PROGRESS SET - NOT FOR CONSTRUCTION

CT INNOVATIONS – THE DISTRICT

AMENTA|EMMA ARCHITECTS

DD SET

470 James St, Unit 8, New Haven, CT 06513

08.29.2019

SHEET NO.	DRAWING TITLE
G0.00	COVER, DRAWING INDEX, ALTERNATES, EGRESS PLAN, CODE INFORMATION, ABBREVIATIONS
G1.00	GENERAL NOTES, SYMBOLS, GRAPHICS LEGEND
G1.01	TYPICAL MOUNTING HEIGHTS AND CLEARANCES
D1.00	DEMOLITION PLANS, DEMOLITION KEY NOTES
A1.00	CONSTRUCTION AND DIMENSION PLANS
A2.00	INTERIOR ELEVATIONS
A2.01	INTERIOR ELEVATIONS
A3.00	DOOR AND WINDOW SCHEDULES, DOOR DETAILS
A4.00	REFLECTED CEILING PLAN
A5.00	MILLWORK DETAILS
A6.00	FINISH PLAN AND SCHEDULE, FLOORING DETAILS
A7.00	FURNITURE AND FLOOR CORE PLANS
FP1.01	FIRST FLOOR FIRE PROTECTION PLAN
FP2.01	FIRE PROTECTION DETAILS AND SPECIFICATIONS
P0.01	PLUMBING ABBREVIATIONS, GENERAL NOTES AND SYMBOL LIST
P0.02	PLUMBING SPECIFICATION
P1.01	FIRST FLOOR PLUMBING PLAN
M0.01	MECHANICAL ABBREVIATIONS, GENERAL NOTES AND SYMBOL LIST
M0.02	MECHANICAL SPECIFICATIONS

SHEET NO.	DRAWING TITLE
M1.01	FIRST FLOOR MECHANICAL DUCT PLAN
M2.01	SCHEDULES AND DETAILS
E0.01	ELECTRICAL ABBREVIATIONS, GENERAL NOTES AND SYMBOL LIST
E0.02	ELECTRICAL SPECIFICATIONS
E1.01	FIRST FLOOR LIGHTING PLAN
E2.01	FIRST FLOOR POWER PLAN
Grand total: 25	

DRAWING INDEX

ALTERNATE 1 — **REMOVE PAINT FROM EXISTING BRICK WALL AND LEAVE NATURAL EXPOSED BRICK**

ALTERNATE 2 — **DEDUCT ALTERNATE: TO CHANGE ACT-2 & ACT-3 TO ARMSTRONG ULTIMA TEGULAR**

ALTERNATE 3 — **PROVIDE ELMES 656-01-0001 (5'-0") DOOR PULL WITH CLOSER IN LIEU OF DOOR LEVER FOR HARDWARE SET #2**

NOTE:

SPECIAL INSPECTIONS ARE REQUIRED FOR BUILDING COMPONENTS WHEN THE DESIGN OF THESE COMPONENTS IS REQUIRED TO BE PERFORMED BY A PROFESSIONAL ENGINEER. GC TO REVIEW DRAWINGS FOR AREAS INDICATED WHERE STRUCTURAL STEEL FRAMING, WELDING, COLD FORMED STEEL FRAMING, ETC IS REQUIRED AND/OR INDICATED TO BE DESIGNED BY 'DELEGATED DESIGN'. A STATEMENT OF SPECIAL INSPECTIONS WILL BE COMPLETED AND SUBMITTED TO THE BUILDING OFFICIAL FOR APPROVAL DURING PERMIT APPLICATION.

INSPECTIONS SHALL BE PAID FOR BY THE OWNER. THE OWNER OR THEIR AGENTS SHALL EMPLOY AN APPROVED AGENCY TO PERFORM SPECIAL INSPECTIONS. SPECIAL INSPECTIONS MAY ONLY BE PERFORMED BY QUALIFIED SPECIAL INSPECTORS APPROVED BY THE BUILDING OFFICIAL. SPECIAL INSPECTION CONTRACTS WITH THE OWNER WILL BE HOURLY WITH AN ESTIMATED BUDGET SINCE THE INSPECTOR HAS NO CONTROL OVER THE QUALITY OF THE WORK, OR THE MEANS AND METHODS USED BY THE GENERAL CONTRACTOR IN THE INSTALLATION OF THE WORK; SPECIAL INSPECTIONS ARE NOT A SUBSTITUTE FOR THE GENERAL CONTRACTOR'S QUALITY CONTROL (QC) PROGRAMS.

OWNER:
DISTRICT
470 JAMES ST
NEW HAVEN, CT 06413

TENANT:
CT INNOVATIONS
865 BROOK ST
ROCKY HILL, CT 06067

ARCHITECT:
AMENTA|EMMA ARCHITECTS, P.C.
242 TRUMBULL STREET
HARTFORD, CT 06103
860.549.4725

MEP ENGINEER:
RZ DESIGN ASSOCIATES
750 OLD MAIN ST
ROCKY HILL, CT 06067

BUILDING CODE INFORMATION

STATE BUILDING CODE (IBC International Building Code 2015, as supplemented in 2018)

APPLICABLE CODES:
- 2015 INTERNATIONAL BUILDING CODE, 2018 CONNECTICUT SUPPLEMENT
- 2015 INTERNATIONAL FIRE CODE, 2018 CONNECTICUT SUPPLEMENT
- 2010 AMERICANS WITH DISABILITIES ACT AND ASSOCIATED GUIDELINES
- 2009 ICC/ANSI A117.1 - ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES, 2018 CONNECTICUT SUPPLEMENT
- 2015 INTERNATIONAL PLUMBING CODE, 2018 CONNECTICUT SUPPLEMENT
- 2015 INTERNATIONAL MECHANICAL CODE, 2018 CONNECTICUT SUPPLEMENT
- 2015 INTERNATIONAL ENERGY CONSERVATION CODE, 2018 CONNECTICUT SUPPLEMENT
- 2017 NATIONAL ELECTRICAL CODE NFPA 70, 2018 CONNECTICUT SUPPLEMENT
- 2015 INTERNATIONAL EXISTING BUILDING CODE, 2018 CONNECTICUT SUPPLEMENT

- 2018 CONNECTICUT STATE FIRE SAFETY CODE
  - Part I: ADMINISTRATIVE
  - Part II: GENERAL
  - Part III: NEW CONSTRUCTION, RENOVATION, OR CHANGE OF USE
  - 2015 INTERNATIONAL FIRE CODE
  - Part IV: EXISTING BUILDING / OCCUPANCIES

1. USE GROUP CLASSIFICATION (SECTION 304): B (BUSINESS)

2. CONSTRUCTION TYPE (TABLE 503)

MINIMUM TYPE REQUIRED	II B (ASSUMED)
ACTUAL TYPE PROVIDED	II B

3. FIRE RESISTANCE RATINGS (TABLE 601)

STRUCTURAL FRAME	0	HR(S)
BEARING WALLS (EXTERIOR)	0	HR(S)
BEARING WALLS (INTERIOR)	0	HR(S)
NON BEARING WALLS (EXTERIOR)	0	HR(S)
NON BEARING WALLS (INTERIOR)	0	HR(S)
FLOOR CONSTRUCTION	0	HR(S)
ROOF CONSTRUCTION	0	HR(S)
TENANT SEPERATIONS	1	HR(S)
EXIT ACCESS CORRIDORS	0	HR(S)
SHAFTS AND ELEVATOR HOISTWAYS	1	HR(S)
EXIT ENCLOSURES	1	HR(S)

3. EXIT ACCESS TRAVEL DISTANCE (TABLE 1015.1)

USE GROUP CLASSIFICATION	B (BUSINESS)
MAXIMUM ALLOWABLE	300'
MAXIMUM PROVIDED	185' - 11"

COMMON PATH OF TRAVEL (1013.3)

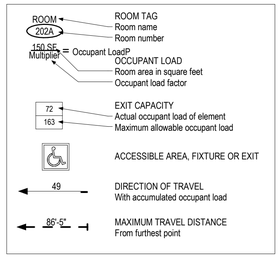
MAXIMUM ALLOWABLE	100'
MAXIMUM PROVIDED	25'-0"

4. OCCUPANCY LOAD (TABLE 1004.1.2)

USE GROUP CLASSIFICATION	B (BUSINESS)
USABLE SQUARE FOOTAGE	8,468
TOTAL OCCUPANT LOAD	143

5. FIRE PROTECTION SYSTEMS

AUTOMATIC SPRINKLER SYSTEM PER 903.3.1.1	THROUGHOUT



OCCUPANCY / EGRESS LEGEND

1 1ST FLOOR PLAN – EGRESS PLAN
SCALE: 1/16" = 1'-0"

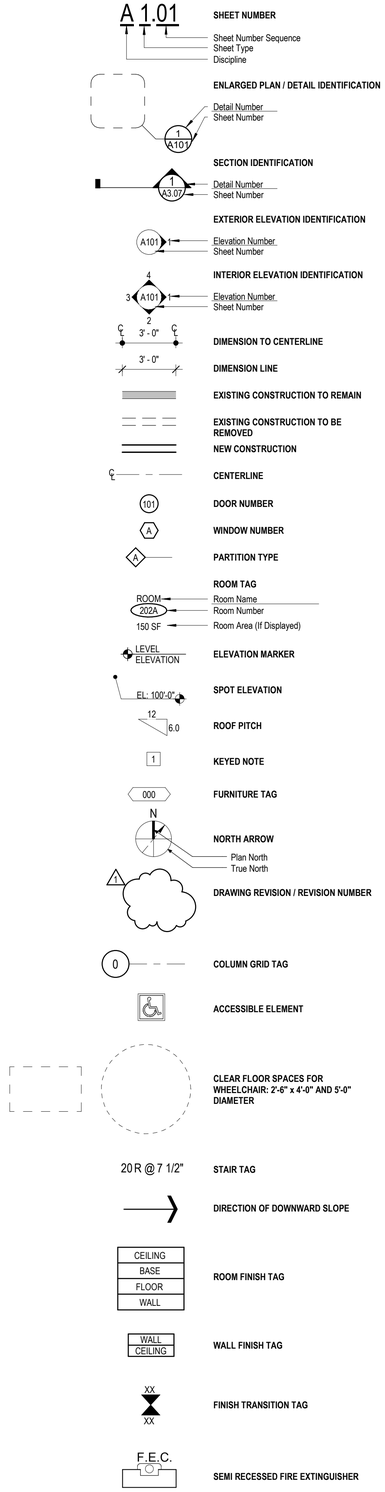
GENERAL NOTES

1	THE TERM CONTRACTOR IS USED IN THESE NOTES TO IDENTIFY THE PARTY WHO IS CONTRACTED TO THE OWNER AND WHO CAUSES THE WORK OF THE CONTRACT TO BE PERFORMED EITHER BY HIS OWN FORCES OR BY OTHER CONTRACTORS RETAINED BY HIM.
2	THE CONTRACTOR SHALL DO THIS WORK IN ACCORDANCE WITH LOCAL LAWS AND ORDINANCES HAVING JURISDICTION. IN ADDITION TO THE THE BULDING PERMIT, THE CONTRACTOR SHALL OBTAIN ALL OTHER PERMITS AND APPROVALS AS REQUIRED BY LAW FOR THE COMPLETION OF THE WORK AND ISSUANCE OF A FULL CERTIFICATE OF OCCUPANCY.
3	THE SUBMISSION OF A PROPOSAL BY THE CONTRACTOR WILL BE CONSTRUED AS EVIDENCE THAT A CAREFUL AND THOROUGH EXAMINATION OF THE SITE HAS BEEN MADE AND LATER CLAIMS FOR LABOR, MATERIALS OR EQUIPMENT REQUIRED OR FOR DIFFICULTIES ENCOUNTERED, WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE, WILL NOT BE RECOGNIZED. IT SHALL ALSO CONSTITUTE A REPRESENTATION THAT THE CONTRACTOR HAS CHECKED AND VERIFIED ALL QUANTITIES, WORK AND MATERIALS INVOLVED AND THAT HE SHALL TAKE RESPONSIBILITY FOR ANY DEFICIENCIES THEREIN.
4	BEFORE ORDERING ANY MATERIAL OR DOING ANY WORK, EACH TRADE SHALL VERIFY ALL MEASUREMENTS IN THE FIELD AND SHALL BE RESPONSIBLE FOR THE CORRECTNESS OF SAME. NO EXTRA CHARGE OR COMPENSATION WILL BE ALLOWED ON ACCOUNT OF DIFFERENCE BETWEEN ACTUAL DIMENSIONS AND THE MEASUREMENTS INDICATED ON THE DRAWINGS; ANY DISCREPANCIES BETWEEN THE DRAWINGS AND FIELD CONDITIONS WHICH MAY BE FOUND SHALL BE SUBMITTED TO THE ARCHITECT FOR CONSIDERATION AND CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
5	ALL OF THE ARCHITECT'S DRAWINGS AND CONSTRUCTION NOTES ARE COMPLIMENTARY AND WHAT IS CALLED FOR BY EITHER WILL BE BINDING AS IF CALLED FOR BY ALL: ANY WORK SHOWN OR REFERRED TO ON ANY ONE DRAWING SHALL BE PROVIDED AS THOUGH SHOWN ON ALL DRAWINGS. WHENEVER AN ITEM IS SPECIFIED AND/OR SHOWN ON THE DRAWINGS BY DETAIL OR REFERENCE IT SHALL BE CONSIDERED TYPICAL FOR OTHER ITEMS WHICH ARE OBVIOUSLY INTENDED TO BE THE SAME EVEN THOUGH NOT SO DESIGNATED OR SPECIFICALLY NAMED BUT DO SERVE THE SAME FUNCTION.
6	THE WORK TO BE PERFORMED CONSISTS OF FURNISHING ALL LABOR, EQUIPMENT, TOOLS, TRANSPORTATION, SUPPLIES, FEES, MATERIALS, AND SERVICES IN ACCORDANCE WITH THESE NOTES AND DRAWINGS AND PERFORMING ALL OPERATIONS NECESSARY TO CONSTRUCT AND INSTALL COMPLETE AND IN SATISFACTORY CONDITION THE VARIOUS MATERIALS AND EQUIPMENT AT THE LOCATIONS SHOWN. IT IS INTENDED THAT THE DRAWINGS INCLUDE EVERYTHING REQUISITE AND NECESSARY TO FINISH THE ENTIRE WORK PROPERLY, NOTWITHSTANDING THE FACT THAT EVERY ITEM NECESSARILY INVOLVED MAY NOT BE SPECIFICALLY MENTIONED OR SHOWN. ANY ITEM WHICH MAY BE REASONABLY CONSTRUED AS INCIDENTAL TO THE PROPER AND SATISFACTORY COMPLETION OF THE WORK IN ACCORDANCE WITH THE INTENT OF THESE NOTES AND DRAWINGS IS HEREBY INCLUDED.
7	THE CONTRACTOR SHALL ABIDE BY AND COMPLY WITH THE TRUE INTENT AND MEANING OF THE DRAWINGS AND NOTES TAKEN AS A WHOLE AND SHALL NOT AVAIL HIMSELF OF ANY OBVIOUS ERRORS OR OMISSIONS, SHOULD ANY EXIST. SHOULD ANY ERROR OR DISCREPANCY APPEAR OR ANY DOUBT ARISE AS TO THE TRUE MEANING OF THE DRAWINGS OR NOTES, THE CONTRACTOR SHALL BRING SUCH ITEMS TO THE ATTENTION OF THE ARCHITECT BEFORE SUBMISSION OF PROPOSAL FOR EXPLANATION OR CORRECTION OF SAME. AFTER THE SUBMISSION OF PROPOSAL, THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ALL SUCH ITEMS.
8	THE CHARACTER AND SCOPE OF THE WORK ARE ILLUSTRATED BY THE DRAWINGS AND NOTES. TO INTERPRET AND EXPLAIN THE DRAWINGS OTHER INFORMATION DEEMED NECESSARY BY THE ARCHITECT WILL BE FURNISHED TO THE CONTRACTOR WHEN AND AS REQUIRED BY THE WORK, AND IT IS TO BE UNDERSTOOD THAT SAID ADDITIONAL INFORMATION OR DRAWINGS ARE TO BE OF EQUAL FORCE WITH THESE.
9	FULL SIZE OR LARGE SCALE DETAILS OR DRAWINGS SHALL GOVERN SMALL SCALE DRAWINGS WHICH THEY ARE INTENDED TO AMPLIFY. DETAILS OR CONDITIONS INDICATED FOR A PORTION OF THE WORK BUT NOT CARRIED OUT FULLY FOR OTHER PORTIONS SHALL APPLY THROUGHOUT TO ALL SIMILAR PORTIONS EXCEPT AS OTHERWISE SPECIFICALLY NOTED. IN EVERY CASE THE GREATER QUANTITY, OR A MORE EXPENSIVE ITEM OR METHOD SHALL BE ASSUMED OVER A LESSER QUANTITY OR A LESS EXPENSIVE ONE AND DIMENSIONS SHALL BE FIGURED RATHER THAN DETERMINED BY RULE OR SCALE.
10	ALL PARTITIONS ARE DIMENSIONED TO THE FINISHED FACES OF WALLS. ALL PARTITION THICKNESSES SHOWN ARE NOMINAL DIMENSIONS.
11	ALL MISCELLANEOUS WOOD BLOCKING, GROUNDS, FURRING AS REQUIRED, TO BE FIRE RETARDANT TREATED.
12	THE PROJECT HAS BEEN DESIGNED AND DETAILED FOR THE SPECIFIC MATERIALS AND EQUIPMENT SPECIFIED. NO SUBSTITUTIONS SHALL BE MADE WITHOUT THE EXPRESS WRITTEN CONSENT OF THE ARCHITECT. IF THE SPECIFIED MATERIAL IS NOT AVAILABLE, THE CONTRACTOR SHALL PROPOSE AN ALTERNATE MATERIAL AND SHALL PROVIDE DRAWINGS, SAMPLES, SPECIFICATIONS, MANUFACTURER'S LITERATURE, PERFORMANCE DATA, ETC. IN ORDER THAT THE ARCHITECT CAN EVALUATE THE PROPOSED SUBSTITUTION. IF THE SUBSTITUTION AFFECTS A CORRELATED FUNCTION, ADJACENT CONSTRUCTION, OR THE WORK OF ANY OTHER CONTRACTOR OR TRADE, THE NECESSARY CHANGES AND MODIFICATIONS TO THE AFFECTED WORK SHALL BE SUBMITTED WITH THE SUBSTITUTION AND ACCOMPLISHED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. NO REQUESTS FOR SUBSTITUTES WILL BE ENTERTAINED BY THE ARCHITECT DUE TO CONTRACTOR'S FAILURE TO ORDER MATERIALS IN A TIMELY MANNER.
13	THE STANDARD SPECIFICATIONS OF THE MANUFACTURERS APPROVED FOR USE IN THE PROJECT ARE HEREBY MADE A PART OF THESE NOTES WITH THE SAME FORCE AND EFFECT AS THOUGH HEREIN WRITTEN OUT IN FULL, EXCEPT THAT WHEREVER THE DRAWINGS REQUIRE HEAVIER MEMBERS, BETTER QUALITY MATERIALS OR ARE OTHERWISE MORE STRINGENT, THESE STRINGENT REQUIREMENTS SHALL GOVERN.
14	THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY IF HE CANNOT FOR ANY REASON COMPLY WITH ALL THE REQUIREMENTS OF THESE NOTES AND DRAWINGS.
15	THE CONTRACTOR SHALL COORDINATE AND SUPERVISE THE WORK OF ALL SUB-CONTRACTORS. HE SHALL BE RESPONSIBLE FOR GIVING ALL TRADES SUCH INFORMATION, PLANS OR DETAILS AS MAY BE REQUIRED FOR THE PROPER INSTALLATION AND COMPLETION OF THEIR WORK.
16	THE CONTRACTOR SHALL SUBMIT ALL FABRICATION SHOP DRAWINGS, SAMPLES, AND FIXTURE CUTS FOR THE ARCHITECT'S REVIEW AS REQUIRED AND/OR INDICATED ON DRAWINGS. THE ARCHITECT'S REVIEW SHALL NOT BE CONSTRUED AS AN INDICATION THAT SUBMITTAL IS CORRECT OR SUITABLE NOR THAT WORK REPRESENTED BY SUBMITTAL COMPLIES WITH THE DRAWINGS, EXCEPT AS TO MATTERS OF FINISH, COLOR, AND OTHER AESTHETIC MATTERS. ACTION NOTED ABOVE DOES NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY TO COORDINATE ALL TRADES AND TO CHECK QUANTITIES AND DIMENSIONS AND CONDITIONS IN THE FIELD. CONTRACTORS AND ENGINEERS SHALL ASSUME RESPONSIBILITY FOR ALL ERRORS ON THEIR DRAWINGS.
17	ALL MATERIALS REQUIRED FOR THE PERFORMANCE OF THIS CONTRACT SHALL BE NEW AND OF THE BEST QUALITY OF KINDS SPECIFIED, ALL SUBJECT TO THE APPROVAL OF THE ARCHITECT. THE USE OF OLD OR SECOND-HAND MATERIALS IS STRICTLY FORBIDDEN. THE CONTRACTOR SHALL, IF REQUIRED, FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF MATERIALS AND WORKMANSHIP. MATERIALS SHALL BE USED IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS. UPON REQUEST, THE MANUFACTURER'S REPRESENTATIVE SHALL GO TO THE SITE AND INSTRUCT THE MECHANICS IN THE USE OF THE MATERIALS OR SHALL SUPERVISE THEIR USE.
18	THE CONTRACTOR SHALL PROVIDE BLOCKING AT ALL LOCATIONS FOR SCHEDULED WALL CABINETS AND/OR TV WALL MOUNTING BRACKETS, REFER TO DRAWINGS FOR LOCATION.
19	FOR THE EXECUTION OF THE WORK TO BE PERFORMED UNDER THIS CONTRACT AND FOR THE MANUFACTURE OR TRANSPORTATION OF ANY OF THE MATERIALS OR EQUIPMENT TO BE USED OR INSTALLED, THE CONTRACTOR SHALL EMPLOY ONLY SUCH LABOR THROUGHOUT AS WILL NOT INTERFERE WITH THE SPEEDY AND UNINTERRUPTED COMPLETION OF THE PROJECT. ALL WORK SHALL BE DONE BY MECHANICS SKILLED IN THEIR TRADE AND SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER IN ACCORDANCE WITH THE BEST TRADE PRACTICES.
20	ANY MATERIALS DELIVERED OR WORK PERFORMED, CONTRARY TO THE DRAWINGS AND SPECIFICATIONS AND APPROVED SHOP DRAWINGS, SHALL BE REMOVED BY THE CONTRACTOR AT HIS OWN EXPENSE, AND THE SAME SHALL BE REPLACED WITH OTHER MATERIALS OR WORK SATISFACTORY TO THE ARCHITECT. THE CONTRACTOR SHALL ALSO ASSUME THE COST OF REPLACING THE WORK WHICH MAY BE DISTURBED.
21	THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY AND ACCURATELY LAYING OUT THE WORK AND FOR THE LINES AND MEASUREMENTS HEREIN. HE SHALL ESTABLISH NECESSARY REFERENCE LINES AND PERMANENT BENCH MARKS FROM WHICH BUILDING LINES AND ELEVATIONS SHALL BE TAKEN. ELEVATION HEIGHTS OF ALL WORK INCLUDING BUT NOT LIMITED TO SOFFITS, CEILINGS, DOORS, HOLLOW METAL SHALL BE TRUE AND LEVEL WITHIN A MAXIMUM TOLERANCE OF 1/8" OVERALL THE ENTIRE PROJECT.

