING 2 HR. RATED DEMISING WALL.
7. REFER TO ELECTRICAL DRAWINGS FOR ELECTRICAL PANEL INFORMATION.

WALL LEGEND

	EXISTING WALL/PARTITION
	NEW WALL/PARTITION
	LOW SERVICE COUNTER/WALL (NEW)
	EXISTING EXTERIOR WALL

SYMBOL LEGEND

###	DOOR TYPE TAG, REFER TO DOOR/HARDWARE SCHEDULE
	WALL PARTITION TAG, REFER TO A111 (TAG WITH "*" DENOTES BATT INSUL. TO BE PROVIDED

FLOOR PLAN GENERAL NOTES

A. BASE BUILDING PARTITIONS SHOULD BE CLEAN AND REPAIRED/PREPARED AS REQUIRED FOR PROPOSED TENANT CONSTRUCTION. AREAS THAT ARE SCHEDULED AS GYPSUM BOARD SHOULD BE PAINT READY.

B. ALIGNMENT OF DOOR HEADS AND OTHER CRITICAL HORIZONTAL ELEMENTS SHALL BE MAINTAINED AT A CONSTANT LEVEL RELATIVE TO THE CEILING PLANE, AND SHALL NOT FOLLOW VARIATIONS IN THE FLOOR PLANE.

C. PARTITION TYPES ABOVE DOORS ARE TO BE SAME AS THE ADJACENT PARTITIONS, U.N.O.

D. ALL DIMENSIONS ARE TO FACE OF STUD.

E. ANY DIMENSION NOTED "VERIFY" OR "V.I.F." MUST BE CONFIRMED WITH ARCHITECT BEFORE BEGINNING CONSTRUCTION OF PARTITIONS.

F. PROVIDE BLOCKING AS REQUIRED IN PARTITIONS AND CEILINGS AT WALL AND CEILING MOUNTED SHELVING, MILLWORK, LIGHTING, ETC. IN DAMP AND WET AREAS BLOCKING SHALL BE MOISTURE RESISTANT. IN FIRE RATED ASSEMBLIES AND 4'-0" HORIZONTALLY OF ALL COOKING EQUIPMENT BLOCKING SHALL BE NON-COMBUSTIBLE. COORDINATE LOCATIONS OF BLOCKING WITH ALL PLANS, ELEVATIONS, AND DETAILS. VERIFY SHOP STANDARDS WITH SUBCONTRACTORS AND SUPPLIERS AND REVIEW WITH ARCHITECT PRIOR TO INSTALLATION.

G. WHERE NEW CONSTRUCTION APPEARS TO ABUT EXISTING CONDITIONS AND THE FINISHED SURFACES APPEAR TO ALIGN, SURFACES SHALL BE CONSTRUCTED WITHOUT A VISIBLE JOINT, U.N.O.

H. PROVIDE ADDITIONAL STUDS AS REQUIRED WITHIN PARTITIONS TO ACHIEVE OUTLET GROUPINGS AS SPECIFIED IN ELECTRICAL DRAWINGS.

I. G.C. TO IDENTIFY AREAS TO REQUIRE ACCESS PANELS AND COORDINATE EXACT LOCATIONS, SIZES, AND QUANTITIES WITH ARCHITECT.

J. G.C. TO REVIEW CONDITION OF EXISTING FLOOR SLAB AND DETERMINE BEST METHOD FOR PATCHING/REPAIRING, FILLING, AND SEALING OF SLAB IN ORDER TO PREPARE IT TO RECEIVE NEW SCHEDULED FINISHES. (THIS MAY REQUIRE ALLOWANCE PRICING FOR UNKNOWNS WHEN BIDDING)

K. G.C. IS RESPONSIBLE FOR MAINTAINING DIMENSIONS AS INDICATED ON THE DRAWINGS. ALL DIMENSIONS INDICATED AS "HOLD" SHALL NOT VARY MORE THAN 1/16". WHERE THIS TOLERANCE IS NOT OBTAINABLE THE ARCHITECT SHALL BE NOTIFIED PRIOR TO COMMENCEMENT OF THE WORK.

L. DIMENSIONS INDICATED AS "CLEAR" OR "CLR" SHALL BE MAINTAINED. ANY DISCREPANCIES OR VARIATIONS IN THESE DIMENSIONS SHALL BE REVIEWED WITH THE ARCHITECT BEFORE BEGINNING CONSTRUCTION.

M. THE DIMENSIONS AND WORK NOTED ON THESE DRAWINGS ARE INDICATED FOR DESIGN INTENT. IF THE INSTALLATION OF ELECTRICAL, MECHANICAL, PLUMBING, OR FIRE PROTECTION WORK INTERFERES WITH THIS INTENT, THE ARCHITECT SHALL BE NOTIFIED PRIOR TO PROCEEDING WITH CONSTRUCTION.

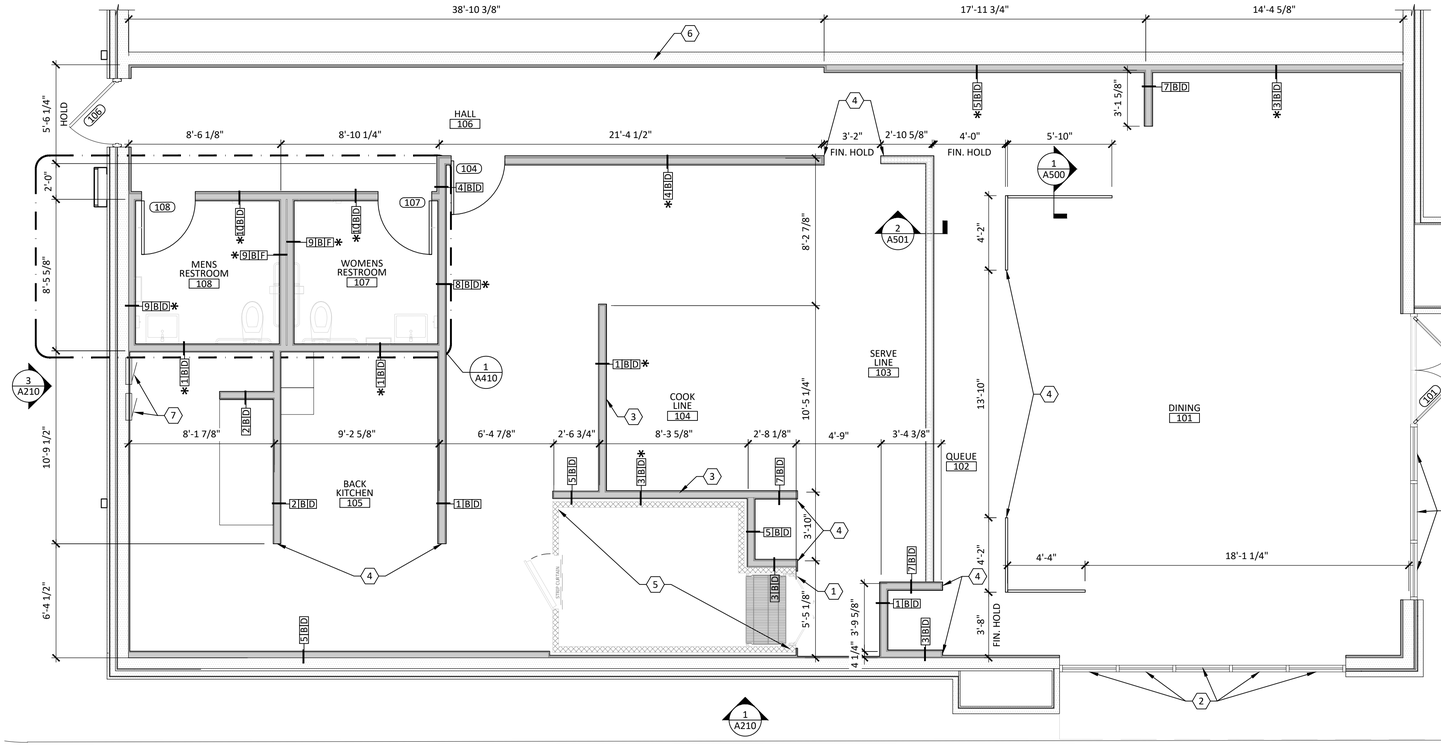
N. THE G.C. IS RESPONSIBLE FOR BRACING TO DECK OF PARTITIONS AT DOORS AND WINDOWS.

O. G.C. TO COORDINATE LOCATIONS OF ALL MEP (INCLUDING THERMOSTATS, OUTLETS, ACCESS PANELS, EMERGENCY FIXTURES, SMOKE DETECTION FIXTURES, ETC) WITH EXISTING CONDITIONS, ARCHITECTURAL DRAWINGS, MILLWORK, FURNITURE, INTERIOR FINISHES, ETC AND NOTIFY ARCHITECT OF ANY DISCREPANCIES OF CONFLICTS PRIOR TO INSTALLATION OF EQUIPMENT OR SERVICES.

P. G.C. TO COORDINATE ALL WALL HEIGHTS WITH THE INTERIOR ELEVATIONS.

Q. COORDINATE WITH KES DRAWINGS FOR IN-WALL BLOCKING REQUIRED FOR KITCHEN EQUIPMENT.

R. G.C. TO COORDINATE POSITION OF KITCHEN PARTITIONS (FOH & BOH) WITH FOOD SERVICE CONSULTANT TO ENSURE ALL EQUIPMENT CLEARANCES ARE MAINTAINED.



1 A110 ARCHITECTURAL FLOOR PLAN

1/4" = 1'-0"

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AOR PROJECT NUMBER: CAV070

ISSUE	DATE
PERMIT	JUN 14, 2022

ARCHITECTURAL FLOOR PLAN

SHEET: A110

FINISH PLAN CODED NOTES

1. WHERE NEW SLAB FLOOR MEETS EXISTING CONCRETE FLOOR PROVIDE LEVEL AND SMOOTH TRANSITION. FOLLOW SPECIFICATIONS FOUND IN THE FINISH SCHEDULE FOR ADDITIONAL DETAILED INSTRUCTIONS.
2. GC TO COORDINATE EPOXY INSTALLATION WITH FOOD SERVICE CONSULTANT AROUND WALK-IN COOLER. GC TO COORDINATE WITH FOOD SERVICE CONSULTANT TO ENSURE FINISHED WALK-IN ALIGNS WITH NEW PARTITIONS..
3. EXISTING CONCRETE SIDEWALK TO REMAIN.
4. PROVIDE 18 GA. STAINLESS STEEL CHANNEL WALL CAP. 1-1/2" DEEP X WALL THICKNESS FROM TOP OF BASE TO BOTTOM OF CEILING. REFER TO 16/A500.
5. INDICATED OUTSIDE TILE CORNER TO RECEIVE SCHLUTER STRIP: PROFILE JOLLY; COLOR: WHITE; LENGTH: FROM BASE TO FINISH CEILING; A100W.
6. SMOOTH EPOXY UNDER ALL KITCHEN EQUIPMENT, SHOWN SHADED, TYP.
7. GC TO ENSURE TRANSITION FROM EXTERIOR/INTERIOR OF SPACE COMPLIES WITH THE ADA REQUIREMENT OF 1/2" AFF MAX TRANSITION ABOVE FLOOR FINISH. VERIFY EXISTING THRESHOLD FUNCTIONS PROPERLY WITH NEW FLOOR FINISH. REFER TO DETAIL 3/A501.

FINISH PLAN GENERAL NOTES

A. UPON RECEIPT FROM THE MANUFACTURER, SUB-CONTRACTORS SHALL INSPECT MATERIALS FOR DEFECTS, FLAWS, SHIPPING DAMAGE, CORRECT COLOR AND PATTERN PRIOR TO BEGINNING WORK. DAMAGED OR WRONG MATERIALS SHALL BE RETURNED TO THE MANUFACTURER FOR IMMEDIATE REPLACEMENT TO PREVENT DELAYS IN THE COMPLETION OF WORK.

B. COMPLIANCE WITH THE MANUFACTURER'S REQUIREMENTS FOR HANDLING, STORAGE, INSTALLATION, AND PROTECTION OF MATERIALS IS THE EXCLUSIVE RESPONSIBILITY OF THE GC AND THEIR RESPECTIVE INSTALLERS.

C. GC TO NOTIFY THE ARCHITECT OF LOCATIONS OF CHANGES IN DYE LOTS, BATCHES, OR SIMILAR COLOR SHIFTS.

D. GC TO PROVIDE ONE FINAL TOUCH-UP OF PAINT SURFACES AFTER THE TENANT HAS TAKEN OCCUPANCY OF THE SPACE.

E. CEILING REGISTERS, VENTS, GRILLS, DIFFUSERS, SPEAKERS, ETC. SHALL BE PAINTED IN SEMI-GLOSS FINISH PAINT TO MATCH THE CEILING IN WHICH THEY OCCUR.

F. FINISHES SHALL EXTEND OVER, UNDER AND/OR BEHIND ANY ITEM OF BUILT-IN MILLWORK, EQUIPMENT, MIRRORS, ETC.

G. SUB-CONTRACTORS SHALL REFER TO THE ELEVATION AND DETAIL SHEETS FOR SPECIFIC LOCATIONS OF ALL FINISHES. SHOULD THE INSTALLER FIND ANY DISCREPANCIES, OMISSIONS, AMBIGUITIES, OR CONFLICTS WITH THE PLANS, THE ARCHITECT SHALL BE NOTIFIED PRIOR TO PROCEEDING WITH ANY WORK IN QUESTIONS.

H. PARTITIONS CONCEALED BY MILLWORK CABINETRY ARE TO BE TAPED, MUDDED, SANDED SMOOTH, PRIMED, AND PAINTED WITH ONE COAT OF FINISH PAINT.

I. TRANSITIONS BETWEEN DISSIMILAR FLOOR FINISHES ARE TO ALIGN, U.N.O. REFER TO FLOOR TRANSITION DETAILS.

J. FLOOR FINISH TRANSITIONS OCCURRING IN A DOOR OPENING SHALL BE INSTALLED SO THE TRANSITION OCCURS UNDER THE CENTERLINE OF THE DOOR IN THE CLOSED POSITION.

K. PAINT ALL ACCESS PLATES, PANELS, BOXES, ETC. TO MATCH THE WALL IN WHICH THEY OCCUR.

L. ALL PAINTED SURFACES TO RECEIVE (3) COATS OF PAINT; (1) BASE COAT, (1) COLOR COAT, (1) TOPCOAT AS PER MANUFACTURER'S RECOMMENDATIONS.

M. ALL FINISHES INSIDE CLOSETS SHALL BE CONSISTENT WITH THE FINISHES OF THE ROOM TO WHICH THEY ARE ADJACENT, U.N.O.

N. BASE CORNER SECTIONS SHALL NOT BE LESS THAN 6" IN LENGTH, MEASURED FROM THE CORNER PROPER.

O. PROVIDE CLEAR CAULKING BETWEEN WALL BASE AND FINISHED FLOOR AT ALL MOP-ABLE FLOORING SURFACES.

P. FOR ALL WALL COVERINGS AND WALL PANELS, NO SEAM SHALL BE LOCATED WITHIN 12" OF CORNERS.

Q. GC TO COORDINATE ALL FINISH INTERIOR AND EXTERIOR TRANSITIONS AND THRESHOLDS TO PROVIDE FOR LEVEL AND EVEN SURFACE FROM ONE FLOORING TO ANOTHER WITHOUT NEED TO RAMP OR FEATHER UP OR DOWN BETWEEN FLOORINGS. SUBMIT NECESSARY DETAILS TO ARCHITECT FOR REVIEW PRIOR TO INSTALLATION OF FLOORING.

R. GC TO SUBMIT TILE LAYOUT FOR ALL FLOORING AND WALL TILE TO ARCHITECT FOR REVIEW PRIOR TO INSTALLATION.

S. REFER TO A500 & A501 FOR MATERIAL TRANSITION DETAILS TS-1, TS-2, & TS-3.

T. REFER TO SHEET A602 FOR FINISH SCHEDULE.

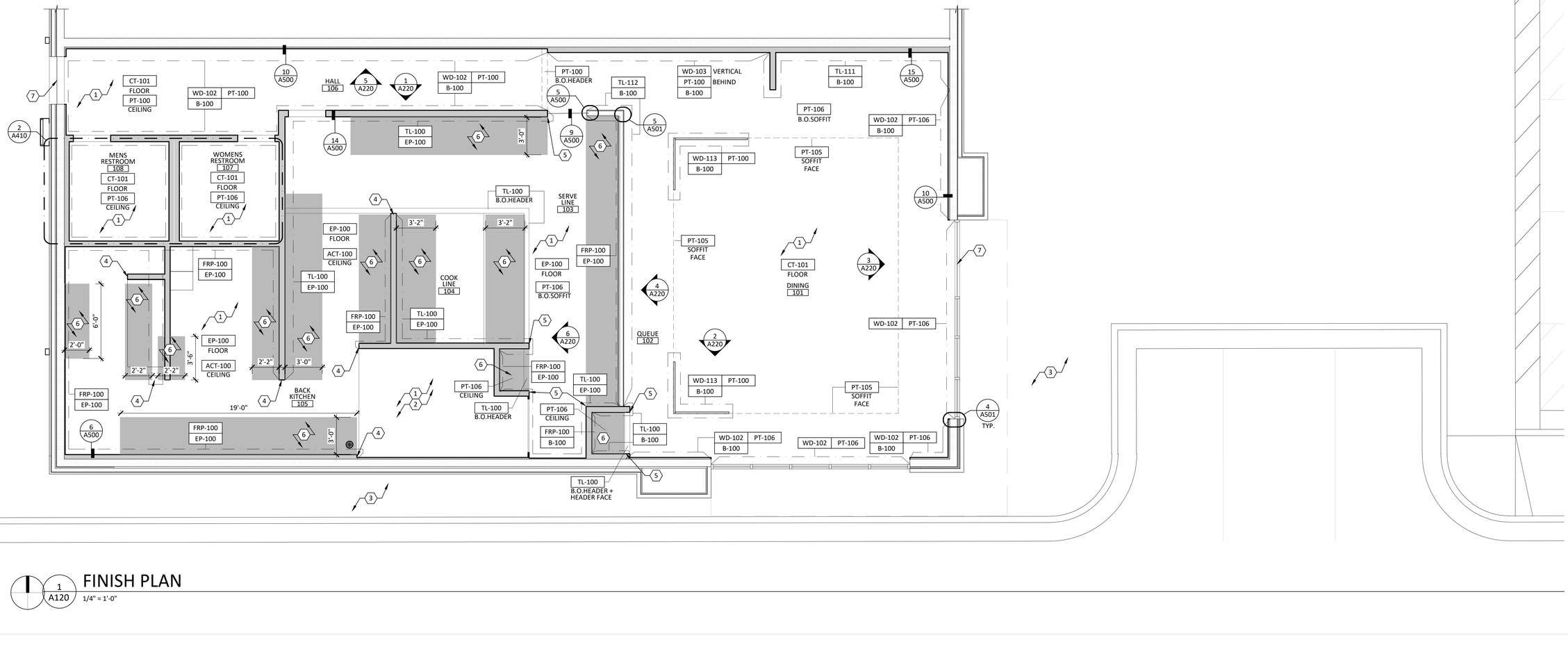
U. ALL WINDOWS ARE FIXED AND NOT OPERABLE.

V. REFER TO INTERIOR ELEVATIONS SHEETS A220 AND A221 FOR LOCATION OF FINISHES.

W. PAINT EXPOSED DECK AND STRUCTURE PT-106.

X. PAINT FINISHES : VERTICAL SURFACES - EGGSHELL (LOW SHEEN), CEILINGS - FLAT, KITCHEN CEILINGS - SEMIGLOSS, METALS - SATIN, EXTERIOR MASONRY - SEMIGLOSS.

Y. CONTRACTOR TO TILE WALLS FROM TOP, WITH FULL COURSING, DOWN TO THE BOTTOM.



1 A120 FINISH PLAN
1/4" = 1'-0"

6/6/2022 5:02 PM

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AOR PROJECT NUMBER: CAV070

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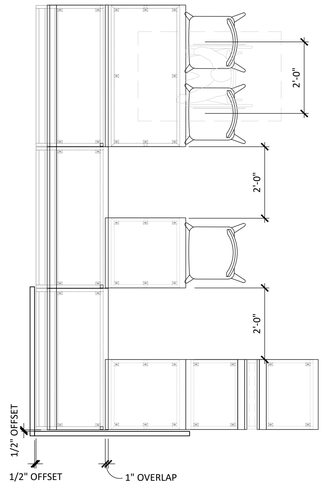
FINISH PLAN & NOTES

SHEET: A120



ENLARGED BANQUETTE LAYOUT

2 / A130 — 1/4" = 1'-0"

ADA SEATING

INDICATES ADA SEATING LOCATION

WALL LEGEND

	EXISTING WALL/PARTITION
	NEW WALL/PARTITION
	LOW SERVICE COUNTER/WALL (NEW)
	EXISTING EXTERIOR WALL

FURNITURE SCHEDULE

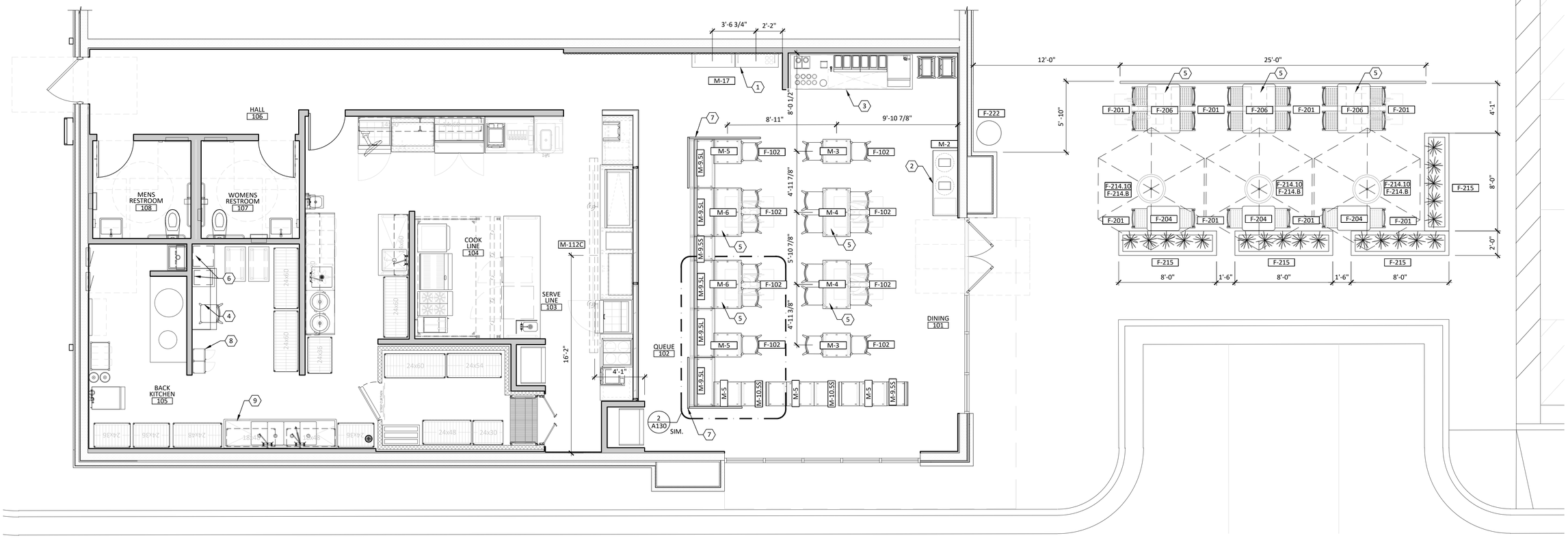
NO.	MANUFACTURER	REMARKS	COUNT
F-102	DINING CHAIR		18
F-201	OUTDOOR CHAIR		18
F-204	OUTDOOR 2-TOP TABLE	DINING HEIGHT	3
F-206	OUTDOOR 4-TOP, ADA		3
F-214.10	UMBRELLA (10')		3
F-214.B	WEIGHTED UMBRELLA BASE (150 LB)		3
F-215	PLANTER		4
F-222	EXTERIOR TRASH CAN		1
M-2	TRASH STATION		1
M-3	DINING TABLE (24"W X 27"D X 30"H)		2
M-4	DINING TABLE (48"W X 27"D X 30"H)	WITH ADA FOOT REST	2
M-5	BOOTH TABLE (24"W X 27"D X 30"H)		5
M-6	ADA BOOTH TABLE (48"W x 27"D x 30"H)	WITH ADA FOOT REST	2
M-9.5L	SINGLE BANQUETTES (48"W) 4" STRETCHER	LARGE SIZE	5
M-9.5S	SINGLE BANQUETTES (24"W) 4" STRETCHER	SMALL SIZE	2
M-10.5S	DOUBLE BANQUETTES (24"W) 4" STRETCHER	SMALL SIZE	2
M-112C	DIGITAL MENU BOARD - CEILING MOUNTED		1
M-17	PICK UP STATION	SEE DETAILS	2

GENERAL NOTES

A. ALL DIMENSIONS ARE TO FACE OF FINISH SHEATHING OR CENTERLINE OF EQUIPMENT UNLESS NOTED OTHERWISE.
B. REFER TO KITCHEN EQUIPMENT DRAWINGS FOR KITCHEN EQUIPMENT SPECIFICATIONS AND INFORMATION.

CODED NOTES

1. TO-GO PICK-UP SHELVING UNIT BY DIGIFAB, ONE SHELF MINIMUM TO BE AT ADA COMPLIANT HEIGHT (BETWEEN 9" MIN. TO 48" MAX. A.F.F.).
2. TRASH COUNTER BY MILLWORKER, MAX HEIGHT IS 34" A.F.F.
3. CONDIMENT STATION BY FOOD SERVICE CONSULTANT. MAX HEIGHT IS 34" A.F.F.
4. MANAGER'S DESK AND WALL SHELF. REFER TO DETAIL 10/A501 FOR ADDITIONAL INFORMATION.
5. ADA COMPLIANT TABLE OR COUNTER 34" MAX. TYP.
6. LOCATION OF NEW SAFE MOUNTED TO CONCRETE CURB BELOW.
7. STACKED WOOD WALLS BY G.C. LOW WALL IS 3'-6" HIGH. LONG SIDE OF WOOD SHALL BE RIPPED FLAT WITH 90 DEGREE CORNERS. ANCHOR BANQUETTE TO ADJACENT LOW (KNEE) WALLS. REFER TO 1/A500 AND 3/502 FOR DETAILS.
8. NEW EMPLOYEE LOCKERS. REFER TO KES DRAWINGS.
9. PROVIDE 2" CASTER @ DISHWASHER. DISHWASHER CAN ROLL OUT FOR CLEANING.
10. LOCATION OF EXISTING BACKFLOW PREVENTION DEVICE.



FIXTURE, FURNITURE & EQUIPMENT PLAN

1 / A130 — 1/4" = 1'-0"

6/7/2022 9:24 AM

r e d
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ARCHITECT
6/14/22

CAVA

CAVA - LEE'S SUMMIT
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LEE'S SUMMIT, MO 64081
FOR
CAVA
702 H STREET, 2ND FLOOR, WASHINGTON, DC 20001

AOR PROJECT NUMBER: CAV070

ISSUE	DATE
PERMIT	JUN 14, 2022

FIXTURE, FURNITURE & EQUIPMENT PLAN

SHEET: A130

REFLECTED CEILING PLAN CODED NOTES

1. HEAT LAMP, SEE ELECTRICAL DWGS AND KITCHEN EQUIPMENT DWGS.
2. LINEAR LIGHT SUSPENDED BELOW SUSPENDED WOOD CEILING, TYP. OF (10). REFER TO DETAIL 6/A501.

REFLECTED CEILING PLAN LEGEND

	24"x 24" CEILING TILE
	GYPSUM BOARD CEILING REFER TO PLAN
	SUPPLY AIR DIFFUSER (SEE MECHANICAL SHEETS)
	RETURN AIR GRILLE (SEE MECHANICAL SHEETS)

NOTE-
1. SEE MECHANICAL AND ELECTRICAL SHEETS FOR ALL FIXTURE SPECIFICATIONS, WIRING, AND POWER REQUIREMENTS.
2. "*" WITHIN THE CEILING ELEVATION TAG DENOTES INSTALLATION OF R-13 SOUND BATT ABOVE CEILING

LIGHTING LEGEND

TAG	SYMBOL	DESCRIPTION	COUNT	MOUNTING HEIGHT
A1		RECESSED TROFFER (LAY-IN)	9	RECESSED
C		RECESSED CAN LIGHT	E	EXISTING
E		WALL SCONSET	E	EXISTING
HL		HEAT LAMP	1	6'-8"
P6.1		DECORATIVE LINEAR PENDANT	10	11'-4"
R1		ADJUSTABLE DOWNLIGHT	17	RECESSED
R2		ADJUSTABLE DOWNLIGHT	28	RECESSED
R4		ADJUSTABLE DOWNLIGHT	12	RECESSED
EM		EMERGENCY LIGHT	6	
EX		EXIT SIGN	2	

NOTE-
1. MOUNTING HEIGHTS TO BOTTOM OF FIXTURE.
2. FIXTURES NOTED [E] ARE EXISTING TO REMAIN. CLEAN AND RELAMP AS REQUIRED.
3. ALL FRONT OF HOUSE LIGHTING TO BE 2700K

REFLECTED CEILING PLAN GENERAL NOTES

A. WHERE CEILINGS ARE INDICATED TO BE GYP. BD., PROVIDE 1/2" GYPSUM BOARD ON METAL STUD FRAMING OR SUSPENDED CEILING SYSTEM. PROVIDE CEILING GYP. BD. CONTROL JOINTS PER MANUFACTURER'S RECOMMENDATIONS U.N.O.

B. VERTICALLY STACK LIGHT SWITCHES, THERMOSTATS, AND LIFE SAFETY DEVICES TO THE GREATEST EXTENT POSSIBLE.

C. CEILING HEIGHTS NOTED ARE FROM TOP OF FINISHED FLOOR (A.F.F.) TO UNDERSIDE OF FINISHED CEILING, U.N.O.

D. THE DIMENSIONS AND WORK NOTED ON THESE DRAWINGS ARE INDICATED FOR DESIGN INTENT. IF THE INSTALLATION OF ELECTRICAL, MECHANICAL, PLUMBING, OR FIRE PROTECTION WORK INTERFERES WITH THIS INTENT, THE ARCHITECT SHALL BE NOTIFIED PRIOR TO PROCEEDING WITH CONSTRUCTION.

E. SEE PARTITION TYPE DETAIL SHEET FOR TYPICAL DEVICE MOUNTING HEIGHT IN INFORMATION.

F. REFER TO ENGINEERING DRAWINGS FOR ALL CIRCUITING AND SWITCHING INFORMATION. ARCHITECTURAL DRAWINGS TO DICTATE QUANTITIES ONLY. IF DISCREPANCY OCCURS, NOTIFY ARCHITECT PRIOR TO PROCEEDING WITH CONSTRUCTION.

G. REFER TO FINISH SCHEDULE FOR FURTHER SPECIFICATION OF CEILING MATERIALS AND FINISHES.

H. G.C. TO VERIFY AND COORDINATE ALL CONDITIONS IN FIELD PRIOR TO START OF WORK, INCLUDING ELECTRICAL PANEL CAPACITY, LOCATIONS, AND CLEARANCES AT MECHANICAL DUCTS, ELECTRICAL ITEMS, SPRINKLERS, AND ASSOCIATED PIPING. ANY CONFLICTS ARE TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER AT THE EARLIEST OPPORTUNITY.

I. REFER TO ELECTRICAL AND MECHANICAL DRAWINGS FOR LOCATION OF SUPPLY AND RETURN AIR DIFFUSERS, THERMOSTATS, EXIT SIGNS, AND LIFE SAFETY EQUIPMENT.

J. ACT AND GRID TO BE CENTERED IN ROOMS U.N.O.

K. SPRINKLER HEADS, LIGHT FIXTURES, DIFFUSERS, AND ETC. TO BE CENTERED WITHIN ACT, U.N.O. G.C. TO VERIFY SECURITY CAMERA LOCATIONS WITH OWNER'S VENDOR AND COORDINATE WITH ARCHITECT.

L. HVAC DIFFUSERS, EQUIPMENT ACCESS PANELS & HATCHES, SPRINKLER HEAD ESCUTCHEON PLATES, EMERGENCY LIGHT FIXTURES, SMOKE DETECTORS, SECURITY FEATURES, AUDIO DEVICES, ETC TO MATCH ADJACENT CEILING FINISH U.N.O. SUBMIT LOCATIONS, FINISHES & STYLES OF ALL CEILING FIXTURES TO ARCHITECT FOR APPROVAL PRIOR TO PURCHASING OR CONSTRUCTION.

M. ALL SPRINKLER HEADS LOCATED IN CLOSED CEILING IN VIEW OF PUBLICS AREAS SHALL BE RECESSED AND CONCEALED WITH AN ESCUTCHEON PLATE.

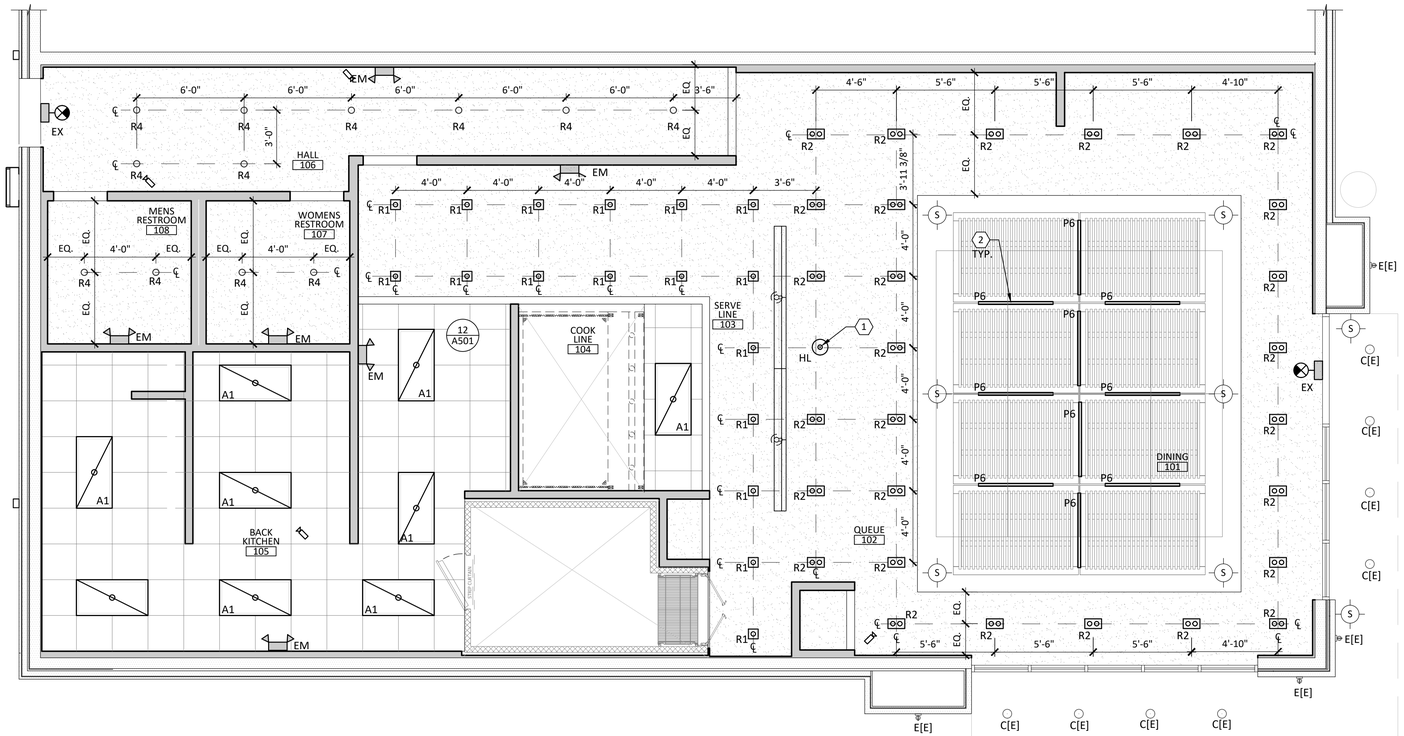
N. G.C. TO COORDINATE LOCATION OF ALL EQUIPMENT ACCESS PANELS & HATCHES WITH NECESSARY EQUIPMENT. CEILING OR PARTITION FEATURES, LIGHTING, AND OTHER EQUIPMENT. SUBMIT TO ARCHITECT FOR APPROVAL PRIOR TO COMMENCING WITH WORK. NOTIFY ARCHITECT OF ANY DISCREPANCIES OR CONFLICTS THAT INTERFERE WITH THE DESIGN INTENT PRIOR TO INSTALLATION OF EQUIPMENT OR SERVICES.

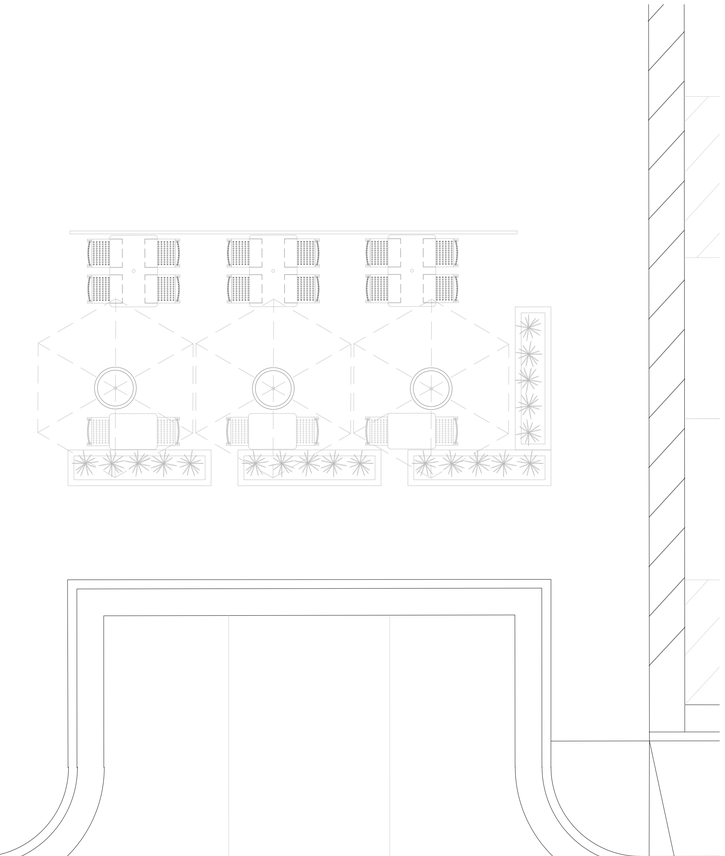
O. ALL ELECTRICAL CONDUIT, WIRING, PLUMBING LINES, AND OTHER SERVICES TO BE ROUTED THROUGH CLOSED CEILING, FRAMED WALLS, FAUX BEAMS, ETC. AS NECESSARY TO CONCEAL FROM VIEW.

P. G.C. TO COORDINATE THE CEILING FRAMING AROUND SUCH ITEMS AS THE HOOD AND WALK-IN COOLER BOX. THE HOOD SUPPLY PLENUM SHOULD HAVE A 1/4" REVEAL BELOW FINISHED CEILING HEIGHT.

Q. SECURITY CAMERA SCOPE AND LOCATION BY SECURITY TEAM.

R. SPEAKER SCOPE AND LOCATION BY AUDIO VENDER.





1 A140 REFLECTED CEILING PLAN

1/4" = 1'-0"

6/13/2022 7:47 AM

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CAVA
702 H STREET, 2ND FLOOR, WASHINGTON, DC 20001

AOR PROJECT NUMBER: CAV070

ISSUE	DATE
PERMIT	JUN 14, 2022

REFLECTED CEILING PLAN

SHEET: A140

REFLECTED CEILING PLAN LEGEND

	24"x 24" CEILING TILE
	GYPSUM BOARD CEILING REFER TO PLAN
	SUPPLY AIR DIFFUSER (SEE MECHANICAL SHEETS)
	RETURN AIR GRILLE (SEE MECHANICAL SHEETS)

NOTE-
1. SEE MECHANICAL AND ELECTRICAL SHEETS FOR ALL FIXTURE SPECIFICATIONS, WIRING, AND POWER REQUIREMENTS.
2. "#" WITHIN THE CEILING ELEVATION TAG DENOTES INSTALLATION OF R-13 SOUND BATT ABOVE CEILING

REFLECTED CEILING PLAN CODED NOTES (#)

1. G.C. TO COORDINATE INSTALLATION OF WALK-IN, CEILING LAYOUT AROUND BOX WITH FOOD SERVICE CONSULTANT.
2. LOCATION OF FOOD SERVICE PROVIDED EXHAUST/HOOD. COORDINATE CEILING WITH PARTITION FRAMERS. MAKE-UP AIR GRILL TO HAVE 1/4" MAX. REVEAL BENEATH FINISHED FACE OF DRYWALL CEILING. G.C. TO ENSURE ANCILLARY PANEL OPENS UNOBSTRUCTED.
3. ALIGN.
4. PROVIDE BLOCKING IN CEILING FOR DIGITAL MENU BOARDS. REFER TO DETAIL 1/A502.
5. SUSPENDED WOOD SLAT PANEL SYSTEM BY MILLWORKER. SEE MILLWORK DRAWINGS. SUSPENDED FROM CEILING WITH UNI-STRUT. PAINT UNISTRUT PT-108, SEE 6/A501OR DETAILS.
6. PROVIDE CLEAN, SMOOTH, WASHABLE PTD. DRYWALL SURFACE ABOVE BEVERAGE COUNTER. INSTALL 2X STUDS FROM BOTTOM CHORD OF TRUSS TO ADJACENT BOTTOM CHORD OF TRUSS. PROVIDE EDGE BEADS AROUND PERIMETER OF DRYWALL. NEW SURFACE TO BE NO SMALLER THAN AREA OF BEVERAGE COUNTER.
7. 48" X 96" TECTUM PANEL (8 TOTAL). CENTER TECTUM PANEL ABOVE WOOD CLOUD PANEL. TECTUM PANEL OVERHANG BEYOND WOOD CEILING CLOUD TO EXTEND NO MORE THAN 1' ON EACH SIDE. PAINT TECTUM PANEL PT-105, 2 COATS MAX.
8. START CEILING GRID AT THIS LOCATION.
9. EXISTING DEMISING WALL.
10. EXTERIOR SIGNAGE MOUNTED TO EXISTING EXTERIOR STOREFRONT (ABOVE AWNINGS) COORDINATE POWER REQUIREMENTS AND EXACT/FINAL LOCATION WITH SIGNAGE VENDOR (SEE COVER SHEET FOR PROJECT DIRECTORY). SIGNAGE LOCATION IS REPRESENTATION ONLY; FINAL LOCATION TBD BY SIGNAGE VENDOR AND SUBMITTED INDEPENDENTLY FOR PERMIT UNDER SEPARATE PERMIT.

REFLECTED CEILING PLAN GENERAL NOTES

A. WHERE CEILINGS ARE INDICATED TO BE GYP. BD., PROVIDE 1/2" GYPSUM BOARD ON METAL STUD FRAMING OR SUSPENDED CEILING SYSTEM. PROVIDE CEILING GYP. BD. CONTROL JOINTS PER MANUFACTURER'S RECOMMENDATIONS U.N.O.

B. VERTICALLY STACK LIGHT SWITCHES, THERMOSTATS, AND LIFE SAFETY DEVICES TO THE GREATEST EXTENT POSSIBLE.

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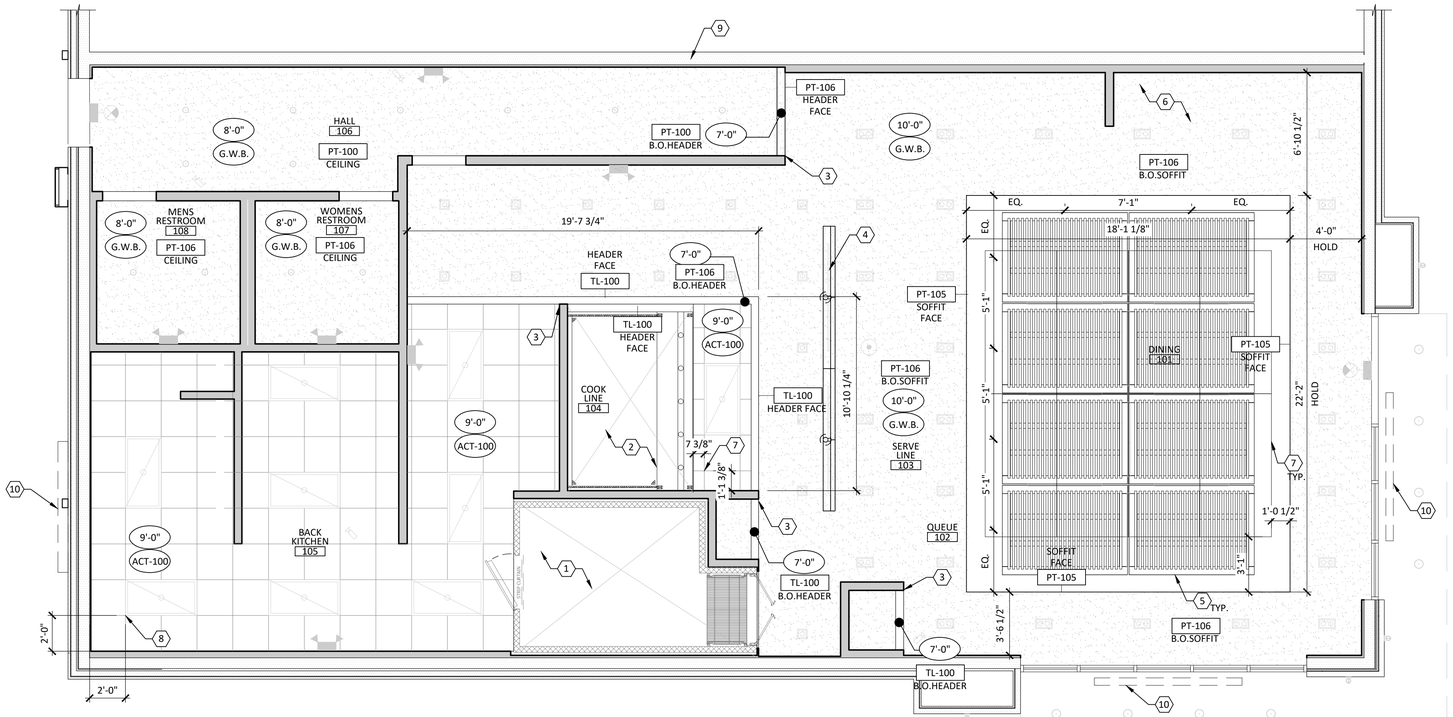
R. SPEAKER SCOPE AND LOCATION BY AUDIO VENDER.



1 / A141 REFLECTED CEILING PLAN
1/4" = 1'-0"

6/13/2022 7:53 AM

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AOR PROJECT NUMBER: CAV070

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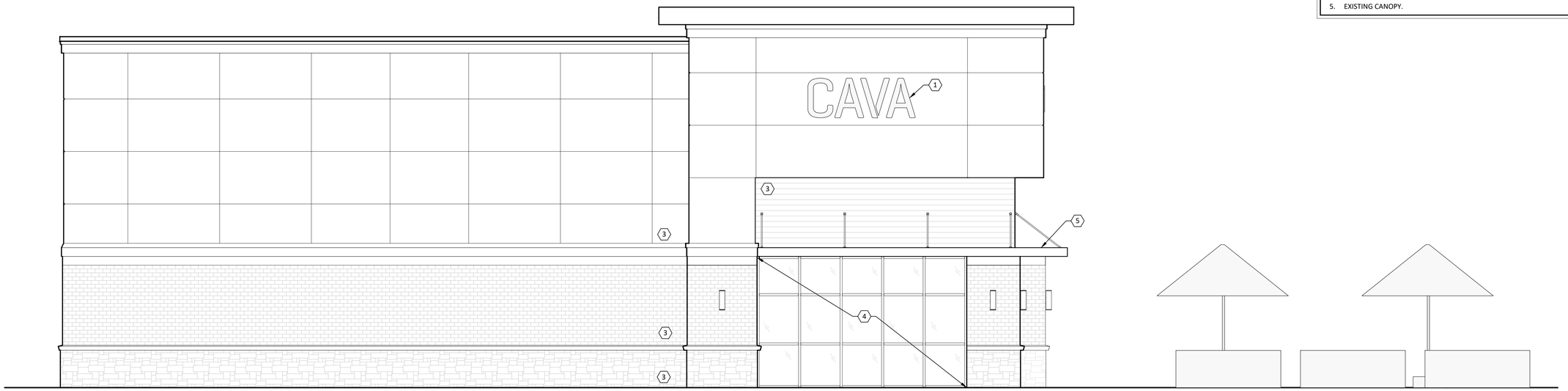
REFLECTED CEILING PLAN

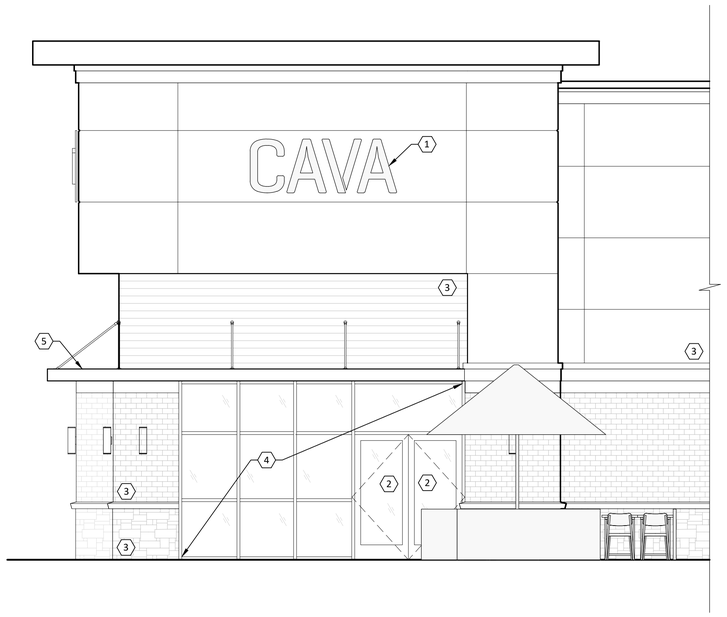
SHEET: A141

EXT. ELEVATION CODED NOTES

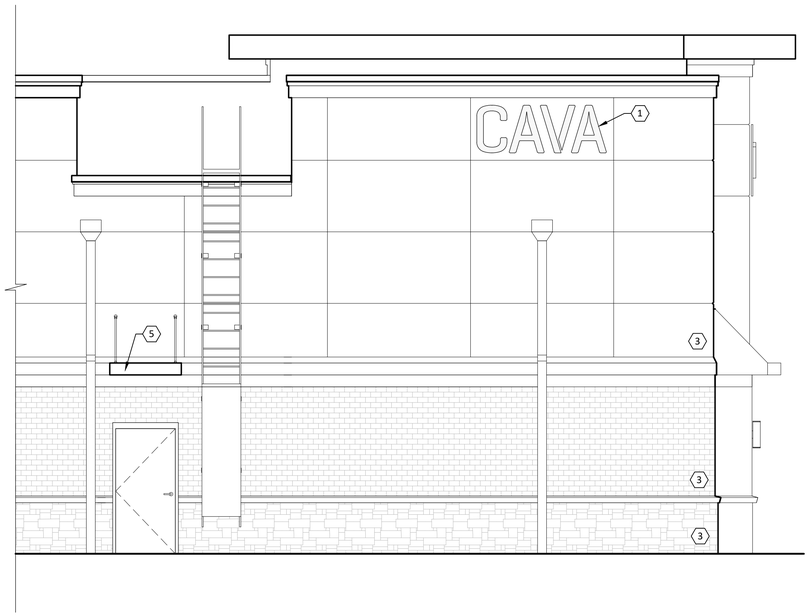
1. REFERENCE SIGN SHOP DRAWINGS FOR LOCATION AND SIZE OF NEW SIGN. SIGNAGE UNDER SEPARATE PERMIT, GC TO PROVIDE BLOCKING AS NEEDED AND PULL POWER.
2. NEW DOOR VINYL BY SIGN VENDOR.
3. EXISTING FINISH TO REMAIN, TYP.
4. EXISTING STOREFRONT SYSTEM AND DOORS TO REMAIN.
5. EXISTING CANOPY.



1 A210 SOUTH ELEVATION
1/4" = 1'-0"



2 A210 EAST ELEVATION
1/4" = 1'-0"



3 A210 WEST ELEVATION
1/4" = 1'-0"

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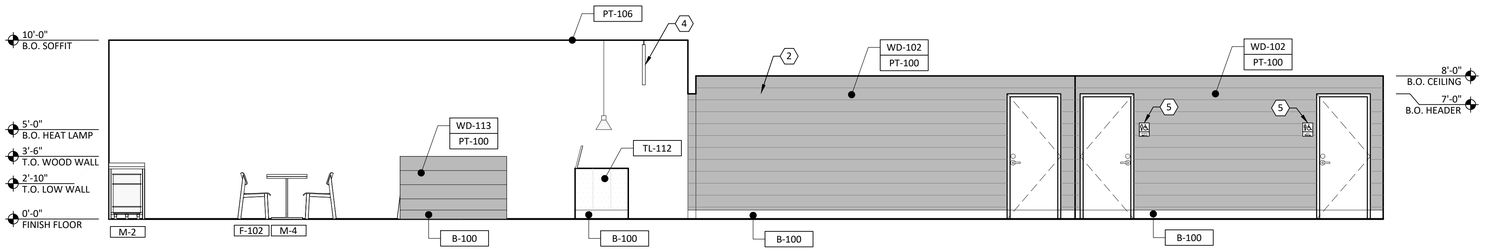
EXTERIOR ELEVATIONS

SHEET: A210

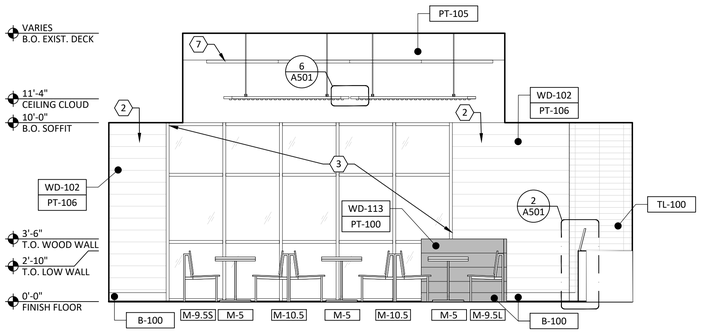
5/11/2022 9:10 AM

ELEVATION CODED NOTES (#)

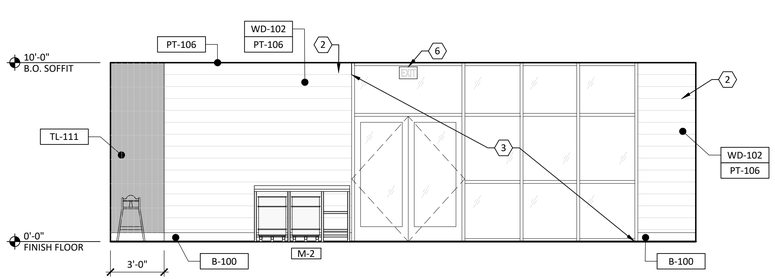
1. INDICATED WALL CORNER TO RECEIVE SCHEDULE (TL-100) BULL NOSED EDGE AT FRAMED TILE OPENINGS, CONTRACTOR TO PROVIDE BULL NOSE PIECE ON ALL CORNERS, UNLESS NOTED OTHERWISE.
2. DECORATIVE WOOD 1X8 WALL PER FINISH SCHEDULE. WOOD PLANKS TO BE INSTALLED TOP TO BOTTOM. CUT PLANKS TO OCCUR ONLY ON BOTTOM ROW. CONTRACTOR TO APPLY BLOCKING IN THE WALL FOR WOOD WALL ATTACHMENT.
3. EXISTING STOREFRONT DOORS & WINDOWS TO REMAIN, U.N.O. WINDOWS ARE FIXED AND NON-OPERABLE.
4. MENU BOARD. PROVIDE BLOCKING ABOVE THE CEILING. SHIM AS NEEDED TO LEVEL BOARDS.
5. ADA SIGNAGE PER G003 TYP.
6. EXIT SIGN PER RCP. MOUNTED TO J-BOX AND EXPOSED CONDUIT RUNNING FROM CEILING. VERIFY MOUNTING HEIGHT IN FIELD.
7. TECTUM PANEL. PAINT PT-105, MAX. 2 COATS. REFER TO REFLECTED CEILING PLAN.



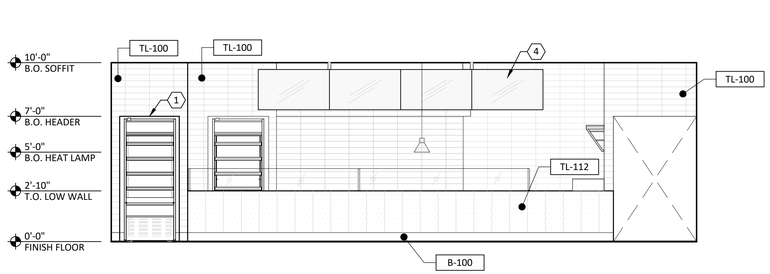
1 A220 INTERIOR ELEVATION
1/4" = 1'-0"



2 A220 INTERIOR ELEVATION
1/4" = 1'-0"

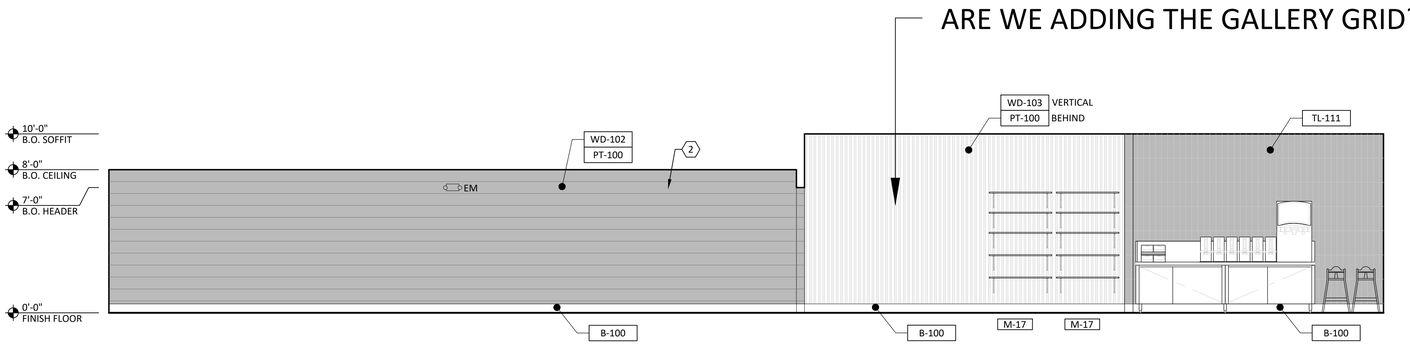


3 A220 INTERIOR ELEVATION
1/4" = 1'-0"

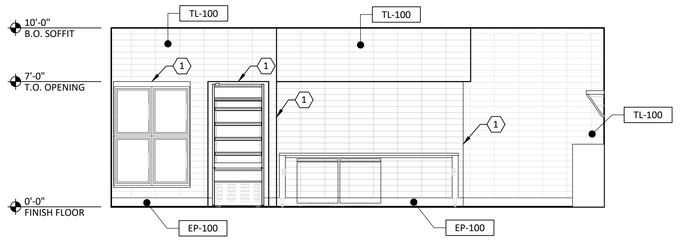


4 A220 INTERIOR ELEVATION
1/4" = 1'-0"

ARE WE ADDING THE GALLERY GRID?



5 A220 INTERIOR ELEVATION
1/4" = 1'-0"



6 A220 INTERIOR ELEVATION
1/4" = 1'-0"

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INTERIOR ELEVATIONS

SHEET: A220

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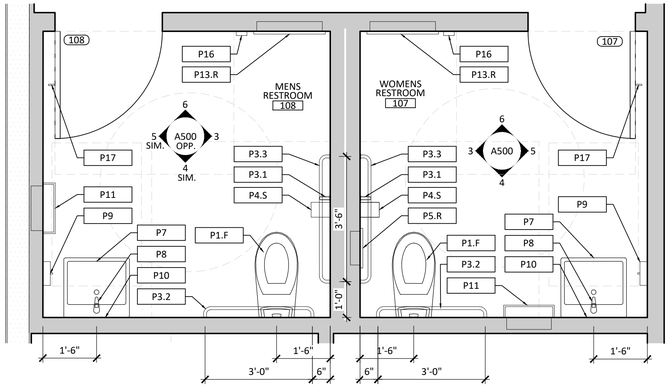
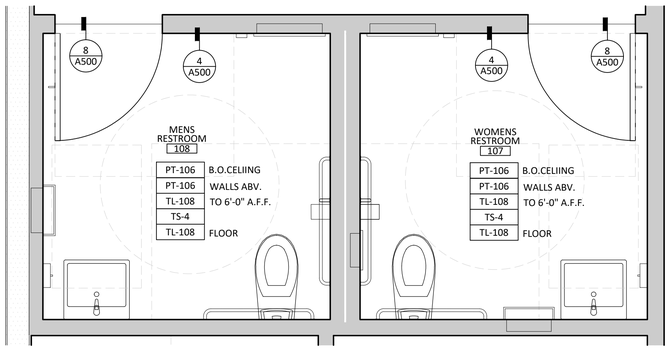


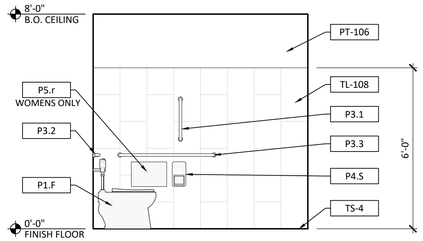
1 / A410 ENLARGED RESTROOM FLOOR PLAN

1/2" = 1'-0"



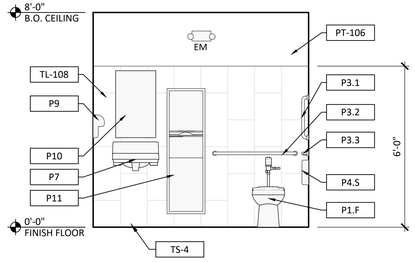
2 / A410 ENLARGED RESTROOM FINISH PLAN

1/2" = 1'-0"



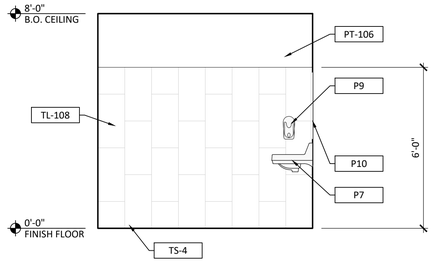
3 / A410 INTERIOR ELEVATION

3/8" = 1'-0"



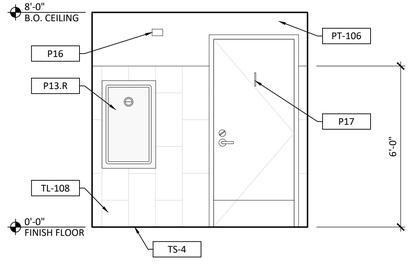
4 / A410 INTERIOR ELEVATION

3/8" = 1'-0"



5 / A410 INTERIOR ELEVATION

3/8" = 1'-0"



6 / A410 INTERIOR ELEVATION

3/8" = 1'-0"

RESTROOM ACCESSORIES

MARK	DESCRIPTION	MANUF./MODEL	MOUNTING HEIGHT
P1.F	FLOOR MOUNTED TOILET	KOHLER HIGHCLIFF ULTRA BOWL K-96057	
P3.1	18" GRAB BAR	BOBRICK B-6806 x16	T.O. BAR 4'-9"
P3.2	36" GRAB BAR	BOBRICK B-6806 x36	SEE 3/A500
P3.3	42" GRAB BAR	BOBRICK B-6806 x42	SEE 3/A500
P4.S	DOUBLE SURFACE MOUNTED TOILET PAPER DISPENSER	BOBRICK B-2888	SEE 3/A500
P5.R	RECESSED SANITARY NAPKIN DISPOSAL	BOBRICK B-353	SEE 3/A500
P7	WALL MOUNTED SINK	KOHLER BRENHAM K-1997-1N	SEE 3/A500
P8	FAUCET	KOHLER K-7514	
P9	SOAP DISPENSER	ECOLAB NEXA CLASSIC TF DISPENSER	SEE 3/A500
P10	WALL HUNG MIRROR	BREY-KRAUSE T-1018-36SS 18"x30"	SEE 3/A500
P11	PAPER TOWEL DISPENSER & TRASH	BOBRICK B-3944 CLASSIC SERIES	SEE 3/A500
P13.R	BABY CHANGING STATION	KOALA KARE KB111-SSRE	34" TO T.O. SHELF WHEN OPEN
P16	AIR FRESHENER	RUBBERBMAID 1793536 MICROBURST 9000	
P17	DOOR MOUNTED COAT HOOK	BOBRICK B-6827	47" TO CENTER OF HOOK

PROVIDE SOLID FRT WOOD BLOCKING AS NECESSARY FOR INSTALLATION PER MANUFACTURER'S RECOMMENDATIONS. SEE SHEET G003 & G004 FOR ACCESSIBILITY GUIDELINES.

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CAVA

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702 H STREET, 2ND FLOOR, WASHINGTON, DC 20001

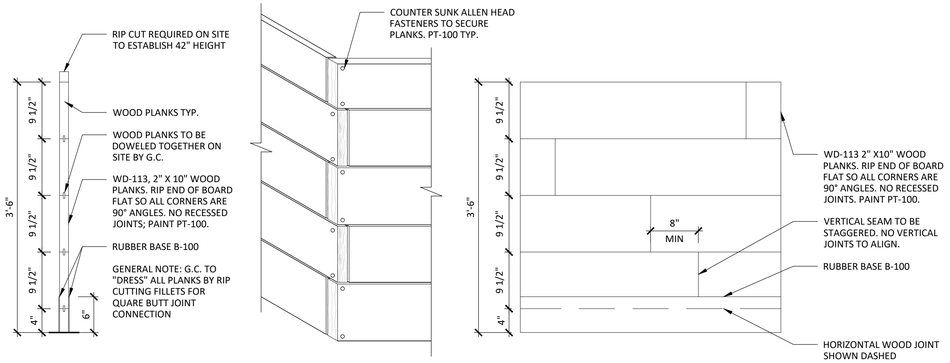
AOR PROJECT NUMBER: CAV070

ISSUE	DATE
PERMIT	JUN 14, 2022

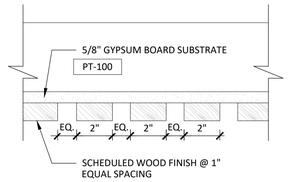
ENLARGED RESTROOM PLANS

SHEET: A410

5/26/2022 12:19 PM



1 A500 **STACKED WOOD WALL DETAILS**
3" = 1'-0"



2 A500 **SLATTED WALL PANEL DETAIL**
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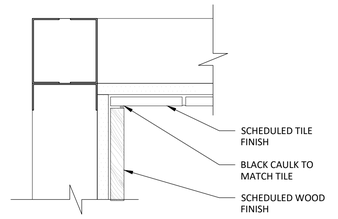
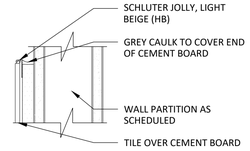
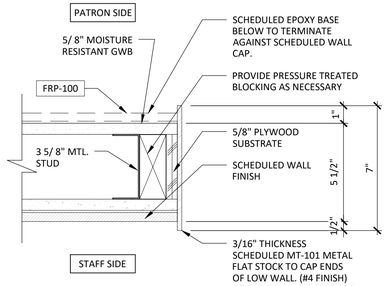


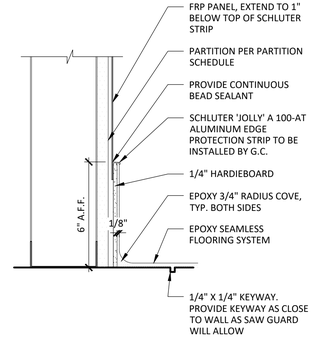
3 A500 **WOOD TO TILE TRANSITION**
3" = 1'-0"



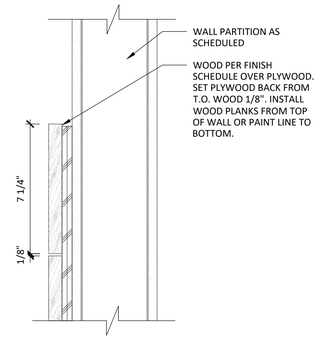
4 A500 **TOP OF TILE**
3" = 1'-0"



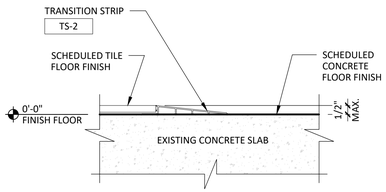
5 A500 **END CAP AT LOW SERVICE WALL**
3" = 1'-0"



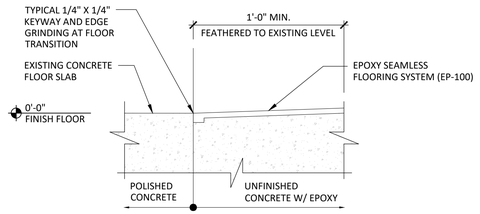
6 A500 **EPOXY FLOOR AT FRP WALL**
3" = 1'-0"



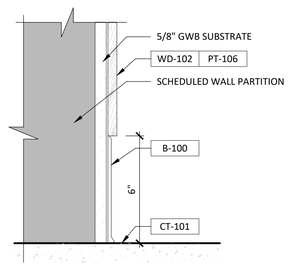
7 A500 **TOP OF WOOD**
3" = 1'-0"



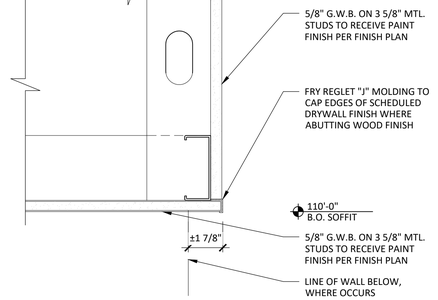
8 A500 **TILE TO CONCRETE TRANSITION**
3" = 1'-0"



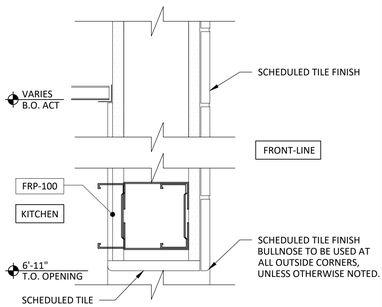
9 A500 **EPOXY TO CONCRETE**
3" = 1'-0"



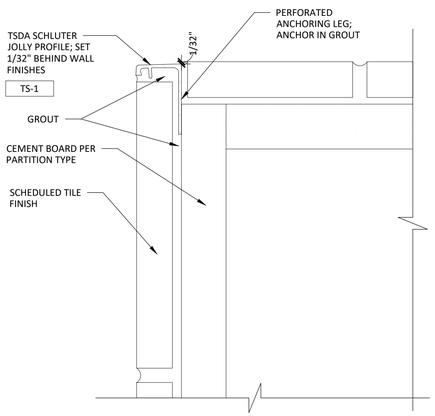
10 A500 **TYP. BASE DETAIL**
3" = 1'-0"



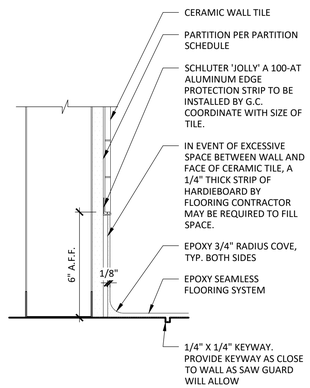
11 A500 **SERVE LINE BULKHEAD DETAIL**
6" = 1'-0"



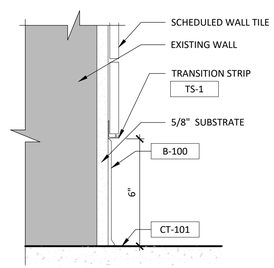
12 A500 **CEILING SOFFIT DETAIL**
3" = 1'-0"



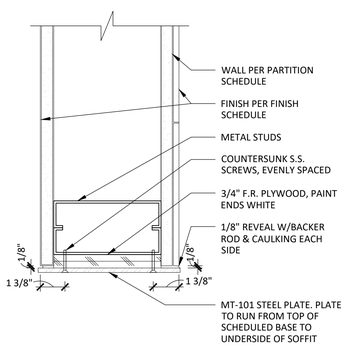
13 A500 **TYP. TILE TO TILE CORNER GUARD**
1'-0" = 1'-0"



14 A500 **EPOXY FLOOR AT TILE WALL**
3" = 1'-0"



15 A500 **RUBBER BASE AT TILE WALL**
3" = 1'-0"



16 A500 **WALL END CAP**
3" = 1'-0"

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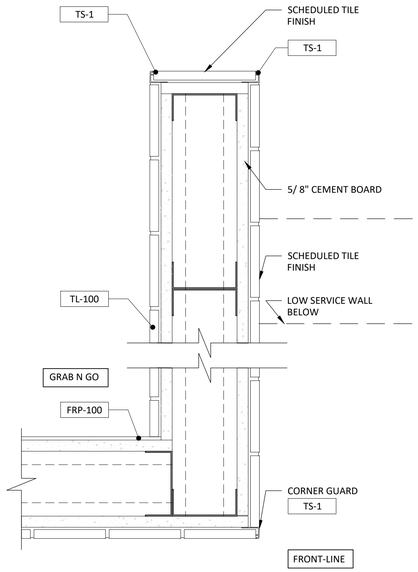
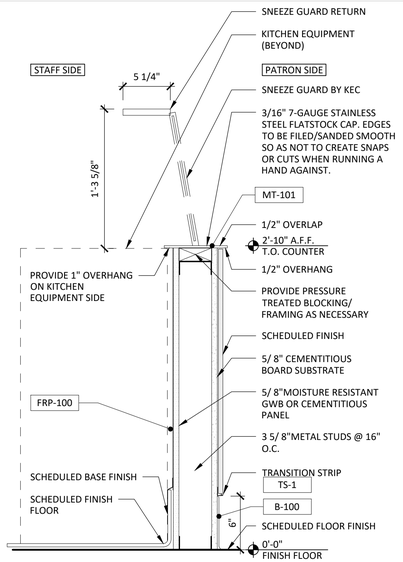


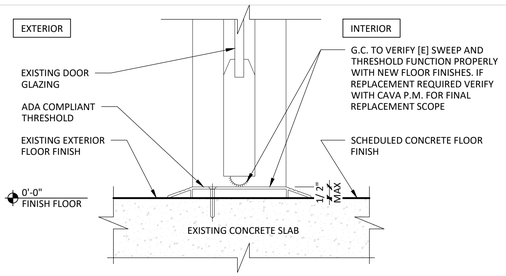
1 A501 GRAB N GO PLAN DETAIL

3" = 1'-0"



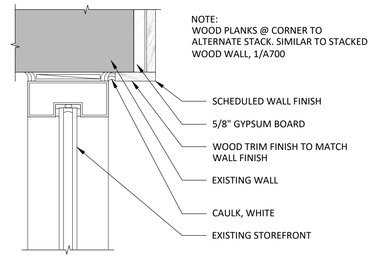
2 A501 FOOD-LINE DETAILED SECTION

1 1/2" = 1'-0"



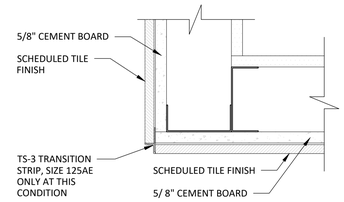
3 A501 ENTRY DOOR THRESHOLD DETAIL

3" = 1'-0"



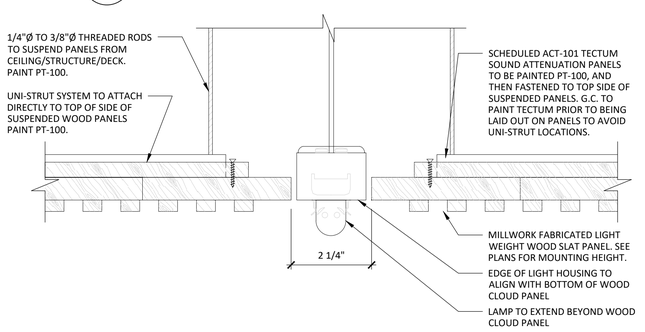
4 A501 WOOD TERMINATION AT STOREFRONT

3" = 1'-0"



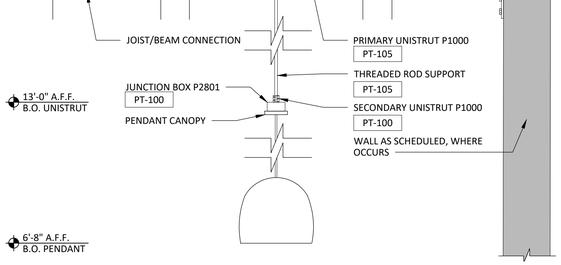
5 A501 FOOD-LINE LOW WALL CORNER GUARD

3" = 1'-0"



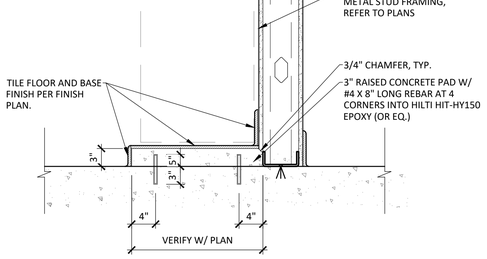
6 A501 SUSPENDED WOOD CEILING DETAIL

6" = 1'-0"