GENERAL NOTES

22	FOR ALL PARTITIONS REFER TO PARTITION SYMBOLS ON DRAWINGS AND THE PARTITION TYPE DETAILS WHICH SHOWS PARTITION CORES AND FINISHES. REFER TO LIFE SAFETY DRAWINGS FOR LOCATION OF RATED PARTITIONS, IF APPLICABLE.
23	A. THE PREMISES AND THE JOB SITE SHALL BE MAINTAINED IN A REASONABLY NEAT AND ORDERLY CONDITION AND KEPT FREE FROM ACCUMULATIONS OF WASTE MATERIALS AND RUBBISH DURING THE ENTIRE CONSTRUCTION PERIOD. REMOVE CRATES, CARTONS AND OTHER FLAMMABLE WASTE MATERIALS OR TRASH FROM THE WORK AREAS AT THE END OF EACH WORKING DAY. B. ELECTRICAL CLOSETS, PIPE AND DUCT SHAFTS, CHASES, FURRED SPACES AND SIMILAR SPACES WHICH ARE GENERALLY UNFINISHED SHALL BE CLEANED AND LEFT FREE FROM RUBBISH, LOOSE PLASTER, MORTAR DRIPPINGS, EXTRANEOUS CONSTRUCTION MATERIALS, DIRT AND DUST. C. CARE SHALL BE TAKEN BY WORKMEN NOT TO MARK, SOIL, OR OTHERWISE DEFACE FINISHED SURFACES. IN THE EVENT THAT FINISHED SURFACES BECOME DEFACED, THE CONTRACTOR IS RESPONSIBLE FOR CLEANING AND RESTORING SUCH SURFACES TO THEIR ORIGINAL CONDITION. IF THIS IS NOT POSSIBLE, DAMAGED SURFACES SHALL BE REPLACED. D. CLEAN UP IMMEDIATELY UPON COMPLETION OF EACH TRADE'S WORK. E. CLEAN AREAS OF THE BUILDING IN WHICH PAINTING AND FINISHING WORK IS TO BE PERFORMED JUST PRIOR TO THE START OF THIS WORK, AND MAINTAIN THESE AREAS IN SATISFACTORY CONDITION FOR PAINTING AND FINISHING. F. THIS CLEANING INCLUDES THE REMOVAL OF TRASH AND RUBBISH FROM THESE AREAS, BROOM CLEANING OF FLOORS, THE REMOVAL OF ANY PLASTER, MORTAR, DUST AND OTHER EXTRANEOUS MATERIALS FROM FINISH SURFACES, INCLUDING BUT NOT LIMITED TO, MISCELLANEOUS METAL, WOODWORK, PLASTER, GYPSUM DRYWALL, MASONRY, CONCRETE, MECHANICAL AND ELECTRICAL EQUIPMENT, PIPING, DUCTWORK, CONDUIT, AND SURFACES VISIBLE AFTER GRILLES, REGISTERS AND OTHER SUCH FIXTURES OR DEVICES ARE IN PLACE. G. IN ADDITION TO THE CLEANING SPECIFIED ABOVE AND THE MORE SPECIFIC CLEANING WHICH MAY BE REQUIRED IN VARIOUS SECTIONS OF THE SPECIFICATIONS, THE PREMISES SHALL BE PREPARED FOR OCCUPANCY BY: (i)A THOROUGH CLEANING THROUGHOUT INCLUDING WASHING OR CLEANING BY OTHER APPROVED METHODS OF ALL FLOORS AND SURFACES ON WHICH DIRT OR DUST HAS COLLECTED AND BY WASHING GLASS, REMOVING ALL PAINT, PUTTY AND STAINS THEREFROM. (ii)PROVIDING AND MAINTAINING PROTECTION OF EXISTING AND INSTALLED PORTIONS OF THE WORK. (iii)LEAVING ALL FIXTURES AND EQUIPMENT IN AN UNDAMAGED, BRIGHT, CLEAN, POLISHED CONDITION. (iv)CLEAN AND POLISH ALL HARDWARE, AND OTHER METAL WORK. (v)FOR FINAL CLEANING, CONTRACTOR SHALL ENGAGE THE SERVICES OF A PROFESSIONAL CLEANING COMPANY TO ACCOMPLISH THE FOLLOWING: REMOVAL OF PUTTY STAINS AND PAINT SPOTS, WASHING AND POLISHING OF GLASS, CLEANING AND POLISHING OF ALL EXPOSED FINISH HARDWARE, AND A THOROUGH CLEANING OF ALL SURFACES; RESILIENT TILE / SHEET VINYL FLOORING POLISHED & BUFFED
24	THE CONTRACTOR SHALL KEEP THE ARCHITECT INFORMED OF THE PROGRESS OF HIS WORK. NO WORK SHALL BE CLOSED OR COVERED UNTIL IT HAS BEEN DULY INSPECTED AND APPROVED. SHOULD UNINSPECTED WORK BE COVERED, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, UNCOVER ALL SUCH WORK SO THAT IT CAN BE PROPERLY INSPECTED AND AFTER SUCH INSPECTION, HE SHALL PROPERLY REPAIR AND REPLACE ALL WORK INTERFERED WITH
25	THE WORK IS SUBJECT TO INSPECTION BY THE ARCHITECT AND ACCEPTANCE BY THE OWNER.
26	PROTECT OWNER'S PROPERTY, EQUIPMENT AND EMPLOYEES FROM INJURY AND DAMAGE.
27	ALL HVAC, PLUMBING, SPRINKLER AND ELECTRICAL LINES ARE TO BE COORDINATED SO THAT NO CONFLICTS OCCUR. ANY CONFLICTS WHICH RESULT IN A RELOCATION OF A FINISHED SURFACE MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER PRIOR TO INSTALLATION.
28	CONTRACTOR SHALL CONSULT WITH ELECTRICAL AND PLUMBING SUB-CONTRACTORS FOR LOCATIONS OF CONDUIT AND PIPES IN FOUNDATION, SLABS ON GRADE, AND EXTERIOR WALLS AND SHALL INSTALL WATERTIGHT PIPE SLEEVES AT THEIR RESPECTIVE LOCATIONS.
29	A SET OF THE INSTRUCTION MANUALS AND INSTALLATION INSTRUCTIONS OF ALL EQUIPMENT AND ACCESSORIES INSTALLED IN THIS JOB SHALL BE KEPT BY THE CONTRACTOR AND TURNED OVER TO THE OWNER AT THE COMPLETION OF THE JOB. IN ADDITION, AS-BUILT DRAWINGS OF THE COMPLETED WORK ARE TO BE COMPLETED, SIGNED AND SEALED, AND DELIVERED TO THE ARCHITECT AND OWNER AT THE COMPLETION OF THE JOB.
30	PROVIDE ADEQUATE BACKUP AND BLOCKING FOR ALL WALL OR CEILING MOUNTED EQUIPMENT, ARCHITECTURAL WOODWORK, HANDRAILS, LIGHTING OR OTHER MISCELLANEOUS ITEMS AS SHOWN ON DRAWINGS TO ASSURE A SECURE INSTALLATION.
31	SUBMITTALS THAT REQUIRE THE REVIEW OF THE ARCHITECT/ENGINEERING TEAM SHALL BE DELIVERED IN DIGITAL FORMAT, AND IF REQUIRED BY THE ARCHITECTURE/ENGINEERING TEAM, BE SUBMITTED AS HARDCOPY AS WELL. A SEVEN (7) BUSINESS DAY PERIOD OF TIME WILL BE ALOTTED FOR ARCHITECTS/ENGINEER'S REVIEW OF THE CONSTRUCTION SUBMITTAL, AND IT CANNOT BE GUARANTEED THAT AN EXPEDITED SCHEDULE CAN BE ACCOMMODATED.
32	THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING OR OBTAINING SHOP DRAWINGS FROM THE SUBCONTRACTORS AND MANUFACTURERS. THE APPROVAL AND SUBMITTAL OR SHOP DRAWINGS TO THE ARCHITECT REFRESENTS THAT THE CONTRACTOR HAS REVIEWED AND VERIFIED THE USE OF APPROPRIATE MATERIALS, PROPER FIELD MEASUREMENTS, FIELD CONSTRUCTION REQUIREMENTS, AND HAVE COORDINATED THE INFORMATION CONTAINED IN THE SUBMITTAL. DEVIATIONS FROM THE CONTRACT DOCUMENTS MUST BE CALLED TO THE ATTENTION OF THE ARCHITECT IN WRITING AND REQUIRES SPECIFIC APPROVAL OF THE ARCHITECT. ARCHITECTURAL APPROVAL OF THE SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF ERRORS OR OMISSIONS, PER AIA DOCUMENT A201-2007 STANDARDS.
33	ALL QUESTIONS TO THE ARCHITECT/ENGINEERING TEAM SHALL BE SUBMITTED AS REQUEST'S FOR INFORMATION (RFI'S), WITH THE CONSTRUCTION MANAGER'S LETTERHEAD. THE CONSTRUCTION MANAGER WILL PROVIDE A NUMBER TO THE RFI. A ONE (1) WEEK PERIOD OF TIME WILL BE ALOTTED FOR ARCHITECTURAL/ENGINEERING REVIEW OF THE RFI. ALL CORRESPONDENCE REGARDING RFI'S WILL BE FROM THE CONSTRUCTION MANAGER TO THE ARCHITECT. THE ARCHITECT WILL DISSEMINATE THE INFORMATION TO THE APPROPRIATE ENGINEER'S IF REQUIRED. NO SUB-CONTRACTOR IS TO CONTACT THE ARCHITECT OR ENGINEER WITH A QUESTION DIRECTLY; ALL QUESTIONS TO THE ARCHITECTURE/ENGINEERING TEAM SHALL BE SENT THROUGH THE CONSTRUCTION MANAGER.
34	THIS SET OF DRAWINGS IS FOR ARCHITECTURAL WORK. MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DEVICES ARE SHOWN FOR COORDINATION PURPOSES ONLY. GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL ENGINEERING AND FOR PROVIDING FINISHED MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION WORK IN ACCORDANCE WITH ALL APPLICABLE CODES.
35	CONTRACTOR TO INCLUDE IN HIS PRICING ALL ENGINEERING FOR MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION WORK TO COORDINATE WITH ARCHITECT'S DESIGN AND PROVIDE COMPLETE SYSTEMS.

(E)	EXISTING	J	----------
(N)	NEW	JAN	JANITOR
(R)	RELOCATED	JC	JANITOR'S CLOSET
A:	----------	L	----------
AC	AIR CONDITIONING	LAB	LABORATORY
ACC	ACCESSIBLE	LAM	LAMINATE
ACT	ACOUSTICAL CEILING TILE	LAV	LAVATORY
ADD	ADDITIONAL	LB	POUND
ADJ	ADJUSTABLE	LF	LINEAR FOOT
AFF	ABOVE FINISH FLOOR	LLH	LONG LEG HORIZONTAL
ALT	ALTERNATE	LLV	LONG LEG VERTICAL
ALUM	ALUMINUM	M	----------
APPROX	APPROXIMATE	MACH	MACHINE
ARCH	ARCHITECTURAL	MAINT	MAINTENANCE
AV	AUDIO VISUAL	MATL	MATERIAL
B	----------	MAX	MAXIMUM
BD	BOARD	MBL	MARBLE
BLDG	BUILDING	MDF	MEDIUM DENSITY FIBERBOARD
BO	BOTTOM OF	MDO	MEDIUM DENSITY OVERLAY PLYWOOD
BUR	BUILT-UP ROOFING	MECH	MECHANICAL
C	----------	MEP	MECHANICAL, ELECTRICAL, PLUMBING
CB	CATCH BASIN	MEZZ	MEZZANINE
CG	CORNER GUARD	MFR	MANUFACTURER
CIP	CAST-IN-PLACE	MH	MANHOLE
CJ	CONTROL / CONSTRUCTION JOINT	MIN	MINUMUM
CL	CENTER LINE	MISC	MISCELLANEOUS
CLG	CEILING	MM	MILLIMETER
CLR	CLEAR	MO	MASONRY OPENING
CMU	CONCRETE MASONRY UNIT	MTD	MOUNTED
CO	CLEANOUT	MTG	MOUNTING
COL	COLUMN	N	NORTH
CONC	CONCRETE	N	----------
CONT	CONTINUOUS	NA	NOT APPLICABLE
COORD	COORDINATE	NC	NOISE CRITERIA
CORR	CORRIDOR	NIC	NOT IN CONTACT
CT	CERAMIC TILE	NOM	NOMINAL
CW	COLD WATER	NTS	NOT TO SCALE
D	----------	O	----------
DEMO	DEMOLITION	OC	ON CENTER
DEPT	DEPARTMENT	OD	OUTSIDE DIAMETER/DIMENSION
DF	DRINKING FOUNTAIN	OFCI	OWNER FURNISHED, CONTR INSTALLED
DIA	DIAMETER	OFOI	OWNER FURNISHED, OWNER INSTALLED
DIM	DIMENSION	OPP	OPPOSITE
DISP	DISPENSER	ORD	OVERFLOW ROOF DRAIN
DN	DOWN	OVHD	OVERHEAD
DO	DOOR OPENING	P	----------
DP	DIMENSION POINT	P.	PAINT
DR	DOOR	PBD	PARTICLEBOARD
DS	DOWNSPOUT	PC	PRECAST CONCRETE
DW	DISHWASHER	PERF	PERFORATED
DWG	DRAWING	PERIM	PERIMETER
E	----------	PERP	PERPENDICULAR
EA	EACH	PL	PLATE
EFS	EXTERIOR INSULATION & FINISH SYSTEM	PLAM	PLASTIC LAMINATE
EIFS	EXTERIOR FINISH SYSTEM	PLF	POUNDS PER LINEAR FOOT
EJ	EXPANSION JOINT	PR	PAIR
EL	ELEVATION	PREFAB	PREFABRICATED
ELECT	ELECTRICAL	PROJ	PROJECT
ELEV	ELEVATOR	PSF	POUNDS PER SQUARE FOOT
EMERG	EMERGENCY	PT	POINT
EQ	EQUAL	PTD	PAINTED
EQUIP	EQUIPMENT	Q	----------
EWC	ELECTRICAL WATER COOLER	QT	QUARRY TILE
EXH	EXHAUST	QTY	QUANTITY
EXIST	EXISTING	R	RADIUS OR RISER
EXT	EXTERIOR	R	----------
F	----------	RB	RESILIENT BASE
FD	FLOOR DRAIN	RCP	REFLECTED CEILING PLAN
FE	FIRE EXTINGUISHER	RD	ROOF DRAIN
FEC	FIRE EXTINGUISHER CABINET	REF	REFERENCE
FF&E	FURNITURE, FINISHES, & EQUIPMENT	REINF	REINFORCED / REINFORCING
FFEL	FINISH FLOOR ELEVATION	REQ'D	REQUIRED
FHC	FIRE HOSE CABINET	REV	REVISION/REVISED
FL	FLOOR	RM	ROOM
FND	FOUNDATION	RO	ROUGH OPENING
FO	FACE OF	RWL	RAIN WATER LEADER
FP	FIRE PROTECTION	S	----------
FPG	FIREPROOFING	SC	SOLID CORE
FRTW	FIRE RETARDANT TREATED WOOD	SCHED	SCHEDULE
FT	FEET	SF	SQUARE FEET/FOOT
FURN	FURNITURE	SIM	SIMILAR
FWC	FABRIC WALLCOVERING	SP	STANDPIPE
FWP	FABRIC WRAPPED PANEL	SPEC	SPECIFICATION
G	GROUND	SQ	SQUARE
G	----------	SS	STAINLESS STEEL
GA	GAUGE / GAGE	STD	STANDARD
GALV	GALVANIZED	STL	STEEL
GC	GENERAL CONTRACTOR	STOR	STORAGE
GFRC	GLASS FIBER REINFORCED CONCRETE	STRUCT	STRUCTURAL
GFRG	GLASS RIBER REINFORCED GYPSUM	T	----------
GL	GLASS	T&G	TONGUE AND GROOVE
GYPBD	GYPSUM WALLBOARD	T.	TREAD
H	----------	TC	TOP OF CURB
HB	HOSE BIB	TEL	TELEPHONE OR TELECOM
HC	HOLLOW CORE	TO	TOP OF (SEE OTHER WORD)
HCP	HANDICAPPED	TV	TELEVISION
HDWD	HARDWOOD	TW	TOP OF WALL
HDWR	HARDWARE	TYP	TYPICAL
HM	HOLLOW METAL (STEEL FRAME)	U	----------
HORIZ	HORIZONTAL	U.O.N.	UNLESS OTHERWISE NOTED
HR	HOUR	V	----------
HVAC	HEATING, VENTILATION, AIR CONDITIONING	VCT	VINYL COMPOSTION TILE
HW	HOT WATER	VERT	VERTICAL
I	----------	VEST	VESTIBULE
ID	INSIDE DIAMETER	VIF	VERIFY IN FIELD
IN	INCH	VT	VINYL TILE
INCL	INCLUDED / INCLUDING	VWC	VINYL WALL COVERING
INSUL	INSULATION	W	----------
INT	INTERIOR	W/O	WITHOUT
INV	INVERT	WC	WATER CLOSET
		WD	WOOD
		WP	WORK POINT
		WR	WATER RESISTENT/REPELLANT



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CT INNOVATIONS

CT INNOVATIONS – THE DISTRICT
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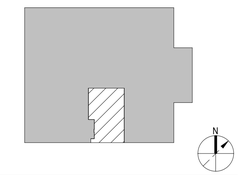

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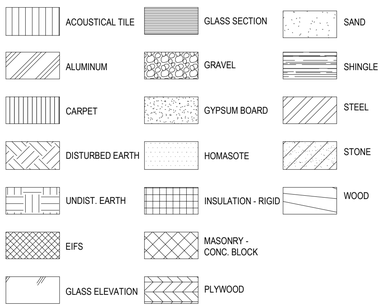
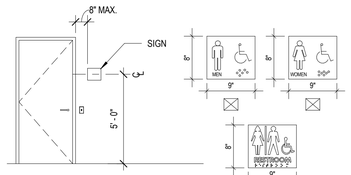
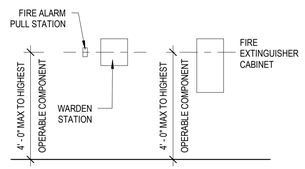
GENERAL NOTES, SYMBOLS, GRAPHICS LEGEND





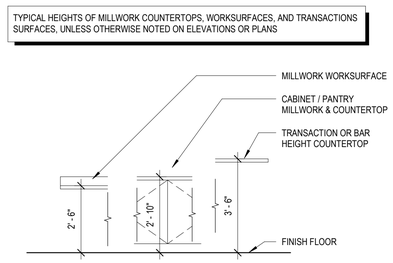
PROVIDE (1) SIGN PER TOILET COMPLYING WITH ADA LOCAL CODE. SIGNS TO HAVE RAISED AND GRADE 2 BRAILLE CHARACTERS AND PICTORIAL SYMBOL OF ACCESSIBILITY. MOUNT 5'-0" TO CENTERLINE A.F.F. SIGN SIZE 8" X 9". SIGN SHOULD BE ONE PIECE MELAMINE PLASTIC LAMINATE AS MANUFACTURED BY SUPERSINE CO. ASI SIGN SYSTEMS OR EQUIVALENT COLOR TO BE SELECTED BY ARCHITECT

19 HANDICAPPED SIGNAGE INFORMATION
SCALE: 1/4" = 1'-0"

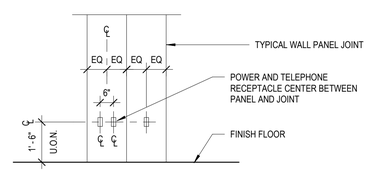


TYPICAL LOCATION FOR FIRE ALARM PULL STATION, WARDEN STATION & FIRE EXTINGUISHER CABINETS

14 TYPICAL MOUNTING HEIGHTS AT FIRE PROTECTION EQUIPMENT
SCALE: 3/8" = 1'-0"

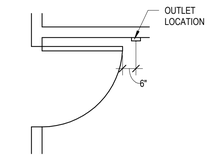


11 TYPICAL SURFACE HEIGHTS
SCALE: 3/8" = 1'-0"

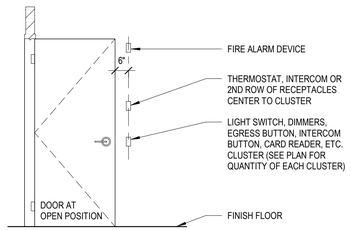


12 TYPICAL MOUNTING HEIGHTS IN A WALL PANEL ASSEMBLY
SCALE: 3/8" = 1'-0"

NOTE: ALL GANG OUTLETS SHALL BE VERTICALLY MOUNTED 18" A.F.F. AT DEVICE C.L.
ALL GANG OUTLETS SHALL BE HORIZONTALLY MOUNTED AT 6"

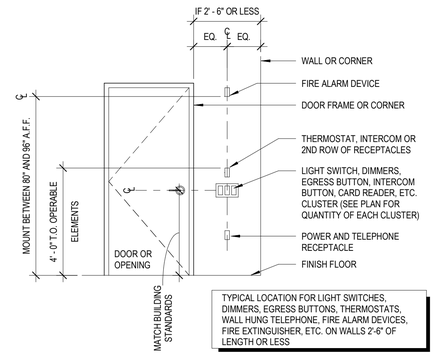


8 TYPICAL MOUNTING LOCATION OF OUTLET AT DOOR WHEN OPEN
SCALE: 3/8" = 1'-0"



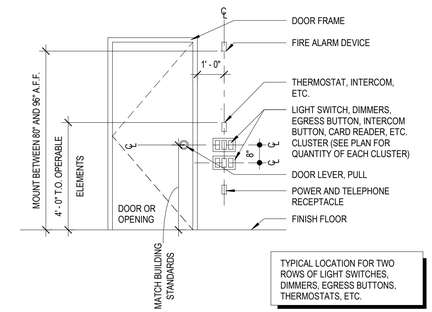
REFER TO 8/G1.01 FOR PLAN DIAGRAM
TYPICAL LOCATION FOR LIGHT SWITCHES, DIMMERS, EGRESS BUTTONS, THERMOSTATS, WALL HUNG TELEPHONE, FIRE ALARM DEVICES, FIRE EXTINGUISHER, ETC. FOR DOORS AT OPEN POSITION

7 TYPICAL MOUNTING HEIGHTS AT DOOR WHEN OPEN
SCALE: 3/8" = 1'-0"



TYPICAL LOCATION FOR LIGHT SWITCHES, DIMMERS, EGRESS BUTTONS, THERMOSTATS, WALL HUNG TELEPHONE, FIRE ALARM DEVICES, FIRE EXTINGUISHER, ETC. ON WALLS 2'-6" OF LENGTH OR LESS

4 TYPICAL MOUNTING HEIGHTS AT CORNER CONDITION
SCALE: 3/8" = 1'-0"



TYPICAL LOCATION FOR TWO ROWS OF LIGHT SWITCHES, DIMMERS, EGRESS BUTTONS, THERMOSTATS, ETC.