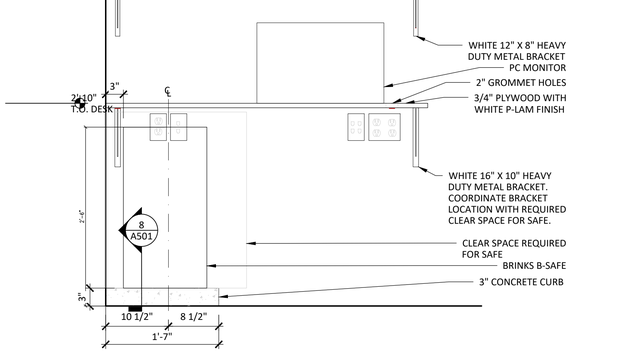
7 A501 SUSPENDED PENDANT LIGHT DETAIL

3" = 1'-0"



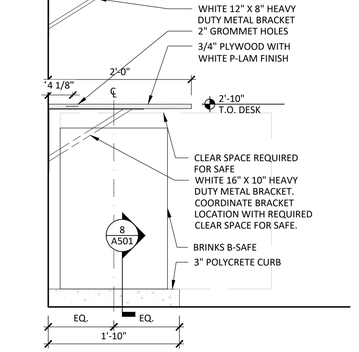
8 A501 CURB DETAIL

1" = 1'-0"



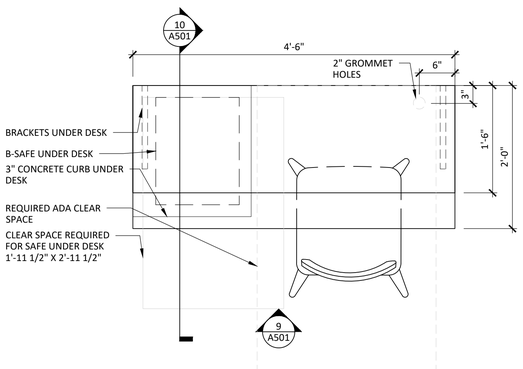
9 A501 MANAGER'S DESK ELEVATION

1 1/2" = 1'-0"



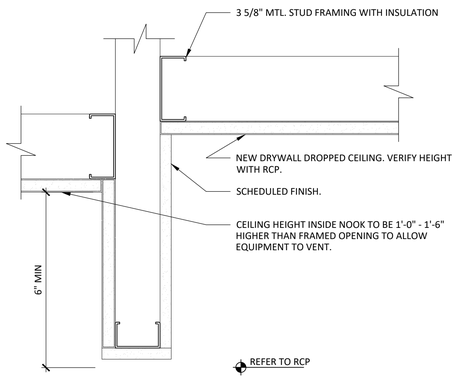
10 A501 MANAGER'S DESK SECTION

1 1/2" = 1'-0"



11 A501 MANAGER'S DESK PLAN

1 1/2" = 1'-0"



12 A501 KITCHEN OVERHEAD PARTITION

3" = 1'-0"

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fax: 614.487.8777

STATE OF MISSOURI
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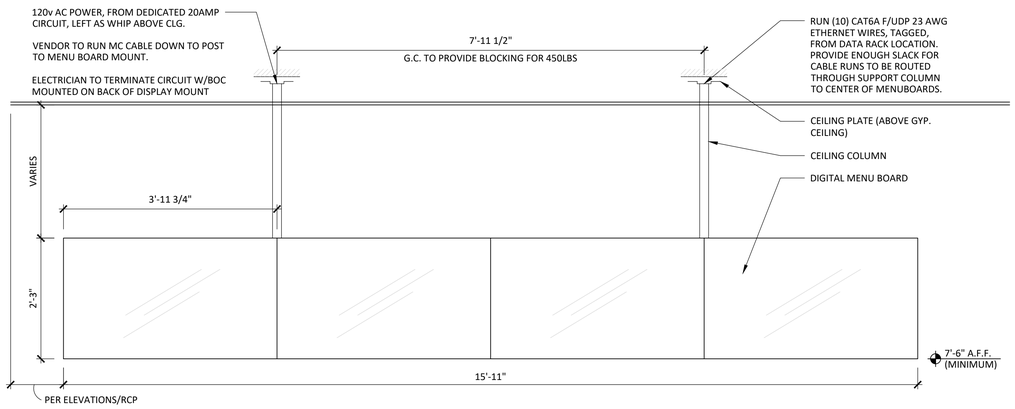
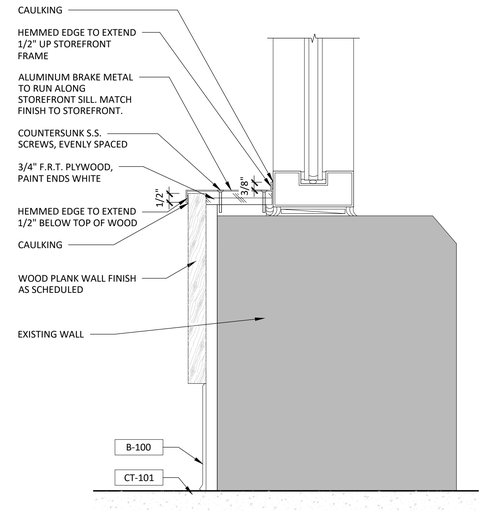


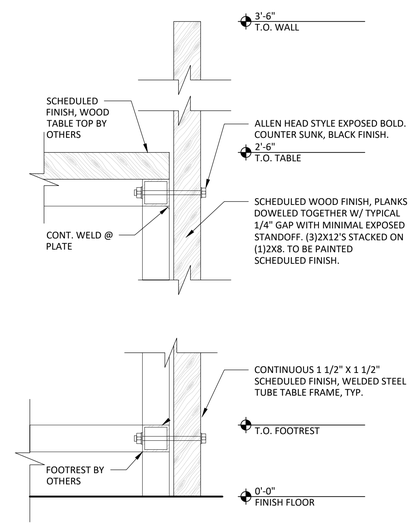
1 A502 **DIGITAL MENU BOARD**

3/4" = 1'-0"



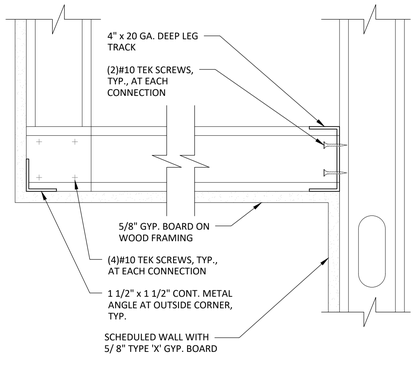
2 A502 **BRAKE METAL SILL**

3" = 1'-0"



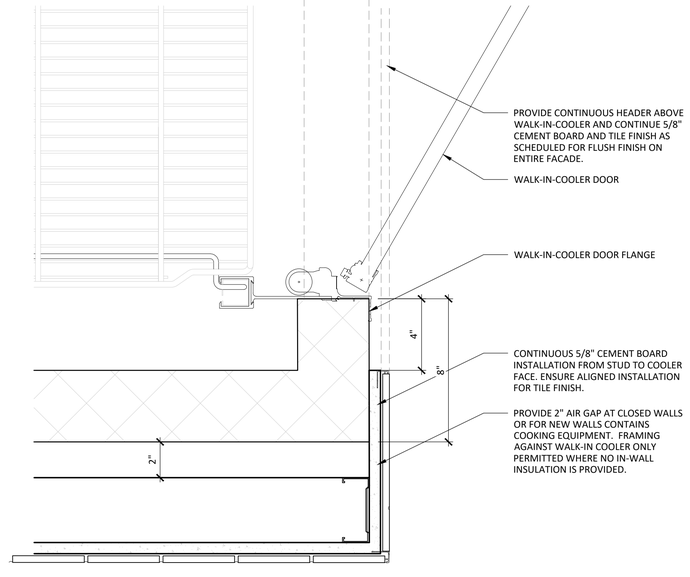
3 A502 **STACKED WOOD WALL DETAIL**

3" = 1'-0"



4 A502 **SECTION THROUGH SOFFIT**

3" = 1'-0"



5 A502 **WALK IN COOLER DETAIL**

3" = 1'-0"

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fax: 614.487.8777

STATE OF MISSOURI
DAVID A. EFAW
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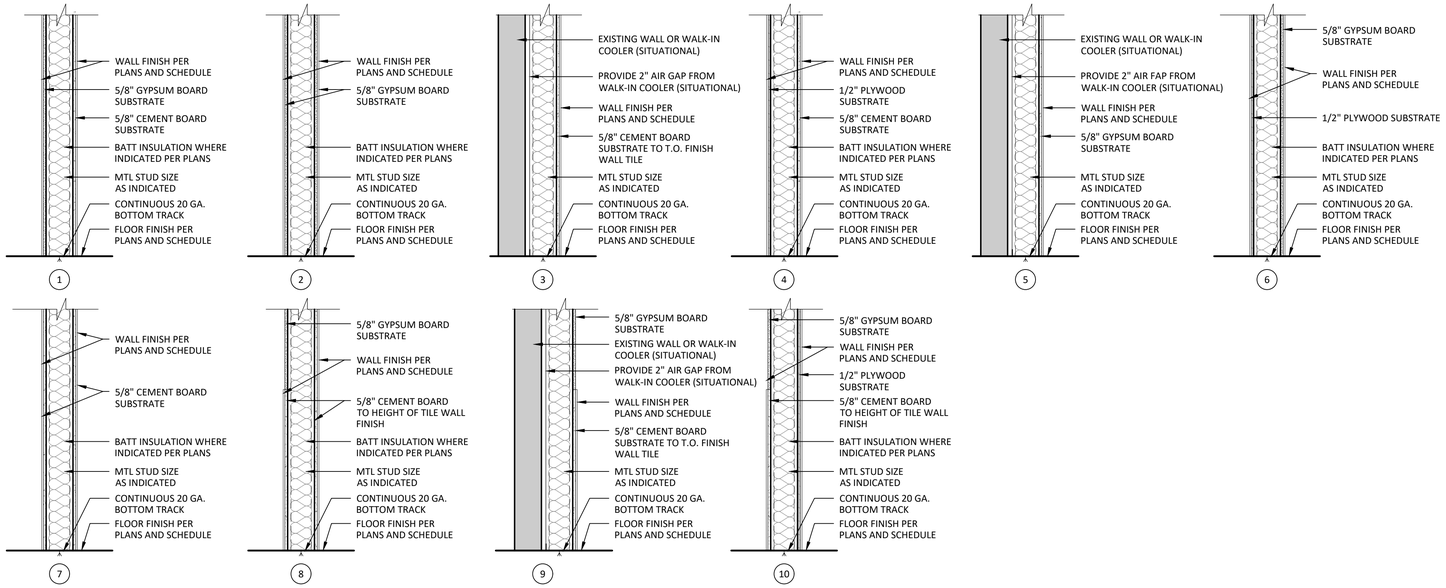


WALL PARTITION CONSTRUCTION LEGEND

1 / A600 — 3/4" = 1'-0"

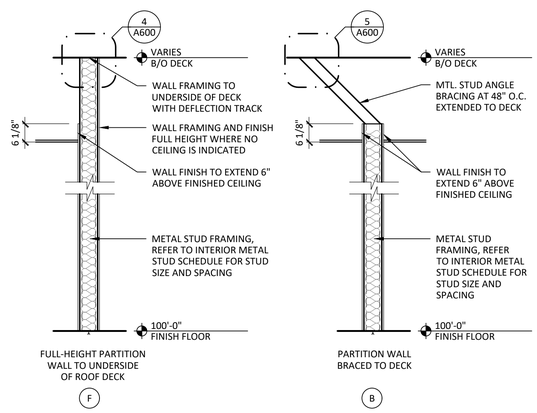
GENERAL WALL NOTES

1. ALL PARTITIONS THAT ARE TO BE BUILT TO DECK SHALL INCLUDE ANY STRUCTURE (JOISTS, BEAMS, ETC.) THAT MAY NEED TO BE FRAMED OUT IN ORDER TO PROVIDE DRYWALL TO DECK. ALL PENETRATIONS AND FLUTES IN DECK SHALL BE SEALED AS REQUIRED.
2. PROVIDE BRACING PER MANUFACTURER'S RECOMMENDATIONS IN ALL PARTITIONS THAT DO NOT EXTEND FULL HEIGHT TO THE UNDERSIDE OF THE STRUCTURE ABOVE.
3. PROVIDE A GALVANIZED STEEL SHEET DEEP LEG DEFLECTION TRACK (20 GA.), 'SLP-TRK' BY SLIPTRACK SYSTEMS, INC. AT ALL FRAMING THAT EXTENDS FROM THE SLAB TO THE UNDERSIDE OF THE STRUCTURE ABOVE. SECURE DEFLECTION TRACK TO STRUCTURE WITH FASTENERS AT 2'-0" O.C. MAXIMUM. DO NOT SECURE TRACK TO VERTICAL STUDS. PROVIDE MINIMUM OF 5/8" TO TOP OF METAL STUD.
4. ALL BOTTOM TRACK RUNNERS ARE TO BE HELD IN PLACE WITH FASTENERS AT 2'-0" O.C. MAX WITH HILTI POWER DRIVER ANCHOR ICBO #2388, .0145" DIAMETER SHANK WITH 1 1/8" MINIMUM PENETRATION.
5. PROVIDE ACOUSTICAL SEALANT AT THE INTERSECTION OF ALL GYPSUM BOARD TO DECK OR CONCRETE SLAB CONDITIONS. HOLD GYPSUM BOARD 3/8" OFF OF STRUCTURE FOR SEALANT.
6. PROVIDE HORIZONTAL BRIDGING IN ALL PARTITION FRAMING AT A MINIMUM OF 6'-0" O.C. VERTICALLY. GENERAL CONTRACTOR TO COORDINATE WITH METAL STUD MANUFACTURER TO DETERMINE IF HORIZONTAL BRIDGING IS REQUIRED FOR METAL STUD PARTITION WALLS THAT HAVE GYPSUM BOARD ON BOTH SIDES THAT EXTEND FROM FINISHED FLOOR TO UNDERSIDE OF STRUCTURE ABOVE.
7. METAL STUD NON-STRUCTURAL WALL SYSTEMS ARE TO FOLLOW ASTM C754 & ASTM C645.
8. TAPE, MUD, AND SAND GYPSUM BOARD SMOOTH READY FOR NEW FINISHES AT INTERIOR FACE OF ALL GYPSUM BOARD SURFACES. PROVIDE ASTM C840 LEVEL 4 FINISH UNLESS NOTED OTHERWISE.
9. ALL PLYWOOD BLOCKING IS TO BE FIRE RETARDANT TREATED.
10. PROVIDE COMPRESSIBLE FIRE STOPPING MATERIAL WITHIN THE DECK FLUTES AT ALL FIRE RATED PARTITIONS.
11. PROVIDE COMPRESSIBLE FIRE STOPPING MATERIAL AT THE CEILING LEVEL OF ALL PARTITIONS WITH GYPSUM BOARD NOT EXTENDING FULL HEIGHT TO THE DECK ABOVE. HOLD FIRE STOPPING IN PLACE WITH 1" WIDE (25 GA.) 1 1/2" X 1 1/2" IMPALING ANGLE ON EACH STUD TO SECURE EACH END OF THE MATERIAL.
12. PROVIDE FIRE SAFING AT ALL PARTITION/FURRING CAVITIES AT CEILING LEVELS OPEN TO CEILING PLENUMS.
13. PROVIDE 5/8" WATER RESISTANT GYPSUM BOARD AT ALL WET AREAS AS INDICATED ON DRAWINGS. WET AREAS INCLUDE, BUT ARE NOT LIMITED TO KITCHENS, RESTROOMS AND BEVERAGE STATION. TAPE, SEAL AND PREP TO ACCEPT FINISH.
14. PROVIDE BLOCKING FOR ALL DOOR STOPS.
15. ALL WOOD IN CONTACT WITH CONCRETE AND AT EXTERIOR LOCATIONS MUST BE PRESSURE TREATED MOISTURE RESISTANT WOOD.

WALL PARTITION TAG LEGEND

1	B	D

1	B	D
REFER TO WALL PARTITION CONSTRUCTION LEGEND 1/A600 (DENOTES WALL CONSTRUCTION)	REFER TO WALL PARTITION BRACING LEGEND 2/A111 (DENOTES HEIGHT OF WALL AND T/ WALL BRACING)	REFER TO INTERIOR METAL STUD SCHEDULE 3/A111 (DENOTES STUD SIZE, GAUGE, AND SPACING)
"*" DENOTES FULL HEIGHT BATT INSULATION		



WALL PARTITION BRACING LEGEND

2 / A600 — 1/2" = 1'-0"

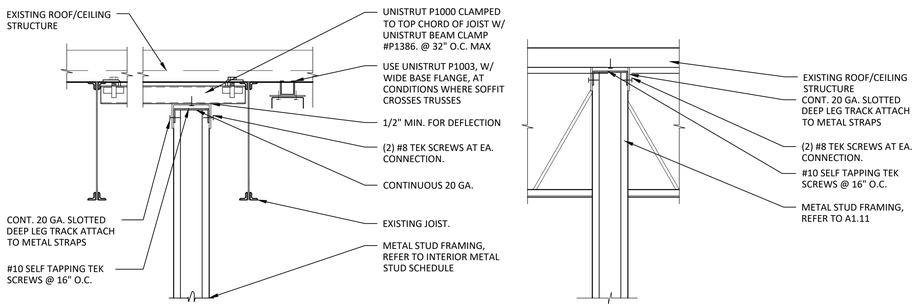
MARK	SIZE	GA.	MAT. DESIGN THICK. (MILS)	TYPE	MAXIMUM UNSUPPORTED HGT AT 12" O.C.	MAXIMUM UNSUPPORTED HGT AT 16" O.C.	MAXIMUM UNSUPPORTED HGT AT 24" O.C.
A	7/8"	20	30	DRY	---	---	---
B	1 5/8"	20	30	DRY	9'-3"	8'-5"	7'-4"
C	2 1/2"	20	30	DRY	12'-9"	11'-7"	10'-2"
D	3 5/8"	20	30	DRY	17'-0"	15'-6"	13'-6"
		20	33	STR	17'-7"	16'-0"	14'-0"
		18	43	STR	19'-2"	17'-5"	15'-3"
E	6"	20	30	DRY	25'-2"	22'-11"	18'-11"
		20	33	STR	26-2"	23'-9"	20'-6"
		18	43	STR	28'-9"	26'-1"	22'-10"
		16	54	STR	30'-9"	27'-11"	24'-5"
F	8"	18	43	STR	36'-1"	32'-9"	28'-8"
		16	54	STR	38'-9"	35'-2"	30'-9"
		14	68	STR	41'-11"	38'-1"	33'-4"

1. USE GAUGE & TYPE OF STUD AS SCHEDULED, UNLESS NOTED OTHERWISE ON DRAWINGS.
2. BASED ON INTERIOR NON-STRUCTURAL, NON-COMPOSITE LIMITING WALL HEIGHT TABLES. PARTITIONS w/ ONE LAYER GYPSUM BOARD EACH SIDE (L/240 DEFLECTION - 5 PSF LOAD) PER 2012 SSMA PRODUCT TECHNICAL INFORMATION BULLETIN (ICC ESR #3064P).
3. RUNNER TRACK GAUGE TO MATCH STUD.
4. WALLS OVER 12'-0" HIGH TO BE LATERALLY BRACED VERTICAL WITH 1 1/2" (16GA) COLD-ROLLED CHANNELS CLIP ANCHORED TO METAL STUDS.
5. STND = STANDARD STUD. DRY = DRYWALL STUD. STR = STRUCTURAL STUD.
6. METAL STUD NON-STRUCTURAL WALL SYSTEMS TO FOLLOW ASTM C754 & ASTM 645.
7. MATERIAL DESIGN THICKNESS IS THE BASE METAL THICKNESS IN MILS. MINIMUM ALLOWED BASE METAL THICKNESS REPRESENTS 95% OF THE DESIGN THICKNESS.
8. DIAGONAL BRACING TO FOLLOW INTERIOR STUD SCHEDULE.
9. FRAMING THAT OCCURS BEHIND TILE AS A WALL FINISH TO BE SPACED NO MORE THAN 16" O.C.

INTERIOR METAL STUD SCHEUDLE

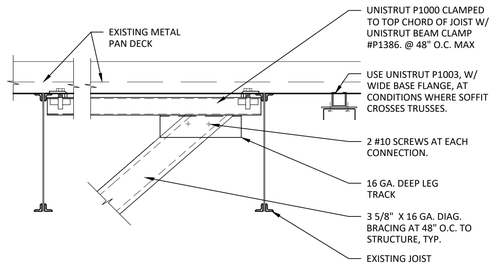
3 / A600 — NO SCALE

NOTE:
VERIFY THAT THE SHOWN METHOD OF ATTACHMENT IS ACCEPTABLE WITH THE ON-SITE COORDINATOR. IF NOT, CONTACT ARCHITECT FOR ALTERNATE DETAIL. METHOD SHOWN IS FOR FLOOR SUPPORTED FRAMING ONLY.



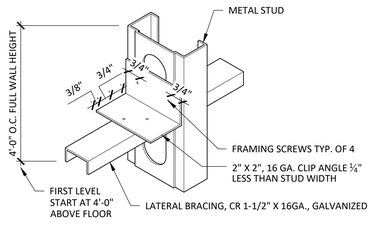
TOP OF FULL HEIGHT WALL CONNECTION

4 / A600 — 1" = 1'-0"



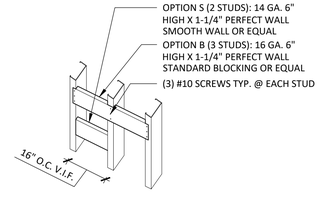
TOP OF BRACED WALL CONNECTION

5 / A600 — 1" = 1'-0"



LATERAL PARTITION BRACING

6 / A600 — NOT TO SCALE



NOTE: BLOCKING TO BE PROVIDED @ WALL MTD. ITEMS INCLUDING GRAB BARS, SHELVES, LIGHTS, CABINETS, SINKS, TOILETS ETC.

PARTITION BLOCKING DETAIL

7 / A600 — NOT TO SCALE

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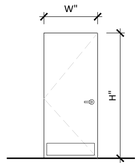
PERMIT	JUN 14, 2022

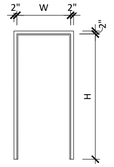
WALL PARTITION SCHEDULE

SHEET: A600

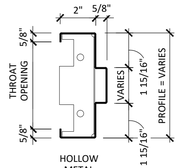
6/6/2022 5:06 PM



HOLLOW METAL DOOR



INTERIOR (16 GA.)
WELDED METAL



1 A601 DOOR ELEVATIONS

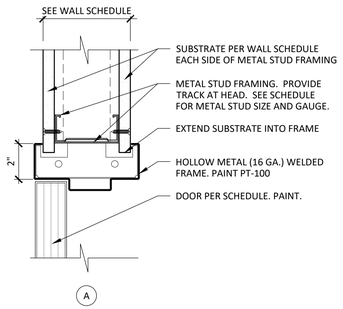
1/4" = 1'-0"

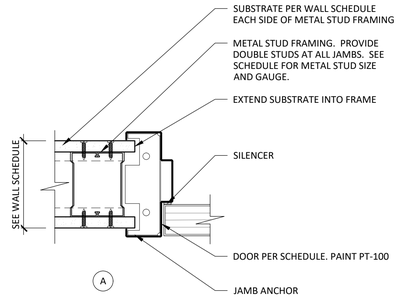
2 A601 DOOR ELEVATIONS

1/4" = 1'-0"

3 A601 FRAME PROFILE

3" = 1'-0"





4 A601 DOOR HEAD DETAIL

3" = 1'-0"

5 A601 DOOR JAMB DETAIL

3" = 1'-0"

DOOR AND FRAME SCHEDULE

NO.	LOCATION	DOOR SIZE	DOOR MATERIAL	DOOR FINISH	DOOR ELEV.	DOOR HARDWARE SET	FRAME PROFILE	FRAME MATERIAL	FRAME FINISH	FRAME ELEV.	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	RATING	REMARKS
101	ENTRY	EXIST. 6'-0" X 7'-0" X 1 3/4"	EXIST. ALUM	EXIST.	EXIST.	EXIST. TO REMAIN	EXIST.	EXIST.	EXIST.	EXIST.	---	---	---	---	1 -4, 6
104	BACK KITCHEN	3'-4" X 7'-0" X 1 3/4"	S.S.	S.S.	1/A601	SET #1	3/A601	H.M.	PT-100	2/A601	4/A601	5/A601	---	---	2-6
106	HALL	EXIST. 3'-4" X 7'-0" X 1 3/4"	EXIST. H.M.	EXIST.	EXIST.	EXIST. TO REMAIN	EXIST.	EXIST.	EXIST.	EXIST.	---	---	---	---	1 -6
107	WOMEN'S RESTROOM	3'-0" X 7'-0" X 1 3/4"	H.M.	PT-100	1/A601	SET #1	3/A601	H.M.	PT-100	2/A601	4/A601	5/A601	---	---	2-6
108	MEN'S RESTROOM	3'-0" X 7'-0" X 1 3/4"	H.M.	PT-100	1/A601	SET #1	3/A601	H.M.	PT-100	2/A601	4/A601	5/A601	---	---	2-6

NOTES:

1. VERIFY ALL EXISTING HARDWARE IS IN GOOD CONDITION FOR RE-USE. REPAIR/REPLACE DOOR HARDWARE AS REQUIRED.
2. DOOR LOCKSETS / PASSAGE SETS SHALL BE OF THE LEVER HANDLE TYPE. HARDWARE SHALL BE MOUNTED NO HIGHER THAN 48" ABOVE FINISHED FLOOR (MOUNTED BETWEEN 44" TO 48"). PROVIDE LEVER HANDLE AT ALL HANDICAPPED ACCESSIBLE DOORS. MAXIMUM PULL FORCES FOR INTERIOR DOORS TO BE 5.0 LBS FORCE. MAXIMUM PULL FORCES FOR EXTERIOR DOORS TO BE 15.0 LBS FORCE.
3. ALL HARDWARE TO COMPLY W/ THE LATEST REQUIREMENTS OF ADAAG/ANSI.
4. KEYING SEQUENCE TO BE COORDINATED W/ TENANT.
5. G.C. TO PROVIDE FULL SUBMITTAL OF ALL DOORS AND HARDWARE PRIOR TO ORDER/PURCHASE.
6. VERIFY STOREFRONT DOOR KICKPLATE IS ADA COMPLIANT (10" MINIMUM HEIGHT). IF NONCOMPLIANT INSTALL CR LAURENCE / 10" BOTTOM DOOR RAIL ADAPTOR. HTTPS://WWW.CRLAURENCE.COM/CRLAPPS/SHOWLINE/OFFERPAGE.ASPX?PRODUCTID=9447&GROUPID=11824&HISTORY=39325:4939:3501:11392&MODELID=11824

DOOR HARDWARE SCHEDULE

HARDWARE SET # 1 : RESTROOM

QTY.	DESCRIPTION
(1) INDICATOR DEADBOLT	VIZILOK, ADA COMPLIANT DOOR LOCKS WITH INDICATOR #C5FS. SATIN S/S
(1) PRIVACY LOCKSET	TBD, GC TO SUBMIT PROPOSAL, SATIN STAINLESS STEEL OR EQUAL
(1) LEVER HANDLE	TBD, GC TO SUBMIT PROPOSAL, SATIN STAINLESS STEEL OR EQUAL
(1) DOOR CLOSER	TBD, GC TO SUBMIT PROPOSAL, SATIN STAINLESS STEEL OR EQUAL
(1) HINGE SET	IVES, 5BB1HW, SATIN STAINLESS OR EQUAL, HEAVY WEIGHT FULL MORTISE
(1) FLOOR DOOR STOP	IVES, FS436, SATIN STAINLESS OF EQUAL
(3) SILENCERS	IVES, SR64, GREY
(2) KICKPLATE	IVSES, 8400 34" X 8", S32D SATIN STAINLESS STEEL.

HARDWARE SET # 2 : ENTRY EXTERIOR DOOR

QTY.	DESCRIPTION
(1) SECURITY VIEWER	
(1) CONTINUOUS HINGE	EXISTING TO REMAIN
(1) EXIT DEVICE W/ CONCEALED VERTICAL RODS	EXISTING TO REMAIN
(1) CLOSER - PARALLEL ARM	EXISTING TO REMAIN
(1) THRESHOLD	EXISTING TO REMAIN
(1) EXTERIOR DOOR SWEEP	EXISTING TO REMAIN
(1) DRIP CAP ON FRAME	EXISTING TO REMAIN
(1) KICK PLATE	EXISTING TO REMAIN
GASKETING	EXISTING TO REMAIN

HARDWARE SET # 3 : REAR EXTERIOR DOOR

QTY.	DESCRIPTION
(1) SECURITY VIEWER	
(1) CONTINUOUS HINGE	EXISTING TO REMAIN
(1) EXIT DEVICE W/ CONCEALED VERTICAL RODS	EXISTING TO REMAIN
(1) CLOSER - PARALLEL ARM	EXISTING TO REMAIN
(1) THRESHOLD	EXISTING TO REMAIN
(1) EXTERIOR DOOR SWEEP	EXISTING TO REMAIN
(1) DRIP CAP ON FRAME	EXISTING TO REMAIN
(1) KICK PLATE	EXISTING TO REMAIN
GASKETING	EXISTING TO REMAIN

1. ALL EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT.
2. LATCHES, HANDLES, PANIC BARS AND ALL DOOR HARDWARE WILL COMPLY WITH SECTION 1008.1.10 OF THE IBC OR PER THE SPECIFICATIONS.
3. ALL DOORS TO REMAIN UNLOCKED DURING BUSINESS HOURS.
4. MAXIMUM EFFORT TO OPERATE EXTERIOR OR INTERIOR DOORS WITH CLOSERS SHALL NOT EXCEED 5 POUNDS. THIS MAY BE INCREASED TO 15 POUNDS FOR FIRE-RATED DOORS.
5. THE BOTTOM 10 INCHES OF ALL DOORS SHALL HAVE A SMOOTH, UNINTERRUPTED SURFACE TO ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION.
6. ALL LOCKABLE DOORS SHALL BE EQUIPPED WITH REMOVABLE CORE HARDWARE, MANUFACTURED BY "SCHLAGE". HARDWARE TO BE SUPPLIED FROM THE MANUFACTURER WITH "SCHLAGE" REMOVABLE CORE CYLINDERS WITH CONSTRUCTION MASTER-KEYING.

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ISSUE	DATE
PERMIT	JUN 14, 2022

DOOR, HARDWARE & WINDOW SCHEDULES

SHEET:
A601

5/11/2022 9:45 AM

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REFER TO A120 FINISH PLAN, AND A220 INTERIOR ELEVATIONS FOR FINISH LOCATIONS

FINISH SCHEDULE

MARK	MANUFACTURER DESCRIPTION	FURNISH INSTALL	REMARKS
PAINT			FINISHES : VERTICAL SURFACES - EGGSHELL (LOW SHEEN), CEILINGS - FLAT KITCHEN CEILINGS - SEMIGLOSS, METALS - SATIN, EXTERIOR MASONRY - SEMIGLOSS
PT-100	SHERWIN WILLIAMS -INTERIOR PAINT SW 6993 : BLACK OF NIGHT	GC	-PRO BLOCKPREP RITE PRIMER - PRO INDUSTRIAL WATER-BASED ALKYD URETHANE PAINT
PT-101	OPEN		
PT-105	SHERWIN WILLIAMS -INTERIOR PAINT SW 7046 : ANONYMOUS	GC	-DRYWALL: PROMAR 200 0-VOC PRIMER- PROMAR 200 ZERO VOC INTERIOR LATEX PAINT -METALS: PRO CRYL UNIVERSAL PRIMER- PRO INDUSTRIAL WATERBASED ALKYD URETHANE PAINT -GC TO PROVIDE BRUSH DOWN FOR ARCHITECTS APOVAL
PT-106	SHERWIN WILLIAMS - INTERIOR PAINT SW 7012 : CREAMY	GC	- WOOD WALLS, EGG SHELL FINISH - RESTROOM WALLS
PT-107	OPEN		
PT-108	SHERWIN WILLIAMS -INDUSTRIAL PAINT SW6993 : BLACK OF NIGHT	GC	- EXTERIOR METAL, DOOR & FRAMES - PRO INDUSTRIAL PRO- CRYL PRIMER -2 COATS OF PAINT
PT-112	OPEN		
METAL			
MT-100	CONTRACTOR - BLACKENED STEEL - SHEET OR TUBE STOCK	GC	- MISC. TRIM, DETAILS& CORNER GUARDS INTERIOR - MATTE FINISH - REFER TO DRAWINGS FOR DIRECTION OF SIZE, THICKNESS AND FINISH
MT-101	CONTRACTOR - BRUSH STAINLESS STEEL- 7 GAUGE SHEET STOCK (3/16")	GC	- MISC. TRIM, DETAILS& CORNER GUARDS INTERIOR - BRUSHED NO.4 FINISH - REFER TO DRAWINGS FOR DIRECTION ON SIZE AND APPLICATION
WOOD			
WD-102	CONTRACTOR - FSC/#2 PINE PAINTED PLANK SIDING	GC	-SIDING/BULKHEAD, MISC. - INTERIOR - SANDED TO 120 GRIT, PRIMED AND PAINTED WHITE OR BLACK FOR PAINT COLOR: REFER TO DRAWING. WOOD SCHEDULED TO BE PAINTED BLACK SHOULD BE PRIMED WITH DEEP BASE PRIMER -ENSURE WOOD TYPE PAINT TO BE USED -#1 PREMIUM OR SIM -SIDING TO HAVE 1/8" REVEAL BETWEEN BOARDS
WD-103	CONTRACTOR - HARD MAPLE 12'-0" LENGTHS - NO JOINTS	GC	-FEATURE WALL - INTERIOR -GRADE #1 OR BETTER -SANDED TO 120 GRIT, SEALED WITH MATTE CLEAR COAT. -ALL NAIL HOLES TO BE FILLED WITH PUTTY AND SANDED SMOOTH. -LIGHTER TONES ARE PREFERRED. GC TO CULL DARKER PIECES ON SITE AS REQUIRED. VERIFY AMOUNT WITH CAVA CM TO ENSURE QUANTITY OF CULLING IS NOT COST PROHIBITIVE. -E84 FLAME SPREAD INDEX 120: FLAME SPREAD CLASS C; 384 SMOKE DEVELOPED INDEX 70
WD-113	CONTRACTOR - SMOOTH UNPAINTED KILN DRIED POPLAR	GC	-STACKED WOOD WALL -GRADE #1 - SAND ALL SURFACES TO 120 GRIT W/ ORBITAL SANDER -2"x10" PLANKS (SIZE NOT TO VARY). -T-SECTIONS CAN BE CONNECTED W/ COUNTER SUNK SCREWS OR POCKET SCREWS. CONCEAL FASTENERS. -ALTERNATE GRAIN ORIENTATION AS REQUIRED TO MAINTAIN STRAIGHT WALL CONSTRUCTION. ALLOW FOR ADEQUATE FLAT SURFACE WHEN GLUING PLANKS TOGETHER, ADEQUATELY CLAMP, AND ALLOW GLUE TO DRY FOR MAXIMUM SPECIFIED TIME. -PROVIDE CONTINUOUS 1/8" ROUNDED TOP TO PREVENT CHIPPING. -L-BRACKETS CAN BE ADDED AT CORNERS TO PREVENT MOVEMENT ONLY AT AREAS THAT CAN BE HIDDEN SUCH AS UNDERNEATH OR BEHIND FURNITURE, EQUIPMENT OR TRASH ENCLOSURES. -APPLY CLEAR SILICONE TO BASE TRANSITIONS. -E84 FLAME SPREAD INDEX 70; FLAME SPREAD CLASS B; SMOKE DEVELOPED INDEX 80 -FOR MILLWORK STACKED WOOD WALLS PRIME WITH DEEP BASE PRIMER
WD-114	CONTRACTOR - BIRCH PLYWOOD	GC	-SIDING/ BULKHEAD, MISC. - INTERIOR -1/2" BIRCH PLYWOOD -FLAME SPREAD CLASS C MINIMUM
FIBER REINFORCED PLASTIC			
FRP-100	PANOLAM INDUSTRIES CLASSIC COLLECTION - PEBBLED WHITE	GC	-KITCHEN AND BOH - INTERIOR -FIBER REINFORCED PLASTIC
GROUT			
GT-100	MAPEI - ULTRACOLOR PLUS FA 10 BLACK	GC	-TILES - INTERIOR -1/16" GROUT LINE BETWEEN TILES -ALL GROUT TO BE ENZYME RESISTANT
GT-103	MAPEI - ULTRACOLOR PLUS FA CHARCOAL	GC	-TILES - INTERIOR -1/16" GROUT LINE BETWEEN TILES -ALL GROUT TO BE ENZYME RESISTANT
TRANSITIONS			
TS-1	SCHLUTER SYSTEMS L.P. - SCHLUTER "JOLLY"	GC	-FLOOR FINISH TO FINISH TRANSITION- INTERIOR -OUTSIDE WALL CORNERS - INTERIOR -TRANSITION STRIP -REFER TO INDIVIDUAL TILE SPECS FOR DESIRED TRANSITION STRIP FINISH -SPECIFY SIZE ACCORDING TO APPROPRIATE FINISH THICKNESS
TS-2	SCHLUTER SYSTEMS L.P. - SCHLUTER "RENO RAMP"	GC	-KITCHEN FLOOR TO EXISTING CONCRETE TRANSITION - INTERIOR -TRANSITION STRIP -REFER TO INDIVIDUAL TILE SPECS FOR DESIRED TRANSITION STRIP FINISH -SPECIFY SIZE ACCORDING TO APPROPRIATE FINISH THICKNESS. USE RENO RAMP-K AT EXISTING TILE LOCATIONS
TS-3	SCHLUTER SYSTEMS L.P. - SCHLUTER "INDEC"	GC	-LOW WALL OUTSIDE CORNERS - INTERIOR -TRANSITION STRIP -REFER TO INDIVIDUAL TILE SPECS FOR DESIRED TRANSITION STRIP FINISH -SPECIFY SIZE ACCORDING TO APPROPRIATE FINISH THICKNESS
TS-4	SCHLUTER SYSTEMS L.P. - SCHLUTER "DILEX"	GC	-INSIDE WALL CORNERS - INTERIOR -BEVERAGE STATION BASE AND FRONT LINE LOW WALL BASE ON DINING ROOM SIDE -TRANSITION STRIP -REFER TO INDIVIDUAL TILE SPECS FOR DESIRED TRANSITION STRIP FINISH -SPECIFY SIZE ACCORDING TO APPROPRIATE FINISH THICKNESS
TS-5	SCHLUTER SYSTEMS L.P. - SCHLUTER "SCHIENE" - NOT USED	GC	-EXISTING QUARRY TILE TO EPOXY FLOORING -STAINLESS STEEL 304 FINISH -TRANSITION STRIP -SPECIFY SIZE ACCORDING TO APPROPRIATE FINISH THICKNESS

MARK	MANUFACTURER DESCRIPTION	FURNISH INSTALL	REMARKS
BASES			
B-100	JOHNSONITE - RUNNER VINYL WALL BASE COLOR 63 BURNT UMBER - MANDALAY MILLWORK WALL BASE COLLECTION	GC	-THROUGHTOUT - INTERIOR -SCRIBE TO FINISHED FLOOR -SIZE : 6"H X 3/8" D
B-101	~~DALTILE - SANITARY COVE BASE - NOT USED~~ ~~P1665 COVE - BLACK- - QUARRY TILE COLLECTION~~	GC	-FOH/BOH KITCHEN FLOORING (ALT. TO EPOXY) -PATTERN: STACKED BOND. GROUT: GR-100 BLACK ~~-SIZE : 6"X 6"~~
B-103	~~DALTILE - SANITARY SLIP COVE BASE - NOT USED~~ ~~S3619TN - BLACK~~	GC	-BEVERAGE COUNTER BASE - GROUT: GR-100 BLACK ~~-SIZE : 6"X 6"~~
CONCRETE			
CT-101	EXISTING - CONCRETE FLOOR (EXISTING) CLEAR/ MATTE	GC	- EXISTING CONCRETE FLOOR - THROUGHOUT - INTERIOR -TO BE GROUND TO REMOVE EXISTING MASTIC, POLISHED, & SEALED USING ARMORSEAL 1000 HS B67 C700 (6401-20309) WITH H&C - "SHARKGRIP" SLIP- RESISTANT ADDITIVE, -CONCRETE NOT TO BE HIGH-GLOSS, SURFACE DEFORMATIONS, SAW-CUT, AND POCKS ARE ALLOWED. PROVIDE SUFFICIENT SLIP RESISTANCE ADDITIVE AND CAST EVENLY ACROSS SURFACE
WALL TILE			
TL-100	DALTILE - WALL TILE COLOR K775 BISCUIT(MATTE)- "LINEAR" COLOR WHEEL COLLECTION TILE SIZE: 4"X12"	GC	-BACK OF HOUSE- INTERIOR - PATTERN : HORIZONTAL STACKED -GROUT : GT-103 - CHARCOAL -U.N.O. , VERTICAL OUTSIDE CORNERS SHALL RECEIVE SCHED. TS-1 SCHLUTER (COLOR SPEC: "W" WHITE - RAL 9010), HORIZONTAL OUTSIDE CORNERS (SOFFITS) TO RECEIVE BULLNOSE TRIM TO MATCH TILE.
TL-108	DALTILE - WALL TILE UNITY-P04 "NERO" - UNPOLISHED COLLECTION	GC	-RESTROOM -PATTERN : VERTICAL RUNNING BOND -GROUT : GT-100 - BLACK -SIZE : 12"X24" - SPEC WITH TRANSITION STRIP (TS-4) TOP AND BOTTOM BLACK OR ANTHRACITE FINISH TO MATCH TILE
TL-111	DALTILE - WALL TILE COLOR K711 BLACK(MATTE) - "LINEAR" COLOR WHEEL COLLECTION TILE SIZE: 4"X12"	GC	-FOOD LINE - LOW WALL - INTERIOR - PATTERN : VERTICAL STACKED -GROUT : GT-100 - BLACK -U.N.O. , VERTICAL OUTSIDE CORNERS SHALL RECEIVE SCHED. TS-1 SCHLUTER (COLOR SPEC: "GS" BLACK), HORIZONTAL OUTSIDE CORNERS (SOFFITS) TO RECEIVE BULLNOSE TRIM TO MATCH TILE.
TL-112	IRIS FMG - WALL TILE PS622202 - ROADS "DARK DEPTH NATURAL" COLLECTION	GC	-FOOD LINE - LOW WALL - INTERIOR - VERTICAL PATTERN -NATURAL FINISH -SIZE - 8"X48" -GROUT : GT-100 - BLACK -U.N.O. , VERTICAL OUTSIDE CORNERS SHALL RECEIVE SCHED. TS-3 SCHLUTER (COLOR SPEC: "EB" BRUSHED STAINLESS STEEL)
EXPOY FLOORING AND BASE			
EP-100	DUR-A-FLEX - EPOXY FLOORING CHARCOAL	GC	-FOH/BOH KITCHEN FLOORING -POLY-CRETE- HIGH PERFORMANCE URETHANE FINISH -GC TO PROVIDE SAMPLE PRIOR TO INSTALLATION ALTERNATE SUBMISSIONS TO BE APPROVED BY CAVA.
FLOOR TILE			
TL-107	DALTILE - QUARRY TILE - NOT USED SURETREAD SURFACE PAVERS - 0Q73 "BLACK"	GC	-FOH/BOH KITCHEN FLOORING (ALT. TO EPOXY) -PATTERN : STACKED BOND -GROUT : GT-100 - BLACK -SPEC WITH QUARRY TILE BASE B-101 -PATCH EXISTING BOH FLOORING WITH QUARRY TILE SPEC.
ACOUSTICAL TILE			
ACT-100	CELOTEX - SMOOTH ACOUSTIC CEILING TILE VINYLSHIELD A		-SIZE: 2'-0" X 2'-0" -COLOR: CRF WHITE -KITCHEN CEILING -USE 9/16" FLAT T-GRID SYSTEM. WASHABLE, SCRUBBABLE, SOIL RESISTANT, HUMIDITY RESISTANT, CLASS A
OTHER			
MF-1	~~3M 210-324 FROSTED CRYSTAL WINDOW FILM - NOT USED~~		-MODESTY FILM APPLIED TO INTERIOR OF GLAZING WHERE NOTED

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PERMIT	JUN 14, 2022

FINISH SCHEDULE

SHEET:
A602

5/20/2022 12:07 PM

ABBREVIATIONS

(A)	EXISTING TO BE ABANDONED	FPI	FINS PER INCH
(D)	EXISTING TO BE DEMOLISHED	GC	GENERAL TRADES CONTRACTOR
(E)	EXISTING TO REMAIN	ID	INNER DIAMETER
(F)	FUTURE	LAT	LEAVING AIR TEMPERATURE
(R)	EXISTING TO BE RELOCATED	LWT	LEAVING WATER TEMPERATURE
AAV	AUTOMATIC AIR VENT	MAU	MAKEUP AIR UNIT
AFF	ABOVE FINISHED FLOOR	MC	MECHANICAL CONTRACTOR
AHJ	AUTHORITY HAVING JURISDICTION	MFR	MANUFACTURER
AMB	AMBIENT	N/A	NOT APPLICABLE
APD	AIR PRESSURE DROP	NC	NORMALLY CLOSED
BAS	BUILDING AUTOMATIC SYSTEM	NO	NORMALLY OPEN
BFP	BACKFLOW PREVENTER	NTS	NOT TO SCALE
BLDG	BUILDING	OA	OUTSIDE AIR
BOB	BOTTOM OF BEAM	OD	OUTSIDE DIAMETER
BOD	BOTTOM OF DUCT	PD	PRESSURE DROP
BOP	BOTTOM OF PIPE	PRV	PRESSURE REDUCING VALVE
BOS	BOTTOM OF STRUCTURE	RA	RETURN AIR
CL	CENTER LINE	REL	RELIEF AIR
DB	DRY BULB	RTU	ROOFTOP UNIT
DIA	DIAMETER	SA	SUPPLY AIR
DN	DOWN	SCC	SENSIBLE COOLING CAPACITY
EA	EXHAUST AIR	SP	STATIC PRESSURE
EAT	ENTERING AIR TEMPERATURE	TCP	TEMPERATURE CONTROL PANEL
EC	ELECTRICAL CONTRACTOR	TSP	TOTAL STATIC PRESSURE
EF	EXHAUST FAN	TYP	TYPICAL
EFF	EFFICIENCY	UNO	UNLESS NOTED OTHERWISE
EG	ETHYLENE GLYCOL	VFD	VARIABLE FREQUENCY DRIVE
ESP	EXTERNAL STATIC PRESSURE	WB	WET BULB
EWT	ENTERING WATER TEMPERATURE	WG	WATER GAUGE
EXH	EXHAUST	WPD	WATER PRESSURE DROP

MECHANICAL LEGEND

SUPPLY DUCT UP	PIPING DOWN
SUPPLY DUCT DOWN	PIPING UP
RETURN DUCT UP	TURNING VANES
RETURN DUCT DOWN	VOLUME DAMPER
FIRE DAMPER	CONDENSATE DRAIN
SMOKE DAMPER	MOTORIZED DAMPER
COMB. FIRE/SMOKE DAMPER	REMOTE ANNUNCIATOR
BACKDRAFT DAMPER	REMOTE TEMP. SENSOR
SMOKE DETECTOR	THERMOSTAT
SPIN-IN WITH VOLUME DAMPER	HUMIDISTAT
45° RETURN DUCT TAP WITH VOL. DAMPER	FLEX DUCT
DIFFUSER	LINEAR DIFFUSER WITH FLEX CONNECTION
DIFFUSER WITH FLEX CONNECTION	ROUND DUCT UP
GRILLE/REGISTER	ROUND DUCT DOWN
SIDEWALL GRILLE/ REGISTER/ DIFFUSER	REDUCER

GENERAL NOTES:

A. ALL WORK TO BE PERFORMED TO MEET ALL STATE, CITY & LOCAL CODE REQUIREMENTS.

B. ALL WALL PATCHING TO BE BY GC.

C. MC IS TO COORDINATE WITH OTHER TRADES BEFORE INSTALLING DUCTWORK. IF THE MC FAILS TO COORDINATE WITH OTHER TRADES AND THE WORK MUST BE ALTERED THE MC WILL CHANGE IT AT HIS OWN EXPENSE.

D. COORDINATE THE EXACT LOCATION OF ALL GRILLES, REGISTERS & DIFFUSER WITH ARCHITECTURAL REFLECTED CEILING PLAN.

E. MECHANICAL CONTRACTOR IS TO VISIT THE SITE PRIOR TO SUBMITTING A BID & INCLUDE IN THE BID ANY ITEMS NECESSARY FOR A COMPLETE & OPERATIONAL SYSTEM.

F. DRAWINGS ARE SCHEMATIC IN NATURE & MC IS TO INCLUDE ANY ITEMS REQUIRED FOR A COMPLETE & OPERATIONAL SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.

G. MC TO FURNISH ALL PERMITS REQUIRED FOR HIS PORTION OF THE WORK.

H. MC TO COORDINATE WITH ELECTRICAL CONTRACTOR CONCERNING ELECTRICAL REQUIREMENTS BEFORE ORDERING ANY EQUIPMENT.

I. CONTRACTOR IS RESPONSIBLE FOR ADHERING TO THE ENTIRETY OF THIS DRAWING SET, INCLUDING BUT NOT LIMITED TO; PLANS, ELEVATIONS, DETAILS, SCHEDULES, AND SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL DRAWINGS OF OTHER TRADES, INCLUDING BUT NOT LIMITED TO, ARCHITECTURAL, PLUMBING, ELECTRICAL, CIVIL, AND STRUCTURAL.

J. ALL CUTTING AND PATCHING OF ROOF IS TO BE BY GC.

SEQUENCE OF OPERATION

A. PROVIDE STAND ALONE OR APPLICATION SPECIFIC CONTROLLERS AS REQUIRED TO PERFORM THE FOLLOWING SEQUENCES OF OPERATIONS.

B. PACKAGED ROOFTOP UNITS (RTU-3,4,5,6)
1. UNIT SHALL CONSIST OF SUPPLY AIR FAN, FILTERS, DX COOLING COIL, GAS-FIRED HEAT SECTION, AND A 7-DAY PROGRAMMABLE THERMOSTAT.
2. PROVIDE AN OVERRIDE SWITCH TO OPERATE THE UNIT DURING UNOCCUPIED HOURS. THIS SWITCH SHALL BE PART OF THE PROGRAMMABLE THERMOSTAT. OVERRIDE SWITCH ALLOWS THE UNIT TO OPERATE FOR TWO HOURS (ADJUSTABLE).
3. OCCUPIED MODE: BASED ON THE ROOFTOP UNIT'S HOURS OF OCCUPANCY, START THE UNIT AT THE BEGINNING OF OCCUPANCY AND SHUT DOWN THE UNIT AT THE END OF OCCUPANCY (NOTE: OUTSIDE AIR DAMPER WITHIN THE RTU SHALL OPEN AND THEN THE RTU SHALL START). THE UNIT SHALL START EARLIER AS DETERMINED BY THE PROGRAM FOR EARLY WARM-UP OR COOL DOWN. ON A SYSTEM STARTUP, THE RTU FAN SHALL START AND RUN CONTINUOUSLY AND THE INTERNAL FACTORY CONTROLS SHALL BE ENABLED. BASED ON THE SPACE TEMPERATURE SENSOR, THE UNIT SHALL CYCLE THE HEATING/COOLING TO MAINTAIN THE SPACE TEMPERATURE SETPOINT.
3.1. ECONOMIZER MODE: WHEN ENTHALPY OF OA IS BELOW 28 BTU/LB. ECONOMIZER MODE SHALL BE ENABLED. ECONOMIZER MODE SHALL LINEARLY MODULATE OUTDOOR AIR CFM FROM MINIMUM OA CFM TO 100% BASED ON ENTHALPY READINGS.
3.2. HUMIDITY CONTROL (WHEN NEEDED BASED ON CLIMATE): UPON DETECTION OF RELATIVE HUMIDITY ABOVE 55%, THE UNIT SHALL CYCLE INTO DEHUMIDIFICATION MODE IF NOT ALREADY IN COOLING.
4. UNOCCUPIED MODE: THE RTU INTERNAL OA DAMPERS SHALL REMAINED CLOSED WHEN THE BUILDING IS NOT OCCUPIED, THE RTU SHALL STOP HEATING/COOLING AND THE FAN SHALL STOP. IF THE SPACE TEMPERATURE FALLS BELOW 60 DEGREE F (ADJUSTABLE), THE UNIT SHALL START AND HEAT UNTIL THE SPACE TEMPERATURE IS 64 DEGREE F (ADJUSTABLE) AND THEN SHUTDOWN. IF THE SPACE TEMPERATURE RISES ABOVE 85 DEGREE F (ADJUSTABLE), THE UNIT SHALL START AND COOL UNTIL THE SPACE TEMPERATURE IS 80 DEGREE F (ADJUSTABLE) AND THEN SHUTDOWN.
5. UPON DETECTION OF SMOKE BY UNIT SMOKE DETECTOR BOTH RTUS SHALL SHUT DOWN AND AN ALARM SHALL BE SENT TO THE FIRE ALARM CONTROL PANEL (WHERE APPLICABLE). LOCAL REMOTE ANNUNCIATORS SHALL ALSO BE ACTIVATED.

C. KITCHEN HOOD EXHAUST FAN (KEF-1)
1. THE KITCHEN HOOD EXHAUST FAN SHALL BE ENABLED WHEN ANY COOKING APPLIANCE LOCATED UNDER ITS RESPECTIVE HOOD, IS IN USE.

D. MAKE UP AIR UNIT (MAU-1)
1. THE MAKE UP AIR UNIT SHALL BE ENABLED WHEN THE KITCHEN HOOD EXHUAST FAN (KEF-1) IS ENERGIZED. THE INTERNAL MOTORIZED DAMPER WITHIN WITH MAU-1 SHALL OPEN AND THE FAN SHALL RUN. IF OA IS LESS THAN 65° (ADJ.), THE MAU-1 GAS-FIRED HEAT SECTION SHALL BE ENABLED TO MAINTAIN A MINIMUM OF 65°.
2. WHEN KEF-1 IS OFF, MAU-1 SHALL BE DE-ENERGIZED AND THE INTERNAL MOTORIZED DAMPED SHALL CLOSE.

E. ANSUL SYSTEM ACTIVATION
1. UPON ACTIVATION OF ANSUL SYSTEM, SHUT DOWN MAU-1, RTU-3,4,5,6. PROVIDE RELAYS CONTACTS, INTERLOCKS, TRANSFORMERS AND ALL ASSOCIATED WIRING TO ACCOMPLISH SEQUENCE. MAU-1 IS ALREADY REWIRED TO SHUT DOWN IN HOOD CONTROL PANEL. MECHANICAL CONTRACTOR SHALL INTERLOCK RTU-1 AND RTU-2 TO ALSO SHUT DOWN.

F. RESTROOM EXHAUST FAN (EF-2)
1. THE RESTROOM EXHAUST FAN SHALL RUN CONTINUOUS DURING OCCUPIED HOURS.

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6-14-2022

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PROJECT NUMBER:
CAV070

ISSUE	DATE
PERMIT	JUN 14, 2022

GENERAL INFORMATION
MECHANICAL

SHEET:
M000

GENERAL NOTES:

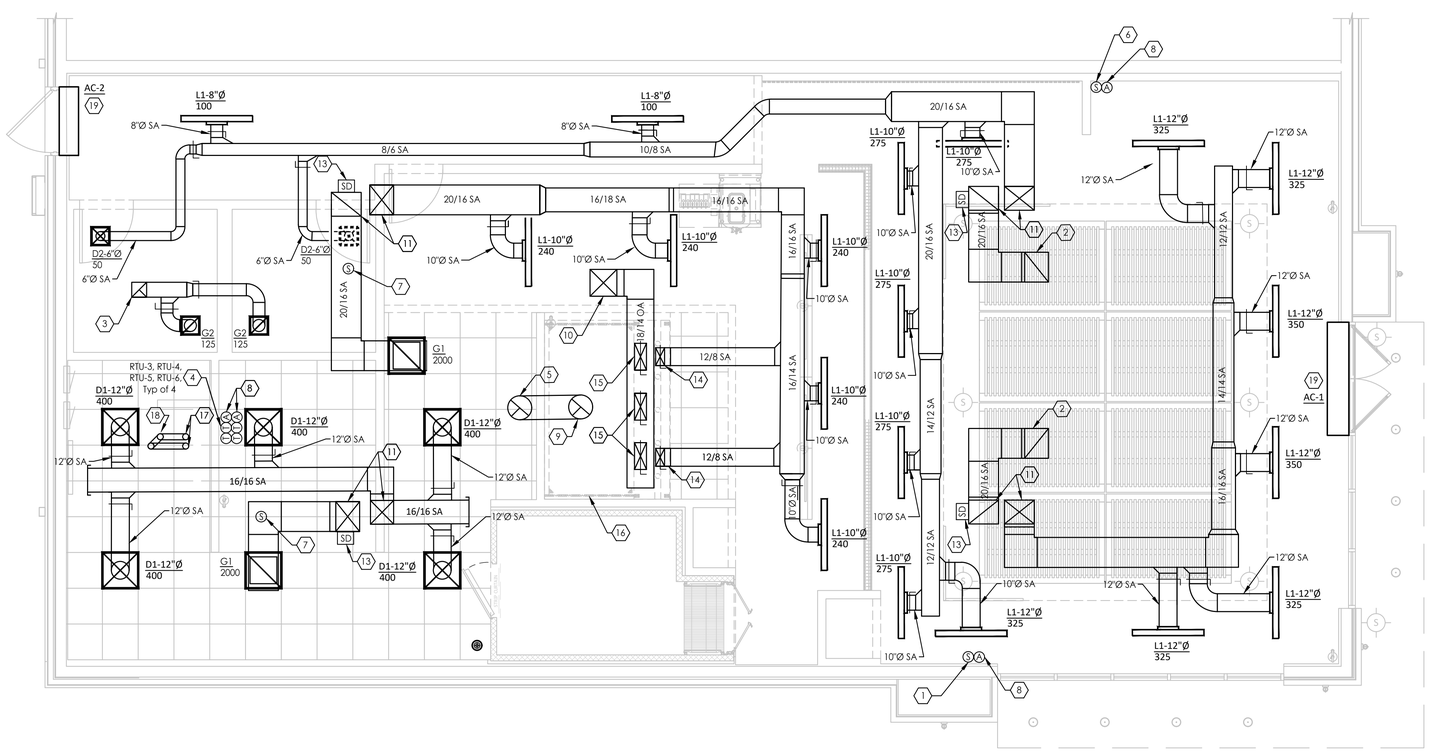
A. DO NOT PENETRATE KITCHEN EXHAUST HOODS OR DUCTWORK WITH ANY TYPE OF FASTENING ASSEMBLY (I.E. SCREWS, RIVETS).

B. IF NOT PAINTED, ALL DUCTWORK SHALL HAVE GASKET A SEAL.

C. EXPOSED DUCTWORK IN THE DINING AREA SHALL BE MADE OF ELECTRO-GALVANIZED STEEL (PAINTLOCK). SEE MECHANICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.

CODED NOTES: ⟨#⟩

1. REMOTE TEMPERATURE AVERAGING SENSOR MOUNTED AT 48" AFF FOR RTU-4. WIRE BACK TO THERMOSTAT AT MANAGERS DESK.
2. ROUTE 20"x16" RETURN DUCT UP AND PROVIDE FULL METAL ANGLE WITH BIRD SCREEN. OPENING SHALL BE AT BOTTOM OF JOIST LOCATION, FIELD VERIFY.
3. ROUTE 10"x10" EXHAUST DUCT UP THROUGH ROOF ABOVE AND CONNECT TO EXHAUST FAN. REFER TO SHEET M201 FOR CONTINUATION. SEAL WEATHER TIGHT.
4. INSTALL LED TOUCHSCREEN 24/7 PROGRAMMABLE THERMOSTAT (WITH CONTROLS LOCKED BY CODE) MOUNTED AT 48" AFF. COORDINATE EXACT LOCATION WITH OWNER.
5. ROUTE 16" Ø CUSTOM FABRICATED TYPE 1 KITCHEN EXHAUST DUCT UP THROUGH ROOF ABOVE AND CONNECT TO KITCHEN EXHAUST FAN. REFER TO SHEET M201 FOR CONTINUATION. COORDINATE WITH KES AND CAPTIVE AIRE DRAWINGS. SEAL WEATHER TIGHT.
6. REMOTE TEMPERATURE AVERAGING SENSOR MOUNTED AT 48" AFF FOR RTU-4. WIRE BACK TO THERMOSTAT AT MANAGERS DESK.
7. REMOTE TEMPERATURE SENSOR MOUNTED WITHIN RETURN DUCT FOR RTU-3. WIRE BACK TO THERMOSTAT AT MANAGERS DESK.
8. PROVIDE AUDIO/VISUAL REMOTE SMOKE DETECTOR ANNUNCIATOR WITH REMOTE KEY OPERATED RESET FOR SMOKE DETECTOR MOUNTED AT 48" AFF. ALIGN ANNUNCIATOR WITH THERMOSTAT SENSOR WHERE APPLICABLE.
9. ROUTE 16" Ø CUSTOM FABRICATED TYPE 1 KITCHEN EXHAUST DUCT DOWN FROM CEILING SPACE AND CONNECT TO HOOD. COORDINATE WITH KES AND CAPTIVE AIRE DRAWINGS. CONTRACTOR SHALL PROVIDE CLEANOUT EVERY 20' AND AT EVERY CHANGE OF DIRECTION IN TYPE 1 EXHAUST DUCT.
10. ROUTE 18"x16" MAKE UP AIR DUCT UP THROUGH ROOF ABOVE AND CONNECT TO MAKE UP AIR UNIT. REFER TO SHEET M201 FOR CONTINUATION. COORDINATE WITH KES AND CAPTIVE AIRE DRAWINGS. SEAL WEATHER TIGHT.
11. ROUTE 20"x16" SUPPLY AND 20"x16" RETURN AIR DUCT UP THROUGH ROOF ABOVE AND CONNECT TO ROOF TOP UNIT. REFER TO SHEET M201 FOR CONTINUATION. SEAL WEATHER TIGHT.
12. REMOTE TEMPERATURE SENSOR MOUNTED WITHIN RETURN DUCT FOR RTU-5. WIRE BACK TO THERMOSTAT AT MANAGERS DESK.
13. PROVIDE DUCT MOUNTED SMOKE DETECTOR IN RETURN AIR DUCT. REFER TO SEQUENCE OF OPERATIONS.
14. ROUTE 12"x8" SUPPLY AIR DUCT DOWN FROM CEILING SPACE AND CONNECT TO SUPPLY AIR PLENUM ON HOOD. PROVIDE BALANCING DAMPER AND BALANCE TO 400 CFM. REFER TO KES AND CAPTIVE AIRE DRAWINGS FOR ADDITIONAL INFORMATION.
15. ROUTE 18"x8" MAKEUP AIR DUCT DOWN FROM CEILING SPACE AND CONNECT TO MAKE UP AIR PLENUM ON HOOD. PROVIDE BALANCING DAMPER AND BALANCE TO 649 CFM. REFER TO KES AND CAPTIVE AIRE DRAWINGS FOR ADDITIONAL INFORMATION.
16. TYPE 1 GREASE EXHAUST HOOD. REFER TO KES AND CAPTIVE AIRE DRAWINGS FOR ADDITIONAL INFORMATION.
17. ROUTE 4" COMBUSTION AIR AND FLUE DOWN FROM CEILING SPACE AND CONNECT TO WATER HEATER. INSTALLATION SHALL BE PER MANUFACTURERS RECOMMENDATIONS.
18. EXTEND 4" COMBUSTION AIR AND FLUE UP TO CONCENTRIC VENT THROUGH ROOF ABOVE. REFER TO SHEET M201 FOR ADDITIONAL INFORMATION.
19. PROVIDE AIR CURTAIN ABOVE ENTRANCE DOOR. INSTALL PER MANUFACTURES RECOMMENDATIONS.



1 MECHANICAL PLAN
1/4" = 1'-0"

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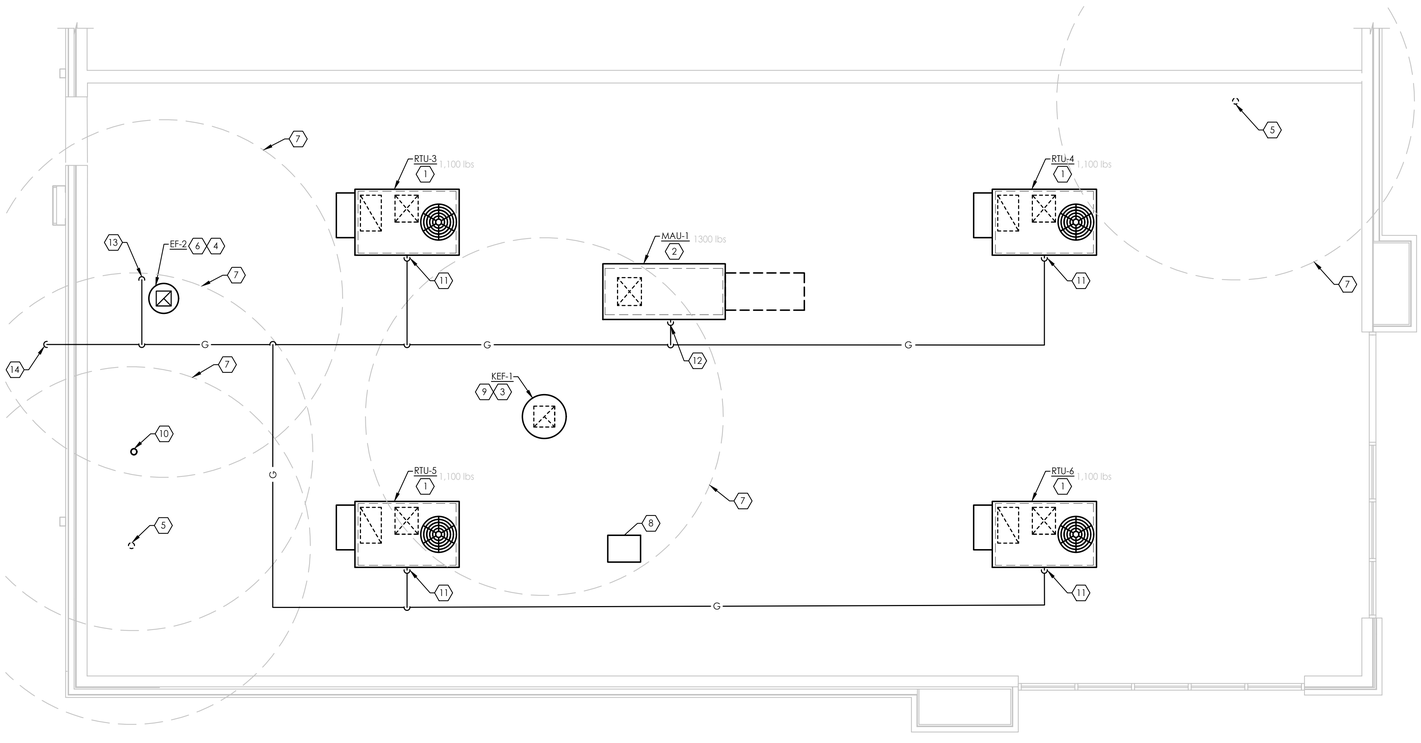
MECHANICAL PLAN

SHEET: M101



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

GENERAL NOTES:

A. DO NOT PENETRATE KITCHEN EXHAUST HOODS OR DUCTWORK WITH ANY TYPE OF FASTENING ASSEMBLY (I.E. SCREWS, RIVETS).

B. IF NOT PAINTED, ALL DUCTWORK SHALL HAVE GASKET A SEAL.

C. EXPOSED DUCTWORK IN THE DINING AREA SHALL BE MADE OF ELECTRO-GALVANIZED STEEL (PAINTLOCK). SEE MECHANICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.

CODED NOTES: ⟨#⟩

1. ROOFTOP AIR HANDLING UNIT ON MANUFACTURERS ROOF CURB. CONTRACTOR SHALL CUT, PATCH, FLASH, AND COUNTER FLASH AROUND ROOF CURB TO MAINTAIN ANY APPLICABLE ROOF WARRANTY. .
2. INSTALL MAKE-UP AIR UNIT ON MANUFACTURERS ROOF CURB. CONTRACTOR SHALL CUT, PATCH, FLASH, AND AND COUNTER FLASH AROUND ROOF CURB TO MAINTAIN ANY APPLICABLE ROOF WARRANTY.
3. INSTALL HOOD EXHAUST FAN ON MANUFACTURERS ROOF CURB, ENSURE LOCATION IS A MINIMUM OF 10' - 0" FROM ANY OUTSIDE AIR INTAKES. CONTRACTOR SHALL CUT, PATCH, FLASH, AND AND COUNTER FLASH AROUND ROOF CURB TO MAINTAIN ANY APPLICABLE ROOF WARRANTY. INSTALL PER MANUFACTURERS RECOMMENDATIONS.
4. INSTALL RESTROOM EXHAUST FAN ON MANUFACTURERS ROOF CURB, ENSURE LOCATION IS A MINIMUM OF 10' - 0" FROM ANY OUTSIDE AIR INTAKES. CONTRACTOR SHALL CUT, PATCH, FLASH, AND AND COUNTER FLASH AROUND ROOF CURB TO MAINTAIN ANY APPLICABLE ROOF WARRANTY. INSTALL PER MANUFACTURERS RECOMMENDATIONS.
5. 4" VENT THROUGH ROOF, CONTRACTOR SHALL ENSURE LOCATION IS A MINIMUM OF 10' - 0" FROM ANY OUTSIDE AIR INTAKES.
6. ROUTE 10"x10" EXHAUST DUCT DOWN THROUGH ROOF. REFER TO SHEET M101 FOR CONTINUATION. REUSE EXISTING ROOF PENETRATION AND SEAL WEATHER TIGHT.
7. ENSURE TO MAINTAIN 10'-0" CLEARANCE TO OUTSIDE AIR INTAKES.
8. REMOTE WALK-IN COOLER CONDENSING UNIT BY KES. INSTALL ON 'PATE' EQUIPMENT RAILS. ROUTE REFRIGERANT PIPING FROM REMOTE CONDENSING UNIT TO COOLER EVAPORATOR UTILIZING 'PATE' PIPE CURB. CONTRACTOR SHALL CUT, PATCH, FLASH, AND COUNTER FLASH AROUND EQUIPMENT RAILS AND PIPE CURB AS REQUIRED TO BE WEATHER TIGHT.
9. ROUTE 16"Ø GREASE EXHAUST DUCT DOWN THROUGH ROOF. REFER TO SHEET M101 FOR CONTINUATION. REUSE EXISTING ROOF PENETRATION AND SEAL WEATHER TIGHT.
10. COMBINATION AIR INTAKE AND FLUE EXHAUST FOR WATER HEATER. INSTALL PER MANUFACTURERS RECOMMENDATIONS. CONTRACTOR SHALL ENSURE LOCATION IN A MINIMUM OF 10' - 0" FROM ANY OUTSIDE AIR INTAKES.
11. R OUTE 1" GAS ON ROOF AND CONNECT TO RTU, PROVIDE 6" DIRT LEG, GAS SHUT OFF VALVE AND UNION PRIOR TO FINAL CONNECTION.
12. ROUTE 1" GAS ON ROOF AND CONNECT TO MAU. PROVIDE 6" DIRT LEG, GAS SHUT OFF VALVE AND UNION PRIOR TO FINAL CONNECTION.
13. ROUTE 2" GAS DOWN THROUGH ROOF TO CEILING SPACE. REFER TO SHEET P201 FOR CONTINUATION.
14. ROUTE 2" GAS DOWN ALONG WALL AND CONNECT TO GAS METER. COORDINATE WITH LANDLORD EXACT CONNECTION REQUIREMENTS.

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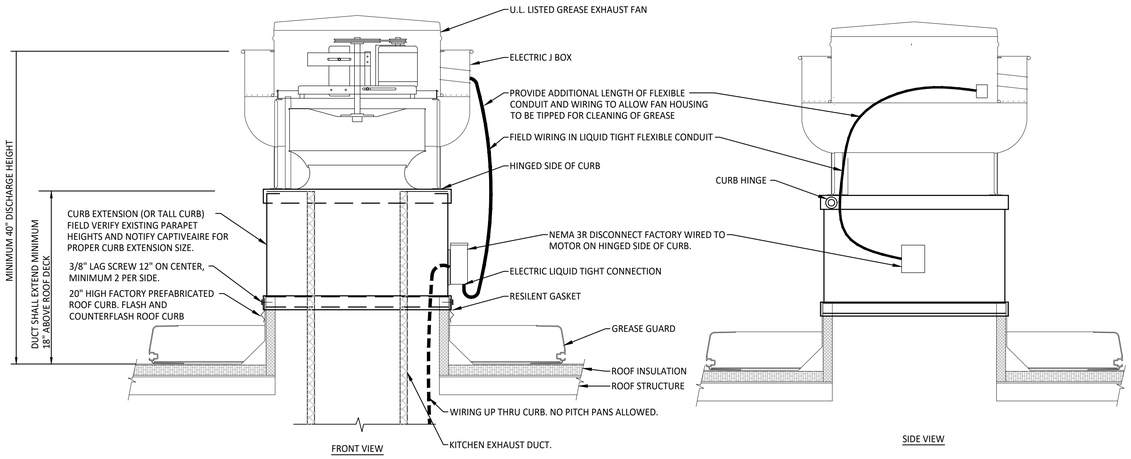
MECHANICAL ROOF PLAN

SHEET:
M201

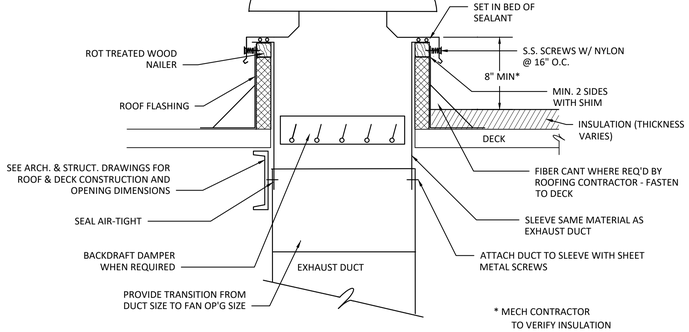


NOTES:

1. INSTALLATION SHALL BE IN ACCORDANCE WITH NFPA 96 REQUIREMENTS.
2. CUT AND PATCH EXISTING ROOFING AS REQUIRED FOR NEW CURB INSTALLATION (CONFIRM IF BY LL BASED ON WORK LETTER).
3. CURB SHALL BE TAPERED TYPE AND MATCH THE PITCH OF THE ROOF.
4. CONTRACTOR TO PROVIDE TREATED WOOD BLOCKINGS AND SHIM FLAT ROOF CURB TILL LEVEL FOR ALL EXHAUST FANS AND TO ACHIEVE ROOF CURB HEIGHTS. PROVIDE ROOF CURB EXTENSION IF REQUIRED.

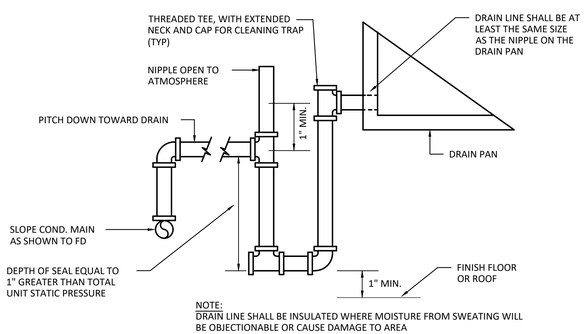
5 GREASE EXHAUST FAN DETAIL

N.T.S.



4 GENERAL EXHAUST FAN DETAIL

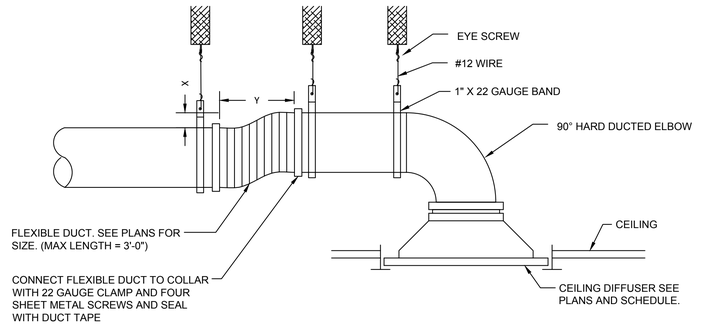
N.T.S.



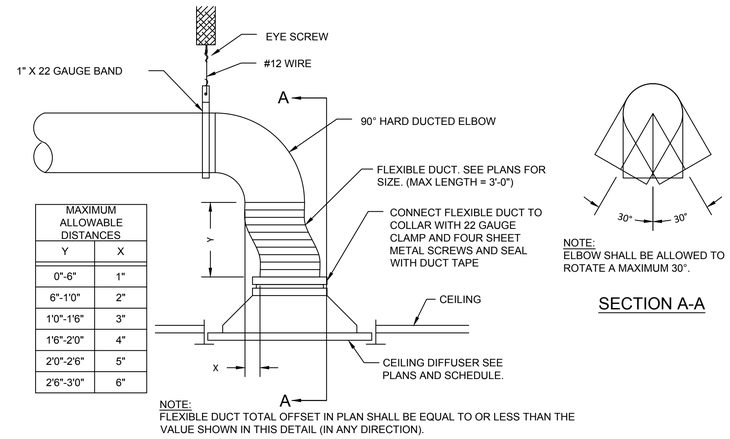
NOTE:
DRAIN LINE SHALL BE INSULATED WHERE MOISTURE FROM SWEATING WILL BE OBJECTIONABLE OR CAUSE DAMAGE TO AREA

1 CONDENSATE DRAIN DETAIL

N.T.S



LIMITED CEILING SPACE



MAXIMUM ALLOWABLE DISTANCES	
Y	X
0"-6"	1"
6"-1'0"	2"
1'0"-1'6"	3"
1'6"-2'0"	4"
2'0"-2'6"	5"
2'6"-3'0"	6"

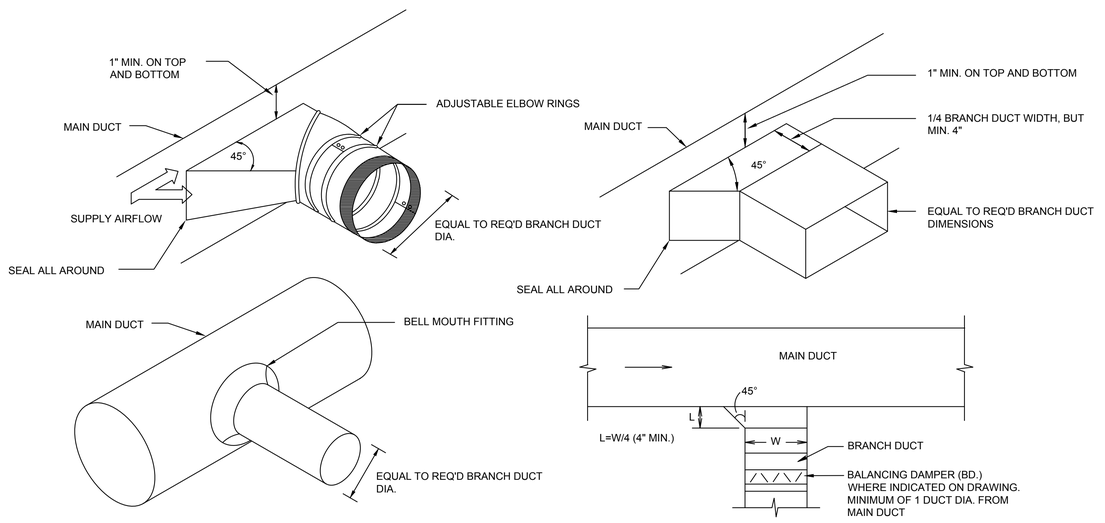
NOTE:
FLEXIBLE DUCT TOTAL OFFSET IN PLAN SHALL BE EQUAL TO OR LESS THAN THE VALUE SHOWN IN THIS DETAIL (IN ANY DIRECTION).

NOTE:
ELBOW SHALL BE ALLOWED TO ROTATE A MAXIMUM 30°.

SECTION A-A

2 CEILING DIFFUSER DETAIL

N.T.S.



3 DUCT BRANCH DETAIL

N.T.S.

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MECHANICAL DETAILS

SHEET:
M401

ROOFTOP AIR HANDLING UNIT SCHEDULE

OUTSIDE AIR CONDITIONS - SUMMER DB/WB: 95.4/74.9-F, WINTER DB: -1.0/-2.5-F.

UNIT TAG	MANUF.	MODEL	TONS	AIR FLOW				HEATING (MBH)				COOLING (MBH)			COOLING DESIGN AMBIENT (105°F)	ELECTRIC		WEIGHT (LBS)	NOTES
				CFM	OA MIN	ESP.	MOTOR HP	INPUT	OUTPUT	STAGES	AFUE %	TOTAL	SENS.	EER/SEER		MCA/MOCP	VOLT		
RTU-3	TRANE	YHC060	5	2,000	260	1.0	1.00	80	64	1	80	57.3	43.6	12.9	80db/67wb	30/45	208/3/60	1,100	1,2,3
RTU-4	TRANE	YHC060	5	2,000	260	1.0	1.00	80	64	1	80	57.3	43.6	12.9	80db/67wb	30/45	208/3/60	1,100	1,2,3
RTU-5	TRANE	YHC060	5	2,000	260	1.0	1.00	80	64	1	80	57.3	43.6	12.9	80db/67wb	30/45	208/3/60	1,100	1,2,3
RTU-6	TRANE	YHC060	5	2,000	260	1.0	1.00	80	64	1	80	57.3	43.6	12.9	80db/67wb	30/45	208/3/60	1,100	1,2,3

NOTES:
1. PROVIDE WITH 14" CURB. FIELD VERIFY EXACT REQUIREMENTS.
2. INCLUDE WITH ENTHAPLY CONTROLLED 100% MODULATING ECONOMIZER, POWERED EXHAUST, SMOKE DETECTOR IN RETURN AIR DUCT.
3. PROVIDE WITH HONEYWELL VISIONPRO 8000 TOUCHSCREEN PROGRAMMABLE THERMOSTAT, MODEL TH8320. INTERLOCK WITH REMOTE TEMPERATURE SENSOR.

THIS EQUIPMENT HAS BEEN SELECTED AND APPROVED BY CATIVEAIRE. ALL INFORAIOTN PERTINENT TO THIS UNIT SHALL BE THE SOLE RESPONSIBILITY OF CAPTIVE AIRE.

MAKEUP AIR UNIT SCHEDULE

UNIT TAG	MODEL	TONS	AIR FLOW				FAN ELECTRIC		HEATING (MBH)			COOLING (MBH)			COOLING DESIGN AMBIENT (95°F)	CONDENSER ELECTRIC		WEIGHT (LBS)	NOTES
			CFM	OA MIN	ESP.	MOTOR HP	MCA/MOCP	VOLT	INPUT	OUTPUT	AFUE %	TOTAL	SENS.	EER/SEER		MCA/MOCP	VOLT		
MUA-1	A1-D.250-15D-MPU	3	1,618	1,618	0.5	3	5.5/15	208/3/60	117.9	108.5	92	36.0	24.3	15.0	80db/67wb	14.5/20	208/3/60	1,200	1

NOTES: 1. REFER TO KES AND CAPTIVE AIRE DRAWINGS FOR ADDITIONAL INFORMATION.

THIS EQUIPMENT HAS BEEN SELECTED AND APPROVED BY CAPTIVEARE. ALL INFORMATION PERTINENT TO THESE UNITS SHALL BE THE SOLE RESPONSIBILITY OF CAPTIVEARE.

KITCHEN HOOD SCHEDULE

BASED ON CAPTIVEAIRE U.N.O

UNIT DATA					LIGHTS		MISC.		
TAG	**MODEL**	**HOOD LENGTH**	**MAX. COOKING TEMP.**	**TOTAL EXHAUST CFM**	**QTY.**	**TYPE**	**FIRE SUPP. SYSTEM**	**HANGING WEIGHT (LBS.)**	**COMMENTS**
H-1	6030 ND-2-ACPSP-F	10' - 2"	600°	2186	5	RECESSED ROUND	YES	1088	1

NOTES: 1. REFER TO KES AND CAPTIVEAIRE DRAWINGS FOR ACCESSORY INFORMATION.

EXHAUST FAN SCHEDULE

UNIT DATA				PERFORMANCE DATA					MOTOR DATA			
TAG	**MODEL**	**FUNCTION**	**FAN TYPE**	**CFM**	**ESP**	**DAMPER**	**BELT OR DIRECT**	**SONES RATING**	**HP**	**VOLT**	**PH**	**COMMENTS**
KEF-1	DU85HFA	HOOD EXHAUST	UP BLAST	2186	1	--	BELT	16.8	1.00	120	1	1,3
EF-2	G-080-VG	RESTROOM EXHAUST	DOWN BLAST	250	0.3	BDD	DIRECT	5.3	0.03	120	1	2

NOTES:
1. FAN SHALL BE INTERLOCKED WITH HOOD CONTROLS. REFER TO KES AND CAPTIVEAIRE DRAWINGS FOR ADDITIONAL INFORMATION.
2. FAN SHALL OPERATE DURING OCCUPIED HOURS
3. THIS EQUIPMENT HAS BEEN SELECTED AND APPROVED BY CAPTIVEAIRE. ALL INFORMATION PERTINENT TO THESE UNITS SHALL BE THE SOLE RESPONSIBILITY OF CAPTIVEAIRE.

TAG-NECK SIZE
CFM

GRILLES, REGISTERS, AND DIFFUSERS SCHEDULE

BASED ON TITUS U.N.O.

D = DIFFUSER G=GRILLE R=REGISTER

UNIT DATA				PERFORMANCE DATA					
TAG	**FUNCTION**	**MODEL**	**FACE SIZE**	**FRAME TYPE**	**MATERIAL**	**FINISH**	**BALANCE DAMPER**	**MAX N.C.**	**COMMENTS**
D1	SUPPLY	PAS	24" X 24"	LAY-IN	STEEL	WHITE	-	25	1,2
D2	SUPPLY	OMNI	12" x 12"	SURFACE	STEEL	WHITE	-	25	1
L1	SUPPLY	FL-20-22	48" x 4.75"	SURFACE	ALUMINUM	WHITE	-	25	1 SLOT, 2" SLOT WIDTH, 3
G1	RETURN	350RL	24" x 24"	LAY-IN	STEEL	WHITE	-	25	
G2	RETURN/EXHAUST	350RL	12" x 12"	SURFACE	STEEL	WHITE	-	25	

NOTES:
1. SUPPY DIFFUSERS TO BE INSULATED VIA FACTORY SYSTEM.
2. WITH NO INTERNAL DEFLECTOR.
3. COORDINATE WITH ARCHITECT

VENTILATION SCHEDULE

BASED ON IMC 2018 AND ASHRAE 62.1 - 2016

SPACE DATA				PEOPLE VENTILATION			AREA VENTILATION			TOTAL			
SPACE NAME	**ROOM NUMBER**	**CATEGORY**	**RTU SERVED BY**	**OCC.**	**CFM PER PERSON**	**CFM TOTAL (PEOPLE)**	**AREA (SF)**	**CFM REQUIRED PER SF**	**CFM TOTAL (AREA)**	**TOTAL VENTILATION**	**RTU-4 & 6**		
DINING	**100-105**	DINING	**RTU-4 & 6**	30	7.5	225	910	0.18	164	389			
HALL	**106**	CORRIDOR	**RTU-4 & 6**	0	0	0	235	0.06	14	14			
RESTROOM	**107-108**	RESTROOM	**RTU-4 & 6**	0	0	0	130	0	0	0			
										403	0.8	504	**520**

SPACE NAME	**ROOM NUMBER**	**CATEGORY**	**RTU SERVED BY**	**OCC.**	**CFM PER PERSON**	**CFM TOTAL (PEOPLE)**	**AREA (SF)**	**CFM REQUIRED PER SF**	**CFM TOTAL (AREA)**	**TOTAL VENTILATION**	**RTU-3 & 5**		
BACK OF HOUSE	**104**	KITCHEN	**RTU-3 & 5**	3	7.5	22.5	435	0.12	52	75			
KITCHEN	**102-103**	KITCHEN	**RTU-3 & 5**	8	7.5	60	470	0.12	56	116	**SYSTEM EFFICIENCY**	**CORRECTED OA**	**OA PROVIDED**
										191	0.8	239	**520**

AIR CURTAIN SCHEDULE

UNIT TAG	MANUF.	MODEL	NOZZLE WIDTH	SERVICE	CFM	INPUT (KW)	MOTOR HP	VOLT	MCA	MOCP	WEIGHT (LBS)	NOTES
AC-1	BERNER	AE08-E-1072E	72"	ENTRANCE	2,252	8	1/5	208/3/60	24.7	35	100	1,2
AC-2	BERNER	AE08-E-1036E	36"	ENTRANCE	2,252	4	1/5	208/3/60	13.6	20	57	1,2

NOTES:
1. PROVIDE WITH INTEGRAL DISCONNECT SWITCH AND WALL MOUNTING BRACKET.
2. COORDINATE COLOR WITH ARCHITECT.

AIR BALANCE SCHEDULE

COMPONENT	**SUPPLY CFM**	**RETURN CFM**	**OUTDOOR AIR CFM**	**EXHAUST CFM**	
RTU-3	2,000	1,740	260	-	
RTU-4	2,000	1,740	260	-	
RTU-5	2,000	1,740	260	-	
RTU-6	2,000	1,740	260	-	
MAU-1	1,618	-	1,618		
KEF-1	-	-	-	2,186	
EF-2	-	-	-	250	
TOTAL	**9,618**	**6,960**	**2,658**	**2,436**	**222 CFM**

BUILDING PRESSURE

annex ENGINEERING GROUP
589 W. Nationwide Blvd. Ste. B
Columbus, Ohio 43215
tel: 614.481.2292

STATE OF MISSOURI
DOUGLAS ANDREW SMELKER
NUMBER PE-2007020104
PROFESSIONAL ENGINEER
6-14-2022

CAVA

CAVA - LEE'S SUMMIT
900 NW PRYOR RD
LEE'S SUMMIT, MO 64081
FOR
CAVA
702 H STREET, 2ND FLOOR, WASHINGTON, DC 20001

PROJECT NUMBER: CAV070

ISSUE	DATE
PERMIT	JUN 14, 2022

MECHANICAL SCHEDULES

SHEET: M501

SPECIFICATIONS - DIVISION 23 - HVAC

SECTION 230500 - GENERAL MECHANICAL REQUIREMENTS:

HVAC SUBCONTRACTOR SHALL PROVIDE AT BID TIME A BID TO PROVIDE PREVENTATIVE MAINTENANCE SERVICES FOR ONE YEAR.

FURNISH TO THE OWNER ALL OPERATING & MAINTENANCE MANUALS, RECORD DRAWINGS, TEST & BALANCE REPORT. CONTRACTOR SHALL COORDINATE WITH MANUFACTURER REPRESENTATIVES FOR EMPLOYEE TRAINING REQUIREMENTS FOR ALL EQUIPMENT.

MECHANICAL CONTRACTOR SHALL SUBMIT COMPLIANCE CHECKLIST TO BUILDING OFFICIAL UPON SUBSTANTIAL COMPLETION OF PROJECT.
PROVIDE EQUIPMENT INDICATED ON THE DRAWINGS, AND AS REQUIRED FOR A COMPLETE FUNCTIONING SYSTEM.

DEFINITIONS:
FURNISH MEANS TO SUPPLY AND DELIVER TO PROJECT SITE, READY FOR INSTALLATION.
INSTALL MEANS TO PLACE IN POSITION AND MAKE CONNECTIONS FOR SERVICE OR USE.
PROVIDE MEANS TO FURNISH AND INSTALL, COMPLETE AND READY FOR INTENDED USE.

WARRANTY:
PROVIDE LABOR AND MATERIALS TO REPAIR OR REPLACE DEFECTIVE PARTS AND MATERIALS AS REQUIRED FOR ONE YEAR AFTER SUBSTANTIAL COMPLETION OR OWNER ACCEPTANCE OF THE COMPLETED PROJECT. PROVIDE A SEPARATE LINE ITEM DEDUCT AMOUNT ON THE PROPOSAL FORM TO DELETE WARRANTY SERVICE. AT THE OWNER'S OPTION, CONTRACTOR SHALL INCLUDE ONE YEAR WARRANTY ON OWNER FURNISHED EQUIPMENT. CONTRACTOR SHALL INCLUDE COSTS FOR RECEIVING, HANDLING, STORAGE, AND HOISTING OF OWNER FURNISHED EQUIPMENT.

COORDINATION:
COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE.

DUCT DIMENSIONS:
UNLESS OTHERWISE NOTED, DUCT DIMENSIONS ON THE DRAWINGS ARE INSIDE CLEAR DIMENSIONS.

TESTING AND BALANCING:
TEST AND ADJUST ALL MECHANICAL SYSTEMS AND EQUIPMENT TO ASSURE PROPER BALANCE AND OPERATION. PERFORM TESTS IN ACCORDANCE WITH NBC AND ASHRAE STANDARDS, ELIMINATE NOISE AND VIBRATION, AND ASSURE PROPER FUNCTION OF CONTROLS. SUBMIT COMPLETED TEST AND BALANCE REPORT TO OWNER'S REPRESENTATIVE. BALANCING CONTRACTOR SHALL BE AN INDEPENDENT CERTIFIED TEST AND BALANCE CONTRACTOR, WITH NBC CERTIFICATION. BALANCE ALL SYSTEMS TO WITHIN 5% OF AIR FLOWS INDICATED ON THE DRAWINGS, AND REPORT ALL DISCREPANCIES TO HVAC INSTALLER FOR CORRECTION. MARK FINAL BALANCE POSITIONS ON DAMPERS WITH PERMANENT MARKER.

MAKE-UP AIR UNIT:
UNIT SHALL HAVE AN INTEGRAL DISCHARGE THERMOSTAT LINKED TO THE INTERNAL CONTROLS. THE HEATER SHALL BE SET TO MAINTAIN DUCT SUPPLY TEMPERATURE AT NO LESS THAN 65 DEG. F. (ADJ.).
HIGH LIMIT SWITCH SET TO 180 DEG. F.
INTAKE AIR SENSOR SET TO 10 DEG. F. (ADJ.) LOWER THAN DISCHARGE AIR SENSOR.

TEMPERATURE CONTROLS:
PROVIDE PROGRAMMABLE THERMOSTATS WITH REMOTE TEMPERATURE SENSORS AND REMOTE HUMIDISTATS COMPATIBLE WITH ROOFTOP UNIT. CONTROL WIRING SHALL BE INSTALLED IN CONDUIT. THERMOSTAT SHALL MEET SETPOINT ADJUSTMENT FOR UNOCCUPIED MODE: HEATING DOWN TO 55 DEGREES AND COOLING UP TO 85 DEGREES. PROVIDE INTERLOCK CONTROL WIRING BETWEEN HOOD EXHAUST FANS AND ROOFTOP UNITS.

END OF SECTION

SECTION 230593 - TESTING, ADJUSTING, AND BALANCING FOR HVAC

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. SUBMITTALS:

1. CERTIFIED TAB REPORTS.

B. TAB FIRM QUALIFICATIONS: NBC CERTIFIED.

C. TAB REPORT FORMS: STANDARD TAB CONTRACTOR'S FORMS APPROVED BY ARCHITECT.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 EXAMINATION

A. EXAMINE THE CONTRACT DOCUMENTS TO BECOME FAMILIAR WITH PROJECT REQUIREMENTS AND TO DISCOVER CONDITIONS IN SYSTEMS' DESIGNS THAT MAY PRECLUDE PROPER TAB OF SYSTEMS AND EQUIPMENT.

B. EXAMINE THE APPROVED SUBMITTALS FOR HVAC SYSTEMS AND EQUIPMENT.

C. EXAMINE SYSTEMS FOR INSTALLED BALANCING DEVICES, SUCH AS TEST PORTS, GAGE COCKS, THERMOMETER WELLS, FLOW-CONTROL DEVICES, BALANCING VALVES AND FITTINGS, AND MANUAL VOLUME DAMPERS. VERIFY THAT LOCATIONS OF THESE BALANCING DEVICES ARE ACCESSIBLE.

D. EXAMINE SYSTEM AND EQUIPMENT INSTALLATIONS AND VERIFY THAT FIELD QUALITY-CONTROL TESTING, CLEANING, AND ADJUSTING SPECIFIED IN INDIVIDUAL SECTIONS HAVE BEEN PERFORMED.

E. EXAMINE HVAC EQUIPMENT AND FILTERS AND VERIFY THAT BEARINGS ARE GREASED, BELTS ARE ALIGNED AND TIGHT, AND EQUIPMENT WITH FUNCTIONING CONTROLS IS READY FOR OPERATION.

F. EXAMINE TERMINAL UNITS, SUCH AS VARIABLE-AIR-VOLUME BOXES, AND VERIFY THAT THEY ARE ACCESSIBLE AND THEIR CONTROLS ARE CONNECTED AND FUNCTIONING.

G. EXAMINE AUTOMATIC TEMPERATURE SYSTEM COMPONENTS TO VERIFY THE FOLLOWING:

1. DAMPERS, VALVES, AND OTHER CONTROLLED DEVICES ARE OPERATED BY THE INTENDED CONTROLLER.
2. DAMPERS AND VALVES ARE IN THE POSITION INDICATED BY THE CONTROLLER.
3. INTEGRITY OF DAMPERS AND VALVES FOR FREE AND FULL OPERATION AND FOR TIGHTNESS OF FULLY CLOSED AND FULLY OPEN POSITIONS. THIS INCLUDES DAMPERS IN MULTIZONE UNITS, MIXING BOXES, AND VARIABLE-AIR-VOLUME TERMINALS.
4. AUTOMATIC MODULATING AND SHUTOFF VALVES, INCLUDING TWO-WAY VALVES AND THREE-WAY MIXING AND DIVERTING VALVES, ARE PROPERLY CONNECTED.
5. THERMOSTATS AND HUMIDISTATS ARE LOCATED TO AVOID ADVERSE EFFECTS OF SUNLIGHT, DRAFTS, AND COLD WALLS.
6. SENSORS ARE LOCATED TO SENSE ONLY THE INTENDED CONDITIONS.
7. SEQUENCE OF OPERATION FOR CONTROL MODES IS ACCORDING TO THE CONTRACT DOCUMENTS.
8. CONTROLLER SET POINTS ARE SET AT INDICATED VALUES.
9. INTERLOCKED SYSTEMS ARE OPERATING.
10. CHANGEOVER FROM HEATING TO COOLING MODE OCCURS ACCORDING TO INDICATED VALUES.

H. REPORT DEFICIENCIES DISCOVERED BEFORE AND DURING PERFORMANCE OF TEST AND BALANCE PROCEDURES.

3.2 GENERAL PROCEDURES FOR TESTING AND BALANCING

A. PERFORM TESTING AND BALANCING PROCEDURES ON EACH SYSTEM ACCORDING TO THE PROCEDURES CONTAINED IN AABC'S "NATIONAL STANDARDS FOR TOTAL SYSTEM BALANCE", NBC, ASHRAE 111, NEBB'S "PROCEDURAL STANDARDS FOR TESTING, ADJUSTING, AND BALANCING OF ENVIRONMENTAL SYSTEMS" OR SMACNA'S "HVAC SYSTEMS - TESTING, ADJUSTING, AND BALANCING" AND IN THIS SECTION.

B. CUT INSULATION, DUCTS, PIPES, AND EQUIPMENT CABINETS FOR INSTALLATION OF TEST PROBES TO THE MINIMUM EXTENT NECESSARY FOR TAB PROCEDURES. AFTER TESTING AND BALANCING, PATCH PROBE HOLES IN DUCTS WITH SAME MATERIAL AND THICKNESS AS USED TO CONSTRUCT DUCTS. INSTALL AND JOIN NEW INSULATION THAT MATCHES REMOVED MATERIALS. RESTORE INSULATION, COVERINGS, VAPOR BARRIER, AND FINISH.

C. MARK EQUIPMENT AND BALANCING DEVICES, INCLUDING DAMPER-CONTROL POSITIONS, VALVE POSITION INDICATORS, FAN-SPEED-CONTROL LEVERS, AND SIMILAR CONTROLS AND DEVICES, WITH PAINT OR OTHER SUITABLE, PERMANENT IDENTIFICATION MATERIAL TO SHOW FINAL SETTINGS.

3.3 GENERAL PROCEDURES FOR BALANCING AIR SYSTEMS

A. PREPARE SCHEMATIC DIAGRAMS OF SYSTEMS' "AS-BUILT" DUCT LAYOUTS.

B. FOR VARIABLE-AIR-VOLUME SYSTEMS, DEVELOP A PLAN TO SIMULATE DIVERSITY.

C. DETERMINE THE BEST LOCATIONS IN MAIN AND BRANCH DUCTS FOR ACCURATE DUCT AIRFLOW MEASUREMENTS.

D. VERIFY THAT MOTOR STARTERS ARE EQUIPPED WITH PROPERLY SIZED THERMAL PROTECTION.

E. CHECK FOR AIRFLOW BLOCKAGES.

F. CHECK CONDENSATE DRAINS FOR PROPER CONNECTIONS AND FUNCTIONING.

G. CHECK FOR PROPER SEALING OF AIR-HANDLING UNIT COMPONENTS.

H. CHECK FOR PROPER SEALING OF AIR DUCT SYSTEM.

3.4 TOLERANCES

A. SET HVAC SYSTEM AIRFLOW AND WATER FLOW RATES WITHIN THE FOLLOWING TOLERANCES:

1. SUPPLY, RETURN, AND EXHAUST FANS AND EQUIPMENT WITH FANS: PLUS OR MINUS 5 PERCENT.
2. AIR OUTLETS AND INLETS: PLUS OR MINUS 10 PERCENT.

END OF SECTION

SECTION 230700 - HVAC INSULATION

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. QUALITY ASSURANCE: LABELED WITH MAXIMUM FLAME-SPREAD INDEX OF 25 AND MAXIMUM SMOKE-DEVELOPED INDEX OF 50 ACCORDING TO ASTM E 84.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. SURFACE-BURNING CHARACTERISTICS:

1. INDOOR INSULATION AND RELATED MATERIALS: TO BE FACTORY LABELED DESIGNATING MAXIMUM FLAME-SPREAD INDEX OF 25 OR LESS, AND SMOKE-DEVELOPED INDEX OF 50 OR LESS ACCORDING TO ASTM E 84.

2.2 INSULATION MATERIALS

A. FLEXIBLE ELASTOMERIC: CLOSED-CELL, SPONGE- OR EXPANDED-RUBBER MATERIALS. COMPLY WITH ASTM C 534, TYPE I FOR TUBULAR MATERIALS AND TYPE II FOR SHEET MATERIALS.

B. MINERAL-FIBER BLANKET INSULATION: COMPLY WITH ASTM C 553, TYPE II AND ASTM C 1290, TYPE I.

1. FSK JACKET: ALUMINUM-FOIL, FIBERGLASS-REINFORCED SCRIM WITH KRAFT-PAPER BACKING; COMPLYING WITH ASTM C 1136, TYPE II.
2. FSK TAPE: FOIL-FACE, VAPOR-RETARDER TAPE MATCHING FACTORY-APPLIED JACKET WITH ACRYLIC ADHESIVE; COMPLYING WITH ASTM C 1136.

C. MINERAL-FIBER, PIPE AND TANK INSULATION: COMPLYING WITH ASTM C 1393, TYPE II OR TYPE IIA CATEGORY 2, OR WITH PROPERTIES SIMILAR TO ASTM C 612, TYPE IB: AND HAVING FACTORY-APPLIED ASJ JACKET. NOMINAL DENSITY IS 2.5 LB/CU. FT. OR MORE. THERMAL CONDUCTIVITY (K-VALUE) AT 100 DEG F IS 0.29 BTU X IN./H X SQ. FT. X DEG F OR LESS.

1. ASJ: WHITE, KRAFT-PAPER, FIBERGLASS-REINFORCED SCRIM WITH ALUMINUM-FOIL BACKING; COMPLYING WITH ASTM C 1136, TYPE I.
2. ASJ TAPE: WHITE VAPOR-RETARDER TAPE MATCHING FACTORY-APPLIED JACKET WITH ACRYLIC ADHESIVE, COMPLYING WITH ASTM C 1136.

D. FLEXIBLE ELASTOMERIC ADHESIVE: COMPLY WITH MIL-A-24179A, TYPE II, CLASS I.

E. MINERAL-FIBER ADHESIVE: COMPLY WITH MIL-A-3316C, CLASS 2, GRADE A.

F. VAPOR-BARRIER MASTIC: WATER BASED; SUITABLE FOR INDOOR AND OUTDOOR USE ON BELOW AMBIENT SERVICES; COMPLY WITH MIL-PRF-19565C, TYPE II.

PART 3 - EXECUTION

3.1 INSULATION INSTALLATION

A. COMPLY WITH REQUIREMENTS OF THE MIDWEST INSULATION CONTRACTORS ASSOCIATION'S "NATIONAL COMMERCIAL & INDUSTRIAL INSULATION STANDARDS" FOR INSULATION INSTALLATION ON PIPES AND EQUIPMENT.

B. INSULATION INSTALLATION AT INTERIOR WALL AND PARTITION PENETRATIONS (THAT ARE NOT FIRE RATED): INSTALL INSULATION CONTINUOUSLY THROUGH WALLS AND PARTITIONS.

C. INSULATION INSTALLATION AT FIRE-RATED WALL, PARTITION, AND FLOOR PENETRATIONS: INSTALL INSULATION CONTINUOUSLY THROUGH PENETRATIONS. SEAL PENETRATIONS. COMPLY WITH REQUIREMENTS IN SECTION 078400.

D. FLEXIBLE ELASTOMERIC INSULATION INSTALLATION:

1. SEAL LONGITUDINAL SEAMS AND END JOINTS WITH ADHESIVE TO ELIMINATE OPENINGS IN INSULATION THAT ALLOW PASSAGE OF AIR TO SURFACE BEING INSULATED.
2. INSULATION INSTALLATION ON PIPE FITTINGS AND ELBOWS: INSTALL MITERED SECTIONS OF PIPE INSULATION. SECURE INSULATION MATERIALS AND SEAL SEAMS WITH ADHESIVE TO ELIMINATE OPENINGS IN INSULATION THAT ALLOW PASSAGE OF AIR TO SURFACE BEING INSULATED.

E. MINERAL-FIBER INSULATION INSTALLATION:

1. INSULATION INSTALLATION ON STRAIGHT PIPES AND TUBES: WHERE VAPOR BARRIERS ARE INDICATED, SEAL LONGITUDINAL SEAMS, END JOINTS, AND PROTRUSIONS WITH VAPOR-BARRIER MASTIC AND JOINT SEALANT.
2. FOR INSULATION WITH FACTORY-APPLIED JACKETS ON ABOVE AMBIENT SURFACES, SECURE LAPS WITH OUTWARD CLINCHED STAPLES AT 6 INCHES O.C.
3. FOR INSULATION WITH FACTORY-APPLIED JACKETS ON BELOW AMBIENT SURFACES, DO NOT STAPLE LONGITUDINAL TABS BUT SECURE TABS WITH ADDITIONAL ADHESIVE AS RECOMMENDED BY INSULATION MATERIAL MANUFACTURER AND SEAL WITH VAPOR-BARRIER MASTIC AND FLASHING SEALANT.
4. BLANKET INSULATION INSTALLATION ON DUCTS AND PLENUMS: SECURE WITH ADHESIVE AND INSULATION PINS.
5. FOR DUCTS AND PLENUMS WITH SURFACE TEMPERATURES BELOW AMBIENT, INSTALL A CONTINUOUS UNBROKEN VAPOR BARRIER.

F. PLENUMS AND DUCTS REQUIRING INSULATION:

1. CONCEALED SUPPLY AIR.
2. CONCEALED AND EXPOSED OUTDOOR AIR.
3. CONCEALED AND EXPOSED RETURN AIR LOCATED IN NONCONDITIONED SPACE.

3.2 DUCT AND PLENUM INSULATION SCHEDULE

RETAIN " ONE OF" OPTION IN PARAGRAPHS IN THIS ARTICLE TO ALLOW CONTRACTOR TO SELECT PIPING MATERIALS FROM THOSE RETAINED.

A. CONCEALED DUCT INSULATION SHALL BE 1-1/2" THICK MINERAL-FIBER BLANKET WITH A 1.5-LB/CU. FT. NOMINAL DENSITY.

3.3 HVAC PIPING INSULATION SCHEDULE

A. CONDENSATE PIPING: INSULATION SHALL BE 1" THICK FLEXIBLE ELASTOMERIC.

B. REFRIGERANT PIPING: INSULATION SHALL BE 1" THICK FLEXIBLE ELASTOMERIC.

END OF SECTION

SECTION 232300 - REFRIGERANT PIPING

PART 2 - PRODUCTS

2.1 TUBES AND FITTINGS

A. COPPER TUBE: ASTM B 88, TYPE K OR TYPE L, ANNEALED OR DRAWN-TEMPER TUBING AND WROUGHT-COPPER FITTINGS WITH BRAZED OR SOLDERED JOINTS.

B. WROUGHT-COPPER FITTINGS AND UNIONS: ASME B16.22.

C. SOLDER FILLER METALS: ASTM B 32. USE 95-5 TIN ANTIMONY OR ALLOY HB SOLDER TO JOIN COPPER SOCKET FITTINGS ON COPPER PIPE.

D. BRAZING FILLER METALS: AWS A5.8.

2.2 VALVES AND SPECIALTIES

A. AS REQUIRED BY THE KITCHEN EQUIPMENT MANUFACTURER.

PART 3 - EXECUTION

3.1 INSTALLATION

A. INSTALL REFRIGERANT PIPING AND CHARGE WITH REFRIGERANT ACCORDING TO ASHRAE 15.

B. INSTALL REFRIGERANT PIPING AS REQUIRED BY THE KITCHEN EQUIPMENT MANUFACTURER.

END OF SECTION

SECTION 233100 - HVAC DUCTS AND CASINGS

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE."

B. STRUCTURAL PERFORMANCE: DUCT HANGERS AND SUPPORTS SHALL WITHSTAND THE EFFECTS OF GRAVITY LOADS AND STRESSES WITHIN LIMITS AND UNDER CONDITIONS DESCRIBED IN SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE".

C. COMPLY WITH NFPA 96 FOR DUCTS CONNECTED TO COMMERCIAL KITCHEN HOODS.

2.2 DUCTS

A. ELECTROGALVANIZED-STEEL SHEET: ASTM A 879

1. PAINTLOK/PAINTLOCK OR EQUAL.

B. GENERAL DUCTWORK SHALL BE GALVANIZED STEEL, ASTM A653/A635M, CONSTRUCTED TO THE GAUGE AND CORRESPONDING REINFORCING SCHEDULE AS INDICATED IN THE LATEST EDITION OF SMACNA.

C. TYPE 1 KITCHEN EXHAUST DUCTWORK

1. FACTORY-BUILT COMMERCIAL KITCHEN GREASE DUCT:
   a. INSTALL REDUCED CLEARANCE, ROUND, DOUBLE-WALL GREASE DUCT AS SPECIFIED MEETING UL 1978 REQUIREMENTS. REFER TO KITCHEN EQUIPMENT SUPPLIER DRAWINGS FOR REQUIREMENTS.
   b. DUCTWORK AND FITTINGS FURNISHED BY OWNER FOR INSTALLATION BY THIS CONTRACTOR.
   c. NO FIRE WRAP SHALL BE REQUIRED FOR THIS INSTALLATION.

D. TYPE 2 KITCHEN EXHAUST DUCTWORK: 18 GAUGE ALUMINUM OR STAINLESS STEEL. SEAMS SHALL BE CONTINUOUSLY WELDED LIQUID TIGHT.

E. JOINT AND SEAM TAPE, AND SEALANT: COMPLY WITH UL 181A. PROVIDE POLYMERIC RUBBER TYPE SEALANT FOR USE ON BOTH INTERIOR LOCATED DUCTWORK AND DUCTWORK EXPOSED TO OUTDOOR CONDITIONS. SEALER SHALL HAVE HIGH BONDING STRENGTH FOR SURE, FIRST TIME SEALING OF JOINTS IN LOW, MEDIUM, AND HIGH PRESSURE DUCT SYSTEMS. SEALER SHALL BE HIGH IN SOLID CONTENT. PROVIDE A TWO PART TAPE SEALING SYSTEM, CONSISTING OF WOVEN FIBER TAPE IMPREGNATED WITH A GYPSUM MINERAL COMPOUND, AND A MODIFIED ACRYLIC/SILICONE ACTIVATOR THAT REACTS EXOTHERMICALLY WITH THE TAPE. TWO PART TAPE SEALING SYSTEM MUST BE RATED FOR BOTH INDOOR AND OUTDOOR APPLICATION. TAPE SHALL NOT CONTAIN ASBESTOS.

F. METAL DUCT FABRICATION: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE."

2.3 ACCESSORIES

A. VOLUME DAMPERS AND CONTROL DAMPERS: SINGLE-BLADE AND MULTIPLE OPPOSED-BLADE DAMPERS, STANDARD LEAKAGE RATING, HEAVY DUTY, AND SUITABLE FOR HORIZONTAL OR VERTICAL APPLICATIONS; FACTORY FABRICATED AND COMPLETE WITH REQUIRED HARDWARE AND ACCESSORIES.

2. ROUND VOLUME DAMPERS: PROVIDE MINIMUM 20 GAUGE GALVANIZED STEEL FRAME AND BLADES, MINIMUM 3/8" SQUARE STEEL AXLE, MOLDED SYNTHETIC BEARINGS, WITH LOCKING POSITION REGULATOR. REGULATOR SHALL BE POSITIONED WITH SHEET METAL BRACKET BEYOND DUCT COVERING. WHERE POSITIONING REGULATOR IS NOT ACCESSIBLE, PROVIDE COUPLING AND EXTENSION ROD WITH REGULATOR FOR CEILING OR WALL INSTALLATION, AS REQUIRED.

3. RECTANGULAR VOLUME DAMPERS: PROVIDE MINIMUM 16 GAUGE GALVANIZED STEEL CHANNEL FRAME, 16 GAUGE GALVANIZED STEEL BLADES, MINIMUM ½" HEXAGONAL AXLE, BOLDED SYNTHETIC BEARINGS, WITH 3/8" SQUARE PLATED STEEL CONTROL SHAFT. LINKAGES SHALL BE CONCEALED IN THE FRAME. OPERATING SHAFT SHALL EXTEND BEYOND FRAME AND DUCT TO A LOCKING QUADRANT WITH ADJUSTABLE LEVER. MAXIMUM BLADE WIDTH SHALL NOT EXCEED 6".

B. FLEXIBLE DUCT CONNECTORS: FLAME-RETARDED OR NONCOMBUSTIBLE FABRICS, COATINGS, AND ADHESIVES COMPLYING WITH UL 181, CLASS 1. CONNECTOR TO BE 30 OUNCE, NEOPRENE COATED, FIBERGLASS FABRIC.

C. FLEXIBLE DUCTS: FACTORY ASSEMBLED, UL 181, CLASS 1, WITH 1-1/2-INCH THICK (R-5 MIN.), 1 PCF FIBERGLASS INSULATION AND REINFORCED OUTER PROTECTIVE COVER/VAPOR BARRIER. FLEXIBLE DUCT SHALL MEET NFPA 90A WITH FLAME SPREAD UNDER 25, SMOKE DEVELOPED UNDER 50, AND SHALL BE RATED FOR MINIMUM 2-INCH WG PRESSURE AND 0 TO 250ºF TEMPERATURE. PROVIDE SCREW-OPERATED METAL ADJUSTABLE CLAMPING DEVICES. USE TWIST-LOCK CONICAL TAP COLLARS AT CONNECTIONS INTO SHEET METAL DUCTWORK. MAXIMUM EXTENDED LENGTH OF FLEXIBLE DUCT SHALL NOT EXCEED 5 FEET.

D. TURNING VANES: PROVIDE FABRICATED TURNING VANES AND VANE RUNNERS, CONSTRUCTED IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS", PROVIDE TURNING VANES CONSTRUCTED OF CURVED BLADES, SUPPORTED WITH BARS PERPENDICULAR TO BLADES, AND SET INTO SIDE STRIPS SUITABLE FOR MOUNTING IN DUCTWORK. FOLLOW SMACNA GUIDELINES FOR SPACING SUPPORT, AND CONSTRUCTION. ALL BLADES SHALL BE DOUBLE THICKNESS AIRFOIL TYPE.

E. BIRD SCREENS AND FRAMES: PROVIDE BIRD SCREENS THAT CONFORM TO ASTM E 2016, NO. 2 MESH, ALUMINUM OR STAINLESS STEEL. PROVIDE "MEDIUM-LIGHT" RATED ALUMINUM SCREENS. PROVIDE "LIGHT" RATES STAINLESS STEEL SCREENS.

F. DUCT-MOUNTED ACCESS DOORS: FABRICATE ACCESS PANELS ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE"; FIGURES 2-10, "DUCT ACCESS DOORS AND PANELS," AND 2-11, "ACCESS PANELS - ROUND DUCT."

PART 3 - EXECUTION

3.1 INSTALLATION

A. INSTALL DUCTWORK, ACCESSORIES, AND SUPPORTS ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" UNLESS OTHERWISE INDICATED.

B. SEAL DUCTS TO THE FOLLOWING SEAL CLASSES ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE": 1-INCH WG, SEAL CLASS A.

C. AVOID PASSING THROUGH OR ABOVE ELECTRICAL EQUIPMENT SPACES AND ENCLOSURES.

D. CLEAN DUCT SYSTEMS BEFORE TESTING, ADJUSTING, AND BALANCING.

3.2 DUCTWORK SCHEDULE

A. EXPOSED DUCTWORK IN ARCHITECTURALLY FINISHED SPACES- ELECTRO-GALVANIZED STEEL SHEET.

B. CONCEALED DUCTWORK AND DUCTWORK IN UNFINISHED ARCHITECTURAL SPACES- GALVANIZED STEEL.

END OF SECTION

SECTION 233423 - HVAC EXHAUST FANS

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. PRODUCTS SHALL BE LICENSED TO USE THE AMCA-CERTIFIED RATINGS SEAL.

B. EXHAUST FANS SHALL COMPLY WITH UL 705. TYPE 1 FANS SHALL ALSO COMPLY WITH UL 762.

C. TYPE 1 FANS TO BE DESIGNED FOR HIGH HEAT OPERATION AT 300ºF.

D. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, BY A QUALIFIED TESTING AGENCY, AND MARKED FOR INTENDED LOCATION AND APPLICATION.

2.2 CENTRIFUGAL VENTILATORS

A. HOUSING: REMOVABLE, SPUN-ALUMINUM, DOME TOP AND OUTLET BAFFLE; SQUARE, ONE-PIECE, ALUMINUM BASE WITH VENTURI INLET CONE.

1. UPBLAST UNITS: ALUMINUM DISCHARGE BAFFLE TO DIRECT DISCHARGE AIR UPWARD, WITH RAIN AND SNOW DRAINS.

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

C. BELT-DRIVEN DRIVE ASSEMBLY: RESILIENTLY MOUNTED TO HOUSING.

1. FAN SHAFT: TURNED, GROUND, AND POLISHED STEEL; KEYED TO WHEEL HUB.
2. SHAFT BEARINGS: PERMANENTLY LUBRICATED, PERMANENTLY SEALED, SELF-ALIGNING BALL BEARINGS.
3. PULLEYS: CAST-IRON, ADJUSTABLE-PITCH MOTOR PULLEY.
4. FAN AND MOTOR ISOLATED FROM EXHAUST AIRSTREAM.

D. ACCESSORIES:

1. DISCONNECT SWITCH: NON-FUSIBLE TYPE, WITH THERMAL-OVERLOAD PROTECTION, FACTORY WIRED THROUGH AN INTERNAL ALUMINUM CONDUIT.
2. BIRD SCREENS: REMOVABLE, 1/2-INCH MESH, ALUMINUM OR BRASS WIRE.
3. DAMPERS: COUNTERBALANCED, PARALLEL-BLADE, BACKDRAFT DAMPERS MOUNTED IN CURB BASE; FACTORY SET TO CLOSE WHEN FAN STOPS.
4. MOTORIZED DAMPERS: PARALLEL-BLADE DAMPERS MOUNTED IN CURB BASE WITH ELECTRIC ACTUATOR; WIRED TO CLOSE WHEN FAN STOPS.

E. ROOF CURBS: 20 GAUGE GALVANIZED STEEL; MITERED AND WELDED CORNERS; 1-1/2-INCH THICK, RIGID, FIBERGLASS INSULATION ADHERED TO INSIDE WALLS; AND 1-1/2-INCH WOOD NAILER. SIZE AS REQUIRED TO SUIT ROOF OPENING AND FAN BASE.

1. CONFIGURATION: SELF-FLASHING WITHOUT A CANT STRIP, WITH MOUNTING FLANGE.
2. OVERALL HEIGHT: 12 INCHES FOR GENERAL EXHAUST FANS; 20 INCHES FOR KITCHEN EXHAUST FANS.
3. PITCH MOUNTING: MANUFACTURE CURB FOR ROOF SLOPE.
4. MOUNTING PEDESTAL: GALVANIZED STEEL WITH REMOVABLE ACCESS PANEL.
5. TYPE 1 ROOF CURBS TO BE VENTED TYPE.
6. TYPE 1 AND TYPE 2 ROOF CURBS TO BE HINGED TYPE.

F. CAPACITIES AND CHARACTERISTICS:

1. SEE SCHEDULE.

G. MOTORS

A.A. COMPLY WITH NEMA DESIGNATION, TEMPERATURE RATING, SERVICE FACTOR, ENCLOSURE TYPE, AND EFFICIENCY REQUIREMENTS FOR MOTORS.

1.1. MOTOR SIZES: MINIMUM SIZE AS INDICATED. IF NOT INDICATED, LARGE ENOUGH SO DRIVEN LOAD WILL NOT REQUIRE MOTOR TO OPERATE IN SERVICE FACTOR RANGE ABOVE 1.0.

A.B. ENCLOSURE TYPE: TOTALLY ENCLOSED, FAN COOLED.

PART 3 - EXECUTION

3.1 INSTALLATION

A. INSTALL UNITS WITH CLEARANCES FOR SERVICE AND MAINTENANCE.

B. ROOF-MOUNTED UNITS: INSTALL ROOF CURB ON ROOF STRUCTURE, ACCORDING TO ARI GUIDELINE B. INSTALL AND SECURE ROOF-MOUNTED FANS ON CURBS, AND COORDINATE ROOF PENETRATIONS AND FLASHING WITH ROOF CONSTRUCTION.

END OF SECTION

SECTION 233713 - DIFFUSERS, REGISTERS, AND GRILLES

PART 1 - GENERAL

PART 2 - PRODUCTS

2.1 DIFFUSERS, REGISTERS, AND GRILLES:

A. REFER TO SCHEDULES FOR FINISH TYPE, COLOR, MATERIAL, AND MOUNTING.

PART 3 - EXECUTION

3.1 INSTALLATION

A. INSTALL DIFFUSERS, REGISTERS, AND GRILLES LEVEL AND PLUMB.

B. CEILING-MOUNTED OUTLETS AND INLETS: DRAWINGS INDICATE GENERAL ARRANGEMENT OF DUCTS, FITTINGS, AND ACCESSORIES. MAKE FINAL LOCATIONS WHERE INDICATED, AS MUCH AS PRACTICAL. FOR UNITS INSTALLED IN LAY-IN CEILING PANELS, LOCATE UNITS IN THE CENTER OF PANEL UNLESS OTHERWISE INDICATED. WHERE ARCHITECTURAL FEATURES OR OTHER ITEMS CONFLICT WITH INSTALLATION, NOTIFY ARCHITECT FOR A DETERMINATION OF FINAL LOCATION.

C. AFTER INSTALLATION, ADJUST DIFFUSERS, REGISTERS, AND GRILLES TO AIR PATTERNS INDICATED, OR AS DIRECTED, BEFORE STARTING AIR BALANCING.

2. END OF SECTION

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PROJECT NUMBER:
CAV070

ISSUE	DATE
PERMIT	JUN 14, 2022

MECHANICAL SPECIFICATIONS

SHEET:
M701

SPECIFICATIONS - DIVISION 23 - HVAC (CONTINUED)

SECTION 237339 - DIRECT-FIRED MAKE-UP AIR UNIT W/ COOLING

PART 2 - PRODUCTS

2.1 PACKAGED UNITS

A. FACTORY-ASSEMBLED, PREWIRED, SELF-CONTAINED UNIT CONSISTING OF CABINET, SUPPLY FAN, CONTROLS, FILTERS, AND DIRECT-FIRED GAS FURNACE TO BE INSTALLED OUTSIDE THE BUILDING.

2.2 CABINET

A. CABINET: GALVANIZED-STEEL PANELS WITH LIFTING LUGS. CABINET SHALL BE FULLY WEATHERIZED FOR OUTDOOR INSTALLATION., HEAT-RESISTANT, BAKED-ENAMEL FINISH, VERTICAL-PATTERN, GALVANIZED-STEEL DISCHARGE PLENUM WITH DIFFUSERS INCORPORATING INDIVIDUALLY ADJUSTABLE VANES.

B. ROOF CURB: FULL-PERIMETER CURB OF SHEET METAL, MINIMUM 20 INCHES HIGH, WITH WOOD NAILER, NEOPRENE SEALING STRIP, AND WELDED Z-BAR FLASHING.

C. OUTDOOR-AIR INTAKE: GALVANIZED-STEEL HOOD WITH RAIN BAFFLES, BIRD SCREEN, AND FINISH TO MATCH CABINET; AND SIZED TO SUPPLY 100 PERCENT OUTDOOR AIR. GALVANIZED-STEEL, OPPOSED-BLADE MOTORIZED DAMPERS WITH VINYL BLADE SEALS AND STAINLESS-STEEL JAMB SEAL.

D. FILTERS: COMPLY WITH NFPA 90A; 1 INCH THICK.

2.3 SUPPLY-AIR FAN

A. FAN: CENTRIFUGAL, RATED ACCORDING TO AMCA 210; STATICALLY AND DYNAMICALLY BALANCED, GALVANIZED STEEL; MOUNTED ON SOLID-STEEL SHAFT.

B. MOTOR: TOTALLY ENCLOSED, SINGLE SPEED MOTOR.

C. DRIVE: V-BELT DRIVE WITH MATCHING FAN PULLEY AND ADJUSTABLE MOTOR SHEAVES AND BELT ASSEMBLY.

D. GAS PRESSURE GAUGE: 2-1/2 INCH DIAMETER AND 1/4 INCH THREAD SIZE.

2.4 DIRECT-FIRED GAS FURNACE

A. DESCRIPTION: FACTORY ASSEMBLED, PIPED, AND WIRED; AND COMPLYING WITH ANSI Z83.4, ANSI Z83.18, AND NFPA 54. CAST-IRON BURNER WITH STAINLESS-STEEL MIXING PLATES. SINGLE-STAGE CONTROL VALVE. FUEL: NATURAL GAS.

B. SAFETY CONTROLS: AIRFLOW PROVING SWITCH; HIGH-TEMPERATURE LIMIT; SAFETY LOCKOUT; REDUNDANT, AUTOMATIC, MAIN GAS VALVES; ELECTRIC PILOT VALVE; MODULATING TEMPERATURE CONTROL VALVE; MAIN AND PILOT GAS REGULATORS; MAIN AND PILOT MANUAL SHUTOFF VALVES; MAIN AND PILOT PRESSURE TAPS; AND HIGH-LOW GAS PRESSURE SWITCHES TO COMPLY WITH ANSI STANDARDS.

2.5 CONTROLS

A. FACTORY-WIRED, FUSE-PROTECTED CONTROL TRANSFORMER, CONNECTION FOR POWER SUPPLY AND FIELD-WIRED UNIT TO REMOTE CONTROL PANEL.

1. FAN CONTROL: INTERLOCK FAN TO START WITH EXHAUST FAN(S) AND WITH RTU COOLING CYCLE.
2. OUTDOOR-AIR DAMPER CONTROL: OUTDOOR-AIR DAMPER OPENS WHEN SUPPLY FAN STARTS, AND CLOSES WHEN FAN STOPS.
3. TEMPERATURE CONTROL: OPERATES GAS VALVE TO MAINTAIN SUPPLY-AIR TEMPERATURE.

2.6 INSTALLATION

A. INSTALL GAS-FIRED UNITS ACCORDING TO NFPA 54.

B. INSTALL ROOF CURB ON ROOF STRUCTURE, ACCORDING TO ARI GUIDELINE B OR NRCA'S "LOW-SLOPE MEMBRANE ROOFING CONSTRUCTION DETAILS MANUAL."

C. CONNECT GAS PIPING WITH SHUTOFF VALVE AND UNION AND WITH SUFFICIENT CLEARANCE FOR BURNER REMOVAL AND SERVICE.

D. DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF DUCTS. CONNECT SUPPLY DUCTS TO DIRECT-FIRED MAU WITH FLEXIBLE DUCT CONNECTORS; FLEXIBLE DUCT CONNECTORS ARE SPECIFIED IN SECTION 233100 "HVAC DUCTS AND CASINGS."

END OF SECTION

SECTION 237413 - PACKAGED ROOFTOP UNITS

1.1 SUMMARY

A. THIS SECTION INCLUDES PACKAGED, ROOFTOP UNITS WITH THE FOLLOWING COMPONENTS AND ACCESSORIES:

1. DIRECT-EXPANSION COOLING.
2. HUMIDITY CONTROL WITH HOT-GAS REHEAT (OPTIONAL)
3. GAS FURNACE.
4. ECONOMIZER OUTDOOR-AND RETURN-AIR DAMPER SECTION.
5. INTEGRAL, SPACE TEMPERATURE CONTROLS.
6. ROOF CURBS.

1.2 SECTION REQUIREMENTS

A. SUBMITTALS:

1. PRODUCT DATA: INCLUDE MANUFACTURER'S TECHNICAL DATA FOR EACH RTU, INCLUDING RATED CAPACITIES, DIMENSIONS, REQUIRED CLEARANCES, CHARACTERISTICS, FURNISHED SPECIALTIES, AND ACCESSORIES.

PART 2 - PRODUCTS

2.1 CASING

A. GENERAL FABRICATION REQUIREMENTS FOR CASINGS: FORMED AND REINFORCED INSULATED PANELS, FABRICATED TO ALLOW REMOVAL FOR ACCESS TO INTERNAL PARTS AND COMPONENTS, WITH JOINTS BETWEEN SECTIONS SEALED.

B. EXTERIOR CASING MATERIAL: GALVANIZED STEEL WITH FACTORY-PAINTED FINISH, WITH PITCHED ROOF PANELS AND KNOCKOUTS WITH GROMMET SEALS FOR ELECTRICAL AND PIPING CONNECTIONS AND LIFTING LUGS.

1. CASING THICKNESS: 16 GAUGE THICK.

C. CASING INSULATION AND ADHESIVE: COMPLY WITH NFPA 90A.

1. MATERIALS: ASTM C 1071, TYPE I.
2. THICKNESS: 1/2 INCH
3. LINER MATERIALS SHALL HAVE AIR-STREAM SURFACE INSULATED WITH A MINIMUM 1/2-IN. THICK, MINIMUM 1 1/2 LB DENSITY, FLEXIBLE FIBERGLASS INSULATION BONDED WITH A PHENOLIC BINDER, NEOPRENE COATED ON THE AIR SIDE.
4. LINER ADHESIVE: COMPLY WITH ASTM C 916, TYPE I.

D. UNIT SHALL HAVE A THRU-THE-BASE GAS AND ELECTRICAL CONNECTIONS.

2.2 FANS

OPTION A OR B:

A. DIRECT-DRIVEN SUPPLY-AIR FANS: DOUBLE WIDTH, BACKWARD INCLINED, CENTRIFUGAL; WITH PERMANENTLY LUBRICATED, MOTOR RESILIENTLY MOUNTED IN THE FAN INLET. ALUMINUM OR PAINTED-STEEL WHEELS, AND GALVANIZED- OR PAINTED-STEEL FAN SCROLLS.

B. BELT-DRIVEN SUPPLY-AIR FANS: DOUBLE WIDTH, FORWARD CURVED, CENTRIFUGAL; WITH PERMANENTLY LUBRICATED, SINGLE-SPEED MOTOR INSTALLED ON AN ADJUSTABLE FAN BASE RESILIENTLY MOUNTED IN THE CASING. ALUMINUM OR PAINTED-STEEL WHEELS, AND GALVANIZED- OR PAINTED-STEEL FAN SCROLLS.

C. CONDENSER-COIL FAN: DIRECT DRIVE, PROPELLER, MOUNTED ON SHAFT OF PERMANENTLY LUBRICATED MOTOR WITH THERMAL OVERLOAD PROTECTION.

D. POWER EXHAUST: FORWARD CURVED, SHAFT MOUNTED ON PERMANENTLY LUBRICATED MOTOR.

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2.3 COILS

A. SUPPLY-AIR REFRIGERANT COIL:

1. ALUMINUM-PLATE FIN AND SEAMLESS INTERNALLY GROOVED COPPER TUBE IN STEEL CASING WITH EQUALIZING-TYPE VERTICAL DISTRIBUTOR.
2. POLYMER STRIP SHALL PREVENT ALL COPPER COIL FROM CONTACTING STEEL COIL FRAME OR CONDENSATE PAN.
3. CATHODIC EPOXY COATING.
4. CONDENSATE DRAIN PAN: GALVANIZED STEEL WITH CORROSION-RESISTANT COATING FORMED WITH PITCH AND DRAIN CONNECTIONS.

B. OUTDOOR-AIR REFRIGERANT COIL:

1. ALUMINUM-PLATE FIN AND SEAMLESS INTERNALLY GROOVED COPPER TUBE IN STEEL CASING WITH EQUALIZING-TYPE VERTICAL DISTRIBUTOR.
2. POLYMER STRIP SHALL PREVENT ALL COPPER COIL FROM CONTACTING STEEL COIL FRAME OR CONDENSATE PAN.
3. CATHODIC EPOXY COATING.

C. HOT-GAS REHEAT REFRIGERANT COIL (OPTIONAL):

1. ALUMINUM-PLATE FIN AND SEAMLESS INTERNALLY GROOVED COPPER TUBE IN STEEL CASING WITH EQUALIZING-TYPE VERTICAL DISTRIBUTOR.
2. POLYMER STRIP SHALL PREVENT ALL COPPER COIL FROM CONTACTING STEEL COIL FRAME OR CONDENSATE PAN.
3. CATHODIC EPOXY COATING.

2.4 REFRIGERANT CIRCUIT COMPONENTS

A. NUMBER OF REFRIGERANT CIRCUITS: TWO

B. COMPRESSOR: HERMETIC, SCROLL, MOUNTED ON VIBRATION ISOLATORS; WITH INTERNAL OVERCURRENT AND HIGH-TEMPERATURE PROTECTION, INTERNAL PRESSURE RELIEF AND CRANKCASE HEATER.

C. REFRIGERATION SPECIALTIES:

1. REFRIGERANT: R-410A
2. EXPANSION VALVE WITH REPLACEABLE THERMOSTATIC ELEMENT.
3. REFRIGERANT FILTER/DRYER.
4. MANUAL-RESET HIGH-PRESSURE SAFETY SWITCH.
5. AUTOMATIC-RESET LOW-PRESSURE SAFETY SWITCH.
6. MINIMUM OFF-TIME RELAY.
7. AUTOMATIC-RESET COMPRESSOR MOTOR THERMAL OVERLOAD.
8. BRASS SERVICE VALVES INSTALLED IN COMPRESSOR SUCTION AND LIQUID LINES.
9. LOW-AMBIENT KIT HIGH-PRESSURE SENSOR.
10. HOT-GAS REHEAT SOLENOID VALVE WITH A REPLACEABLE MAGNETIC COIL.

2.5 AIR FILTRATION

A. PROVIDE 2" THROW-AWAY FIBERGLASS FILTERS.

2.6 GAS FURNACE

A. BURNERS: IN-SHOT TYPE CONSTRUCTED OF ALUMINUM-COATED STEEL.

1. FUEL: NATURAL GAS.
2. IGNITION: DIRECT SPARK IGNITION (DSI).

VERIFY AVAILABILITY OF HIGH-ALTITUDE FEATURE WITH MANUFACTURERS.

3. HIGH-ALTITUDE KIT: FOR PROJECT ELEVATIONS MORE THAN 2,000 FEET ABOVE SEA LEVEL.

B. HEAT-EXCHANGER AND DRAIN PAN: STAINLESS STEEL.

C. INDUCED DRAFT COMBUSTION BLOWER.

D. SAFETY CONTROLS:

1. GAS CONTROL VALVE; TWO STAGE.
2. GAS TRAIN: SINGLE-BODY, REGULATED, REDUNDANT, 24-V AC GAS VALVE ASSEMBLY CONTAINING PILOT SOLENOID VALVE, PILOT FILTER, PRESSURE REGULATOR, PILOT SHUTOFF, AND MANUAL SHUTOFF.

2.7 DAMPERS

A. OUTDOOR AND RETURN AIR MIXING DAMPERS: PARALLEL OR OPPOSED-BLADE GALVANIZED-STEEL DAMPERS MECHANICALLY FASTENED TO CADMIUM PLATED FOR GALVANIZED-STEEL OPERATING ROD IN REINFORCED CABINET. CONNECT OPERATING RODS WITH COMMON LINKAGE AND INTERCONNECT LINKAGES SO DAMPERS OPERATE SIMULTANEOUSLY.

1. DAMPER MOTOR: MODULATING WITH ADJUSTABLE MINIMUM POSITION.
2. RELIEF AIR DAMPER: GRAVITY ACTUATED, WITH BIRD SCREEN AND HOOD.

2.8 ELECTRICAL POWER CONNECTION

A. PROVIDE FOR SINGLE CONNECTION OF POWER TO UNIT WITH UNIT-MOUNTED DISCONNECT SWITCH ACCESSIBLE FROM OUTSIDE UNIT AND CONTROL-CIRCUIT TRANSFORMER WITH BUILT-IN OVERCURRENT PROTECTION.

2.9 CONTROLS

A. BASIC UNIT CONTROLS:

1. CONTROL-VOLTAGE TRANSFORMER.
2. WALL-MOUNTED THERMOSTAT OR SENSOR WITH THE FOLLOWING FEATURES:
   a. HEAT-COOL-OFF SWITCH.
   b. FAN ON-AUTO SWITCH.
   c. FAN-SPEED SWITCH.
   d. AUTOMATIC CHANGEOVER.
   e. ADJUSTABLE DEADBAND.
   f. EXPOSED SET POINT.
   g. EXPOSED INDICATION.
   h. DEGREE F INDICATION.
   i. UNOCCUPIED-PERIOD-OVERRIDE PUSH BUTTON.
   j. DATA ENTRY AND ACCESS PORT TO INPUT TEMPERATURE AND HUMIDITY SET POINTS, OCCUPIED AND UNOCCUPIED PERIODS, AND OUTPUT ROOM TEMPERATURE AND HUMIDITY, SUPPLY-AIR TEMPERATURE, OPERATING MODE, AND STATUS.
3. WALL-MOUNTED HUMIDISTAT OR SENSOR WITH THE FOLLOWING FEATURES:
   a. EXPOSED SET POINT.
   b. EXPOSED INDICATION.
4. REMOTE WALL-MOUNTED ANNUNCIATOR PANEL WITH KEYED ACCESS FOR EACH UNIT:
   a. LIGHTS TO INDICATE POWER ON, UNIT ALARM OR FAILURE, SMOKE DETECTION.

B. DDC CONTROLLER:

1. CONTROLLER SHALL HAVE VOLATILE-MEMORY BACKUP.
2. SAFETY CONTROL OPERATION:
   a. SMOKE DETECTORS: STOP FAN AND CLOSE OUTDOOR-AIR DAMPER IF SMOKE IS DETECTED. PROVIDE ADDITIONAL CONTACTS FOR ALARM INTERFACE TO FIRE ALARM CONTROL PANEL.
   b. FIRE ALARM CONTROL PANEL INTERFACE WHERE APPLICABLE.
   c. LOW-DISCHARGE TEMPERATURE: STOP FAN AND CLOSE OUTDOOR-AIR DAMPER IF SUPPLY AIR TEMPERATURE IS LESS THAN 40°F.
   RETAIN FIRST SUBPARAGRAPH BELOW FOR AIR-TO-AIR HEAT-PUMP FEATURE.
   d. DEFROST CONTROL FOR CONDENSER COIL: PRESSURE DIFFERENTIAL SWITCH TO INITIATE DEFROST SEQUENCE.
3. UNIT SHALL BE CAPABLE OF DIRECT COMMUNICATION WITH GENERIC OPEN PROTOCOL SUCH AS BACNET MS/TP, LONTALK, OR MODUS. THIS WILL ALLOW THE UNIT TO INTEGRATE WITH A FACILITY ENERGY MANAGEMENT SYSTEM.
4. SCHEDULED OPERATION: OCCUPIED AND UNOCCUPIED PERIODS ON SEVEN-DAY CLOCK WITH A MINIMUM OF FOUR PROGRAMMABLE PERIODS PER DAY.
5. UNOCCUPIED PERIOD:
   a. HEATING SETBACK: 10°F.
   b. COOLING SETBACK: SYSTEM OFF.
   c. OVERRIDE OPERATION: TWO HOURS.
6. SUPPLY FAN OPERATION:
   a. OCCUPIED PERIODS: RUN FAN CONTINUOUSLY.
   b. UNOCCUPIED PERIODS: CYCLE FAN TO MAINTAIN SETBACK TEMPERATURE.
7. REFRIGERANT CIRCUIT OPERATION:
   a. OCCUPIED PERIODS: CYCLE OR STAGE COMPRESSORS, AND OPERATE HOT-GAS BYPASS TO MATCH COMPRESSOR OUTPUT TO COOLING LOAD TO MAINTAIN ROOM TEMPERATURE AND HUMIDITY. CYCLE CONDENSER FANS TO MAINTAIN MAXIMUM HOT-GAS PRESSURE. OPERATE LOW-AMBIENT CONTROL KIT TO MAINTAIN MINIMUM HOT-GAS PRESSURE.
   b. UNOCCUPIED PERIODS: CYCLE COMPRESSORS AND CONDENSER FANS FOR HEATING TO MAINTAIN SETBACK TEMPERATURE.
8. HOT-GAS REHEAT-COIL OPERATION (OPTIONAL):
   a. OCCUPIED PERIODS: HUMIDISTAT OPENS HOT-GAS VALVE TO PROVIDE HOT-GAS REHEAT, AND CYCLES COMPRESSOR.
   b. UNOCCUPIED PERIODS: REHEAT NOT REQUIRED.
9. GAS FURNACE OPERATION:
   a. OCCUPIED PERIODS: STAGE BURNER TO MAINTAIN ROOM TEMPERATURE.
   b. UNOCCUPIED PERIODS: CYCLE BURNER TO MAINTAIN SETBACK TEMPERATURE.
10. FIXED MINIMUM OUTDOOR-AIR DAMPER OPERATION:
    a. OCCUPIED PERIODS: OPEN TO 25 PERCENT.
    b. UNOCCUPIED PERIODS: CLOSE THE OUTDOOR-AIR DAMPER.
11. ECONOMIZER OUTDOOR-AIR DAMPER OPERATION:
    a. OCCUPIED PERIODS: OPEN TO 25 PERCENT FIXED MINIMUM INTAKE, AND MAXIMUM 100 PERCENT OF THE FAN CAPACITY TO COMPLY WITH ASHRAE CYCLE II. CONTROLLER SHALL PERMIT AIR-SIDE ECONOMIZER OPERATION WHEN OUTDOOR AIR IS LESS THAN 60 ° F. USE MIXED-AIR TEMPERATURE AND SELECT BETWEEN OUTDOOR-AIR AND RETURN-AIR ENTHALPY TO ADJUST MIXING DAMPERS DURING ECONOMIZER CYCLE OPERATION, LOCK OUT COOLING.
    b. UNOCCUPIED PERIODS: CLOSE OUTDOOR-AIR DAMPER AND OPEN RETURN-AIR DAMPER.

2.10 ACCESSORIES

A. DUPLEX, 115-V, GROUND-FAULT-INTERRUPTER OUTLET WITH 15-A OVERCURRENT PROTECTION. INCLUDE TRANSFORMER IF REQUIRED.

B. LOW-AMBIENT KIT STAGED DOWN TO 0°F.

C. FILTER DIFFERENTIAL PRESSURE SWITCH WITH SENSOR TUBING ON EITHER SIDE OF FILTER. SET FOR FINAL FILTER PRESSURE LOSS.

D. HAIL GUARDS OF GALVANIZED STEEL, PAINTED TO MATCH CASING.

E. DUCT MOUNTED SMOKE DETECTOR IN RETURN AIR STREAM CAPABLE OF SHUTTING DOWN THE UNIT IN THE PRESENCE OF SMOKE DETECTION.

2.11 ROOF CURBS

A. MATERIALS: GALVANIZED STEEL WITH CORROSION-PROTECTION COATING, WATERTIGHT GASKETS, AND FACTORY-INSTALLED WOOD NAILER; COMPLYING WITH NRCA STANDARDS.

1. CURB INSULATION AND ADHESIVE: COMPLY WITH NFPA 90A OR NFPA 90B.
   a. MATERIALS: ASTM C 1071, TYPE I OR II.
   b. THICKNESS: 1-1/2 INCHES.
2. APPLICATION: FACTORY APPLIED WITH ADHESIVE AND MECHANICAL FASTENERS TO THE INTERNAL SURFACE OF CURB.
   a. LINER ADHESIVE: COMPLY WITH ASTM C 916, TYPE I.
   b. MECHANICAL FASTENERS: GALVANIZED STEEL, SUITABLE FOR ADHESIVE ATTACHMENT. MECHANICAL ATTACHMENT, OR WELDING ATTACHMENT TO DUCT WITHOUT DAMAGING LINER WHEN APPLIED AS RECOMMENDED BY MANUFACTURER AND WITHOUT CAUSING LEAKAGE IN CABINET.
   c. LINER MATERIALS SHALL HAVE AIR-STREAM SURFACE INSULATED WITH A MINIMUM 1/2-IN. THICK, MINIMUM 1 1/2 LB DENSITY, FLEXIBLE FIBERGLASS INSULATION BONDED WITH A PHENOLIC BINDER, NEOPRENE COATED ON THE AIR SIDE.
   d. LINER ADHESIVE: COMPLY WITH ASTM C 916, TYPE I.

B. CURB HEIGHT: 14 INCHES TYPICAL UNO. PROVIDE 24 INCH CURB IN AREAS WITH EXPECTED HEAVY SNOWFALL.

PART 3 - EXECUTION

3.1 EXAMINATION

A. EXAMINE SUBSTRATES, AREAS, AND CONDITIONS, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR INSTALLATION TOLERANCES AND OTHER CONDITIONS AFFECTING PERFORMANCE OF RTUS.

B. EXAMINE ROUGHING-IN FOR RTUS TO VERIFY ACTUAL LOCATIONS OF PIPING AND DUCT CONNECTIONS BEFORE EQUIPMENT INSTALLATION.

C. EXAMINE ROOFS FOR SUITABLE CONDITIONS WHERE RTUS WILL BE INSTALLED.

D. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

3.2 INSTALLATION

A. ROOF CURB: INSTALL ON ROOF STRUCTURE, LEVEL AND SECURE. INSTALL RTUS ON CURBS AND COORDINATE ROOF PENETRATIONS AND FLASHING WITH ROOF CONSTRUCTION. RTUS TO UPPER CURB RAIL, AND SECURE CURB BASE TO ROOF FRAMING OR CONCRETE BASE WITH ANCHOR BOLTS.

3.3 CONNECTIONS

A. . THE FOLLOWING ARE SPECIFIC CONNECTION REQUIREMENTS:

1. INSTALL DUCTS TO TERMINATION AT TOP OF ROOF CURB.
2. REMOVE ROOF DECKING ONLY AS REQUIRED FOR PASSAGE OF DUCTS. DO NOT CUT OUT DECKING UNDER ENTIRE ROOF CURB.

3.4 COORDINATION

A. CONTRACTOR TO COORDINATE WITH KITCHEN EQUIPMENT SUPPLIER TO ENSURE THAT THE RTUS ARE COORDINATED WITH THE KITCHEN EQUIPMENT, PARTICULARLY THE EXHAUST HOODS AND THE MAKE-UP AIR UNIT, TO PROPERLY PRESSURIZE THE BUILDING/SPACE.

B. CONTRACTOR TO ENSURE THAT ALL THERMOSTATS AND SENSORS ARE COMPATIBLE WITH THE RTU CONTROLS.

3.5 FIELD QUALITY CONTROL

A. MANUFACTURER'S FIELD SERVICE: ENGAGE A FACTORY-AUTHORIZED SERVICE REPRESENTATIVE TO INSPECT, TEST, AND ADJUST COMPONENTS, ASSEMBLIES, AND EQUIPMENT INSTALLATIONS, INCLUDING CONNECTIONS. REPORT RESULTS IN WRITING.

B. PERFORM TESTS AND INSPECTIONS AND PREPARE TEST REPORTS.

1. MANUFACTURER'S FIELD SERVICE: ENGAGE A FACTORY-AUTHORIZED SERVICE REPRESENTATIVE TO INSPECT COMPONENTS, ASSEMBLIES, AND EQUIPMENT INSTALLATIONS, INCLUDING CONNECTIONS, AND TO ASSIST IN TESTING. REPORT RESULTS IN WRITING.

C. TESTS AND INSPECTIONS:

1. AFTER INSTALLING RTUS AND AFTER ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, TEST UNITS FOR COMPLIANCE WITH REQUIREMENTS.
2. OPERATIONAL TEST: AFTER ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, START UNITS TO CONFIRM PROPER MOTOR ROTATION AND UNIT OPERATION.
3. TEST AND ADJUST CONTROLS AND SAFETIES. REPLACE DAMAGED AND MALFUNCTIONING CONTROLS AND EQUIPMENT.

D. REMOVE AND REPLACE MALFUNCTIONING UNITS AND RETEST AS SPECIFIED ABOVE.

3.6 STARTUP SERVICE

A. ENGAGE A FACTORY-AUTHORIZED SERVICE REPRESENTATIVE TO PERFORM STARTUP SERVICE.

B. COMPLETE INSTALLATION AND STARTUP CHECKS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AND DO THE FOLLOWING:

1. INSPECT FOR VISIBLE DAMAGE TO UNIT CASING, FURNACE COMBUSTION CHAMBER, COMPRESSOR, COILS, AND FANS.
2. VERIFY THAT LABELS ARE CLEARLY VISIBLE. CLEARANCES HAVE BEEN PROVIDED FOR SERVICING, CONTROLS ARE CONNECTED AND OPERABLE, AND FILTERS ARE INSTALLED.
3. CLEAN CONDENSER COIL AND FURNACE AND INSPECT FOR CONSTRUCTION DEBRIS.
4. REMOVE PACKING FROM VIBRATION ISOLATORS.
5. VERIFY LUBRICATION ON FAN AND MOTOR BEARINGS.
6. INSPECT FAN-WHEEL ROTATION FOR MOVEMENT IN CORRECT DIRECTION WITHOUT VIBRATION AND BINDING.
7. ADJUST FAN BELTS TO PROPER ALIGNMENT AND TENSION.
8. START UNIT ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.
   a. INSPECT AND RECORD PERFORMANCE OF INTERLOCKS AND PROTECTIVE DEVICES; VERIFY SEQUENCES.
10. OPERATE UNIT FOR AN INITIAL PERIOD AS RECOMMENDED OR REQUIRED BY MANUFACTURER.
11. PERFORM THE FOLLOWING OPERATIONS FOR BOTH MINIMUM AND MAXIMUM FIRING. ADJUST BURNER FOR PEAK EFFICIENCY.
    a. MEASURE GAS PRESSURE ON MANIFOLD.
    b. INSPECT OPERATION OF POWER VENTS.
    c. MEASURE SUPPLY-AIR TEMPERATURE AND VOLUME WHEN BURNER IS AT MAXIMUM FIRING RATE AND WHEN BURNER IS OFF. CALCULATE USEFUL HEAT TO SUPPLY AIR.
20. ADJUST AND INSPECT HIGH-TEMPERATURE LIMITS.
21. INSPECT OUTDOOR-AIR DAMPERS FOR PROPER STROKE AND INTERLOCK WITH RETURN-AIR DAMPERS.
22. INSPECT CONTROLS FOR CORRECT SEQUENCING OF HEATING, MIXING DAMPERS, REFRIGERATION, AND NORMAL AND EMERGENCY SHUTDOWN.
23. SIMULATE MAXIMUM COOLING DEMAND AND INSPECT THE FOLLOWING:
    a. COMPRESSOR REFRIGERANT SUCTION AND HOT-GAS PRESSURES.
    b. SHORT CIRCUITING OF AIR THROUGH CONDENSER COIL OR FROM CONDENSER FANS TO OUTDOOR-AIR INTAKE.
27. VERIFY OPERATION OF REMOTE PANEL INCLUDING PILOT-LIGHT OPERATION AND FAILURE MODES. INSPECT THE FOLLOWING:
    a. HIGH-TEMPERATURE LIMIT ON GAS-FIRED HEAT EXCHANGER.
    b. LOW-TEMPERATURE SAFETY OPERATION.
    c. FILTER HIGH-PRESSURE DIFFERENTIAL ALARM.
    d. ECONOMIZER TO MINIMUM OUTDOOR-AIR CHANGEOVER.
    e. RELIEF-AIR FAN OPERATION.
    f. SMOKE ALARMS.
28. AFTER STARTUP AND PERFORMANCE TESTING AND PRIOR TO SUBSTANTIAL COMPLETION, REPLACE EXISTING FILTERS WITH NEW FILTERS.

3.7 CLEANING AND ADJUSTING

A. OCCUPANCY ADJUSTMENTS: WHEN REQUESTED WITHIN 12 MONTHS OF DATE OF SUBSTANTIAL COMPLETION, PROVIDE ON-SITE ASSISTANCE IN ADJUSTING SYSTEM TO SUIT ACTUAL OCCUPIED CONDITIONS. PROVIDE UP TO TWO VISITS TO SITE DURING OTHER-THAN-NORMAL OCCUPANCY HOURS FOR THIS PURPOSE.

B. AFTER COMPLETING SYSTEM INSTALLATION AND TESTING, ADJUSTING, AND BALANCING RTU AND AIR-DISTRIBUTION SYSTEMS, CLEAN FILTER HOUSINGS AND INSTALL NEW FILTERS.