3 TYPICAL MOUNTING HEIGHTS AT DOOR/OPENINGS
SCALE: 3/8" = 1'-0"

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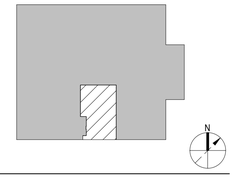

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TYPICAL MOUNTING HEIGHTS AND CLEARANCES

G1.01

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EXISTING CONSTRUCTION TO REMAIN

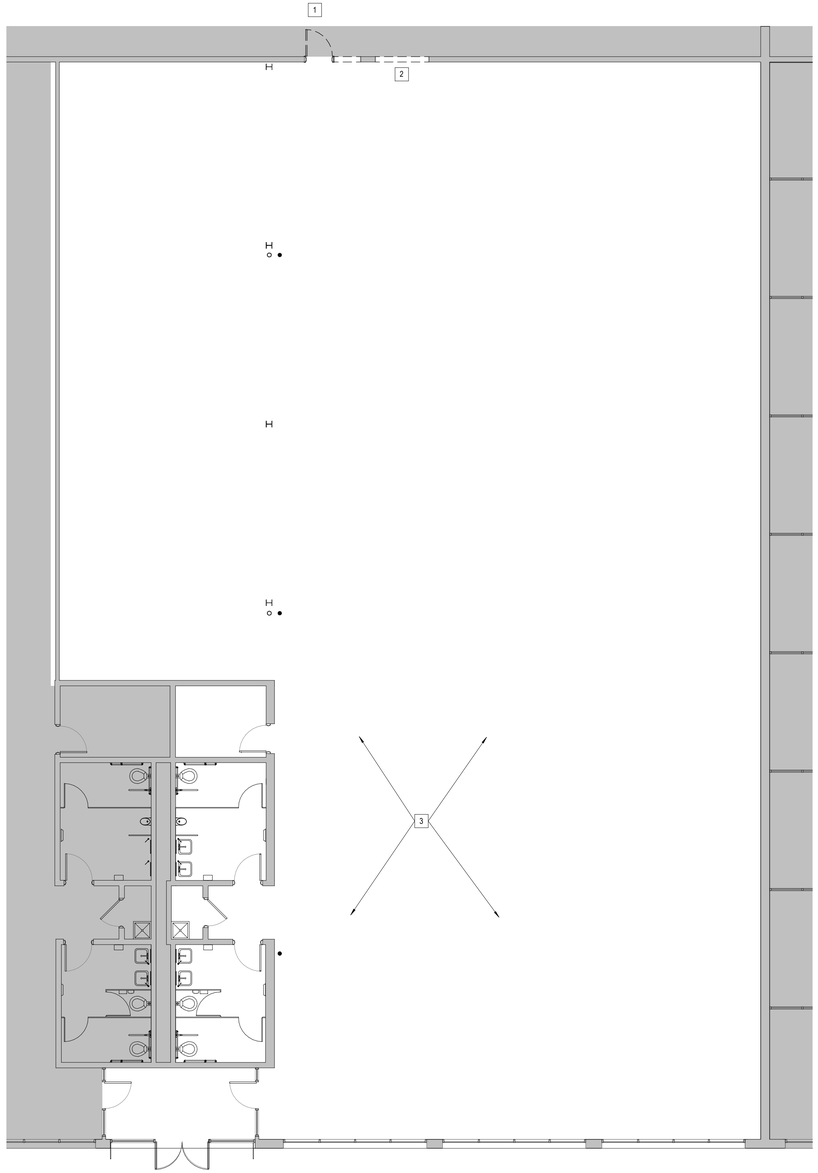
EXISTING CONSTRUCTION TO BE REMOVED

DEMOLITION CEILING PLAN LEGEND

GENERAL DEMOLITION NOTES	
1	DEMOLITION PLANS SHOW APPROXIMATE LAYOUT OF EXISTING PARTITIONS, DOORS, WINDOWS, FURNITURE, ETC. AND ARE NOT INTENDED TO REPRESENT AS-BUILT CONDITIONS. ALL INFORMATION MUST BE VERIFIED ON SITE.
2	ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH ANSI A10.6, THE STATE DEMOLITION CODE, THE CONSTRUCTION SAFETY AND HEALTH REGULATIONS AND REQUIREMENTS OF THE LOCAL AUTHORITIES. A FIRE WATCH SHALL BE PROVIDED AS REQUIRED.
3	NO BUILDING ELEMENTS SHALL BE LEFT IN A TEMPORARY CONDITION OR EXPOSED FOR AN EXCESSIVE OR UNREASONABLE AMOUNT OF TIME.
4	PARTITIONS AND OTHER ITEMS TO BE REMOVED ARE SHOWN DASHED. WHERE WALLS ARE TO BE REMOVED, SERVICES IN WALLS SHALL ALSO BE REMOVED OR RELOCATED. COORDINATE WITH MEP/FP, STRUCTURAL AND CIVIL. CONTRACTOR TO FIELD VERIFY ALL EXISTING ELECTRICAL FIXTURES & RECEPTACLES SCHEDULED TO REMAIN. REMOVE ANY DEVICES AND WIRING THAT DO NOT CORRESPOND WITH PROPOSED ELECTRICAL LAYOUT PLAN. REMOVE ALL ABANDONED ELECTRICAL WIRING FROM ABOVE CEILING & EXISTING WALLS THAT WILL REMAIN; REMOVE WIRING BACK TO PANEL OR NEXT LOGICAL JUNCTION BOX LOCATION.
5	PROVIDE NECESSARY BARRIERS AS REQUIRED TO SECURE SCOPE OF WORK AREA AT THE END OF EACH DAY.
6	ERECT AND MAINTAIN DUST PROOF PARTITIONS AS REQUIRED TO PREVENT SPREAD OF DUST, FUMES, AND SMOKE, ETC. TO OTHER PARTS OF THE BUILDING. ON COMPLETION, REMOVE PARTITIONS AND REPAIR DAMAGED SURFACES TO MATCH ADJACENT SURFACES.
7	IF DEMOLITION IS PERFORMED IN EXCESS OF THAT REQUIRED, RESTORE AFFECTED AREAS AT NO COST TO THE OWNER.
8	PROVIDE PROTECTION OF ADJACENT AREAS AND BUILDING COMPONENTS NOT TO BE DISTURBED, INCLUDING PATHS OF TRAVEL FROM SITE ENTRANCE TO SPECIFIC SCOPE OF WORK AREAS.
9	PROVIDE SUITABLE COVERED CONTAINERS TO RECEIVE DEBRIS. USE OF WATER SHALL BE LIMITED TO A LIGHT SPRAY TO PREVENT THE SPREAD OF DUST. NO BURNING OF MATERIALS SHALL BE PERMITTED.
10	PROVIDE AND MAINTAIN FIRE PROTECTION THROUGHOUT DEMOLITION AND CONSTRUCTION.
11	ANY ITEM NOT SPECIFICALLY IDENTIFIED, BUT REQUIRED TO BE REMOVED OR REPAIRED TO PREPARE THE BUILDING FOR NEW WORK IS THE RESPONSIBILITY OF THE CONTRACTOR.
12	SCHEDULE ALL SHUTDOWNS OF UTILITIES IN OCCUPIED PORTIONS OF THE BUILDING WITH THE OWNER (AND LOCAL FIRE DEPARTMENT IF NECESSARY) PRIOR TO IMPLEMENTING.
13	SEE MEP/FP FOR ASSOCIATED DEMOLITION. CONTRACTOR SHALL COORDINATE DEMOLITION DRAWINGS AND NOTES WITH ALL DISCIPLINES.
14	REPAIR STRUCTURAL FLOOR / FLOORING SUBSTRATE AS REQUIRED TO PREPARE FOR SCHEDULED FLOORING SYSTEMS PER MANUFACTURER SPECIFICATIONS & REQUIREMENTS.
15	ANY ELECTRICAL, PHONE, THERMOSTAT, OR OTHER DEVICES & WIRING LOCATED WITHIN SCOPE OF WORK AREA SCHEDULED TO BE DEMOLISHED SHOULD BE RELOCATED OUT OF REACH FOR FURTHER DEMOLITION BY THEIR RESPECTIVE TRADES.
16	ALL PLUMBING NO LONGER IN USE SHALL BE REMOVED IN ITS ENTIREITY.
17	REMOVE EXISTING LIGHT FIXTURES, DIFFUSERS, ETC. AS REQUIRED DUE TO NEW LAYOUT. SAVE CEILING ITEMS FOR REUSE WHERE INDICATED. REFER TO REFLECTED CEILING PLAN FOR SCOPE OF WORK REGARDING NEW CEILING. SPRINKLER PIPING AND DUCTWORK SHALL BE MODIFIED AS REQUIRED TO ACCOMMODATE NEW LAYOUT.
18	EXISTING BASEBOARD HEATING SYSTEM TO REMAIN; REFER TO MECHANICAL DRAWINGS FOR FURTHER INFORMATION.
19	REMOVE EXISTING PARTITIONS AS REQUIRED FOR SCHEDULED DOORS TO BE INSTALLED UNDER THE NEW SCOPE OF WORK; REFER TO CONSTRUCTION PLAN.
20	COORDINATE ALL REQUIRED CORE DRILLING & TRENCHING WITH POWER PLANS.

15 GENERAL DEMOLITION NOTES

AEA KEYNOTES - DEMOLITION PLANS	
1	REMOVE EXISTING DOOR, FRAME, SIDELITE, AND HARDWARE IN ITS ENTIRETY AND RETURN TO OWNER.
2	REMOVE PORTION OF EXISTING WALL AS REQUIRED FOR NEW TENANT ENTRY DOORS.
3	PREPARE PORTION OF EXISTING CONCRETE FLOOR FOR NEW STAINED CONCRETE FINISH.



5 1ST FLOOR PLAN – DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

CT INNOVATIONS

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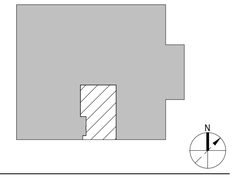

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DEMOLITION PLANS,
DEMOLITION KEY NOTES

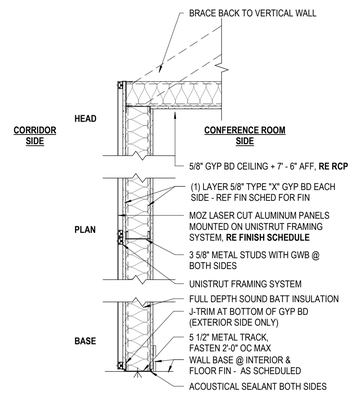
D1.00

1 REFER TO PARTITION TYPE DIAGRAMS, REFERENCED BY THE "PARTITION SYMBOL", INDICATING THE COMPONENTS AND ASSEMBLY OF EACH PARTITION.
2 PROVIDE 20 GAUGE METAL STUDS AT 16" O.C., U.O.N.
3 GYPSUM BOARD SHALL BE 5/8" THICK, U.O.N.
4 FIRE-RESISTANCE-RATED & STC-RATED PARTITIONS & STC-RATED SHALL CONFORM TO THE MINIMUM REQUIREMENTS OF THE TESTED ASSEMBLY UNLESS MORE STRINGENT REQUIREMENTS ARE DESIGNATED BY DETAIL.
5 FIRESTOP SHALL BE USED AT FIRE RATED PARTITIONS. RECESSED BOXES SHALL BE SEALED AND RUNNERS SHALL BE SET IN 2 BEADS OF SEALANT OR AS REQUIRED BY MANUFACTURER. FIRESTOPPING SHALL BE PROVIDED FOR FOR ALL FIRE RATED WALL OR SLAB PENETRATIONS IN ORDER TO MAINTAIN FIRE RATINGS AS REQUIRED.
6 ALL NON-FIRE RATED PARTITIONS SHALL HAVE ALL PENETRATIONS AND INTERSECTIONS SEALED AIR TIGHT WITH ACOUSTICAL SEALANT.
7 PROVIDE METAL BACKING PLATES FOR WALL-MOUNTED ACCESSORIES & CONSTRUCTION.
8 TILE BACKER BOARD IS REQUIRED AT ALL TILE LOCATIONS. COORDINATE WITH FINISHES AND ELEVATIONS AS REQUIRED.
9 ALL PANEL SURFACES EXPOSED TO VIEW, UNLESS OTHERWISE INDICATED, TO BE LEVEL 4 FINISH.
10 PROVIDE MOISTURE RESISTANT GYPSUM BOARD AT ALL KITCHEN AREAS WITH SINKS.

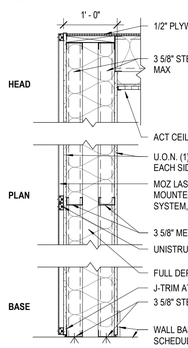
20 GENERAL PARTITION NOTES

	GENERAL CONSTRUCTION NOTES
1	ALL WORK SHALL BE INSTALLED PER ALL APPLICABLE CODES AND ALL OTHER AUTHORITIES HAVING JURISDICTION.
2	OBTAIN AND PAY FOR PERMITS AND INSPECTIONS REQUIRED BY PUBLIC AUTHORITIES GOVERNING THE WORK.
3	REVIEW DOCUMENTS, VERIFY DIMENSIONS AND FIELD CONDITIONS AND CONFIRM THAT WORK IS BUILDABLE AS SHOWN. REPORT ANY CONFLICTS OR OMISSIONS TO THE ARCHITECT FOR CLARIFICATION PRIOR TO PERFORMING ANY WORK IN QUESTION. REFER TO GENERAL NOTES REGARDING THE REQUEST FOR INFORMATION (RFI) PROCESS.
4	SUBMIT REQUESTS FOR SUBSTITUTIONS, REVISIONS, OR CHANGES TO ARCHITECT FOR REVIEW PRIOR TO PURCHASE, FABRICATION OR INSTALLATION. REFER TO GENERAL NOTES PAGE REGARDING SUBSTITUTIONS & REVISIONS.
5	COORDINATE WORK WITH THE OWNER/LANDLORD INCLUDING SCHEDULING TIME AND LOCATIONS FOR DELIVERIES, BUILDING ACCESS, USE OF BUILDING SERVICES AND FACILITIES, AND USE OF ELEVATORS. MINIMIZE DISTURBANCE OF BUILDING FUNCTIONS AND OCCUPANTS.
6	OWNER WILL PROVIDE WORK NOTED "BY OTHERS" OR "NIC" UNDER SEPARATE CONTRACT. INCLUDE SCHEDULE REQUIREMENTS IN CONSTRUCTION PROGRESS SCHEDULE AND COORDINATE TO ASSURE ORDERLY SEQUENCE OF INSTALLATION.
7	COORDINATE TELECOMMUNICATIONS, DATA AND SECURITY SYSTEM INSTALLATIONS WITH VENDORS.
8	MAINTAIN WORK AREAS SECURE AND LOCKABLE DURING CONSTRUCTION. COORDINATE WITH TENANT AND LANDLORD TO ENSURE SECURITY.
9	DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS GOVERN. IN CASE OF CONFLICT, CONSULT THE ARCHITECT.
10	THE ARCHITECT'S RESPONSIBILITY IN GENERAL ADMINISTRATION OF CONSTRUCTION IS FOR THE PURPOSE OF DETERMINING THAT THE WORK WHEN COMPLETED WILL BE IN CONFORMANCE WITH THE CONTRACT DOCUMENTS AND ENDEAVOR TO GUARD THE OWNER AGAINST DEFECTS AND DEFICIENCIES IN THE WORK. THE ARCHITECT WILL NOT HAVE CONTROL OVER OR CHARGE OF AND WILL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THESE ARE SOLELY THE CONTRACTOR'S RESPONSIBILITY.
11	OVERLAPPING/CONFLICTING REQUIREMENTS. MOST STRINGENT (GENERALLY MOST COSTLY) APPLY AND WILL BE ENFORCED. REFER TO ARCHITECT/ENGINEER FOR DECISION BEFORE PROCEEDING.
12	CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE PRIOR TO BIDDING TO DETERMINE ALL EXISTING CONDITIONS. CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXTENT OF ALL DEMOLITION AND NEW WORK. G.C. SHALL VERIFY CONDITION OF EXISTING WALLS TO REMAIN. G.C. SHALL VERIFY THIS WORK BEFORE PRICING PROJECT. CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE ARCHITECT OF ANY DISCREPANCIES. FOLLOW GENERAL NOTES REGARDING RFI'S.
13	ALL DIMENSIONS NOTED AS "HOLD" ARE CRITICAL.
14	PROVIDE FIRE TREATED WOOD BLOCKING (COMPLYING WITH ASTM E84) WITHIN NEW AND EXISTING WALLS AS REQUIRED FOR ANCHORING OF ALL BUILT-INS, SHELVING, CABINETRY, AND WALL MOUNTED ACCESSORIES. VERIFY LOCATIONS WITH ARCHITECT. COORD. TELEVISION LOCATIONS WITH POWER PLAN & BLOCKING REQUIREMENTS W/ A) AUDIOVISUAL DOCUMENTS AND CONSULTANT, OR B) CLIENT PROVIDED TELEVISION WALL MOUNTED BRACKET.
15	PROVIDE TWO (2) 20 GAUGE METAL STUDS AT JAMBS OF ALL NEW DOOR OPENINGS.
16	ALL CONCEALED BLOCKING SHALL BE FIRE TREATED, COMPLYING WITH ASTM E84.
17	PROVIDE AND INSTALL ONE (1) 4'-0" X 8'-0" FIRE RETARDANT PLYWOOD PANEL AT DATA ROOM. VERIFY EXACT LOCATION AND REQUIREMENTS WITH ELECTRICAL DRAWINGS.
18	DETAILS NOTED AS TYPICAL APPLY TO ALL SIMILAR LOCATIONS UNLESS OTHERWISE NOTED.
19	CONTRACTOR'S PRICE SHALL INCLUDE A COMPLETE CONSTRUCTION CLEANUP.
20	CONTRACTOR TO HAVE A "SHOP VAC" OR SIMILAR EQUIPMENT ON SITE TO KEEP SITE CLEAN DURING THE CONSTRUCTION PROCESS.
21	INTERIOR DIMENSIONS SHOWN IN PLAN ARE TO FINISHED FACE OF PARTITION, INCLUDING ANY APPLIED FINISHES SUCH AS CERAMIC TILE, UNLESS OTHERWISE NOTED.
22	PROVIDE CONTINUOUS TAPEABLE J-TRIM AT ALL EXPOSED EDGES OF GYPSUM WALL BOARD. PROVIDE COMPRESSIBLE BACKER ROD AND SEALANT IF GWB ABUTS ADJACENT CONSTRUCTION.
23	PATCH ALL EXISTING WALLS WHERE REQUIRED TO CREATE SMOOTH SURFACE FOR PAINT, STUCCO, PLASTER, OR CERAMIC TILE FINISH AS SCHEDULED. WHERE NEW FINISH IS NOT SCHEDULED, PATCH WALLS AND/OR TOOTH IN SALVAGED MATERIALS, AS REQUIRED TO MATCH EXISTING ADJACENT FINISH.
24	COORDINATE PARTITION CONSTRUCTION WITH FINISH PLANS.
25	AT ANY EXISTING CONSTRUCTION TO RECEIVE NEW WORK (RE: NEW DOOR, INFILL PARTITION, ETC.) G.C. TO PATCH EXISTING CONSTRUCTION AS REQUIRED TO MATCH EXISTING ADJACENT SURFACE, U.O.N.
26	ALL NEW DOORS SHALL BE LOCATED 4" OFF FINISH WALL UNLESS OTHERWISE NOTED. (4" TO INSIDE FACE OF FRAME)
27	PROVIDE FIRESTOPPING JOINT SYSTEM AT ALL PENETRATIONS THROUGH ALL FIRE-RATED WALL AND FLOOR SYSTEMS. FIRESTOPPING SHALL BE DESIGNED TO RESIST THE SPREAD OF FIRE FOR A TIME PERIOD NOT LESS THAN THE REQUIRED FIRE RESISTANT RATING OF THE ADJACENT ASSEMBLY. ALL FIRE STOPPING ASSEMBLIES SHALL BE UL ASSEMBLIES.
28	PROVIDE ACOUSTICAL SEALANT FOR PENETRATIONS THROUGH ANY NON-FIRE RATED PARTITIONS OR ASSEMBLIES.
29	ALL DIMENSIONS TO BE VERIFIED IN FIELD BY CONTRACTOR.
30	REFER TO ELECTRICAL DRAWINGS FOR QUANTITIES AND TYPES OF DEVICES. REFER TO ARCHITECTURAL DRAWING G1.01 FOR TYPICAL MOUNTING HEIGHTS AND LOCATIONS, NOTIFY ARCHITECT OF ANY DISCREPANCIES.
31	ALL WIRING, CONDUIT, RACEWAYS, ETC. SHALL BE CONCEALED WITHIN WALLS. G.C. TO PROVIDE CUTTING, PATCHING, PLASTER RINGS AND PULL STRINGS AS REQUIRED TO PROVIDE SUCH CONCEALMENT. PATCH AND PAINT ENTIRE WALL AFFECTED BY NEW WORK.
32	WHERE ANY TELEPHONE, DATA & ELECTRICAL WIRING HAVE BEEN DEMOLISHED, PATCH WALL & FINISH AS SCHEDULED. WHERE ANY EXISTING JUNCTION BOXES OR CONDUIT HAVE BEEN REMOVED, PATCH WALL & FINISH AS SCHEDULED UNLESS INDICATED OTHERWISE.
33	CONTRACTOR TO INCLUDE IN HIS PRICING ALL MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION WORK PER ENGINEERS DRAWINGS TO COORDINATE WITH ARCHITECT'S DESIGN AND PROVIDE COMPLETE SYSTEMS.
34	CONTRACTOR RESPONSIBLE FOR PROTECTING DOOR FRAMES DURING CONSTRUCTION AS REQUIRED.
35	WHERE FLOOR TRENCHING IS REQUIRED FOR SCOPE OF WORK, PATCH FLOOR TO MATCH EXISTING ADJACENT STRUCTURAL SLAB / FLOOR SUBSTRATE
36	ALL PARTITIONS SHALL BE TYPE A31, U.O.N.
37	ALL DEMISING & CORRIDOR PARTITIONS SHALL BE TYPE B31, U.O.N.
38	PREPARE EXISTING FLOOR SUBSTRATE AS REQUIRED FOR SCHEDULED FLOOR FINISH. PROVIDE FLOOR LEVELING COMPOUND AS REQUIRED TO PROVIDE LEVEL FINISH (1/4" PER 10' MAX) WITHIN ENTIRE TENANT AREA. INCLUDE $10,000 ALLOWANCE FOR FLOOR LEVELING.

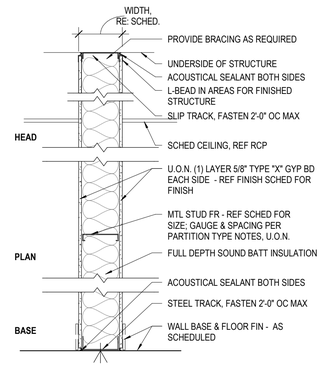
17 GENERAL CONSTRUCTION NOTES



13 CONFERENCE ROOM 114 WALL WITH METAL SCREEN
SCALE: 3/4" = 1'-0"

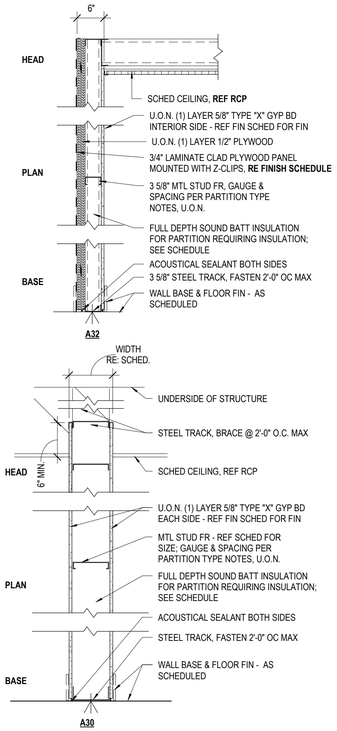


14 CONFERENCE ROOM 117 METAL SCREEN WALL
SCALE: 3/4" = 1'-0"



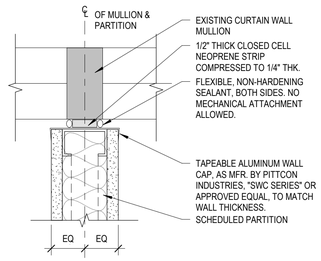
TYPE	WIDTH	FRAMING	FIRE RATING	STC RATING	SOUND INSUL.	COMMENTS
B31	0' - 4 7/8"	0' - 3 5/8"	0	40	Yes	

TYPE B – FULL HEIGHT GWB PARTITION
SCALE: 3/4" = 1'-0"



TYPE	WIDTH	FRAMING	FIRE RATING	STC RATING	SOUND INSUL.	COMMENTS
A30	0' - 4 7/8"	0' - 3 5/8"	0	40	Yes	
A31	0' - 4 7/8"	0' - 3 5/8"	0	0	No	
A32	0' - 6"	0' - 3 5/8"	0	40	Yes	
A32A	0' - 4 7/8"	0' - 3 5/8"	0	40	Yes	GWB AT EXTERIOR (1) SIDE OF PARTITION ONLY
A33	0' - 7 1/4"	0' - 6"	0	0	No	

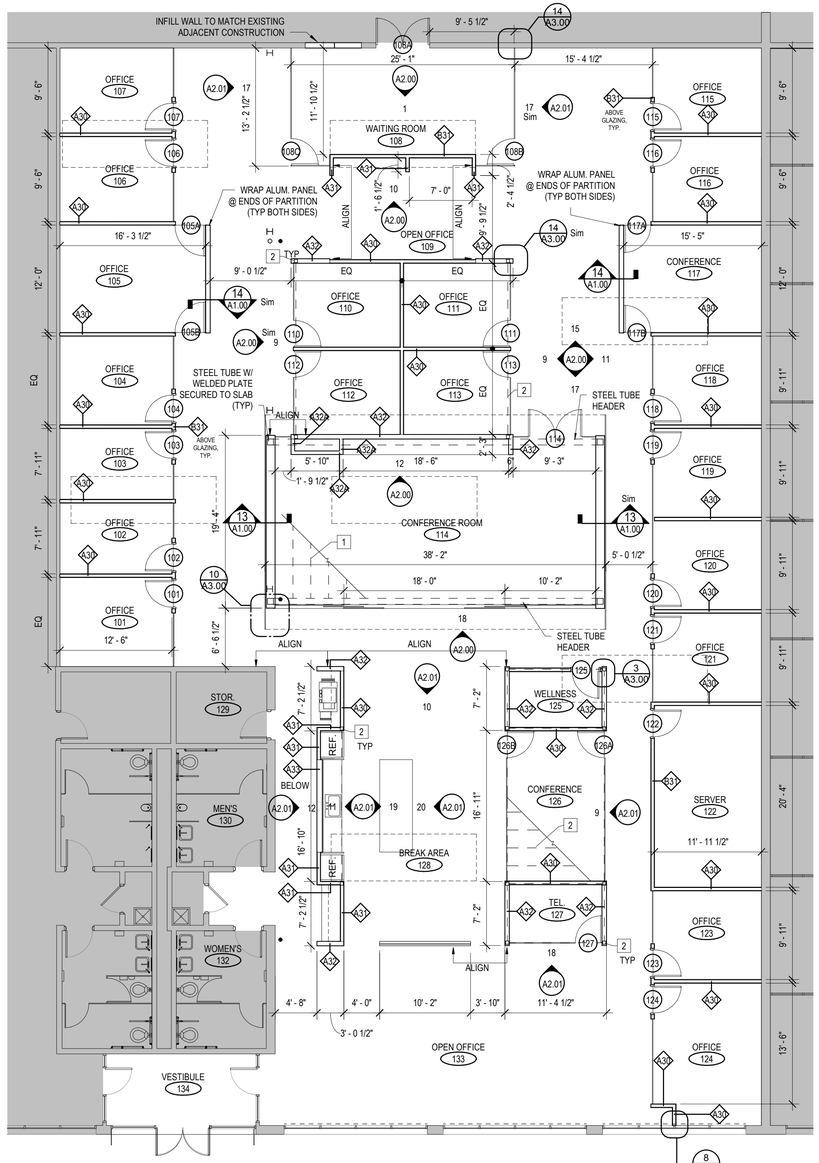
TYPE A – PARTIAL HEIGHT GWB PARTITION
SCALE: 3/4" = 1'-0"



8 WALL DETAIL @ MULLION
SCALE: 3" = 1'-0"

KEYED NOTES:

1 PROVIDE DELEGATED DESIGN (BY LICENSED ENGINEER) FOR ENGINEERED METAL FRAMING (MAX 8" C-SHAPE JOISTS) WITH TUBE STEEL FRAME TO SUPPORT "BOX" AND GLASS COMPONENTS.
2 PROVIDE DELEGATED DESIGN (BY LICENSED ENGINEER) FOR ENGINEERED METAL FRAMING (MAX 6" C-SHAPE JOISTS) WITH 6" X 6" METAL FRAMED BOX BEAM AT OPENING AND TIE INTO POSTS AT BACK END. G.C. HAS OPTION TO UTILIZE TUBE STEEL POST & BEAM DESIGN. COORDINATE CEILING FRAMING TO AVOID LIGHT FIXTURE PLACEMENT.