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PROJECT NUMBER: CAV070

ISSUE	DATE
PERMIT	JUN 14, 2022

MECHANICAL SPECIFICATIONS

SHEET: M702

ABBREVIATIONS

(D)	DEMOLITION	HD	HEAD
(E)	EXISTING	HGT	HEIGHT
(F)	FUTURE	HP	HORSEPOWER
(R)	RELOCATE	INV	INVERT
AAV	AIR ADMITTANCE VALVE	IW	INDIRECT WASTE
ABV	ABOVE	KEC	KITCHEN EQUIPMENT CONTRACTOR
AFF	ABOVE FINISHED FLOOR	LB	POUNDS
AFG	ABOVE FINISHED GRADE	LF	LINEAR FEET
AHJ	AUTHORITY HAVING JURISDICTION	LG	LENGTH
AUTO	AUTOMATIC	MAX	MAXIMUM
AVG	AVERAGE	MFC	MANUFACTURER
BLDG	BUILDING	MIN	MINIMUM
BOP	BOTTOM OF PIPE	MS	MOP SINK
BFP	BACKFLOW PREVENTER	N/A	NOT APPLICABLE
CA	COMPRESSED AIR	NC	NORMALLY CLOSED
CAP	CAPACITY	NO	NORMALLY OPEN
CFH	CUBIC FEET PER HOUR	NPW	NON-POTABLE WATER
CFM	CUBIC FEET PER MINUTE	NTS	NOT TO SCALE
CO	CLEANOUT	OF	OWNER FURNISHED
CONN	CONNECTION OR CONNECT	PC	PLUMBING CONTRACTOR
CONT	CONTINUATION	PD	PUMPED DISCHARGE
CU FT	CUBIC FEET	PLBG	PLUMBING
DCVA	DOUBLE CHECK VALVE ASSEMBLY	PPM	PARTS PER MILLION
DCW	DOMESTIC COLD WATER	PRS	PRESSURE
DEPT	DEPARTMENT	PRV	PRESSURE REDUCING VALVE
DHW	DOMESTIC HOT WATER	PSI	POUNDS PER SQUARE INCH
DIA	DIAMETER	PSIG	PSI GAUGE
DN	DOWN	RP	RETICULATING PUMP
DW	DIRECT WASTE	RPZ	REDUCED PRESSURE ZONE
DWG	DRAWING	SH	SHOWER
DWV	DRAIN WASTE VENT	SRD	SECONDARY ROOF DRAIN
EL	ELEVATION	STD	STANDARD
EWC	ELECTRIC WATER COOLER	STR	STRAINER
EXH	EXHAUST	TEMP	TEMPERATURE
°F	DEGREES FAHRENHEIT	TMV	THERMOSTATIC MIXING VALVE
FD	FLOOR DRAIN	TOP	TOP OF PIPE
FIN	FINISHED	TP	TRAP PRIMER
FT	FOOT OR FEET	TS	TRAP SEAL
G	GAS	TWS	TEMPERED WATER SUPPLY
GA	GAUGE	TYP	TYPICAL
GAL	GALLONS	UNO	UNLESS NOTED OTHERWISE
GC	GENERAL CONTRACTOR	UR	URINAL
GPD	GALLONS PER DAY	V	VENT
GPH	GALLONS PER HOUR	VB	VACUUM BREAKER
GPM	GALLONS PER MINUTE	VDC	VENTED DOUBLE CHECK
HB	HOSE BIBB	VTR	VENT THRU ROOF
HC	HVAC CONTRACTOR	WC	WATER CLOSET

PLUMBING LEGEND

—— ——(E)—— ——	EXISTING TO REMAIN		PETE'S PLUG
--------(D)--------	EXISTING TO BE DEMOLISHED		BALL VALVE
———SAN———	SANITARY		BUTTERFLY VALVE
———STM———	STORM (PRIMARY)		GATE VALVE (FLANGED BODY)
———OF———	OVERFLOW (SECONDARY STORM)		BALANCING VALVE
———GW———	GREASE WASTE		CHECK VALVE
— — —DNT— — —	DO NOT TAP		PLUG VALVE
——— — ——— — ———	DOMESTIC COLD WATER		THERMOSTATIC MIXING VALVE
— — — — — — — —	DOMESTIC HOT WATER		PRESSURE REDUCING VALVE
——— — — — ———	DOMESTIC HOT WATER RETURN		PRESSURE GAUGE
———MG———	MEDIUM PRESSURE NATURAL GAS		RELIEF VALVE
———G———	LOW PRESSURE NATURAL GAS		SOLENOID VALVE
— — — — — — — —	VENT		STRAINER
— — —FW— — —	FILTERED WATER		UNION
— — —SODA— — —	SODA CONDUIT		WATER HAMMER ARRESTER
—O—	PIPE TURNED UP		THERMOMETER
—C—	PIPE TURNED DOWN		CONNECT TO EXISTING
—⊖—	PIPE BOTTOM CONNECTION		FLOOR PENETRATION MARKER

GENERAL NOTES:

A. SUSPEND ALL HORIZONTAL SERVICE PIPING SHOWN ON THIS PROJECT SUCH AS, BUT NOT LIMITED TO, WATER, SANITARY, WASTE/VENT, STORM WATER, GAS, ETC. FROM UNDERSIDE OF ROOF AND/OR FLOOR STRUCTURE. UNLESS OTHERWISE NOTED OR INDICATED. HOLD SUCH PIPING HIGH AS POSSIBLE. EXTEND PIPING DOWN IN WALLS, PARTITIONS, CHASES, ETC. TO SERVE FIXTURES AND EQUIPMENT AS SHOWN ON PLANS.

B. CONTRACTORS AND SUB-CONTRACTORS SHALL CAREFULLY REVIEW THE CONSTRUCTION DOCUMENTS. INFORMATION REGARDING THE COMPLETE WORK IS DISPERSED THROUGHOUT THE DOCUMENT SET AND CANNOT BE ACCURATELY DETERMINED WITHOUT REFERENCE TO THE COMPLETE DOCUMENT SET.

C. COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE. PROVIDE PIPE RISES, DROPS, AND OFFSETS AS REQUIRED FOR FIELD INSTALLATION AND TRADE COORDINATION. NOTIFY ARCHITECT OF ANY DISCREPANCIES BEFORE STARTING WORK. IF PLUMBING CONTRACTOR FAILS TO COORDINATE WITH OTHER TRADES AND WORK IS REQUIRED TO BE ALTERED, THE PLUMBING CONTRACTOR WILL BE RESPONSIBLE FOR THE WORK AT THEIR OWN EXPENSE.

D. DRAWINGS FOR PLUMBING WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE PIPING, CONNECTIONS, FITTINGS, VALVES, OFFSETS, ETC. AND ALL MATERIALS NECESSARY FOR A COMPLETE SYSTEM. SUBMIT SHOP DRAWINGS PER THE SPECIFICATIONS.

E. ALL WORK SHALL COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AS APPROVED AND AMENDED BY THE GOVERNING CITY, INCLUDING APPLICABLE SECTIONS OF ANY INTERIM AMENDMENTS AT THE TIME OF THE PROPOSAL. PLUMBING CONTRACTOR SHALL PURCHASE ALL PERMITS ASSOCIATED WITH THE WORK. OBTAIN ALL INSPECTIONS REQUIRED BY CODE.

F. PROVIDE BACKFLOW PREVENTION DEVICES IN WATER LINES FEEDING PLUMBING FIXTURES AND/OR EQUIPMENT, AS SHOWN ON PLANS AND ELSEWHERE AS REQUIRED BY LOCAL AUTHORITIES. USE DEVICES OF APPROVED TYPE (ASSE LISTED) AND MANUFACTURER (ATMOSPHERIC VACUUM, PRESSURE VACUUM, DOUBLE CHECK, AND REDUCED PRESSURE).

G. VERIFY SERVICE CONNECTION POINTS, SIZES, ELEVATIONS, INVERTS, AND METERING LOCATIONS FOR PROJECT WITH LOCAL UTILITIES CO. AND/OR CIVIL ENGINEER. SERVICES TO INCLUDE BUT NOT LIMITED TO (DOMESTIC WATER, FIRE, SANITARY SEWER, STORM SEWER, GAS, ETC.) PRIOR TO STARTING WORK.

H. VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION. IF PRESSURE AT BUILDING ENTRY PRIOR TO ALL LOCALLY REQUIRED DEVICES SUCH AS WATER METER, BACKFLOW PREVENTION DEVICES, ETC. IS LESS THAN 55 PSIG STATIC, CONTACT OWNERS REPRESENTATIVES. IF PRESSURE IS IN EXCESS OF 80 PSIG STATIC, INSTALLATION OF PRESSURE REDUCING VALVE IS REQUIRED.

I. COMPLY W/ LOCAL HEALTH DEPARTMENT REGULATIONS. OMIT ESCUTCHEONS IN FOOD SERVICE AREAS, SEAL PIPES NEATLY WITH GROUT AT WALL, FLOOR, OR CEILING PENETRATIONS. OMIT INSULATION ON EXPOSED PIPING BEHIND AND UNDER EQUIPMENT. PROVIDE CLEARANCE BEHIND AND UNDER EXPOSED PIPING AS REQUIRED BY HEALTH DEPARTMENT, WHEREVER POSSIBLE, INSTALL PIPINGS IN FOOD SERVICE AREAS CONCEALED, CONFORM TO HEALTH DEPARTMENT REQUIREMENTS FOR LOCATIONS OF FLOOR SINKS.

J. PROVIDE ITEMS AND WORK AS REQUIRED TO COMPLETE THE INSTALLATION OF PLUMBING SYSTEMS TO FIXTURES AND EQUIPMENT: ITEMS INCLUDE TRAPS, STRAINERS, GAUGES, GAS AND WATER PRESSURE REGULATORS, FLEXIBLE CONNECTIONS, STOP VALVES, UNIONS, ETC. PROVIDE AND CONNECT PLUMBING PIPE FROM ROUGH-INS TO ITEMS AS SHOWN, SPECIFIED AND REQUIRED.

K. VISIT THE SITE PRIOR TO SUBMITTING BID, INCLUDE ANY ADDITIONAL ITEMS REQUIRED FOR A COMPLETE & OPERATIONAL SYSTEM.

L. ALL CUTTING OF EXISTING FLOORS, EXCAVATION & BACK FILL TO BE PART OF THE PLUMBING CONTRACTOR BID.

M. COORDINATE ALL FLOOR PENETRATIONS WITH STRUCTURAL DRAWINGS. SET SLEEVES IN FLOORS AND WALLS AND ATTACHMENTS FOR HANGERS AS CONSTRUCTION PROGRESSES. ALL PENETRATIONS MUST BE SEALED AND HELD AS TIGHT TO COLUMNS OR WALLS AS POSSIBLE. EXISTING CORES SHALL BE FILLED AS REQUIRED.

N. ALL PIPING SHALL BE CONCEALED INSIDE WALLS, BELOW FLOORS OR ABOVE CEILINGS UNLESS INDICATED OTHERWISE.

O. ALL PIPING SHALL BE SLOPED AS PER THE MINIMUM GRADE REQUIRED BY CODE (UNLESS NOTED OTHERWISE) FOR EACH PARTICULAR PIPE SIZE.

P. COORDINATE UNDERGROUND PIPING WITH GRADE BEAMS AND WALL FOOTINGS.

Q. DO NOT RUN PLUMBING PIPING THROUGH ELECTRICAL ROOMS, DIRECTLY ABOVE ELECTRICAL PANELS, OR THROUGH OTHER WATER SENSITIVE AREAS.

R. ALL EQUIPMENT, PIPING, APPURTENANCES SHALL BE PROTECTED FROM DEBRIS AND DAMAGE. SENSITIVE EQUIPMENT SHALL NOT BE DELIVERED TO THE JOB SITE UNTIL SUCH TIME AS IT IS TO BE INSTALLED. PIPING ENDS SHALL BE CLOSED BY TEMPORARY MEANS WHEN PORTIONS OF THE SYSTEM ARE NOT COMPLETE.

S. LOCATE ALL VALVES WHERE THEY ARE ACCESSIBLE FOR SERVICE AND USE. WHERE ACCESS PANELS ARE REQUIRED COORDINATE SELECTION AND LOCATION WITH ARCHITECT.

T. PROVIDE TRAP PRIMER AND CONNECTION FOR ANY FLOOR DRAIN, FLOOR SINK OR HUB DRAIN NOT SUBJECT TO A REGULAR SUPPLY OF WATER FLOW.

U. ALL PENETRATIONS AT FLOORS AND RATED PARTITIONS SHALL HAVE A UL CLASSIFIED FIRE STOP SYSTEM TESTED TO ASTM E814 AND UL 1497 BY UNDERWRITERS LABORATORIES. FIRE STOP SYSTEMS SHALL BE PROSET SYSTEMS, PENSIL FIRESTOP SYSTEMS OR 3M COMPANY.

V. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF ALL PLUMBING FIXTURES. EXACT LOCATION OF ALL FIXTURES MUST BE VERIFIED IN THE FIELD PRIOR TO INSTALLATION. FINAL LOCATION SHALL BE AS DIRECTED BY ARCHITECT.

W. PROVIDE NEW BRASS CLEAN OUT COVERS ON ALL NEW AND EXISTING PLUMBING LINE ACCESS POINTS.

X. ALL MIXING VALVES SHALL BE SET TO PROVIDE WATER AT TEMPERATURES THAT COMPLY WITH ASSE 1070 STANDARDS FOR PERFORMANCE REQUIREMENTS FOR WATER TEMPERATURE LIMITING DEVICES.

Y. VERIFY INVERT OF ALL TIE-IN POINTS INDICATED ON PLAN PRIOR TO INSTALLATION. NOTIFY ENGINEER IMMEDIATELY IF EXISTING INVERT WILL BE INSUFFICIENT.

Z. WHERE AIR ADMITTANCE VALVES SHALL BE INSTALLED PERFORM TESTING REQUIRED BY IPC SECTION 312.3. PRIOR TO INSTALLATION.

AA. CONTRACTOR IS RESPONSIBLE FOR ADHERING TO THE ENTIRETY OF THIS DRAWING SET, INCLUDING BUT NOT LIMITED TO; PLANS, ELEVATIONS, DETAILS, SCHEDULES, AND SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL DRAWINGS OF OTHER TRADES, INCLUDING BUT NOT LIMITED TO, ARCHITECTURAL, MECHANICAL, ELECTRICAL, CIVIL, AND STRUCTURAL.

KITCHEN EQUIPMENT SERVICE NOTES:

A. KITCHEN EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY THE KITCHEN EQUIPMENT SUPPLIER AS INDICATED BY KITCHEN EQUIPMENT DOCUMENTATION INCLUDED UNDER SEPARATE CONTRACT WITH THE DESIGN DOCUMENTATION FOR THIS PROJECT. PLUMBING ACCESSORIES, INCLUDING FAUCETS, DRAINS, VALVES, PRESSURE/FLOW REGULATORS, FILTERS, ETC., ARE FURNISHED LOOSE WITH THE KITCHEN EQUIPMENT, FOR INSTALLATION AND FINAL CONNECTION BY THE PLUMBING CONTRACTOR, UNLESS INDICATED OTHERWISE.

B. INSTALL KITCHEN EQUIPMENT PIPING AND ACCESSORIES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS. SEE KITCHEN EQUIPMENT DOCUMENTATION FOR SPECIFIC DIRECTION AT INDIVIDUAL ITEMS.

C. SEE KITCHEN EQUIPMENT DOCUMENTATION FOR ADDITIONAL INFORMATION PERTAINING TO KITCHEN EQUIPMENT PLUMBING REQUIREMENTS, INCLUDING UTILITIES REQUIRED, CONNECTION SIZES AND ROUGH-IN LOCATIONS FOR SPECIFIC ITEMS (SUPPLY AND DRAIN). COORDINATE FINAL INSTALLATION WITH THE KITCHEN EQUIPMENT AS ACTUALLY INSTALLED. LOCATIONS OF FLOOR DRAINS, FLOOR SINKS AND OTHER ASSEMBLIES UTILIZED FOR INDIRECT DRAINAGE FROM FOOD SERVICE EQUIPMENT, ARE TO BE DETERMINED FROM THE KITCHEN EQUIPMENT LAYOUT PLANS. THE PLUMBING CONTRACTOR SHALL EXTEND PIPING BELOW COUNTERS, IN CASEWORK OR STRUCTURE AS REQUIRED FROM DROP OR RISE POINTS INDICATED ON PLANS TO EQUIPMENT CONNECTION POINTS.

D. PLUMBING SUPPLY PIPING (HW, CW, ETC.) SERVING KITCHEN EQUIPMENT PROVIDED WITH SOLENOID VALVES OR OTHER QUICK-CLOSING DEVICES SHALL HAVE A SHOCK ABSORBER FURNISHED AND INSTALLED BY THE PLUMBING CONTRACTOR AT THE TOP OF THE SUPPLY DROP OR BASE OF SUPPLY RISER INDICATED ON DRAWINGS. MULTIPLE ITEMS SERVED BY A COMMON SUPPLY DROP OR RISE MAY BE SERVED BY A SINGLE SHOCK ABSORBER, SIZED AND INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS FOR TYPE AND QUANTITY OF FIXTURES SERVED. WHERE QUICK CLOSING DEVICES SUPPLY PIPING IS FURNISHED WITH A BACKFLOW PREVENTER OR CHECK VALVE, THE SHOCK ABSORBER SHALL BE INSTALLED DOWNSTREAM SIDE OF THE BACKFLOW PREVENTER OR CHECK VALVE.

E. EACH KITCHEN EQUIPMENT FIXTURE AND/OR PIECE OF EQUIPMENT TO BE PROVIDED WITH INDIVIDUAL IN-LINE STOP VALVE IN EACH PLUMBING SUPPLY CONNECTED. NATURAL GAS STOPS TO BE A.G.A. LISTED (2) PIECE BALL VALVE WITH LEVER HANDLE.

F. COORDINATE INSTALLATION OF ALL ITEMS AND VERIFY CONDITIONS IN ADVANCE WITH THE KITCHEN EQUIPMENT CONTRACTOR.

G. GREASE BEARING DRAIN/WASTE PIPING FROM FIXTURES AND/OR EQUIPMENT TO INTERCEPTOR IS TO BE SLOPED AT A MINIMUM 1/4" PER LINEAR FOOT PER CODE REQUIREMENTS.

H. ALL ICE MAKING AND BEVERAGE DISPENSING EQUIPMENT (WATER FILTERS, COFFEE, JUICE, SODA, WATER, ETC.) SUPPLIED WITH CW AND/OR HW IS TO HAVE INDIVIDUAL SUPPLY PIPING PROVIDED WITH AN ISOLATION VALVE. DUAL CHECK BACKFLOW PREVENTER ASSEMBLY PER ASSE 1022 AND SHOCK ABSORBER, ARRANGED IN ORDER LISTED IN DIRECTION OF FLOW. ALL ITEMS TO BE IN ACCESSIBLE LOCATION PER THE INSPECTION/APPROVAL AUTHORITIES.

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GENERAL INFORMATION
PLUMBING

SHEET:
P000

GENERAL NOTES:

A. CONTRACTOR SHALL FIELD VERIFY EXACT CONTINUATION AND ROUTING OF SANITARY PIPING FOR A PROPER OPERATING SYSTEM. PLUMBING CONTRACTOR SHALL FIELD VERIFY INVERT ELEVATION PRIOR TO SANITARY LINE INSTALLATION AND PRESSURE JET CLEAN SANITARY LINE AS REQUIRED. NOTIFY ARCHITECT/ENGINEER WITH ANY DISCREPANCIES IMMEDIATELY.

B. ROUTE VENT PIPING IN A NEAT AND ORDERLY FASHION IN EXPOSED AREAS.

C. REFER TO STACK DIAGRAM AND SCHEDULES FOR COMPLETE PIPE SIZING INFORMATION.

D. SMOKE ALL PLUMBING VENT PIPING PRIOR TO CLOSING WALL CAVITIES AND PRIOR TO TURN OVER.

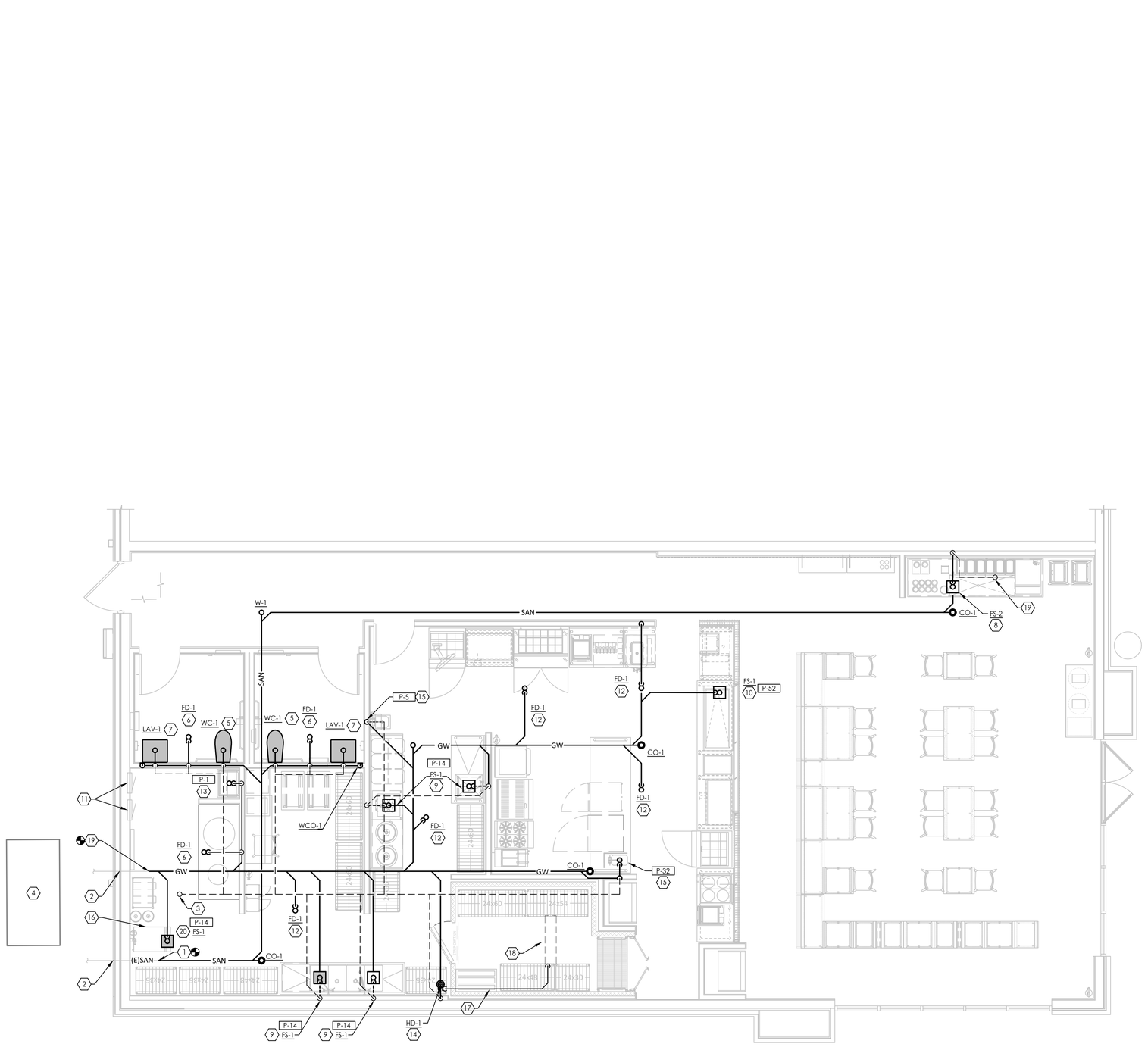
CODED NOTES: (#)

1. ROUTE 4" SANITARY WASTE PIPING BELOW GRADE AND CONNECT INTO EXISTING 4" SANITARY WASTE PIPING, FIELD VERIFY EXACT LOCATION, SIZE, DEPTH OF INVERT, AND DIRECTION OF FLOW PRIOR TO BID.
2. EXISTING 4" SANITARY/GREASE WASTE PIPING TO REMAIN, FIELD VERIFY EXACT LOCATION, SIZE, DEPTH OF INVERT, AND DIRECTION OF FLOW PRIOR TO BID.
3. ROUTE 3" VENT UP IN CEILING SPACE AND EXTEND THROUGH ROOF ABOVE. SEAL ROOF PENETRATION WEATHER TIGHT.
4. EXISTING 1000 GALLON GREASE INTERCEPTOR BY LANDLORD TO REMAIN.
5. ROUTE 4" SANITARY WASTE UP FROM BELOW GRADE AND CONNECT TO WATER CLOSET, EXTEND 2" VENT UP IN WALL FROM WATER CLOSET TO CEILING SPACE.
6. ROUTE 3" SANITARY WASTE UP FROM BELOW GRADE AND CONNECT TO FLOOR DRAIN, EXTEND 1-1/2" VENT UP IN WALL FROM FLOOR DRAIN TO CEILING SPACE.
7. ROUTE 2" SANITARY WASTE UP FROM BELOW GRADE, TRANSITION TO 1-1/2" WASTE AND CONNECT TO LAVATORY, EXTEND 1-1/2" VENT UP IN WALL FROM LAVATORY TO CEILING SPACE.
8. ROUTE 3" SANITARY WASTE UP FROM BELOW GRADE AND CONNECT TO FLOOR SINK, EXTEND 1-1/2" VENT UP IN WALL FROM FLOOR SINK TO CEILING SPACE.
9. ROUTE 3" GREASE WASTE UP FROM BELOW GRADE AND CONNECT TO FLOOR SINK, EXTEND 1-1/2" VENT UP IN WALL FROM FLOOR SINK TO CEILING SPACE.
10. ROUTE 3" GREASE WASTE UP FROM BELOW GRADE AND CONNECT TO FLOOR SINK.
11. DO NOT ROUTE PIPING OVER ELECTRICAL PANELS.
12. ROUTE 3" GREASE WASTE UP FROM BELOW GRADE AND CONNECT TO FLOOR DRAIN.
13. ROUTE 3" GREASE WASTE UP FROM BELOW GRADE AND CONNECT TO MOP SINK, EXTEND 1-1/2" VENT UP IN WALL FROM MOP SINK TO CEILING SPACE.
14. ROUTE 3" SANITARY WASTE UP FROM BELOW GRADE AND CONNECT TO HUB DRAIN, EXTEND 1-1/2" VENT UP IN WALL FROM HUB DRAIN TO CEILING SPACE.
15. ROUTE 2" GREASE WASTE UP FROM BELOW GRADE, TRANSITION TO 1-1/2" AND CONNECT TO HAND SINK(S), EXTEND 1-1/2" VENT UP IN WALL FROM HAND SINK(S) TO CEILING SPACE.
16. PROVIDE DRAINAGE PIPING FROM ICE MACHINE AND BEVERAGE DISPENSER TO FLOOR SINK PER MANUFACTURERS RECOMMENDATIONS. PROVIDE FULL SIZE DRAIN TO FLOOR SINK WITH A MINIMUM 3" AIR GAP.
17. PROVIDE 3/4" COPPER CONDENSATE DRAIN PIPING FROM WALK-IN COOLER EVAPORATOR COIL AND EXTEND FULL SIZE TO HUB DRAIN WITH A MINIMUM 2" AIR GAP. ROUTE PIPING DIRECTLY TO EXTERIOR OF COOLER AS TIGHT TO CEILING AS POSSIBLE WHILE MAINTAINING PROPER SLOPE TO MINIMIZE IMPACT ON COOLER SHELVING AND STORAGE SPACE. PROVIDE CORROSION RESISTANT "STAND-OFFS" TO ALLOW 1" CLEARANCE BETWEEN WALLS AND PIPING. INSULATE TOTAL LENGTH OF DRAIN PIPING WITH 3/4" THICK FLEXIBLE CLOSED-CELL INSULATION SIMILAR TO ARMAFLEX PIPE INSULATION.
18. WALK-IN COOLER EQUIPMENT SHOWN FOR REFERENCE ONLY. EQUIPMENT AND ASSOCIATED REFRIGERANT PIPING TO BE INSTALLED BY KEC.
19. ROUTE NEW 1-1/2" VENT UP IN CEILING SPACE AND EXTEND THROUGH ROOF ABOVE. SEAL ROOF PENETRATION WEATHER TIGHT.
20. ROUTE 2" GREASE WASTE UP FROM BELOW GRADE AND CONNECT TO FLOOR SINK.

PLUMBING SCHEDULE

ITEM NO	QTY	EQUIPMENT CATEGORY	DIRECT DRAIN SIZE (IN)	DIRECT DRAIN AFF. (IN)	INDIR DRAIN SIZE (IN)
1	1	SINK, MOP	3"		
3A	1	EVAPORATOR COIL, COOLER			3/4"
5	1	HAND SINK, WALL MOUNTED	1 1/2"	16"	
14	1	WAREWASHER, UNDERCOUNTER, LOW TEMP			1"
17	1	SINK, SCULLERY, 4 COMPARTMENTS			(4)1-1/2"
24	1	BIN, ICE			3/4"
25	1	ICE MAKER			3/4"
31	1	TABLE, CABINET BASE W/ SINK			(3)1-1/2"
32	1	HAND SINK	1-1/2"	16"	
33B	1	EXHAUST FAN			2-1/2"
39	1	HAND SINK	1-1/2"	4"	
52	1	DROP-IN, COLD PAN			1"
66	1	ICE DISPENSER W/ BEVERAGE HEADS			3/4"
68	1	TABLE, ENCLOSED BASE			1/2"

SHOWN FOR REFERENCE ONLY, REFER TO KES DRAWINGS



1 PLUMBING WASTE AND VENT PLAN
1/4" = 1'-0"

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STATE OF MISSOURI
DOUGLAS ANDREW SMELKER
NUMBER PE-2017022014
PROFESSIONAL ENGINEER
6-14-2022

CAVA

CAVA - LEE'S SUMMIT
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LEE'S SUMMIT, MO 64081
FOR
CAVA
702 H STREET, 2ND FLOOR, WASHINGTON, DC 20001

PROJECT NUMBER: CAV070

ISSUE	DATE
PERMIT	JUN 14, 2022

PLUMBING WASTE AND VENT PLAN

SHEET: P101

GENERAL NOTES:

A. PLUMBING CONTRACTOR SHALL PROVIDE TRAP PRIMERS TO ALL FLOOR DRAINS. REFER TO PLUMBING SCHEDULE FOR ADDITIONAL INFORMATION.

B. FURNISH AND INSTALL BRAIDED STAINLESS STEEL FAUCET CONNECTORS AT ALL EXPOSED FLEXIBLE HOSE LOCATIONS EXCEPT AT EQUIPMENT PROVIDED BY KES.

C. ROUTE PIPING IN TRUSS SPACE WHERE CEILING SPACE IS LIMITED.

D. ROUTE ALL PIPING IN EXPOSED AREAS TIGHT TO ROOF STRUCTURE. PAINT PIPING TO MATCH STRUCTURE.

E. TRAP PRIMER/VALVES TO BE IN AN ACCESSIBLE SPACE ABOVE CEILING. IF NOT PROVIDE A MINIMUM 12"x12" ACCESS PANEL, OR LARGER IF REQUIRED TO ADEQUATELY ACCESS THE TRAP PRIMER/VALVES. REFER TO DETAIL ON SHEET P401.

F. ALL PIPING AND ASSOCIATED PLUMBING EQUIPMENT FOR SODA SYSTEM SHALL BE INSTALLED BY A STATE LICENSED PLUMBING CONTRACTOR.

G. ALL GAS PIPING IN CONCEALED AREAS SHALL BE WELDED.

H. REFER TO SCHEDULE AND RISER DIAGRAMS FOR COMPLETE PIPE SIZING AND CONNECTION INFORMATION.

I. PROVIDE WALL STANDOFFS FOR WATER, ETC., PIPING BEHIND COOK LINE. PIPING SHALL TURN AND BEND AS SOON AS IT COMES OUT OF THE WALL IN A CLEAN AND NEAT MANNER.

J. OFFSET PLUMBING PIPING AS REQUIRED TO AVOID STRUCTURAL ELEMENTS AND OTHER PIPING IN WALL.

CODED NOTES: (#)

1. ROUTE NEW 2" DOMESTIC COLD WATER PIPING IN CEILING SPACE AND CONNECT INTO EXISTING 2" COLD WATER SERVICE. PROVIDE NEW ISOLATION VALVE AT CONNECTION LOCATION. FIELD VERIFY EXACT PRESSURE, POINT OF CONNECTION AND SIZE PRIOR TO BID.
2. EXISTING 2" DOMESTIC COLD WATER PIPING AND RPZ TO REMAIN. FIELD VERIFY EXACT SIZE AND LOCATION PRIOR TO BID.
3. ROUTE 2" GAS PIPING IN CEILING SPACE AND CONNECT INTO EXISTING 2" GAS PIPING. FIELD VERIFY EXACT PRESSURE, POINT OF CONNECTION, AND SIZE PRIOR TO BID. REFER TO M201 FOR ADDITIONAL INFORMATION.
4. EXISTING 2-1/2" GAS PIPING METER AND PIPING TO REMAIN. FIELD VERIFY EXACT SIZE AND LOCATION PRIOR TO BID. GAS PIPING IS SIZED PER IFGC TABLE 402.4(1) WITH A TOTAL DEVELOPED LENGTH OF 175' AND A CONNECTED GAS LOAD OF 904.2 CFH. COORDINATE WITH LOCAL UTILITY COMPANY AND LANDLORD. REFER TO M201 FOR ADDITIONAL INFORMATION.
5. DO NOT ROUTE ANY PIPING ABOVE ELECTRICAL PANELS.
6. ROUTE 1/2" HOT AND COLD WATER DOWN IN WALL AND CONNECT TO MOP SINK.
7. ROUTE 1/2" HOT AND COLD WATER DOWN IN WALL AND CONNECT TO 4-COMP SINK.
8. ROUTE 1/2" HOT AND COLD WATER DOWN IN WALL AND CONNECT TO WORK SINK.
9. ROUTE 1/2" HOT AND COLD WATER DOWN IN WALL AND CONNECT TO HAND SINK. PROVIDE POINT OF USE MIXING VALVE TMV-2, ASSE 1070 COMPLIANT AND CONNECT TO HAND SINK.
10. ROUTE 1-1/4" COLD WATER DOWN FROM CEILING SPACE AND CONNECT TO WATER HEATER. EXTEND 1-1/4" HOT WATER FROM WATER HEATER UP TO CEILING SPACE.
11. ROUTE 1/2" HOT WATER RETURN DOWN FROM CEILING SPACE AND CONNECT INTO COLD WATER SUPPLY SERVING WATER HEATER. REFER TO WATER HEATER DETAIL ON P401 FOR ADDITIONAL INFORMATION.
12. ROUTE 1/2" COLD WATER DOWN IN WALL AND CONNECT TO WATER FILTERS PROVIDED BY KEC. EXTEND FROM WATER FILTER AND CONNECT TO ICE MACHINE. CONTRACTOR SHALL PROVIDE WATTS LF9D DUAL CHECK BACKFLOW DEVICE PRIOR TO FINAL CONNECTION, ASSE 1012 COMPLIANT.
13. ROUTE 6" PVC SODA CONDUIT DOWN UP FROM BELOW FLOOR. PROVIDE STUB AND SEAL END OF CONDUIT. COORDINATE EXACT REQUIREMENTS WITH SODA VENDOR.
14. ROUTE 6" PVC SODA CONDUIT UP FROM BELOW FLOOR TO BEVERAGE STATION. USE ONLY LONG SWEEP ELBOWS FOR DIRECTION CHANGES (ELBOWS AVAILABLE IN 90°, 45°, 22.5°, AND 11.25° RADII AS REQUIRED). REFER TO DETAIL ON SHEET P401 AND KES DRAWINGS FOR ADDITIONAL INFORMATION.
15. ROUTE 1-1/4" GAS DOWN FROM CEILING SPACE AND CONNECT TO WATER HEATER, PROVIDE 6" DIRT LEG, GAS SHUT OFF VALVE AND UNIION PRIOR TO FINAL CONNECTION. INSTALL PER MANUFACTURERS RECOMMENDATIONS.
16. PROVIDE 1-1/2" GAS PIPING DOWN THROUGH CEILING TO MECHANICAL GAS SHUT-OFF VALVE. INSTALL MECHANICAL VALVE AND MANUAL VALVE BELOW CEILING. REFER TO DETAIL ON SHEET P401.
17. ROUTE 1-1/2"' GAS PIPING DOWN ALONG WALL AND PROVIDE 6" DIRT LEG, EXTEND ALONG WALL AT 12" A.F.F.
18. EXTEND 3/4" GAS PIPING FROM 1-1/2" GAS HEADER UP AND PROVIDE GAS SHUT OFF VALVE AND FLEXIBLE GAS HOSE. COORDINATE WITH KEC. REFER TO DETAIL ON SHEET P401
19. ROUTE 1-1/4" COLD WATER DOWN IN WALL AND CONNECT TO WATER CLOSET.
20. ROUTE (1) 3/4" AND (1)1/2" HOT WATER AND 1/2" COLD WATER DOWN IN WALL AND CONNECT TO LAVATORY. EXTEND 1/2" HOT WATER UP IN WALL TO CEILING SPACE. PROVIDE POINT OF USE MIXING VALVE TMV-2, ASSE 1070 COMPLIANT AND CONNECT TO LAVATORY. INSTALLATION SHALL CONFORM TO 2018 IECC SECTION C404.5.1.
21. ROUTE 1/2" COLD WATER DOWN IN WALL AND CONNECT TO WATER FILTERS PROVIDED BY KEC. EXTEND FROM WATER FILTER AND CONNECT TO ICE AND BEVERAGE DISPENSER. CONTRACTOR SHALL PROVIDE WATTS SD-2 DUAL CHECK BACKFLOW DEVICE PRIOR TO FINAL CONNECTION, ASSE 1012 COMPLIANT. ROUTE DRAIN FROM BACKFLOW DEVICE TO NEAREST FLOOR SINK.
22. EXTEND 1/2" FILTERED COLD WATER FROM WATER FILTER PROVIDE BY KEC AND CONNECT TO WATER DISPENSER. COORDINATE WITH KEC.
23. ROUTE 1/2" HOT WATER DOWN IN WALL AND CONNECT TO UNDERCOUNTER WAREWASHER. PROVIDE WATER PRESSURE REGULATOR AND SET LEAVING PRESSURE TO 25 PSI. INSTALL PER MANUFACTURES RECOMMENDATIONS.
24. ROUTE 1/2" HOT WATER RETURN IN CEILING SPACE AND CONNECT TO HOT WATER RETURN PUMP RP-1. PROVIDE ISOLATION VALVE BEFORE AND AFTER PUMP AND CHECK VALVE IN LINE WITH PUMP. REFER TO WATER HEATER DETAIL ON SHEET P401 FOR ADDITIONAL INFORMATION.
25. SODA CONDUIT TO BE ROUTED BELOW FINISHED FLOOR. USE ONLY LONG SWEEP ELBOWS FOR DIRECTION CHANGES (ELBOWS AVAILABLE IN 90°, 45°, 22.5°, AND 11.25° RADII AS REQUIRED).
26. ROUTE 1/2" HOT AND COLD WATER UP FROM BELOW GRADE AND CONNECT TO HAND SINK. PROVIDE POINT OF USE MIXING VALVE TMV-2, ASSE 1070 COMPLIANT AND CONNECT TO HAND SINK.
27. ROUTE 1-1/4" COLD WATER DOWN FROM CEILING SPACE AND CONNECT TO WATER SOFTENER. EXTEND 1-1/4" COLD WATER UP FROM WATER SOFTENER AND CONNECT TO WATER HEATER.

1 PLUMBING WATER AND GAS PLAN
1/4" = 1'-0"

PLUMBING SCHEDULE

ITEM NO	QTY	EQUIPMENT CATEGORY	HOT WATER SIZE (IN)	HOT WATER AFF (IN)	COLD WATER SIZE (IN)	COLD WATER AFF (IN)	MBTUH	GAS SIZE (IN)	GAS AFF (IN)
1B	1	FAUCET, SERVICE SINK	1/2"	36"	1/2"	36"			
5	1	HAND SINK, WALL MOUNTED	1/2"	18"	1/2"	18"			
14	1	WAREWASHER, UNDERCOUNTER, LOW TEMP	1/2"	18"					
17B	1	PRE-RINSE FAUCET, WALL MOUNT	1/2"	18"	1/2"	18"			
17C	1	FAUCET, WALL MOUNT	1/2"	18"	1/2"	18"			
22	1	CARBONATOR			1/2"	18"			
23	1	FILTER SYSTEM, ICEMAKER			3/8"	72"			
25	1	ICE MAKER			1/2"				
31A	1	FAUCET, DECK MOUNT	1/2"	18"	1/2"	18"			
32A	1	FAUCET, DECK MOUNT	1/2"	18"	1/2"	18"			
39A	1	FAUCET, DECK MOUNT	1/2"	4"	1/2"	4"			
44	1	RANGE, RESTAURANT, GAS					128	3/4"	18"
45	1	GRIDDLE, HEAVY DUTY, GAS					112	3/4"	18"
46	1	FRYER, DEEP FAT, GAS					105	3/4"	18"
66	1	ICE DISPENSER W/ BEVERAGE HEADS			1/2"				
67	1	FILTER SYSTEM, FOUNTAIN BEVERAGE			3/8"	18"			
68	1	TABLE, ENCLOSED BASE							
73	1	WATER DISPENSER, FAUCET			1/2"	18"			

SHOWN FOR REFERENCE ONLY, REFER TO KES DRAWINGS

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PROJECT NUMBER:
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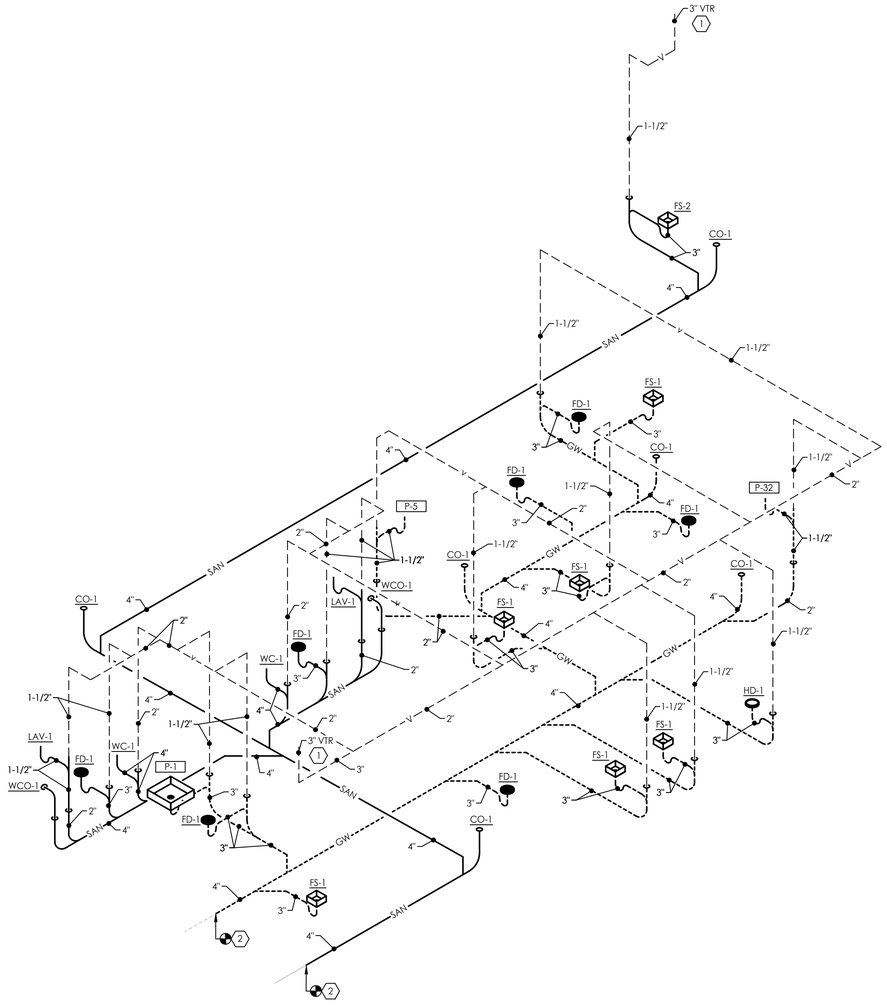
PLUMBING WATER AND GAS PLAN

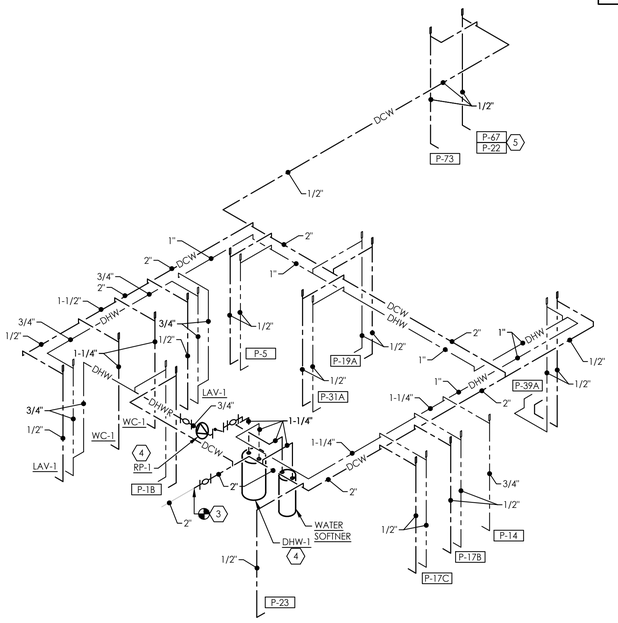
SHEET:
P201

CODED NOTES: (#)

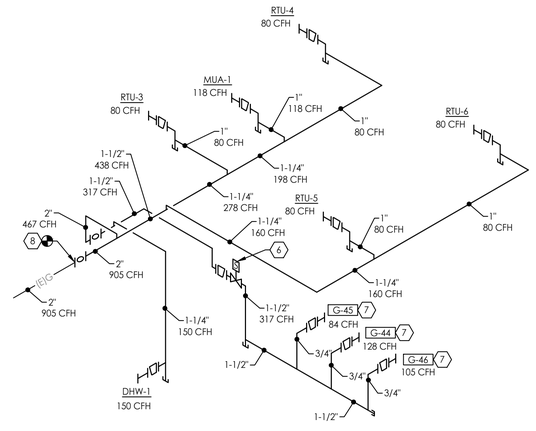
1. ROUTE VENT IN CEILING SPACE TO 3" VENT THROUGH ROOF. FIELD VERIFY EXACT SIZE AND LOCATION PRIOR TO BID.
2. ROUTE SANITARY/GREASE WASTE PIPING BELOW GRADE AND CONNECT INTO EXISTING 4" SANITARY/GREASE WASTE PIPING. FIELD VERIFY EXACT LOCATION, SIZE, DEPTH OF INVERT, AND DIRECTION OF FLOW PRIOR TO BID.
3. ROUTE 2" DOMESTIC COLD WATER IN CEILING SPACE AND CONNECT INTO EXISTING 1-1/2" COLD WATER SERVICE. FIELD VERIFY EXACT SIZE AND LOCATION PRIOR TO BID.
4. REFER TO WATER HEATER DETAIL FOR PIPING AND CONNECTIONS ON SHEET P401.
5. ROUTE 1/2" COLD WATER DOWN AND CONNECT TO WATER FILTERS PROVIDED BY KEC. EXTEND FROM WATER FILTER AND CONNECT TO ICE, BEVERAGE, AND WATER DISPENSER. CONTRACTOR SHALL PROVIDE WATTS SD-2 BACKFLOW PREVENTION DEVICE PRIOR TO FINAL CONNECTION TO ICE AND BEVERAGE DISPENSER.
6. EMERGENCY GAS SHUTOFF VALVE. REFER TO DETAIL ON SHEET P401.
7. PROVIDE CONNECTION TO KITCHEN COOKING EQUIPMENT. REFER TO DETAIL ON SHEET P401.
8. ROUTE 2" GAS PIPING IN CEILING SPACE AND CONNECT INTO EXISTING 2-1/2"" GAS SERVICE. FIELD VERIFY EXACT SIZE AND LOCATION PRIOR TO BID.



3 WASTE AND VENT RISER DIAGRAM
N.T.S.



2 WATER RISER DIAGRAM
N.T.S.



1 GAS RISER DIAGRAM
N.T.S.

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PROJECT NUMBER: CAV070

ISSUE	DATE
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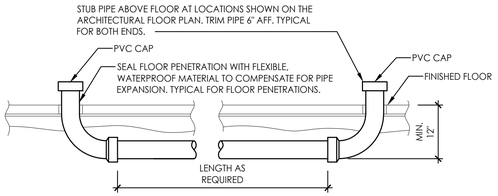
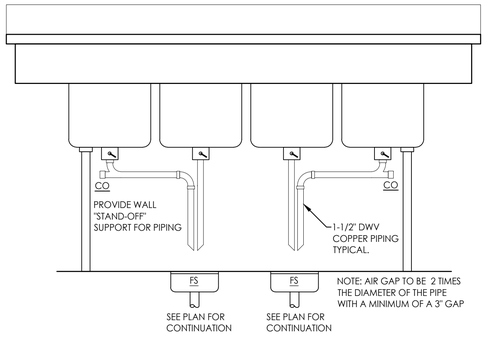
PLUMBING RISER DIAGRAMS

SHEET: P301



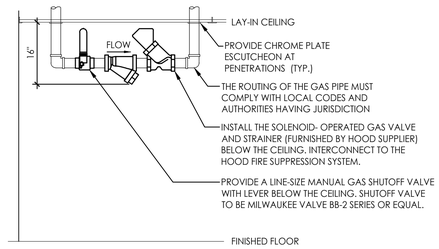
PROVIDE SCHEDULE 40 PVC ELECTRICAL CONDUIT AND FITTINGS WITH SOLVENT-WELDED JOINTS. USE MINIMUM QUANTITY OF FITTINGS. PROVIDE LONG SWEEP ELBOWS AT BOTH ENDS, WITH MINIMUM 16 INCH RADIUS. AVOID ELBOWS IN HORIZONTAL RUN. SEAL ENDS OF CONDUIT WITH FOAM AFTER SYRUP LINE IS INSTALLED IN CONDUIT. INSTALL PVC CAP WITH HOLE FOR SODA LINES ON EACH END OF THE CONDUIT. CAULK HOLE IN PVC CAP AROUND SODA BUNDLE.

9 SODA CONDUIT DETAIL
N.T.S.



6 4 COMPARTMENT SINK DETAIL
N.T.S.

ALL EXPOSED GAS PIPING BELOW CEILING IS TO BE PAINTED. COORDINATE EXACT COLOR WITH ARCHITECT.

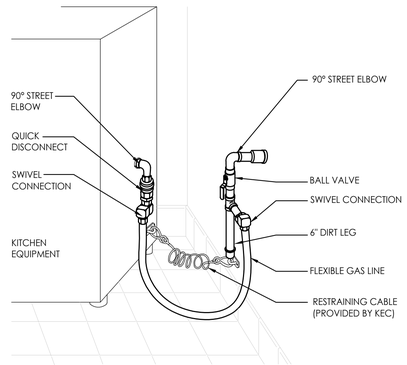


SEQUENCE OF OPERATIONS:

NORMAL MODE:
- WHEN HOOD FAN IS ENERGIZED, SOLENOID VALVE SHALL OPEN.
- ON A LOSS OF POWER OR IF THE FAN IS DE-ENERGIZED, THE VALVE SHALL CLOSE.

EMERGENCY MODE:
- UPON ACTUATION OF THE FIRE SUPPRESSION SYSTEM OR A SIGNAL FROM THE FIRE ALARM, THE SOLENOID VALVE SHALL CLOSE.

3 KITCHEN GAS SHUTOFF DETAIL
N.T.S.

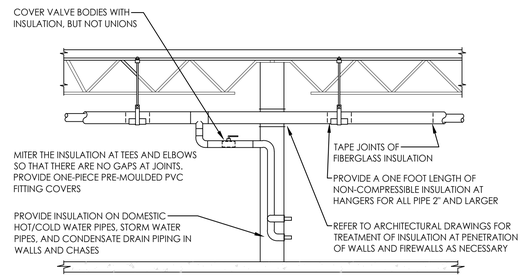


ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT ACTUAL CONDITIONS. MAKE FINAL CONNECTION TO EQUIPMENT AS RECOMMENDED BY MANUFACTURER. PROVIDE WELDED FITTINGS/JOINTS IN ANY CONCEALED, UNSLEEVED LOCATION.

8 KITCHEN GAS CONNECTION DETAIL
N.T.S.

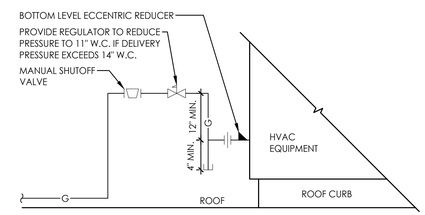
NOTE: ROUTE PIPE INCONSPICUOUSLY AND UNOBTRUSIVELY. HANG PIPE AS REQUIRED. DO NOT INSULATE INDIRECT DRAIN PIPE WHEN INSTALLED EXPOSED IN FOOD SERVICE FACILITY. REFER TO LOCAL CODES FOR FURTHER INFORMATION.

5 INDIRECT DRAIN DETAIL
N.T.S.



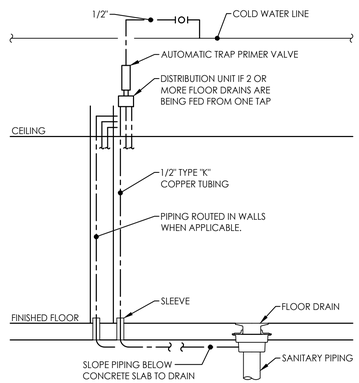
PROVIDE FIBERGLASS INSULATION WITH ALL-SERVICE JACKET WITH VAPOR BARRIER ON ALL COLD/HOT WATER PIPING AND CONDENSATE DRAIN PIPE. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION REGARDING INSULATION. INSTALL ALL ITEMS PER SPECIFICATIONS AND MANUFACTURERS INSTRUCTIONS. MAINTAIN VAPOR BARRIER ON COLD PIPING BY MEANS OF SEALANT AND TAPE. FLAME-SPREAD AND SMOKE-DEVELOPED INDEXES SHALL NOT EXCEED 25/50. SEAL EXPOSED ENDS OF FIBERGLASS INSULATION WITH ADHESIVE MASTIC.

2 PIPE INSULATION DETAIL
N.T.S.

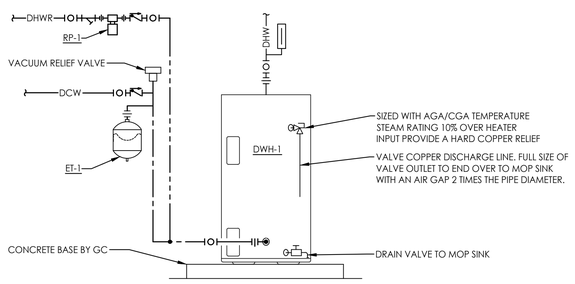


NOTES:
1. OFFSET GAS PIPING FROM UNIT TO MAINTAIN PROPER CLEARANCE REQUIREMENTS.
2. ALL PIPING VALVES AND ACCESSORIES TO BE LINE-SIZED.

10 GAS CONNECTION DETAIL
N.T.S.

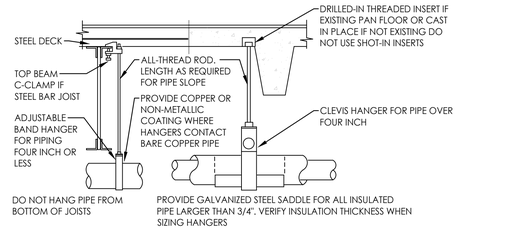


7 TRAP PRIMER DETAIL
N.T.S.



REFER TO SPECIFICATIONS AND PLUMBING FIXTURE SCHEDULE. PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. REFER TO FLOOR PLAN FOR PIPE SIZES. SET WATER HEATER THERMOSTAT AT 140°F. PROVIDE SEISMIC STRAP OR BRACING AND FLEXIBLE CONNECTORS TO WATER IF/AS REQUIRED BY LOCAL AUTHORITIES.

4 WATER HEATER DETAIL
N.T.S.



PROVIDE UPPER ATTACHMENT AS REQUIRED FOR CASES NOT SHOWN HERE. DO NOT INSTALL HANGER INSIDE INSULATION OR OTHERWISE PENETRATE VAPOR BARRIER. DO NOT HANG ONE PIPE FROM ANOTHER. TRAPEZE HANGERS MAY BE USED FOR MULTIPLE PARALLEL PIPES. HANGER SPACING FOR PIPE SIZE: COPPER: 4"=12'; 3"=11'; 2-1/2"=10'; 2"=9'; 1-1/2"=8'; 1-1/4"=7'; 1"=6'; 3/4"=6'; 1/2"=5'. CAST IRON: 10' AND ONE NEAR ALL JOINTS. STEEL: 4"=14'; 3"=12'; 2-1/2"=11'; 2"=10'; 1-1/2"=9'; 1"=7'; 3/4"=6'; 1/2"=5'. LOCATE HANGERS AS CLOSE AS POSSIBLE TO TURNS AND TEES OF PIPE. PROVIDE SUPPLEMENTARY STEEL STRUTS BETWEEN JOISTS IF REQUIRED. LOCATE HANGERS TO TAKE LOAD OFF OF EQUIPMENT CONNECTIONS. ANCHOR WATER PIPE AGAINST SWAYING DUE TO CHANGES IN WATER VELOCITY. PROVIDE SEISMIC BRACING IF/AS REQUIRED BY LOCAL AUTHORITIES. CHAINS OR PERFORATED STRAP IRON OR STEEL IS NOT ACCEPTABLE. REFER TO CODES AND SPECIFICATIONS FOR FURTHER INFORMATION.

1 PIPE HANGER DETAIL
N.T.S.

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DETAILS
PLUMBING

SHEET:
P401

PLUMBING FIXTURE SCHEDULE

FIXTURE								ACCESSORIES			
TAG	ITEM	MANUFACTURER	MODEL	DCW	DHW	DRAIN	VENT	ITEM	MANUFACTURER	MODEL	DESCRIPTION
WC-1	WATER CLOSET	KOHLER	K-96057-0	1-1/4"	-	4"	2"	SEAT	KOHLER	K-4731-C	ADA COMPLIANT FLOOR MOUNTED WHITE VITREOUS CHINA FLUSH VAVLE WATER CLOSET WITH ELONGATED BOWL, MANUAL FLUSH VALVE, 1.6 GPF, 16-1/2" RIM HEIGHT. PROVIDE HEAVY-DUTY PLASTIC OPEN FRONT SEAT LESS COVER. PROVIDE CHROME PLATED BRASS LOOSE KEY ANGLE STOP WITH CHROME PLATED FLEXIBLE COPPER SUPPLY RISER. PROVIDE WITH FLUSH LEVER ON WIDE SIDE OF ROOM. INSTALLATION TO COMPLY WITH ADA ACCESSIBILITY REQUIREMENTS.
								SUPPLY	McGUIRE	2166LK	
								FLUSH VALVE	MOEN	8310M16	
LAV-1	LAVATORY	KOHLER	K-1997-1N	1/2"	1/2"	1-1/2"	1-1/2"	FAUCET	KOHLER	K7514	ADA COMPLIANT WALL MOUNTED WHITE VITREOUS CHINA LAVATORY WITH SINGLE FAUCET HOLE AND OVERFLOW. PROVIDE LEAD FREE CHROME PLATED SINGLE LEVER SINGLE HOLE FAUCET WITH 0.5 GPM FLOW RATE. PROVIDE CHROME PLATED GRID STRAINER DRAIN WITH CHROME PLATED BRASS TAILPIECE. PROVIDE CHROME PLATED BRASS P-TRAP WITH CLEANOUT, WALL BEND AND WALL FLANGE. PROVIDE CHROME PLATED BRASS LOOSE KEY ANGLE STOP WITH CHROME PLATED FLEXIBLE COPPER SUPPLY RISERS. PROVIDE CHROME FINISH ASSE 1070 LISTED UNDER-SINK THERMOSTATIC MIXING VALVE SET AT 105ºF. PROVIDE MOLDED VINYL SAFETY COVERS FOR ALL EXPOSED SUPPLY AND DRAIN PIPING BELOW LAVATORY. PROVIDE RIGID IN-WALL CONCEALED LAVATORY SUPPORT SYSTEM. INSTALLATION TO COMPLY WITH ADA ACCESIBILITY REQUIREMENETS.
								DRAIN	KOHLER	57248	
								TRAP	McGUIRE	8912CBECO	
								SUPPLY	McGUIRE	LF2165LK	
								TMV	WATTS	LFUSG-B-M2-SC	
								PIPING COVER	TRUEBRO	LAV-GUARD 2 E-Z	
								CARRIER	ZURN	Z1231	

PLUMBING EQUIPMENT SCHEDULE

TAG	ITEM	MANUFACTURER	MODEL NO.	COMMENTS
DWH-1	DOMESTIC WATER HEATER	A.O. SMITH	BTH-150	100 GALLON STORAGE, 150,000 BTUH INPUT, 178 GPH RECOVERY AT 100ºF. RISE, 98 % THERMAL EFFICIENCY, ELECTRONIC CONTROLS: MICROPROCESSOR THERMOSTAT, DIGITAL DISPLAY PANEL SHOWS OPERATING MODES, ALL USER SETTINGS AND ANY FAILURE MODES. GLASS LINE TANK, 150 PSI WORKING PRESSURE, MEETING ASHRAE 90. 1-2007 AND LOCAL ENERGY CONSERVATION REQUIREMENTS. FURNISHED WITH ASME RATED T&P RELIEF VALVE, INSTALL PER DETAIL ON SHEET P4.1 AND PER MANUFACTURER'S INSTRUCTIONS. PROVIDE VENTING PER DETAIL ON SHEET P4.2. WATER HEATER AND CONCENTRIC KIT TERMINATION FURNISHED BY PC,
TP-1	TRAP PRIMER	PRECISION PLUMBING	PR-500	ALL BRASS BODY TRAP PRIMER VALVE, PRESSURE DROP OF 5 - 10 PSIG OPENS VALVE, OPERATING RANGE: 35 - 75 PSIG, 1/2" MALE NPT INLET CONNECTION, 1/2" FEMALE NPT OUTLET CONNECTION.
ET-1	EXPANSION TANK	RHEEM-RUUD	RRT-12	THERMAL EXPANSION TANK, MOUNT ON WALL NEAR WATER HEATER. REFER TO WATER HEATER DETAIL ON SHEET P4.1 FOR EXACT LOCATION.
RP-1	DOMESTIC HOT WATER RECIRCULATION PUMP	GRUNDFOS	ALPHA 15-55SF	ALL BRONZE CONSTRUCTION, LISTED FOR POTABLE WATER SERVICE AND 120 PSIG WORKING PRESSURE, 6.3 GPM AT 6 FEET OF HEAD, 115 VOLTS, 45 WATTS, SINGLE PHASE, 3250 RPM. MOUNT PUMP NEAR WATER HEATER IN ACCESSIBLE LOCATION. PUMP TO BE ON A TIMECLOCK. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
TMV-1	THERMOSTATIC MIXING VALVE	WATTS	LFL1170-M2	SET THE MIXED OUTLET WATER TEMPERATURE OF THE TMV PER ECOLAB'S RECOMMENDATIONS FOR OPTIMAL CHEMICAL MIXING.
TMV-2	THERMOSTATIC MIXING VALVE	WATTS	LFMMV-UT-M1	LEAD-FREE ASSE 1070 LISTED. PROVIDE ON ALL KITCHEN HAND SINKS. SET THE MIXED OUTLET WATER TEMPERATURE AT 110ºF.

DRAIN AND CLEANOUT SCHEDULE

TAG	ITEM	MANUFACTURER	MODEL NO.	COMMENTS
FD-1	FLOOR DRAIN	SIOUX CHIEF FINISHLINE	833-23DNRB	LIGHT-DUTY CAST IRON FLOOR DRAIN WITH 6-1/2" DIA. NICKEL BRONZE STRAINER, MEMBRANE FLASHING CLAMP AND 1/2" TRAP PRIMER CONNECTION. PROVIDE OUTLET WITH P-TRAP. CLEAN AND POLISH ROUND STRAINER TOP AFTER INSTALLATION.
HD-1	HUB DRAIN INDIRECT WASTE RECEPTOR	-	-	HUB AND SPIGOT WASTE PIPE SECTION IN VERTICAL ORIENTATION, WITH THE 6" DIAMETER "HUB" PORTION COMPLETELY EXPOSED ABOVE THE FLOOR SURFACE. THE INLET/FLOOR RIM SHALL BE A MINIMUM 1" ABOVE THE FINISH FLOOR SURFACE. REFER TO PLANS FOR OUTLET SIZE.
FS-1	FLOOR SINK INDIRECT WASTE RECEPTOR	SIOUX CHIEF	861-24XFI2WC	CAST IRON FLOOR RECEPTOR WITH 12" X 12" SQUARE TOP, 6" DEEP SUMP BODY, WHITE ACID RESISTANT COATED INTERIOR BODY, ACID RESISTANT COATED LOOSE SET 1/2 GRATE, AND STAINLESS STEEL DEBRIS BASKET AND MEMBRANE FLASHING CLAMP. PROVIDE OUTLET WITH P-TRAP.
FS-2	FLOOR SINK INDIRECT WASTE RECEPTOR	SIOUX CHIEF	861-4PCW2	PVC PLASTIC FLOOR RECEPTOR WITH 12" X 12" SQUARE TOP, 6" DEEP SUMP BODY, PVC BODY, PVC LOOSE SET 1/2 GRATE, STAINLESS STEEL DEBRIS BASKET AND MEMBRANE FLASHING CLAMP. PROVIDE OUTLET WITH P-TRAP.
CO-1	FINISHED AREA FLOOR CLEANOUT	SIOUX CHIEF FINISHLINE	834-3DNRZ	DUCTILE IRON CLEANOUT WITH GAS TIGHT POLYPROYLENE PLUG, AND 6-1/2" DIA. ADJUSTABLE SCORIATED NICKEL BRONZE TOP.

GREASE INTERCEPTOR SIZING

FIXTURE TAG	FIXTURE DESCRIPTION	QUANITY	TAIL PIECE	DFU	TOTAL DFU	FIXTURE SERVED
P-1	MOP SINK	1	2"	3	3	MOP SINK
P-5	HAND SINK	1	1-1/2"	1	1	HAND SINK
FS-1	FLOOR SINK	1	3"	5	5	4-COMP SINK
FS-1	FLOOR SINK	1	3"	5	5	4-COMP SINK
FS-1	FLOOR SINK	1	3"	5	5	WORK TABLE W/SINK
FS-1	FLOOR SINK	1	2"	3	3	ICE BIN/ICE MAKER
FS-1	FLOOR SINK	1	3"	5	5	WORK TABLE W/SINK
P-39	HAND SINK	1	1-1/2"	1	1	HAND SINK
FS-1	FLOOR SINK	1	3"	5	5	DROP IN COLD PAN
FD-1	EMERGENCY FLOOR DRAIN	6	3"	0	0	EMERGENCY FLOOR DRAIN
					35	TOTAL

NOTE:
1. SIZING BASED UP ON 2018 IPC.
2. REQUIRED GREASE INTERCEPTOR IS 1,250 GALLONS, LANDLORD PROVIDED 2,000 GALLON GREASE INTERCEPTOR TO REMAIN.

WATER SUPPLY FIXTURE UNIT COUNT

FIXTURE TAG	FIXTURE DESCRPIPTON	QUANITY	FIXTURE LOAD VALUE (WSFU)			TOTAL LOAD VALUE (WSFU)		
			COLD	HOT	TOTAL	COLD	HOT	TOTAL
P-1B	MOP SINK FAUCET	1	2.25	2.25	3	2.25	2.25	3
P-5	HAND SINK	1	0.5	0.5	1.4	0.5	0.5	1.4
P-14	WAREWASHER	1	0	0.5	0.5	0	0.5	0.5
P-17B	4-COMP SINK FAUCET	1	3	3	4	3	3	4
P-17C	4-COMP SINK FAUCET	1	3	3	4	3	3	4
P-25	ICE BIN/ICE MAKER	1	0.5	0	0.5	0.5	0	0.5
P-31A	FAUCET DECK MOUNTED	1	3	3	4	3	3	4
P-39A	HAND SINK	1	0.5	0.5	1.4	0.5	0.5	1.4
P-66	ICE DISPENSER	1	0.5	0	0.5	0.5	0	0.5
P-67	FOUNTAIN BEVERAGE	1	0.5	0	0.5	0.5	0	0.5
P-73	WATER DISPENSER	1	0.5	0	0.5	0.5	0	0.5
WC-1	WATER CLOSET FLUSH VALVE	2	10	0	10	20	0	20
LAV-1	LAVATORY	2	0.5	0.5	1.4	1	1	2.8
					TOTAL	35.25	13.75	43.1
					GPM	45	19	49
					PIPE SIZE	2"	1-1/4"	2"

GAS LOAD SUMMARY

FIXTURE TAG	FIXTURE DESCRIPTION	QUANITY	GAS LOAD (MBH)	MINIMUM GAS PRESSURE	GAS LOAD (CFH)	COMMENTS
G-44	GAS RANGE	1	128	3.5" W.C.	128	1
G-45	GAS GRIDDLE	1	84	3.5" W.C.	84	1
G-46	GAS FRYER	1	105	3.5" W.C.	105	1
RTU-3-6	ROOFTOP UNIT	4	320	6" W.C.	320	2
MUA-1	MAKE UP AIR UNIT	1	122	6" W.C.	110	2
DWH-1	WATER HEATER	1	150	6" W.C.	150	2
				TOTAL	905	

NOTE:
1. PROVIDE 6" DIRT LEG, UNION, SHUT-OFF VALVE, AND FLEXIBLE GAS HOSE PRIOR TO FINAL CONNECTION.
2. PROVIDE 6" DIRT LEG, UNION, AND SHUT-OFF VALVE PRIOR TO FINAL CONNECTION

UTILITY NOTE:
GAS PIPING IS SIZED PER 2015 IFGC TABLE 402.1(1), 7" W.C. WITH A TOTAL DEVELOPED LENGTH OF 175'.

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PROJECT NUMBER:
CAV070

ISSUE	DATE
PERMIT	JUN 14, 2022

PLUMBING SCHEDULES

SHEET:
P501

SPECIFICATIONS - DIVISION 22 - PLUMBING

SECTION 220500 - COMMON WORK RESULTS FOR PLUMBING

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. HANGERS AND SUPPORTS FOR PLUMBING PIPING EQUIPMENT:

1. STRUCTURAL PERFORMANCE: HANGERS AND SUPPORTS SHALL WITHSTAND THE EFFECTS OF GRAVITY LOADS AND STRESSES WITHIN LIMITS AND UNDER CONDITIONS INDICATED ACCORDING TO ASCE/SEI 7.
   a. DESIGN SUPPORTS FOR MULTIPLE PIPES CAPABLE OF SUPPORTING COMBINED WEIGHT OF SUPPORTED SYSTEMS, AND SYSTEM CONTENTS.
   b. DESIGN EQUIPMENT SUPPORTS CAPABLE OF SUPPORTING COMBINED OPERATING WEIGHT OF SUPPORTED EQUIPMENT AND CONNECTED SYSTEMS AND COMPONENTS.

2.2 SLEEVES AND SLEEVE SEALS

A. GALVANIZED-STEEL-PIPE SLEEVES: ASTM A 53/A 53M, TYPE E, GRADE B, SCHEDULE 40, ZINC COATED, WITH PLAIN ENDS.

B. PVC-PIPE SLEEVES: ASTM D 1785, SCHEDULE 40.

C. GALVANIZED-STEEL-SHEET SLEEVES: 0.0239-INCH MINIMUM THICKNESS; ROUND TUBE CLOSED WITH WELDED LONGITUDINAL JOINT.

2.3 GROUT

A. STANDARD: ASTM C 1107/C 1107M, GRADE B, POST-HARDENING AND VOLUME-ADJUSTING, DRY, HYDRAULIC-CEMENT GROUT.
   1. CHARACTERISTICS: NONSHRINK; RECOMMENDED FOR INTERIOR AND EXTERIOR APPLICATIONS.
   2. DESIGN MIX: 5000-PSI, 28-DAY COMPRESSIVE STRENGTH.
   3. PACKAGING: PREMIXED AND FACTORY PACKAGED.

2.4 ESCUTCHEONS AND FLOOR PLATES

A. ONE-PIECE, DEEP-PATTERN TYPE: DEEP-DRAWN, BOX-SHAPED BRASS WITH CHROME-PLATED FINISH AND SPRING-CLIP FASTENERS.

B. ONE-PIECE, STAMPED-STEEL TYPE: WITH CHROME-PLATED FINISH AND SPRING-CLIP FASTENERS.

C. ONE-PIECE FLOOR PLATES: CAST-IRON FLANGE WITH HOLES FOR FASTENERS.

2.5 PRESSURE GAGES AND TEST PLUGS

A. DIRECT-MOUNTED, METAL-CASE, DIAL-TYPE PRESSURE GAGES:
   1. STANDARD: ASME B40.100.
   2. CASE: SEALED OPEN-FRONT, PRESSURE RELIEF TYPE(S); CAST ALUMINUM OR DRAWN STEEL 4-1/2-INCH NOMINAL DIAMETER.
   3. MOVEMENT: MECHANICAL, WITH LINK TO PRESSURE ELEMENT AND CONNECTION TO POINTER.
   4. DIAL: NONREFLECTIVE ALUMINUM WITH PERMANENTLY ETCHED SCALE MARKINGS GRADUATED IN PSI.
   5. ACCURACY: GRADE A, PLUS OR MINUS 1 PERCENT OF MIDDLE HALF OF SCALE RANGE.

B. TEST PLUG: CORROSION-RESISTANT BRASS OR STAINLESS-STEEL BODY WITH TWO SELF-SEALING RUBBER CORE INSERTS AND GASKETED AND THREADED CAP, WITH EXTENDED STEM FOR UNITS TO BE INSTALLED IN INSULATED PIPING, MINIMUM PRESSURE AND TEMPERATURE RATING 500 PSIG AT 200 DEG F.

2.6 HANGERS AND SUPPORTS FOR PLUMBING PIPING EQUPMENT

A. CARBON-STEEL PIPE HANGERS AND SUPPORTS:
   1. DESCRIPTION: MSS SP-58, TYPES 1 THROUGH 58, FACTORY-FABRICATED COMPONENTS.
   2. GALVANIZED METALLIC COATINGS: PREGALVANIZED OR HOT DIPPED.
   3. NONMETALLIC COATINGS: PLASTIC COATING, JACKET, OR LINER.
   4. PADDED HANGERS: HANGER WITH FIBERGLASS OR OTHER PIPE INSULATION PAD OR CUSHION TO SUPPORT BEARING SURFACE OF PIPING.
   5. HANGER RODS: CONTINUOUS-THREAD ROD, NUTS, AND WASHER MADE OF CARBON STEEL.

B. COPPER PIPE HANGERS:
   1. DESCRIPTION: MSS SP-58, TYPES 1 THROUGH 58, COPPER-COATED-STEEL, FACTORY-FABRICATED COMPONENTS.
   2. HANGER RODS: CONTINUOUS-THREAD ROD, NUTS, AND WASHER MADE OF COPPER-COATED STEEL.

C. FASTENER SYSTEMS:
   1. MECHANICAL-EXPANSION ANCHORS: INSERT-WEDGE-TYPE, ZINC-COATED STEEL ANCHORS, FOR USE IN HARDENED PORTLAND CEMENT CONCRETE; WITH PULL-OUT, TENSION, AND SHEAR CAPACITIES APPROPRIATE FOR SUPPORTED LOADS AND BUILDING MATERIALS WHERE USED.

D. MISCELLANEOUS MATERIALS:
   1. STRUCTURAL STEEL: ASTM A 36/A 36M, CARBON-STEEL PLATES, SHAPES, AND BARS; BLACK AND GALVANIZED.
   2. GROUT: ASTM C 1107, FACTORY-MIXED AND -PACKAGED, DRY, HYDRAULIC-CEMENT, NONSHRINK AND NONMETALLIC GROUT; SUITABLE FOR INTERIOR AND EXTERIOR APPLICATIONS.
      a. PROPERTIES: NONSTAINING, NONCORROSIVE, AND NONGASEOUS.
      b. DESIGN MIX: 5000-PSI, 28-DAY COMPRESSIVE STRENGTH.

PART 3 - EXECUTION

3.1 GENERAL PIPING INSTALLATIONS

A. INSTALL PIPING FREE OF SAGS AND BENDS.

B. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS.

C. SLEEVES:
   1. INSTALL SLEEVES FOR PIPING PASSING THROUGH PENETRATIONS IN FLOORS, PARTITIONS, ROOFS, AND WALLS.
   2. INSTALL SLEEVES IN CONCRETE FLOORS, CONCRETE ROOF SLABS, AND CONCRETE WALLS AS NEW SLABS AND WALLS ARE CONSTRUCTED.
      a. USE GROUT AND SEAL THE SPACE OUTSIDE OF SLEEVES IN SLABS AND WALLS WITHOUT SLEEVE-SEAL SYSTEM.
   3. INSTALL SLEEVES FOR PIPES PASSING THROUGH INTERIOR PARTITIONS.
   4. FIRE-BARRIER PENETRATIONS: MAINTAIN INDICATED FIRE RATING OF WALLS, PARTITIONS, CEILINGS, AND FLOORS AT PIPE PENETRATIONS. SEAL PIPE PENETRATIONS WITH FIRESTOP MATERIALS. COMPLY WITH REQUIREMENTS FOR FIRESTOPPING SPECIFIED IN SECTION 078446 "PENETRATION FIRESTOPPING."

D. ESCUTCHEONS AND FLOOR PLATES:
   4. INSTALL ESCUTCHEONS FOR PIPING PENETRATIONS OF WALLS, CEILINGS, AND FINISHED FLOORS.
   5. INSTALL ESCUTCHEONS WITH ID TO CLOSELY FIT AROUND PIPE, TUBE, AND INSULATION OF PIPING AND WITH OD THAT COMPLETELY COVERS OPENING.
   6. INSTALL FLOOR PLATES FOR PIPING PENETRATIONS OF EQUIPMENT-ROOM FLOORS.
   7. INSTALL FLOOR PLATES WITH ID TO CLOSELY FIT AROUND PIPE, TUBE, AND INSULATION OF PIPING AND WITH OD THAT COMPLETELY COVERS OPENING.

F. METERS AND GAGES:
   1. INSTALL DIRECT-MOUNTED PRESSURE GAGES IN PIPING TEES WITH PRESSURE GAGE LOCATED ON PIPE AT THE MOST READABLE POSITION.
   2. INSTALL METERS AND GAGES ADJACENT TO MACHINES AND EQUIPMENT TO ALLOW SERVICE AND MAINTENANCE OF METERS, GAGES, MACHINES, AND EQUIPMENT.
   3. ADJUST FACES OF METERS AND GAGES TO PROPER ANGLE FOR BEST VISIBILITY.