5 1ST FLOOR PLAN – CONSTRUCTION PLAN
SCALE: 1/8" = 1'-0"

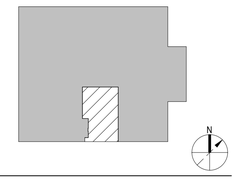
AMENTA|EMMA
ARCHITECTS

CT INNOVATIONS

CT INNOVATIONS – THE DISTRICT
470 James St,
Unit 8, New
Haven, CT
06513

CONSULTANTS

KEY PLAN



PROJECT DATA

PROJECT NUMBER	19039
CURRENT SUBMISSION DATE	08.29.2019
DRAWN	NNM
CHECKED	DLS
SCALE	As indicated
FILE REFERENCE	C:\Users\kej\Documents\19039_CT INNOVATIONS - THE DISTRICT_CENTRAL_2019_KEJ.rvt

HISTORY OF SUBMISSIONS

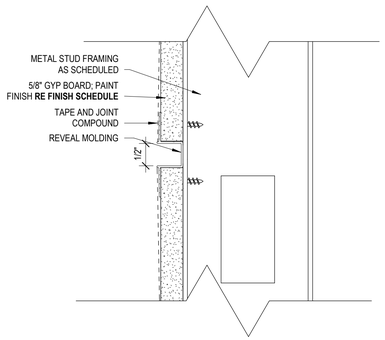
No.	Date	Description

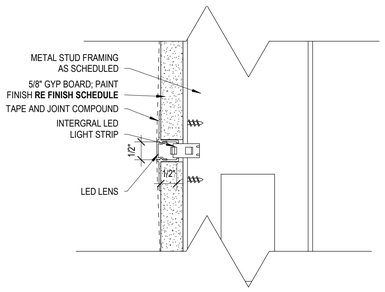
DD SET

SHEET TITLE

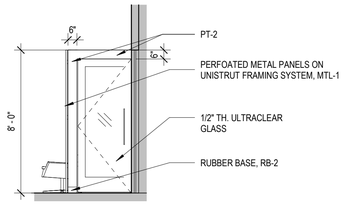
CONSTRUCTION AND DIMENSION PLANS

A1.00

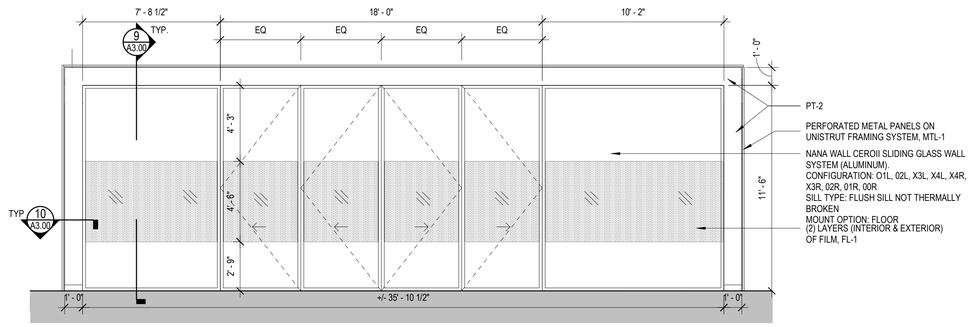




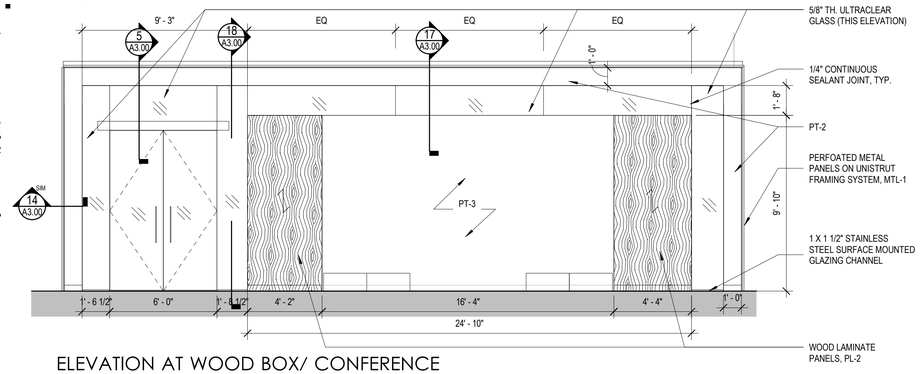
19 FRY REGLET REVEALS
SCALE: 6" = 1'-0"



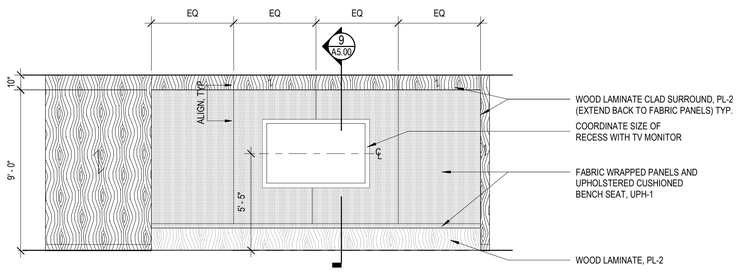
15 TYP. ELEVATION @ SMALL CONF RM ENTRANCE
SCALE: 1/4" = 1'-0"



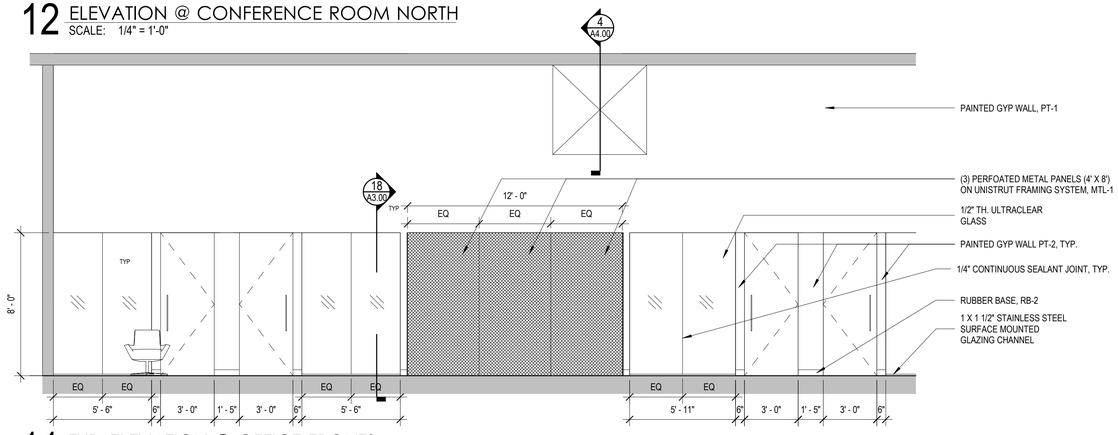
18 ELEVATION @ SLIDING GLASS DOORS
SCALE: 1/4" = 1'-0"



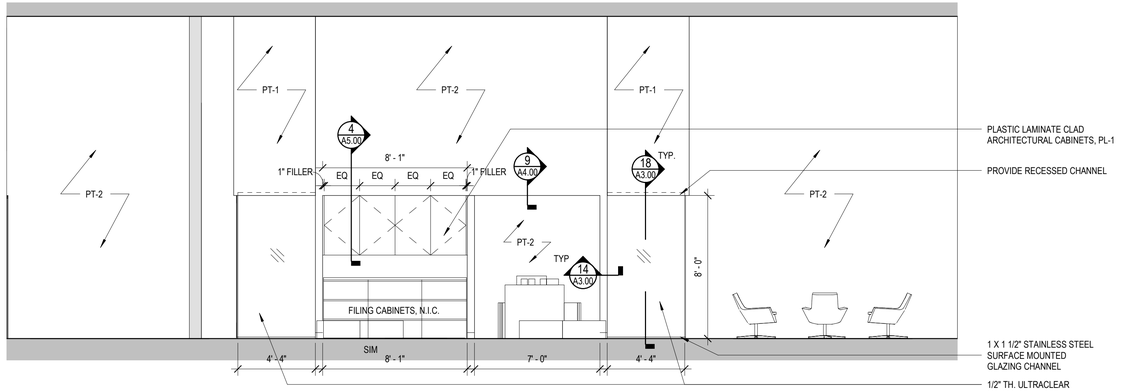
17 ELEVATION AT WOOD BOX/ CONFERENCE RM– SOUTH
SCALE: 1/4" = 1'-0"



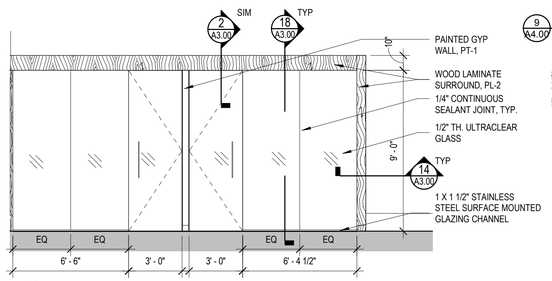
12 ELEVATION @ CONFERENCE ROOM NORTH
SCALE: 1/4" = 1'-0"



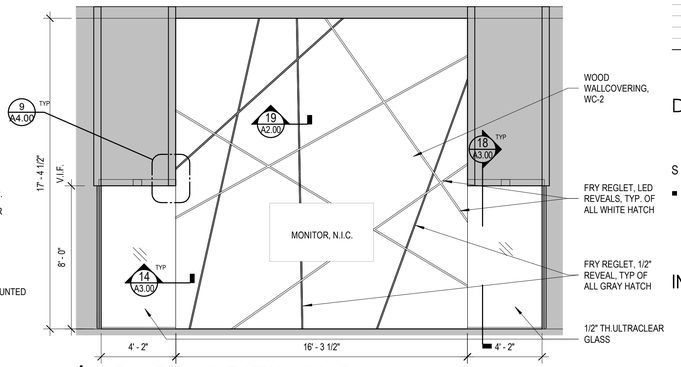
11 TYP. ELEVATION @ OFFICE FRONTS
SCALE: 1/4" = 1'-0"



10 ELEVATION @ FRONT PRINT STATION– NORTH
SCALE: 1/4" = 1'-0"



9 ELEVATION @ WOOD BOX – WEST
SCALE: 1/4" = 1'-0"



1 ELEVATION @ ENTRY – SOUTH
SCALE: 1/4" = 1'-0"

NOTE:
ALL ENGINEERED FRAMING TO BE BY DELEGATED DESIGN

APPLIANCES PROVIDED BY TENANT AND COORDINATED WITH ARCHITECT

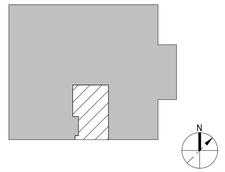
AMENTA|EMMA
ARCHITECTS

CT INNOVATIONS

CT INNOVATIONS – THE DISTRICT
470 James St,
Unit 8, New
Haven, CT
06513

CONSULTANTS

KEY PLAN



PROJECT DATA

PROJECT NUMBER	19039
CURRENT SUBMISSION DATE	08.29.2019
DRAWN	MKH
CHECKED	DLS
SCALE	As indicated
FILE REFERENCE	C:\Users\kej\Documents\19039_CT INNOVATIONS - THE DISTRICT_CENTRAL_2019_KEJ.rvt

HISTORY OF SUBMISSIONS

No.	Date	Description

DD SET

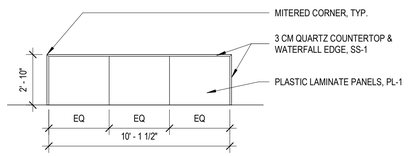
SHEET TITLE

INTERIOR ELEVATIONS

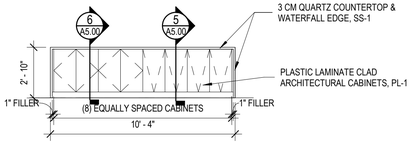
A2.00

NOTE:
ALL ENGINEERED FRAMING TO BE BY DELEGATED DESIGN

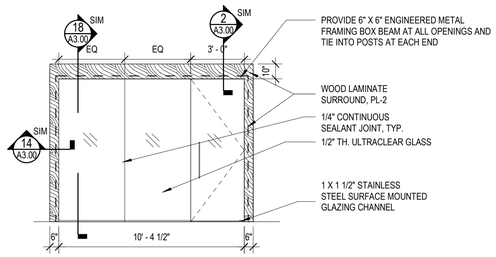
APPLIANCES PROVIDED BY TENANT AND COORDINATED WITH ARCHITECT



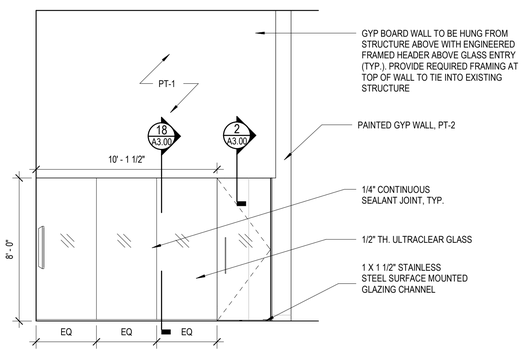
20 KITCHENETTE ISLAND – EAST
SCALE: 1/4" = 1'-0"



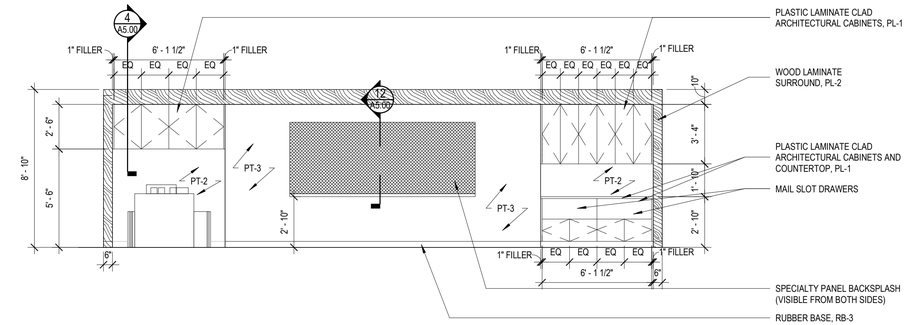
19 KITCHENETTE ISLAND – WEST
SCALE: 1/4" = 1'-0"



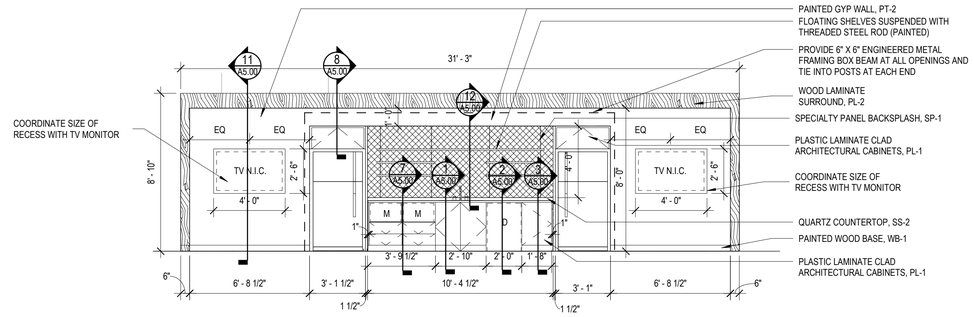
18 ELEVATION AT TELEPHONE ROOM GLASS WALL
SCALE: 1/4" = 1'-0"



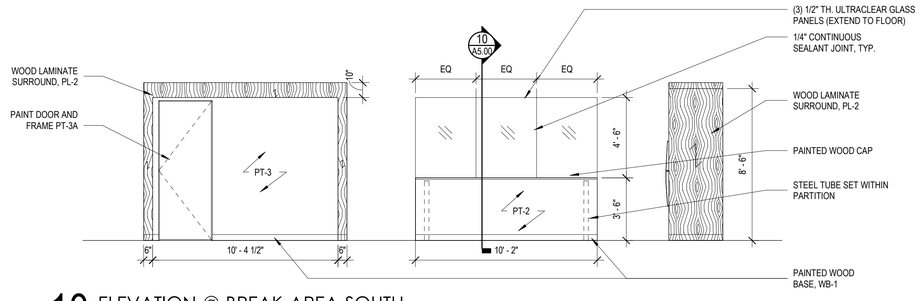
17 ELEVATION @ FRONT VESTIBULE
SCALE: 1/4" = 1'-0"



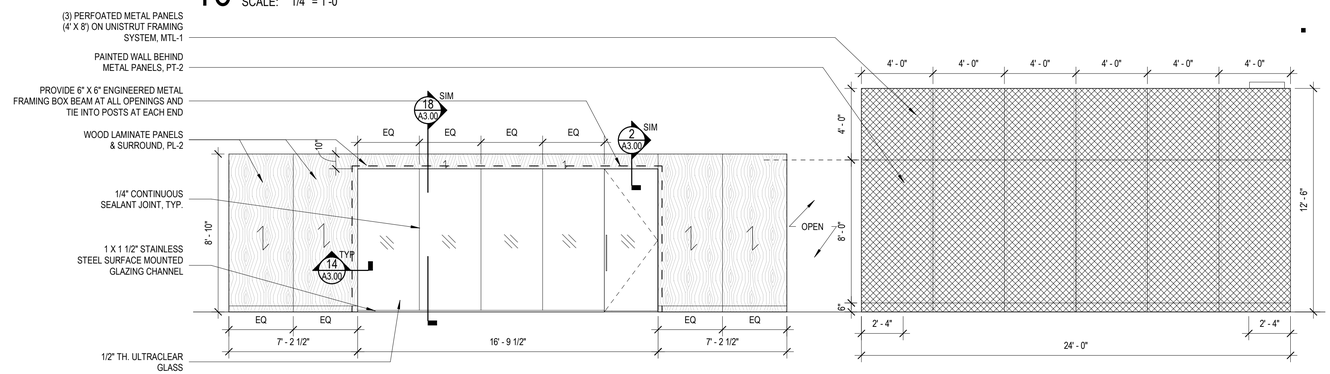
12 ELEVATION @ MAIL SLOTS/ PRINT STATION
SCALE: 1/4" = 1'-0"



11 ELEVATION @ BREAK ROOM MILLWORK
SCALE: 1/4" = 1'-0"



10 ELEVATION @ BREAK AREA SOUTH
SCALE: 1/4" = 1'-0"



9 ELEVATION AT CONFERENCE ROOM 126
SCALE: 1/4" = 1'-0"

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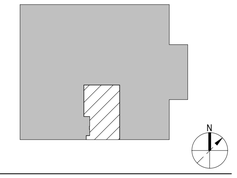
CT INNOVATIONS

CT INNOVATIONS – THE DISTRICT
470 James St,
Unit 8, New
Haven, CT
06513

CONSULTANTS

KEY PLAN



PROJECT DATA

PROJECT NUMBER	19039
CURRENT SUBMISSION DATE	08.29.2019
DRAWN	Author
CHECKED	Checker
SCALE	As indicated
FILE REFERENCE	C:\Users\kej\Documents\19039_CT INNOVATIONS - THE DISTRICT_CENTRAL_2019_KEJ.rvt

HISTORY OF SUBMISSIONS

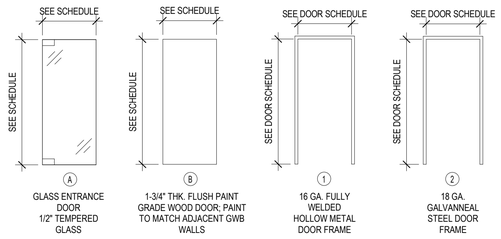
No.	Date	Description

DD SET

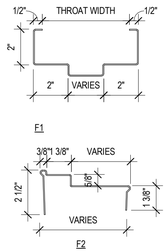
SHEET TITLE

INTERIOR ELEVATIONS

A2.01



DOOR AND FRAME TYPES LEGEND
SCALE: 1/4" = 1'-0"



16 FRAME DETAILS
SCALE: 3" = 1'-0"

AEA DOOR AND FRAME SCHEDULE

	DOOR				FRAME						
DOOR #	WIDTH	HEIGHT	TYPE	MATERIAL	TYPE	MATERIAL	ELEVATION	HEAD DETAIL	JAMB DETAIL	HARDWARE SET	REMARKS
101	3' - 0"	7' - 10"	B	WD	F2	HM	2	13/A3.00	13/A3.00	2	
102	3' - 0"	7' - 10"	B	WD	F2	HM	2	13/A3.00	13/A3.00	2	
103	3' - 0"	7' - 10"	B	WD	F2	HM	2	13/A3.00	13/A3.00	2	
104	3' - 0"	7' - 10"	B	WD	F2	HM	2	13/A3.00	13/A3.00	2	
105A	3' - 4 3/4"	7' - 6"	A	GLASS	-	-	-	2/A3.00	17/A3.00	6	
105B	3' - 4 3/4"	7' - 6"	A	GLASS	-	-	-	2/A3.00	17/A3.00	6	
106	3' - 0"	7' - 10"	B	WD	F2	HM	2	13/A3.00	13/A3.00	2	
107	3' - 0"	7' - 10"	B	WD	F2	HM	2	13/A3.00	13/A3.00	2	
108A	6' - 0"	8' - 0"	A	GLASS	-	-	-	2/A3.00	17/A3.00	1	LANDLORD TO PROVIDE CARD READER
108B	3' - 0"	8' - 0"	A	GLASS	-	-	-	2/A3.00	17/A3.00	8	PROVIDE CARD READER
108C	3' - 0"	8' - 0"	A	GLASS	-	-	-	2/A3.00	17/A3.00	8	PROVIDE CARD READER
110	3' - 0"	9' - 0"	A	GLASS	-	-	-	2/A3.00	17/A3.00	6	
111	3' - 0"	9' - 0"	A	GLASS	-	-	-	2/A3.00	17/A3.00	6	
112	3' - 0"	9' - 0"	A	GLASS	-	-	-	2/A3.00	17/A3.00	6	
113	3' - 0"	9' - 0"	A	GLASS	-	-	-	2/A3.00	17/A3.00	6	
114	6' - 0"	9' - 0"	A	GLASS	-	-	-	5/A3.00	17/A3.00	5	
115	3' - 0"	7' - 10"	B	WD	F2	HM	2	13/A3.00	13/A3.00	2	
116	3' - 0"	7' - 10"	B	WD	F2	HM	2	13/A3.00	13/A3.00	2	
117A	3' - 0"	7' - 6"	A	GLASS	-	-	-	2/A3.00	17/A3.00	6	
117B	3' - 0"	7' - 6"	A	GLASS	-	-	-	2/A3.00	17/A3.00	6	
118	3' - 0"	7' - 10"	B	WD	F2	HM	2	13/A3.00	13/A3.00	2	
119	3' - 0"	7' - 10"	B	WD	F2	HM	2	13/A3.00	13/A3.00	2	
120	3' - 0"	7' - 10"	B	WD	F2	HM	2	13/A3.00	13/A3.00	2	
121	3' - 0"	7' - 10"	B	WD	F2	HM	2	13/A3.00	13/A3.00	7	
122	3' - 0"	7' - 10"	B	WD	F1	HM	1	1/A3.00	1/A3.00	4	PROVIDE CARD READER
123	3' - 0"	7' - 10"	B	WD	F2	HM	2	13/A3.00	13/A3.00	2	
124	3' - 0"	7' - 10"	B	WD	F2	HM	2	13/A3.00	13/A3.00	2	
125	3' - 0"	7' - 10"	B	WD	F2	HM	2	3/A3.00	3/A3.00	3	
126A	3' - 0"	8' - 0"	A	GLASS	-	-	-	2/A3.00	17/A3.00	6	
126B	3' - 0"	8' - 0"	A	GLASS	-	-	-	2/A3.00	17/A3.00	6	
127	3' - 0"	8' - 0"	A	GLASS	-	-	-	2/A3.00	17/A3.00	6	

NOTES:

1. COORDINATE ALL SECURITY EQUIPMENT W/TENANT VENDOR IN DOORS, AND SCHEDULE REMARKS. PROVIDE POWER AS REQUIRED.
2. PAINT ALL NEW AND EXISTING FRAMES.
3. AT ALL INTERIOR DOORS SCHEDULED TO REMAIN, REPLACE ALL EXISTING DOOR HARDWARE WITH ADA COMPLIANT LEVEL HARDWARE (IF NOT EXISTING LEVER).
4. ALL HARDWARE MUST CONFORM TO BUILDING STANDARD MANUFACTURERS AND FINISHES. PROVIDE BUILDING STANDARD MANUFACTURER, KEYED TO MASTER.

1 ENTRY GLASS DOORS:
RTS88 X SINGLE ACTING X INTEGRAL STOP
PROVIDE SINGLE POINT 90 DEGREE HOLD OPEN
PULLS: 2 G561-01-001 (5' - 0")
MAGLOCK: M32BD SERIES (BOND SENSOR AND POSITION SWITCH)
FLOOR STOP: 441
CARD READOR: COORDINATE WITH SECURITY VENDOR
SET PATCH FITTINGS: UNIVERSAL X TOP AND BOTTOM - PIVOT

2 OFFICE DOORS:
LOCKSET: SCHLAGE ND10S ATH 626
HINGES: 2 PAIRS IVES 3PB1 630
SILENCERS: BUILDING STANDARD
DOOR STOP: ROCKWOOD DOME STOP

3 WELLNESS DOORS:
LOCKSET: SCHLAGE ND40S ATH 626
CLOSER: SARGENT 1431-P
HINGES: 2 PAIRS IVES 3CB1 630 (PER DOOR)
SILENCERS: BUILDING STANDARD
DOOR STOP: ROCKWOOD DOME STOP

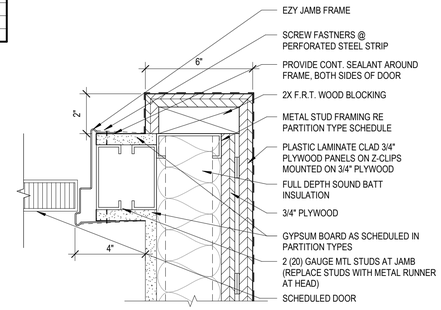
4 SERVER ROOM DOORS:
LOCKSET: SCHLAGE ND80PD ATH 626
ELECTRIC STRIKE: HES SERIES 1006
CLOSER: SARGENT 1431-P
CARD READER: CARD READER COORD. W/ SECURITY VENDOR
HINGES: 2 PAIRS IVES 3PB1 630
SILENCERS: BUILDING STANDARD
DOOR STOP: ROCKWOOD DOME STOP

5 CONFERENCE ROOM:
CONCEALED CLOSER: DORMA RTS88 X SINGLE ACTING X INTEGRAL STOP EN
PULLS: ELMES G561-01-001 (5'-0") 55
DOOR STOP: ROCKWOOD 441 625
PATCH FITTINGS: DORMA UNIVERSAL X TOP AND BOTTOM - OFFSET PIVOT 701

6 GLASS DOORS:
CONCEALED CLOSER: DORMA RTS88 X SINGLE ACTING X INTEGRAL STOP EN
PULLS: ELMES G561-01-001 (5'-0") 55
FLOOR STOP: ROCKWOOD 441 625
PATCH FITTINGS: DORMA UNIVERSAL X TOP AND BOTTOM - OFFSET PIVOT 701

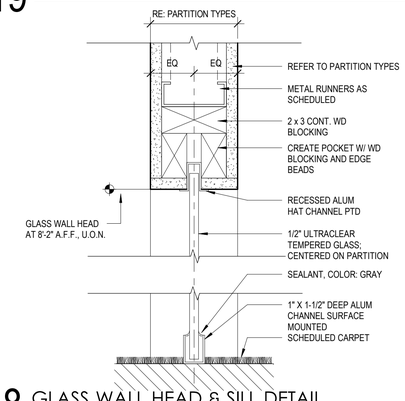
7 HR OFFICE DOOR:
LOCKSET: SCHLAGE ND50PD ATH 626
HINGES: 2 PAIRS IVES 3PB1 630
SILENCERS: BUILDING STANDARD
DOOR STOP: ROCKWOOD DOME STOP

8 WAITING ROOM DOORS:
CONCEALED CLOSER: DORMA RTS88 X SINGLE ACTING X INTEGRAL STOP EN. PROVIDE SINGLE POINT 90DEG.
PULLS: 2 PAIRS ELMES G561-01-001 (5'-0") 55
MAGLOCK: SECURITRON M32BD SERIES (BOND SENSOR & POSITION SWITCH) 629
FLOOR STOP: ROCKWOOD 441 625
CARD READER: COORDINATE WITH SECURITY VENDOR
PATCH FITTINGS: DORMA UNIVERSAL X TOP AND BOTTOM - OFFSET PIVOT 701

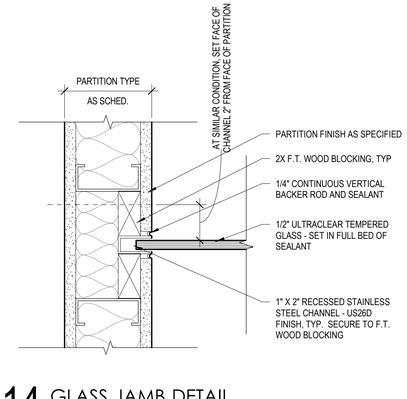


3 DOOR DETAIL
SCALE: 3" = 1'-0"

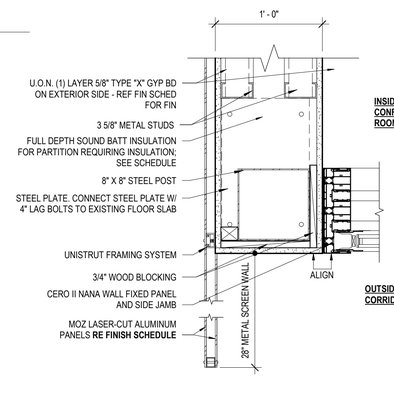
19 DOOR HARDWARE NOTES



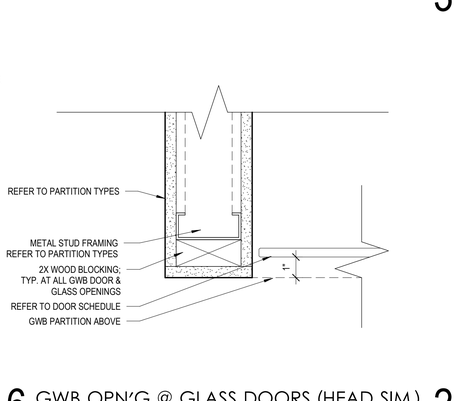
18 GLASS WALL HEAD & SILL DETAIL
SCALE: 3" = 1'-0"



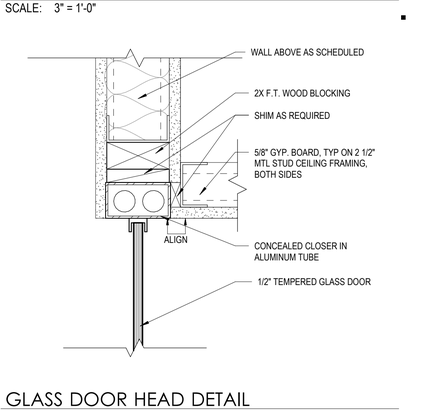
14 GLASS JAMB DETAIL
SCALE: 3" = 1'-0"



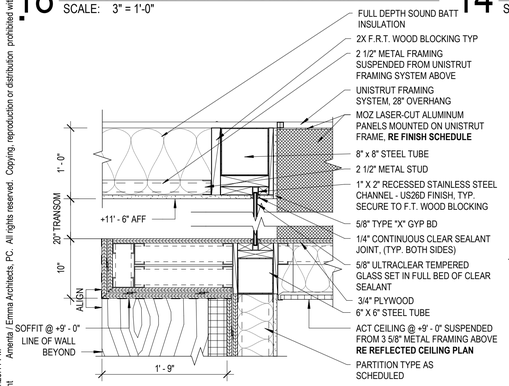
10 NANAWALL JAMB DETAIL
SCALE: 1 1/2" = 1'-0"



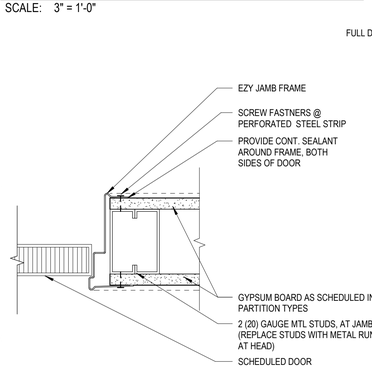
6 GWB OPN'G @ GLASS DOORS (HEAD SIM.)
SCALE: 3" = 1'-0"



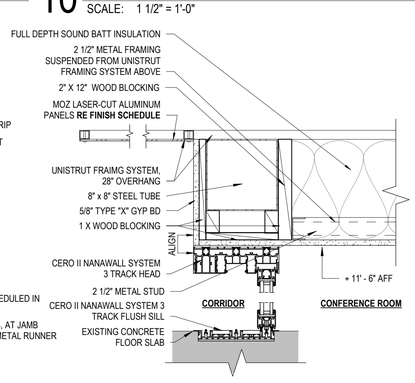
2 GLASS DOOR HEAD DETAIL
SCALE: 3" = 1'-0"



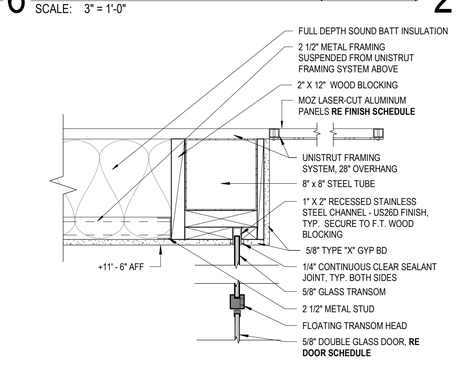
17 GLASS HEAD DETAIL @ TRANSOM
SCALE: 1" = 1'-0"



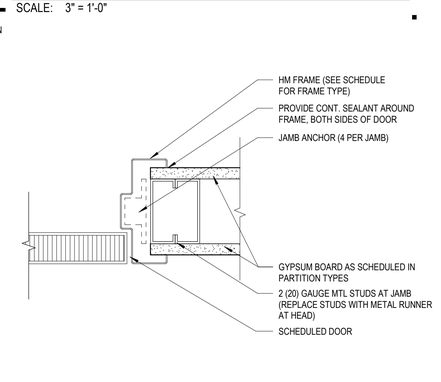
13 JAMB @ TYP OFFICE DOOR (HEAD SIM.)
SCALE: 3" = 1'-0"



9 NANAWALL HEAD AND SILL DETAIL
SCALE: 1 1/2" = 1'-0"



5 GLASS HEAD @ CONFERENCE ROOM DOOR
SCALE: 1 1/2" = 1'-0"



1 HM JAMB DETAIL (HEAD SIM.)
SCALE: 3" = 1'-0"

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CT INNOVATIONS

CT INNOVATIONS – THE DISTRICT
470 James St,
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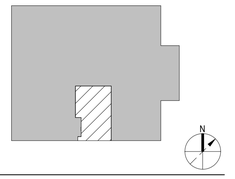
Haven, CT
06513

CONSULTANTS

KEY PLAN



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HISTORY OF SUBMISSIONS

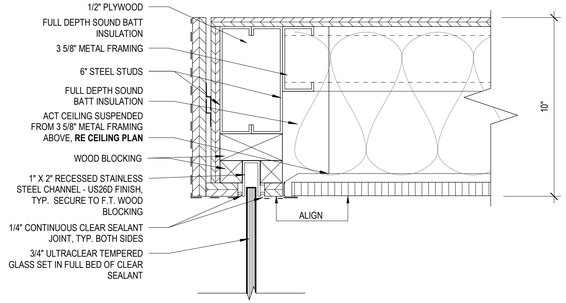
No.	Date	Description

DD SET

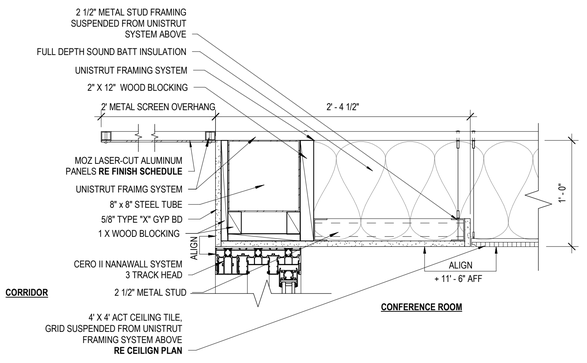
SHEET TITLE

DOOR AND WINDOW SCHEDULES, DOOR DETAILS

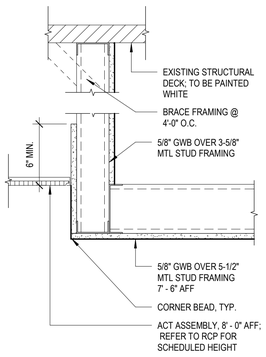
A3.00



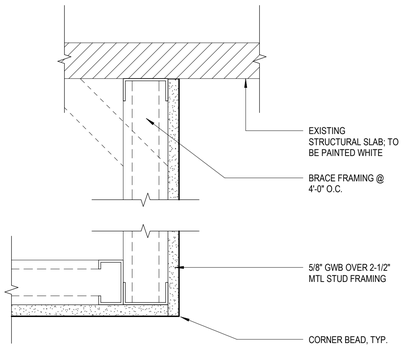
12 SECTION AT BOX CEILING
SCALE: 3" = 1'-0"



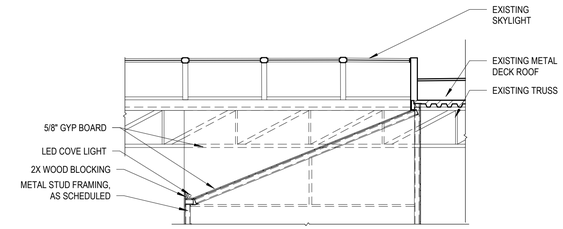
11 GWB CEILING TO ACT CEILING
SCALE: 1 1/2" = 1'-0"

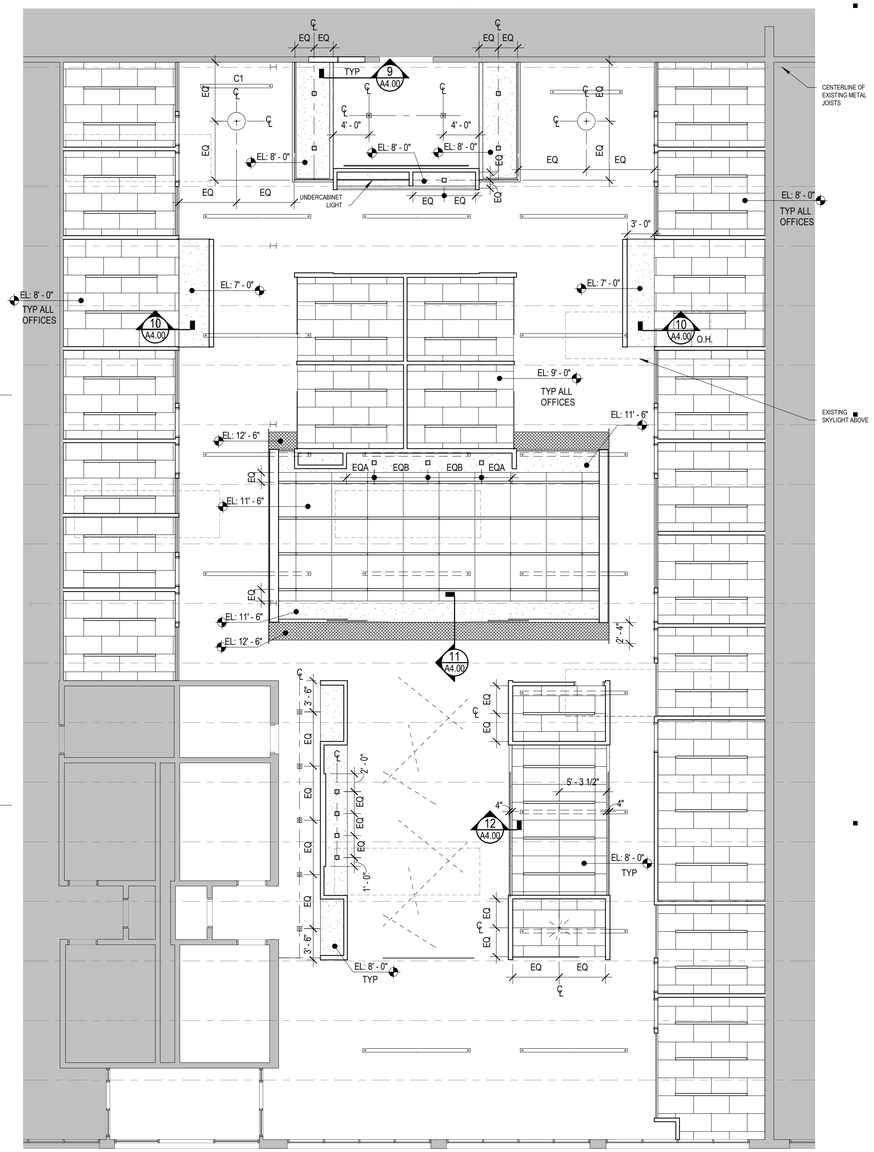


10 GWB HEADER DETAIL
SCALE: 1 1/2" = 1'-0"



4 SKYLIGHT COVE DETAIL
SCALE: 1/4" = 1'-0"





13 GENERAL REFLECTED CEILING PLAN NOTES

	GENERAL REFLECTED CEILING PLAN NOTES
1	SCHEDULED CEILING HEIGHT SHALL BE MAINTAINED. EXISTING HVAC AND PLUMBING SYSTEMS SHALL BE MODIFIED AS REQUIRED TO MEET CEILING HEIGHTS.
2	ALL NEW OR RELOCATED SPRINKLER HEADS, RECESSED CAN LIGHT FIXTURES, ETC. SHOWN TO BE RELOCATED WITHIN CENTER OF 2X2 OR 2X4 CEILING TILE UNLESS OTHERWISE NOTED
3	ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF ALL WIRING ABOVE THE CEILING WHICH IS ABANDONED AS PART OF THIS OR PAST WORK
4	ALL CABLES MUST BE SUSPENDED OFF THE LAY-IN CEILING
5	CONTRACTOR TO NOTIFY ARCHITECT IF ANY DISCREPANCIES EXIST BETWEEN ARCHITECTURAL RCP AND ELECTRICAL WIRING PLAN.
6	WHERE NEW OR EXISTING CEILING TILES HAVE A TEGULAR EDGE, KERF ALL CUT CEILING TILES OR TILES THAT PASS OVER PARTITIONS TO MATCH EXISTING EDGE DESIGN.
7	DESIGN SUSPENDED CEILING FRAMING SYSTEMS TO RESIST A LATERAL % OF THE WEIGHT OF THE CEILING ASSEMBLY AND ANY FORCE OF 20 LOADS TRIBUTARY TO THE SYSTEM. USE A MINIMUM CEILING WEIGHT OF 5 POUNDS PER SQUARE FOOT TO DETERMINE THE LATERAL FORCE.
8	WHERE CEILING LOADS DO NO EXCEED 5 POUNDS PER SQUARE FOOT AND WHERE PARTITIONS ARE NOT CONNECTED TO THE CEILING SYSTEM, THE FOLLOWING BRACING METHODS MAY BE EMPLOYED: A. PROVIDE LATERAL SUPPORT BY FOUR WIRES OF MINIMUM NO. 12 GAUGE SPLAYED IN FOUR DIRECTIONS 90 DEGRESS APART, AND CONNECTED TO THE MAIN RUNNER WITHIN 2" OF THE CROSS RUNN AND TO THE STRUCTURE ABOVE AT AN ANGLE NOT EXCEEDING 45 DEGREES FROM THE PLANE OF THE CEILING. PROVIDE THESE LATERAL SUPPORT POINTS 12 FEET ON CENETER IN EACH DIRECTION, WITH THE FIRST POINT WITHIN 4' FROM EACH WALL. B. ALLOW FOR LATERAL MOVEMENT OF THE SYSTEM. ATTACH MAIN RUNNERS AND CROSS RUNNERS AT TWO ADJACENT WALLS; MAINTAIN CLEARANCE BETWEEN THE WALL AND THE RUNNERS AT THE OTHER TWO WALLS. C. PROVIDE VERTICAL SUPPORT AS REQUIRED IN BUILDING CODES. IN ADDITION, VERTICALLY SUPPORT ENDS OF RUNNERS WITH 8" OF DISCONTINUITIES SUCH AS MAY OCCUR WHERE THE CEILING IS INTERRUPTED BY A WALL. D. SUPPORT LIGHT FIXTURES AND AIR DIFFUSERS DIRECTLY TO THE STRUCTURE ABOVE.
9	CONTRACTOR TO RELAMP ALL EXISTING LIGHTS, WHETHER TO REMAIN OR FOR RELOCATION.
10	CONTRACTOR TO ESTIMATE AN ALLOWANCE OF 10% OF ALL EXISTING LIGHT FIXTURES WILL REQUIRE BALLAST REPLACEMENT, WHETHER TO REMAIN OR FOR RELOCATION.
11	RESET ALL EXISTING FIXTURES TO REMAIN WITHIN CEILING SYSTEMS SO THAT THEY ARE LEVEL, IF APPLICABLE.
12	CEILING HEIGHT SHALL BE 8'-5" A.F.F., U.O.N.
13	ALL CEILINGS SHALL BE CENTERED ON ROOMS, U.O.N.
14	ALL ACOUSTICAL CEILINGS SHALL BE TYPE ACT-1, PER THE FINISH SCHEDULE
15	EXISTING CEILING STRUCTURE SCHEDULED TO BE EXPOSED SHALL BE PAINTED WHITE THROUGHOUT.
16	A SHOP DRAWING SHALL BE PROVIDED FOR THE LIGHTING FIXTURE LAYOUTS. DIMENSIONS PROVIDED ON THE PLANS REPRESENT THE DESIGN INTENT AND WILL BE REVIEWED AFTER THE CONTRACTOR HAS VERIFIED THE FIELD CONDITIONS.
17	EXISTING BRICK WALLS SCHEDULED TO BE EXPOSED SHALL BE COATED WITH A WHITEWASH. ARCHITECT TO APPROVE LEVEL OF WHITEWASH INTENSITY.