G. INSTALL UNIONS AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT.

H. INSTALL DIELECTRIC UNIONS AND FLANGES TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS IN GAS PIPING.

I. INSTALL DIELECTRIC COUPLING AND NIPPLE FITTINGS TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS IN WATER PIPING.

3.2 HANGERS AND SUPPORTS

A. COMPLY WITH MSS SP-69 AND MSS SP-89. INSTALL BUILDING ATTACHMENTS WITHIN CONCRETE OR TO STRUCTURAL STEEL.

B. INSTALL HANGERS AND SUPPORTS TO ALLOW CONTROLLED THERMAL AND SEISMIC MOVEMENT OF PIPING SYSTEMS.

C. LOAD DISTRIBUTION: INSTALL HANGERS AND SUPPORTS SO PIPING LIVE AND DEAD LOADING AND STRESSES FROM MOVEMENT WILL NOT BE TRANSMITTED TO CONNECTED EQUIPMENT.

D. HORIZONTAL-PIPING HANGERS AND SUPPORTS: UNLESS OTHERWISE INDICATED AND EXCEPT AS SPECIFIED IN PIPING SYSTEM SPECIFICATION SECTIONS, INSTALL THE FOLLOWING TYPES:
   1. ADJUSTABLE STEEL CLEVIS HANGERS (MSS TYPE 1): FOR SUSPENSION OF NONINSULATED OR INSULATED STATIONARY PIPES, NPS 1/2 TO NPS 30.
   2. PIPE HANGERS (MSS TYPE 5): FOR SUSPENSION OF PIPES, NPS 1/2 TO NPS 4, TO ALLOW OFF-CENTER CLOSURE FOR HANGER INSTALLATION BEFORE PIPE ERECTION.
   3. ADJUSTABLE STEEL BAND HANGERS (MSS TYPE 7): FOR SUSPENSION OF NONINSULATED STATIONARY PIPES, NPS 1/2 TO NPS 8.
   4. ADJUSTABLE BAND HANGERS (MSS TYPE 9): FOR SUSPENSION OF NONINSULATED STATIONARY PIPES, NPS 1/2 TO NPS 8.
   5. ADJUSTABLE SWIVEL-RING BAND HANGERS (MSS TYPE 10): FOR SUSPENSION OF NONINSULATED STATIONARY PIPES, NPS 1/2 TO NPS 2.

E. VERTICAL-PIPING CLAMPS: UNLESS OTHERWISE INDICATED AND EXCEPT AS SPECIFIED IN PIPING SYSTEM SPECIFICATION SECTIONS, INSTALL THE FOLLOWING TYPES:
   1. EXTENSION PIPE OR RISER CLAMPS (MSS TYPE 8): FOR SUPPORT OF PIPE RISERS, NPS 3/4 TO NPS 20.
   2. CARBON- OR ALLOY-STEEL RISER CLAMPS (MSS TYPE 42): FOR SUPPORT OF PIPE RISERS, NPS 3/4 TO NPS 20, IF LONGER ENDS ARE REQUIRED FOR RISER CLAMPS.

F. PIPING INSULATION SHOULD BE CONTINUOUS THROUGH HANGER ON SUPPORT. PROVIDE DOWEL ROD WITHIN HANGERS TO SUPPORT PIPING

3.3 GENERAL EQUIPMENT INSTALLATIONS

G. INSTALL EQUIPMENT TO ALLOW MAXIMUM POSSIBLE HEADROOM UNLESS SPECIFIC MOUNTING HEIGHTS ARE NOT INDICATED.

H. INSTALL EQUIPMENT LEVEL AND PLUMB, PARALLEL AND PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS, UNLESS OTHERWISE INDICATED.

I. INSTALL MECHANICAL EQUIPMENT TO FACILITATE SERVICE, MAINTENANCE, AND REPAIR OR REPLACEMENT OF COMPONENTS. CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH MINIMUM INTERFERENCE TO OTHER INSTALLATIONS. EXTEND GREASE FITTINGS TO ACCESSIBLE LOCATIONS.

J. INSTALL EQUIPMENT TO ALLOW RIGHT OF WAY FOR PIPING INSTALLED AT REQUIRED SLOPE.

END OF SECTION

SECTION 220523 - GENERAL-DUTY VALVES FOR PLUMBING PIPING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. SUBMITTALS:
   1. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

A. ASME COMPLIANCE: ASME B16.10 AND ASME B16.34 FOR FERROUS VALVE DIMENSIONS AND DESIGN CRITERIA.

B. NSF COMPLIANCE: NSF 61 FOR VALVE MATERIALS FOR POTABLE-WATER SERVICE.

2.2 GENERAL-DUTY VALVES

A. VALVE SIZES: SAME AS UPSTREAM PIPING UNLESS OTHERWISE INDICATED.

B. VALVES IN INSULATED PIPING: WITH 2-INCH STEM EXTENSIONS.

C. END CONNECTIONS: THREADS SHALL COMPLY WITH ANSI B1.20.1. FLANGES SHALL COMPLY WITH ANSI B16.24 FOR BRONZE VALVES. SOLDER-JOINT CONNECTIONS SHALL COMPLY WITH ANSI B16.18.

D. ONE-PIECE, COPPER-ALLOY BALL VALVES: LEAD FREE BRONZE BODY WITH CHROME-PLATED BRASS BALL, MTFE SEATS, AND 600-PSIG MINIMUM CWP RATING.

E. TWO-PIECE, COPPER-ALLOY BALL VALVES: LEAD FREE BRONZE BODY WITH FULL-PORT, CHROME-PLATED BRASS BALL; RPTFE SEATS; AND 600-PSIG MINIMUM CWP RATING AND BLOWOUT-PROOF STEM.

F. LEAD FREE BRONZE, SWING CHECK VALVES: CLASS 125, BRONZE BODY WITH BRONZE DISC AND SEAT.

PART 3 - EXECUTION

3.1 INSTALLATION

A. USE BALL VALVES FOR SHUTOFF DUTY AND FOR THROTTLING DUTY.

B. LOCATE VALVES FOR EASY ACCESS AND PROVIDE SEPARATE SUPPORT WHERE NECESSARY.

C. INSTALL VALVES FOR EACH FIXTURE AND ITEM OF EQUIPMENT.

D. INSTALL VALVES IN HORIZONTAL PIPING WITH STEM AT OR ABOVE CENTER OF PIPE.

E. INSTALL VALVES IN A POSITION TO ALLOW FULL STEM MOVEMENT.

F. INSTALL CHECK VALVES FOR PROPER DIRECTION OF FLOW IN HORIZONTAL POSITION WITH HINGE PIN LEVEL.

END OF SECTION

SECTION 220700 - PLUMBING INSULATION

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. INSULATION INSTALLED INDOORS: FLAME-SPREAD INDEX OF 25 OR LESS, AND SMOKE-DEVELOPED INDEX OF 50 OR LESS ACCORDING TO ASTM E 84.

2.2 INSULATION MATERIALS

A. MINERAL-FIBER, PREFORMED PIPE INSULATION: COMPLY WITH ASTM C 547, TYPE I, GRADE A, WITH FACTORY-APPLIED ASJ.
   1. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING:
      a. JOHNS MANVILLE; MICRO-LOK.
      b. KNAUF INSULATION; 1000-DEGREE PIPE INSULATION.
      c. OWENS CORNING; FIBERGLAS PIPE INSULATION.
   2. TYPE I, 850 DEG F MATERIALS: MINERAL OR GLASS FIBERS BONDED WITH A THERMOSETTING RESIN. COMPLY WITH ASTM C 547, TYPE I, GRADE A, WITH FACTORY-APPLIED ASJ. FACTORY-APPLIED JACKET REQUIREMENTS ARE SPECIFIED IN "FACTORY-APPLIED JACKETS" ARTICLE.

B. PROTECTIVE SHIELDING PIPE COVERS:
   1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
      a. MCGUIRE MANUFACTURING.
      b. PLUMBEREX.
      c. TRUEBRO; A BRAND OF IPS CORPORATION.
      d. ZURN INDUSTRIES, LLC; TUBULAR BRASS PLUMBING PRODUCTS OPERATION.
   2. DESCRIPTION: MANUFACTURED PLASTIC WRAPS FOR COVERING PLUMBING FIXTURE HOT- AND COLD-WATER SUPPLIES AND TRAP AND DRAIN PIPING. COMPLY WITH AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS.

2.3 ADHESIVES

A. MINERAL-FIBER ADHESIVE: COMPLY WITH MIL-A-3316C, CLASS 2, GRADE A.
   1. FOR INDOOR APPLICATIONS, ADHESIVE SHALL HAVE A VOC CONTENT OF 80 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).
   2. ADHESIVE SHALL COMPLY WITH THE TESTING AND PRODUCT REQUIREMENTS OF THE CALIFORNIA DEPARTMENT OF HEALTH SERVICES' "STANDARD PRACTICE FOR THE TESTING OF VOLATILE ORGANIC EMISSIONS FROM VARIOUS SOURCES USING SMALL-SCALE ENVIRONMENTAL CHAMBERS."

2.4 MASTICS

A. VAPOR-BARRIER MASTIC: WATER BASED; SUITABLE FOR INDOOR USE ON BELOW AMBIENT SERVICES.
   1. FOR INDOOR APPLICATIONS, USE MASTICS THAT HAVE A VOC CONTENT OF 50 G/L OR LESS.
   2. WATER-VAPOR PERMEANCE: ASTM E 96/E 96M, PROCEDURE B, 0.013 PERM AT 43-MIL DRY FILM THICKNESS.
   3. SERVICE TEMPERATURE RANGE: MINUS 20 TO PLUS 180 DEG F.
   4. SOLIDS CONTENT: ASTM D 1644, 58 PERCENT BY VOLUME AND 70 PERCENT BY WEIGHT.
   5. COLOR: WHITE.

B. BREATHER MASTIC: WATER BASED; SUITABLE FOR INDOOR AND OUTDOOR USE ON ABOVE AMBIENT SERVICES.
   1. WATER-VAPOR PERMEANCE: ASTM F 1249, 1.8 PERMS AT 0.0625-INCH DRY FILM THICKNESS.
   2. SERVICE TEMPERATURE RANGE: MINUS 20 TO PLUS 180 DEG F.
   3. SOLIDS CONTENT: 60 PERCENT BY VOLUME AND 66 PERCENT BY WEIGHT.
   4. COLOR: WHITE.

2.5 SEALANTS

A. JOINT SEALANTS:
   1. MATERIALS SHALL BE COMPATIBLE WITH INSULATION MATERIALS, JACKETS, AND SUBSTRATES.
   2. PERMANENTLY FLEXIBLE, ELASTOMERIC SEALANT.
   3. SERVICE TEMPERATURE RANGE: MINUS 100 TO PLUS 300 DEG F.
   4. COLOR: WHITE OR GRAY.
   5. FOR INDOOR APPLICATIONS, SEALANTS SHALL HAVE A VOC CONTENT OF 420 G/L OR LESS.

B. ASJ FLASHING SEALANTS:
   1. MATERIALS SHALL BE COMPATIBLE WITH INSULATION MATERIALS, JACKETS, AND SUBSTRATES.
   2. FIRE- AND WATER-RESISTANT, FLEXIBLE, ELASTOMERIC SEALANT.
   3. SERVICE TEMPERATURE RANGE: MINUS 40 TO PLUS 250 DEG F.
   4. COLOR: WHITE.
   5. FOR INDOOR APPLICATIONS, SEALANTS SHALL HAVE A VOC CONTENT OF 420 G/L OR LESS.

2.6 FACTORY-APPLIED JACKETS

A. INSULATION SYSTEM SCHEDULES INDICATE FACTORY-APPLIED JACKETS ON VARIOUS APPLICATIONS. WHEN FACTORY-APPLIED JACKETS ARE INDICATED, COMPLY WITH THE FOLLOWING:
   1. ASJ: WHITE, KRAFT-PAPER, FIBERGLASS-REINFORCED SCRIM WITH ALUMINUM-FOIL BACKING; COMPLYING WITH ASTM C 1136, TYPE I.

2.7 TAPES

A. ASJ TAPE: WHITE VAPOR-RETARDER TAPE MATCHING FACTORY-APPLIED JACKET WITH ACRYLIC ADHESIVE, COMPLYING WITH ASTM C 1136.
   1. WIDTH: 3 INCHES.
   2. THICKNESS: 11.5 MILS.
   3. ADHESION: 90 OUNCES FORCE/INCH IN WIDTH.
   4. ELONGATION: 2 PERCENT.
   5. TENSILE STRENGTH: 40 LBF/INCH IN WIDTH.
   6. ASJ TAPE DISKS AND SQUARES: PRECUT DISKS OR SQUARES OF ASJ TAPE.

PART 3 - EXECUTION

3.1 PIPE INSULATION INSTALLATION

A. COMPLY WITH REQUIREMENTS OF THE MIDWEST INSULATION CONTRACTORS ASSOCIATION'S "NATIONAL COMMERCIAL & INDUSTRIAL INSULATION STANDARDS" FOR INSULATION INSTALLATION ON PIPES AND EQUIPMENT.

B. INSULATION INSTALLATION AT INTERIOR WALL AND PARTITION PENETRATIONS (THAT ARE NOT FIRE RATED): INSTALL INSULATION CONTINUOUSLY THROUGH WALLS AND PARTITIONS.

C. INSULATION INSTALLATION AT FIRE-RATED WALL, PARTITION, AND FLOOR PENETRATIONS: INSTALL INSULATION CONTINUOUSLY THROUGH PENETRATIONS. SEAL PENETRATIONS. COMPLY WITH REQUIREMENTS IN SECTION 078400.

D. MINERAL-FIBER INSULATION INSTALLATION:
   1. INSULATION INSTALLATION ON STRAIGHT PIPES AND TUBES: WHERE VAPOR BARRIERS ARE INDICATED, SEAL LONGITUDINAL SEAMS, END JOINTS, AND PROTRUSIONS WITH VAPOR-BARRIER MASTIC AND JOINT SEALANT.
   2. FOR INSULATION WITH FACTORY-APPLIED JACKETS ON ABOVE AMBIENT SURFACES, SECURE LAPS WITH OUTWARD CLINCHED STAPLES AT 6 INCHES O.C.
   3. FOR INSULATION WITH FACTORY-APPLIED JACKETS ON BELOW AMBIENT SURFACES, DO NOT STAPLE LONGITUDINAL TABS BUT SECURE TABS WITH ADDITIONAL ADHESIVE AS RECOMMENDED BY INSULATION MATERIAL MANUFACTURER AND SEAL WITH VAPOR-BARRIER MASTIC AND FLASHING SEALANT.

E. INTERIOR PIPING SYSTEM APPLICATIONS: INSULATE THE FOLLOWING PIPING SYSTEMS:
   1. DOMESTIC HOT WATER.
   2. RECIRCULATED DOMESTIC HOT WATER.
   3. EXPOSED WATER SUPPLIES AND SANITARY DRAINS OF FIXTURES FOR PEOPLE WITH DISABILITIES.

F. DO NOT APPLY INSULATION TO THE FOLLOWING SYSTEMS, MATERIALS, AND EQUIPMENT:
   1. FLEXIBLE CONNECTORS.
   2. SANITARY DRAINAGE AND VENT PIPING.
   3. DRAINAGE PIPING LOCATED IN CRAWLSPACES UNLESS OTHERWISE INDICATED.
   4. PIPING SPECIALTIES, INCLUDING AIR CHAMBERS, UNIONS, STRAINERS, CHECK VALVES, PLUG VALVES, AND FLOW REGULATORS.

3.2 INDOOR PIPING INSULATION SCHEDULE

A. DOMESTIC COLD WATER:
   1. NPS 1 AND SMALLER: INSULATION SHALL BE THE FOLLOWING:
      a. MINERAL-FIBER, PREFORMED PIPE INSULATION, TYPE I: 1/2 INCH THICK.
   2. NPS 1-1/4 AND LARGER: INSULATION SHALL BE THE FOLLOWING:
      a. MINERAL-FIBER, PREFORMED PIPE INSULATION, TYPE I: 1 INCH THICK.

B. DOMESTIC HOT AND RECIRCULATED HOT WATER:
   1. NPS 2 AND SMALLER: INSULATION SHALL BE THE FOLLOWING:
      a. MINERAL-FIBER, PREFORMED PIPE INSULATION, TYPE I: 1 INCH THICK.

C. EXPOSED SANITARY DRAINS, DOMESTIC WATER, DOMESTIC HOT WATER, AND STOPS FOR PLUMBING FIXTURES FOR PEOPLE WITH DISABILITIES:
   1. ALL PIPE SIZES: INSULATION SHALL BE THE FOLLOWING:
      a. PROTECTIVE SHIELDING PIPING COVERS.
      b. MANUFACTURED PLASTIC WRAPS FOR COVERING PLUMBING FIXTURE HOT- AND COLD-WATER SUPPLIES AND TRAP AND DRAIN PIPING. COMPLY WITH AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS.

D. PROTECTION OF INSULATION: FOR ALL PIPE INSULATION EXPOSED WITHIN 10 FEET ABOVE FINISHED FLOOR, FINISH WITH JOHNS-MANVILLE ZESTON 2000 PVC JACKET PIPING AND FITTING COVERS.

END OF SECTION

SECTION 221116 - DOMESTIC WATER PIPING

PART 2 - PRODUCTS

2.1 PREFORMANCE REQUIREMENTS

A. POTABLE-WATER PIPING AND COMPONENTS SHALL COMPLY WITH NSF 14 AND NSF 61.

2.2 PIPE AND FITTINGS

A. HARD COPPER TUBING: ASTM B 88, TYPE L, WATER TUBE, DRAWN TEMPER WITH WROUGHT-COPPER, SOLDER-JOINT FITTINGS. FURNISH WROUGHT-COPPER FITTINGS IF INDICATED.
   1. COPPER UNIONS: CAST-COPPER-ALLOY, HEXAGONAL-STOCK BODY, WITH BALL-AND-SOCKET, METAL-TO-METAL SEATING SURFACES AND SOLDER-JOINT OR THREADED ENDS.
   2. JOINING MATERIALS: USE ASTM B 813, WATER-FLUSHABLE, LEAD-FREE FLUX; ASTM B 32, LEAD-FREE-ALLOY SOLDER.

B. SOFT COPPER TUBING: ASTM B 88, TYPES K, WATER TUBE, ANNEALED TEMPER WITH COPPER PRESSURE FITTINGS, CAST-COPPER-ALLOY OR WROUGHT-COPPER, SOLDER-JOINT FITTINGS. FURNISH WROUGHT-COPPER FITTINGS IF INDICATED.
   1. JOINING MATERIALS: USE ASTM B 813, WATER-FLUSHABLE, LEAD-FREE FLUX; ASTM B 32, LEAD-FREE-ALLOY SOLDER.

C. SPECIAL-DUTY VALVES
   1. COMPLY WITH REQUIREMENTS IN SECTION 220523 "GENERAL-DUTY VALVES FOR PLUMBING PIPING" FOR GENERAL-DUTY METAL VALVES.
   2. 2.COMPLY WITH REQUIREMENTS IN SECTION 221119 "DOMESTIC WATER PIPING SPECIALTIES" FOR BALANCING VALVES, DRAIN VALVES, BACKFLOW PREVENTERS, AND VACUUM BREAKERS

D. TRANSITION FITTINGS: MANUFACTURED PIPING COUPLING OR SPECIFIED PIPING SYSTEM FITTING. SAME SIZE AS PIPES TO BE JOINED AND PRESSURE RATING AT LEAST EQUAL TO PIPES TO BE JOINED:

E. FLEXIBLE CONNECTORS: STAINLESS-STEEL, CORRUGATED-METAL TUBING WITH WIRE-BRAID COVERING. WORKING-PRESSURE RATING A MINIMUM OF 200 PSIG.

PART 3 - EXECUTION

3.1 INSTALLATION

A. COMPLY WITH REQUIREMENTS IN SECTION 220500 "COMMON WORK RESULTS FOR PLUMBING" FOR BASIC PIPING INSTALLATION REQUIREMENTS.

B. INSTALL WALL PENETRATION SYSTEM AT EACH SERVICE PIPE PENETRATION THROUGH FOUNDATION WALL. MAKE INSTALLATION WATERTIGHT. COMPLY WITH REQUIREMENTS IN SECTION 220500 "COMMON WORK RESULTS FOR PLUMBING" FOR WALL PENETRATION SYSTEMS.

C. INSTALL SHUTOFF VALVE, HOSE-END DRAIN VALVE, STRAINER, PRESSURE GAGE, AND TEST TEE WITH VALVE, INSIDE THE BUILDING AT EACH DOMESTIC WATER SERVICE ENTRANCE.

D. INSTALL DOMESTIC WATER PIPING WITHOUT PITCH FOR HORIZONTAL PIPING AND PLUMB FOR VERTICAL PIPING.

E. SUPPORT VERTICAL PIPING AT EACH FLOOR.

3.2 INSPECTING AND CLEANING

A. INSPECT AND TEST PIPING SYSTEMS AS FOLLOWS:
   1. FILL DOMESTIC WATER PIPING. CHECK COMPONENTS TO DETERMINE THAT THEY ARE NOT AIR BOUND AND THAT PIPING IS FULL OF WATER.
   2. TEST FOR LEAKS AND DEFECTS IN NEW PIPING AND PARTS OF EXISTING PIPING THAT HAVE BEEN ALTERED, EXTENDED, OR REPAIRED.

B. CLEAN AND DISINFECT POTABLE DOMESTIC WATER PIPING BY FILLING SYSTEM WITH WATER/CHLORINE SOLUTION WITH AT LEAST 50 PPM OF CHLORINE. ISOLATE WITH VALVES AND ALLOW TO STAND FOR 24 HOURS. FLUSH SYSTEM WITH CLEAN, POTABLE WATER UNTIL NO CHLORINE IS IN WATER COMING FROM SYSTEM AFTER THE STANDING TIME.

3.3 PIPING SCHEDULE

A. ABOVEGROUND DISTRIBUTION PIPING: TYPE L HARD COPPER TUBING.

B. BELOWGROUND DISTRIBUTION PIPING: TYPE K SOFT COPPER TUBING.

3.4 VALVE SCHEDULE

A. DRAWINGS INDICATE VALVE TYPES TO BE USED. WHERE SPECIFIC VALVE TYPES ARE NOT INDICATED, THE FOLLOWING REQUIREMENTS APPLY:
   1. SHUTOFF DUTY: USE BRONZE BALL VALVES FOR PIPING NPS 2 AND SMALLER.
   2. THROTTLING DUTY: USE BRONZE BALL VALVES FOR PIPING NPS 2 AND SMALLER.
   3. HOT-WATER-PIPING, BALANCING DUTY: MEMORY-STOP BALANCING VALVES.
   4. DRAIN DUTY: HOSE-END DRAIN VALVES.

B. INSTALL BALL VALVES CLOSE TO MAIN ON EACH BRANCH AND RISER SERVING TWO OR MORE PLUMBING FIXTURES OR EQUIPMENT CONNECTIONS AND WHERE INDICATED.

C. INSTALL BALL VALVES ON INLET TO EACH PLUMBING EQUIPMENT ITEM, ON EACH SUPPLY TO EACH PLUMBING FIXTURE NOT HAVING STOPS ON SUPPLIES, AND ELSEWHERE AS INDICATED.

D. INSTALL DRAIN VALVE AT BASE OF EACH RISER, AT LOW POINTS OF HORIZONTAL RUNS, AND WHERE REQUIRED TO DRAIN WATER DISTRIBUTION PIPING SYSTEM.

E. INSTALL SWING CHECK VALVE ON DISCHARGE SIDE OF EACH PUMP AND ELSEWHERE AS INDICATED.

F. INSTALL BALL VALVES IN EACH HOT-WATER CIRCULATING LOOP AND DISCHARGE SIDE OF EACH PUMP.

END OF SECTION

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PROJECT NUMBER: CAV070

ISSUE	DATE
PERMIT	JUN 14, 2022

PLUMBING SPECIFICATIONS

SHEET: P701

SPECIFICATIONS - DIVISION 22 - PLUMBING (CONTINUED)

SECTION 221119 - DOMESTIC WATER PIPING SPECIALTIES

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS FOR PIPING SPECIALTIES

A. POTABLE-WATER PIPING AND COMPONENTS SHALL COMPLY WITH NSF 61AND NSF 14.

2.2 PERFORMANCE REQUIREMENTS

A. MINIMUM WORKING PRESSURE FOR DOMESTIC WATER PIPING SPECIALTIES: 125 PSIG UNLESS OTHERWISE INDICATED.

2.3 MANUFACTURED UNITS

A. PIPE-APPLIED, ATMOSPHERIC-TYPE VACUUM BREAKERS:
1. STANDARD: ASSE 1001.
2. SIZE: NPS 1/4 TO NPS 3, AS REQUIRED TO MATCH CONNECTED PIPING.
3. BODY: BRONZE.
4. INLET AND OUTLET CONNECTIONS: THREADED.
5. FINISH: CHROME PLATED.

B. HOSE-CONNECTION VACUUM BREAKERS:
1. STANDARD: ASSE 1011.
2. BODY: BRONZE, NONREMOVABLE, WITH MANUAL DRAIN.
3. OUTLET CONNECTION: GARDEN-HOSE THREADED COMPLYING WITH ASME B1.20.7.
4. FINISH: CHROME OR NICKEL PLATED BRONZE.

C. REDUCED-PRESSURE-PRINCIPLE BACKFLOW PREVENTERS:
1. STANDARD: ASSE 1013.
2. OPERATION: CONTINUOUS-PRESSURE APPLICATIONS.
3. PRESSURE LOSS: 12 PSIG MAXIMUM, THROUGH MIDDLE THIRD OF FLOW RANGE.
4. BODY: LEAD FREE BRONZE OR STAINLESS STEEL FOR NPS 2 AND SMALLER.
5. END CONNECTIONS: THREADED FOR NPS 2 AND SMALLER.
6. CONFIGURATION: DESIGNED FOR HORIZONTAL, STRAIGHT-THROUGH FLOW.
7. ACCESSORIES:
a. VALVES NPS 2 AND SMALLER: BALL TYPE WITH THREADED ENDS ON INLET AND OUTLET.
b. AIR-GAP FITTING: ASME A112.1.2, MATCHING BACKFLOW-PREVENTER CONNECTION.

D. WATER REGULATORS:
1. STANDARD: ASSE 1003.
2. PRESSURE RATING: INITIAL WORKING PRESSURE OF 150 PSIG.
3. DESIGN OUTLET PRESSURE SETTING: 60 PSIG.
4. BODY: LEAD FREE BRONZE WITH CHROME-PLATED FINISH FOR NPS 2 AND SMALLER.
5. END CONNECTIONS: THREADED FOR NPS 2 AND SMALLER.

E. MEMORY-STOP BALANCING VALVES:
1. STANDARD: MSS SP-110 FOR TWO-PIECE, COPPER-ALLOY BALL VALVES.
2. PRESSURE RATING: 400-PSIG MINIMUM CWP.
3. SIZE: NPS 2 OR SMALLER.
4. BODY: LEAD FREE COPPER ALLOY.
5. PORT: FULL PORT.
6. BALL: CHROME-PLATED BRASS.
7. SEATS AND SEALS: REPLACEABLE.
8. END CONNECTIONS: SOLDER JOINT OR THREADED.
9. HANDLE: VINYL-COVERED STEEL WITH MEMORY-SETTING DEVICE.

F. THERMOSTATIC, WATER MIXING VALVES:
1. STANDARD: ASSE 1017.
2. PRESSURE RATING: 125 PSIG MINIMUM UNLESS OTHERWISE INDICATED.
3. TYPE: EXPOSED-MOUNTED, THERMOSTATICALLY CONTROLLED, WATER MIXING VALVE.
4. MATERIAL: LEAD FREE BRONZE BODY WITH CORROSION-RESISTANT INTERIOR COMPONENTS.
5. CONNECTIONS: THREADED OR UNION INLETS AND OUTLET.
6. ACCESSORIES: MANUAL TEMPERATURE CONTROL, CHECK STOPS ON HOT- AND COLD-WATER SUPPLIES, AND ADJUSTABLE, TEMPERATURE-CONTROL HANDLE.
7. TEMPERED-WATER SETTING: AS SPECIFIED ON DRAWINGS.
8. PRESSURE DROP AT DESIGN FLOW RATE: NOT EXCEED 15 PSIG.
9. VALVE FINISH: CHROME PLATED.

G. Y-PATTERN STRAINERS:
1. PRESSURE RATING: 125 PSIG MINIMUM UNLESS OTHERWISE INDICATED.
2. BODY: LEAD FREE BRONZE FOR NPS 2 AND SMALLER.
3. END CONNECTIONS: THREADED FOR NPS 2 AND SMALLER.
4. SCREEN: STAINLESS STEEL WITH ROUND PERFORATIONS UNLESS OTHERWISE INDICATED.
5. PERFORATION SIZE:
a. STRAINERS NPS 2 AND SMALLER: 0.020 INCH.
6. DRAIN: PIPE PLUG.

H. HOSE BIBBS:
1. STANDARD: ASME A112.18.1 FOR SEDIMENT FAUCETS.
2. BODY MATERIAL: BRONZE.
3. SEAT: BRONZE, REPLACEABLE.
4. SUPPLY CONNECTIONS: NPS 3/4 THREADED OR SOLDER-JOINT INLET.
5. OUTLET CONNECTION: GARDEN-HOSE THREAD COMPLYING WITH ASME B1.20.7.
6. PRESSURE RATING: 125 PSIG.
7. VACUUM BREAKER: INTEGRAL, NONREMOVABLE, DRAINABLE, HOSE-CONNECTION VACUUM BREAKER COMPLYING WITH ASSE 1011.
8. FINISH FOR EQUIPMENT ROOMS: ROUGH BRONZE, OR CHROME OR NICKEL PLATED.
9. FINISH FOR SERVICE AREAS: CHROME OR NICKEL PLATED.
10. FINISH FOR FINISHED ROOMS: CHROME OR NICKEL PLATED.
11. OPERATION FOR EQUIPMENT ROOMS: WHEEL HANDLE OR OPERATING KEY.
12. OPERATION FOR SERVICE AREAS: OPERATING KEY.
13. OPERATION FOR FINISHED ROOMS: OPERATING KEY.
14. INCLUDE OPERATING KEY WITH EACH OPERATING-KEY HOSE BIBB.
15. INCLUDE INTEGRAL WALL FLANGE WITH EACH CHROME- OR NICKEL-PLATED HOSE BIBB.

I. NONFREEZE WALL HYDRANTS:
1. STANDARD: ASME A112.21.3M FOR CONCEALED OR EXPOSED-OUTLET, SELF-DRAINING WALL HYDRANTS.
2. PRESSURE RATING: 125 PSIG.
3. OPERATION: LOOSE KEY.
4. CASING AND OPERATING ROD: OF LENGTH REQUIRED TO MATCH WALL THICKNESS. INCLUDE WALL CLAMP.
5. INLET: NPS 3/4.
6. OUTLET: CONCEALED, WITH INTEGRAL VACUUM BREAKER AND GARDEN-HOSE THREAD COMPLYING WITH ASME B1.20.7.
7. BOX: DEEP, FLUSH MOUNTED WITH COVER.
8. BOX AND COVER FINISH: CHROME PLATED.
9. OUTLET: EXPOSED, WITH INTEGRAL VACUUM BREAKER AND GARDEN-HOSE THREAD COMPLYING WITH ASME B1.20.7.
10. NOZZLE AND WALL-PLATE FINISH: POLISHED NICKEL BRONZE.
11. OPERATING KEYS: ONE WITH EACH WALL HYDRANT.

J. BALL-VALVE-TYPE, HOSE-END DRAIN VALVES:
1. STANDARD: MSS SP-110 FOR STANDARD-PORT, TWO-PIECE BALL VALVES.
2. PRESSURE RATING: 400-PSIG MINIMUM CWP.
3. SIZE: NPS 3/4.
4. BODY: COPPER ALLOY.
5. BALL: CHROME-PLATED BRASS.
6. SEATS AND SEALS: REPLACEABLE.
7. HANDLE: VINYL-COVERED STEEL.
8. INLET: THREADED OR SOLDER JOINT.
9. OUTLET: THREADED, SHORT NIPPLE WITH GARDEN-HOSE THREAD COMPLYING WITH ASME B1.20.7 AND CAP WITH BRASS CHAIN.

K. WATER-HAMMER ARRESTERS:
1. STANDARD: ASSE 1010 OR PDI-WH 201.
2. TYPE: COPPER TUBE WITH PISTON.
3. SIZE: ASSE 1010, SIZES AA AND A THROUGH F, OR PDI-WH 201, SIZES A THROUGH F.

L. SUPPLY-TYPE, TRAP-SEAL PRIMER DEVICE:
1. STANDARD: ASSE 1018
2. PRESSURE RATING: 125 PSIG MINIMUM.
3. BODY: BRONZE.
4. INLET AND OUTLET CONNECTIONS: NPS 1/2 THREADED, UNION, OR SOLDER JOINT.
5. GRAVITY DRAIN OUTLET CONNECTION: NPS 1/2 THREADED OR SOLDER JOINT.
6. FINISH: CHROME PLATED, OR ROUGH BRONZE FOR UNITS USED WITH PIPE OR TUBE THAT IS NOT CHROME FINISHED.

PART 3 - EXECUTION

3.1 INSTALLATION

A. INSTALL BACKFLOW PREVENTERS IN EACH WATER SUPPLY TO MECHANICAL EQUIPMENT AND SYSTEMS AND TO OTHER EQUIPMENT AND WATER SYSTEMS THAT MAY BE SOURCES OF CONTAMINATION. COMPLY WITH AUTHORITIES HAVING JURISDICTION.

B. INSTALL WATER REGULATORS WITH INLET AND OUTLET SHUTOFF VALVES. INSTALL PRESSURE GAGES ON INLET AND OUTLET.

C. INSTALL BALANCING VALVES IN LOCATIONS WHERE THEY CAN EASILY BE ADJUSTED.

D. INSTALL TEMPERATURE-ACTUATED, WATER MIXING VALVES WITH CHECK STOPS OR SHUTOFF VALVES ON INLETS AND WITH SHUTOFF VALVE ON OUTLET.

E. INSTALL Y-PATTERN STRAINERS FOR WATER ON SUPPLY SIDE OF EACH CONTROL VALVE, WATER PRESSURE-REDUCING VALVE, SOLENOID VALVE AND PUMP.

F. INSTALL WATER-HAMMER ARRESTERS IN WATER PIPING ACCORDING TO PDI-WH 201.

G. INSTALL SUPPLY-TYPE, TRAP-SEAL PRIMER VALVES WITH OUTLET PIPING PITCHED DOWN TOWARD DRAIN TRAP A MINIMUM OF 1 PERCENT, AND CONNECT TO FLOOR-DRAIN BODY, TRAP, OR INLET FITTING. ADJUST VALVE FOR PROPER FLOW.

3.2 FIELD QUALITY CONTROL

A. PERFORM THE FOLLOWING TESTS AND INSPECTIONS:
1. TEST EACH PRESSURE VACUUM BREAKER, REDUCED-PRESSURE-PRINCIPLE BACKFLOW PREVENTER, AND DOUBLE-CHECK BACKFLOW-PREVENTION ASSEMBLY ACCORDING TO AUTHORITIES HAVING JURISDICTION AND THE DEVICE'S REFERENCE STANDARD.
2. DOMESTIC WATER PIPING SPECIALTIES WILL BE CONSIDERED DEFECTIVE IF THEY DO NOT PASS TESTS AND INSPECTIONS.
3. PREPARE TEST AND INSPECTION REPORTS.

END OF SECTION 221119

SECTION 221123 - DOMESTIC WATER PUMPS

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIRMENTS

A. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, BY A QUALIFIED TESTING AGENCY, AND MARKED FOR INTENDED LOCATION AND APPLICATION.

B. COMPLY WITH UL 778 FOR MOTOR-OPERATED WATER PUMPS.

2.2 DOMESTIC WATER PUMPS

A. HOT WATER CIRCULATOR PUMP, RP-1:
1. BASIS-OF-DESIGN PRODUCT: GRUNDFOS ALPHA 15-55SF, AS INDICATED ON DRAWINGS.
2. CASING: STAINLESS STEEL WITH COMPANION-FLANGE CONNECTIONS.
3. MOTOR: AUTOMATIC ADJUSTABLE, WET-ROTOR, PERMANENT MAGNET.

2.3 MOTORS

A. COMPLY WITH NEMA DESIGNATION, TEMPERATURE RATING, SERVICE FACTOR, ENCLOSURE TYPE, AND EFFICIENCY REQUIREMENTS FOR MOTORS.

B. MOTOR SIZES: MINIMUM SIZE AS INDICATED. IF NOT INDICATED, LARGE ENOUGH SO DRIVEN LOAD WILL NOT REQUIRE MOTOR TO OPERATE IN SERVICE FACTOR RANGE ABOVE 1.0.

2.4 CONTROLS

A. TIMERS: ELECTRIC, FOR CONTROL OF HOT-WATER CIRCULATION PUMP.
1. TYPE: PROGRAMMABLE, SEVEN-DAY CLOCK WITH MANUAL OVERRIDE ON-OFF SWITCH.
2. PROGRAMMABLE SEQUENCE OF OPERATION: UP TO TWO ON-OFF CYCLES EACH DAY FOR SEVEN DAYS.

PART 3 - EXECUTION

3.1 INSTALLATION

A. INSTALL PUMPS WITH ACCESS FOR PERIODIC MAINTENANCE, INCLUDING REMOVAL OF MOTORS, IMPELLERS, COUPLINGS, AND ACCESSORIES.

B. SUPPORT PUMPS AND PIPING SO WEIGHT OF PIPING IS NOT SUPPORTED BY PUMP VOLUTE.

C. INSTALL ELECTRICAL CONNECTIONS FOR POWER, CONTROLS, AND DEVICES.

D. SUSPEND IN-LINE PUMPS INDEPENDENT FROM PIPING. USE CONTINUOUS-THREAD HANGER RODS AND VIBRATION ISOLATION HANGERS. FABRICATE BRACKETS OR SUPPORTS AS REQUIRED FOR PUMPS.

E. CONNECT PIPING WITH VALVES THAT ARE AT LEAST THE SAME SIZE AS PIPING CONNECTING TO PUMPS.

F. INSTALL SUCTION AND DISCHARGE PIPE SIZES EQUAL TO OR GREATER THAN DIAMETER OF PUMP NOZZLES.

G. INSTALL SHUTOFF VALVE AND STRAINER ON SUCTION SIDE OF PUMPS.

H. INSTALL NONSLAM CHECK VALVE AND THROTTLING VALVE ON DISCHARGE SIDE OF PUMPS.

I. INSTALL THERMOSTATS IN HOT-WATER RETURN PIPING.

J. INSTALL TEST PLUGS ON SUCTION AND DISCHARGE OF EACH PUMP. INSTALL AT INTEGRAL PRESSURE GAGE TAPPINGS WHERE PROVIDED.

END OF SECTION

SECTION 221316 - SANITARY WASTE AND VENT PIPING

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. COMPONENTS AND INSTALLATION SHALL BE CAPABLE OF WITHSTANDING THE FOLLOWING MINIMUM WORKING PRESSURE UNLESS OTHERWISE INDICATED:
1. SOIL, WASTE, AND VENT PIPING: 10-FOOT HEAD OF WATER.

B. PIPING MATERIALS SHALL BEAR LABEL, STAMP, OR OTHER MARKINGS OF SPECIFIED TESTING AGENCY.

C. COMPLY WITH NSF/ANSI 14, "PLASTICS PIPING SYSTEMS COMPONENTS AND RELATED MATERIALS," FOR PLASTIC PIPING COMPONENTS.

2.2 PIPES AND FITTINGS

A. COPPER DRAINAGE TUBE AND FITTINGS: ASTM B 306, TYPE DWV DRAWN TEMPER WITH ASME B16.23, CAST COPPER OR ASME B16.29, WROUGHT COPPER, SOLDER-JOINT FITTINGS.
1. COPPER FLANGES: ASME B16.24, CLASS 150, CAST COPPER WITH SOLDER-JOINT END.
a. FLANGE GASKET MATERIALS: ASME B16.21, FULL-FACE, FLAT, NONMETALLIC, ASBESTOS-FREE, 1/8-INCH MAXIMUM THICKNESS UNLESS THICKNESS OR SPECIFIC MATERIAL IS INDICATED.
b. FLANGE BOLTS AND NUTS: ASME B18.2.1, CARBON STEEL UNLESS OTHERWISE INDICATED.
2. SOLDER: ASTM B 32, LEAD FREE WITH ASTM B 813, WATER-FLUSHABLE FLUX.

B. HUB-AND-SPIGOT CAST-IRON SOIL PIPE AND FITTINGS: ASTM A 74, SERVICE CLASS; ASTM C 564 RUBBER GASKETS.

C. HUBLESS CAST-IRON SOIL PIPE AND FITTINGS: ASTM A 888 OR CISPI 301, WITH ASTM C 1277 SHIELDED COUPLINGS.

D. PVC PLASTIC, DWV PIPE AND FITTINGS: ASTM D 2665, SCHEDULE 40, PLAIN ENDS WITH PVC SOCKET-TYPE, DWV PIPE FITTINGS.
1. ADHESIVE PRIMER: ASTM F 656.
a. ADHESIVE PRIMER SHALL HAVE A VOC CONTENT OF 550 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).
2. SOLVENT CEMENT: ASTM D 2564.
a. PVC SOLVENT CEMENT SHALL HAVE A VOC CONTENT OF 510 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).

PART 3 - EXECUTION

3.1 PIPING INSTALLATION

A. INSTALL CAST-IRON SOIL PIPING ACCORDING TO CISPI'S "CAST IRON SOIL PIPE AND FITTINGS HANDBOOK," CHAPTER IV, "INSTALLATION OF CAST IRON SOIL PIPE AND FITTINGS."

B. INSTALL WALL PENETRATION SYSTEM AT EACH PIPE PENETRATION THROUGH FOUNDATION WALL. MAKE INSTALLATION WATERTIGHT. COMPLY WITH REQUIREMENTS IN SECTION 220513 "COMMON WORK RESULTS FOR PLUMBING" FOR WALL PENETRATION SYSTEMS.
1. SLEEVES ARE NOT REQUIRED FOR CAST-IRON SOIL PIPING PASSING THROUGH CONCRETE SLABS-ON-GRADE IF SLAB IS WITHOUT MEMBRANE WATERPROOFING.

D. MAKE CHANGES IN DIRECTION FOR SOIL AND WASTE DRAINAGE AND VENT PIPING USING APPROPRIATE BRANCHES, BENDS, AND LONG-SWEEP BENDS. SANITARY TEES AND SHORT-SWEEP 1/4 BENDS MAY BE USED ON VERTICAL STACKS IF CHANGE IN DIRECTION OF FLOW IS FROM HORIZONTAL TO VERTICAL. USE LONG-TURN, DOUBLE Y-BRANCH AND 1/8-BEND FITTINGS IF TWO FIXTURES ARE INSTALLED BACK TO BACK OR SIDE BY SIDE WITH COMMON DRAIN PIPE. STRAIGHT TEES, ELBOWS, AND CROSSES MAY BE USED ON VENT LINES. DO NOT CHANGE DIRECTION OF FLOW MORE THAN 90 DEGREES. USE PROPER SIZE OF STANDARD INCREASERS AND REDUCERS IF PIPES OF DIFFERENT SIZES ARE CONNECTED. REDUCING SIZE OF DRAINAGE PIPING IN DIRECTION OF FLOW IS PROHIBITED.

E. LAY BURIED BUILDING DRAINAGE PIPING BEGINNING AT LOW POINT OF EACH SYSTEM. INSTALL TRUE TO GRADES AND ALIGNMENT INDICATED, WITH UNBROKEN CONTINUITY OF INVERT. PLACE HUB ENDS OF PIPING UPSTREAM. INSTALL REQUIRED GASKETS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS FOR USE OF LUBRICANTS, CEMENTS, AND OTHER INSTALLATION REQUIREMENTS. MAINTAIN SWAB IN PIPING AND PULL PAST EACH JOINT AS COMPLETED.

F. INSTALL SOIL AND WASTE DRAINAGE AND VENT PIPING AT THE FOLLOWING MINIMUM SLOPES, UNLESS OTHERWISE INDICATED:
1. HORIZONTAL SANITARY DRAINAGE PIPING: 2 PERCENT DOWNWARD IN DIRECTION OF FLOW FOR PIPING NPS 2-1/2 AND SMALLER; 1 PERCENT DOWNWARD IN DIRECTION OF FLOW FOR PIPING NPS 3 AND LARGER.
2. VENT PIPING: ALL VENT AND BRANCH VENT PIPING SHALL BE GRADED AND CONNECTED TO DRAIN BACK TOWARD VERTICAL FIXTURE VENT OR TOWARD VENT STACK.

G. INSTALL PVC SOIL AND WASTE DRAINAGE AND VENT PIPING ACCORDING TO ASTM D 2665.

H. INSTALL UNDERGROUND PVC SOIL AND WASTE DRAINAGE PIPING ACCORDING TO ASTM D 2321.

I. DO NOT ENCLOSE, COVER, OR PUT PIPING INTO OPERATION UNTIL IT IS INSPECTED AND APPROVED BY AUTHORITIES HAVING JURISDICTION.

J. COMPLY WITH REQUIREMENTS IN SECTION 220513 "COMMON WORK RESULTS FOR PLUMBING" FOR BASIC PIPING JOINT CONSTRUCTION.

K. SOLDERED JOINTS: USE ASTM B 813, WATER-FLUSHABLE, LEAD-FREE FLUX; ASTM B 32, LEAD-FREE-ALLOY SOLDER; AND ASTM B 828 PROCEDURE UNLESS OTHERWISE INDICATED.

L. COMPLY WITH REQUIREMENTS IN SECTION 220513 "COMMON WORK RESULTS FOR PLUMBING" FOR PIPE HANGER AND SUPPORT DEVICES.

3.2 PIPE SCHEDULE

A. ABOVEGROUND APPLICATIONS: HUBLESS, CAST-IRON SOIL PIPE AND FITTINGS, HUB-AND-SPIGOT, CAST-IRON SOIL PIPE AND FITTINGS, PVC PLASTIC, DWV PIPE AND FITTINGS WITH SOLVENT-CEMENTED JOINTS, COPPER DRAINAGE TUBE AND FITTINGS WITH SOLDERED JOINTS, PVC PLASTIC PIPE AND FITTINGS SHALL NOT BE PERMITTED FOR INSTALLATION IN RETURN AIR PLENUMS OR LOCATIONS EXPOSED TO RETURN AIR PLENUMS. ANY EXPOSED SEWER WASTE PIPE SHALL NOT BE PLASTIC OF ANY KIND.

B. BELOWGROUND APPLICATIONS: HUB-AND-SPIGOT, CAST-IRON SOIL PIPE AND FITTINGS, PVC PLASTIC, DWV PIPE AND DRAINAGE-PATTERN FITTINGS WITH CEMENTED JOINTS.

END OF SECTION

SECTION 221319 - SANITARY WASTE PIPING SPECIALTIES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. SUBMITTALS:
1. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.
a. INCLUDE RATED CAPACITIES, OPERATING CHARACTERISTICS, AND ACCESSORIES FOR GREASE INTERCEPTORS.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. DRAINAGE PIPING SPECIALTIES SHALL BEAR LABEL, STAMP, OR OTHER MARKINGS OF SPECIFIED TESTING AGENCY.

2.2 MANUFACTURED UNITS - AS INDICATED ON DRAWINGS

A. FLOOR CLEANOUTS: PER STANDARD ASME A112.36.2M-2002.

B. FLOOR DRAINS: PER STANDARD ASME A112.6.3-2001.

C. CAST IRON FLOOR SINKS: PER STANDARD ASME A112.6.7-2001.

D. PVC PLASTIC FLOOR SINKS: PER STANDARD ASME A112.6.7-2001.

PART 3 - EXECUTION

3.1 INSTALLATION

A. INSTALL CLEANOUTS AT GRADE AND EXTEND TO WHERE BUILDING SANITARY DRAINS CONNECT TO BUILDING SANITARY SEWERS.

B. INSTALL FLOOR DRAINS AT LOW POINTS OF SURFACE AREAS TO BE DRAINED. SET GRATES OF DRAINS FLUSH WITH FINISHED FLOOR UNLESS OTHERWISE INDICATED.
1. INSTALL FLOOR-DRAIN FLASHING COLLAR OR FLANGE SO NO LEAKAGE OCCURS BETWEEN DRAIN AND ADJOINING FLOORING. MAINTAIN INTEGRITY OF WATERPROOF MEMBRANES WHERE PENETRATED.
2. INSTALL INDIVIDUAL TRAPS FOR FLOOR DRAINS CONNECTED TO SANITARY BUILDING DRAIN, UNLESS OTHERWISE INDICATED.

END OF SECTION

SECTION 22 34 00 - FUEL-FIRED, DOMESTIC WATER HEATERS

PART 1 - GENERAL

1.1 QUALITY ASSURANCE

A. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, BY A QUALIFIED TESTING AGENCY, AND MARKED FOR INTENDED LOCATION AND APPLICATION.

B. NSF COMPLIANCE: FABRICATE AND LABEL EQUIPMENT COMPONENTS THAT WILL BE IN CONTACT WITH POTABLE WATER TO COMPLY WITH NSF 61, "DRINKING WATER SYSTEM COMPONENTS - HEALTH EFFECTS."

1.2 COORDINATION

A. COORDINATE SIZES AND LOCATIONS OF CONCRETE BASES WITH ACTUAL EQUIPMENT PROVIDED.

1.3 WARRANTY

A. SPECIAL WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS OF FUEL-FIRED, DOMESTIC-WATER HEATERS THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.
1. FAILURES INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
a. STRUCTURAL FAILURES INCLUDING STORAGE TANK AND SUPPORTS.
b. FAULTY OPERATION OF CONTROLS.
c. DETERIORATION OF METALS, METAL FINISHES, AND OTHER MATERIALS BEYOND NORMAL USE.
2. WARRANTY PERIODS: FROM DATE OF SUBSTANTIAL COMPLETION.
a. COMMERCIAL, GAS-FIRED, STORAGE, DOMESTIC-WATER HEATERS:
1) STORAGE TANK: THREE YEARS.
2) CONTROLS AND OTHER COMPONENTS: ONE YEAR.

PART 2 - PRODUCTS

A. COMMERCIAL, GAS-FIRED, HIGH-EFFICIENCY, STORAGE, DOMESTIC-WATER HEATER, DWH-1:
1. A.O. SMITH BTH-199, PROVIDED BY THE OWNER.
2. STANDARD: ANSI Z21.10.3/CSA 4.3.
3. STORAGE-TANK CONSTRUCTION: NON-ASME-CODE STEEL WITH 150-PSIG WORKING-PRESSURE RATING.
4. POWER DIRECT VENT SYSTEM: EXHAUST FAN, INTERLOCKED WITH BURNER.

2.2 DOMESTIC WATER HEATER ACCESSORIES

A. DOMESTIC WATER COMPRESSION TANKS:
1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
a. AMTROL INC
b. SMITH, A. O. WATER PRODUCTS CO.; A DIVISION OF A. O. SMITH CORPORATION
c. WATTS WATER TECHNOLOGIES, CO.
2. DESCRIPTION: STEEL, PRESSURE-RATED TANK CONSTRUCTED WITH WELDED JOINTS AND FACTORY-INSTALLED BUTYL-RUBBER DIAPHRAGM. INCLUDE AIR PRECHARGE TO MINIMUM SYSTEM-OPERATING PRESSURE AT TANK.
3. CONSTRUCTION:
a. TAPPINGS: FACTORY-FABRICATED STEEL, WELDED TO TANK BEFORE TESTING AND LABELING. INCLUDE ASME B1.20.1 PIPE THREAD.
b. INTERIOR FINISH: COMPLY WITH NSF 61 BARRIER MATERIALS FOR POTABLE-WATER TANK LININGS, INCLUDING EXTENDING FINISH INTO AND THROUGH TANK FITTINGS AND OUTLETS.
c. AIR-CHARGING VALVE: FACTORY INSTALLED.

B. DRAIN PANS: CORROSION-RESISTANT METAL WITH RAISED EDGE. COMPLY WITH ANSI/CSA LC 3. INCLUDE DIMENSIONS NOT LESS THAN BASE OF DOMESTIC-WATER HEATER, AND INCLUDE DRAIN OUTLET NOT LESS THAN NPS 3/4 WITH ASME B1.20.1 PIPE THREADS OR WITH ASME B1.20.7 GARDEN-HOSE THREADS.

C. PIPING-TYPE HEAT TRAPS: FIELD-FABRICATED PIPING ARRANGEMENT ACCORDING TO ASHRAE/IESNA 90.1.

D. GAS SHUTOFF VALVES: ANSI Z21.15/CSA 9.1-M, MANUALLY OPERATED. FURNISH FOR INSTALLATION IN PIPING.

E. GAS PRESSURE REGULATORS: ANSI Z21.18/CSA 6.3, APPLIANCE TYPE. INCLUDE 1/2-PSIG PRESSURE RATING AS REQUIRED TO MATCH GAS SUPPLY.

F. AUTOMATIC GAS VALVES: ANSI Z21.21/CSA 6.5, APPLIANCE, ELECTRICALLY OPERATED, ON-OFF AUTOMATIC VALVE.

G. COMBINATION TEMPERATURE-AND-PRESSURE RELIEF VALVES: INCLUDE RELIEVING CAPACITY AT LEAST AS GREAT AS HEAT INPUT, AND INCLUDE PRESSURE SETTING LESS THAN DOMESTIC-WATER HEATER WORKING-PRESSURE RATING. SELECT RELIEF VALVES WITH SENSING ELEMENT THAT EXTENDS INTO STORAGE TANK.
1. GAS-FIRED, DOMESTIC-WATER HEATERS: ANSI Z21.22/CSA 4.4-M.

2.3 SOURCE QUALITY CONTROL

A. HYDROSTATICALLY TEST COMMERCIAL DOMESTIC-WATER HEATERS TO MINIMUM OF ONE AND ONE-HALF TIMES PRESSURE RATING BEFORE SHIPMENT.

B. DOMESTIC-WATER HEATERS WILL BE CONSIDERED DEFECTIVE IF THEY DO NOT PASS TESTS AND INSPECTIONS.

C. PREPARE TEST AND INSPECTION REPORTS.

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PROJECT NUMBER:
CAV070

ISSUE	DATE
PERMIT	JUN 14, 2022

PLUMBING SPECIFICATIONS

SHEET:
P702

SPECIFICATIONS - DIVISION 22 - PLUMBING (CONTINUED)

PART 3 - EXECUTION

3.1 DOMESTIC WATER HEATER INSTALLATION

A. INSTALL GAS-FIRED, DOMESTIC-WATER HEATERS ACCORDING TO NFPA 54.

1. INSTALL GAS SHUTOFF VALVES ON GAS SUPPLY PIPING TO GAS-FIRED, DOMESTIC-WATER HEATERS WITHOUT SHUTOFF VALVES.
2. INSTALL GAS PRESSURE REGULATORS ON GAS SUPPLIES TO GAS-FIRED, DOMESTIC-WATER HEATERS WITHOUT GAS PRESSURE REGULATORS IF GAS PRESSURE REGULATORS ARE REQUIRED TO REDUCE GAS PRESSURE AT BURNER.
3. INSTALL AUTOMATIC GAS VALVES ON GAS SUPPLIES TO GAS-FIRED, DOMESTIC-WATER HEATERS IF REQUIRED FOR OPERATION OF SAFETY CONTROL.

B. INSTALL COMBINATION TEMPERATURE-AND-PRESSURE RELIEF VALVES IN TOP PORTION OF STORAGE TANKS. USE RELIEF VALVES WITH SENSING ELEMENTS THAT EXTEND INTO TANKS. EXTEND COMMERCIAL-WATER-HEATER RELIEF-VALVE OUTLET, WITH DRAIN PIPING SAME AS DOMESTIC-WATER PIPING IN CONTINUOUS DOWNWARD PITCH, AND DISCHARGE BY POSITIVE AIR GAP ONTO CLOSEST FLOOR DRAIN.

C. INSTALL WATER-HEATER DRAIN PIPING AS INDIRECT WASTE TO SPILL BY POSITIVE AIR GAP INTO OPEN DRAINS OR OVER FLOOR DRAINS. INSTALL HOSE-END DRAIN VALVES AT LOW POINTS IN WATER PIPING FOR DOMESTIC-WATER HEATERS THAT DO NOT HAVE TANK DRAINS.

3.2 FIELD QUALITY CONTROL

A. PERFORM TESTS AND INSPECTIONS.

1. MANUFACTURER'S FIELD SERVICE: ENGAGE A FACTORY-AUTHORIZED SERVICE REPRESENTATIVE TO INSPECT COMPONENTS, ASSEMBLIES, AND EQUIPMENT INSTALLATIONS, INCLUDING CONNECTIONS, AND TO ASSIST IN TESTING.
2. LEAK TEST: AFTER INSTALLATION, CHARGE SYSTEM AND TEST FOR LEAKS. REPAIR LEAKS AND RETEST UNTIL NO LEAKS EXIST.
3. OPERATIONAL TEST: AFTER ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, START UNITS TO CONFIRM PROPER OPERATION.
4. TEST AND ADJUST CONTROLS AND SAFETIES. REPLACE DAMAGED AND MALFUNCTIONING CONTROLS AND EQUIPMENT.

B. DOMESTIC-WATER HEATERS WILL BE CONSIDERED DEFECTIVE IF THEY DO NOT PASS TESTS AND INSPECTIONS.

C. PREPARE TEST AND INSPECTION REPORTS.

END OF SECTION

SECTION 224000 - PLUMBING FIXTURES

PART 1 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. REGULATORY REQUIREMENTS: COMPLY WITH REQUIREMENTS IN ICC A117.1, "ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES", PUBLIC LAW 90-480, "ARCHITECTURAL BARRIERS ACT"; AND PUBLIC LAW 101-336, "AMERICANS WITH DISABILITIES ACT" FOR PLUMBING FIXTURES FOR PEOPLE WITH DISABILITIES.

B. REGULATORY REQUIREMENTS: COMPLY WITH REQUIREMENTS IN PUBLIC LAW 102-486, "ENERGY POLICY ACT," ABOUT WATER FLOW AND CONSUMPTION RATES FOR PLUMBING FIXTURES.

C. NSF STANDARD: COMPLY WITH NSF 61, "DRINKING WATER SYSTEM COMPONENTS - HEALTH EFFECTS," FOR FIXTURE MATERIALS THAT WILL BE IN CONTACT WITH POTABLE WATER.

D. FIXTURES SHALL BE PROVIDED AS SCHEDULED ON THE DRAWINGS.

PART 2 - EXECUTION

3.1 INSTALLATIONS

A. INSTALL FITTING INSULATION KITS ON FIXTURES FOR PEOPLE WITH DISABILITIES.

B. INSTALL FIXTURES WITH FLANGES AND GASKET SEALS.

C. INSTALL TANKS FOR ACCESSIBLE, TANK-TYPE WATER CLOSETS WITH LEVER HANDLE MOUNTED ON WIDE SIDE OF COMPARTMENT.

D. FASTEN WALL-HANGING PLUMBING FIXTURES SECURELY TO SUPPORTS ATTACHED TO BUILDING SUBSTRATE WHEN SUPPORTS ARE SPECIFIED, AND TO BUILDING WALL CONSTRUCTION WHERE NO SUPPORT IS INDICATED.

E. FASTEN FLOOR-MOUNTED FIXTURES TO SUBSTRATE. FASTEN FIXTURES HAVING HOLES FOR SECURING FIXTURE TO WALL CONSTRUCTION, TO REINFORCEMENT BUILT INTO WALLS.

F. FASTEN WALL-MOUNTED FITTINGS TO REINFORCEMENT BUILT INTO WALLS.

G. FASTEN COUNTER-MOUNTING PLUMBING FIXTURES TO CASEWORK.

H. SECURE SUPPLIES TO SUPPORTS OR SUBSTRATE WITHIN PIPE SPACE BEHIND FIXTURE.

I. SET MOP BASINS IN LEVELING BED OF CEMENT GROUT.

J. INSTALL INDIVIDUAL SUPPLY INLETS, SUPPLY STOPS, SUPPLY RISERS, AND TUBULAR BRASS TRAPS WITH CLEANOUTS AT FIXTURE. ALL ABOVE FLOOR FIXTURE TRAPS DIRECTLY CONNECTED TO SANITARY WASTE SYSTEMS SHALL BE CHROME PLATED 17 GAUGE SEAMLESS TUBULAR CAST BRASS P-TRAPS WITH CLEANOUTS.

K. INSTALL WATER-SUPPLY STOP VALVES IN ACCESSIBLE LOCATIONS.

L. INSTALL TRAPS ON FIXTURE OUTLETS. OMIT TRAPS ON FIXTURES HAVING INTEGRAL TRAPS. OMIT TRAPS ON INDIRECT WASTES UNLESS OTHERWISE INDICATED.

M. INSTALL ESCUTCHEONS AT WALL, FLOOR, AND CEILING PENETRATIONS IN EXPOSED, FINISHED LOCATIONS AND WITHIN CABINETS AND MILLWORK. USE DEEP-PATTERN ESCUTCHEONS WHERE REQUIRED TO CONCEAL PROTRUDING PIPE FITTINGS.

N. SEAL JOINTS BETWEEN FIXTURES AND WALLS, FLOORS, AND COUNTERS USING SANITARY-TYPE, ONE-PART, MILDEW-RESISTANT, SILICONE SEALANT. MATCH SEALANT COLOR TO FIXTURE COLOR.

O. INSTALL PIPING CONNECTIONS BETWEEN PLUMBING FIXTURES AND PIPING SYSTEMS AND PLUMBING EQUIPMENT. INSTALL INSULATION ON SUPPLIES AND DRAINS OF FIXTURES FOR PEOPLE WITH DISABILITIES.

END OF SECTION

SECTION 226316 - FACILITY NATURAL-GAS PIPING

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. MINIMUM OPERATING-PRESSURE RATINGS:

1. PIPING AND VALVES: 100 PSIG MINIMUM UNLESS OTHERWISE INDICATED.

B. NATURAL-GAS SYSTEM PRESSURE WITHIN BUILDING: ONE DISTRIBUTION PRESSURE. 14" W.C., BUT NOT MORE THAN 2.0 PSIG.

2.2 PIPES, TUBES, AND FITTINGS

A. STEEL PIPE: ASTM A 53/A 53M, BLACK STEEL, SCHEDULE 40, TYPE E OR S, GRADE B.

1. MALLEABLE-IRON THREADED FITTINGS: ASME B16.3, CLASS 150, STANDARD PATTERN.
2. WROUGHT-STEEL WELDING FITTINGS: ASTM A 234/A 234M FOR BUTT WELDING AND SOCKET WELDING.
3. UNIONS: ASME B16.39, CLASS 150, MALLEABLE IRON WITH BRASS-TO-IRON SEAT, GROUND JOINT, AND THREADED ENDS.
4. PROTECTIVE COATING FOR UNDERGROUND PIPING: FACTORY-APPLIED, THREE-LAYER COATING OF EPOXY, ADHESIVE, AND PE.

B. CORRUGATED, STAINLESS-STEEL TUBING: COMPLY WITH ANSI/IAS LC 1; INCLUDE FLAME-RETARDANT PE COATING, COPPER-ALLOY THREADED ENDS, AND STRIKER PLATES.

2.3 SPECIALTIES

A. APPLIANCE FLEXIBLE CONNECTORS:

1. INDOOR, FIXED-APPLIANCE FLEXIBLE CONNECTORS: COMPLY WITH ANSI Z21.24.
2. INDOOR, MOVABLE-APPLIANCE FLEXIBLE CONNECTORS: COMPLY WITH ANSI Z21.69.
3. OUTDOOR, APPLIANCE FLEXIBLE CONNECTORS: COMPLY WITH ANSI Z21.75.
4. CORRUGATED STAINLESS-STEEL TUBING WITH POLYMER COATING.

B. STRAINERS: ASTM A 126, CLASS B, CAST-IRON BODY, Y-PATTERN, FULL SIZE OF CONNECTING PIPING, CWP RATING OF 125 PSIG, INCLUDE 40-MESH STARTUP STRAINER, AND PERFORATED STAINLESS-STEEL BASKET.

C. WEATHERPROOF VENT CAP: CAST- OR MALLEABLE-IRON INCREASER FITTING WITH CORROSION-RESISTANT WIRE SCREEN, WITH FREE AREA AT LEAST EQUAL TO CROSS-SECTIONAL AREA OF CONNECTING PIPE AND THREADED-END CONNECTION.

2.4 VALVES

A. GENERAL REQUIREMENTS FOR METALLIC MANUAL GAS SHUTOFF VALVES: COMPLY WITH ASME B16.33.

1. CWP RATING: 125 PSIG.

B. ONE-PIECE, BRONZE BALL VALVE WITH BRONZE TRIM: MSS SP-110.

1. BODY: BRONZE, COMPLYING WITH ASTM B 584.
2. BALL: CHROME-PLATED BRASS.
3. STEM: BRONZE; BLOWOUT PROOF.
4. SEATS: REINFORCED TFE; BLOWOUT PROOF.
5. PACKING: SEPARATE PACKNUT WITH ADJUSTABLE STEM PACKING THREADED ENDS.
6. CWP RATING: 600 PSIG.
7. LISTING: VALVES NPS 1 AND SMALLER SHALL BE LISTED AND LABELED BY AN NRTL ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.
8. SERVICE: SUITABLE FOR NATURAL-GAS SERVICE WITH "WOG" INDICATED ON VALVE BODY.

C. TWO-PIECE, FULL-PORT, BRONZE BALL VALVES WITH BRONZE TRIM: MSS SP-110.

1. BODY: BRONZE, COMPLYING WITH ASTM B 584.
2. BALL: CHROME-PLATED BRONZE.
3. STEM: BRONZE; BLOWOUT PROOF.
4. SEATS: REINFORCED TFE; BLOWOUT PROOF.
5. PACKING: THREADED BODY PACKNUT DESIGN WITH ADJUSTABLE STEM PACKING.
6. CWP RATING: 600 PSIG.
7. LISTING: VALVES NPS 1 AND SMALLER SHALL BE LISTED AND LABELED BY AN NRTL ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.
8. SERVICE: SUITABLE FOR NATURAL-GAS SERVICE WITH "WOG" INDICATED ON VALVE BODY.

D. BRONZE PLUG VALVES: MSS SP-78.

1. BODY: BRONZE, COMPLYING WITH ASTM B 584.
2. PLUG: BRONZE.
3. OPERATOR: SQUARE HEAD OR LUG TYPE WITH TAMPERPROOF FEATURE WHERE INDICATED.
4. PRESSURE CLASS: 125 PSIG.
5. LISTING: VALVES NPS 1 AND SMALLER SHALL BE LISTED AND LABELED BY AN NRTL ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.
6. SERVICE: SUITABLE FOR NATURAL-GAS SERVICE WITH "WOG" INDICATED ON VALVE BODY.

E. CAST-IRON, NONLUBRICATED PLUG VALVES: MSS SP-78.

1. BODY: CAST IRON, COMPLYING WITH ASTM A 126, CLASS B.
2. PLUG: BRONZE OR NICKEL-PLATED CAST IRON.
3. SEAT: COATED WITH THERMOPLASTIC.
4. STEM SEAL: COMPATIBLE WITH NATURAL GAS.
5. OPERATOR: SQUARE HEAD OR LUG TYPE WITH TAMPERPROOF FEATURE WHERE INDICATED.
6. PRESSURE CLASS: 125 PSIG.
7. LISTING: VALVES NPS 1 AND SMALLER SHALL BE LISTED AND LABELED BY AN NRTL ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.
8. SERVICE: SUITABLE FOR NATURAL-GAS SERVICE WITH "WOG" INDICATED ON VALVE BODY.

F. ELECTRICALLY OPERATED, AUTOMATIC GAS VALVES: COMPLY WITH UL 429.

2.5 PRESSURE REGULATORS

A. GENERAL REQUIREMENTS: SINGLE STAGE, STEEL JACKETED, AND CORROSION RESISTANT. INCLUDE ELEVATION COMPENSATOR.

B. LINE PRESSURE REGULATORS: ANSI Z21.80; 2-PSIG MAXIMUM INLET PRESSURE. FACTORY- OR FIELD-INSTALLED, STAINLESS-STEEL SCREEN IN VENT OPENING IF NOT CONNECTED TO VENT PIPING.

C. APPLIANCE PRESSURE REGULATORS: ANSI Z21.18; 2-PSIG MAXIMUM INLET PRESSURE. REGULATOR MAY INCLUDE VENT LIMITING DEVICE, INSTEAD OF VENT CONNECTION, IF APPROVED BY AUTHORITIES HAVING JURISDICTION.

PART 3 - EXECUTION

3.1 OUTDOOR PIPING INSTALLATION

A. INSTALL SHUTOFF VALVE, DOWNSTREAM FROM GAS METER, OUTSIDE BUILDING AT GAS SERVICE ENTRANCE.

B. INSTALL WALL PENETRATION SYSTEM AT EACH SERVICE PIPE PENETRATION THROUGH EXTERIOR WALL. MAKE INSTALLATION WATERTIGHT.

3.2 INDOOR PIPING INSTALLATION

A. INSTALL PIPING IN CONCEALED LOCATIONS UNLESS OTHERWISE INDICATED AND EXCEPT IN EQUIPMENT ROOMS AND SERVICE AREAS.

B. INSTALL ESCUTCHEONS AT PENETRATIONS OF INTERIOR WALLS, CEILINGS, AND FLOORS.

C. FIRE-BARRIER PENETRATIONS: MAINTAIN INDICATED FIRE RATING OF WALLS, PARTITIONS, CEILINGS, AND FLOORS AT PIPE PENETRATIONS. SEAL PIPE PENETRATIONS WITH FIRESTOP MATERIALS. COMPLY WITH REQUIREMENTS IN SECTION 078413 "PENETRATION FIRESTOPPING."

D. INSTALL GAS STOPS FOR SHUTOFF TO APPLIANCES WITH LOW-PRESSURE GAS SUPPLY.

E. INSTALL NATURAL-GAS PIPING AT UNIFORM GRADE OF 2 PERCENT DOWN TOWARD DRIP AND SEDIMENT TRAPS.

F. USE ECCENTRIC REDUCER FITTINGS TO MAKE REDUCTIONS IN PIPE SIZES. INSTALL FITTINGS WITH LEVEL SIDE DOWN.

G. CONNECT BRANCH PIPING FROM TOP OR SIDE OF HORIZONTAL PIPING.

H. INSTALL UNIONS IN PIPES NPS 2 AND SMALLER, ADJACENT TO EACH VALVE, AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT. UNIONS ARE NOT REQUIRED AT FLANGED CONNECTIONS.

I. INSTALL STRAINER ON INLET OF EACH LINE PRESSURE REGULATOR AND AUTOMATIC OR ELECTRICALLY OPERATED VALVE.

J. INSTALL PRESSURE GAGE PLUG UPSTREAM AND DOWNSTREAM FROM EACH LINE REGULATOR.

K. CONNECT GAS PIPING TO EQUIPMENT AND APPLIANCES WITH SHUTOFF VALVES AND UNIONS. INSTALL GAS VALVE UPSTREAM FROM AND WITHIN 72 INCHES OF EACH APPLIANCE USING GAS. INSTALL UNION OR FLANGED CONNECTIONS DOWNSTREAM FROM VALVES.

L. EXTEND RELIEF VENT CONNECTIONS FOR SERVICE REGULATORS, LINE REGULATORS, AND OVERPRESSURE PROTECTION DEVICES TO THE OUTDOORS AND TERMINATE WITH WEATHERPROOF VENT CAP.

M. DO NOT USE NATURAL-GAS PIPING AS GROUNDING ELECTRODE.

3.3 PIPING JOINT CONSTRUCTION

A. THREADED JOINTS: THREAD PIPE WITH TAPERED PIPE THREADS COMPLYING WITH ASME B1.20.1.

B. WELDED JOINTS: CONSTRUCT JOINTS ACCORDING TO AWS D10.12M/D10.12, USING QUALIFIED PROCESSES AND WELDING OPERATORS.

C. JOINTS IN STEEL PIPING WITH PROTECTIVE COATING: APPLY JOINT COVER KITS TO PIPE AFTER JOINING TO COVER, SEAL, AND PROTECT JOINTS.

D. FLANGED JOINTS: INSTALL GASKET MATERIAL, SIZE, TYPE, AND THICKNESS APPROPRIATE FOR NATURAL-GAS SERVICE. INSTALL GASKET CONCENTRICALLY POSITIONED.

3.4 VALVE INSTALLATION

A. INSTALL MANUAL GAS SHUTOFF VALVE FOR EACH GAS APPLIANCE AHEAD OF CORRUGATED STAINLESS-STEEL TUBING, ALUMINUM, OR COPPER CONNECTOR.

B. INSTALL REGULATORS AND OVERPRESSURE PROTECTION DEVICES WITH MAINTENANCE ACCESS SPACE ADEQUATE FOR SERVICING AND TESTING.

3.5 OUTDOOR PIPING SCHEDULE

A. ABOVEGROUND NATURAL-GAS PIPING SHALL BE THE FOLLOWING:

1. STEEL PIPE WITH MALLEABLE-IRON FITTINGS AND THREADED JOINTS. COAT PIPE AND FITTINGS WITH PROTECTIVE COATING FOR STEEL PIPING.
2. STEEL PIPING TO BE PROVIDED WITH ONE COAT OF PRIMER AND TWO COATS OF WEATHER RESISTANT FINISH PAINT. FINISH COLOR TO BE YELLOW, UNLESS ANOTHER COLOR IS REQUIRED BY THE LANDLORD/GAS UTILITY PROVIDER AND/OR REVIEW, INSPECTION AND APPROVAL AUTHORITIES.

3.6 INDOOR PIPING SCHEDULE FOR SYSTEM PRESSURES MORE THAN 7" W.C. AND LESS THAN 5 PSIG.

A. ABOVEGROUND, BRANCH PIPING NPS 1 AND SMALLER SHALL BE THE FOLLOWING:

1. CORRUGATED STAINLESS-STEEL TUBING WITH MECHANICAL FITTINGS HAVING SOCKET OR THREADED ENDS TO MATCH ADJACENT PIPING.
2. STEEL PIPE WITH MALLEABLE-IRON FITTINGS AND THREADED JOINTS.

B. ABOVEGROUND, DISTRIBUTION PIPING SHALL BE THE FOLLOWING:

1. STEEL PIPE WITH MALLEABLE-IRON FITTINGS AND THREADED JOINTS.

END OF SECTION

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6-14-2022

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PROJECT NUMBER: CAV070

ISSUE	DATE
PERMIT	JUN 14, 2022

PLUMBING SPECIFICATIONS

SHEET: P703

FIRE ALARM GENERAL NOTES:

1. ALL FIRE ALARM EQUIPMENT SHALL BE INSTALLED PER SECTIONS OF THE LOCAL CODE, ADAAG, NEC, AND NFPA 72 WHICH EVER IS APPLICABLE.
2. ALL WIRING AND CABLING SHALL BE APPROVED FOR FIRE ALARM SYSTEM USE AND BE INSTALLED PER NFPA 70 (NEC).
3. WHERE CABLING IS NOT EXPOSED TO THE POSSIBILITY OF MECHANICAL DAMAGE (CEILING HEIGHT, ABOVE BAR JOIST), IT MAY BE RUN EXPOSED AND PROPERLY SECURED TO THE BUILDING STRUCTURE. ALL FIRE WALL PENETRATIONS WILL BE WITH EMT TUBING SLEEVES SEALED ON EACH SIDE OF THE PENETRATION WITH HIGH TEMPERATURE SILICONE FIRE SEAL COMPOUND.
4. WALL MOUNTED VISUAL OR AUDIO/VISUAL DEVICES SHALL BE INSTALLED PER LOCAL CODE, ADAAG, AND NFPA 72. THEY SHALL BE MOUNTED 80 INCHES ABOVE FINISHED FLOOR LEVEL OR 12 INCHES BELOW CEILING HEIGHT, WHICHEVER IS LOWER OR AS ENVIRONMENTAL CONDITIONS REQUIRE.
5. MANUAL FIRE ALARMS SHALL BE INSTALLED PER LOCAL CODE AND NFPA 72. THEY SHALL BE MOUNTED 42 TO 48 INCHES ABOVE FINISHED FLOOR TO THE OPERATING HANDLE AND BE WITHIN 5 FEET OF ALL EXIT DISCHARGE DOORS OR AS ENVIRONMENTAL CONDITIONS REQUIRE.

FIRE ALARM LEGEND

SYMBOL	DESCRIPTION
FACP	FIRE ALARM CONTROL PANEL WITH BATTERY BACKUP
	HORN/STROBE COMBINATION
	STROBE ONLY
	MANUAL PULL STATION
S	SMOKE DETECTOR
H	HEAT DETECTOR, FIXED TEMPERATURE AND RATE OF RISE
A	ANSUL CONTROL BLOCK
HO	HOLD OPEN DEVICE
T	TAMPER SWITCH BY FIRE PROTECTION CONTR.
F	FLOW SWITCH BY FIRE PROTECTION CONTR.
D	DUCT DETECTOR
A	FIRE ALARM ANNUNCIATOR PANEL

NOTE: NOT ALL SYMBOLS LISTED ARE APPLICABLE TO THIS PROJECT.