INDIRECT PENDANT MOUNTED LED FIXTURE

RECESSED LED DOWNLIGHT

PENDANT MOUNTED FIXTURES, REFER TO LIGHTING FIXTURE SCHEDULE FOR TYPE

UNDER CABINET LED LIGHT FIXTURE

EMERGENCY LIGHT FIXTURE (BATTERY BACKUP CONCEALED IN WALL)

LIGHT SWITCH - CEILING MOUNTED OCCUPANCY SENSOR, **SEE ELECTRICAL DWGS**

LIGHT SWITCH - THREE WAY - CEILING MOUNTED OCCUPANCY SENSOR, **SEE ELECTRICAL DWGS**

LED EXIT SIGN, CEILING MOUNTED

LED EXIT SIGN, WALL MOUNTED

FINISHED GWB CEILING

4' X 4' ACOUSTICAL CEILING SYSTEM

2X4 ACOUSTICAL CEILING SYSTEM

P — CEILING MOUNTED PROJECTOR

OS — OCCUPANCY SENSOR

1'-0" — CEILING HEIGHT TAG

HVAC RETURN

HVAC SUPPLY

HORN / STROBE TIED TO BUILDING FIRE ALARM

STROBE TIED TO BUILDING FIRE ALARM

REFLECTED CEILING PLAN LEGEND
SCALE: 1/4" = 1'-0"

9 GWB HEADER DETAIL
SCALE: 3" = 1'-0"

5 1ST FLOOR REFLECTED CEILING PLAN
SCALE: 1/8" = 1'-0"

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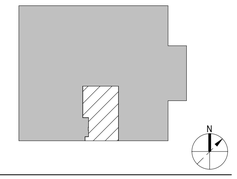

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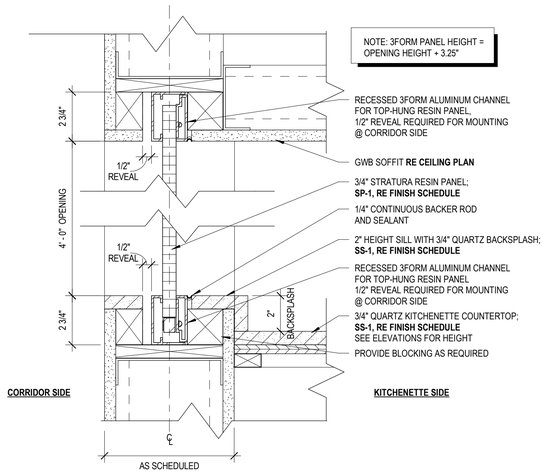
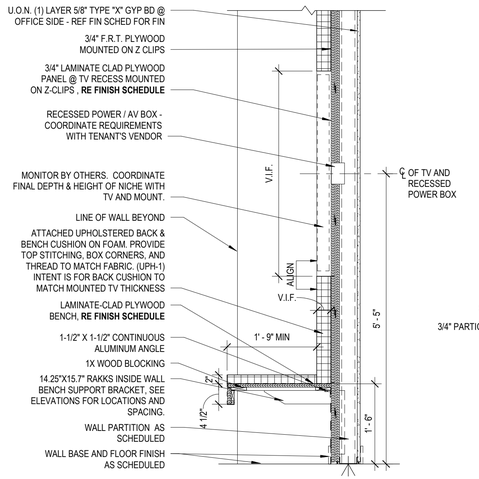
REFLECTED CEILING PLAN

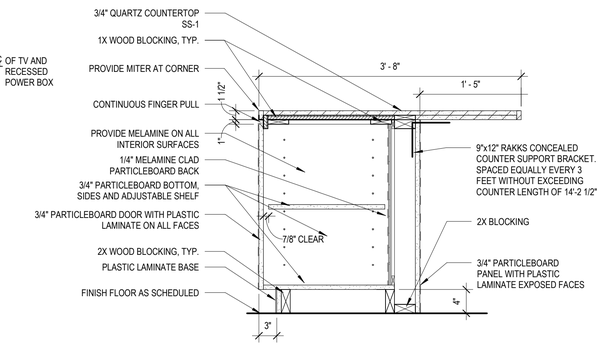
A4.00



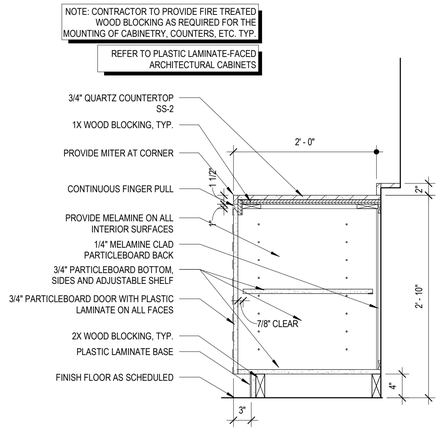
12 3 FORM BACKSPLASH
SCALE: 3" = 1'-0"



9 SECTION @ BENCH WALL
SCALE: 3/4" = 1'-0"



6 KITCHEN ISLAND – UNDERCABINET
SCALE: 1" = 1'-0"



TYP SECTION AT BASE CABINET (SOLID SURFACE)
3 SCALE: 1" = 1'-0"

11 RECESSED MONITOR WALL
SCALE: 3/4" = 1'-0"

8 TYPICAL SECTION ABOVE REFRIGERATOR
SCALE: 1" = 1'-0"

5 KITCHEN ISLAND – PULL-OUT TRASH
SCALE: 1" = 1'-0"

2 TYPICAL SECTION AT DISHWASHER
SCALE: 1" = 1'-0"

10 DETAIL @ GLASS WALL
SCALE: 1" = 1'-0"

7 TYPICAL SECTION AT BASE CABINET W/ 2 DRAWERS AND MICROWAVE
SCALE: 1" = 1'-0"

4 TYPICAL UPPER CABINET SECTION
SCALE: 1" = 1'-0"

TYPICAL SECTION AT SINK CABINET (SOLID SURFACE)
1 SCALE: 1" = 1'-0"

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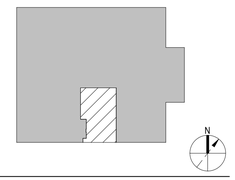

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REVISIONS

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SHEET TITLE

MILLWORK DETAILS

A5.00

PAINT

PT-1	GENERAL WALL PAINT SHERWIN WILLIAMS COLOR: HIGH REFLECTIVE WHITE SW 7757 FINISH: MATTE
PT-1A	SEMI GLOSS FOR DOOR FRAMES SHERWIN WILLIAMS COLOR: HIGH REFLECTIVE WHITE SW 7757 FINISH: SEMI GLOSS
PT-2	ACCENT WALL PAINT SHERWIN WILLIAMS COLOR: IRON ORE SW 7069 FINISH: MATTE
PT-2A	SEMI GLOSS FOR DOOR FRAMES SHERWIN WILLIAMS COLOR: IRON ORE SW 7069 FINISH: SEMI GLOSS
PT-3	ACCENT WALL PAINT SHERWIN WILLIAMS COLOR: GREAT FALLS SW 6495 FINISH: MATTE
PT-3A	SEMI GLOSS FOR DOOR FRAMES SHERWIN WILLIAMS COLOR: GREAT FALLS SW 6495 FINISH: SEMI GLOSS
PT-4	WHITE WASH PAINT FOR BRICK SHERWIN WILLIAMS COLOR: TBD FINISH: TBD

FILM

FL-1	MANUFACTURER: 3M STYLE: SH2FGPX-1201 PATTERN: PIXELA COLOR: WHITE

VCT

VCT-1	MANUFACTURER: TBD STYLE: TBD PATTERN: TBD COLOR: TBD

BASE

PROVIDE STRAIGHT BASE @ CARPET

RB-1	MANUFACTURER: JOHNSONITE STYLE: 4" RUBBER BASE, 120' CONTINUOUS ROLL COLOR: TO MATCH PT-1
RB-2	MANUFACTURER: JOHNSONITE STYLE: 4" RUBBER BASE, 120' CONTINUOUS ROLL COLOR: TO MATCH PT-2
RB-3	MANUFACTURER: JOHNSONITE STYLE: 4" RUBBER BASE, 120' CONTINUOUS ROLL COLOR: TO MATCH PT-3
WB-1	4" WOOD BASE PAINTED TO MATCH WALL
WB-2	4" WOOD BASE TO MATCH LAMINATE PANEL

SOLID SURFACE

SS-1	MANUFACTURER: CORIAN STYLE: QUARTZ COLOR: BIANCO PUR
SS-2	MANUFACTURER: ZODIAQ STYLE: QUARTZ COLOR: PORTORO

UPHOLSTERY

UPH-1	MANUFACTURER:TBD STYLE: TBD PATTERN: TBD COLOR: TBD ALLOWANCE: $75 PER YARD

POLISHED CONCRETE

PC-1	EXISITNG CONCRETE TO GET DARKER STAIN COLOR: TBD

LAMINATE

PL-1	MANUFACTURER: ABET LAMINATI COLOR: POLARIS- 2902 BK
PL-2	MANUFACTURER: TREEFROG COLOR: TEAK GROOVE 60816

WALLCOVERING

WC-1	MANUFACTURER: D.L. COUCH STYLE: KEYSTONE MAG1089 COLOR: MIDNIGHT
WC-2	MANUFACTURER: SURFACE MATERIALS- SANFOOT STYLE: RECON MIDNIGHT QC

WINDOW TREATMENTS

WT-1	MANUFACTURER: MECHOSHADE STYLE: TBD *COORD. W/ OWNER*

METAL

MTL-1	MANUFACTURER: MOZ DESIGNS STYLE: LASER CUT ALUMINUM PATTERN: TBD COLOR: TBD

SPECIALTY MATERIALS

SP-1	MANUFACTURER: 3FORM STYLE: STRUTTURA S/8" PATTERN: FLOAT LARGE COLOR: TBD FINISH: PATENT F03

CARPET

CPT-1	MANUFACTURER: TANDUS CENTIVA STYLE: GEOKNIT 10887 COLOR: OCEAN ISLE 42718 INSTALLATION: TILE
CPT-2	MANUFACTURER: TANDUS CENTIVA STYLE: GEOKNIT 10887 COLOR: SATURATED GREY 42703 INSTALLATION: TILE
CPT-3	MANUFACTURER: BENTLEY MILLS STYLE: OUTLIER 80U23 COLOR: PERIMETER 801681 INSTALLATION: TILE
CPT-4	MANUFACTURER: BENTLEY MILLS STYLE: OUTLIER 80U23 COLOR: BORDERLAND 801682 INSTALLATION: AREA RUG SIZE: TBD

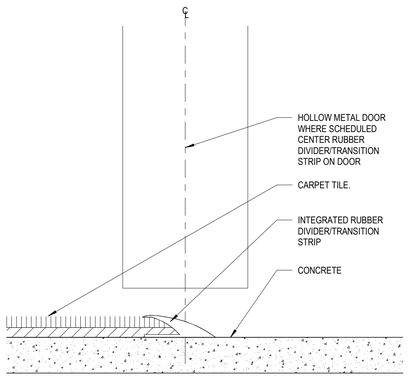
ACOUSTICAL CEILING ASSEMBLY

ACT-1	MANUFACTURER: ARMSTRONG TILE: ULTIMA TEGULAR GRID: SUPRAFINE 9/16" EXPOSED TEE SIZE: 2'X4' COLOR: WHITE INSTALLATION PATTERN: ASHLAR
ACT-2	MANUFACTURER: ARMSTRONG TILE: CALLA TEGULAR GRID: SUPRAFINE 9/16" EXPOSED TEE, BLACK SIZE: 2'X4' COLOR: BLACK
ACT-3	MANUFACTURER: ARMSTRONG TILE: CALLA TEGULAR GRID: SUPRAFINE 9/16" EXPOSED TEE, BLACK SIZE: 4'X4' COLOR: BLACK

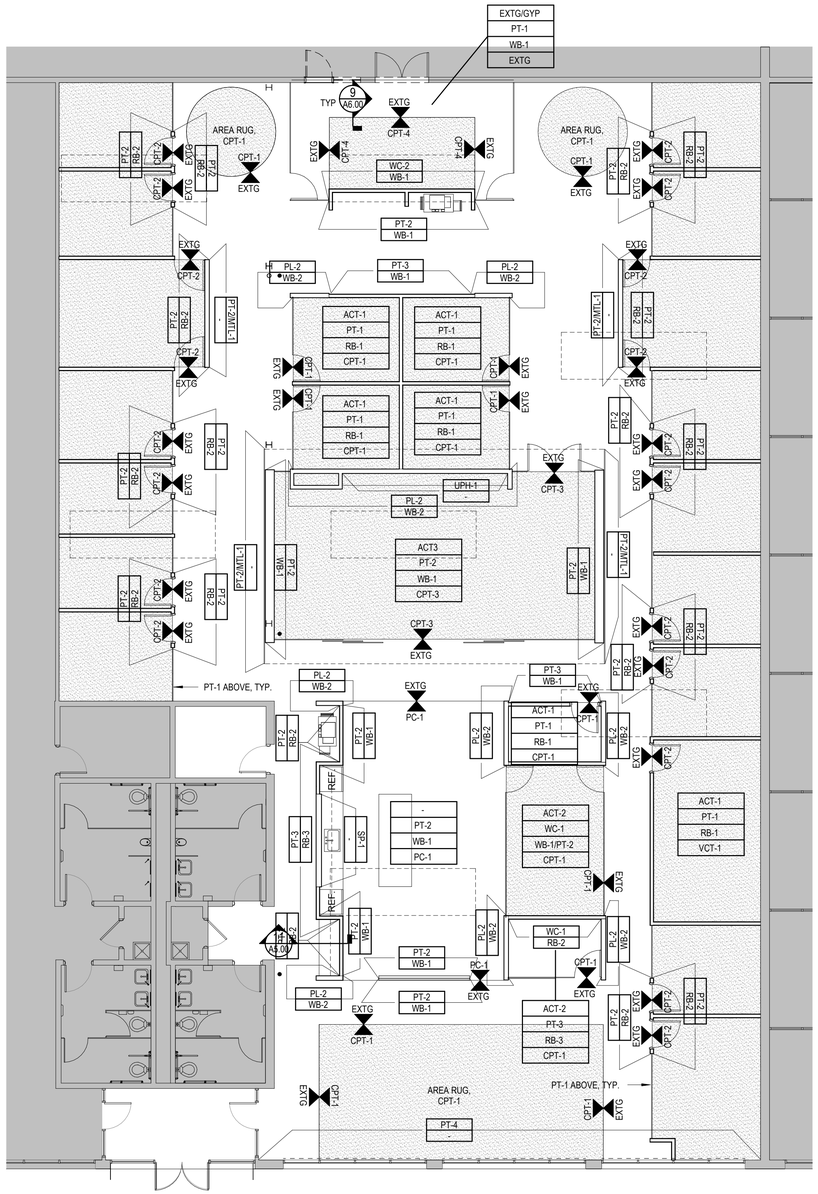
FINISH SCHEDULE

GENERAL FINISH NOTES	
1	FLOOR MUST BE CLEAR OF ALL DUST AND DEBRIS PRIOR TO FLOORING INSTALLATION TO INSURE PROPER ADHESION TO SLAB.
2	FLOORING SUBCONTRACTOR SHALL PATCH/REPAIR ANY CRACKS, DEVIATIONS, AND ROUGH SURFACES ON ENTIRE CONCRETE SLAB, PRIOR TO INSTALLATION OF FLOORING MATERIALS.
3	WHERE FLOOR FINISHES CHANGE AT A DOOR, THE LINE OF TRANSITION SHALL BE AT THE CENTERLINE OF THE DOOR.
4	FLOORING SUBCONTRACTOR TO PROPERLY FLASH PATCH FLOOR SLAB PRIOR TO INSTALLATION OF FLOORING MATERIALS.
5	CONTRACTOR SHALL INSTALL BASE ON ALL PARTITIONS, COLUMNS, CABINET BASES. COLOR AS SPECIFIED IN LEGEND, U.O.N.
6	ALL SEAMS & TOP COATED SEALERS MUST BE PROVIDED BY MANUFACTURER FOR DURABLITY.
7	ALL FINISHES SHALL BE APPLIED/INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS OR INSTRUCTIONS.
8	ALL WALLS TO RECEIVE PAINT PT-1, U.O.N.
9	ALL FLOORS TO RECEIVE CARPET, CPT-2, U.O.N.
10	ALL BASE TO BE WB-1, U.O.N.
12	ALL H.M. DOORS AND FRAMES SHALL BE PAINTED WITH PT-2A (SEMI-GLOSS), U.O.N.
13	ALL SUBCONTRACTORS SHALL REVIEW THE EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES OR CONFLICTIONS TO THE ARCHITECT PRIOR TO INSTALLATION.
15	CONCRETE AND PATCHING AND FLASH PATCHING MATERIALS SHALL BE APPROPRIATE AND COMPATIBLE WITH INSTALLATION REQUIREMENTS OF DECORATIVE FLOOR FINISHES AND EXISTING CONCRETE SLAB.
16	PATCH CONCRETE FLOOR SURFACES TO ENSURE MAXIMUM VARIATION OF 1/8" IN 10'-0" FOR FLOORS TO BE COVERED WITH FLOORING MATERIAL. CONCRETE WORK SHALL BE IN ACCORDANCE WITH ACI 302 AND ACI 304.
17	CONTRACTOR TO CARRY ALLOWANCE OF $10,000 FOR FLOOR LEVELING. (PROJECT ARCHITECT TO REVIEW IF REQUIRED FOR PROJECT)
18	ALKALINITY AND ADHESION TESTING: PERFORM TESTS RECOMMENDED BY MANUFACTURER. PROCEED WITH INSTALLATION ONLY AFTER SUBSTRATES PASS TESTING.
19	ALL OFFICES TO RECEIVE ACT-1, PT-1, RB-1, CPT-2, U.O.N.
20	PAINT PATCHES OF EXPOSED BRICK WALL TO MATCH EXISTING WHITE WASHED BRICK WALL
21	AT ALL WALLS TO RECEIVE WALL COVERING FINISH (PER SCHEDULE) PROVIDE LEVEL 5 WALL FINISH.

17 GENERAL FINISH NOTES



9 SILL DETAIL @ CONCRETE TO CARPET
SCALE: 12" = 1'-0"



5 1ST FLOOR PLAN – FINISH PLAN
SCALE: 1/8" = 1'-0"

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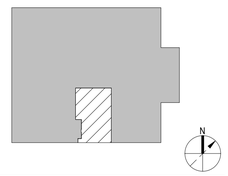
CT INNOVATIONS

CT INNOVATIONS – THE DISTRICT
470 James St,
Unit 8, New
Haven, CT
06513

CONSULTANTS

KEY PLAN



PROJECT DATA

PROJECT NUMBER	19039
CURRENT SUBMISSION DATE	08.29.2019
DRAWN	MKH
CHECKED	DLS
SCALE	As indicated
FILE REFERENCE	C:\Users\kej\Documents\19039_CT INNOVATIONS - THE DISTRICT_CENTRAL_2019_KEJ.rvt

HISTORY OF SUBMISSIONS

No.	Date	Description

DD SET

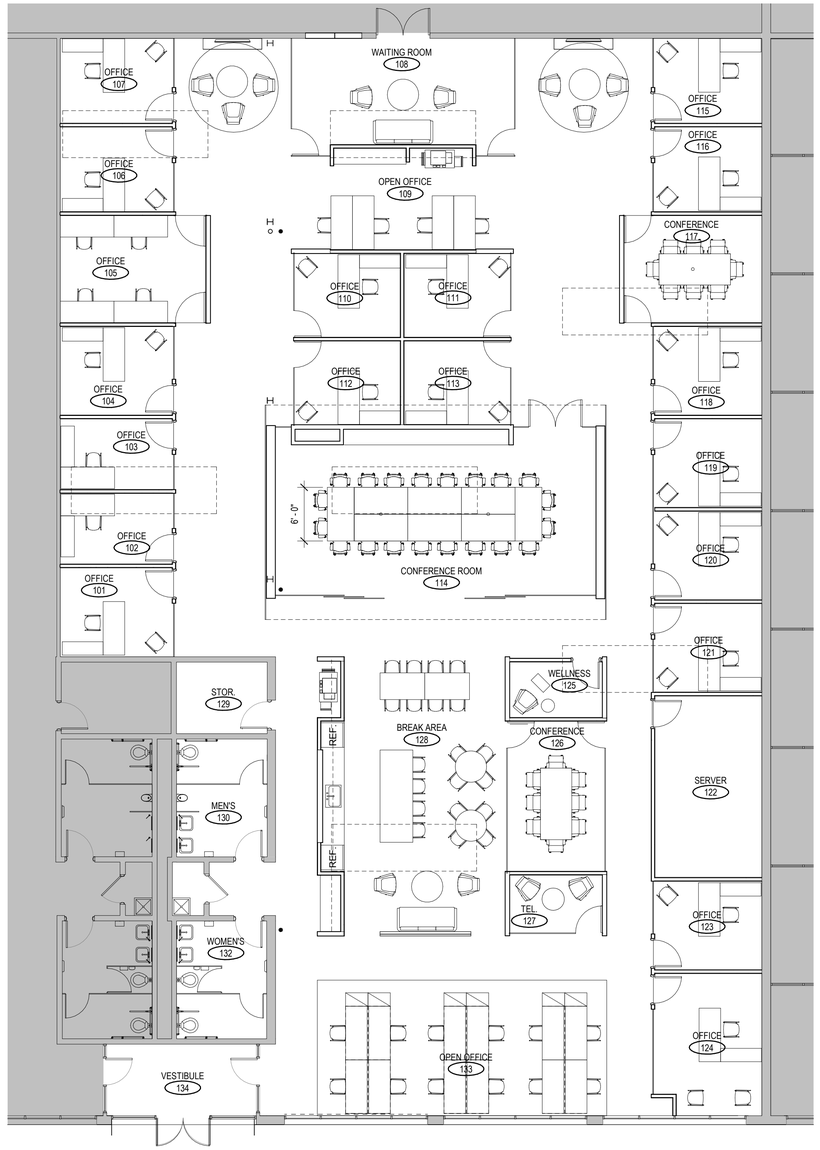
SHEET TITLE

FINISH PLAN AND SCHEDULE, FLOORING DETAILS

A6.00

GENERAL POWER PLAN NOTES	
1	PRIOR TO CORING OR TRENCHING SLAB, REVIEW LOCATIONS WITH ARCHITECT AND COORDINATE LOCATIONS WITH OWNER. REVIEW ACCEPTABLE TIMES OF DAY TO EXECUTE THE WORK WITH THE OWNER, REGULAR TIME OR OVERTIME; INCLUDE IN THE BASE BID.
2	COORDINATE INSTALLATION OF TELECOMMUNICATIONS, DATA AND SECURITY SYSTEMS WITH VENDORS.
3	FURNITURE SHOWN FOR DESIGN INTENT ONLY. COORDINATE WITH FURNITURE VENDOR ON FINAL FURNITURE LAYOUT AND ALL REQUIREMENTS PRIOR TO CONSTRUCTION. FURNITURE VENDOR SHALL BE RESPONSIBLE TO FURNISH AND HALL INSTALLED ALL FURNITURE, MOVABLE PARTITIONS & WORK STATIONS, FILE CABINETS, ETC. IT SHALL BE THE RESPONSIBILITY OF THE VENDOR TO CHECK AND VERIFY ALL MEASUREMENTS AND CONDITIONS IN THE FIELD PRIOR TO FINALIZING THE FURNITURE LAYOUT.
4	VERIFY EQUIPMENT SPECIFICATIONS, POWER AND INSTALLATION REQUIREMENTS WITH MANUFACTURER TO ENSURE PROPER FIT AND FUNCTION.
5	VERIFY MOUNTING REQUIREMENTS OF ELECTRICAL, TELEPHONE AND OTHER EQUIPMENT.
6	GANG ADJACENT LIGHT SWITCHES AND COVER WITH A SINGLE PLATE.
7	MOUNT STANDARD WALL OUTLETS, SWITCHES AND THERMOSTATS AT HEIGHTS REQUIRED BY ANSI GUIDELINES, UNLESS OTHERWISE NOTED. WHEN THERMOSTATS AND LIGHT SWITCH OCCUR TOGETHER, INSTALL BOTH ALIGNED HORIZONTALLY WITH CENTER LINE AT +3'-2" ABOVE FINISHED FLOOR. SEE MOUNTING HEIGHTS INFORMATION.
8	INDICATED DIMENSIONS ARE TO THE CENTER LINE OF OUTLET OR SWITCH, CLUSTER OF OUTLETS OR SWITCHES, UNLESS OTHERWISE NOTED.
9	INSTALL OUTLETS ON OPPOSITE SIDES OF PARTITIONS IN SEPARATE STUD CAVITIES. DO NOT INSTALL BACK-TO-BACK.
10	PROVIDE MATCHING COVER PLATES, RECEPTACLES AND RELATED ITEMS. REPLACE EXISTING NON-MATCHING AS REQUIRED. PROVIDE ONE-PIECE TYPE GANG COVER PLATES, UNLESS OTHERWISE NOTED.
11	ALL LIGHT SWITCHES SHALL BE LEVITON 5601-W DECORA AC QUIET ROCKER SWITCHES COLOR WHITE UNLESS OTHERWISE NOTED. ALL EXISTING SWITCHES SHALL BE RETROFITTED TO MATCH NEW SPECIFICATION.
12	ALL RECEPTACLES SHALL BE LEVITON 5325-W DECORA AC RECEPTACLES COLOR WHITE UNLESS OTHERWISE NOTED. ALL EXISTING RECEPTACLES SHALL BE RETROFITTED TO MATCH NEW SPECIFICATION.
13	IDENTIFY DEDICATED OR ISOLATED GROUND ELECTRICAL OUTLETS WITH A RED DOT.
14	COORDINATE WITH CABLE VENDOR TO LOCATE CABLE TRAYS ABOVE CEILING AS REQUIRED.
15	COORDINATE ELECTRICAL REQUIREMENTS FOR ALL DOORS REQUIRING CARD READER ACCESS, OR THAT HAVE OTHER ELECTRICAL HARDWARE REQUIREMENTS. COORDINATE WITH SECURITY VENDOR AND WITH THE DOOR HARDWARE SCHEDULE.