ELECTRICAL LEGEND

DETAIL	DESCRIPTION
	20A SIMPLEX RECEPTACLE
	20A DUPLEX RECEPTACLE
	20A DUPLEX RECEPTACLE ABOVE COUNTER
GFI	20A DUPLEX RECEPTACLE - GFCI
GFI	20A DUPLEX RECEPTACLE - GFCI, ABOVE COUNTER
	20A SPLIT RECEPTACLE
WP/GFI	20A DUPLEX RECEPTACLE - WITH WEATHERPROOF COVER & GFC
	20A DOUBLE DUPLEX RECEPTACLE
	20A DUPLEX RECEPTACLE IN CEILING
IG	DUPLEX RECEPTACLE - 20A, 125V, WITH ISOLATED GROUND
A-1	BRANCH CIRCUIT HOME-RUN WITH CIRCUIT NUMBER
	FLOOR MOUNTED 20A DUPLEX RECEPTACLE
	SPECIAL RECEPTACLE (SEE PLANS FOR TYPE)
J	JUNCTION BOX
	MOTOR (THREE PHASE & SINGLE PHASE)
TC	TIME CLOCK
V	VOLUME CONTROL
P	PULL BOX - SIZE & TYPE AS REQUIRED
	TELEPHONE / DATA OUTLET
TV	TV CABLE OUTLET
	DISCONNECT - NON FUSED
	DISCONNECT - FUSED
M	UTILITY METER
	ELECTRICAL PANEL

LIGHTING LEGEND

TAG	DESCRIPTION
	INTERIOR RECESSED DOWNLIGHT
	INTERIOR RECESSED DOWNLIGHT
	PENDANT
	PENDANT
	PENDANT
	TRACK LIGHT
	VANITY LIGHT
	WALL SCONCE
	2X4 LAY-IN TROFFER
	2X4 NIGHT LIGHT
	2X4 EMERGENCY LIGHT
	EXIT/EMERGENCY LIGHT W/ BATTERY PACK AND DUAL HEADS
	EXIT/EMERGENCY LIGHT WITH BATTERY PACK
	EXIT LIGHT (CEILING MOUNTED)
	REMOTE EMERGENCY HEADS
	EMERGENCY BATTERY PACK AND DUAL HEADS
D	DIMMER SWITCH EQUAL TO LUTRON NOVA SERIES T
	TOGGLE SWITCH SINGLE POLE SWITCH WITH COVER PLATE
2	TOGGLE SWITCH 2 POLE SWITCH WITH COVER PLATE
3	TOGGLE SWITCH 3 WAY SWITCH WITH COVER PLATE
PC	PHOTOCELL
	WALL MOUNTED OCCUPANCY SENSOR
	CEILING MOUNTED OCCUPANCY SENSOR SENSORSWITCH MODEL #CMR 9 2P
	CEILING MOUNTED DAYLIGHT SENSOR WITH POWER PACK

GENERAL NOTES:

A. ALL WORK TO COMPLY TO ALL STATE, LOCAL, NEC, & NFPA CODES.

B. ELECTRICAL CONTRACTOR TO VISIT THE SITE PRIOR TO SUBMITTING A BID & INCLUDE IN THEIR BID ANY ITEM ANY ITEMS NECESSARY FOR A COMPLETE & OPERATIONAL SYSTEM.

C. DRAWINGS ARE SCHEMATIC IN NATURE. ELECTRICAL CONTRACTOR IS TO ADD ANY ITEMS THAT ARE REQUIRED FOR A COMPLETE & OPERATIONAL SYSTEM IN THEIR PROPOSAL.

D. ELECTRICAL CONTRACTOR IS TO COORDINATE THEIR INSTALLATION WITH THE OTHER TRADES. IF A CONFLICT OCCURS AND IT IS DUE TO THE ELECTRICAL CONTRACTOR'S LACK OF COORDINATION, ALL WORK INVOLVED IN RESOLVING THE CONFLICT WILL BE AT THE EXPENSE OF THE ELECTRICAL CONTRACTOR.

E. LIGHT FIXTURES & LAMPS ARE FURNISHED BY OWNER. FIXTURE INSTALLATION SHALL BE BY THE ELECTRICAL CONTRACTOR ACCORDING TO LOCAL CODE AUTHORITY. THE ELECTRICAL CONTRACTOR SHALL REVIEW MATERIALS AT THE TIME OF DELIVERY AND IMMEDIATELY REPORT ANY DAMAGE OR MISSING PIECES.

F. DATA CABLE TO BE FURNISHED AND INSTALLED BY OWNER.

G. CONTRACTOR IS RESPONSIBLE FOR ADHERING TO THE ENTIRETY OF THIS DRAWING SET, INCLUDING BUT NOT LIMITED TO; PLANS, ELEVATIONS, DETAILS, SCHEDULES, AND SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL DRAWINGS OF OTHER TRADES, INCLUDING BUT NOT LIMITED TO, ARCHITECTURAL, MECHANICAL, PLUMBING, HOOD SUPPLIER, CIVIL, AND STRUCTURAL.

ABBREVIATIONS

(A)	EXISTING TO BE ABANDONED	JB	JUNCTION BOX
(D)	EXISTING TO BE DEMOLISHED	KVA	KILOVOLT AMPERE
(E)	EXISTING TO REMAIN	KW	KILOWATT
(F)	FUTURE	LTG	LIGHTING OR LIGHT
(R)	EXISTING TO BE RELOCATED	LRA	LOCKED ROTOR AMPS
A	AMPERE	MCA	MAXIMUM CURRENT AMPACITY
AC	ALTERNATING CURRENT OR AIR CONDITIONER	MCB	MAIN CIRCUIT BREAKER
AFF	ABOVE FINISHED FLOOR	MCC	MOTOR CONTROL CENTER
AFG	ABOVE FINISHED GRADE	MDP	MAIN DISTRIBUTION PANEL
AHJ	AUTHORITY HAVING JURISDICTION	MLO	MAIN LUGS ONLY
AIC	AMPS INTERRUPTING CAPACITY	MOCP	MAXIMUM OVERCURRENT PROTECTION
ANNC	ANNUNCIATOR	MSB	MAIN SWITCHBOARD
AWG	AMERICAN WIRE GAUGE	MH	METAL HALIDE
BPS	BOLTED PRESSURE SWITCH	MTS	MANUAL TRANSFER SWITCH
C	CONDUIT	NAC	NOTIFICATION APPLIANCE CIRCUIT
CB	CIRCUIT BREAKER	NEC	NATIONAL ELECTRIC CODE
CCTV	CLOSER CIRCUIT TELEVISION	NC	NORMALLY CLOSED
CKT	CIRCUIT	NO	NORMALLY OPEN
CM	CONSTRUCTION MANAGER	NF	NON-FUSED
DC	DIRECT CURRENT	OCC	OCCUPANCY
DP	DISTRIBUTION PANELBOARD	PA	PUBLIC ADDRESS
DTT	DOUBLE TWIN TUBE	PB	PULL BOX OR PUSH BUTTON
EB	ELECTRONIC BALLAST	PVC	POLYVINYL CHLORIDE (PLASTIC PIPE)
EC	ELECTRICAL CONTRACTOR	PWR	POWER
EM	EMERGENCY	RECPT	RECEPTACLE
EMT	ELECTRICAL METAL TUBING	STP	SHIELDED, TWISTED PAIR
EWC	ELECTRIC WATER COOLER	TC	TIME CLOCK
FA	FIRE ALARM	TRT	TRIPLE TUBE
FLA	FULL LOAD AMPS	TYP	TYPICAL
G	GROUND	UNO	UNLESS NOTED OTHERWISE
GC	GENERAL TRADES CONTRACTOR	UTP	UNSHIELDED, TWISTED PAIR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	V	VOLT
GEN	GENERATOR	W	WATT
HOA	HAND-OFF-AUTOMATIC	WAP	WIRELESS ACCESS POINT
HP	HORSEPOWER	WH	WATTHOUR
HPC	HIGH PRESSURE CONTACT SWITCH	WP	WEATHERPROOF, NEMA 3R UNO
HZ	HERTZ	XFMR	TRANSFORMER
IG	ISOLATED GROUND	Z	IMPEDANCE
IMC	INTERMEDIATE METAL CONDUIT	Φ	PHASE
INCD	INCANDESCENT		

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GENERAL INFORMATION
ELECTRICAL

SHEET:
E000

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER	MODEL NUMBER	LAMP/SOURCE	MOUNTING	FINISH	CCT	DRIVER	COMMENTS	VOLTS	WATTS
R1	1 LAMP ADJUSTABLE RECESSED DOWNLIGHT	CONTECH LIGHTING	RDA4L12712D2FX1BLK-P	LED ENGINE	RECESSED	WHITE	2700K	0-10V DIMMING	37° BEAMS	120	10
R2	2 LAMP ADJUSTABLE RECESSED DOWNLIGHT	CONTECH LIGHTING	RDA4L12712D2FX2BLK-P	LED ENGINE	RECESSED	WHITE	2700K	0-10V DIMMING	37° BEAMS	120	20
R4	CAN LIGHT	CONTECH LIGHTING	K4SA3-27KC-MVD-F	LED ENGINE	RECESSED	WHITE	2700K	0-10V DIMMING	WHITE BAFFLE & WHITE TRIM RING	120	20
A1	2X4 LED FLAT PANEL	LITHONIA	EPANL 2X4 5000LMHE 80CRI 40K MIN10 ZT MVOLT NCAV	LED ENGINE	CEILING	WHITE	4000K	0-10V DIMMING		120	37
P6.1	DECORATIVE TRACK PENDANT	JUSTICE DESIGN GROUP	CER-6400-MAT-MBLK-BKBD-LED-1-700	LED-GU10 BULB	CEILING	MATTE BLACK	N/A	LED DRIVER		120	32
EMF	EXIT SIGN (FOH)	CONTECH LIGHTING	REXA-MF-R-EM-P	LED ENGINE	UNIVERSAL	WHITE	2700K	N/A	RED LETTERS ON GLASS	120	
EMB	EXIT SIGN (BOH)	NORA LIGHTING	NX-603-LED/R	LED ENGINE	UNIVERSAL	WHITE	2700K	N/A	RED LETTERS ON WHITE HOUSING	120	
EME	EMERGENCY LIGHT	CONTECH LIGHTING	EL2HALEDEM-P	LED ENGINE	UNIVERSAL	WHITE	2700K	N/A		120	4

NOTES:

1. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR MOUNTING REQUIREMENTS OF ALL LIGHT FIXTURES.
2. PROVIDE ALL COMPONENTS FOR A FULLY FUNCTIONING SYSTEM
3. COORDINATE WITH OWNERS REP FOR AIMING OF TRACK HEADS
4. VERIFY SUSPENSION LENGTH/MOUNTING HEIGHTS OF SUSPENDED FIXTURES WITH ARCHITECTURAL PLANS AND IN FIELD WITH OWNER REP

GENERAL NOTES:

A. ALL EMERGENCY AND EXIT LIGHTING TO BE CONNECTED TO LOCAL LIGHTING CIRCUIT AHEAD OF SWITCHING.

B. FIELD ADJUST AND AIM ALL MENUBOARD AND GRAPHICS TRACK LIGHTING FOR OPTIMUM COVERAGE.

C. REFER TO ARCHITECTURAL PLANS FOR LUMINAIRE PLACEMENT DIMENSIONS AND MTG HEIGHTS.

D. MC CABLE SHALL ONLY BE USED ABOVE ACCESSIBLE CEILINGS.

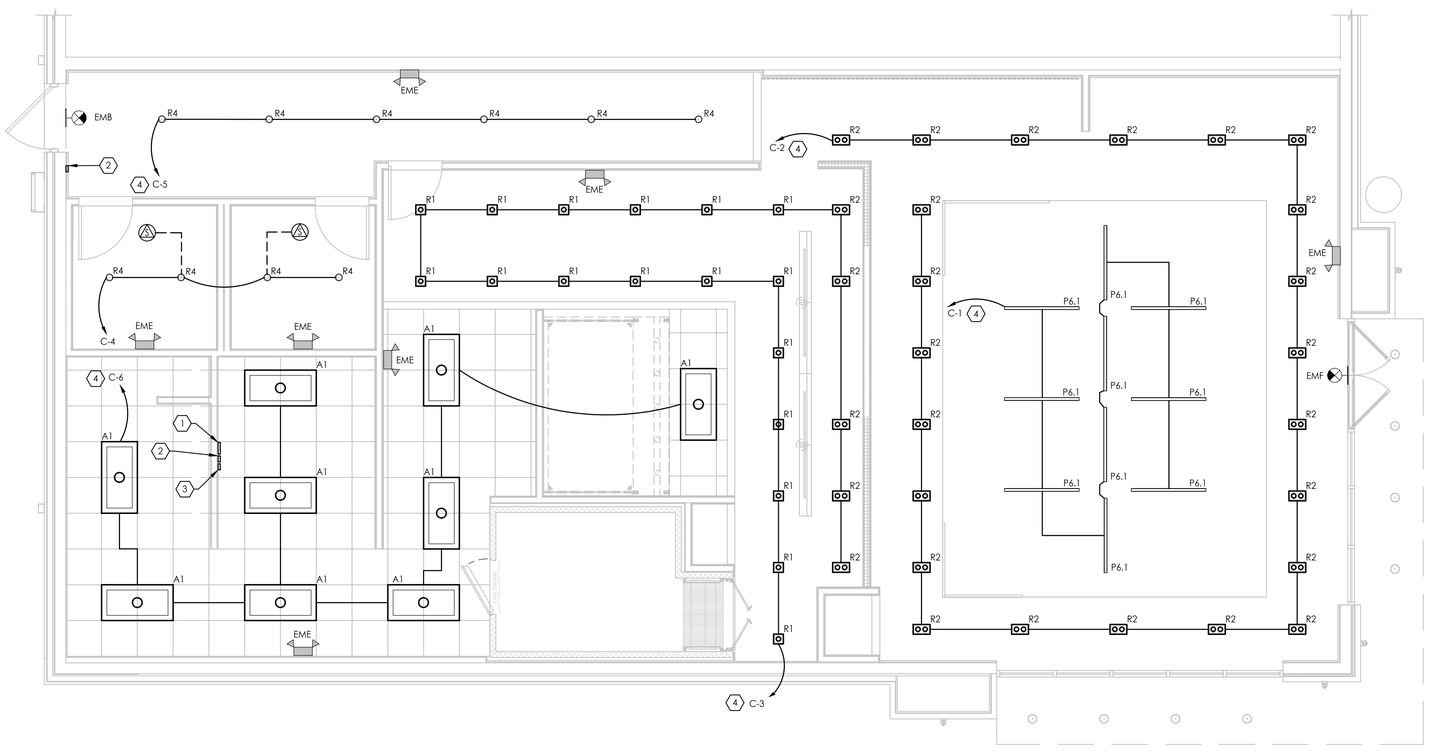
E. "STRAIGHT" LINES INDICATE LUMINAIRES ARE TO BE CONTROLLED TOGETHER WHILE "ARC'D" LINES INDICATE A COMMON BRANCH CIRCUIT.

CODED NOTES: ⟨#⟩

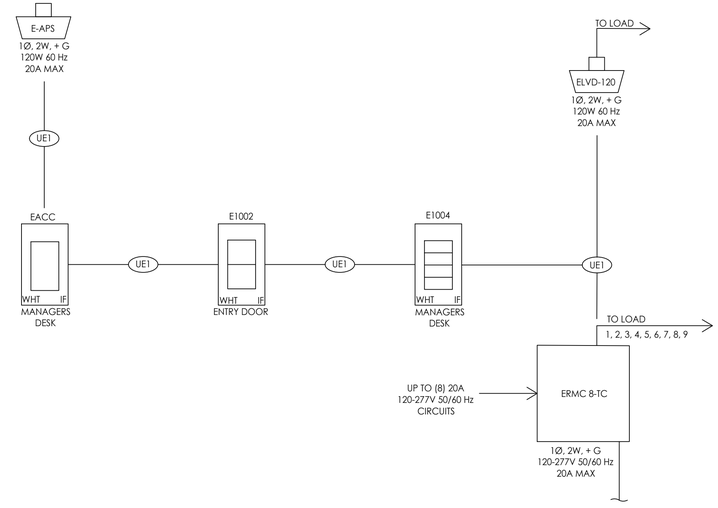
1. LIGHTING CONTROL PANEL: ETC ERMC8 ECHO. REFER TO SCHEDULE AND WIRING CONTROL DIAGRAM ON THIS SHEET.
2. LIGHTING CONTROL TOUCH PAD. REFER TO SCHEDULE AND WIRING CONTROL DIAGRAM ON THIS SHEET. PLACE KEY OPERATED COVER OVER TOP OF TOUCH PAD AT ENTRY DOOR.
3. LIGHTING CONTROL INTERFACE. REFER TO SCHEDULE AND WIRING CONTROL DIAGRAM ON THIS SHEET.
4. ROUTE CIRCUIT THROUGH LIGHTING CONTROL PANEL FOR CONTROL. REFER TO SCHEDULE AND WIRING CONTROL DIAGRAM ON THIS SHEET.

DIMMER / SWITCH SCHEDULE

AREA	RELAY	CIRCUIT #	VOLTAGE	FIXTURE TYPE	LOAD TYPE
DINING PENDANTS	1	C-1	120	P6.1	0-10V
DINING DOWNLIGHTS	2	C-2	120	R2	0-10V
QUEUE/SERVE LINE LIGHTS	3	C-3	120	R1/R2	0-10V
KITCHEN LIGHTS	4	C-6	120	A1	0-10V
HALLWAY LIGHTS	5	C-5	120	R4	0-10V
SHOW WINDOW RCPTS.	6	C-11	120	N/A	NON DIMMNG
SIGNAGE	7	C-7	120	N/A	NON DIMMING
SIGNAGE	8	C-8	120	N/A	NON DIMMING
SIGNAGE	9	C-13	120	N/A	NON DIMMING



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



2 LIGHTING CONTROL WIRING DIAGRAM
N.T.S.

LIGHTING CONTROL WIRING NOTES:

A. LIGHTING IS TO BE CONTROLLED VIA DIMMING CONTROL SYSTEM PROVIDED BY THE OWNER AND INSTALLED BY CONTRACTOR. CONTRACTOR TO CONTROL DIMMING ZONES, DIMMER PANEL WIRING REQUIREMENTS, SYSTEM CONNECTIONS WITH MANUFACTURER'S INSTALLATION DRAWINGS. CONTRACTOR TO PROVIDE THREE DEDICATED 20A CIRCUITS FOR ECHO BUTTON STATIONS AS WELL AS THE MAIN ETC CONTROL PANEL.

B. NOT ALL LOADS AND CONTROLS ARE SHOWN. THIS DIAGRAM IS INTENDED TO PROVIDE GENERAL WIRING AND CONTROL INTENT.

C. ETC REPRESENTATIVE SHALL PROVIDE A FULL ONE-LINE RISER DIAGRAM OF THE LIGHTING CONTROL SYSTEM PER ZONE INDICATED.

D. VERIFY EXACT PLACEMENT OF DEVICES WITH OWNER PRIOR TO ROUGH-IN.

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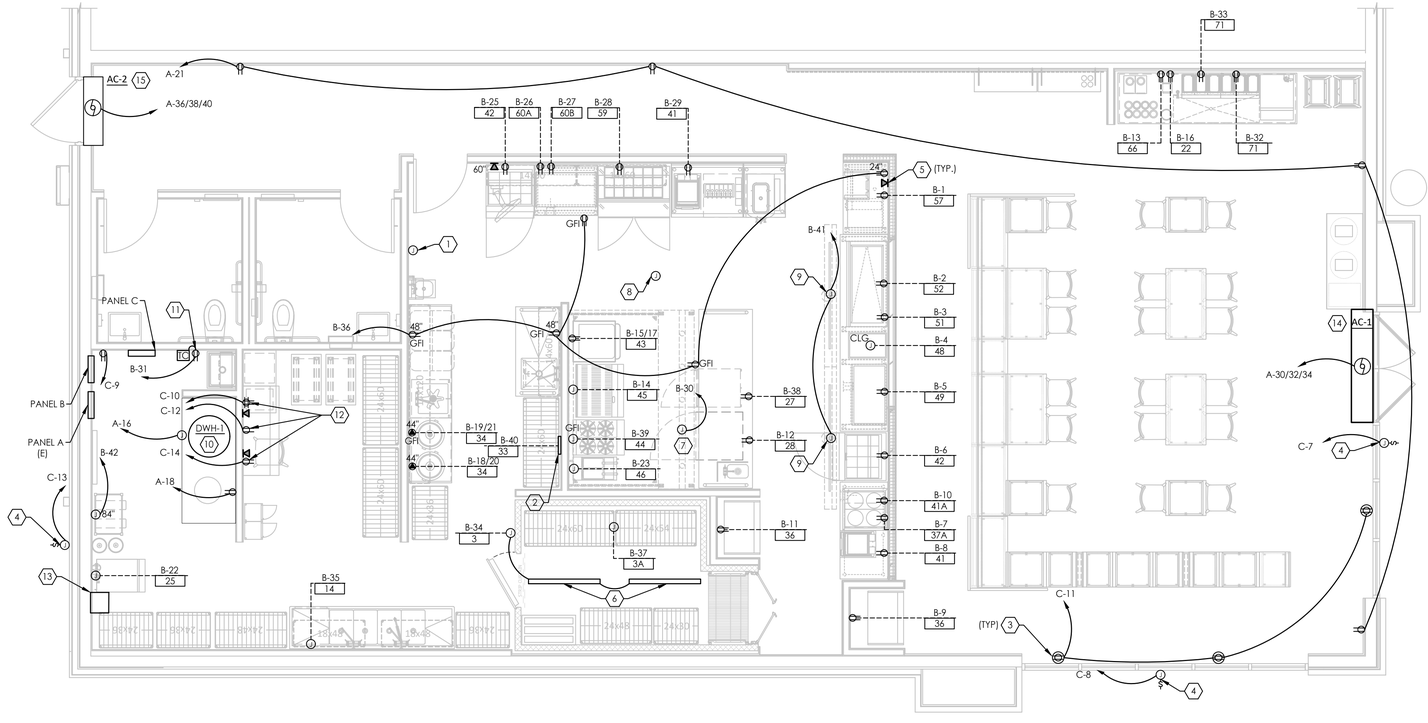
LIGHTING PLAN

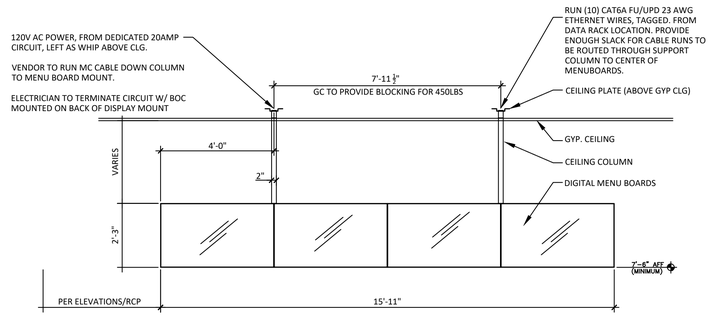
SHEET:
E100

CODED NOTES: ⟨#⟩

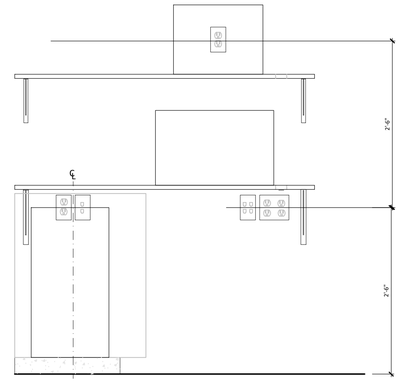
1. 4" OCTAGON JUNCTION BOX FOR ANSUL PULL STATION A MINIMUM OF 10'-0", NOT TO EXCEED 25'-0" FROM THE HOOD ON THE EXIT PATH. REFER TO DETAIL ON SHEET E401.
2. HOOD CONTROL PANEL BY KITCHEN EQUIPMENT SUPPLIER. EC TO MAKE FINAL CONNECTION TO TERMINALS IN CONTROL PANEL CONTAINS STARTERS (FURNISHED WITH PANEL) FOR HOOD EXHAUST AND MAKE UP AIR FANS.
3. SHOW WINDOW RECEPTACLES TO BE CENTERED ON STOREFRONT WINDOWS (NO MORE THAN 18" ABOVE THE WINDOW). ROUTE CIRCUIT THRU NON DIM RELAY IN LIGHTING CONTROL PANEL FOR CONTROL. SEE E100 FOR DETAILS. (TYP.)
4. EXTERIOR SIGNAGE: UTILIZE EXISTING JB. IF SIGN DOES NOT COME EQUIPPED WITH DISCONNECT, FURNISH AND INSTALL DISCONNECT ON REAR OF SIGN. ROUTE THRU NON DIM RELAY IN LIGHTING CONTROL PANEL FOR CONTROL.
5. TELEPHONE/DATA JUNCTION BOX: RUN 3/4" EMPTY COND W/ PULL STRING TO CLG SPACE AND STUB.
6. LIGHT FIXTURES FURNISHED BY KEC, INSTALLED BY EC, COORDINATE FINAL LOCATION WITH COOLER LAYOUT PRIOR TO INSTALLATION.
7. LIGHTING UNDER HOOD PROVIDED BY KEC, SHOWN FOR REFERENCE ONLY. EC TO MAKE FINAL CONNECTION. WIRE WITH HOOD CONTROL PANEL.
8. JUNCTION BOX ABOVE CEILING FOR GAS SOLENOID VALVE.
9. REFER TO DIGITAL MENU BOARD DETAIL ON THIS SHEET FOR WIRING DETAILS.
10. DHW-1 (GAS-FIRED): 0.6 KW, 120V. PROVIDE (2)#12 CU AWG & (1)#12 CU AWG GND. IN 3/4" CONDUIT FROM 20/1P BREAKER IN PANEL. MAKE FINAL CONNECTION.
11. DUPLEX RCPT AND TIME CLOCK FOR RECIRC PUMP (EQ. TO INTERMATIC T101).
12. REFER TO MANAGER'S DESK DETAIL ON THIS SHEET FOR MOUNTING HEIGHTS.
13. PULLBOX (ABOVE CEILING). EXTEND EXIST PANEL FEEDERS TO PANEL A'S NEW LOCATION.
14. AC-1: 8 KW, 208V/3PH. PROVIDE (3) #10 CU AWG & (1) #10 CU AWG GND. IN 3/4" CONDUIT FROM 35/3P BREAKER IN PANEL. MAKE FINAL CONNECTION.
15. AC-2: 4 KW, 208V/3PH. PROVIDE (3) #12 CU AWG & (1) #12 CU AWG GND. IN 3/4" CONDUIT FROM 20/3P BREAKER IN PANEL. MAKE FINAL CONNECTION.



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



3 DIGITAL MENU BOARD DETAIL
N.T.S.



2 MANAGER'S DESK DETAIL
N.T.S.

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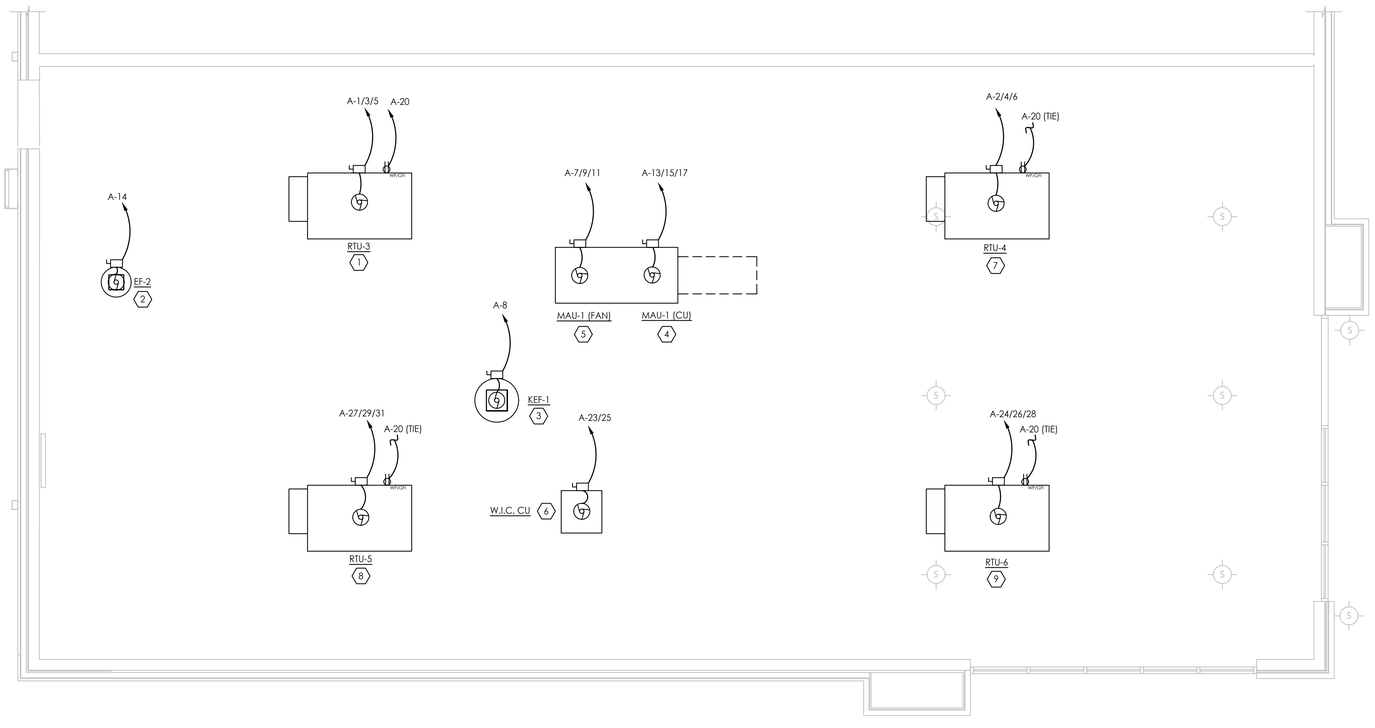
POWER PLAN

SHEET: E200

CODED NOTES: ⟨#⟩

1. RTU-3: 30 MCA, 208V/3PH. PROVIDE (3)#6CU AWG & (1)#10 CU AWG GND. IN 3/4" CONDUIT FROM 45/3P BREAKER THRU 60A/3P NEMA 3R NON FUSED DISC SWITCH TO UNIT. MAKE FINAL CONNECTION.
2. EF-2: FRACT HP, 120V. PROVIDE #12 CU AWG & #12 CU AWG GND. IN 3/4" CONDUIT FROM 20/1P BREAKER THRU 30A/1P NEMA 3R NON FUSED DISC SWITCH TO UNIT. MAKE FINAL CONNECTION.
3. KEF-1: 1 HP, 120V. PROVIDE (3) #12 CU AWG & (1) #12 CU AWG GND. IN 3/4" CONDUIT FROM 20/1P BREAKER THRU 30A/1P NEMA 3R NON FUSED DISC SWITCH TO UNIT. MAKE FINAL CONNECTION.
4. MAU-1 (CU): 14.5 MCA, 208V/3PH. PROVIDE (3) #12 CU AWG & (1) #12 CU AWG GND. IN 3/4" CONDUIT FROM 20/3P BREAKER THRU 30A/3P NEMA 3R NON FUSED DISC SWITCH TO UNIT. MAKE FINAL CONNECTION.
5. MAU-1 (FAN): 5.5 MCA, 208V/3PH. PROVIDE (3)#12 CU AWG & (1)#12 CU AWG GND. IN 3/4" CONDUIT FROM 20/3P BREAKER THRU 30A/3P NEMA 3R NON FUSED DISC SWITCH TO UNIT. MAKE FINAL CONNECTION.
6. W.I.C. CU: 9A, 208V/1PH. PROVIDE (2) #12 CU AWG & (1) #12 CU AWG GND. IN 3/4" CONDUIT FROM 20/2P BREAKER THRU 30A/2P NEMA 3R NON FUSED DISC SWITCH TO UNIT. MAKE FINAL CONNECTION.
7. RTU-4: 30 MCA, 208V/3PH. PROVIDE (3)#6CU AWG & (1)#10 CU AWG GND. IN 3/4" CONDUIT FROM 45/3P BREAKER THRU 60A/3P NEMA 3R NON FUSED DISC SWITCH TO UNIT. MAKE FINAL CONNECTION.
8. RTU-5: 30 MCA, 208V/3PH. PROVIDE (3)#6CU AWG & (1)#10 CU AWG GND. IN 3/4" CONDUIT FROM 45/3P BREAKER THRU 60A/3P NEMA 3R NON FUSED DISC SWITCH TO UNIT. MAKE FINAL CONNECTION.
9. RTU-6: 30 MCA, 208V/3PH. PROVIDE (3)#6CU AWG & (1)#10 CU AWG GND. IN 3/4" CONDUIT FROM 45/3P BREAKER THRU 60A/3P NEMA 3R NON FUSED DISC SWITCH TO UNIT. MAKE FINAL CONNECTION.



1 ROOF POWER PLAN
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FOR
CAVA
702 H STREET, 2ND FLOOR, WASHINGTON, DC 20001

PROJECT NUMBER:
CAV070

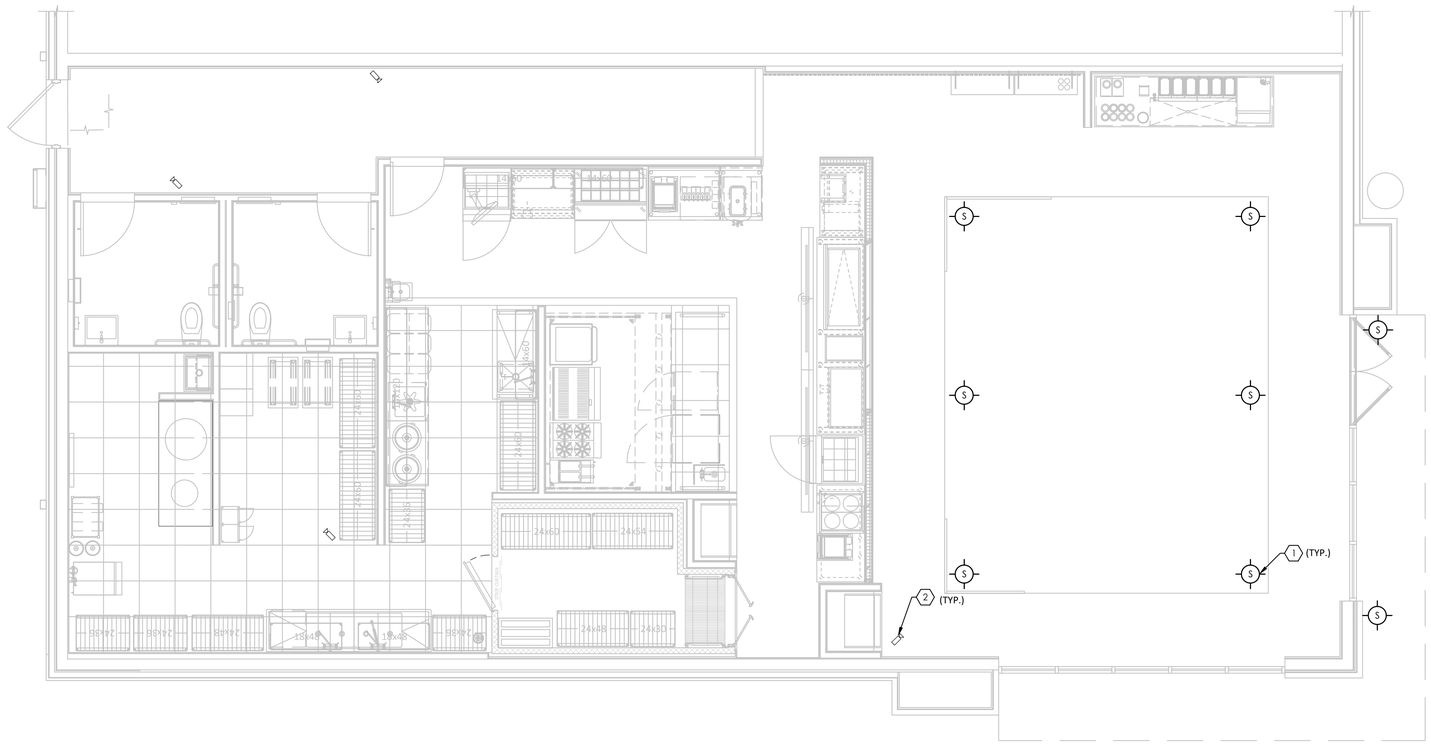
ISSUE	DATE
PERMIT	JUN 14, 2022

ROOF POWER PLAN

SHEET:
E201

CODED NOTES: ⟨#⟩

1. SPEAKER: COORDINATE WITH LOW VOLTAGE VENDOR.
2. CAMERA: COORDINATE WITH LOW VOLTAGE VENDOR.



1 LOW VOLTAGE PLAN
1/4" = 1'-0"

annex ENGINEERING GROUP
589 W. Nationwide Blvd. Ste. B
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tel: 614.481.2292

STATE OF MISSOURI
DOUGLAS ANDREW SMELKER
NUMBER PE-2017022014
PROFESSIONAL ENGINEER
6-14-2022

CAVA

CAVA - LEE'S SUMMIT
900 NW PRYOR RD
LEE'S SUMMIT, MO 64081
FOR
CAVA
702 H STREET, 2ND FLOOR, WASHINGTON, DC 20001

PROJECT NUMBER:
CAV070

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LOW VOLTAGE PLAN

SHEET:
E202

PANEL B

PANEL NAME: PANEL B | VOLTAGE: 208 | PHASE: 3 | WIRE: 4
SOURCE: UTILITY | LOCATION: BACK KITCHEN | 400A MLO

#	K	L	R	M	X	H	C	BREAKER AMP	POLE	DESCRIPTION	KVA/PHASE A	B	C	DESCRIPTION	BREAKER AMP	POLE	K	L	R	M	X	H	C	#
1					0.3			G20	1	57-P.O.S.	0.8			52-DROP IN COLD PAN	G20	1	0.6							2
3	0.4							G20	1	51-HEATED SHELF		0.8		48-HEAT LAMP	20	1	0.4							4
5	1.8							G20	1	49-HOT WELLS			2.6	42-SANDWICH/SALAD PREP	G20	1	0.8							6
7	1.6							G20	1	37A-HOT WELLS	3.4			41-PANINI GRILL	G20	1	1.8							8
9	0.4							G20	1	36-MERCHANDISER		1.8		41A-DRAWER	G20	1	1.4							10
11	0.4							G20	1	36-MERCHANDISER			1.1	28-REFRIGERATOR	G20	1	0.8							12
13	2.4							G25	1	60-TABLE	2.5			45-GRIDDLE	G20	1	0.1							14
15	5.7							G70	2	43-OVEN		8.1		20-CARBONATOR	G25	1	2.4							16
17	5.7												7.8	34-RICE COOKER	G30	2	2.1							18
19	2.1							G30	2	34-RICE COOKER	4.1						2.1							20
21	2.1											3.7		25-ICE MAKER	G20	1	1.6							22
23	0.1							20	1	46-FRYER			0.1	SPARE	20	1								24
25	0.8							G20	1	42-REFRIGERATOR	2.6			60A-HOT WELL	G20	1	1.8							26
27	0.6							G20	1	60B-WARMING DRAWER		1.5		59-REFRIGERATOR	G20	1	0.8							28
29	1.8							G20	1	41-PANINI GRILL			2.0	EXHAUST HOOD	20	1					0.2			30
31					0.2			G25	1	TIMECLOCK	0.9			71-COLD BEVERAGE DISPENSER	G20	1	0.7							32
33	0.7							G20	1	71-COLD BEVERAGE DISPENSER		3.1		3-WALK IN COOLER	30	1	2.4							34
35	1.4							G20	1	14-WAREWASHER			2.3	CONV. RECEPTACLES	20	1			0.9					36
37				0.2				20	1	3A-EVAPORATOR COIL	1.3			27-WARMING CABINET	G20	1	1.1							38
39	0.1							20	1	44-RANGE		0.2		33-EXHAUST HOOD CONTROL PANE	20	1					0.1			40
41					0.4			20	1	DIGITAL MENU BOARD			0.5	BAG N BOX	20	1	0.1							42
										TOTAL CONNECTED LOAD/PH	15.7	19.2	16.4											

49.0	0.0	0.9	0.2	1.1	0.0	0.0	

TOTAL CONNECTED LOAD: 51.28

K = KITCHEN	49.0	KVA
L = LITE	0.0	KVA
R = RCPT	0.9	KVA
M = MOTOR	0.2	KVA
X = MISC	1.1	KVA
H = HEAT	0.0	KVA
C = COOL	0.0	KVA
TOTAL PANEL DEMAND =	51.3	KVA
	142.5	AMPS

BREAKER NOTES
E = EXISTING BREAKER
L = PROVIDE A BREAKER LOCK ON DEVICE
T = PROVIDE A SHUNT TRIP BREAKER.
G = PROVIDE A GFI BREAKER.
A = PROVIDE AN ARC FAULT CIRCUIT INTERRUPTER BREAKER.

COMMENTS
1 PROVIDE (2)#12,(1)#12GND,3/4"C FOR ALL BRANCH CCTS UNLESS STATED OTHERWISE.
2. PROVIDE LOCKING TYPE BREAKER FOR ALL LIFE SAFETY AND NIGHT LIGHTING BRANCH CIRCUITS.

PANEL C

PANEL NAME: PANEL C | VOLTAGE: 208 | PHASE: 3 | WIRE: 4
SOURCE: UTILITY | LOCATION: BACK KITCHEN | 100A MLO

#	K	L	R	M	X	H	C	BREAKER AMP	POLE	DESCRIPTION	KVA/PHASE A	B	C	DESCRIPTION	BREAKER AMP	POLE	K	L	R	M	X	H	C	#
1		0.2						20	1	DINING PENDANTS	0.6			DINING DOWNLIGHTS	20	1		0.5						2
3		0.3						20	1	QUEUE LIGHTING		0.4		BATHROOM LIGHTING	20	1		0.1						4
5		0.1						20	1	HALLWAY LIGHTING			0.5	KITCHEN LIGHTING	20	1		0.3						6
7					0.2			20	1	SIGN	0.4			SIGN	20	1					0.2			8
9			0.2					20	1	PANEL RCPT		0.5		MANAGER'S DESK RCPT	20	1			0.4					10
11			0.5					20	1	SHOW WINDOW RCPTS			0.7	MANAGER'S DESK RCPT	20	1			0.2					12
13					0.2			20	1	SIGN	0.4			MANAGER'S DESK RCPT	20	1			0.2					14
15								20	1	SPARE		0.0		SPARE	20	1								16
17								20	1	SPARE			0.0	SPARE	20	1								18
19								20	1	SPARE	0.0			SPARE	20	1								20
21								20	1	SPARE		0.0		SPARE										22
23								20	1	SPARE			0.0	SPACE										24
25								20	1	SPARE	0.0			SPACE										26
27								20	1	SPARE		0.0		SPACE										28
29								20	1	SPARE			0.0	SPACE										30
31								20	1	SPARE	0.0			SPACE										32
33								20	1	SPARE		0.0		SPACE										34
35								20	1	SPARE			0.0	SPACE										36
37								20	1	SPARE	0.0			SPACE										38
39								20	1	SPARE		0.0		SPACE										40
41								20	1	SPARE			0.0	SPACE										42
										TOTAL CONNECTED LOAD/PH	1.4	0.9	1.2											

0.0	1.5	1.4	0.0	0.6	0.0	0.0	SUBFED TCL FROM

TOTAL CONNECTED LOAD: 3.49

K = KITCHEN	0.0	KVA
L = LITE	1.5	KVA
R = RCPT	1.4	KVA
M = MOTOR	0.0	KVA
X = MISC	0.6	KVA
H = HEAT	0.0	KVA
C = COOL	0.0	KVA
TOTAL PANEL DEMAND =	3.5	KVA
	9.7	AMPS

BREAKER NOTES
E = EXISTING BREAKER
L = PROVIDE A BREAKER LOCK ON DEVICE
T = PROVIDE A SHUNT TRIP BREAKER.
G = PROVIDE A GFI BREAKER.
A = PROVIDE AN ARC FAULT CIRCUIT INTERRUPTER BREAKER.

COMMENTS
1 PROVIDE (2)#12,(1)#12GND,3/4"C FOR ALL BRANCH CCTS UNLESS STATED OTHERWISE.
2. PROVIDE LOCKING TYPE BREAKER FOR ALL LIFE SAFETY AND NIGHT LIGHTING BRANCH CIRCUITS.

(E) PANEL A

PANEL NAME: (E) PANEL A | VOLTAGE: 208 | PHASE: 3 | WIRE: 4
SOURCE: UTILITY | LOCATION: BACK KITCHEN | 400A MCB WITH FEED THRU LUGS

#	K	L	R	M	X	H	C	BREAKER AMP	POLE	DESCRIPTION	KVA/PHASE A	B	C	DESCRIPTION	BREAKER AMP	POLE	K	L	R	M	X	H	C	#
1							3.6	45	3	RTU-3	7.2			RTU-4	45	3							3.6	2
3							3.6					7.2											3.6	4
5							3.6						7.2										3.6	6
7				0.7				20	3	MAU-1 (FAN)	3.4			KEF-1	20	1				2.7				8
9				0.7								0.7		SPARE	20	1								10
11				0.7									0.7	SPARE	20	1								12
13				1.7				20	3	MAU-1 (CONDENSER)	1.8			EF-2	20	1				0.1				14
15				1.7								2.3		DWH-1	20	1					0.6			16
17				1.7									1.9	WATER SOFTENER	20	1					0.2			18
19							20	1	SPARE		0.7			ROOF RCPT	20	1				0.7				20
21		0.7					20	1	CONV. RCPT			0.7		SPARE	20	1								22
23				0.9				20	2	38- W.I.C. CONDENSING UNIT			4.5										3.6	24
25				0.9							4.5			RTU-6	45	3							3.6	26
27							3.6					7.2											3.6	28
29							3.6	45	3	RTU-5			6.3							2.7				30
31							3.6				6.3			AC-1	35	3				2.7				32
33								20	1	SPARE		2.7								2.7				34
35								20	1	SPARE			1.3							1.3				36
37	0.0	0.5	0.7	0.0	0.2	0.0	0.0				2.7			AC-2	20	3				1.3				38
39	0.0	0.5	0.7	0.0	0.2	0.0	0.0	100	3	PANEL C		2.7								1.3				40
41	0.0	0.5	0.7	0.0	0.2	0.0	0.0						1.4	SPARE	20	1								42
											17.1							16.3	0.0	0.4	0.1	0.3	0.0	0.0	
												17.1		PANEL B				16.3	0.0	0.4	0.1	0.3	0.0	0.0	
													17.1					16.3	0.0	0.4	0.1	0.3	0.0	0.0	
										TOTAL CONNECTED LOAD/PH	43.7	40.5	40.3											

49.0	1.5	4.5	24.1	2.2	0.0	43.2	

TOTAL CONNECTED LOAD: 124.55

K = KITCHEN	49.0	KVA
L = LITE	1.5	KVA
R = RCPT	4.5	KVA
M = MOTOR	24.1	KVA
X = MISC	2.2	KVA
H = HEAT	0.0	KVA
C = COOL	43.2	KVA
TOTAL PANEL DEMAND =	124.5	KVA
	346.1	AMPS

BREAKER NOTES
E = EXISTING BREAKER
L = PROVIDE A BREAKER LOCK ON DEVICE
T = PROVIDE A SHUNT TRIP BREAKER.
G = PROVIDE A GFI BREAKER.
A = PROVIDE AN ARC FAULT CIRCUIT INTERRUPTER BREAKER.

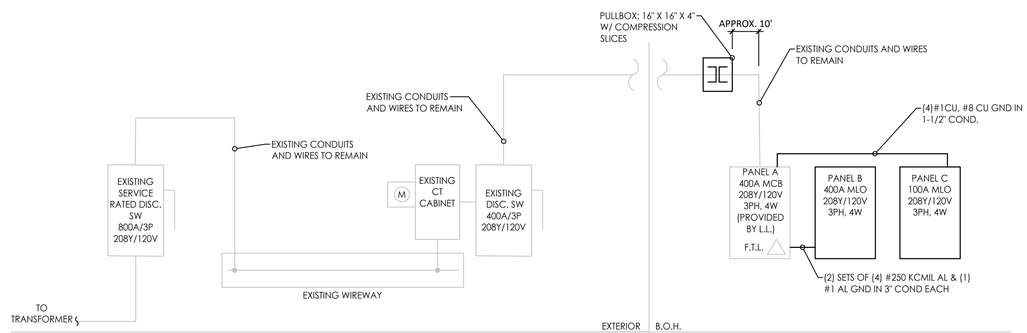
COMMENTS
1 PROVIDE (2)#12,(1)#12GND,3/4"C FOR ALL BRANCH CCTS UNLESS STATED OTHERWISE.
2. PROVIDE LOCKING TYPE BREAKER FOR ALL LIFE SAFETY AND NIGHT LIGHTING BRANCH
3 W/ FEED THRU LUGS

NEC ELECTRICAL LOAD SUMMARY

DESCRIPTION	CONNECTED LOAD (KVA)	N.E.C. DEMAND FACTOR	N.E.C. FEEDER DEMAND (KVA)
LIGHTING	1.54	1.25	1.93
SHOW WINDOW	0.54	NEC 220.43 (32 FT)	6.40
KITCHEN EQUIPMENT	49.04	NEC 220.56	31.88
RECEPTACLES	3.96	NEC 220.44	3.96
LARGEST MOTOR	8.00	1.25	10.00
ADDITIONAL MOTORS	16.07	1.00	16.07
COOLING	43.20	1.00	43.20
HEATING (LESS THAN COOLING LOAD)	0.00	0.00	0.00
SIGNAGE (QT. 3)	0.60	NEC 220.14	3.60
MISCELLANEOUS	1.59	1.00	1.59
TOTAL	124.55		118.63

$$\frac{\text{N.E.C. DEMAND KVA x 1000}}{\text{SYSTEM VOLTAGE x 1.73}} = \text{MIN FEEDER AMPS}$$

$$\frac{118.63 \text{ KVA x } 1000}{208 \text{ x SQRT(3)}} = 329.67$$



1 ONE LINE DIAGRAM
N.T.S.

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STATE OF MISSOURI
DOUGLAS ANDREW SMELKER
NUMBER PE-2007020014
PROFESSIONAL ENGINEER
6-14-2022

CAVA

CAVA - LEE'S SUMMIT
900 NW PRYOR RD
LEE'S SUMMIT, MO 64081
FOR
CAVA
702 H STREET, 2ND FLOOR, WASHINGTON, DC 20001

PROJECT NUMBER: CAV070

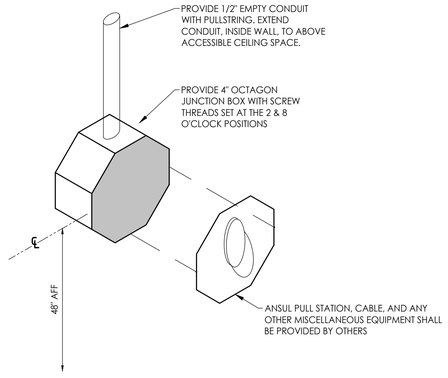
ISSUE	DATE
PERMIT	JUN 14, 2022

SCHEDULES
ELECTRICAL

SHEET: E301

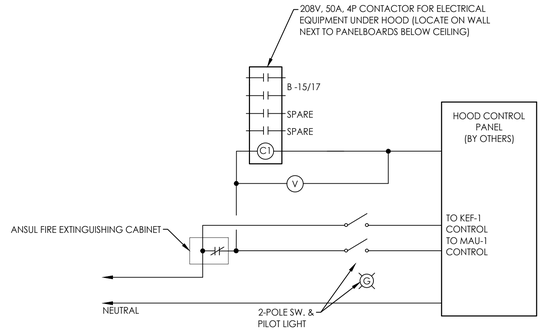
ELECTRICAL SCHEDULE

ITEM NO	QTY	EQUIPMENT CATEGORY	PLUG	DIRECT	NEMA	ELECTRICAL AFF (IN)	AMPS	KW	HP	VOLTS	PHASE	ELEC REMARKS
3	1	REFRIGERATED , WALK-IN COOLER		X		DN	20.0			120	1	ELECTRIC DOWN FROM ABOVE, FOR WALK-IN LIGHTS
3A	1	EVAPORATOR COIL, COOLER		X		DN	2.0			115	1	ELECTRIC DOWN FROM ABOVE
3B	1	CONDENSING UNIT		X			9.0		1	208-230	1	
14	1	WAREWASHER, UNDERCOUNTER, LOW TEMP		X		16"	12.0		1.0	115	1	BY VENDOR VERIFY UTILITIES
22	1	CARBONATOR	X			16"	20.0			120	1	BY VENDOR, VERIFY UTILITIES
25	1	ICE MAKER		X		60"	13.3			120	1	
26A	1	COUNTER, WORK		X		16"	30.0			120	1	CONV. OUTLET, E.C. TO INTERCONNECT TO FIXTURE MOUNTED RECEPTACLES IN COUNTER
27	1	CABINET, MOBILE, WARMING & HOLDING	X		5-15P		9.0	1.1		120	1	PLUGS INTO FIXTURE MTD. RECPT. LOCATED IN ITEM #26A
28	2	REFRIGERATOR, UNDERCOUNTER, COMPACT	X		5-15P		6.5		0.2	120	1	PLUGS INTO FIXTURE MTD. RECPT. LOCATED IN ITEM #26A
31	1	TABLE, CABINET BASE W/ SINK		X		34"	30.0			230	1	ELECTRICAL CONNECTION TO FIXTURE MTD. RECPT. LOCATED IN COUNTER, ELECTRIC FOR ITEM #34
33	1	EXHAUST HOOD		X		DN	20.0			120	1	ELECTRIC DOWN FROM ABOVE, FOR LIGHT SWITCH, SEE SHEETS FS-7 THRU FS-7.5 FOR DETAILS
33A	1	ELEC PAK / FIRE SUPRESSION		X		DN	20.0			208-460	3	ELECTRIC DOWN FROM ABOVE, FOR FANS SWITCH, SEE SHEETS FS-7 THRU FS-7.5 FOR DETAILS
33B	1	EXHAUST FAN		X			3.8		2	460	3	SEE SHEETS FS-7 THRU FS-7.5 FOR DETAILS
33C	1	SUPPLY FAN		X			5.7		2.5	208	3	SEE SHEETS FS-7 THRU FS-7.5 FOR DETAILS
34	2	COOKER, RICE	X		6-20P		18.0			230	1	PLUGS INTO FIXTURE MTD. RECPT. LOCATED IN ITEM #31
36	2	SELF-SERVICE REFRIGERATED MERCHANDISER	X		5-20P	84"	3.0		1/2	120	1	
37A	1	DROP-IN, HOT WELLS, UNINSULATED	X		5-20P	16"	13.5			120	1	
41	2	SANDWICH / PANINI GRILL	X		5-15P	16"	15.0			120	1	
41A	1	DRAWER, HOLD & SERVE	X		5-15P	16"	12.0	1.44		120	1	
42	2	REFRIGERATOR, SANDWICH/SALAD PREP	X		5-15P	16"	7.2		1/5	115	1	W/ RECESSED PLUG
43	1	OVEN, CONVECTION, ELECTRIC	X		6-50P	16"	50.0	8.32/9.6		208	1	
48	1	HEAT LAMP, DECORATIVE		X		DN	3.2	0.4		120	1	ELECTRIC DOWN FROM ABOVE LOCATED IN CEILING
49	1	DROP-IN, HOT WELLS	X		5-20P	16"	15.0			120	1	
51	1	DROP-IN, HEATED SHELF	X		5-15P	16"	3.5	0.4		120	1	
52	1	DROP-IN, COLD PAN	X		5-15P	16"	5.0			115	1	
57	1	POS SYSTEM	X		5-15P	16"	15.0			120	1	BY VENDOR, VERIFY UTILITIES, DATA LINE INCLUDED
59	1	REFIGERATOR, REACH-IN SANDWICH PREP	X		5-15P	16"	7.1			115	1	
60	1	TABLE,CABINET BASE		X		16"	20.0			120	1	CONV. OUTLET, E.C. TO INTERCONNECT TO FIXTURE MOUNTED RECEPTACLES IN COUNTER
60A	1	DROP-IN, HOT WELL	X		5-20P	16"	15.0			120	1	
60B	1	WARMING DRAWER	X		5-15P	16"	5.3			120	1	
66	1	ICE DISPENSER W/ BEVERAGE HEADS	X			16"	5.0			120	1	BEVERAGE DISP., BY VENDOR, VERIFY UTILITIES
71	2	COLD BEVERAGE DISPENSER	X		5-15P	16"	6.0			120	1	



NOTE: COORDINATE EXACT LOCATION WITH AUTHORITY HAVING JURISDICTION, FIRE INSPECTOR AND ARCHITECT PRIOR TO ROUGH-IN.

2 ANSUL PULL STATION DETAIL
N.T.S.



NOTES:
1. ELECTRICAL CONTRACTOR SHALL PROVIDE CONTACTORS AND ALL INTERLOCK WIRING. COORDINATE EXACT TERMINATION REQUIREMENTS WITHIN HOOD CONTROL PANEL AND ANSUL CABINET WITH HOOD MANUFACTURER.

1 EXHAUST HOOD SHUT-DOWN WIRING DIAGRAM
N.T.S.

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STATE OF MISSOURI
DOUGLAS ANDREW SMELKER
NUMBER PE-2007020104
PROFESSIONAL ENGINEER
6-14-2022

CAVA

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ELECTRICAL SCHEDULES & DETAILS

SHEET:
E401

SPECIFICATIONS - DIVISION 26 - ELECTRICAL

SECTION 26 00 01 - GENERAL ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. DRAWINGS AND GENERAL PROVISIONS OF CONTRACT, INCLUDING GENERAL AND SUPPLEMENTAL CONDITIONS AND DIVISION-1 SPECIFICATION SECTIONS, APPLY TO WORK OF DIVISION 26 SECTIONS.

B. E-SERIES DRAWINGS APPLY TO WORK OF DIVISION 26 SECTIONS AND VICE VERSA.

1.2 GENERAL STANDARDS

A. PROVIDE WORK IN COMPLIANCE WITH APPLICABLE PROVISIONS OF THE FOLLOWING STANDARDS. PROVIDE UL LISTING AND UL LABEL FOR ALL ELECTRICAL MATERIALS, EQUIPMENT, LUMINAIRES, DEVICES, ETC. IN CASES WHERE UL LISTING AND/OR LABELING IS NOT AVAILABLE FOR A PARTICULAR PRODUCT, PROVIDE EQUIVALENT LISTING AND LABELING FROM ANOTHER THIRD PARTY NATIONALLY RECOGNIZED CERTIFICATION LABORATORY, SUBJECT TO APPROVAL BY LOCAL ELECTRICAL INSPECTOR AND AUTHORITIES HAVING JURISDICTION.

B. PROVIDE WORK IN STRICT ACCORDANCE WITH THE LATEST EDITION OF APPLICABLE CODES INCLUDING (BUT NOT LIMITED TO) THE FOLLOWING CODES AND STANDARDS.

1. NATIONAL ELECTRICAL CODE (NEC), NFPA 70.
2. LIFE SAFETY CODE, NFPA 101.
3. OTHER PROVISIONS OF NFPA AS APPLICABLE.
4. LOCAL ELECTRICAL CODES.
5. LOCAL UTILITY COMPANY REQUIREMENTS.
6. ADA/ADAAG REQUIREMENTS.
7. ASME.
8. INTERNATIONAL BUILDING CODE.
9. INTERNATIONAL ENERGY CONSERVATION CODE.

1.3 MATERIALS AND EQUIPMENT

A. UNLESS SPECIFICALLY INDICATED OTHERWISE PROVIDE (FURNISH AND INSTALL) ALL SPECIFIED AND DRAWN EQUIPMENT, RACEWAY, BOXES, LUMINAIRES, CONTROLS, WIRING, CABLING, SUPPORTS AND OTHER MATERIALS AS REQUIRED TO RENDER ALL ELECTRICAL AND ELECTRICALLY OPERATED EQUIPMENT, LUMINAIRES, DEVICES, ETC, FULLY OPERATIONAL. UNLESS SPECIFICALLY INDICATED OTHERWISE PROVIDE (FURNISH AND INSTALL) ALL MATERIALS THAT ARE SPECIFIED UNDER DIVISION 26. DISCREPANCIES OR UNCERTAINTIES PERCEIVED BY A BIDDER, OR OTHER QUESTIONABLE INTERPRETATIONS BY A BIDDER, ARE SUBJECT TO FINAL INTERPRETATIONS AND DECISIONS BY THE OWNER'S REPRESENTATIVE UNLESS ADDRESSED BEFORE BIDDING BY ADDENDUM OR UNLESS QUALIFIED OR EXCEPTED WITHIN BIDS.

B. PROVIDE MATERIALS THAT ARE NEW, FULL WEIGHT, OF THE BEST QUALITY. PROVIDE SIMILAR MATERIALS THAT ARE OF THE SAME TYPE AND MANUFACTURER. PROVIDE MATERIALS, APPARATUS AND EQUIPMENT WITH UNDERWRITER'S LABORATORY, INC. LABEL WHERE REGULARLY SUPPLIED.

C. MAINTAIN SAFETY AND GOOD CONDITION OF THE MATERIALS AND EQUIPMENT INSTALLED UNTIL FINAL ACCEPTANCE BY THE OWNER. STORE MATERIALS TO PREVENT DAMAGE AND WEATHERING PRIOR TO INSTALLATION.

D. WHEN SEVERAL MATERIALS, PRODUCTS OR ITEMS OF EQUIPMENT ARE SPECIFIED BY NAME FOR ONE USE, SELECT ONE OF THOSE SPECIFIED.

END OF SECTION

SECTION 26 00 01 - BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 - GENERAL

1.1 GENERAL

A. FURNISH AND INSTALL ALL LABOR AND MATERIAL, TOOLS AND EQUIPMENT NECESSARY TO RENDER ALL SYSTEMS COMPLETE AND OPERATIONAL, AND READY FOR TURNOVER TO OWNER.

1.2 HEIGHT OF BOXES

A. CONTRACTOR TO VERIFY THE EXACT MOUNTING HEIGHTS (AND LOCATIONS) OF OUTLETS IN THE FIELD WITH RELATION TO ARCHITECTURAL DETAIL AND EQUIPMENT BEING SERVED. COORDINATE OUTLET LOCATION WITH EQUIPMENT, WITH FURNITURE PLANS AND WITH ARCHITECTURAL ELEVATION PLANS. WHERE MOUNTING HEIGHTS ARE NOT DETAILED OR DIMENSIONED, CONTACT THE OWNER'S REPRESENTATIVE FOR DIRECTION.

B. PRIOR TO ROUGH-IN, COORDINATE FINAL MOUNTING HEIGHTS OF SYSTEM OUTLET BOXES IN FIELD WITH OWNER'S REPRESENTATIVE. INSTALL BOXES AT HEIGHTS AS FOLLOWS, TO CENTER OF BOX, UNLESS DIRECTED OTHERWISE IN FIELD OR OTHERWISE NOTED ON E-SERIES DRAWINGS OR ARCHITECTURAL PLANS. HEIGHT OF BOXES DIMENSIONED FROM CEILING APPLY TO ROOMS HAVING CEILINGS 9' OR LESS; IN ROOMS HAVING HIGHER CEILINGS, LOCATE THESE AS DIRECTED IN THE FIELD.

SWITCHES - COUNTERS	44" (FIELD VERIFY & MATCH COUNTER RECEPT. HEIGHTS)
SWITCHES - ELSEWHERE	48" TO TOP OF OUTLET BOX
OCCUPANCY SENSORS - WALLBOX SWITCHES	48" TO TOP OF OUTLET BOX
OCCUPANCY SENSORS - ELSEWHERE	AS RECOMMENDED BY MANUFACTURER
RECEPTACLES - COUNTERS	44" (FIELD VERIFY)
RECEPTACLES - ELSEWHERE	18"
DISCONNECTS	46"
CIRCUIT BREAKER PANELBOARDS	72" TO TOP OF PANEL UNLESS SPECIAL CIRCUMSTANCES ARE INDICATED OR OTHERWISE APPLY
WALL MOUNTED LUMINAIRES	AS NOTED ON PLANS OR AS DIRECTED BY ARCHITECT
CONTROL STATIONS	46"
FIRE ALARM MANUAL PULL STATIONS	46" TO TOP OF OPERATING HANDLE
FIRE ALARM AUDIO/VISUAL ANNUNCIATORS	80" TO BOTTOM OF OUTLET BOX
TELEPHONE OUTLETS - DESK PHONE	18"
TELEPHONE OUTLETS - WALL PHONE	46"
DATA OUTLETS	18" TO TOP OF OUTLET BOX.

1.3 ELECTRICAL INSTALLATIONS

A. INSTALL WORK CONDUIT, WIRING, OUTLET BOX TYPE WORK IN FINISHED AREAS CONCEALED. SUCH WORK INSTALLED IN UNFINISHED AREAS MAY BE EXPOSED AT THE DISCRETION OF THE OWNER'S REPRESENTATIVE.

B. VERIFY DIMENSIONS BY FIELD MEASUREMENTS. TAKE MEASUREMENTS AND BE RESPONSIBLE FOR EXACT SIZE AND LOCATIONS OF OPENINGS REQUIRED FOR THE INSTALLATION OF WORK. FIGURED DIMENSIONS ARE REASONABLY ACCURATE AND SHOULD GOVERN IN SETTING OUT WORK. WHERE DETAILED METHOD OF INSTALLATION IS NOT INDICATED OR WHERE VARIATIONS EXIST BETWEEN DESCRIBED WORK AND APPROVED PRACTICE, FOLLOW DIRECTION OF THE OWNER'S REPRESENTATIVE.

C. PROVIDE BRANCH SUBFEEDER CIRCUITS AS SHOWN ON THE PLANS. THE SYMBOLS USED TO INDICATE THE PURPOSE OF WHICH THE VARIOUS OUTLETS ARE INTENDED ARE IDENTIFIED IN THE ELECTRIC LEGEND. WHERE OUTLETS ARE INDICATED BY LETTERS ON PLANS, PROVIDE CORRESPONDING SWITCHES TO CONTROL THEM.

D. PROVIDE NO WIRE SIZE SMALLER THAN NO. 12 FOR BRANCH CIRCUITS UNLESS OTHERWISE NOTED ON PLANS FOR CONTROL CIRCUITS. PROVIDE LARGER SIZES WHERE REQUIRED BY PREVAILING CODES OR INDICATED ON CONTRACT DOCUMENTS. PROVIDE NEUTRAL CONDUCTOR FOR ALL MULTI-POLE FEEDERS. PROVIDE NEUTRAL CONDUCTOR(S) FOR ALL MULTI-POLE FEEDERS AND BRANCH CIRCUITS UNLESS THIS CONTRACTOR DETERMINES IN FIELD THAT THE AFFECTED LOAD(S) WILL NEVER HAVE NEED FOR A NEUTRAL CONDUCTOR AND NEC DOES NOT MANDATE OTHERWISE.

1.4 COORDINATION

A. PLANS ARE DIAGRAMMATIC INDICATING DESIGN INTENT AND INDICATING REQUIRED SIZE, POINTS OF TERMINATION AND, IN SOME CASES, SUGGESTED ROUTES OF RACEWAYS, ETC. HOWEVER, IT IS NOT INTENDED THAT DRAWINGS INDICATE FULLY COORDINATED CONDUIT ROUTING, NECESSARY OFFSETS, ETC. THE DRAWINGS ARE AN OUTLINE TO INDICATE THE APPROXIMATE LOCATION AND ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, OUTLETS, RACEWAYS, CABLES, ETC. INSTALL PIPING, CONDUIT, RACEWAYS, CABLE ASSEMBLIES, ETC. AS STRAIGHT AS POSSIBLE AND SYMMETRICAL (PERPENDICULAR TO OR PARALLEL WITH) WITH ARCHITECTURAL ITEMS. WORK IN AND ON THE BUILDING INSTALLED DIAGONAL TO BUILDING MEMBERS IS PROHIBITED.

B. CONSULT THE PLANS OF OTHER TRADES BEFORE INSTALLING WORK SO THAT WORK WILL NOT INTERFERE WITH THOSE.

C. PARTICIPATE IN COORDINATION EFFORTS AND IN PREPARATION OF COORDINATION DRAWINGS PRIOR TO FABRICATION OR INSTALLATION OF EQUIPMENT, MATERIALS, ETC. COORDINATE ACTUAL CLEARANCES OF INSTALLED EQUIPMENT. COORDINATE EXACT LOCATION OF ELECTRICAL OUTLETS, LIGHTING FIXTURES, CONDUITS, RACEWAYS, EQUIPMENT, CABLE ASSEMBLIES, APPLICABLE DEVICES, ETC. WELL IN ADVANCE OF INSTALLATION SO THERE WILL BE NO INTERFERENCES AT INSTALLATION BETWEEN THE VARIOUS TRADES.

D. ENSURE THAT WORK AND WORKING CLEARANCES IN ELECTRICAL ROOMS AND SIMILAR SPACES COMPLIES WITH NEC ARTICLE 110. THIS ALSO APPLIES TO FINALIZING LOCATIONS OF DISCONNECTS, STARTERS, CONTACTORS AND OTHER ELECTRICALLY OPERATED EQUIPMENT THAT MAY REQUIRE TESTING OR MAINTENANCE WHILE ENERGIZED.

E. COORDINATE AND CORRECT CONFLICTS IN EQUIPMENT AND MATERIALS PRIOR TO INSTALLATION. IF A CONFLICT CANNOT BE RESOLVED, REFER THE MATTER TO THE OWNER'S REPRESENTATIVE FOR A FINAL DECISION AS TO METHOD AND MATERIAL.

1.5 IDENTIFICATION

A. CABLE AND CONDUCTOR IDENTIFICATION

1. PROVIDE MANUFACTURER'S STANDARD VINYL-CLOTH SELF-ADHESIVE CONDUCTOR MARKERS OF WRAP-AROUND TYPE, EITHER PRE-NUMBERED PLASTIC COATED TYPE, OR WRITE-ON TYPE WITH CLEAR PLASTIC SELF-ADHESIVE COVER FLAP; NUMBERED TO SHOW CIRCUIT IDENTIFICATION. PROVIDE ON CONDUCTORS. PROVIDE COLOR CODED INSULATION FOR CONDUCTORS. PROVIDE COLOR CODED JACKETS FOR CABLES. MATCH COLOR SCHEMES WITH MARKING SYSTEM USED IN SUBMITTALS, CONTRACT DOCUMENTS, INDUSTRY STANDARDS, ETC. APPLY CABLE/CONDUCTOR IDENTIFICATION ON EACH CABLE IN EACH BOX/ENCLOSURE/CABINET FOR CABLES THAT ARE NOT AVAILABLE WITH COLOR CODED INSULATION OR JACKETS.

2. USE THE FOLLOWING INSULATION COLOR CODE FOR POWER SYSTEM AND VOLTAGE IDENTIFICATION. THIS APPLIES TO BOTH FEEDER AND BRANCH CIRCUIT WIRING. DO NOT INTERCHANGE COLORS. THE USE OF SCOTCH COLOR CODING TAPES FOR PHASE IDENTIFICATION MAY BE USED ON FEEDER CABLES ONLY (#4 AWG AND LARGER).

a. 480Y/277V SYSTEM BROWN, ORANGE, YELLOW & GRAY (NEUT.)
b. 208Y/120V SYSTEM: BLACK, RED, BLUE & WHITE (NEUTRAL)
c. 240V DELTA SYSTEM: BLACK, RED & BLUE
d. 120/240V SYSTEM: BLACK, RED & WHITE (NEUTRAL)
e. ELECTRONIC GROUND: GREEN WITH YELLOW TRACER (NEUTRAL)
f. EQUIPMENT GROUNDING: GREEN

C. RACEWAY IDENTIFICATION

1. PROVIDE MANUFACTURER'S STANDARD SELF-ADHESIVE VINYL TAPE NOT LESS THAN 3 MILS THICK BY 1-1/2" WIDE. UNLESS OTHERWISE INDICATED OR REQUIRED BY GOVERNING REGULATIONS PROVIDE BLACK LETTERING ON ORANGE BASE WITH MINIMUM 1/2" HIGH LETTERING, AS A MINIMUM, NEATLY INSTALL MARKERS AT EACH AND EVERY ENTRY POINT TO ROOMS, JUNCTION BOXES, PULL BOXES, EQUIPMENT CONNECTIONS, ETC. DO NOT INSTALL THESE MARKERS ON EXPOSED RACEWAYS IN FINISHED AREAS THAT WILL BE OCCUPIED.

D. EMERGENCY SYSTEMS

1. PROVIDE PERMANENT IDENTIFICATION FOR BOXES, ENCLOSURES, ETC. THAT ARE ASSOCIATED WITH EMERGENCY SYSTEM WORK. PAINT AND IDENTIFY EMERGENCY SYSTEM PULL BOXES, JUNCTION BOXES, AND OTHER ACCESS/PULL POINTS (BOXES AND COVERS) IN ACCORDANCE WITH NEC. PROVIDE EMERGENCY SYSTEM EQUIPMENT PANELBOARDS, CABINETS, ENCLOSURES, ETC. WITH RED MECHANICALLY FASTENED ENGRAVED NAMEPLATES WITH THE FIRST LINE OF TEXT TO READ "EMERGENCY CIRCUITS" AND THE REMAINING LINES TO INCLUDE THE NECESSARY DESCRIPTIVE TEXT.

E. FIRE ALARM SYSTEMS

1. PROVIDE PERMANENT IDENTIFICATION FOR BOXES, ENCLOSURES, ETC. THAT ARE ASSOCIATED WITH FIRE ALARM SYSTEM WORK. PAINT AND IDENTIFY FIRE ALARM SYSTEM PULL BOXES, JUNCTION BOXES, AND OTHER ACCESS/PULL POINTS (BOXES AND COVERS) IN ACCORDANCE WITH NEC/NFPA. PROVIDE FIRE ALARM SYSTEM CONTROL PANEL EQUIPMENT CABINETS, ENCLOSURES, ETC. WITH RED MECHANICALLY FASTENED ENGRAVED NAMEPLATES WITH THE FIRST LINE OF TEXT TO READ "FIRE ALARM" AND THE REMAINING LINES TO INCLUDE THE NECESSARY DESCRIPTIVE TEXT.

F. KITCHEN EQUIPMENT RECEPTACLES

1. LABEL EACH RECEPTACLE FOR PROPER DEDICATED EQUIPMENT INDICATED.

FIRE ALARM SYSTEMS

1.6 CUTTING, PATCHING AND SEALING

E. GENERAL

1. PROVIDE CUTTING AND PATCHING FOR THE ADMISSION OF WORK, PERFORM CUTTING, FITTING, AND PATCHING FOR ELECTRICAL EQUIPMENT AND MATERIALS AS REQUIRED TO:
   a. UNCOVER WORK TO PROVIDE FOR INSTALLATION OF ILL-TIMED WORK.
   b. REMOVE AND REPLACE DEFECTIVE WORK.
   c. REMOVE AND REPLACE WORK NOT CONFORMING TO REQUIREMENTS OF THE CONTRACT DOCUMENTS.
   d. REMOVE SAMPLES OF INSTALLED WORK AS SPECIFIED FOR TESTING.
   e. INSTALL EQUIPMENT AND MATERIALS IN EXISTING BUILDINGS.
2. PATCH SURFACES AND BUILDING COMPONENTS USING NEW MATERIALS MATCHING EXISTING MATERIALS AS APPLICABLE AND USING EXPERIENCED INSTALLERS.

B. GROUT

1. PROVIDE NON-SHRINK, NONMETALLIC GROUT, PREMIXED, FACTORY-PACKAGED, NONSTAINING, NONCORROSIVE, NONGASEOUS GROUT, RECOMMENDED FOR INTERIOR AND EXTERIOR APPLICATIONS.

C. GENERAL FIRE STOPPING MATERIAL APPLICATION

1. FIRE STOPPING REQUIREMENTS/LOCATIONS ARE NOT INDICATED ON ELECTRICAL DRAWINGS. REVIEW ARCHITECTURAL AND OTHER DRAWINGS TO DETERMINE FIRE/SMOKE RATED WALLS AND FLOORS AND RATING REQUIREMENTS OF SAME. PROVIDE REQUIRED FIRE STOPPING WORK ASSOCIATED WITH ELECTRICALLY RELATED PENETRATIONS. PROVIDE FIRE STOP PILLOWS, PUTTY OR SEALANT, AS APPLICABLE, WITH MINIMUM UL CLASSIFICATION FOR 3 HOUR FIRE AND COLD SIDE TEMPERATURE RATINGS.

END OF SECTION

SECTION 26 05 01 - EXISTING CONDITIONS AND DEMOLITION

PART 1 - GENERAL

1.1 RELATED WORK

A. WHERE THE TERM "DEMOLITION" IS USED HEREIN, INTERPRET IT TO MEAN "DEMOLITION" OR "SELECTIVE DEMOLITION" AS APPLICABLE..

B. EXISTING ELECTRICAL WORK IS SHOWN TO A LIMITED EXTENT ON DRAWINGS AND IS SHOWN FOR GENERAL PLANNING REFERENCE ONLY. LOCATIONS AND INFORMATION WERE DERIVED FROM CURSORY VISUAL OBSERVATIONS OR FROM PORTIONS OF DOCUMENTS THAT WERE PREPARED FOR PREVIOUSLY INSTALLED WORK (NOT FROM RECORD DRAWINGS OR "AS-BUILTS").

C. HOLD ROUTING OF NEW RACEWAYS IN EXISTING BUILDINGS AS TIGHTLY AS POSSIBLE TO THE STRUCTURE ABOVE. OBTAIN APPROVAL OF OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

1.2 AFFECT ON ADJACENT OCCUPIED AREAS

A. MAINTAIN EXISTING ELECTRICAL SERVICE AND FEEDERS TO OCCUPIED AREAS AND OPERATIONAL FACILITIES, UNLESS OTHERWISE INDICATED, OR WHEN AUTHORIZED OTHERWISE IN WRITING BY OWNER'S REPRESENTATIVE. PROVIDE TEMPORARY SERVICE DURING INTERRUPTIONS TO EXISTING FACILITIES. SCHEDULE MOMENTARY OUTAGES WHEN NECESSARY FOR REPLACING EXISTING WIRING SYSTEMS WITH NEW WIRING SYSTEMS. WHEN THAT "CUTTING-OVER" HAS BEEN SUCCESSFULLY ACCOMPLISHED, REMOVE RELATED WIRING THAT HAS BEEN ABANDONED.