9 GENERAL POWER PLAN NOTES



5 1ST FLOOR PLAN – FURNITURE AND FLOOR CORE PLAN
SCALE: 1/8" = 1'-0"

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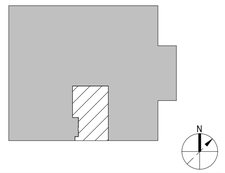


PROJECT DATA

PROJECT NUMBER	19039
CURRENT SUBMISSION DATE	08.29.2019
DRAWN	NNM
CHECKED	DLS
SCALE	As indicated
FILE REFERENCE	C:\Users\kej\Documents\19039_CT INNOVATIONS - THE DISTRICT_CENTRAL_2019_KEJ.rvt

HISTORY OF SUBMISSIONS

No.	Date	Description

DD SET

SHEET TITLE

FURNITURE AND FLOOR CORE PLANS

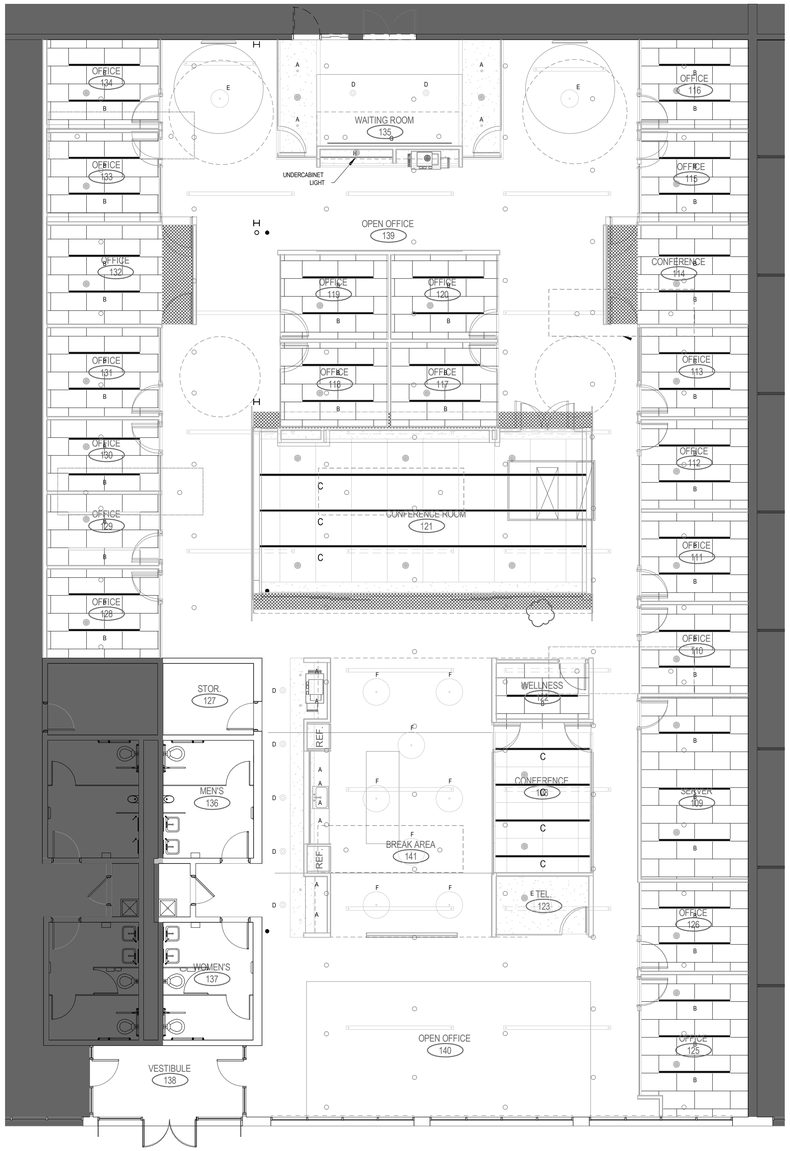
A7.00

FIRE PROTECTION LEGEND

	FIRE PROTECTION PIPING (PROPOSED)
	OS&Y GATE VALVE W/ TAMPER SWITCH
	DOUBLE CHECK VALVE BACKFLOW PREVENTER
	ALARM CHECK VALVE
	DRY PIPE VALVE
	5" STORZ TYPE FIRE DEPARTMENT CONNECTION
	WATER MOTOR GONG
	BACKFLOW PREVENTER TEST HEADER
	CHECK VALVE
	BUTTERFLY VALVE W/ TAMPER SWITCH
	CONCEALED PENDENT SPRINKLER HEAD
	UPRIGHT SPRINKLER HEAD
E	PENDENT SPRINKLER HEAD W/ DEEP ESCUTCHEON
	HORIZONTAL SIDEWALL SPRINKLER HEAD

FIRE PROTECTION GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH CURRENT APPLICABLE CODES, ORDINANCES, THE REGULATORY AGENCIES HAVING JURISDICTION AND THE SPECIFICATIONS. THE SPECIFICATIONS MAY EXCEED THE REQUIREMENTS OF THE CODE, IN WHICH CASE, THE SPECIFICATION MUST BE FOLLOWED.
2. THE INTENT OF THESE DOCUMENTS IS FOR THE MEP TRADES TO FURNISH AND INSTALL COMPLETE MECHANICAL AND ELECTRICAL SYSTEMS. THE SPECIFIED FIRE PROTECTION SYSTEM SHALL BE COMPLETE IN ALL RESPECTS; OPERATIONAL, TESTED, ADJUSTED, APPROVED BY THE AUTHORITIES HAVING JURISDICTION AND READY FOR BENEFICIAL USE BY THE OWNER.
3. THE TRADES SHALL OBTAIN AND REVIEW ALL CONTRACT DOCUMENTS BEFORE SUBMITTING A BID. INFORMATION IS PROVIDED ON THE VARIOUS DRAWINGS, SCHEDULES, SPECIFICATIONS AND ALL OF THE VARIOUS DOCUMENTS IN THE BIDDING PACKAGE. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY AND FORM A TOTAL PROJECT DESIGN AND INFORMATION SOURCE FOR CONSTRUCTION PURPOSES.
4. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED IN THE CONTRACT. COORDINATE LOCATIONS OF EQUIPMENT WITH OTHER TRADES BEFORE AND DURING CONSTRUCTION. ANY MODIFICATION TO THE EQUIPMENT LAYOUT, REQUIRED FOR INSTALLATION, IS TO BE PERFORMED UNDER THE CONTRACT AGREEMENT, AT NO ADDITIONAL COST. REFER TOP DETAILS, SCHEDULES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
5. THE CONTRACTOR SHALL BECOME THOROUGHLY FAMILIAR WITH THE PROJECT DOCUMENTS OF ALL TRADES. THE DRAWINGS ARE DIAGRAMMATIC AND SHOW THE GENERAL ARRANGEMENT OF EQUIPMENT AND PIPING. THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF EQUIPMENT AND PIPING INSTALLATION WITH ALL THE TRADES BEFORE COMMENCING WORK.
6. EQUIPMENT SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS. WHEN EQUIPMENT MUST BE LOCATED ABOVE AN INACCESSIBLE CEILING (GYP BOARD OR EQUIVALENT), OR BEHIND A WALL, AN APPROPRIATE ACCESS DOOR SHALL BE PROVIDED. ACCESS DOORS FOR FIRE RATED WALLS AND CEILINGS SHALL BE FURNISHED WITH A MINIMUM 1-1/2 HOUR LABEL "B" UL LISTED RATING OR GREATER AS REQUIRE BY THE ASSEMBLY RATING. THE CONTRACTOR SHALL COORDINATE LOCATIONS OF ACCESS PANELS FOR ALL VALVES AND DEVICES, REQUIRING ACCESS, WITH THE ARCHITECT, PRIOR TO INSTALLATION OF SUCH DEVICES OR OTHER APPURTENANCES.
7. WHERE A CONFLICT OCCURS BETWEEN THE DOCUMENTS, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. CARRY AS PART OF THE BID THE LARGER QUANTITY AND/OR MORE EXPENSIVE ITEM(S).
8. THIS CONTRACT SHALL INCLUDE ALL THE NECESSARY PIPING, FITTINGS, TRANSITIONS ETC. AS REQUIRED TO INSTALL PIPING AND EQUIPMENT, AND TO AVOID ANY CONFLICTS WITH OTHER TRADES AND THE BUILDING STRUCTURE. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY ASSUMPTIONS, OMISSIONS OR ERRORS HE MAKES AS A RESULT OF HIS FAILURE TO COORDINATE WITH OTHER TRADES OR BECOME FULLY FAMILIAR WITH THE PROJECT DOCUMENTS OF ALL TRADES.
9. DO NOT INSTALL ANY PIPING OVER ELECTRICAL PANELS, TRANSFORMERS, SPECIAL EQUIPMENT, OR THROUGH ELECTRICAL ROOMS, DATA ROOMS, ELEVATOR MACHINE ROOM, STAIRWELL OR STAIRWELL WALLS THAT ARE NOT ASSOCIATED WITH OR SERVE THE RESPECTIVE ROOMS. COORDINATE THE LOCATION OF ELECTRICAL EQUIPMENT IN THE FIELD AND ADJUST AS NECESSARY.
10. IT IS NOT THE INTENT OF THE DRAWINGS TO SHOW INDIVIDUAL BRANCH PIPING TO EACH AND EVERY SPRINKLER HEAD, ONLY THE SPRINKLER OR STANDPIPE MAIN ROUTING IS INDICATED TO AIDE IN COORDINATION WITH ALL TRADES. THE ENTIRE FIRE SUPPRESSION SYSTEM SHALL BE FULLY OPERATIONAL AND READY FOR BENEFICIAL USE BEFORE THE JOB IS CONSIDERED COMPLETE.
11. REFER TO THE LATEST ARCHITECTURAL PLANS FOR CEILING CONSTRUCTION, ELEVATIONS, SECTIONS, DETAILS, LOCATIONS OF SOFFITS, CEILING POCKETS, STEPPED CEILING, SKYLIGHT, ETC. PROVIDE ADDITIONAL PIPING AND SPRINKLER HEADS AS THE CONDITIONS WARRANT.
12. WHERE SPRINKLER HEADS ARE SHOWN ON CONTRACT DOCUMENTS, THEY ARE INDICATED FOR GENERAL COORDINATION PURPOSES ONLY AND DO NOT RELIEVE THE CONTRACTOR FROM FULL COMPLIANCE WITH APPLICABLE CODES AND GOOD INSTALLATION PRACTICE. THE CONTRACTOR SHALL FURNISH AND INSTALL ADDITIONAL SPRINKLERS AS NECESSARY DUE TO OBSTRUCTION FOR A COMPLETE SPRINKLER SYSTEM PER NFPA #13.
13. SPRINKLER HEAD LOCATIONS SHALL BE COORDINATED WITH THE LATEST ARCHITECTURAL REFLECTED CEILING PLANS, LIGHT FIXTURES, DIFFUSERS, SPEAKERS, SMOKE DETECTORS, MECHANICAL AND ELECTRICAL EQUIPMENT. INSTALL SPRINKLER HEADS BENEATH DUCTS AND CEILING MOUNTED EQUIPMENT MORE THAN 4 FEET WIDE. FULL SPRINKLER COVERAGE TO ACCOUNT FOR OBSTRUCTIONS IS THE RESPONSIBILITY OF THE INSTALLING PROFESSIONAL.
14. SPRINKLER HEADS SHALL NOT BE INSTALLED DIRECTLY FROM THE BOTTOM OF HORIZONTAL SPRINKLER MAINS OR BRANCH LINES. ALL CONNECTIONS TO SPRINKLER HEADS SHALL BE MADE FROM THE TOP OR SIDES OF THE MAIN OR BRANCH LINES.
15. BRANCH PIPING TO SPRINKLER HEADS SHALL BE A MINIMUM OF 1" DIA. WITH FULL SIZE REDUCING TEE OR LARGER. INSTALLATION OF REDUCING TEES LESS THAN 1" DIA. WILL NOT BE ALLOWED. INSTALLATION OF NIPPLES LESS THEN 1" DIA. WILL NOT BE PERMITTED.
16. PROVIDE LISTED GUARDS WHERE SPRINKLER HEADS ARE SUBJECT TO DAMAGE OR INJURY. (GYMNASIUM, STAGE, MECHANICAL ROOMS, STORAGE ROOMS, UTILITY ROOMS, ETC.) OR ARE LOCATED BELOW 7'-6" ABOVE FINISHED FLOOR.
17. INSTALL ALL PIPING WITH PROVISION FOR COMPLETE DRAINAGE. WET-PIPE SPRINKLER SYSTEM MAY BE INSTALLED LEVEL AND WITHOUT SLOPE.
18. COORDINATE LOCATIONS OF FIRE DEPARTMENT CONNECTIONS AND FIRE PROTECTION SERVICE CONTROL VALVES, INSPECTOR TEST DRAINS VALVES WITH THE AUTHORITY HAVING JURISDICTION (FIRE MARSHAL) PRIOR TO INSTALLATION. INSTALL INSPECTOR TEST VALVES AT MAXIMUM 7'-0" ABOVE FINISHED FLOOR OR AS DIRECTED BY THE AHJ.
19. ALL EQUIPMENT MAIN DRAINS AND INSPECTOR TEST DRAINS SHALL BE PIPED TO THE EXTERIOR OF THE BUILDING. PROVIDE CONCRETE SPLASH BLOCKS AT EACH DRAIN LOCATION TO AVOID SOIL EROSION OR OTHER DAMAGE.
20. COORDINATE ALL FIRE PROTECTION EQUIPMENT REQUIRING POWER AND/OR CONNECTION TO THE FIRE ALARM SYSTEM WITH THE ELECTRICAL CONTRACTOR.
21. FLOOR MOUNTED FIRE PROTECTION EQUIPMENT SHALL BE INSTALLED ON A 6" CONCRETE HOUSE-KEEPING PAD. COORDINATE SIZE AND FINAL LOCATION OF ALL CONCRETE PADS WITH THE STRUCTURAL ENGINEER. PADS SHALL BE MINIMUM 6" LARGER THAN THE EQUIPMENT IN BOTH HORIZONTAL DIRECTIONS.
22. COORDINATE EXACT LOCATION OF FIRE PROTECTION SERVICE ENTERING THE BUILDING WITH THE SITE CONTRACTOR AND UTILITY DRAWINGS PRIOR TO INSTALLATION. COORDINATE ALL FOUNDATION WALL PENETRATIONS AND INVERT ELEVATIONS WITH THE GENERAL CONTRACTOR AND/OR CONSTRUCTION MANAGER BEFORE COMMENCING WORK.
23. ALL FIRE PROTECTION PIPING SHALL HAVE SEISMIC BRACING IN ACCORDANCE WITH THE STATE BUILDING CODE, NFPA 13 AND THE AUTHORITY HAVING JURISDICTION, AND/OR AS SPECIFIED. SUBMIT ENGINEERED INSTALLATION DETAILS AND CALCULATIONS PER THE SPECIFICATIONS. THE CONTRACTOR'S SEISMIC ENGINEER SHALL REVIEW THE INSTALLATION AND PROVIDE A DETAILED REPORT FOR THE RECORD.



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CT INNOVATIONS - THE DISTRICT

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KEY PLAN

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PROJECT DATA

PROJECT NUMBER	18-000
CURRENT SUBMISSION DATE	08/29/19
DRAWN	DMR
CHECKED	GFL
SCALE	As indicated

HISTORY OF SUBMISSIONS

No.	Date	Description

DD SET

SHEET TITLE

FIRST FLOOR FIRE PROTECTION PLAN

FP1.01

SPRINKLER SYSTEM SPECIFICATIONS:

1. DESCRIPTION:
A. INSTALL NEW SPRINKLER SYSTEM WITH DROPS TO NEW GRID CEILING.
B. WORK INCLUDES; INSTALL NEW PENDENT SPRINKLER HEADS IN GRID CEILINGS.
C. FURNISH ALL NECESSARY LABOR, MATERIAL, TOOLS, EQUIPMENT, APPURTENANCES, INSTRUMENTS, ETC., NECESSARY TO FULLY COMPLETE THE FIRE PROTECTION SYSTEM IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS AND BOTH LOCAL AND STATE FIRE CODES AND N.F.P.A. #13.

2. CONTRACTOR'S RESPONSIBILITIES:
A. ALL PERMITS AND FEES.
B. HOISTING, RIGGING, TRANSPORTATION COSTS AND INSTALLATION OF NECESSARY APPURTENANCES.
C. THE CONTRACTOR SHALL VISIT THE PREMISES AND NOTE ALL PERTINENT FACTS AND DETAILS INCLUDING CONDITIONS UNDER WHICH THE WORK MUST BE CARRIED OUT. NO ALLOWANCE WILL BE MADE FOR FAILURE TO HAVE DONE SO.
D. THE FIRE PROTECTION CONTRACTOR SHALL PROVIDE NOTIFICATION OF OUTAGE AND IMPAIRMENT TO THE EXISTING FIRE PROTECTION SYSTEMS TO GENERAL CONTRACTOR, BUILDING OWNER AND LOCAL AUTHORITIES. LEAVE SPRINKLER SYSTEM OPERATIONAL DURING CONSTRUCTION TO GREATEST EXTENT POSSIBLE.
E. HOLES - CUTTING AND PATCHING: CUTTING WILL BE BY CORE BORING, PATCHING WILL REQUIRE BOTH WATERPROOFING AND FIREPROOFING.
F. DRAWINGS ARE DIAGRAMMATIC; DO NOT SCALE DRAWINGS. MAKE SUCH DEVIATIONS AND OFFSETS AS NECESSARY TO MEET SPACE REQUIREMENTS.
G. THE CONTRACTOR SHALL BE RESPONSIBLE FOR WATER DAMAGE TO THE PROPERTY OF THE OWNER, THE WORK OF OTHER TRADES, AND TO EXISTING BUILDING SYSTEMS DURING ALL PHASES OF THE WORK.

3. COORDINATION DRAWINGS:
A. DEVELOP AND SUBMIT COORDINATION DRAWINGS AS OUTLINED.
B. SHEET METAL, PLUMBING AND FIRE PROTECTION SHOP DRAWINGS THAT HAVE BEEN COORDINATED WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW. DRAWINGS MUST BE RETURNED FROM ENGINEER EITHER "NO EXCEPTIONS TAKEN" OR "MAKE CORRECTIONS NOTED" PRIOR TO BEING USED AS A BASIS FOR COORDINATION DRAWINGS.
C. AFTER SHEET METAL AND PIPING DRAWINGS HAVE BEEN REVISED PER ENGINEERS COMMENTS, REPRODUCIBLE COPIES SHALL BE SENT TO THE OTHER TRADES IN THE FOLLOWING SEQUENCE FOR THE INCLUSION OF THEIR WORK:
· MECHANICAL SHEET METAL
· PLUMBING CONTRACTOR
· ELECTRICAL WORK
· MECHANICAL PIPING
D. AFTER ALL TRADES HAVE INCLUDED THEIR WORK ON THE COORDINATION DRAWING AND NOTED CONFLICTS, ALL TRADES SHALL MEET TO RESOLVE CONFLICTS AND AGREE TO ACCEPTABLE SOLUTIONS. EACH TRADE SHALL SIGN COORDINATION DRAWINGS. ITEMS NOT SHOWN ON COORDINATION DRAWING ARE RESPONSIBILITY OF OMITTING CONTRACTOR AND CONTRACTOR IS SUBJECT TO ADDITIONAL COST INCURRED BY OTHER TRADES.
E. THE ARCHITECT AND ENGINEER ARE NOT PART OF THE COORDINATION DRAWING PROCESS. THE ENGINEER WILL PROVIDE ASSISTANCE FOR NOTED CONFLICTS ONLY. COORDINATION DRAWINGS ARE NOT TO BE CONSIDERED PIPING OR DUCT SHOP DRAWINGS. THE CONTRACTOR IS REQUIRED TO SUBMIT INDIVIDUAL PIPING AND DUCTWORK SHOP DRAWINGS FOR REVIEW BY THE ENGINEER. PIPING AND DUCTWORK SHOP DRAWINGS SHALL FOLLOW THE DESIGN INTENT OF THE CONTRACT DOCUMENTS.
F. SUBMIT FINAL SIGNED COORDINATION DRAWING TO THE ENGINEER FOR REVIEW. ENGINEER WILL REVIEW COORDINATION DRAWINGS FOR GENERAL ARRANGEMENT AND FOR NOTED CONFLICTS ONLY. SPECIFIC INSTALLATION REQUIREMENTS WILL BE REVIEWED ONLY IN INDIVIDUAL TRADE SHOP DRAWINGS.
G. ANY WORK FABRICATED OR INSTALLED PRIOR TO SIGN OFF BY ALL TRADES WHICH IS DEEMED TO BE IN CONFLICT WITH COORDINATION DRAWINGS SHALL BE REMOVED AND REINSTALLED IN CONFORMANCE WITH COORDINATION DRAWINGS.
H. EACH CONTRACTOR (MENTIONED ABOVE) IS RESPONSIBLE FOR THE COORDINATION OF HIS SUBCONTRACTORS.
I. THE OVERALL COORDINATION OF THE COORDINATION PROCESS IS THE RESPONSIBILITY OF THE CONTRACTOR. THE ENGINEER IS NOT RESPONSIBLE FOR THE COORDINATION PROCESS. THE ENGINEER WILL RESPOND TO QUESTIONS THAT ARISE FROM THE COORDINATION PROCESS. DRAWINGS SUBMITTED WILL BE REVIEWED FOR CLEARLY IDENTIFIED CONFLICTS ONLY. SOLUTIONS TO THE CONFLICTS WILL NOT BEAR ADDITIONAL COST.

4. INTERIOR PIPING:
A. STANDARD WEIGHT SCHEDULE 40 BLACK STEEL PIPE, ASTM A-795 OR A-53, WITH:
1. VICTUALIC STYLE 005 COUPLINGS AND FULL FLOW FITTINGS, ASTM A-47 AND A-536, IN SIZES 2" AND SMALLER. STANDARD SQUARE CUT GROOVES TO COUPLING MANUFACTURER'S SPECIFICATIONS.
2. MALLEABLE IRON THREADED FITTINGS 150 LB. ANSI B16.3, OR CAST IRON THREADED FITTINGS 250 LB. ANSI B16.4, IN ALL SIZES.
B. LIGHT WALL PIPE SCHEDULE 10, ASTM A-135, VICTUALIC STYLE 005 COUPLINGS AND FULL FLOW FITTINGS, ASTM A-47 AND A-536, IN SIZES 2-1/2" AND LARGER, WITH ROLLED GROOVES. NO CUT GROOVES OR THREADING WILL BE ALLOWED ON SCHEDULE 10.