1.3 GENERAL DEMOLITION

A. PROVIDE ELECTRICAL DEMOLITION WORK AS REQUIRED TO ACCOMMODATE PROJECT DEMOLITION AND AS REQUIRED TO ACCOMMODATE NEW CONSTRUCTION.

B. PERFORM CUTTING AND PATCHING REQUIRED FOR DEMOLITION.

END OF SECTION

SECTION 26 05 19 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 GENERAL

A. PROVIDE WIRE AND CABLE SUITABLE FOR THE TEMPERATURE, CONDITIONS, AND LOCATION WHERE INSTALLED.

1.2 CONDUCTORS

A. PROVIDE COPPER CONDUCTOR MATERIAL FOR WIRES AND CABLES UNLESS SPECIFICALLY INDICATED OTHERWISE ON SINGLE-LINE DIAGRAM ON DRAWINGS.

B. CONDUCTOR SIZES INDICATED ARE BASED ON COPPER UNLESS SPECIFICALLY INDICATED OTHERWISE ON SINGLE-LINE DIAGRAM ON DRAWINGS.

C. PROVIDE MINIMUM #12 AWG CONDUCTOR SIZE.

D. STRANDED OR SOLID CONDUCTORS MAY BE USED FOR TYPE MC CABLE CONDUCTORS THAT ARE #10 AWG OR LESS WHERE PERMITTED BY PREVAILING CODES AND AUTHORITIES HAVING JURISDICTION. PROVIDE STRANDED CONDUCTORS FOR ALL OTHER APPLICATIONS.

E. PROVIDE THE FOLLOWING MINIMUM WIRE SIZES BASED ON DISTANCES FROM PANEL TO FIRST DEVICE OF A 15 OR 20 AMPERE GENERAL LIGHTING OR RECEPTACLE BRANCH CIRCUIT. IN ADDITION TO UPSIZING CONDUCTORS AS REQUIRED FOR VOLTAGE DROP, PROVIDE MINIMUM #10 AWG CONDUCTORS TO THE LAST DEVICE FOR BRANCH CIRCUITS MORE THAN 150 FEET IN LENGTH.

DISTANCE	AWG WIRE SIZES
UP TO 60 FEET	#12
61 TO 90 FEET	#10
91 TO 150 FEET	#8
151 TO 240 FEET	#6

F. PROVIDE THE FOLLOWING MINIMUM AWG CONDUCTOR SIZES FOR GENERAL BRANCH CIRCUITING, BASED ON USING COPPER CONDUCTORS. WHERE APPLICABLE INCREASE AS REQUIRED TO ACCOMMODATE VOLTAGE DROP AND TO ACCOMMODATE SPECIAL CONDITIONS. DO NOT DERATE ANY GROUNDED (NEUTRAL) CONDUCTORS.

	EQUIPMENT GROUNDING	
SOURCE BREAKER/FUSE	AWG WIRE SIZE	AWG WIRE SIZE
15 AMPERE	#14	#14
20 AMPERE	#12	#12
25 AMPERE	#10	#10
30 AMPERE	#10	#10
35 AMPERE	# 8	#10
40 AMPERE	# 8	#10
45 AMPERE	# 8	#10
50 AMPERE	# 6	#10
60 AMPERE	# 6	#10
70 AMPERE	# 4	#8
80 AMPERE	# 4	#8
90 AMPERE	# 2	#8
100 AMPERE	# 2	#8

G. PROVIDE CONDUCTOR INSULATION RATED AT 600VAC AND 90 DEGREES C. PROVIDE THHN/THWN INSULATION FOR CONDUCTORS SIZE 500 KCMIL AND LARGER, AND FOR CONDUCTORS # 8 AWG AND SMALLER. PROVIDE THW OR THHN/THWN INSULATION FOR OTHER SIZES AS APPROPRIATE FOR THE LOCATIONS WHERE INSTALLED.

H. PROVIDE XHHW-2 INSULATION FOR WIRING BELOW GRADE AND FOR WIRING SUBJECT TO MOISTURE CONDITIONS.

I. PROVIDE DEDICATED PARITY SIZED GROUNDED (NEUTRAL) CONDUCTOR FOR EACH BRANCH CIRCUIT PHASE CONDUCTOR FED FROM 15 AMPERE AND 20 AMPERE BRANCH CIRCUIT BREAKERS.

J. PROVIDE GROUNDED (NEUTRAL) CONDUCTOR(S) FOR ALL MULTI-POLE FEEDERS UNLESS INDICATED OTHERWISE ON POWER DISTRIBUTION SINGLE-LINE DIAGRAM.

K. PROVIDE GROUNDED (NEUTRAL) CONDUCTOR(S) FOR ALL MULTI-POLE BRANCH CIRCUITS.

1.3 TYPE AC/MC CABLES

A. PROVIDE TYPE AC/MC CABLES THAT ARE MINIMUM 90 DEGREES C RATED, WITH COMPONENTS AND FITTINGS LISTED FOR GROUNDING, AND COMPLIANT WITH THE FOLLOWING.

1. UL STD.4 AND UL STD. 83.
2. ANSI E119 AND E814.
3. NEC ARTICLES 250 AND 333.

B. PROVIDE CABLE FORMED FROM CONTINUOUS LENGTH OF SPIRALLY WOUND, INTERLOCKED ZINC-COATED OR GALVANIZED (INSIDE & OUTSIDE) STRIP STEEL. PROVIDE CABLES WITH FULL PARITY SIZED GREEN INSULATED EQUIPMENT GROUND CONDUCTOR.

C. PROVIDE COMPATIBLE STEEL FITTINGS WITH INTEGRAL RED PLASTIC INSULATED THROAT BUSHINGS, COMPLIANT WITH NEC 350-5.

D. TYPE AC/MC CABLE MAY BE UTILIZED ONLY IF NEC APPROVED AND IF APPROVED BY LOCAL AUTHORITY HAVING JURISDICTION AND IF INCLUDED IN THE LIMITED APPLICATIONS DEFINED BELOW.

1. PROVIDE FOR NEW 15 THROUGH 20 AMPERE BRANCH CIRCUIT WORK. THIS APPLIES ONLY UNDER ALL OF THE FOLLOWING CIRCUMSTANCES AND CONDITIONS.
   a. PROVIDE ONLY WHERE CONCEALED (INSTALL WIRING FOR EXPOSED APPLICATIONS IN RACEWAY).
   b. ALL EQUIPMENT WIRING SHALL BE IN CONDUIT.
   c. ROUTE CABLES PERPENDICULAR AND PARALLEL TO THE BUILDING ARCHITECTURAL LINES, SURFACES, AND STRUCTURAL MEMBERS, KEEPING OFFSETS TO A MINIMUM AND FOLLOWING SURFACE CONTOURS WHERE POSSIBLE. MAINTAIN A UNIFORM ELEVATION FOR CABLE RUNS WHEREVER POSSIBLE. SUPPORT AND ANCHOR CABLES AT MAXIMUM 4 FOOT INTERVALS AND WITHIN 12" OF BOX OR OUTLET IN A MANNER THAT PREVENTS SAGGING. INSTALL CABLES IN A MANNER THAT PREVENTS OVERHEATING. FASTEN CABLES DIRECTLY TO THE STRUCTURE USING FACTORY CLAMPS AND CLIPS SPECIFICALLY DESIGNED FOR THE RESPECTIVE CABLE (CADDY OR EQUAL).
   d. PROVIDE ONLY WHERE INSTALLED FOR NORMAL UTILITY CIRCUITS. INSTALL WIRING FOR EMERGENCY SYSTEM CIRCUITS IN STEEL CONDUIT, NO EXCEPTIONS.

1.4 THE USE OF NM/NMS CABLE IS PROHIBITED.

PART 2 - EXECUTION

2.1 INSTALLATION

A. PROVIDE GROUNDED ("NEUTRAL") CONDUCTOR IN ALL LIGHTING CONTROL DEVICE (SWITCH, DIMMER, OCCUPANCY SENSOR, ETC.) WALL OUTLET BOXES, EVEN IF NOT IMMEDIATELY USED.

B. CONNECT WIRES #6 AWG AND LARGER TO PANELS AND APPARATUS BY MEANS OF APPROVED LUGS OR CONNECTORS LARGE ENOUGH TO ENCLOSE ALL STRANDS OF THE CONDUCTORS. PROVIDE SOLDERLESS TYPE CONNECTORS.

C. PROVIDE FACTORY SPLICE KITS (U.L. APPROVED FOR SUBMERSION IN WATER AND DIRECT BURIAL) FOR WIRE SPLICING IN OUTDOOR GRADE, OR SLAB ON GRADE, JUNCTION BOXES.

END OF SECTION

SECTION 26 05 26 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. THIS SECTION INCLUDES GROUNDING AND BONDING REQUIREMENTS FOR ELECTRICAL AND TELECOMMUNICATIONS SYSTEMS, CIRCUITS, AND EQUIPMENT.

B. PROVIDE THE FOLLOWING MINIMUM REQUIREMENTS FOR GROUNDING.

1. NFPA: - COMPONENTS AND INSTALLATION SHALL COMPLY WITH NFPA 70, "NATIONAL ELECTRICAL CODE" (NEC).
2. UL - COMPLY WITH UL 467, "GROUNDING AND BONDING EQUIPMENT."
3. ANSI/TIA/EIA-607, "COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS.

PART 2 - PRODUCTS

2.1 MATERIALS

A. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE GROUNDING AND BONDING PRODUCT MANUFACTURERS OF THE INSTALLER'S CHOICE UNLESS NOTED OTHERWISE.

B. EXCEPT AS OTHERWISE INDICATED, PROVIDE COPPER ELECTRICAL GROUNDING AND BONDING SYSTEMS AND MATERIALS WITH ASSEMBLY OF MATERIALS INCLUDING BUT NOT LIMITED TO CABLES/WIRES, CONNECTORS, SOLDERLESS LUG TERMINALS, GROUNDING ELECTRODES AND PLATE ELECTRODES, BONDING JUMPER BRAID, AND ADDITIONAL ACCESSORIES NEEDED FOR A COMPLETE INSTALLATION. WHERE MATERIALS OR COMPONENTS ARE NOT INDICATED, PROVIDE PRODUCTS THAT COMPLY WITH NEC, UL, AND IEEE REQUIREMENTS, AND WITH ESTABLISHED INDUSTRY STANDARDS FOR THOSE APPLICATIONS INDICATED. UTILIZE COMPATIBLE METALLIC MATERIALS THROUGHOUT SYSTEM TO ELIMINATE GALVANIC ACTION.

C. PROVIDE STEEL GROUNDING ELECTRODES WITH COPPER WELDED EXTERIOR, AND 3/4" DIAMETER BY 10 FEET LENGTH. PROVIDE SHEET COPPER PLATE ELECTRODES THAT ARE 20-GAGE BY 36" BY 36", WITH CABLE ATTACHMENTS (MINIMUM QUANTITY OF 2), SIZED FOR CABLES AS NECESSARY TO FULFILL PROJECT GROUNDING REQUIREMENTS. PROVIDE COPPER GROUND PLATES WHERE GROUND RODS CANNOT BE USED. PROVIDE CONNECTIONS TO GROUND ELECTRODES AT A POINT NOT LESS THAN 1 FOOT BELOW GRADE LEVEL, AND NOT LESS THAN 2 FEET AWAY FROM FOOTINGS AND FOUNDATIONS. WELD GROUNDING CONDUCTORS TO UNDERGROUND GROUNDING ELECTRODES WHERE MECHANICAL CONNECTIONS CAN NOT, OR SHOULD NOT, BE UTILIZED.

PART 3 - EXECUTION

3.1 INSTALLATION

A. TERMINATE FEEDER AND BRANCH CIRCUIT INSULATED EQUIPMENT GROUNDING CONDUCTORS WITH GROUNDING LUG, BUS, OR BUSHING. ROUTE GROUNDING CONNECTIONS AND CONDUCTORS TO GROUND AND PROTECTIVE DEVICES IN SHORTEST AND STRAIGHTEST PATHS AS POSSIBLE TO MINIMIZE TRANSIENT VOLTAGE RISES.

B. INSTALL CLAMP-ON CONNECTORS ON CLEAN METAL CONTACT SURFACES, TO ENSURE ELECTRICAL CONDUCTIVITY AND CIRCUIT INTEGRITY.

C. PROVIDE CORROSION-RESISTANT FINISH TO FIELD-CONNECTIONS, TO PLACES WHERE FACTORY APPLIED PROTECTIVE COATINGS HAVE BEEN DAMAGED, AND WHERE SUBJECT TO CORROSIVE ACTION.

D. ROUTE GROUND CONDUCTORS USED FOR BONDING IN PROTECTIVE CONDUIT SLEEVES. PROVIDE BOTH ENDS OF THESE CONDUIT SLEEVES WITH GROUND BUSHINGS, AND BOND GROUND BUSHINGS TO ENCLOSURES AND GROUND TERMINATIONS AT BOTH ENDS USING JUMPERS. SIZE GROUND JUMPER CONDUCTORS THE SAME AS THE RESPECTIVE GROUND CONDUCTOR THAT IS BEING PROTECTED WITHIN THE RESPECTIVE CONDUIT.

E. PROVIDE CORROSION-RESISTANT FINISH TO BURIED METALLIC GROUNDING AND BONDING PRODUCTS.

F. TERMINATE GROUND ELECTRODE CONDUCTORS WITH TWO-HOLE COMPRESSION LUGS. TERMINATE BONDING JUMPER CONDUCTORS WITH ONE-HOLE COMPRESSION LUGS.

G. INSTALL BRAIDED TYPE BONDING JUMPERS WITH GROUND CLAMPS ON VALVED WATER PIPING WHERE SUCH PIPING PENETRATES EXTERIOR WALLS AND FIRE WALLS. INSTALL WATER PIPE CONNECTOR FITTINGS SO THAT THEY MAKE CONTACT WITH THE WATER PIPE FOR A MINIMUM DISTANCE OF 1-1/2 INCHES (MEASURED ALONG THE AXIS), AND HAVE A MINIMUM CONTACT SURFACE AREA OF 3 SQUARE INCHES.

H. EQUALIZE (BOND TOGETHER) GROUND POTENTIALS ASSOCIATED WITH THE ELECTRICAL DISTRIBUTION SYSTEM, SEPARATELY DERIVED SYSTEMS, STEEL STRUCTURAL SYSTEMS, AND WATER SERVICES PER NEC AND AS APPLICABLE.

I. SERVICE ENTRANCE GROUNDING REQUIREMENTS

1. PROVIDE A PARITY SIZED INSULATED GROUNDED CONDUCTOR (NEUTRAL) FOR EACH SET OF SERVICE ENTRANCE FEEDER PHASE/LINE CONDUCTORS, TERMINATED AND BONDED TO SERVICE EQUIPMENT. THIS APPLIES WHETHER OR NOT DOWNSTREAM LOADS REQUIRE A NEUTRAL CONDUCTOR. INSTALL THESE NEUTRAL CONDUCTORS UNSPLICED AND UNBROKEN.
2. CONNECT GROUNDING ELECTRODE CONDUCTORS TO 1-INCH DIAMETER, OR GREATER, METALLIC COLD WATER PIPE AT SERVICE ENTRANCE USING A SUITABLY SIZED GROUND CLAMP. PROVIDE CONNECTIONS TO FLANGED PIPING AT STREET SIDE OF FLANGE. GROUND ELECTRICAL SERVICE SYSTEM NEUTRAL AT SERVICE ENTRANCE EQUIPMENT TO GROUNDING ELECTRODES. INSTALL BRAIDED TYPE BONDING JUMPERS WITH CODE-SIZED GROUND CLAMPS ON WATER METER PIPING TO ELECTRICALLY BYPASS WATER METERS AND WATER SERVICE ENTRANCE VALVES.
3. CONTACT AHJ ELECTRICAL INSPECTOR IN ADVANCE OF INSTALLING SERVICE GROUNDING WORK. DETERMINE LOCALLY APPROVED METHODS THAT MUST BE USED FOR RE-BAR GROUNDING THAT THE AHJ CONSIDERS COMPLIANT WITH NATIONAL ELECTRICAL CODE ARTICLE 250.52.
4. UPON COMPLETION OF INSTALLATION OF ELECTRICAL GROUNDING AND BONDING SYSTEMS, TEST GROUND RESISTANCE WITH GROUND RESISTANCE TESTER. WHERE TESTS SHOW RESISTANCE-TO-GROUND IS OVER 3 OHMS, TAKE APPROPRIATE ACTION TO REDUCE RESISTANCE TO 3 OHMS, OR LESS, BY DRIV

SPECIFICATIONS - DIVISION 26 - ELECTRICAL (CONTINUED)

SECTION 26 05 33 - RACEWAYS FOR ELECTRICAL SYSTEMS (CONTINUED)

G. PROVIDE CONDUIT FITTINGS WITH INSULATED THROATS, OR PLASTIC BUSHINGS FOR CONDUITS 2" AND LARGER WHERE INSULATED THROATS ARE NOT READILY AVAILABLE.

H. PROVIDE MAXIMUM OF 40 PERCENT FILL FOR RACEWAYS, OR A THRESHOLD OF LESS IF REQUIRED BY NEC.

PART 2 - PRODUCTS

2.1 ELECTRICAL METALLIC TUBING (EMT)

A. PROVIDE GALVANIZED OR ZINC COATED STEEL EMT COMPLIANT WITH FS WW-C-563, ANSI C80.3 AND UL 797.

B. PROVIDE EMT FOR ABOVE-GRADE CONDUIT, EXCEPT WHERE INDICATED OTHERWISE HEREIN, UNDER OTHER DIVISION 26 SECTIONS, OR ON DRAWINGS.

2.2 STEEL RIGID METAL CONDUIT (RMC)

A. PROVIDE RIGID STEEL, HEAVY WALL, FULL WEIGHT, ZINC-COATED, THREADED TYPE (GALVANIZED AFTER CUTTING/THREADING) CONDUIT CONFORMING TO ANSI C80.1 AND UL 6. PROVIDE ZINC COATING FUSED TO INSIDE AND OUTSIDE WALLS OF CONDUIT.

B. PROVIDE GALVANIZED OR ZINC COATED STEEL THREADED FITTINGS.

C. PROVIDE FOR THE FOLLOWING APPLICATIONS.
1. CONDUIT INSTALLED EMBEDDED IN CONCRETE, OR MASONRY.
2. CONDUITS (GROUNDED) THAT TURN UP FROM BELOW GRADE OR BELOW SLAB, EXCLUDING THE 90 DEGREE FITTINGS THAT CONNECT TO HORIZONTAL CONDUITS BELOW GRADE OR SLAB.
3. OTHER APPLICATIONS AS INDICATED IN PROJECT MANUAL OR ON DRAWINGS, AS REQUIRED BY NEC, OR AS OTHERWISE REQUIRED FOR SPECIAL PHYSICAL PROTECTION (I.E. NEARBY VEHICULAR/EQUIPMENT TRAFFIC, SITE MAINTENANCE EQUIPMENT, ETC.).

2.3 PVC COATED STEEL RIGID METAL CONDUIT (PVC/RMC)

A. PROVIDE RIGID STEEL, HEAVY WALL, FULL WEIGHT, THREADED TYPE (GALVANIZED AFTER CUTTING/THREADING INSIDE AND OUT) PVC COATED CONDUIT CONFORMING TO UL 6 STANDARD FOR SAFETY, RIGID METAL CONDUIT, AND UL514B STANDARD FOR SAFETY, FITTINGS FOR CONDUIT AND OUTLET BOXES

B. THE PVC COATED GALVANIZED RIGID CONDUIT MUST BE ETL VERIFIED TO THE INTERTEK ETL SEMKO HIGH TEMPERATURE H2O PVC COATING ADHESION TEST PROCEDURE FOR 200 HOURS. THE PVC COATED GALVANIZED RIGID CONDUIT MUST BEAR THE ETL VERIFIED PVC-001 LABEL TO SIGNIFY COMPLIANCE TO THE ADHESION PERFORMANCE STANDARD.

C. PROVIDE FOR APPLICATIONS SPECIFICALLY DESIGNATED ON DRAWINGS.

2.4 FLEXIBLE METAL CONDUIT (FMC)

A. PROVIDE FLEXIBLE METAL CONDUIT COMPLIANT WITH FS WW-C-566 AND UL 1, AND FORMED FROM CONTINUOUS LENGTH OF SPIRALLY WOUND, INTERLOCKED ZINC-COATED OR GALVANIZED (INSIDE & OUTSIDE) STRIP STEEL. PROVIDE CONDUIT FITTINGS FOR USE WITH FLEXIBLE STEEL CONDUIT OF THREADLESS HINGED CLAMP TYPE, WITH INSULATED THROATS. PROVIDE STRAIGHT TERMINAL CONNECTORS CONSISTING OF ONE PIECE BODY, FEMALE END WITH CLAMP AND DEEP SLOTTED MACHINE SCREW FOR SECURING CONDUIT, AND MALE THREADED END WITH LOCKNUT. DO NOT USE 45 DEGREE OR 90 DEGREE TERMINAL ANGLE CONNECTORS FOR FLEXIBLE OR WATER-TIGHT FLEXIBLE METAL CONDUIT IN LOCATIONS THAT WILL NOT BE FULLY ACCESSIBLE AFTER COMPLETION OF CONSTRUCTION. PROVIDE FULL SIZE GREEN INSULATED GROUND WIRE FOR ALL APPLICATIONS, REGARDLESS OF LENGTH. PROVIDE FLEXIBLE METAL CONDUIT FOR THE FOLLOWING CONDITIONS AS APPLICABLE.
1. PROVIDE FOR FINAL 72 INCHES FROM OUTLET/JUNCTION BOXES TO RECESSED LUMINAIRES THAT ARE LOCATED IN ACCESSIBLE CEILING SYSTEMS. OPTIONALLY, TYPE AC/MC CABLE MAY BE USED FOR "FIXTURE WHIPS" (REFER TO SECTION 26 05 19).
2. PROVIDE FOR FINAL 24-72 INCHES OF CONNECTION TO INDOOR EQUIPMENT THAT IS SUBJECT TO MOVEMENT OR VIBRATION. LEAVE SUFFICIENT SLACK IN FLEXIBLE CONDUIT TO PERMIT MOVEMENT FROM VIBRATION WITHOUT ADVERSELY AFFECTING CONDUITS AND CONNECTIONS.

PART 3 - EXECUTION

A. GENERAL
1. PROVIDE CONDUIT, TUBING AND FITTINGS OF TYPES, GRADES, SIZES AND WEIGHTS (WALL THICKNESSES) FOR APPLICATIONS AS NEEDED TO RENDER ELECTRICAL WORK FULLY OPERATIONAL..
2. PROPERLY SUPPORT AND ANCHOR RACEWAYS FOR THEIR ENTIRE LENGTH USING STRUCTURAL MATERIALS. DO NOT SPAN ANY SPACE UNSUPPORTED.

END OF SECTION

SECTION 26 05 34 - BOXES AND FITTINGS FOR ELECTRICAL SYSTEMS

PART 1 - PRODUCTS

1.1 INDOOR BOXES

A. PROVIDE MINIMUM SIZE OF 4 INCHES SQUARE BY 1-1/2 INCHES DEEP FOR OUTLET BOXES AND JUNCTION BOXES. PROVIDE OUTLET BOX ACCESSORIES AS REQUIRED FOR EACH INSTALLATION, INCLUDING BOX SUPPORTS, MOUNTING EARS AND BRACKETS, WALLBOARD HANGERS, BOX EXTENSION RINGS, FIXTURE STUDS, CABLE CLAMPS, AND METAL STRAPS FOR SUPPORTING OUTLET BOXES, WHICH ARE COMPATIBLE WITH OUTLET BOXES BEING USED TO FULFILL INSTALLATION REQUIREMENTS FOR INDIVIDUAL WIRING SITUATIONS. PROVIDE WITH STAINLESS STEEL NUTS, BOLTS, SCREWS AND WASHERS.

1.2 FIRE WALLS, FIRE BARRIERS, SMOKE BARRIER WALLS AND FIRE PARTITIONS

A. STEEL OUTLET BOXES THAT DO NOT EXCEED 16 SQUARE INCHES IN AREA MAY BE USED IN FIRE WALLS, FIRE BARRIERS, SMOKE BARRIER WALLS, AND FIRE PARTITIONS ONLY IF THE TOTAL AREA OF SUCH OPENINGS DOES NOT EXCEED 100 SQUARE INCHES FOR ANY 100 SQUARE FEET OF WALL AREA.

B. PROVIDE A MINIMUM OF 24 INCHES OF SEPARATION BETWEEN OUTLET BOXES ON OPPOSITE SIDES OF A COMMON WALL.

C. PROVIDE OUTLET BOXES, EQUIPMENT BACK-BOXES, ETC. IN FIRE WALLS, FIRE BARRIERS, SMOKE BARRIER WALLS, AND FIRE PARTITIONS THAT ARE OF THE TYPE TESTED FOR USE IN FIRE-RESISTANCE-RATED ASSEMBLIES. INSTALL IN ACCORDANCE WITH THE TESTED ASSEMBLY, AND WITH THE INSTRUCTIONS INCLUDED IN THE LISTING.

1.3 DAMP AND WET LOCATION OUTLET BOXES AND COVERS

A. PROVIDE CORROSION-RESISTANT WEATHERTIGHT/RAINTIGHT OUTLET WIRING BOXES, OF TYPES, SHAPES AND SIZES, INCLUDING DEPTH OF BOXES, WITH THREADED CONDUIT HOLES FOR FASTENING ELECTRICAL CONDUIT, SUITABLY CONFIGURED FOR EACH APPLICATION, INCLUDING FACE PLATE GASKETS AND CORROSION-RESISTANT PLUGS AND FASTENERS. PROVIDE WEATHERTIGHT OUTLETS FOR INTERIOR AND EXTERIOR LOCATIONS EXPOSED TO WEATHER OR MOISTURE, I.E. IN DAMP OR WET LOCATIONS.

B. PROVIDE MINIMAL PROFILE ASSEMBLIES THAT ARE RATED NEMA 3R WHILE IN USE AND THAT EMPLOY RECESSED BOX AND COVER DESIGN, EQUAL TO THOMAS & BETTS "RED DOT" SERIES. PROVIDE TRIM COLOR(S) AS DIRECTED BY ARCHITECT.

PART 2 - EXECUTION

2.1 INSTALLATION

A. INSTALL ELECTRICAL BOXES IN THOSE LOCATIONS THAT ENSURE ACCESSIBILITY TO ENCLOSED ELECTRICAL WIRING.

B. DO NOT INSTALL ALUMINUM PRODUCTS IN CONCRETE.

C. CONSIDER THE OUTLET, JUNCTION, AND PULL BOX LOCATIONS INDICATED ON DRAWINGS APPROXIMATE. STUDY THE GENERAL CONSTRUCTION WITH RELATION TO SPACES AND EQUIPMENT SURROUNDING EACH OUTLET, AND NEATLY INSTALL OUTLETS ACCORDINGLY.

END OF SECTION

SECTION 26 05 80 - MECHANICAL EQUIPMENT

PART 1 - GENERAL

1.1 RELATED WORK

A. PROVIDE ALL NECESSARY ELECTRICALLY RELATED WORK AS REQUIRED TO RENDER ALL MECHANICAL EQUIPMENT (INCLUDING PLUMBING, HEATING, VENTILATING AND AIR CONDITIONING EQUIPMENT) FULLY OPERATIONAL AND FULLY COMPLIANT WITH NEC. THIS INCLUDES, PRIOR TO ORDERING MATERIALS OR COMMENCING WITH ROUGH-IN, REVIEWING EQUIPMENT SUBMITTAL DATA AND COORDINATING WITH INSTALLING CONTRACTORS TO ENSURE THE CORRECT SIZE, RATING AND QUANTITY OF CONDUCTORS ARE PROVIDED.

PART 2 - EXECUTION

2.1 INSTALLATION

A. GENERAL
1. PROVIDE DISCONNECT SWITCH AHEAD OF ALL EQUIPMENT, INCLUDING CONTROLS, UNLESS THE MECHANICAL EQUIPMENT COMES WITH INTEGRAL NEC-COMPLIANT DISCONNECT(S). PROVIDE NEMA 3R ENCLOSURES WHERE INSTALLED OUTDOORS AND WHERE INSTALLED INDOORS IN AREAS SUBJECT TO MOISTURE. GROUND METAL FRAMES OF EQUIPMENT BY CONNECTING FRAMES TO THE GROUNDED METAL RACEWAY OR TO A FULL SIZE GREEN GROUND CONDUCTOR OR BOTH. PROVIDE THE NECESSARY ELECTRICAL CONNECTIONS BETWEEN THE SPECIFIED EQUIPMENT AND THE JUNCTION BOX NEAR EQUIPMENT WITH FLEXIBLE METALLIC CONDUIT (LIQUID-TIGHT OUTDOORS) AND MATCHED CONNECTORS (SEE SECTION 26 05 33). WHERE MECHANICAL EQUIPMENT LUGS CANNOT ACCOMMODATE CONDUCTOR SIZES SHOWN ON DRAWINGS, PROVIDE ILSCO CLEARTAP INSULATED MULTI-TAP CONNECTORS.
2. SIZES, ELECTRICAL RATINGS, ETC. OF EQUIPMENT AND WIRING SHOWN ON DRAWINGS ARE BASED ON THE RESPECTIVE EQUIPMENT DESIGN BASE MANUFACTURERS. IF DIFFERENT MANUFACTURER(S) OR MODEL(S) ARE ACTUALLY SUPPLIED, PROVIDE NECESSARY COORDINATION IN FIELD (PRIOR TO ORDERING MATERIALS AND PRIOR TO ROUGH-IN) AND PROVIDE THE NECESSARY SIZE OF RELATED ELECTRICAL EQUIPMENT, WIRING, CONDUIT, ETC.
3. PRIOR TO FURNISHING SUBMITTALS AND PRIOR TO ROUGH-IN, DETERMINE EXACT ELECTRICALLY RELATED CHARACTERISTICS, LOADS, VOLTAGES, DISCONNECT AND STARTER REQUIREMENTS, LOCATIONS, MOUNTING HEIGHTS, CONNECTION POINTS, ETC. OF MECHANICAL EQUIPMENT.

B. HACR BREAKERS
1. COORDINATE IN FIELD WITH THE RESPECTIVE TRADES AND DETERMINE CASE BY CASE, WHICH EQUIPMENT IS FACTORY LISTED FOR USE WITH HEATING AND AIR CONDITIONING RATED (HACR) BREAKERS, IN AN EFFORT TO MINIMIZE REQUIREMENTS FOR STOCKING OF FUSES BY THE OWNER. UTILIZE HACR BREAKERS AT THE SOURCE PANELBOARDS AS THE NEC REQUIRED OVERCURRENT PROTECTION WHEREVER POSSIBLE (IN LIEU OF FUSING LOCAL DISCONNECT SWITCHES).

C. DISCONNECT SWITCH AND STARTER LOCATIONS
1. LOCATIONS OF DISCONNECTS AND STARTERS SHOWN ON DRAWINGS ARE INDICATED FOR SCHEMATIC PURPOSES ONLY. DETERMINE EXACT LOCATIONS IN FIELD SO THAT THEY ARE COMPLIANT WITH NEC ARTICLE 110 REQUIREMENTS FOR PANELBOARDS.
2. COMMERCIAL KITCHEN EXHAUST HOODS AND RELATED FAN EQUIPMENT
a. SEE DETAILS ON DRAWINGS.
b. REFER TO FOOD SERVICE DRAWINGS, FOOD SERVICE SPECIFICATIONS AND MANUFACTURER'S SUBMITTALS FOR SPECIFIC INFORMATION. FIELD COORDINATE WORK WITH AFFECTED ENTITIES.
c. PROVIDE INTERLOCK WIRING AND CONNECTIONS TO AND FROM THE VARIOUS EQUIPMENT AND CONTROLS.
d. PROVIDE CONTROL WIRING FROM THE FAN UNITS TO RESPECTIVE REMOTE DUCT STATS.
e. PROVIDE AUXILIARY CONTROL CIRCUIT WIRING FROM THE FACTORY MICRO-SWITCH IN THE HOOD FIRE SUPPRESSION SYSTEMS TO RESPECTIVE DEDICATED FIRE ALARM SYSTEM MONITOR MODULES TO INITIATE ALARM SIGNAL WHEN RESPECTIVE HOOD FIRE PROTECTION SYSTEM IS ACTIVATED.
f. PROVIDE AUXILIARY CONTROL CIRCUIT WIRING FROM THE FACTORY MICRO-SWITCH IN THE HOOD FIRE SUPPRESSION SYSTEM TO CONTACTOR CONTROL COIL(S).
g. PROVIDE EMPTY OCTAGON BOX FOR MECHANICAL MANUAL PULL STATION (AND INSTALL PULL STATION) FOR EACH HOOD FIRE PROTECTION SYSTEM (MOUNTED AT 48" ABOVE FINISHED FLOOR TO TOP OF OUTLET BOX) WITH (1) 1/2" EMPTY CONDUIT ROUTED UP AND OVER TO HOOD AS DIRECTED BY HOOD INSTALLER IN FIELD (W/SWEEP 90'S). FIELD VERIFY LOCATION.
h. PROVIDE INTERLOCK CONTROL WIRING BETWEEN GAS SOLENOID SHUT OFF VALVES AND RESPECTIVE KITCHEN HOOD FIRE SUPPRESSION SYSTEM. COORDINATE WITH AFFECTED INSTALLERS.

END OF SECTION

SECTION 26 27 26 - WIRING DEVICES

PART 1 - GENERAL

1.1 SUMMARY

A. PROVIDE WIRING DEVICES, IN TYPES, CHARACTERISTICS, GRADES, COLORS, AND ELECTRICAL RATINGS FOR APPLICATIONS INDICATED WHICH ARE UL LISTED AND WHICH COMPLY WITH NEMA WD 1 AND OTHER APPLICABLE UL AND NEMA STANDARDS. VERIFY COLOR SELECTIONS WITH OWNER'S REPRESENTATIVE.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING.

SWITCHES:	LEVITON, HUBBELL, BRYANT, PASS & SEYMOUR, COOPER
DIMMERS:	LUTRON
RECEPTACLES:	LEVITON, HUBBELL, BRYANT, PASS & SEYMOUR, COOPER
WALL PLATES:	LEVITON, HUBBELL, BRYANT, PASS & SEYMOUR, COOPER

2.2 WIRING DEVICE COLORS

A. PROVIDE WHITE COLOR FOR ALL NORMAL UTILITY WIRING DEVICES UNLESS NOTED BELOW:
1. PROVIDE STAINLESS STEEL FOR ALL RECEPTACLES, JUNCTIONS BOXES, AND SWITCHPLATES INSTALLED IN THE KITCHEN WORK AREA AND PREP/STORAGE ROOMS WHERE STAINLESS STEEL OR TILE IS THE WALL FINISH.
2. PROVIDE BLACK FOR ALL RECEPTACLES AND JUNCTION BOXES INSTALLED WHERE THE WALL OR CEILING FINISH IS BLACK IN COLOR.

2.3 SPECIFICATION GRADE RECEPTACLES

A. STANDARD SPECIFICATION GRADE DUPLEX/SINGLE RECEPTACLES
5. PROVIDE DUPLEX RECEPTACLES EQUAL TO LEVITON #5342 SERIES. FOR RECEPTACLE CIRCUITS PROTECTED WITH 15A BREAKERS, PROVIDE NEMA 5-15R EQUIVALENTS. PROVIDE RECEPTACLES EQUAL TO LEVITON #5361 SERIES FOR SIMPLEX (SINGLE) APPLICATIONS.

B. GROUND-FAULT INTERRUPTER SPECIFICATION GRADE RECEPTACLES
1. PROVIDE GROUND FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLES EQUAL TO LEVITON #8898 SERIES, FOR RECEPTACLE CIRCUITS PROTECTED WITH 15A BREAKERS, PROVIDE NEMA 5-15R EQUIVALENTS.
2. RECEPTACLES INDICATED AS GFI MAY BE GFI-PROTECTED BY AN UPSTREAM GFI RECEPTACLE ON THE SAME CIRCUIT ONLY IF LOCATED IN THE SAME ROOM. OTHERWISE PROVIDE A SEPARATE GFI RECEPTACLE FOR EACH ONE SHOWN.

C. ISOLATED GROUND SPECIFICATION GRADE RECEPTACLES
1. PROVIDE DUPLEX ISOLATED GROUND RECEPTACLES EQUAL TO LEVITON #5362-IG. PROVIDE SIMPLEX (SINGLE) ISOLATED GROUND RECEPTACLES EQUAL TO LEVITON #5361-IG. FOR RECEPTACLE CIRCUITS PROTECTED WITH 15A BREAKERS, PROVIDE NEMA 5-15R EQUIVALENTS. PROVIDE DEDICATED INSULATED ISOLATED GROUND CONDUCTORS (GREEN WITH YELLOW TRACER) FOR EACH APPLICATION.

D. WEATHER RESISTANT GFCI RECEPTACLES
1. PROVIDE DUPLEX WEATHER RESISTANT RECEPTACLES EQUAL TO LEVITON # W7899 SERIES. FOR RECEPTACLE CIRCUITS PROTECTED WITH 15A BREAKERS, PROVIDE NEMA 5-15R EQUIVALENTS.

2.4 WIRING DEVICE ACCESSORIES

A. WALL PLATES
1. PROVIDE SINGLE AND COMBINATION, OF TYPES, SIZES, AND WITH GANGING AND CUTOUTS AS REQUIRED TO ACCOMMODATE EACH APPLICATION. PROVIDE PLATES WHICH MATE AND MATCH WITH WIRING DEVICES TO WHICH ATTACHED. PROVIDE METAL SCREWS FOR SECURING PLATES TO DEVICES WITH SCREW HEADS COLORED TO MATCH FINISH OF PLATES. PROVIDE WALL PLATE COLOR TO MATCH WIRING DEVICES UNLESS SPECIFICALLY INDICATED OTHERWISE.
2. PROVIDE STANDARD SIZE WALL PLATES. DO NOT PROVIDE "MIDWAY", "OVERSIZED" ("JUMBO") OR "EXTRA DEEP" WALL PLATES.
3. PROVIDE COMMERCIAL SPECIFICATION GRADE THERMOPLASTIC WALL PLATES IN FINISHED AREAS.
4. PROVIDE STAINLESS STEEL FOR ALL COVER PLATES UNDER WAINSCOTING IN DINING ROOM.

PART 3 - EXECUTION

3.1 INSTALLATION

A. PROVIDE GROUNDED ("NEUTRAL") CONDUCTOR IN ALL LIGHTING CONTROL DEVICE (SWITCH, DIMMER, OCCUPANCY SENSOR, ETC.) WALL OUTLET BOXES, EVEN IF NOT IMMEDIATELY USED.

B. INSTALL RECEPTACLES SO THAT THE GROUND PIN IS ORIENTED IN A CONSISTENT MANNER THROUGHOUT THE FACILITY, SO THAT THE ORIENTATION IS COMPLIANT WITH ALL PREVAILING CODES AND REGULATIONS, AND SO THAT THE ORIENTATION IS ACCEPTABLE TO THE ELECTRICAL INSPECTOR.

END OF SECTION

SECTION 26 27 40 - DISCONNECTS, STARTERS, CONTACTORS

PART 1 - GENERAL

1.1 RELATED WORK

A. PROVIDE NEMA STANDARD EQUIPMENT, INCLUDING THOSE INCORPORATED AS AN INTEGRAL PART OF A FACTORY/SHOP PRE-FABRICATED PIECE OF EQUIPMENT. DO NOT USE IEC STANDARDS FOR EQUIPMENT.

B. PROVIDE UNITS AS INDICATED ON DRAWINGS AND AS INDICATED UNDER DIVISION 26 SECTIONS.

PART 2 - PRODUCTS

2.1 MATERIALS

A. DISCONNECT SWITCHES
1. PROVIDE DISCONNECT SWITCHES EQUAL TO SQUARE D TYPE HD, HEAVY DUTY, SAFETY TYPE, QUICK MAKE AND QUICK BREAK AND EXTERNALLY OPERATED.
2. PROVIDE FUSIBLE DISCONNECTS UNLESS NOTED OTHERWISE ON DRAWINGS OR DIRECTED OTHERWISE IN FIELD.
3. PROVIDE DISCONNECT SWITCHES BRACED FOR 200,000 A.I.C.
4. PROVIDE UNITS WITH FUSES OF CLASSES AND CURRENT RATINGS INDICATED, AND UL LISTED FOR USE AS SERVICE EQUIPMENT UNDER UL STANDARD 98 OR 869. SEE SECTION "FUSES" FOR FUSE SPECIFICATIONS. WHERE CURRENT LIMITING FUSES ARE INDICATED, PROVIDE SWITCHES WITH NON-INTERCHANGEABLE FEATURE SUITABLE ONLY FOR CURRENT LIMITING TYPE FUSES.
5. INSTALL DISCONNECT SWITCHES WITHIN SIGHT OF CONTROLLER POSITION UNLESS OTHERWISE INDICATED.

PART 3 - EXECUTION

3.1 INSTALLATION

A. PROVIDE UNITS WITH HORSEPOWER RATINGS SUITABLE TO THE LOADS. SIZE UNITS ACCORDING TO LOAD BEING SERVED OR AS NOTED ON DRAWINGS, WHICHEVER REQUIREMENT IS LARGER. INSTALL OVERLOADS AND FUSES AS NECESSARY TO FULFILL REQUIREMENTS OF EACH APPLICATION.

B. FURNISH ADDITIONAL FUSES/OVERLOADS AMOUNTING TO 10 PERCENT OF FUSES PROVIDED, BUT NOT LESS THAN ONE SET OF 3 OF EACH KIND, FOR REQUIRED TYPES AND RATINGS.

C. PROVIDE NEMA 3R ENCLOSURES FOR UNITS THAT ARE INSTALLED OUTDOORS, IN MOIST AREAS, AND IN OTHER ATMOSPHERES SUBJECT TO SIMILAR MOISTURE OR EXPOSURE.

END OF SECTION

annex ENGINEERING GROUP
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STATE OF MISSOURI
DOUGLAS ANDREW SMELKER
NUMBER PE-2017022014
PROFESSIONAL ENGINEER
6-14-2022

CAVA

CAVA - LEE'S SUMMIT
900 NW PRYOR RD
LEE'S SUMMIT, MO 64081
FOR
CAVA
702 H STREET, 2ND FLOOR, WASHINGTON, DC 20001

PROJECT NUMBER:
CAV070

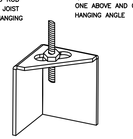
ISSUE	DATE
PERMIT	JUN 14, 2022

SPECIFICATIONS
ELECTRICAL

SHEET:
E702

1/2" DIA. ALL THREAD ROD CONNECTED TO ROOF JOIST THROUGH ANOTHER HANGING ANGLE

1/2" DIA. HEAVY DUTY NUT ONE ABOVE AND ONE BELOW HANGING ANGLE



*ROD AND NUTS TO BE SUPPLIED BY INSTALLING CONTRACTOR
HANGING ANGLE IS PRE-PUNCHED AT FACTORY

HANGING ANGLE DETAILS

HOOD STYLE / MODEL	450 DEGREES cfm/ft.	600 DEGREES cfm/ft.	700 DEGREES cfm/ft.
CANOPY ND2	150	200	250
WITH END PANELS (15% reduction)	127.5	170	212.5
SLOPED SND-2	228	294	–
ISLAND ND-2WI	269	300	350
NDI	346	422	475

ETL HOOD LISTING DETAIL

EXHAUST CFM=LENGTH OF HOOD X CFM/LIN.FT. (LOAD)

SUPPLY CFM=EXHAUST CFM X PERCENTAGE REQUIRED

TOTAL DUCT AREA=144 X $\frac{\text{CFM}}{\text{FPM(*)}}$

DUCT LENGTH= $\frac{\text{TOTAL DUCT AREA}}{\text{DUCT DEPTH}}$

*CAPTIVE-AIRE VENTILATOR DUCT SIZES ARE CALCULATED USING AN EXHAUST VELOCITY OF 1500-1800 FPM AND A SUPPLY VELOCITY OF 1000 FPM.

CALCULATIONS UTILIZED

CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH:

LISTED #3054804-001 & #3054804-002

STANDARD 710

intertek

BUILT IN ACCORDANCE WITH NFPA No. 96

Listed under ETL File number 3054804-001/002

BUILDING CODES

CAPTIVE-AIRE HOODS HAVE OPTIONAL CLEARANCE REDUCTION SYSTEMS AVAILABLE AS FOLLOWS:

MATERIAL	CLEARANCE REDUCTION SYSTEM
NON-COMBUSTIBLE	NONE REQUIRED
LIMITED-COMBUSTIBLE	3" UNINSULATED STANDOFF
COMBUSTIBLE	1" INSULATED STANDOFF

CLEARANCE TO COMBUSTIBLES

INSTALLATION

1. ALL ELECTRICAL "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY ELECTRICAL CONTRACTORS.
2. ALL PLUMBING "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY PLUMBING CONTRACTORS.
3. HANGING BRACKETS LOCATED AND WELDED AS SHOWN ON PLANS. ALL OTHER HANGER MATERIALS PROVIDED BY INSTALLING CONTRACTORS.
4. ALL CONNECTIONS FROM CAPTIVE-AIRE DUCT PER MECHANICAL CONTRACTOR'S PLANS.
5. COOKING EQUIPMENT TO SHUTOFF IN EVENT OF FIRE.
6. EXHAUST FANS TO TURN ON IN EVENT OF FIRE.
7. ALL LIGHTS FIXTURE SHOWN INSTALLED BY CAPTIVE-AIRE ARE FACTORY PREWIRED. INTERCONNECTIONS BETWEEN HOODS AND TO SWITCHES BY ELECTRICAL CONTRACTORS.
8. LAMPS FOR LIGHT FIXTURES BY INSTALLING CONTRACTORS.
9. SEISMIC RESTRAINTS ARE RESPONSIBILITY OF INSTALLING CONTRACTOR.
10. INSTALLING CONTRACTORS ASSUME ALL RELATED RESPONSIBILITY FOR VERIFICATION OF DIMENSIONAL DATA CONTAINED ON THESE DOCUMENTS FOR ACCURACY, INTEGRATION, AND ADMINISTRATION OF CODE REQUIREMENTS IN EFFECT PRIOR TO ANY RELEASE FOR PRODUCTION OF EQUIPMENT SHOWN.

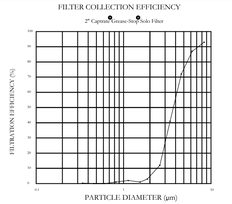
BALANCE

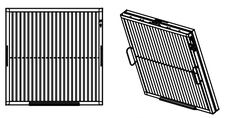
11. KITCHEN HOODS MUST BE BALANCED WITH KITCHEN.
12. KITCHEN SHALL BE NEGATIVE WITH RESPECT TO DINING AREA.
13. RESTAURANT SHALL BE POSITIVE WITH RESPECT TO AMBIENT PRESSURE.

ADDITIONAL

14. WRITTEN HOOD DIMENSIONS HAVE PRECEDENCE OVER SCALE.
15. SIGNED AND "APPROVED" COPIES OF THIS DOCUMENT MUST BE RECEIVED BY THE FACTORY PRIOR TO COMMENCEMENT OF FABRICATION.

GENERAL NOTES





CaptiveAire Captrate Solo Filter
ETL Listed Grease Extracting Filters
Made From 430 Stainless Steel

FILTER DETAIL

FOR QUESTIONS, CALL THE
Maryland Office
REGION 32
PHONE: (800) 988-0881
EMAIL: reg32@captiveaire.com

PATENT NUMBERS

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

HOOD INFORMATION – JOB#5489031

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S) WIDTH	LENG	HEIGHT	DIA	CFM	VEL	SP	MUA CFM	AC CFM	HOOD CONSTRUCTION	HOOD CONFIG END TO END	ROW
1		6030 ND-2-ACPSP-F	CAPTIVEAIRE	10' 2"	600 DEG	I	HEAVY	215	2186			4"	16"	2186	1566	-0.696"	1618	806	430 SS WHERE EXPOSED	ALONE	ALONE

HOOD INFORMATION

HOOD NO	TAG	FILTER(S) TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	LIGHT(S) QTY	TYPE	WIRE GUARD	UTILITY CABINET(S) LOCATION	SIZE	FIRE SYSTEM TYPE	FIRE SYSTEM SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	FIRE SYSTEM PIPING	HOOD HANGING WEIGHT
1		CAPTRATE SOLO FILTER	7	20"	16"	85% SEE FILTER SPEC	5	L55 SERIES E26	NO	RIGHT	12"x60"x30"	TANK FS	4.0/4.0	DCV-1111	1 LIGHT 1 FAN	YES	1088 LBS

HOOD OPTIONS

HOOD NO	TAG	OPTION
1		FIELD WRAPPER 18.00" HIGH FRONT, RIGHT.
		LEFT END STANDOFF (FINISHED) 1" WIDE 60" LONG INSULATED.
		RIGHT VERTICAL END PANEL 27" TOP WIDTH, 21" BOTTOM WIDTH, 80" HIGH INSULATED 430 SS.
		SENSOR-CV.
		LEFT WALL AS END PANEL.

PERFORATED SUPPLY PLENUM(S)

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S) WIDTH	LENG	DIA	CFM	SP
1		Front	135"	22"	6"	MUA	10"	24"		539	0.159"
						MUA	10"	24"		539	0.159"
						MUA	10"	24"		539	0.159"
						AC	8"	24"		403	0.095"
						AC	8"	24"		403	0.095"

GREASE DUCT & CHIMNEY SPECIFICATIONS:
PROVIDE GREASE DUCT EQUAL TO CAPTIVEAIRE SYSTEMS MODEL "DW" ROUND 20 GAUGE 430 STAINLESS STEEL DUCTWORK. MODEL "DW" IS LISTED TO UL-1978 AND IS INSTALLED USING "V" CLAMP LOCKING CONNECTIONS SEALED WITH 3M FIRE BARRIER 2000 PLUS. MODEL "DW" DOES NOT REQUIRE WELDING PROVIDING IT HAS BEEN INSTALLED PER THE MANUFACTURES INSTALLATION GUIDE.
PROVIDE RATED ACCESS DOORS AT EVERY CHANGE IN DIRECTION AND EVERY 12' ON CENTER. PER MANUFACTURES LISTING MODEL "DW" HORIZONTAL RUNS LESS THAN 75 FT. CAN BE SLOPED 1/16" PER 12", HORIZONTAL RUNS MORE THAN 75 FT. CAN BE SLOPED 3/16" PER 12".
DUCT SHOULD BE SLOPED AS MUCH AS POSSIBLE TO REDUCE THE CHANCE OF GREASE ACCUMULATION IN HORIZONTAL RUNS.

IF THE DUCT OR CHIMNEY IS WITHIN 18 INCHES OF COMBUSTIBLE MATERIAL, PROVIDE UL-2221 OR UL-103 HT LISTED DOUBLE WALL GREASE DUCT OR DOUBLE WALL CHIMNEY EQUAL TO CAPTIVEAIRE SYSTEMS MODEL "DW- 2R, 2R TYPE HT, 3R, OR 3Z" ROUND 20 GAUGE 430 STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL.

CAPTIVEAIRE SYSTEMS RECOMMENDS THE USE OF LISTED, PRE-FABRICATED ROUND GREASE EXHAUST DUCT TO REDUCE STATIC PRESSURE IN THE SYSTEM, MINIMIZE INSTALLATION AND INSPECTION TIMES, AND ENSURE DUCT IS LIQUID TIGHT

HVAC DISTRIBUTION NOTE

HIGH VELOCITY DIFFUSERS OR HVAC RETURNS SHOULD NOT BE PLACED WITHIN TEN (10) FEET OF THE EXHAUST HOOD. PERFORATED DIFFUSERS ARE RECOMMENDED.

VERIFY CEILING HEIGHT

___' - ___"

HEIGHT REQUIRED TO VERIFY THAT HOOD FITS SPACE AND TO SIZE THE ENCLOSURE PANELS

CUSTOMER APPROVAL TO MANUFACTURE:

APPROVED AS NOTED ☐
APPROVED WITH NO EXCEPTION TAKEN ☐
REVISE AND RESUBMIT ☐
SIGNATURE _____
YOUR TITLE _____ DATE _____ _____

REVISIONS

	DESCRIPTION	DATE:
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Cava - Lees Summit, MO
900 NW Pryor Rd,
Lee's Summit, MO, 64081

DATE: 5/25/2022

DWG.#: 5489031

DRAWN BY: AJP-32

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

MASTER DRAWING

SHEET NO. 1

CAPTIVE AIRE HOOD DRAWINGS FOR REFERENCE ONLY

annex ENGINEERING GROUP
589 W. Nationwide Blvd. Ste. B
Columbus, Ohio 43215
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CAVA

CAVA - LEE'S SUMMIT
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LEE'S SUMMIT, MO 64081
FOR
CAVA
702 H STREET, 2ND FLOOR, WASHINGTON, DC 20001

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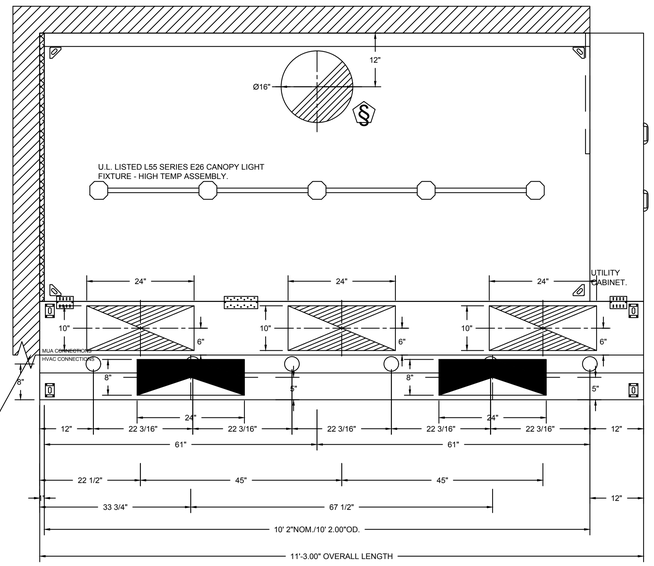
SHEET: H1.1

1" LAYER OF INSULATION
FACTORY INSTALLED IN
1.00" END STANDOFF MEETS
0" REQUIREMENTS CLEARANCE
TO COMBUSTIBLE SURFACES.

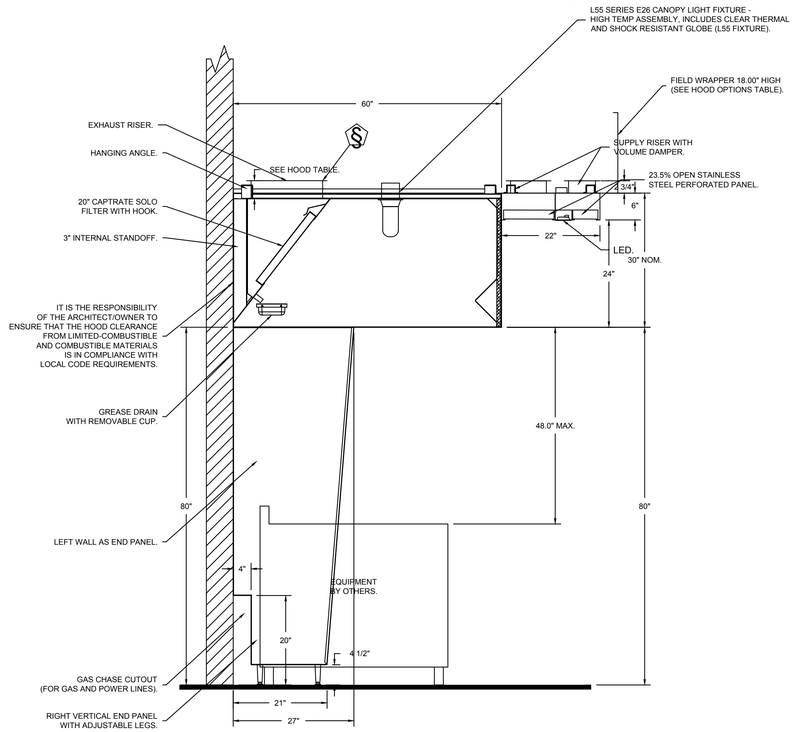


INSTALLER MUST CONFIRM HOOD IS INSTALLED SUCH THAT THE SPECIFIED WALL, ACTING AS AN END PANEL, IS MATED TIGHT TO THE CORRECT END OF HOOD TO ACHIEVE A REDUCED MINIMUM EXHAUST CFM LISTING. NON-COMPLIANCE WILL NULLIFY THE ETL LISTING, VOID THE MANUFACTURER'S WARRANTY, AND HOLD THE CONTRACTOR LIABLE FOR ANY AND ALL LOSSES, COSTS, AND EXPENSES RELATED TO THE NON-CONFORMANCE OF THE MANUFACTURER'S SPECIFIED INSTRUCTION. THE WALL ACTING AS AN END PANEL MUST EXTEND NO LESS THAN 20" FROM THE INTERSECTING WALL ON WHICH HOOD IS MOUNTED AND MUST EXTEND NO LESS THAN 20" UNDER BOTTOM OF HOOD TO BE ELIGIBLE FOR REDUCED MINIMUM EXHAUST CFM LISTING.

LIGHTING FOR ACPSP JOB # 5489031 - HOOD #1
INPUT: 120V AC, 1 PHASE, 50/60HZ, 3.5 WATTS PER LIGHT.
TO CONTROL LIGHTS WITH HOOD LIGHT SWITCH, WIRE PER HOOD ELECTRICAL CONTROL PANEL SCHEMATIC.
TO CONTROL LIGHTS WITH BUILDING LIGHT SWITCH, WIRE BLACK AND WHITE WIRE TO A 120VAC SERVICE.
END TO END ACPSPS REQUIRE 120VAC FIELD WIRING FROM J-BOX TO J-BOX. REPLACE LIGHTS WITH LED LIGHTS ONLY.

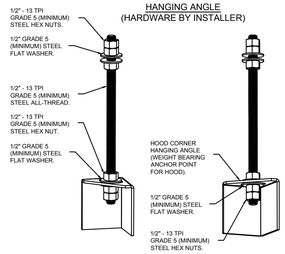
PLAN VIEW – HOOD #1
10' 2.00" LONG 6030ND-2-ACPSP-F

ACPSP SHIPS LOOSE FOR FIELD INSTALLATION



SECTION VIEW – MODEL 6030ND-2-ACPSP-F
HOOD – #1

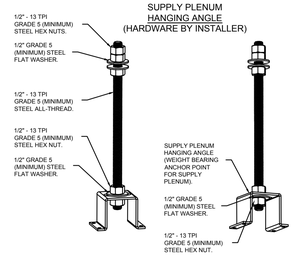
HOOD CORNER
HANGING ANGLE
(HARDWARE BY INSTALLER)



ASSEMBLY INSTRUCTIONS

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

SUPPLY PLENUM
HANGING ANGLE
(HARDWARE BY INSTALLER)



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REVISIONS

	DESCRIPTION	DATE:
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DWG.#:
5489031

DRAWN BY: AJP-32

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

MASTER DRAWING

SHEET NO.
2

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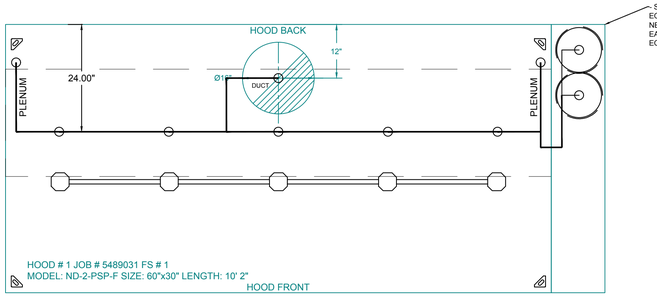
SHEET:
H1.2

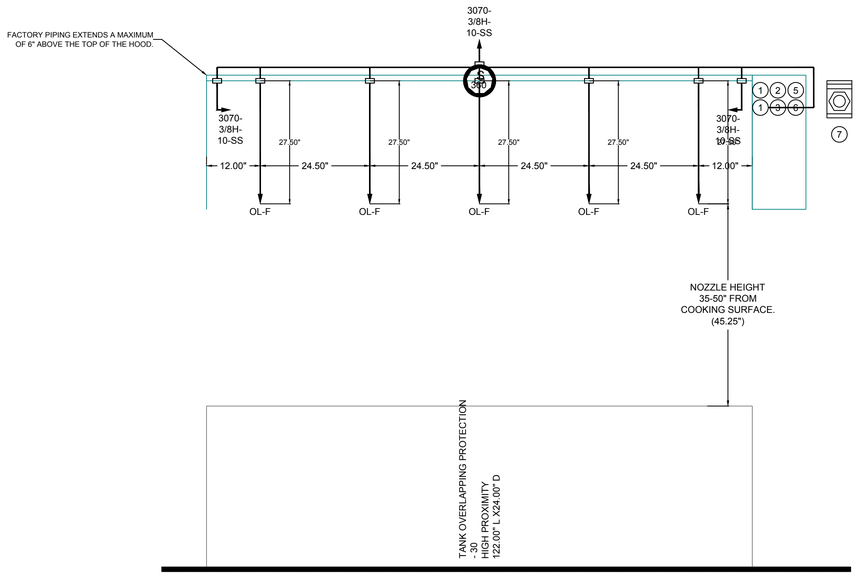
FIRE SYSTEM INFORMATION – JOB#5489031

FIRE SYSTEM NO	TAG	TYPE	SIZE	FLOW POINTS	INSTALLATION	
					SYSTEM	LOCATION ON HOOD
1		TANK FS	4.0/4.0	37	FIRE CABINET RIGHT	RIGHT, HOOD 1

FIRE SYSTEM PARTS LIST KEY

FIRE SYSTEM NO	TAG	KEY NUMBER - PART DESCRIPTION	QTY BY FACTORY	QTY BY DIST
1		0 - 0 - 12-F28021-32144-OT-360 DUCT FIRE THERMOSTAT WITH 12 FOOT WIRE LEADS. NO, CLOSE ON TEMP RISE AT 360°F.	1	0
		0 - 0 - 87-120042-001 SECONDARY ACTUATOR VALVE (SVA) - SINGLE ACTUATOR, REQUIRES PRIMARY RELEASE ACTUATOR, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-120045-001 HOSE, SECONDARY ACTUATOR HOSE, 7.5" BRAIDED STAINLESS STEEL, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-300001-001 TANK - PRESSURIZED TANK USED FOR TANK FIRE SUPPRESSION.	2	0
		0 - 0 - 87-300030-001 PRIMARY ACTUATOR KIT (PAK) - ACTUATOR AND RELEASE SOLENOID ASSEMBLY, ONE NEEDED PER FIRE SYSTEM, SUPERVISED, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-300152-001 HARDWARE, SVA BOLTS, TANK FIRE SUPPRESSION.	8	0
		0 - 0 - 9055455PC PRO PRESS 1/2 PRESS X PRESS 90 ELBOW LD.	6	0
		0 - 0 - 9097200PC PRO PRESS PC611 1/2 PRESS TEE LD.	7	0
		0 - 0 - 98694A115 HARDWARE, DATANKLOCK LOCKING BRACKET SQUARE NUTS 5/16" ZINC, TANK FIRE SUPPRESSION.	4	0
		0 - 0 - A0034332 JUNCTION BOX FOR MANUAL PULL STATION. 1.5" DEEP BACK BOX, RED COLOR.	1	0
		0 - 0 - BI145 3/8" BLACK IRON 90 ELL.	3	0
		0 - 0 - DATANKLOCK DISCHARGE ADAPTER TANK LOCKING PLATE FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	2	0
		0 - 0 - TANK STRAP TANK STRAP - USED FOR TANK FIRE SUPPRESSION.	6	0
		0 - 0 - TFS-UCTANKBRACKET TANK BRACKET FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	2	0
		0 - 0 - WK-283952-000 DISCHARGE ADAPTER, TANK FIRE SUPPRESSION.	2	0
		16 - 16 - 79210 1/2" X 3/8" NPT MALE ADAPTER, VIEGA.	8	0
		16 - 16 - OL-F NOZZLE - TANK PROTECTION APPLIANCE COVERAGE NOZZLE (INCLUDES METAL BLOW OFF CAP, LANYARD, USED WITH CHROME-PLATED PIPE)- 4 FLOW POINTS.	8	0
		26 - 26 - QSA-3/8 QUIK SEAL - 3/8" (UL).	8	0
		34 - 34 - A0034331 24VDC SINGLE ACTION MANUAL ACTUATION DEVICE (PUSH/PULL STATION) WITH PROTECTIVE COVER, ONE (1) NORMALLY OPEN CONTACT. RED COLOR.	1	0





NOTES
- FIELD PIPE DROPS AS SHOWN
  PIPING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS.
- RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVING,
  SALAMANDERS, ETC.
- OVERLAPPING COVERAGE SHALL NOT BE USED ON ANY APPLIANCE WITH AN OBSTRUCTION.
- IF APPLICABLE, EXTENDED PRE-PIPED DROPS ARE SHIPPED LOOSE.
- FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.

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

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

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

JOB #: 5489031.
JOB NAME: CAVA - LEES SUMMIT, MO.

SYSTEM SIZE: TANK-SP-2 TOTAL FP REQUIRED: 37.
HOOD # 1 10' 2.00" LONG x 60" WIDE x 30" HIGH.
RISER # 1 SIZE: 16" DIA.
HOOD # 1 METAL BLOW-OFF CAPS INCLUDED.

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

LEGEND – FIRE CABINET TANK SYSTEM

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

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DWG.#: 5489031

DRAWN BY: AJP-32

SCALE: 3/4" = 1'–0"

MASTER DRAWING

SHEET NO. 3

CAPTIVE AIRE HOOD DRAWINGS FOR REFERENCE ONLY

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SHEET: H1.3

EXHAUST FAN INFORMATION – JOB#5489031

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SONES
1		1	DU85HFA	CAPTIVEAIRE	2186	1.000	1511	TEAO-ECM	1.000	0.6020	1	115	11.6	692 FPM	92	16.8

CONDENSER DETAILS

FAN UNIT NO	TAG	FAN UNIT MODEL #	CONDENSER NO	TONNAGE	VOLTAGE	PHASE	FREQUENCY	MCA	RLA	MAX FUSE SIZE	MIN WIRE SIZE	SEER
2		A1-D.250-15D-MPU	1	3	208-230	3 PHASE	60 HZ	14.5 AMPS	11.9 AMPS	20 AMPS	14 AWG	14

MUA FAN INFORMATION – JOB#5489031

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	BLOWER	HOUSING	MIN CFM	DESIGN CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	MCA	MOCP	WEIGHT (LBS)	SONES
2		1	A1-D.250-15D-MPU	15MF-1-MOD	A1-D.250	1100	1618	0.500	1897	ODP,PREMIUM	1.500	1.0190	3	208	4.4	5.5A	15A	1073	18.5

COILS – JOB#5489031

FAN UNIT NO	TAG	COIL TYPE	DESIGN CFM	COOLING											HEATING									
				ENTERING DB TEMP	ENTERING WB TEMP	LEAVING DB TEMP	LEAVING WB TEMP	ENTERING FLUID TEMP	LEAVING FLUID TEMP	FLUID FLOW RATE	PERCENT GLYCOL	TOTAL CAPACITY	SENSIBLE CAPACITY	LATENT CAPACITY	ENTERING DB TEMP	LEAVING DB TEMP	ENTERING FLUID TEMP	LEAVING FLUID TEMP	FLUID FLOW RATE	PERCENT GLYCOL	STEAM PRESSURE	TOTAL CAPACITY	SENSIBLE CAPACITY
2		DX	1618	93.0°F	76.0°F	79.1°F	70.1°F	---	---	---	---	36.0 MBH	23.0 MBH	13.0 MBH	---	---	---	---	---	---	---	---	---	---

GAS FIRED MAKE–UP AIR UNIT(S)

FAN UNIT NO	TAG	INPUT BTUs	OUTPUT BTUs	TEMP RISE	REQUIRED INPUT GAS PRESSURE	GAS TYPE	BURNER EFFICIENCY(%)
2		117895	108463	65°F	7 IN. W.C. - 14 IN. W.C.	NATURAL	92

FAN OPTIONS

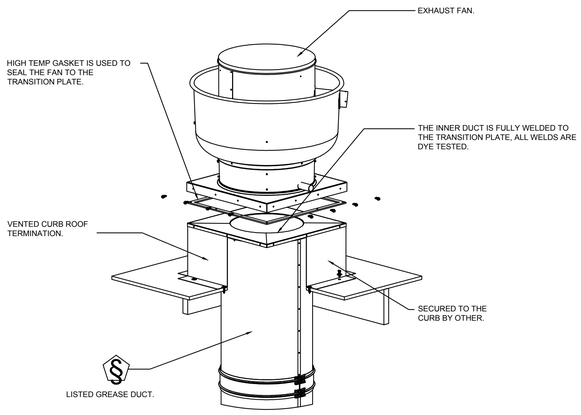
FAN UNIT NO	TAG	QTY	DESCRIPTION
1		1	GREASE BOX
		1	ECM WIRING PACKAGE - PWM SIGNAL FROM ECPMO3 PREWIRE (TELCO MOTOR), CCW ROTATION
		1	2 YEAR PARTS WARRANTY
2		1	INLET PRESSURE GAUGE, 0-35"
		1	MANIFOLD PRESSURE GAUGE, -5 TO 15" WC
		1	LOW FIRE START
		1	SHIP LOOSE GAS STRAINER 3/4"
		1	AC INTERLOCK RELAY - 24VAC COIL
		1	MOTORIZED BACKDRAFT DAMPER FOR A1-D HOUSING - MEETS AMCA CLASS 1A RATING
		1	COOLING THERMOSTAT AND RELAY (NOT REQUIRED FOR EVAP)
		1	3 TON SINGLE CIRCUIT MODULAR PACKAGED COOLING OPTION FOR SIZE 1 DF/EH MUA (1,100 TO 1,800 CFM), 208V/230V, 3 PHASE. COOLING THERMOSTAT OR PROGRAMMABLE STAT REQUIRED FOR PROPER OPERATION
		1	DOWNTURN PLENUM FOR SIZE 1 DX COIL MODULE
		1	SEPARATE 120V WIRING PACKAGE (REQUIRED AND USED ONLY FOR DCV OR PREWIRE WITH VFD) - THREE PHASE ONLY
		1	2 YEAR PARTS WARRANTY

FAN ACCESSORIES

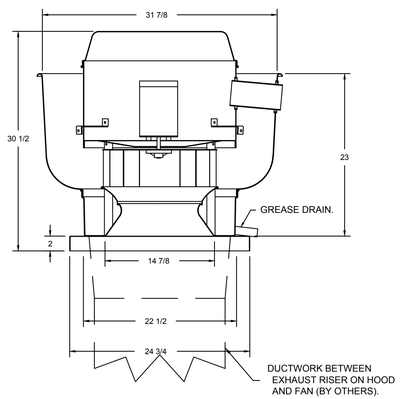
FAN UNIT NO	TAG	EXHAUST			SUPPLY			
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1		YES						
2							YES	

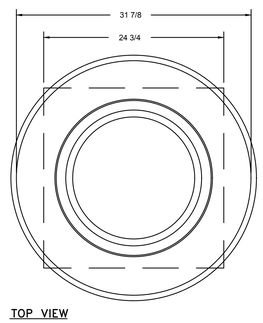
CURB ASSEMBLIES

NO	ON FAN	WEIGHT	ITEM	SIZE
1	# 1	41 LBS	CURB	23.000"W X 23.000"L X 24.000"H ALONG LENGTH, RIGHT VENTED HINGED.
2	# 2	85 LBS	CURB	21.000"W X 71.000"L X 20.000"H ALONG WIDTH, RIGHT INSULATED.
	# 2		RAIL	6.000"W X 21.000"L X 20.000"H RIGHT.



FAN #1 DU85HFA - EXHAUST FAN





TOP VIEW

FEATURES:

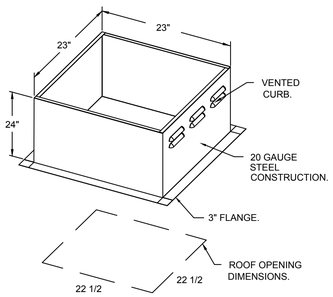
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705 AND UL762 AND ULC-S645
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- HIGH HEAT OPERATION 300°F (149°C).
- GREASE CLASSIFICATION TESTING.
- NEMA 3R SAFETY DISCONNECT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

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

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

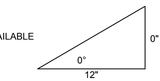
OPTIONS

GREASE BOX.
ECM WIRING PACKAGE - PWM SIGNAL FROM ECPMO3 PREWIRE (TELCO MOTOR), CCW ROTATION.
2 YEAR PARTS WARRANTY.



PITCHED CURBS ARE AVAILABLE FOR PITCHED ROOFS.

SPECIFY PITCH:
EXAMPLE: 7/12 PITCH = 30° SLOPE.



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MASTER DRAWING

SHEET NO. 4

CAVA

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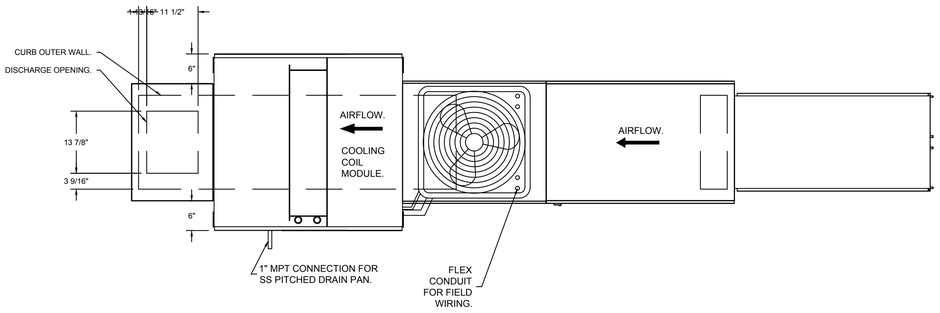
SHEET: H1.4

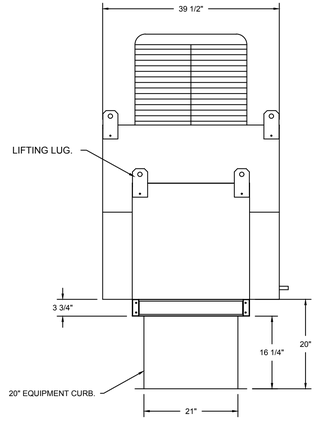
FAN #2 A1-D.250-15D-MPU - HEATER
1. DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 15" MIXED FLOW DIRECT DRIVE FAN.
2. INTAKE HOOD WITH EZ FILTERS.
3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT.
4. GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE.
5. GAS PRESSURE GAUGE, -5 TO +15 INCHES WC., 2.5" DIAMETER, 1/4" THREAD SIZE.
6. LOW FIRE START. ALLOWS THE BURNER CIRCUIT TO ENERGIZE WHEN THE MODULATION CONTROL IS IN A LOW FIRE POSITION.
7. SHIP LOOSE GAS STRAINER, TO BE INSTALLED UPSTREAM OF UNIT CONNECTION. 3/4" CONNECTION.
8. COOLING INTERLOCK RELAY. 24VAC COIL. 120V CONTACTS. LOCKS OUT BURNER CIRCUIT WHEN AC IS ENERGIZED.
9. MOTORIZED BACK DRAFT DAMPER 16" X 18" FOR SIZE 1 STANDARD & MODULAR HEATER UNITS W/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, LOW LEAKAGE, TFB120S ACTUATOR INCLUDED.
10. DX COOLING INTAKE AIR THERMOSTAT AND RELAYS MOUNTED IN UNIT - SET POINT FOR THERMOSTAT SHOULD BE 85°F.
11. 3 TON, SINGLE CIRCUIT MODULAR PACKAGED COOLING OPTION FOR SIZE 1 DF/EH MODULAR PACKAGED UNIT. INCLUDES CONDENSER, DX COIL, FILTER/DRYER KIT, THERMAL EXPANSION VALVE, R410A REFRIGERANT, AND REFRIGERANT PIPING. (1,100 TO 1,800 CFM) WHEN ORDERED WITH OPPOSITE AIRFLOW CONDENSERS ACCESS AND COIL PIPING WILL REMAIN IN STANDARD POSITION. DRAIN AND SLEDS WILL MOVE TO THE OPPOSITE SIDE. ANY OTHER CHANGE WILL REQUIRE CLI. CONDENSERS REQUIRE SEPARATE 208V, 3 PHASE POWER SUPPLY UNLESS ORDERED WITH SINGLE POINT CONNECTION. COIL = 2EZ1001N.
12. DOWNTURN PLENUM FOR SIZE 1 COOLING COIL MODULE - REQUIRED FOR DOWN DISCHARGE COOLING COIL APPLICATIONS.
13. SEPARATE 120VAC WIRING PACKAGE FOR MAKE-UP AIR UNITS. OPTION MUST BE SELECTED WHEN MOUNTING VFD IN PREWIRE PANEL OR WITH DCV PACKAGE. PROVIDES SEPARATE 120VAC INPUT TO SUPPLY FAN. THIS 120V SIGNAL MUST BE RUN BY ELECTRICIAN FROM DCV TO MUA SWITCH.
14. HINGED DOUBLE WALL INSULATED DOOR ASSEMBLY (BURNER/BLOWER/MPU SECTION).
15. 2 YEAR PARTS WARRANTY

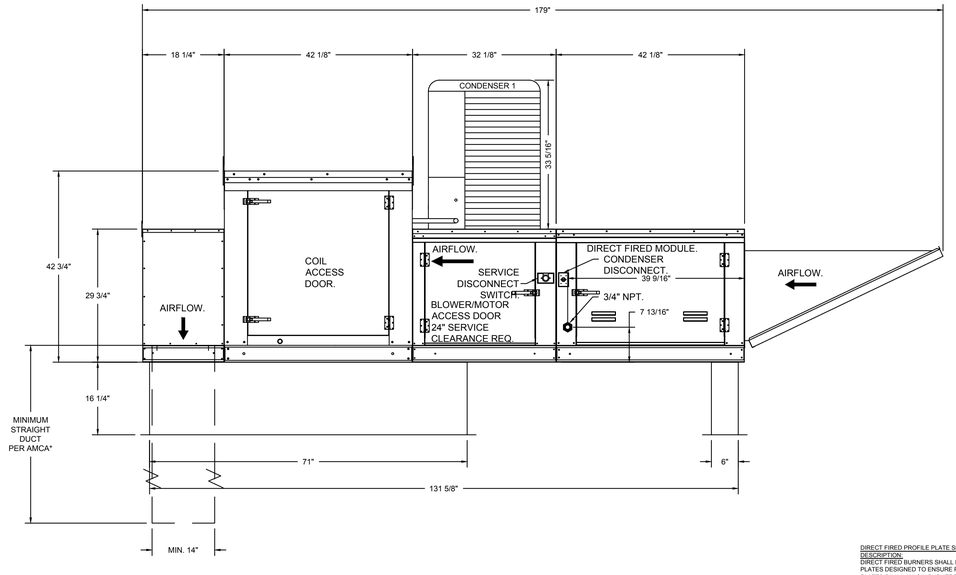
*NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE THROAT/SQUARE BACK ELBOWS SHOULD NOT BE USED. ANY TRANSITION AND/OR TURNS IN THE DUCTWORK WILL CAUSE SYSTEM EFFECT. SYSTEM EFFECT WILL DRASTICALLY INCREASE STATIC PRESSURE AND REDUCE AIRFLOW. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT. SUGGESTED STRAIGHT DUCT SIZE IS 14" x 14".

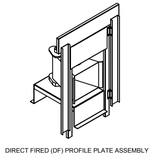
SUPPLY SIDE HEATER INFORMATION:

WINTER TEMPERATURE = 10°F. TEMP. RISE = 65°F.
BTUs CALCULATED OFF ACTUAL AIR DENSITY.
OUTPUT BTUs AT ALTITUDE OF 0.0 FT. = 112357.
INPUT BTUs AT ALTITUDE OF 0.0 FT. = 122128.
OUTPUT BTUs AT ALTITUDE OF 973 FT. = 108463.
INPUT BTUs AT ALTITUDE OF 973 FT. = 117894.









DIRECT FIRED (DF) PROFILE PLATE ASSEMBLY

DIRECT FIRED PROFILE PLATE SPECIFICATIONS:

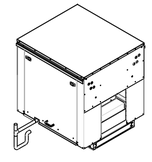
DESCRIPTION:
DIRECT FIRED BURNERS SHALL HAVE PATENTED (US PATENT NO.: US6629523B2), SELF-ADJUSTING PROFILE PLATES DESIGNED TO ENSURE PROPER AIR VELOCITY AND PRESSURE DROP ACROSS THE BURNER. PROFILE PLATES SHALL ALLOW BURNERS TO ACHIEVE CLEAN COMBUSTION BY LIMITING BY-PRODUCT LEVELS TO A MAXIMUM OF 9PPM OF CARBON MONOXIDE (CO), AND 0.5PPM OF NITROGEN DIOXIDE (NO2). DIRECT FIRED UNITS SHALL BE CONFIGURED WITH THE BLOWER MOUNTED DOWNSTREAM OF THE BURNER. THIS ARRANGEMENT WILL ENSURE A CONSISTENT AIRFLOW, REGARDLESS OF INLET AIR TEMPERATURE.

APPLICATION:
SPRING-LOADED BURNER PROFILE PLATES ARE ENGINEERED TO AUTOMATICALLY REACT TO THE MOMENTUM OF A FRESH AIR STREAM. WITHOUT THE NEED FOR ANY MOTORS OR ACTUATORS TO MECHANICALLY ADJUST THEM. WITH THIS FEATURE, ALL DF UNITS ARE DESIGNED FOR DEMAND CONTROL VENTILATION (DCV) REQUIREMENTS.

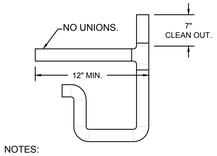
CERTIFICATIONS:
ALL PROFILE PLATE ASSEMBLIES SHALL BE INCLUDED IN THE DF UNIT'S ETL LISTING AND COMPLY WITH COMBINED SAFETY STANDARDS ANSI Z83.4 AND CSA 3.7 (NON-RECIRCULATING OF HEATERS) AND ANSI Z83.18 (RECIRCULATING DF HEATERS).

GENERAL CONSTRUCTION:
-PROFILE PLATES SHALL BE FORMED FROM G90 GALVANIZED STEEL.
-PROFILE PLATES SHALL VARY IN SIZE PER UNIT.
-PROFILE PLATES SHALL BE MOUNTED ALONG THE SAME PLANE AS THE DISCHARGE OF THE BURNER.
-DESIGN SHALL INCORPORATE PROPERLY TORQUED, PERMANENTLY MOUNTED SPRING HINGES.
-SPRING HINGES SHALL BE MADE FROM PLATED STEEL.

TYPICAL DRAIN TRAP INSTALL



RECOMMENDED COOLING COIL DRAIN TRAP CONFIGURATION.



NOTES:
1) 1" DIAMETER PVC PIPE ONLY.
2) USE ONLY LOW PROFILE COUPLINGS.
3) ADD CLEAN OUT AS SHOWN.

CAPTIVE AIRE
www.captiveaire.com
Maryland Office
8120 Woodmont Avenue, Suite 720, Bethesda, MD. 20814 PHONE: (800) 988-0881 FAX: (919) 227-5931 EMAIL: reg32@captiveaire.com

REVISIONS

	DESCRIPTION	DATE:
1		
2		
3		
4		

annex ENGINEERING GROUP
589 W. Nationwide Blvd. Ste. B
Columbus, Ohio 43215
tel: 614.481.2292

CAPTIVE AIRE HOOD DRAWINGS FOR REFERENCE ONLY

CAVA

CAVA - LEE'S SUMMIT
900 NW PRYOR RD
LEE'S SUMMIT, MO 64081
FOR
CAVA
702 H STREET, 2ND FLOOR, WASHINGTON, DC 20001

Cava - Lees Summit, MO
900 NW Pryor Rd,
Lee's Summit, MO, 64081

DATE: 5/25/2022

DWG.#: 5489031

DRAWN BY: AJP-32

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

MASTER DRAWING

SHEET NO. 5

PROJECT NUMBER: CAV070

ISSUE	DATE
PERMIT	JUN 14, 2022

CAPTIVE AIRE HOOD DRAWINGS FOR REFERENCE ONLY

SHEET: H1.5

EQUIPMENT SCHEDULE

ITEM NO	QTY	EQUIPMENT CATEGORY	EQUIPMENT REMARKS	PLUG	DIRECT	NEMA	ELECTRICAL AFF (IN)	AMPS	KW	HP	VOLTS	PHASE	ELEC REMARKS	HOT WATER SIZE (IN)	HOT WATER AFF (IN)	COLD WATER SIZE (IN)	COLD WATER AFF (IN)	DIRECT DRAIN SIZE (IN)	DIRECT DRAIN AFF (IN)	INDIR DRAIN SIZE (IN)	MBTUH	GAS SIZE (IN)	GAS AFF (IN)	PLUMBING REMARKS
1	1	SINK, MOP	INSTALLED BY PLUMBER															3"						INSTALLED BY PLUMBER
1A	1	SHELVING, WALL MOUNTED	HUNG BY KEC - VERFY HEIGHT W/ OWNER																					
1B	1	FAUCET, SERVICE SINK	INSTALLED BY PLUMBER											1/2"	36"	1/2"	36"							INSTALLED BY PLUMBER
2	1LOT	SHELVING, WIRE	4 SHELVES 4 POST 86"																					
2A	1	RACK, DUNNAGE																						
3	1	REFRIGERATED , WALK-IN COOLER			X		DN	20.0			120	1	ELECTRIC DOWN FROM ABOVE, FOR WALK-IN LIGHTS											
3A	1	EVAPORATOR COIL, COOLER	HUNG BY KEC DRAIN BY PLUMBER		X		DN	2.0			115	1	ELECTRIC DOWN FROM ABOVE							3/4"				
3B	1	CONDENSING UNIT			X			9.0		1	208-230	1												
4	"	SPARE NUMBER																						
5	1	HAND SINK, WALL MOUNTED												1/2"	18"	1/2"	18"	1 1/2"	16"					
5A	1	SOAP DISPENSER	BY VENDOR																					
5B	1	PAPER TOWEL DISPENSER	BY VENDOR																					
6	"	SPARE NUMBER																						
7	1LOT	23 GALLON WASTE CAN	BY OWNER																					
8	1	AUTO PUMP OIL CONTAINER	BY OTHERS																					
9	1	COUNTER, PREP	BOLTED & SEALED TO THE WALL BY KEC																					
10	"	SPARE NUMBER																						
11	"	SPARE NUMBER																						
12	3	SHELF, WALL MOUNT	HUNG @ 5'-6" AFF																					
13	1LOT	SHELVING, WIRE	5 TIER W/ 86" POST (4)																					
14	1	WAREWASHER, UNDERCOUNTER, LOW TEMP	BY VENDOR VERIFY UTILITIES (ECOLAB)		X		16"	12.0		1.0	115	1	BY VENDOR VERIFY UTILITIES	1/2"	18"					1"				BY VENDOR VERIFY UTILITIES, INCOMING WATER TEMP 140 DEGREES
15	"	SPARE NUMBER																						
16	2	LOCKERS (6)																						
17	1	SINK, SCULLERY, 4 COMPARTMENTS	BOLTED & SEALED TO THE WALL BY KEC																	(4)1-1/2"				
17A	1	FAUCET, ADD-ON	UNIT IS A PART OF ITEM #17B																					
17B	1	PRE-RINSE FAUCET, WALL MOUNT												1/2"	18"	1/2"	18"							
17C	1	FAUCET, WALL MOUNT												1/2"	18"	1/2"	18"							
17D	4	LEVER WASTE	INSTALLED ON SINK BOWL BY PLUMBER																					
18	1LOT	CO2 TANKS	BY VENDOR																					
19	"	SPARE NUMBER																						
20	"	SPARE NUMBER																						
21	1	RACK, SYRUP TANK & BAG-N-BOX	BY VENDOR																					
22	1	CARBONATOR	BY VENDOR, VERIFY UTILITIES	X			16"	20.0			120	1	BY VENDOR, VERIFY UTILITIES			1/2"	18"							BY VENDOR, VERIFY UTILITIES
23	1	FILTER SYSTEM, ICEMAKER														3/8"	72"							CONNECT FILTERED WATER SUPPLY TO ITEM #25 ICE MACHINE
24	1	BIN, ICE																		3/4"				
25	1	ICE MAKER			X		60"	13.3			120	1				1/2"				3/4"				CONNECT FILTERED WATER SUPPLY FROM ITEM #23 WATER FILTER
26	1	COUNTER, WORK																						
26A	1	COUNTER, WORK			X		16"	30.0			120	1	CONV. OUTLET, E.C. TO INTERCONNECT TO FIXTURE MOUNTED RECEPTACLES IN COUNTER											
27	1	CABINET, MOBILE, WARMING & HOLDING	ON CASTERS 2.5"	X		5-15P		9.0	1.1		120	1	PLUGS INTO FIXTURE MTD. RECPT. LOCATED IN ITEM #26A											
28	2	REFRIGERATOR, UNDERCOUNTER, COMPACT		X		5-15P		6.5		0.2	120	1	PLUGS INTO FIXTURE MTD. RECPT. LOCATED IN ITEM #26A											
29	"	SPARE NUMBER																						
30	2	SHELF, WALL MOUNT	HUNG @ 6'-6" AFF, HIDDEN BRACKET																					
31	1	TABLE, CABINET BASE W/ SINK	SEALED TO WALL BY KEC		X		34"	30.0			230	1	ELECTRICAL CONNECTION TO FIXTURE MTD. RECPT. LOCATED IN COUNTER, ELECTRIC FOR ITEM #34							(4)1-1/2"				
31A	1	FAUCET, DECK MOUNT												1/2"	18"	1/2"	18"							
31B	1	WASTE DRAIN VALVE	INSTALLED BY PLUMBER																					
32	1	HAND SINK	INSTALLED IN ITEM #9															1-1/2"	16"					INSTALLED IN ITEM #9
32A	1	FAUCET, DECK MOUNT												1/2"	18"	1/2"	18"							
32B	1	SOAP DISPENSER	BY VENDOR																					
32C	1	PAPER TOWEL DISPENSER	BY VENDOR																					
33	1	EXHAUST HOOD	SEE SHEETS FS-9 THRU FS-9.5 FOR DETAILS		X		DN	20.0			120	1	ELECTRIC DOWN FROM ABOVE, FOR LIGHT SWITCH, SEE SHEETS FS-7 THRU FS-7.5 FOR DETAILS											
33A	1	ELEC PAK / FIRE SUPRESSION	SEE SHEETS FS-9 THRU FS-9.5 FOR DETAILS		X		DN	11.6/4.4			120/208	1/3	ELECTRIC DOWN FROM ABOVE, FOR FANS SWITCH, SEE SHEETS FS-7 THRU FS-7.5 FOR DETAILS											
33B	1	EXHAUST FAN	SEE SHEETS FS-9 THRU FS-9.5 FOR DETAILS		X			11.6		1	115	3	SEE SHEETS FS-7 THRU FS-7.5 FOR DETAILS							2-1/2"				GREASE DRAIN, SEE SHEETS FS-7 THRU FS-7.5 FOR DETAILS
33C	1	SUPPLY FAN	SEE SHEETS FS-9 THRU FS-9.5 FOR DETAILS		X			4.4		1.5	208	3	SEE SHEETS FS-7 THRU FS-7.5 FOR DETAILS								107	3/4"		SEE SHEETS FS-7 THRU FS-7.5 FOR DETAILS
34	2	COOKER, RICE		X		6-20P		16.0			230	1	PLUGS INTO FIXTURE MTD. RECPT. LOCATED IN ITEM #31											
35	"	SPARE NUMBER																						
36	2	SELF-SERVICE REFRIGERATED MERCHANDISER	S/S IN & OUT	X		5-20P	84"	3.0		1/2	120	1												
37	1	TABLE, ENCLOSED BASE	SEALED TO WALL BY KEC																					
37A	1	DROP-IN, HOT WELLS, UNINSULATED		X		5-20P	16"	13.5			120	1												
38	1	SNEEZE GUARD	INSTALLED BY KEC																					
39	1	HAND SINK	INSTALLED IN ITEM #26															1-1/2"	4"					STUB-UP, INSTALLED IN ITEM #26
39A	1	FAUCET, DECK MOUNT												1/2"	4"	1/2"	4"							STUB-UP
39B	1	SOAP DISPENSER	BY VENDOR																					
39C	1	PAPER TOWEL DISPENSER	BY VENDOR																					
40	"	SPARE NUMBER																						
41	2	SANDWICH / PANINI GRILL		X		5-15P	16"	15.0			120	1												
41A	1	DRAWER, HOLD & SERVE		X		5-15P	16"	12.0	1.44		120	1												
42	2	REFRIGERATOR, SANDWICH/SALAD PREP	W/ RECESSED PLUG	X		5-15P	16"	7.2		1/5	115	1	W/ RECESSED PLUG											
43	1	OVEN, CONVECTION, ELECTRIC		X		6-50P	16"	50.0	8.32/9.6		208	1												
44	1	RANGE, RESTAURANT, GAS	ON CASTERS																		128	3/4"	18"	
45	1	GRIDDLE, HEAVY DUTY, GAS	SET ON ITEM #45A																		112	3/4"	18"	
45A	1	STAND, EQUIPMENT																						
46	1	FRYER, DEEP FAT, GAS																			105	3/4"	18"	
47	3	BINS, INGREDIENT	BY OWNER																					
48	1	HEAT LAMP, DECORATIVE			X		DN	3.2	0.4		120	1	ELECTRIC DOWN FROM ABOVE LOCATED IN CEILING											
49	1	DROP-IN, HOT WELLS		X		5-20P	16"	15.0			120	1												
50	"	SPARE NUMBER																						
51	1	DROP-IN, HEATED SHELF		X		5-15P	16"	3.5	0.4		120	1												
52	1	DROP-IN, COLD PAN		X		5-15P	16"	5.0			115	1								1"				
53	"	SPARE NUMBER																						
54	1	TABLE, OPEN BASE	SEALED TO WALL BY KEC																					
55	"	SPARE NUMBER																						
56	1	TABLE, ENCLOSED BASE	SEALED TO WALL BY KEC																					
57	1	POS SYSTEM	BY VENDOR, VERIFY UTILITIES	X		5-15P	16"	15.0			120	1	BY VENDOR, VERIFY UTILITIES, DATA LINE INCLUDED											
58	3	DISPENSER, CUP																						
59	1	REFIGERATOR, REACH-IN SANDWICH PREP		X		5-15P	16"	7.1			115	1												
60	1	TABLE,CABINET BASE	SEALED TO WALL BY KEC		X		16"	20.0			120	1	CONV. OUTLET, E.C. TO INTERCONNECT TO FIXTURE MOUNTED RECEPTACLES IN COUNTER											
60A	1	DROP-IN, HOT WELL		X		5-20P	16"	15.0			120	1												
60B	1	WARMING DRAWER		X		5-15P	16"	5.3			120	1												
61	1	TABLE, CABINET BASE	SEALED TO WALL BY KEC, GROMMET HOLES FOR ELE.																					
62	1	TABLE, CABINET BASE	SEALED TO WALL BY KEC																					
63	"	SPARE NUMBER																						
64	"	SPARE NUMBER																						
65	"	SPARE NUMBER																						
66	1	ICE DISPENSER W/ BEVERAGE HEADS	BY VENDOR, VERIFY UTILITIES	X			16"	5.0			120	1	BEVERAGE DISP., BY VENDOR, VERIFY UTILITIES			1/2"				3/4"				BY VENDOR, VERIFY UTILITIES, FILTERED WATER FROM ITEM #67 WATER FILTER
67	1	FILTER SYSTEM, FOUNTAIN BEVERAGE														3/8"	18"							CONNECT FILTERED WATER SUPPLY TO ITEM #66
68	1	TABLE, ENCLOSED BASE	SEALED TO WALL BY KEC, GROMMET HOLES FOR ELE.																	1/2"				DRIP TROUGH
69	1	TABLE & SHELVES, ON-LINE ORDER, PICK-UP																						
70	"	SPARE NUMBER																						
71	2	COLD BEVERAGE DISPENSER		X		5-15P	16"	6.0			120	1												
72	"	SPARE NUMBER																						
73	1	WATER DISPENSER, FAUCET														1/2"	18"							CONNECT WATER SUPPLY THRU WATER FILTER
74	2	S/S TRASH CHUTE	CUTOUTS BY FABRICATOR																					
75	8	DISPENSER, STRAW	CUTOUTS BY FABRICATOR																					
76	1	DISPENSER, LID	SECURED ON COUNTER BY KEC																					

1 CAVA GRILL - MECHANICAL SCHEDULE

SCALE: NTS

HEALTH DEPT. NOTES

1. ALL FOOD SERVICE EQUIPMENT, FABRICATED ITEMS, AND THEIR INSTALLATION SHALL MEET NATIONAL SANITATION FOUNDATION (N.S.F.) REQUIREMENTS.
2. ALL STATIONARY EQUIPMENT AND FIXTURES TO BE SEALED TO THE WALL OR ADJACENT EQUIPMENT. USE ALUMINUM COLOR AT STAINLESS STEEL AND CLEAR AT ALL OTHERS.
3. ALL SINKS IN THE FOOD FACILITY MUST BE PROVIDED WITH HOT WATER (MIN. 120 DEG. F.) AND COLD RUNNING WATER UNDER PRESSURE AND WILL HAVE A PREMIXING FAUCET CAPABLE OF SUPPLYING WARM WATER FOR A MINIMUM OF 10 SECONDS.
4. A HAND SINK IS PROVIDED IN EACH FOOD PREPARATION AREA WITH SINGLE SERVICE TOWEL AND SOAP DISPENSER.
5. 3-COMPARTMENT SINKS ARE PROVIDED WITH MIXING VALVE FAUCETS CAPABLE OF REACHING EACH COMPARTMENT.
6. A MIN. OF 50 FOOT CANDLES (215 LUX) OF LIGHT, MEASURED 30" OFF THE FLOOR TO BE PROVIDED IN ALL FOOD PREPARATION, PACKAGING, AND PROCESSING AREAS.
7. A MIN. OF 30 FOOT CANDLES (108 LUX) OF LIGHT, MEASURED 30" OFF THE FLOOR TO BE PROVIDED IN ALL FOOD AND UTENSIL STORAGE ROOMS, TOILET, AND DRESSING ROOMS.
8. A MIN. OF 30 FOOT CANDLES (215 LUX) OF LIGHT, MEASURED 30" OFF THE FLOOR TO BE PROVIDED IN ALL AREAS DURING GENERAL CLEANUP ACTIVITIES.
9. ALL SHELVING OVER WET AREAS (SINKS, MOP SINKS, ETC.) WILL BE STAINLESS STEEL.
10. SHATTER SHIELDS OR SHATTERPROOF LIGHT BULBS TO BE PROVIDED FOR ALL LIGHTS ABOVE FOOD PREPARATION, WORK, AND STORAGE AREAS.
11. ALL PLUMBING, ELECTRICAL, AND GAS LINES SHALL BE CONCEALED WITHIN THE BUILDING STRUCTURE TO AS GREAT AN EXTENT AS POSSIBLE.
12. FLOOR SINKS UNDER EQUIPMENT MUST BE 50% EXPOSED AND EASILY ACCESSIBLE FOR CLEANING AND SERVICING.
13. ALL EXHAUST HOODS TO BE A MIN. 22 GA. STAINLESS STEEL, U.L. LISTED, AND CONSTRUCTED AND INSTALLED TO ALL U.L. AND N.F.P.A. SPECIFICATIONS. EXHAUST DUCTS TO BE A MIN. 16 GA. STEEL. (TYPE 1 HOOD DUCTS TO HAVE WELDED SEAMS)
14. ALL FLOOR TILE TO BE SMOOTH UNDER ALL EQUIPMENT, AND WALKWAYS TO HAVE A LIGHT TEXTURE ONLY.
15. ALL 3-COMPARTMENT SINKS TO HAVE A MIN. COMPARTMENT SIZE OF 18" X 18" X 12" DEEP, WITH A MIN. 18" DRAIN BOARD ON EACH END. PROVIDE WITH 8" HIGH INTEGRAL BACK SPLASH AT ALL WALLS. (SEE FOOD SERVICE SPECIFICATIONS FOR SIZES OF EACH ITEM.)
16. SUPPORT ROOMS ARE FOR STORAGE AND UTENSIL WASHING ONLY. NO VEGETABLE WASHING OR FOOD PREP. TO BE DONE

FOOD SERVICE NOTES

1. REQUIREMENTS SHOWN ARE FOR ONE ITEM, TO DERIVE TOTAL MULTIPLY BY QUANTITY SHOWN.
2. ELECTRICAL CONTRACTOR SHALL PROVIDE MAG. STARTERS. DISCONNECT SWITCHES, INTERLOCKS AND THERMO-OVERLOAD PROTECTION WHERE REQUIRED.
3. PLUMBING CONTRACTOR SHALL PROVIDE STOP VALVES AHEAD OF ALL OPERATING HANDLES AND FAUCETS.
4. SEE EQUIPMENT PLUMBING AND ELECTRICAL ROUGH-IN DRAWINGS FOR ADDITIONAL INFORMATION.
5. ELECTRICAL POWER TO COOKING EQUIPMENT, WHERE REQUIRED, SHALL BE PROVIDED THRU A SHUNT-TRIP SYSTEM FOR FIRE FUEL SHUT-OFF. ELECTRICAL CONTRACTOR SHALL WIRE CONTROL CIRCUIT TO MICRO SWITCH PROVIDED BY KITCHEN EQUIPMENT CONTRACTOR ON HOOD FIRE PROTECTION SYSTEM.
6. GAS SUPPLY TO ALL COOKING EQUIPMENT, WHERE REQUIRED, SHALL BE PROVIDED WITH AN ELECTRIC VALVE FOR FIRE-FUEL SHUT-OFF. VALVE TO BE SUPPLIED BY THE "K.E.C." AND INSTALLED BY THE "P.C." K.E.C. SHALL CONNECT VALVE TO THE HOOD FIRE PROTECTION SYSTEM FOR AUTOMATIC SHUT-OFF.
7. ALL WALK-IN BOX COILS REQUIRE CONNECTIONS TO SOLENOID VALVE, T-STAT, T-CLOCK AND MOTORS AND CONTROL WIRING TO THE REMOTE COMPRESSOR. ALL CONNECTIONS TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
8. ALL WALK-IN BOX FIXTURES TO BE PROVIDED BY THE "K.E.C." INSTALLATION AND WIRING TO BE PROVIDED BY THE "E.C." WITH ALL CONDUIT RUN ON EXTERIOR (TOP) OF BOX.
9. VACUUM BREAKERS WHEN USED, TO BE MINIMUM OF SIX INCHES ABOVE THE FLOOD LEVEL RIM WITH NO SHUT OFF DEVICES BEYOND THE DISCHARGE OF THE VACUUM BREAKER.
10. WALL BACKING PROVIDED BY GENERAL CONTRACTOR.
11. PLUMBING CONTRACTOR TO SUPPLY GREASE TRAP AS REQUIRED BY CODE.
12. ALL COOKING EQUIPMENT UNDER EXHAUST HOODS ARE EITHER ON CASTERS WITH FLEXIBLE UTILITY QUICK DISCONNECTS OR FIXED ON S/S LEGS.
13. ALL NEW EXHAUST HOODS WILL BE CONSTRUCTED TO MEET THE FOLLOWING STANDARDS: NSF, UL AND NFPA-96. ALL NEW HOODS TO BEAR UL CLASSIFIED LABEL WITHOUT DAMPERS IN EXHAUST VENT COLLARS. HOODS ARE DESIGNED TO MEET OR EXCEED 50 FPM CAPTURE VELOCITY AT THE COOKING SURFACE EDGE AND HAVE A 6" MIN. OVERHANG AT ALL EXPOSED COOKING AREAS.
14. BACK SPLASHES OF EQUIPMENT SHALL BE SEALED TO WALLS WITH CLEAR SILICONE CAULK IN A NEAT WORKMAN LIKE MANNER.

SHEET NOTES

JOHNSON-LANCASTER AND ASSOCIATES, INC.
FOOD SERVICE EQUIPMENT SPECIALIST
13031 US Highway 19 N Clearwater, FL 33764 (727) 796-5822 (727) 470-7882

REVISIONS			
NUMBER	DATE	DESCRIPTION	
1	5/28/2022	ADD EXHAUST VENTILATION DETAILS	

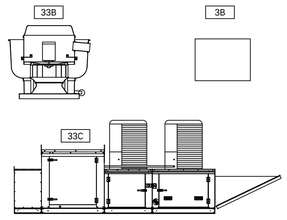
PROJECT TITLE: CAVA Grill – LEE SUMMIT

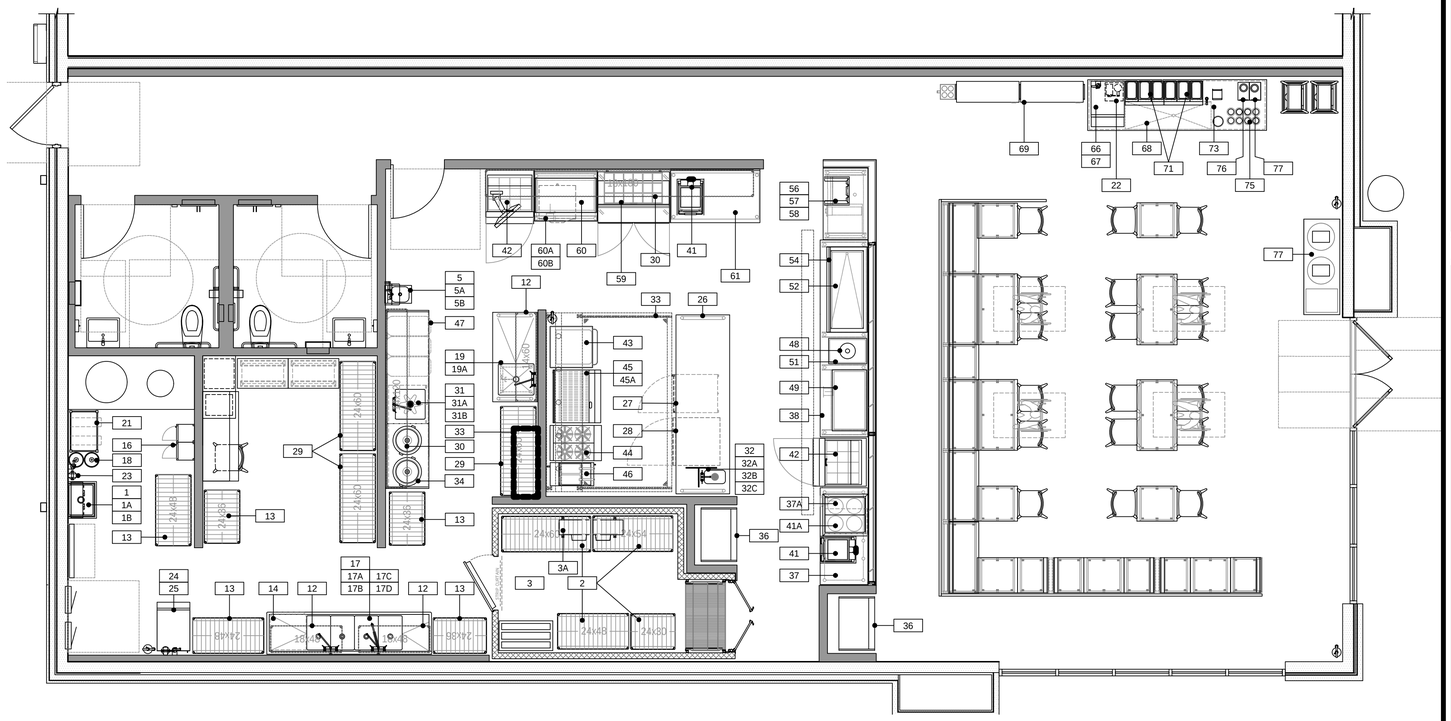
DATE:	05/17/2022
SCALE:	NTS
DRAWN BY:	JJF
DESIGNED BY:	JJF
PAPER SIZE::	24X36
SHEET:	FS-1

EQUIPMENT SCHEDULE

ITEM NO	QTY	EQUIPMENT CATEGORY	EQUIPMENT REMARKS	BY KEC
1	1	SINK, MOP	INSTALLED BY PLUMBER	X
1A	1	SHELVING, WALL MOUNTED	HUNG BY KEC - VERFY HEIGHT W/ OWNER	X
1B	1	FAUCET, SERVICE SINK	INSTALLED BY PLUMBER	X
2	1LOT	SHELVING, WIRE	4 SHELVES 4 POST 86"	X
2A	1	RACK, DUNNAGE		X
3	1	REFRIGERATED , WALK-IN COOLER		X
3A	1	EVAPORATOR COIL, COOLER	HUNG BY KEC DRAIN BY PLUMBER	X
3B	1	CONDENSING UNIT		X
4	"	SPARE NUMBER		
5	1	HAND SINK, WALL MOUNTED		X
5A	1	SOAP DISPENSER	BY VENDOR	
5B	1	PAPER TOWEL DISPENSER	BY VENDOR	
6	"	SPARE NUMBER		
7	1LOT	23 GALLON WASTE CAN	BY OWNER	
8	1	AUTO PUMP OIL CONTAINER	BY OTHERS	
9	1	COUNTER, PREP	BOLTED & SEALED TO THE WALL BY KEC	X
10	"	SPARE NUMBER		
11	"	SPARE NUMBER		
12	3	SHELF, WALL MOUNT	HUNG @ 5'-6" AFF	X
13	1LOT	SHELVING, WIRE	5 TIER W/ 86" POST (4)	X
14	1	WAREWASHER, UNDERCOUNTER, LOW TEMP	BY VENDOR VERIFY UTILITIES (ECOLAB)	
15	"	SPARE NUMBER		
16	2	LOCKERS (6)		X
17	1	SINK, SCULLERY, 4 COMPARTMENTS	BOLTED & SEALED TO THE WALL BY KEC	X
17A	1	FAUCET, ADD-ON	UNIT IS A PART OF ITEM #17B	X
17B	1	PRE-RINSE FAUCET, WALL MOUNT		X
17C	1	FAUCET, WALL MOUNT		X
17D	4	LEVER WASTE	INSTALLED ON SINK BOWL BY PLUMBER	X
18	1LOT	CO2 TANKS	BY VENDOR	
19	"	SPARE NUMBER		
20	"	SPARE NUMBER		
21	1	RACK, SYRUP TANK & BAG-N-BOX	BY VENDOR	
22	1	CARBONATOR	BY VENDOR, VERIFY UTILITIES	
23	1	FILTER SYSTEM, ICEMAKER		X
24	1	BIN, ICE		X
25	1	ICE MAKER		X
26	1	COUNTER, WORK		X
26A	1	COUNTER, WORK		X
27	1	CABINET, MOBILE, WARMING & HOLDING	ON CASTERS 2.5"	X
28	2	REFRIGERATOR, UNDERCOUNTER, COMPACT		X
29	"	SPARE NUMBER		
30	2	SHELF, WALL MOUNT	HUNG @ 6'-6" AFF, HIDDEN BRACKET	X
31	1	TABLE, CABINET BASE W/ SINK	SEALED TO WALL BY KEC	X
31A	1	FAUCET, DECK MOUNT		X
31B	1	WASTE DRAIN VALVE	INSTALLED BY PLUMBER	X
32	1	HAND SINK	INSTALLED IN ITEM #9	X
32A	1	FAUCET, DECK MOUNT		X
32B	1	SOAP DISPENSER	BY VENDOR	
32C	1	PAPER TOWEL DISPENSER	BY VENDOR	
33	1	EXHAUST HOOD	SEE SHEETS FS-7 THRU FS-7.5 FOR DETAILS	X
33A	1	ELEC PAK / FIRE SUPRESSION	SEE SHEETS FS-7 THRU FS-7.5 FOR DETAILS	X
33B	1	EXHAUST FAN	SEE SHEETS FS-7 THRU FS-7.5 FOR DETAILS	X
33C	1	SUPPLY FAN	SEE SHEETS FS-7 THRU FS-7.5 FOR DETAILS	X
34	2	COOKER, RICE		X
35	"	SPARE NUMBER		
36	2	SELF-SERVICE REFRIGERATED MERCHANDISER	S/S IN & OUT	X
37	1	TABLE, ENCLOSED BASE	SEALED TO WALL BY KEC	X
37A	1	DROP-IN, HOT WELLS, UNINSULATED		X
38	1	SNEEZE GUARD	INSTALLED BY KEC	X
39	1	HAND SINK	INSTALLED IN ITEM #26	X
39A	1	FAUCET, DECK MOUNT		X
39B	1	SOAP DISPENSER	BY VENDOR	
39C	1	PAPER TOWEL DISPENSER	BY VENDOR	
40	"	SPARE NUMBER		
41	2	SANDWICH / PANINI GRILL		X
41A	1	DRAWER, HOLD & SERVE		X
42	2	REFRIGERATOR, SANDWICH/SALAD PREP	W/ RECESSED PLUG	X
43	1	OVEN, CONVECTION, ELECTRIC		X
44	1	RANGE, RESTAURANT, GAS	ON CASTERS	X
45	1	GRIDDLE, HEAVY DUTY, GAS	SET ON ITEM #45A	X
45A	1	STAND, EQUIPMENT		X
46	1	FRYER, DEEP FAT, GAS		X
47	3	BINS, INGREDIENT	BY OWNER	
48	1	HEAT LAMP, DECORATIVE		X
49	1	DROP-IN, HOT WELLS		X
50	"	SPARE NUMBER		
51	1	DROP-IN, HEATED SHELF		X
52	1	DROP-IN, COLD PAN		X
53	"	SPARE NUMBER		
54	1	TABLE, OPEN BASE	SEALED TO WALL BY KEC	X
55	"	SPARE NUMBER		
56	1	TABLE, ENCLOSED BASE	SEALED TO WALL BY KEC	X
57	1	POS SYSTEM	BY VENDOR, VERIFY UTILITIES	
58	3	DISPENSER, CUP		X
59	1	REFIGERATOR, REACH-IN SANDWICH PREP		X
60	1	TABLE,CABINET BASE	SEALED TO WALL BY KEC	X
60A	1	DROP-IN, HOT WELL		X
60B	1	WARMING DRAWER		X
61	1	TABLE, CABINET BASE	SEALED TO WALL BY KEC, GROMMET HOLES FOR ELE.	X
62	1	TABLE, CABINET BASE	SEALED TO WALL BY KEC	X
63	"	SPARE NUMBER		
64	"	SPARE NUMBER		
65	"	SPARE NUMBER		
66	1	ICE DISPENSER W/ BEVERAGE HEADS	BY VENDOR, VERIFY UTILITIES	
67	1	FILTER SYSTEM, FOUNTAIN BEVERAGE		X
68	1	TABLE, ENCLOSED BASE	SEALED TO WALL BY KEC, GROMMET HOLES FOR ELE.	X
69	1	TABLE & SHELVES, ON-LINE ORDER, PICK-UP		
70	"	SPARE NUMBER		
71	2	COLD BEVERAGE DISPENSER		X
72	"	SPARE NUMBER		
73	1	WATER DISPENSER, FAUCET		X
74	2	S/S TRASH CHUTE	CUTOUTS BY FABRICATOR	X
75	8	DISPENSER, STRAW	CUTOUTS BY FABRICATOR	X
76	1	DISPENSER, LID	SECURED ON COUNTER BY KEC	X

LOCATED ON ROOF/ PLATFORM / CEILING
BY MECHANICAL ENGINEER





1 CAVA GRILL - EQUIPMENT PLAN & SCHEDULE

SCALE: 1/4 = 1'-0"

JOHNSON-LANCASTER AND ASSOCIATES, INC.
FOOD SERVICE EQUIPMENT SPECIALIST
13031 US Highway 19 N Clearwater, FL 33764 (727) 796-5822 (727) 470-7862

REVISIONS

NUMBER	DATE	DESCRIPTION
1	5/26/2022	ADD EXHAUST VENTILATION DETAILS

PROJECT TITLE:
CAVA Grill – LEE SUMMIT

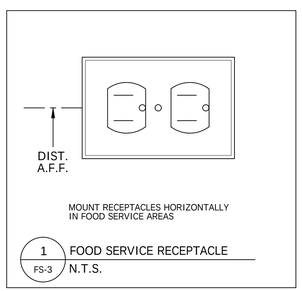
DATE:	05/17/2022
SCALE:	1/4"=1'-0"
DRAWN BY:	JJF
DESIGNED BY:	JJF
PAPER SIZE::	24X36
SHEET:	FS-2

ELECTRICAL SCHEDULE

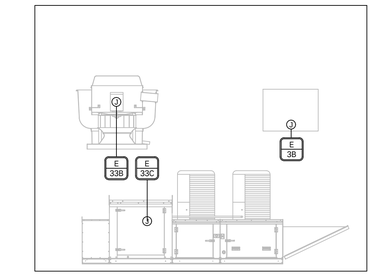
ITEM NO	QTY	EQUIPMENT CATEGORY	PLUG	DIRECT	NEMA	ELECTRICAL AFF (IN)	AMPS	KW	HP	VOLTS	PHASE	ELEC REMARKS
3	1	REFRIGERATED , WALK-IN COOLER		X		DN	20.0			120	1	ELECTRIC DOWN FROM ABOVE, FOR WALK-IN LIGHTS
3A	1	EVAPORATOR COIL, COOLER		X		DN	2.0			115	1	ELECTRIC DOWN FROM ABOVE
3B	1	CONDENSING UNIT		X			9.0		1	208-230	1	
14	1	WAREWASHER, UNDERCOUNTER, LOW TEMP		X		16"	12.0		1.0	115	1	BY VENDOR VERIFY UTILITIES
22	1	CARBONATOR	X			16"	20.0			120	1	BY VENDOR, VERIFY UTILITIES
25	1	ICE MAKER		X		60"	13.3			120	1	
26A	1	COUNTER, WORK		X		16"	30.0			120	1	CONV. OUTLET, E.C. TO INTERCONNECT TO FIXTURE MOUNTED RECEPTACLES IN COUNTER
27	1	CABINET, MOBILE, WARMING & HOLDING	X		5-15P		9.0	1.1		120	1	PLUGS INTO FIXTURE MTD. RECPT. LOCATED IN ITEM #26A
28	2	REFRIGERATOR, UNDERCOUNTER, COMPACT	X		5-15P		6.5		0.2	120	1	PLUGS INTO FIXTURE MTD. RECPT. LOCATED IN ITEM #26A
31	1	TABLE, CABINET BASE W/ SINK		X		34"	30.0			230	1	ELECTRICAL CONNECTION TO FIXTURE MTD. RECPT. LOCATED IN COUNTER, ELECTRIC FOR ITEM #34
33	1	EXHAUST HOOD		X		DN	20.0			120	1	ELECTRIC DOWN FROM ABOVE, FOR LIGHT SWITCH, SEE SHEETS FS-7 THRU FS-7.5 FOR DETAILS
33A	1	ELEC PAK / FIRE SUPRESSION		X		DN	11.6/4.4		1/3	115/208	3	ELECTRIC DOWN FROM ABOVE, FOR FANS SWITCH, SEE SHEETS FS-7 THRU FS-7.5 FOR DETAILS
33B	1	EXHAUST FAN		X			11.6		1	115	1	SEE SHEETS FS-7 THRU FS-7.5 FOR DETAILS
33C	1	SUPPLY FAN		X			4.4		1.5	208	3	SEE SHEETS FS-7 THRU FS-7.5 FOR DETAILS
34	2	COOKER, RICE	X		6-20P		16.0			208	1	PLUGS INTO FIXTURE MTD. RECPT. LOCATED IN ITEM #31
36	2	SELF-SERVICE REFRIGERATED MERCHANDISER	X		5-20P	84"	3.0		1/2	120	1	
37A	1	DROP-IN, HOT WELLS, UNINSULATED	X		5-20P	16"	13.5			120	1	
41	2	SANDWICH / PANINI GRILL	X		5-15P	16"	15.0			120	1	
41A	1	DRAWER, HOLD & SERVE	X		5-15P	16"	12.0	1.44		120	1	
42	2	REFRIGERATOR, SANDWICH/SALAD PREP	X		5-15P	16"	7.2		1/5	115	1	W/ RECESSED PLUG
43	1	OVEN, CONVECTION, ELECTRIC	X		6-50P	16"	50.0	3.32/9.6		208	1	
48	1	HEAT LAMP, DECORATIVE		X		DN	3.2	0.4		120	1	ELECTRIC DOWN FROM ABOVE LOCATED IN CEILING
49	1	DROP-IN, HOT WELLS	X		5-20P	16"	15.0			120	1	
51	1	DROP-IN, HEATED SHELF	X		5-15P	16"	3.5	0.4		120	1	
52	1	DROP-IN, COLD PAN	X		5-15P	16"	5.0			115	1	
57	1	POS SYSTEM	X		5-15P	16"	15.0			120	1	BY VENDOR, VERIFY UTILITIES, DATA LINE INCLUDED
59	1	REFIGERATOR, REACH-IN SANDWICH PREP	X		5-15P	16"	7.1			115	1	
60	1	TABLE,CABINET BASE		X		16"	20.0			120	1	CONV. OUTLET, E.C. TO INTERCONNECT TO FIXTURE MOUNTED RECEPTACLES IN COUNTER
60A	1	DROP-IN, HOT WELL	X		5-20P	16"	15.0			120	1	
60B	1	WARMING DRAWER	X		5-15P	16"	5.3			120	1	
66	1	ICE DISPENSER W/ BEVERAGE HEADS	X			16"	5.0			120	1	BEVERAGE DISP., BY VENDOR, VERIFY UTILITIES
71	2	COLD BEVERAGE DISPENSER	X		5-15P	16"	6.0			120	1	

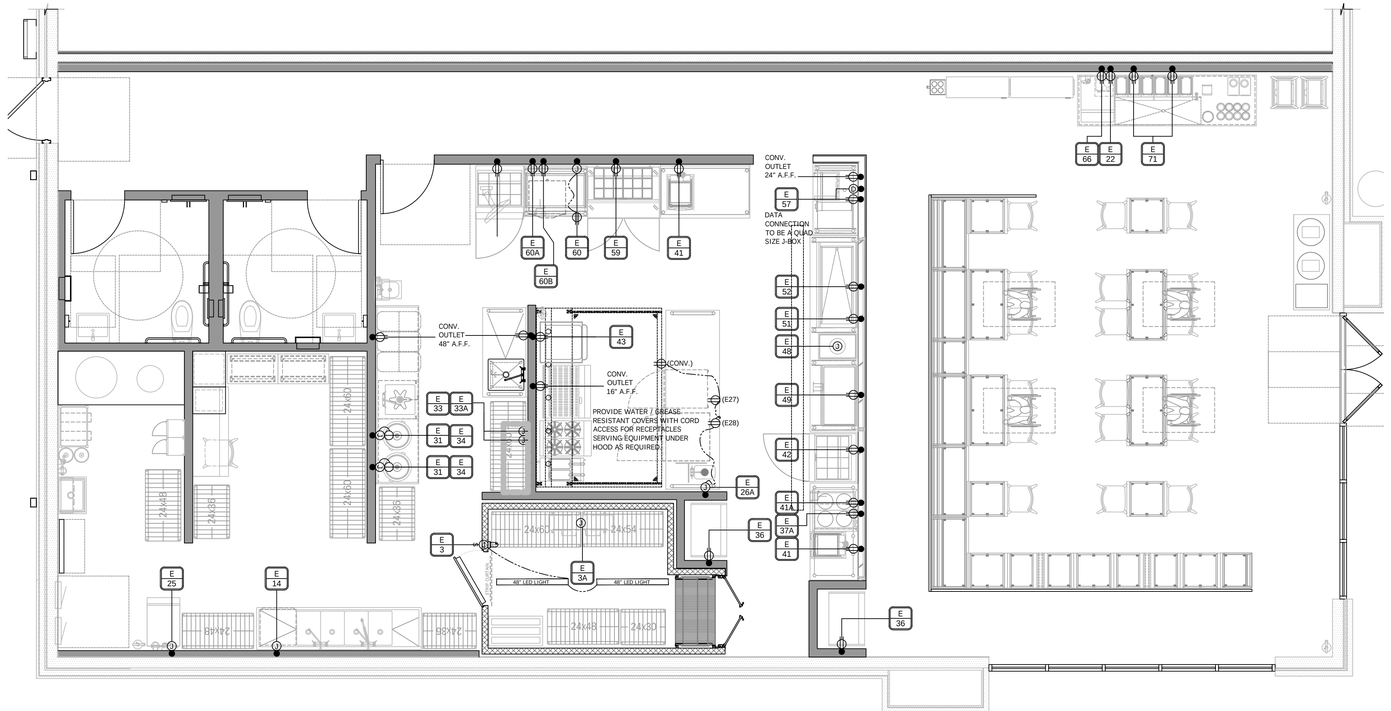
ELECTRICAL LEGEND

SYMBOLS		ABBREVIATIONS	
(J)	JUNCTION BOX (J-BOX)	A	AMPERES
□	EQUIPMENT INTERCONNECTION BY E.C.	V	VOLTS
●	ELECTRICAL ROUGH-IN	W	WATTS
⊖	SINGLE ELECTRICAL OUTLET (SCO)	PH	PHASE
⊖	DUPLEX ELECTRICAL OUTLET (DCO)	AFF	ABOVE FINISHED FLOOR
F/LED	FLUORESCENT / LED LIGHT FIXTURE	DN	DOWN FROM ABOVE
◇	INCANDESCENT LIGHT INDICATION	BTC	BRANCH TO CONN-ECTION POINT AND CONNECT EQUIPMENT
	BREAKER PANELBOARD	HP	HORSE POWER
$	SWITCH AS NOTED	KW	KILOWATTS
▶	TELEPHONE OUTLET	DC	DIRECT CONNECTION
⊖	FOUR PLEX ELECTRICAL OUTLET (DCO)	K.E.C.	KITCHEN EQUIPMENT CONTRACTOR
(D)	DATA LINE CONNECTION	E.C.	ELECTRICAL CONTRACTOR
CONV. DOWN	CONVENIENCE OUTLET DOWN FROM ABOVE 120V 1PH 20.0A	CONV.	CONVENIENCE OUTLET 120V 1PH 20.0A



CURRENT RATING	TYPE	2 POLE - WIRE NO GROUND 125V	2 POLE - WIRE NO GROUND 250V	2 POLE - 3 WIRE GROUNDING 125V	2 POLE - 3 WIRE GROUNDING 250V	1 POLE 4 WIRE GROUNDING 125/250V
15A	STRAIGHT BLADE	1-15R	2-15R	5-15R	6-15R	
	TWIST LOCK	L1-15R		L5-15R	L6-15R	
20A	STRAIGHT BLADE		2-20R	5-20R	6-20R	14-20R
	TWIST LOCK		L2-20R	L5-20R	L6-20R	L14-20R
30A	STRAIGHT BLADE		2-30R	5-30R	6-30R	14-30R
	TWIST LOCK			L5-30R	L6-30R	L14-30R
50A	STRAIGHT BLADE			5-50R	6-50R	14-50R
	TWIST LOCK					CS6364/65
60A	STRAIGHT BLADE					14-60R





1 CAVA GRILL - ELECTRICAL PLAN & SCHEDULE

SCALE: 1/4 = 1'-0"

JOHNSON-LANCASTER AND ASSOCIATES, INC.
FOOD SERVICE EQUIPMENT SPECIALIST
13031 US Highway 19 N Clearwater, FL 33764 (727) 796-5822 (727) 470-7882

REVISIONS

NUMBER	DATE	DESCRIPTION
1	5/28/2022	ADD EXHAUST VENTILATION DETAILS

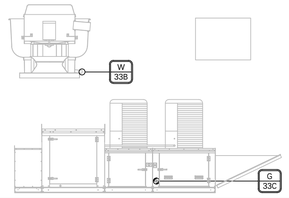
PROJECT TITLE:
CAVA Grill - LEE SUMMIT

DATE:	05/17/2022
SCALE:	1/4"=1'-0"
DRAWN BY:	JJF
DESIGNED BY:	JJF
PAPER SIZE::	24X36
SHEET:	FS-3

PLUMBING SCHEDULE

ITEM NO	QTY	EQUIPMENT CATEGORY	HOT WATER SIZE (IN)	HOT WATER AFF (IN)	COLD WATER SIZE (IN)	COLD WATER AFF (IN)	DIRECT DRAIN SIZE (IN)	DIRECT DRAIN AFF (IN)	INDIR DRAIN SIZE (IN)	MBTUH	GAS SIZE (IN)	GAS AFF (IN)	PLUMBING REMARKS
1	1	SINK, MOP					3"						INSTALLED BY PLUMBER
1B	1	FAUCET, SERVICE SINK	1/2"	36"	1/2"	36"							INSTALLED BY PLUMBER
3A	1	EVAPORATOR COIL, COOLER							3/4"				
5	1	HAND SINK, WALL MOUNTED	1/2"	18"	1/2"	18"	1 1/2"	16"					
14	1	WAREWASHER, UNDERCOUNTER, LOW TEMP	1/2"	18"					1"				BY VENDOR VERIFY UTILITIES, INCOMING WATER TEMP 140 DEGREES
17	1	SINK, SCULLERY, 4 COMPARTMENTS							(4)1-1/2"				
17B	1	PRE-RINSE FAUCET, WALL MOUNT	1/2"	18"	1/2"	18"							
17C	1	FAUCET, WALL MOUNT	1/2"	18"	1/2"	18"							
22	1	CARBONATOR			1/2"	18"							BY VENDOR, VERIFY UTILITIES
23	1	FILTER SYSTEM, ICEMAKER			3/8"	72"							CONNECT FILTERED WATER SUPPLY TO ITEM #25 ICE MACHINE
24	1	BIN, ICE							3/4"				
25	1	ICE MAKER			1/2"				3/4"				CONNECT FILTERED WATER SUPPLY FROM ITEM #23 WATER FILTER
31	1	TABLE, CABINET BASE W/ SINK							(1)1-1/2"				
31A	1	FAUCET, DECK MOUNT	1/2"	18"	1/2"	18"							
32	1	HAND SINK					1-1/2"	16"					INSTALLED IN ITEM #9
32A	1	FAUCET, DECK MOUNT	1/2"	18"	1/2"	18"							
33B	1	EXHAUST FAN							2-1/2"				GREASE DRAIN, SEE SHEETS FS-7 THRU FS-7.5 FOR DETAILS
33C	1	SUPPLY FAN								107	3/4"		SEE SHEETS FS-7 THRU FS-7.5 FOR DETAILS
39	1	HAND SINK					1-1/2"	4"					STUB-UP, INSTALLED IN ITEM #26
39A	1	FAUCET, DECK MOUNT	1/2"	4"	1/2"	4"							STUB-UP
44	1	RANGE, RESTAURANT, GAS								128	3/4"	18"	
45	1	GRIDDLE, HEAVY DUTY, GAS								112	3/4"	18"	
46	1	FRYER, DEEP FAT, GAS								105	3/4"	18"	
52	1	DROP-IN, COLD PAN							1"				
66	1	ICE DISPENSER W/ BEVERAGE HEADS			1/2"				3/4"				BY VENDOR, VERIFY UTILITIES, FILTERED WATER FROM ITEM #67 WATER FILTER
67	1	FILTER SYSTEM, FOUNTAIN BEVERAGE			3/8"	18"							CONNECT FILTERED WATER SUPPLY TO ITEM #66
68	1	TABLE, ENCLOSED BASE							1/2"				DRIP TROUGH
73	1	WATER DISPENSER, FAUCET			1/2"	18"							CONNECT WATER SUPPLY THRU WATER FILTER

LOCATED ON ROOF/ PLATFORM / CEILING
BY MECHANICAL ENGINEER

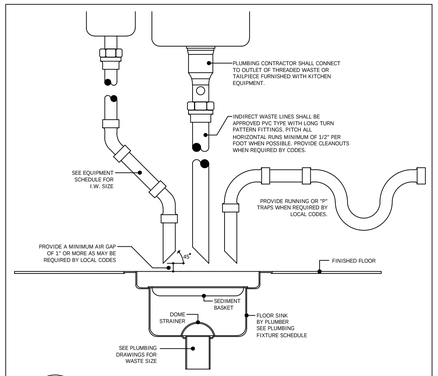


PLUMBING LEGEND

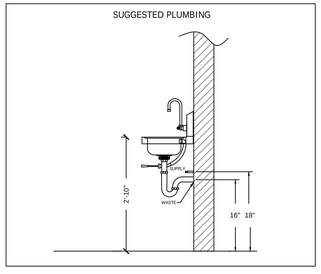
SYMBOLS		ABBREVIATIONS	
●	HOT	HW	HOT WATER
●	COLD	CW	COLD WATER
●	DRAIN	DR	DRAIN
○	CONNECTION	AFF	ABOVE FINISHED FLOOR
☒	FLOOR SINK HALF GRATE	FD	FLOOR DRAIN
☒	FLOOR SINK FULL GRATE	FS	FLOOR SINK
◎	FLOOR DRAIN W/ FUNNEL AS NOTED	FT	FLOOR TROUGH
●	AREA DRAIN AS NOTED	HD	HUB DRAIN
◕	GAS LINE	GPH	GALLONS PER HOUR
⊕	GAS CONNECTION	GPM	GALLONS PER MINUTE
∿	FLEX CONNECT HOSE	BTC	BRANCH TO CONNECT
– – – –	INDIRECT WASTE LINE	PSI	POUNDS PER SQUARE INCH
⌒	PLUMBING INTERCONNECTION	DN	DOWN FROM ABOVE
⊙	STEAM RETURN	S	STEAM
◎	STEAM SUPPLY	SR	STEAM RETURN
●	CHILLED WATER SUPPLY	CWS	CHILLED WATER SUPPLY
●	CHILLED WATER RETURN	CWR	CHILLED WATER RETURN

PLUMBING GENERAL NOTES

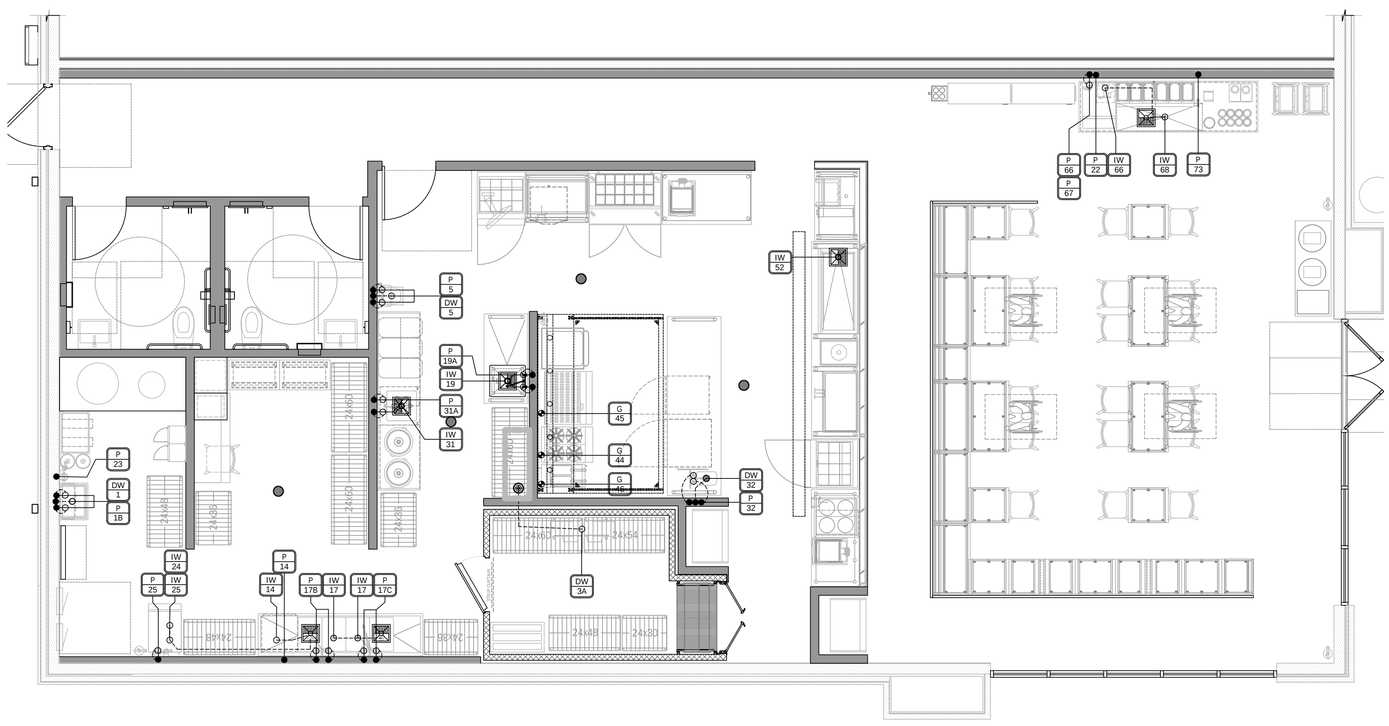
1. SEE EQUIPMENT PLAN AND SCHEDULE FOR ADDITIONAL INFORMATION.
2. P.C. TO PROVIDE ALL ROUGH-IN AND FINAL CONNECTIONS TO ALL EQUIPMENT SHOWN HEREIN.
3. SOLID DOT REPRESENTS ROUGH-IN LOCATION. (FURNISHED BY P.C.)
   DOTTED LINE REPRESENTS FINAL CONNECTION. (FURNISHED BY P.C.)
   CIRCLE REPRESENTS CONNECTION TO EQUIPMENT. (FURNISHED BY P.C.)
4. PLUMBING CONTRACTOR (P.C.) TO KEEP ALL PLUMBING LINES CLEAR OF WALLBACKING AREAS.
5. P.C. TO INSTALL REGULATORS AS REQUIRED.
6. P.C. TO VERIFY PLUMBING REQUIREMENTS AND LOCATIONS FOR EQUIPMENT SUPPLIED BY OTHERS.



1 FS-4 FLOOR SINK DETAIL
NOT TO SCALE



2 FS-4 HAND SINK CONNECTIONS DETAIL
NOT TO SCALE



1 CAVA GRILL - PLUMBING PLAN & SCHEDULE
SCALE: 1/4 = 1'-0"

JOHNSON-LANCASTER AND ASSOCIATES, INC.
FOOD SERVICE EQUIPMENT SPECIALIST
13031 US Highway 19 N Clearwater, FL 33764 (727) 796-5622 (727) 470-7862

REVISIONS

NUMBER	DATE	DESCRIPTION
1	5/28/2022	ADD EXHAUST VENTILATION DETAILS

PROJECT TITLE:
CAVA Grill – LEE SUMMIT

DATE:	05/17/2022
SCALE:	1/4"=1'-0"
DRAWN BY:	JJF
DESIGNED BY:	JJF
PAPER SIZE::	24X36
SHEET:	FS-4

LEGEND			
SYMBOLS			ABBREVIATIONS
(R)	REFRIGERATION CONNECTION	FS	FLOOR SINK
		AD	AREA DRAIN
		FFD	FUNNEL FLOOR DRAIN

SYMBOLS

WALL BACKING FOR EQUIPMENT ABOVE 36" (BY GENERAL CONTRACTOR)

SODA LINE CONDUIT (BY GENERAL CONTRACTOR)

NOTES:

1. LINE RUNS & LOCATION OF ROOF TOP EQUIPMENT FOR SCHEMATIC PURPOSE ONLY. VERIFY EXACT LOCATION WITH ARCHITECTURAL DRAWINGS AND SITE CONDITIONS.
2. DO NOT SLOPE FLOOR TO FLOOR SINKS (FS).

SPECIAL CONDITIONS NOTES

1 CONTRACTOR SHALL INSURE ALL WALLS AND/OR CEILINGS ARE PROPERLY REINFORCED TO SUPPORT ALL WALL AND/OR CEILING SUPPORTED EQUIPMENT.

2 CONTRACTOR SHALL PITCH FLOOR TO AREA DRAINS AT A MINIMUM OF 1/8" PER FOOT. THIS CONDITION IS APPLICABLE IN WET SPACES SUCH AS CART WASH, TRASH ROOM, DISH ROOM AND POT WASH AREAS.

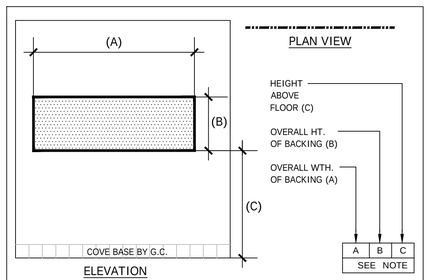
3 CONTRACTOR SHALL INSURE THAT WALL DEPTH IS SUFFICIENT TO RECEIVE RECESSED EQUIPMENT PROVIDED BY KEC

4 CONTRACTOR SHALL PROVIDE 2" DIA RACEWAY (PVC, EMT, OR OTHER MATERIAL REQUIRED BY CODE) FOR RUN OF COMPUTER GRADE CONDUIT. ALL BENDS TO BE EASY SWEEPS (18" RADIUS MIN).

5 CONTRACTOR SHALL PROVIDE CLEAR OPENING IN WALL TO RECEIVE FOODSERVICE EQUIPMENT BY KEC. CONTRACTOR TO ALLOW 1/4" CLEARANCE ON EACH SIDE AND TOP(S) OF UNIT(S).

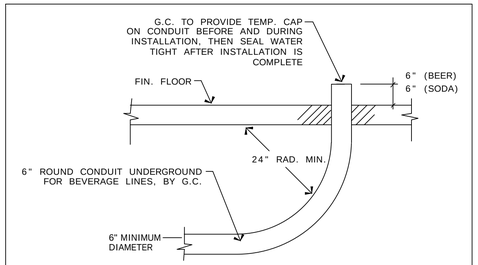
6 CONTRACTOR SHALL VERIFY INSTALLATION HEIGHT OF FINISHED CEILING WITH FOODSERVICE EQUIPMENT.

7 CONTRACTOR SHALL INSURE STRUCTURAL FLOOR IS ADEQUATE TO SUPPORT HEAVY EQUIPMENT SUCH AS PIZZA OVEN, ICEMAKER, AND REMOTE REF. SYSTEM.



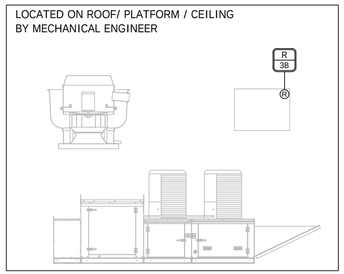
* NOTE: WALL BACKING LENGTHS ARE MINIMUM. ALWAYS EXTEND TO NEXT STUD OVER IN EACH DIRECTION. SEE BUILDING CONDITIONS PLAN. 5/8" MARINE GRADE PLYWOOD OR 14 GA. GALV. BACKING

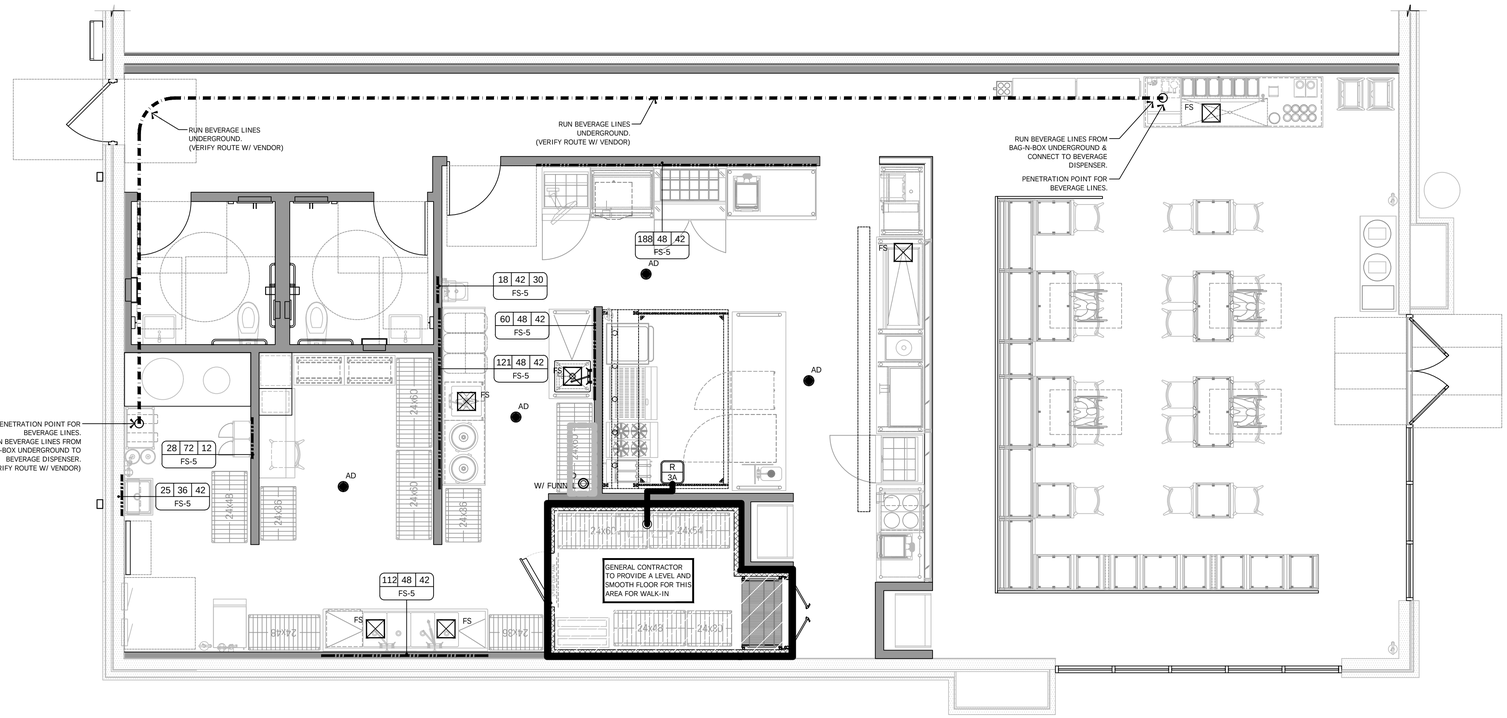
1 / FS-5 EQUIPMENT WALL BACKING DETAIL
N.T.S.



CONDUIT TO BE ROUND PVC, DIAMETER AS INDICATED WITH MINIMUM BEND RADIUS OF 24".
FURNISH ALL 6" PVC CONDUIT AS DESCRIBED IN THE NATIONAL ELECTRICAL CODE REFERENCING, CONDUIT, METAL DUCT, SWEEP ELBOWS, OR EQUAL.

2 / FS-5 BEVERAGE CONDUIT DETAIL (UNDER FLOOR)
N.T.S.





1 CAVA GRILL - SPECIAL CONDITIONS
SCALE: 1/4 = 1'-0"

JOHNSON-LANCASTER AND ASSOCIATES, INC.
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REVISIONS		
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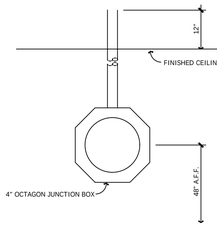


THE FIRE PROTECTION SYSTEM REMOTE PULL STATION SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR THE ELECTRICAL J-BOX WITH 1/2" KNOCKOUTS SHALL BE LOCATED AS SHOWN WITH TABS IN THE UPPER RIGHT AND LEFT OF THE BOX. THE STEEL J-BOX SHALL BE INSTALLED AT +48" A.F.F. OR AS REQUIRED BY LOCAL AND GOVERNING CODES HEAVY DUTY 1/2" STEEL E.M.T. SHALL RUN FROM THE TOP OF THE BOX TO 12" ABOVE FINISHED CEILING LINE. THERE SHALL BE NO BENDS, ANGLES, MITERS OR OFFSETS WITHIN THE SYSTEM RUN. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL (1) ONE APPROVED STEEL BOX FOR EACH PULL BOX STATION LOCATED AS INDICATED ON THE DRAWINGS. PULL BOX UNITS THAT ARE MOUNTED NEXT TO EACH OTHER SHALL MAINTAIN A DISTANCE OF NOT LESS THEN 8". VERIFY EACH REQUIREMENT AS PER LOCAL AND GOVERNING AGENCIES AND CODES.

1 / FS-6 PULL STATION DETAIL
N.T.S.

MECHANICAL REQUIREMENTS				
TAG	DUCT SIZE	CONNECTION	DUCT CFM	STATIC PRESSURE
1E	16" DIA.	DUCT CONNECT	2381	-0.825"
1S	12 X 28	DUCT CONNECT	650	0.161"
1.1S	6 X 28	DUCT CONNECT	364	0.090"

LEGEND	
	ABBREVIATIONS
#E	HOOD EXHAUST
#S	HOOD SUPPLY

NOTE:

ALL HOODS MUST PROPERLY VENTILATE THE COOKING EQUIPMENT BENEATH IT AND BE COMPATIBLE WITH THE BUILDING VENTILATION SYSTEM.

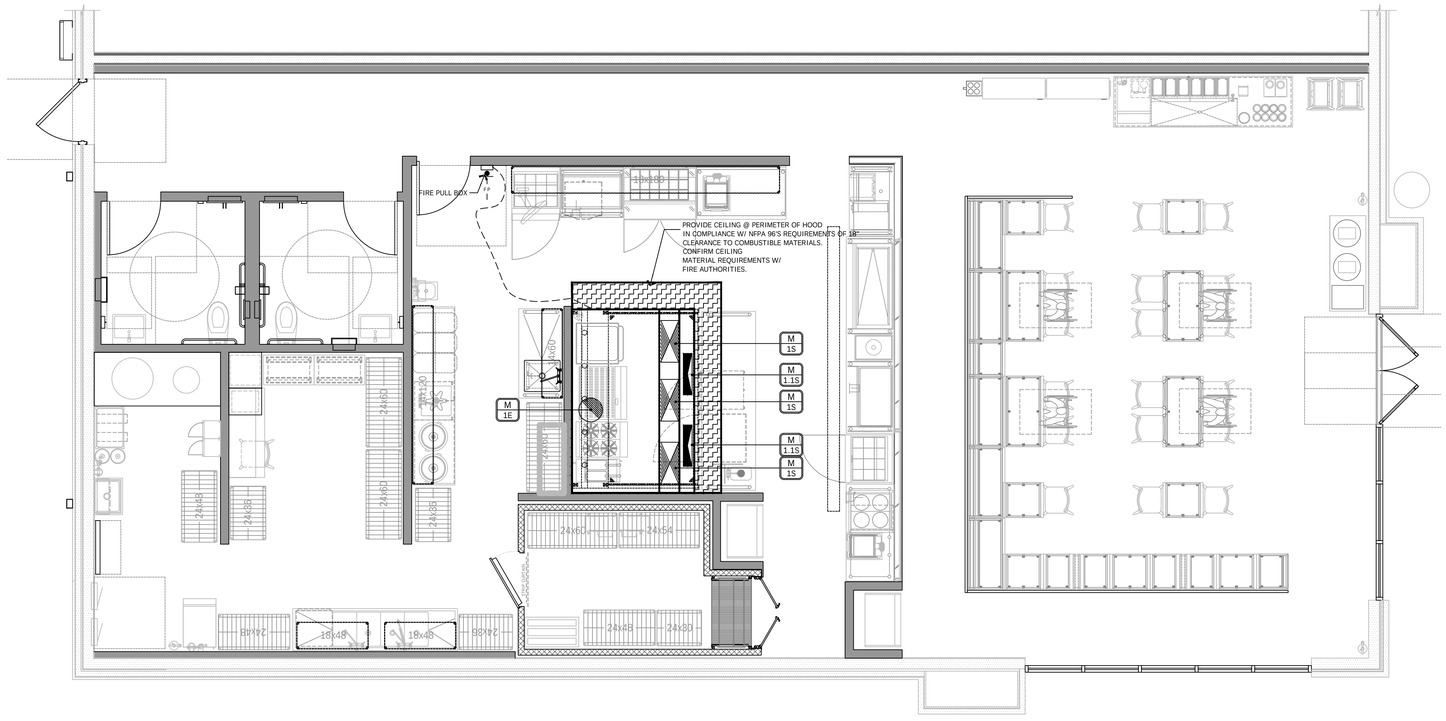
MECHANICAL SYSTEM NOTES:

1. EXHAUST HOOD REQUIREMENTS AND DUCT COLLAR SIZES SHALL BE COORDINATED WITH FINAL SHOP DRAWINGS PRIOR TO FABRICATION.
2. ALL FINAL DUCT WELDING AND CONNECTIONS TO BE INCLUDED IN THE H.V.A.C. CONTRACT.
3. DUCTWORK AND INSTALLATION TO BE PROVIDED BY GC EXHAUST FAN AND SUPPLY FAN TO BE PROVIDED BY KEC AND INSTALLED BY GC.
4. PROVIDE DISCONNECT ON ROOF FOR EXHAUST AND M.U.A. FANS.
5. ELECTRICAL EQUIPMENT UNDER EXHAUST HOOD MUST HAVE SHUNT TRIP BREAKERS AT ELECTRICAL PANEL CONNECTED TO MICROSWITCHES IN THE FIRE SYSTEM.
6. K.E.C. IS TO PROVIDE CLOSURE TRIM PANELS FROM TOP OF HOOD TO CEILING.

VENTILATOR NOTES	
1	WIRING IN CONDUIT BY ELECTRICAL TRADE BETWEEN VENTILATOR CONTROL AND REMOTE FIRE SWITCH.
2	WIRING IN CONDUIT BY ELECTRICAL TRADE BETWEEN VENTILATOR CONTROL AND EXHAUST FAN MAGNETIC STARTER.
3	WIRING IN CONDUIT BY ELECTRICAL TRADE BETWEEN VENTILATOR CONTROL AND SUPPLY FAN MAGNETIC STARTER.
4	WIRING IN CONDUIT BY ELECTRICAL TRADE BETWEEN VENTILATOR CONTROL AND JB ON TOP OF VENTILATOR FOR THERMOSTAT AT DUCT COLLAR.
5	WIRING IN CONDUIT BY ELECTRICAL TRADE BETWEEN VENTILATOR CONTROL AND JB ON TOP OF VENTILATOR FOR LIGHTS.

FIRE EXTINGUISHING SYSTEM NOTES	
1	WET CHEMICAL PIPING TO CONNECTION AT VENTILATOR BY MECHANICAL TRADE

FIRE EXTINGUISHING SYSTEM NOTES	
1	WIRING IN CONDUIT BY ELECTRICAL TRADE BETWEEN RESET RELAY AND AUTOMAN RELEASE.
2	WIRING IN CONDUIT BY ELECTRICAL TRADE BETWEEN RESET RELAY AND ELECTRICAL GAS SOLENOID SHUT-OFF VALVE.
3	WIRING IN CONDUIT BY ELECTRICAL TRADE TO SHUNT-TRIP BREAKER LOCATED IN POWER PANEL SUPPLYING EQUIPMENT BENEATH VENTILATOR.
4	WIRING IN CONDUIT BY ELECTRICAL TRADE BETWEEN RESET RELAY AND CONTRACTORS SERVING EQUIPMENT BENEATH VENTILATOR.
5	WIRING IN CONDUIT BY ELECTRICAL TRADE BETWEEN RESET RELAY AND FENWAL DETECTORS IN VENTILATOR.
6	WIRING IN CONDUIT BY ELECTRICAL TRADE BETWEEN RESET RELAY AND BUILDING FIRE ALARM SYSTEM AS REQUIRED.
7	FLUSH-MOUNT OCTAGONAL J-BOX 48" A.F.F. WITH 1/2" EMT TO 12" ABOVE CEILING BY ELECTRICAL TRADE FOR REMOTE CABLE PULL.



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

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