5. SPRINKLER DROPS:
FLEXHEAD COMMERCIAL CEILING SPRINKLER CONNECTIONS ALL 304 STAINLESS STEEL BRAIDED HOSE ASSEMBLY, HD-G60 GALVANIZED SHEET METAL BRACKET SYSTEM COMPATIBLE WITH LIGHT, MEDIUM AND HEAVY LOAD CEILING GRID SYSTEM PER ASTM C635 AND C636; FACTORY ASSEMBLED AND TESTED. FM APPROVED.

6. SPRINKLER HEADS:
SPRINKLER HEADS SHALL BE VIKING, RELIABLE, VICTAULIC OR TYCO. EQUAL TO THE FOLLOWING MODEL NUMBER(S) AND TYPE(S):
A. TYCO MODEL TY3231 RECESSED PENDENT SPRINKLER, 1/2" ORIFICE, 155°F, CHROME PLATED FINISH WITH STYLE 10 CHROME PLATED ESCUTCHEON.

7. VALVES:
VALVES SHALL BE MILWAUKEE, KENNEDY, NIBCO OR HAMMOND. EQUAL TO THE FOLLOWING MODEL NUMBER(S) AND TYPE(S):
A. GLOBE VALVES: HAMMOND FIG. IB-413-T. UNION BONNET, TEFLON DISC, BRONZE GLOBE VALVE.
B. BALL VALVES: HAMMOND FIG. 8501, BRONZE TWO PIECE BODY, BRASS STEM, CHROME PLATED BRASS BALL, TELFON SEATS AND STUFFING BOX RING, LEVEL HANDLE, THREADED END.

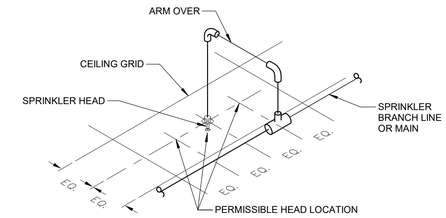
8. EXECUTION:
A. THE COMPLETE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH RULES AND REGULATIONS PERTAINING TO ORDINARY HAZARD (NOT TO EXCEED 130 SQ.FT. PER HEAD - SYSTEM TO BE HYDRAULICALLY CALCULATED; NOT SIZED AS PER PIPE SIZING SCHEDULE) OCCUPANCY AND COMPLY WITH FULL REQUIREMENTS OF THE REGULATORY AGENCIES.
B. THE FIRE PROTECTION CONTRACTOR SHALL HAVE PREPARED BY A NICET LEVEL IV CERTIFIED SPRINKLER TECHNICIAN OR UNDER A P.E. WORK INSTALLATION DRAWINGS (SHOP DRAWINGS) AND SHALL SUBMIT THEM TO THE ENGINEER AND RATING BUREAU FOR APPROVAL.
C. SHOP DRAWING SHALL INCLUDE ALL HYDRAULIC CALCULATIONS PREPARED ON FORMS SIMILAR TO THOSE IN NFPA #13, APPENDIX A.
D. BUILDING DESIGN CRITERIA:
ORDINARY HAZARD GROUP II - 0.20 GPM/SF DENSITY OVER THE MOST REMOTE 1500 SQ.FT. PROTECTION AREA LIMITATION 130 SQ.FT.
E. BEFORE COMMENCING WORK, THE FIRE PROTECTION CONTRACTOR SHALL COORDINATE WITH OTHER TRADES, SO THAT NO POSSIBLE INTERFERENCE WILL OCCUR. IF, DUE TO INADEQUATE COORDINATION, EXTRA WORK IS ENTAILED, THE FIRE PROTECTION CONTRACTOR SHALL BE HELD FULLY RESPONSIBLE.

9. PIPING SYSTEMS:
A. SPECIAL CARE MUST BE TAKEN TO INSURE THAT PIPING ABOVE HUNG CEILINGS IS RUN TO MAINTAIN MAXIMUM HEADROOM AND CLEARANCE FOR ACCESS TO THE EQUIPMENT AND TO AVOID CONFLICT WITH THE ELECTRICAL CONDUITS, LIGHTING FIXTURES, OTHER PIPING, DUCTWORK AND EQUIPMENT OF OTHER TRADES.
B. THE PIPING SHALL BE SO ARRANGED THAT THE ENTIRE SYSTEM CAN BE FLUSHED AND DRAINED THROUGH ACCESSIBLE LOW POINTS. PROVIDE AUXILIARY DRAINS FOR WATER TRAPPED IN SECTIONS OF PIPE. DRAIN PIPE SHALL BE GALVANIZED.
C. RUN PIPING CONCEALED THROUGHOUT FINISHED SPACES, EITHER IN FURRED SPACES, SHAFTS, OR ABOVE FALSE CEILINGS. PIPE SIZE FOR DROPS TO SPRINKLER HEADS LOCATED BELOW SUSPENDED CEILINGS SHALL BE 1" MINIMUM. PIPING SHALL BE SUPPORTED PER REQUIREMENTS OF NFPA #13.
D. CHROME-PLATED ESCUTCHEONS SHALL BE USED ON ALL EXPOSED PIPING WHICH PENETRATES EITHER WALLS OR CEILINGS. ALL WALL PENETRATIONS SHALL BE SLEEVED AND CAULKED AND RATED SEPARATIONS FIRESTOPPED.
E. VICTAULIC FITTINGS AND COUPLINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
F. THE ENDS OF PIPES SHALL BE REAMED FREE FROM BURRS AND KEPT FREE OF SCALE, DIRT AND OIL.
G. THREADED JOINTS SHALL BE MADE WITH TEFLON LIQUID JOINT COMPOUND APPLIED TO MALE THREADS ONLY.

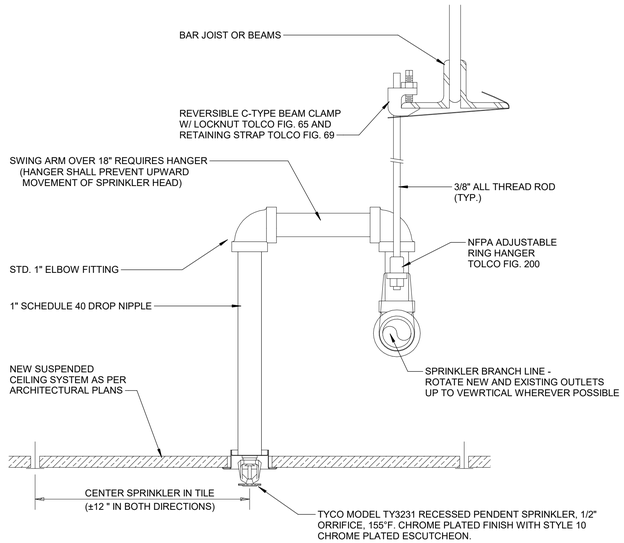
10. INSTALLATION:
A. SPRINKLER HEADS OF THE PROPER CONFIGURATION AND NUMBERS ARE TO BE INSTALLED AS REQUIRED IN ACCORDANCE WITH REGULATIONS PERTAINING TO ORDINARY HAZARD OCCUPANCIES WITH SPECIAL ATTENTION TO THE RULES ON OBSTRUCTIONS. COMPLY WITH THE FULL REQUIREMENTS OF THE NFPA, LOCAL FIRE DEPARTMENT, STATE FIRE MARSHAL, FIRE INSURANCE COMPANY, RATING BUREAU AND OTHER AGENCIES HAVING JURISDICTION.
B. WHERE FLEXIBLE SPRINKLER DROPS ARE USED THE MINIMUM BEND RADIUS SHALL BE 7 INCHES. THE CEILING SUPPORT BRACKETS SHALL BE ATTACHED TO THE MAIN TEE BAR RUNNER IN THE GRID, NOT THE CROSS SUPPORT RAILS. FOLLOW ALL MANUFACTURER'S INSTRUCTIONS.
C. SPRINKLERS WHICH ARE SO LOCATED AS TO BE SUBJECT TO MECHANICAL INJURY (IN EITHER UPRIGHT OR THE PENDANT POSITION) SHALL BE PROTECTED WITH APPROVED GUARDS.
D. INSTALL HEADS WITH TEFLON LIQUID JOINT COMPOUND APPLIED TO MALE THREADS ONLY.
E. SPRINKLER HEADS SHALL BE LOCATED IN CENTER OF CEILING TILES EXCEPT WHERE INDICATED OTHERWISE.

11. TESTING:
A. TEST ENTIRE SYSTEM AT 200 PSI FOR TWO (2) HOURS AFTER COMPLETION, IN ACCORDANCE WITH NFPA #13.
B. FURNISH TO THE RATING BUREAU, THE CERTIFICATE COVERING MATERIALS AND TESTS AS OUTLINED IN NFPA #13.
C. DURING AND AFTER COMPLETION, THE ENTIRE INSTALLATION SHALL BE SUBJECT TO INSPECTION AND TEST BY THE RATING BUREAU.

12. AS-BUILT DRAWINGS:
A. PROVIDE A COMPLETE SET OF AS-BUILT DRAWINGS REFLECTING AS INSTALLED CONDITIONS OF SYSTEMS WITHIN THIS DISCIPLINE.
B. DRAWING SHALL BE OF SIMILAR SCALE AS THE CONSTRUCTION DOCUMENTS AND INCLUDE DETAILS AS NECESSARY TO CLEARLY INDICATE THE INSTALLED CONDITION. DRAWINGS SHALL BE BOUND IN A COMPLETE AND CONSECUTIVE SET.
C. SUPPLEMENTAL SKETCHES AND LOOSE PAPERWORK WILL NOT BE ACCEPTABLE AND WILL BE RETURNED FOR REVISION. THE CONTRACTOR SHALL COMPLY WITH THE ENGINEERS COMMENTS TO PRODUCE A CLEAR AND CONCISE SET OF DRAWINGS.
D. DRAWINGS SHALL BE SUBMITTED IN BOTH HARD COPY AND ELECTRONIC (AUTO-CAD VERSION AS REQUIRED BY THE OWNER) VERSION. NUMBER OF COPIES OF EACH AS REQUESTED BY THE OWNER.
E. PROVIDE A COMPLETE RECORD OF ALL REVISIONS OF THE ORIGINAL DESIGN WORK, INCLUDE ALL CHANGES FOR AN ACCURATE RECORD, ON REPRODUCTIONS OF THE CONTRACT DRAWINGS OR APPROPRIATE SHOP DRAWINGS. DOCUMENT ALL DEVIATIONS, BETWEEN THE WORK SHOWN AND WORK INSTALLED IN A NEAT AND ACCURATE MANNER. INDICATE THE FOLLOWING INSTALLED CONDITIONS:
· MAINS AND BRANCHES OF PIPING SYSTEMS, WITH VALVES AND SIGNALING DEVICES LOCATED AND NUMBERED, ITEMS REQUIRED FOR MAINTENANCE LOCATED (I.E. LOW PT. DRAINS, UNIONS, FLOW AND PRESSURE SWITCHES, ETC.). VALVE LOCATION DIAGRAMS, COMPLETE WITH VALVES TAG CHART.
· DOCUMENT ALL PIPING SIZES AND ELEVATIONS. INCLUDE PIPE LENGTHS AND/OR DIMENSION NOTING POSITION OF ALL SPRINKLER HEADS.
· EQUIPMENT LOCATIONS (EXPOSED AND CONCEALED), DIMENSIONED FROM PROMINENT BUILDING LINES.
· APPROVED SUBSTITUTIONS, CONTRACT MODIFICATIONS AND ACTUAL EQUIPMENT AND MATERIALS INSTALLED.
F. ALSO SUBMIT A COMPLETE MAINTENANCE MANUAL OF ALL EQUIPMENT INSTALLED UNDER THIS CONTRACT. INCLUDE MANUFACTURER'S MANUALS AND OPERATING INSTRUCTIONS.



3 SPRINKLER CENTERING DETAIL
NTS



2 PENDANT SPRINKLER DETAIL
1/8" = 1'-0"

AMENTA|EMMA
ARCHITECTS

CT INNOVATIONS - THE DISTRICT

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KEY PLAN

N

PROJECT DATA

PROJECT NUMBER	18-000
CURRENT SUBMISSION DATE	08/29/19
DRAWN	DMR
CHECKED	GFL
SCALE	As indicated

HISTORY OF SUBMISSIONS

No.	Date	Description

DD SET

SHEET TITLE

FIRE PROTECTION DETAILS AND SPECIFICATIONS

FP2.01

AMENTA|EMMA
ARCHITECTS

ABBREVIATIONS

A	GENERAL SERVICE COMPRESSED AIR
A/AMP	AMPERE
AC	AIR COMPRESSOR
ACU	AIR CONDITIONING UNIT(S)
AD	ACCESS DOORS
AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AMB	AMBIENT
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APPROX	APPROXIMATE
AS	AIR SEPARATOR
AV	ACID VENT (CHEMICAL)
AVTR	ACID VENT THRU ROOF
AW	ACID WASTE
BFW	BOILER FEED WATER
BHP	BRAKE HORSEPOWER
BSMT	BASEMENT
BTU	BRITISH THERMAL UNITS
BTUH	BRITISH THERMAL UNITS/HOUR
C	CONNDESATE
C/B	CIRCUIT BREAKER
CER/CEG	CEILING EXHAUST REG./GRILLE
CFM	CUBIC FEET PER MINUTE
CFP	CHEMICAL FEED PUMPS
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CI	CAST IRON
CLG	CEILING
CLPS	CLEAN LOW PRESSURE STEAM
CMPS	CLEAN MEDIUM PRESSURE STEAM
CMV	CEILING MOUNTED VENTILATOR
CO	CLEANOUT
CO2	CARBON DIOXIDE
COMP	COMPRESSOR
CP	CONDENSATE PUMP
CRU	COMPUTER ROOM UNIT
CT	COOLING TOWER
CU FT	CUBIC FEET
CUH	CABINET UNIT HEATER
CV	COEFFICIENT, VALVE FLOW
CW	COLD WATER
D	DEPTH
dB	DECIBEL
DC	DIRECT CURRENT
DCV	DOUBLE CHECK VALVE
DE	DEIONIZED PROCESS WATER
DEG or °	DEGREE
DI	DISTILLED WATER
DIA	DIAMETER
DN	DOWN
DWBP	DOMESTIC WATER BOOSTER PUMP
DWG	DRAWING
EF	EXHAUST FAN
EFF	EFFICIENCY
EHC	ELECTRICAL HEATING CABLES
ELEC	ELECTRICAL
ELEV	ELEVATOR
ETP	ELECTRIC TRAP PRIMER
EUH	ELECTRIC UNIT HEATER
EVAP	EVAPORATOR
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EXH	EXHAUST
EXP	EXPANSION
F	FAHRENHEIT
FA	FIRE ALARM
FCU	FAN COIL UNIT
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FHC	FIRE HOSE CABINET
FM	FLOW METER
FP	FIRE PUMP
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FLOOR SINK
FT	FOOR OR FEET
FVC	FIRE VALVE CABINET
G	GAS
GA	GAUGE
GAL	GALLONS
GND	GROUND
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GRU	GREASE RECOVERY UNIT
GW	GREASE WASTE
H	HEIGHT
HD	HEAD
HP	HORSEPOWER
HPG	HIGH PRESSURE GAS
HPS	HIGH PRESSURE STEAM
HR	HOUR(S)
HT	HEAT
HTR	HEATER
HUM	HUMIDIFIER
HVAC	HEATING, VENTILATION AND AIR CONDITIONING
HW	HOT WATER
HWR	HOT WATER RETURN

ABBREVIATIONS

HWRP	HOT WATER RETURN PUMP
HWS	HOT WATER SUPPLY
HX	HEAT EXCHANGE
ID	INSIDE DIAMETER
IEF	IN-LINE EXHAUST FAN
IN	INCHES
IN WG	INCHES OF WATER, GAUGE (PRESSURE)
IW	INDIRECT WASTE
JP	JOCKEY PUMP
KEF	KITCHEN EXHAUST FAN
KVA	KILOVOLT AMPERE
KW	KILOWATT
KWH	KITCHEN WATER HEATER
L	LENGTH
LA	LABORATORY COMPRESSED AIR
LAV	LAVATORY
LBS/HR	POUNDS PER HOUR
LF	LINEAR FEET
LG	LABORATORY GAS
LPC	LOW PRESSURE CONDENSATE
LPS	LOW PRESSURE STEAM
LV	LABORATORY VACUUM
MA	MEDICAL COMPRESSED AIR
MAGP	MASTER ALARM GAS PANEL
MAX	MAXIMUM
MBH	BTU PER HOUR (THOUSAND)
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MPS	MEDIUM PRESSURE STEAM
MUAU	MAKE UP AIR UNIT
MV	MEDICAL VACUUM
N2	NITROGEN
N2O	NITROUS OXIDE
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
O	OXYGEN
OA	OUTSIDE AIR
OD	OUTSIDE DIAMETER
ORD	OVERFLOW ROOF DRAIN
ORL	OVERFLOW RAIN LEADER
P	POLE
PH / Ø	PHASE
PRESS	PRESSURE
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
RD	ROOF DRAIN
REF	ROOF EXHAUST FAN
RM	ROOM
RO	REVERSE OSMOSIS WATER
RPD/RPZ	REDUCED PRESSURE DEVICE
RPM	REVOLUTIONS PER MINUTE
RTU	ROOF TOP UNIT
RV	RADON VENT
RL	RAIN LEADER
S	SOIL
SAC	SHOP AIR COMPRESSOR
SCP	STEAM CONDENSATE PUMP
SEP	SEWAGE EJECTOR PUMP
SP	STATIC PRESSURE
SP	SUMP PUMP
SPEC	SPECIFICATION
SQ	SQUARE
SS	SOIL/STACK
ST	STORM
STD	STANDARD
SWH	STEAM WATER HEATER
TAG	IDENTIFICATION OF EQUIPMENT
TEMP	TEMPERATURE
TMV	THERMOSTATIC MIXING VALVE
TP	TRAP PRIMER
TW	TEMPERED WATER
TWR	TEMPERED WATER RETURN
TYP	TYPICAL
UH	UNIT HEATER
UR	URINAL
V	VENT
VAC	VACUUM
VEL	VELOCITY
VFC	VARIABLE FREQUENCY CONTROLLER
VIF	VERIFY IN FIELD
VOL	VOLUME
VTR	VENT THRU ROOF
W	WASTE
WC	WATER CLOSET
WG	WIREGUARD
WH	WALL HYDRANT (HOSE BIBB)
WHA	WATER HAMMER ARRESTER
WI	WIDTH
WP	WEATHERPROOF
WTG	WALL TRANSFER GRILLE
WV	WASTE AND VENT COMBINATION

PLUMBING SYMBOLS

Symbol	Description
W	WATER SERVICE
	COLD WATER
	HOT WATER
	HOT WATER RECIRCULATING
	VENT
SS	SOIL OR WASTE ABOVE GRADE
SS	SOIL OR WASTE BURIED
RV	RADON VENT
WV	COMBINATION WASTE & VENT
G	GAS (NATURAL/PROPANE)
GW	GREASE WASTE
IW	INDIRECT WASTE
ORL	OVERFLOW RAIN LEADER
RL	RAIN LEADER
SD	STORM DRAIN
CD	CONDENSATE DRAIN
EHC	ELECTRICAL HEATING CABLE
M	WATER METER ASSEMBLY
G	GAS METER ASSEMBLY
	FLOOR DRAIN
	ROOF DRAIN
TP	TRAP PRIMER
ETP	ELECTRONIC TRAP PRIMER

FITTINGS AND VALVES

Symbol	Description
	BALL VALVE
	DIRECTION OF FLUID FLOW
	GATE VALVE
	BUTTERFLY VALVE
	CALIBRATED BALANCING VALVE
	GAS COCK
	CHECK VALVE
	PRESSURE REDUCING VALVE
	THERMOSTATIC MIXING VALVE
	SOLENOID VALVE
	DRAIN VALVE WITH HOSE END, CAP & CHAIN OR HOSE BIBB
	WALL HYDRANT
	PIPE DROP WITH VALVE
	TAKEOFF FROM TOP OF MAIN PIPE
	TAKEOFF FROM BOTTOM OF MAIN PIPE
	UNION
	PIPE ELBOW UP OR PIPE TEE UP
	PIPE ELBOW DOWN
	PIPE TEE DOWN
	WALL CLEANOUT OR BLIND FLANGE
	FLOOR CLEANOUT
	"P" TRAP
	STRAINER OR STRAINER WITH BLOW-DOWN VALVE HOSE END, CAP AND CHAIN
	BACKFLOW PREVENTER (2" AND SMALLER)
	BACKFLOW PREVENTER (2 1/2" AND LARGER)
	PUMP
	WATER HAMMER ARRESTOR
	PIPE CAP OR CAPPED END OF PIPE
	PIPE SLEEVE
	PIPE GUIDES
	AIR VENT
	PRESSURE RELIEF SAFETY VALVE
A	AQUASTAT
T	TEMPERATURE SENSOR WITH SEPARABLE SOCKET IN IMMERSIBLE WELL
T	TEMPERATURE GAUGE WITH SEPARABLE SOCKET IN IMMERSIBLE WELL
	THERMOMETER WITH SEPARABLE SOCKET IN IMMERSIBLE WELL
P	PRESSURE GAUGE
	FLEXIBLE CONNECTOR

PLUMBING GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH CURRENT APPLICABLE CODES, ORDINANCES, THE REGULATORY AGENCIES HAVING JURISDICTION AND THE SPECIFICATIONS. THE SPECIFICATIONS MAY EXCEED THE REQUIREMENTS OF THE CODE, IN WHICH CASE, THE SPECIFICATION MUST BE FOLLOWED.
2. THE INTENT OF THESE DOCUMENTS IS FOR THE MEP TRADES TO FURNISH AND INSTALL COMPLETE MECHANICAL AND ELECTRICAL SYSTEMS. THE SPECIFIED PLUMBING SYSTEM SHALL BE COMPLETE IN ALL RESPECTS; OPERATIONAL, TESTED, ADJUSTED, APPROVED BY THE AUTHORITIES HAVING JURISDICTION AND READY FOR BENEFICIAL USE BY THE OWNER.
3. THE TRADES SHALL OBTAIN AND REVIEW ALL CONTRACT DOCUMENTS BEFORE SUBMITTING A BID. INFORMATION IS PROVIDED ON THE VARIOUS DRAWINGS, SCHEDULES, SPECIFICATIONS AND ALL OF THE VARIOUS DOCUMENTS IN THE BIDDING PACKAGE. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY AND FORM A TOTAL PROJECT DESIGN AND INFORMATION SOURCE FOR CONSTRUCTION PURPOSES.
4. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED IN THE CONTRACT. COORDINATE LOCATIONS OF EQUIPMENT WITH OTHER TRADES BEFORE AND DURING CONSTRUCTION. ANY MODIFICATION TO THE EQUIPMENT LAYOUT, REQUIRED FOR INSTALLATION, IS TO BE PERFORMED UNDER THE CONTRACT AGREEMENT, AT NO ADDITIONAL COST. REFER TOP DETAILS, SCHEDULES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
5. THE CONTRACTOR SHALL BECOME THOROUGHLY FAMILIAR WITH THE PROJECT DOCUMENTS OF ALL TRADES. THE DRAWINGS ARE DIAGRAMMATIC AND SHOW THE GENERAL ARRANGEMENT OF EQUIPMENT AND PIPING. THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF EQUIPMENT AND PIPING INSTALLATION WITH ALL THE TRADES BEFORE COMMENCING WORK.
6. EQUIPMENT SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS, WHEN EQUIPMENT MUST BE LOCATED ABOVE AN INACCESSIBLE CEILING (GYP BOARD OR EQUIVALENT), OR BEHIND A WALL, AN APPROPRIATE ACCESS DOOR SHALL BE PROVIDED. IF AN ACCESS DOOR IS REQUIRED, IT SHALL BE OF A RATING APPROPRIATE FOR THE WALL/CEILING IN WHICH IT IS TO BE INSTALLED. THE CONTRACTOR SHALL COORDINATE LOCATIONS OF ACCESS PANELS FOR ALL VALVES AND DEVICES, REQUIRING ACCESS, WITH THE ARCHITECT, PRIOR TO INSTALLATION OF SUCH DEVICES OR OTHER APPURTENANCES.
7. WHERE A CONFLICT OCCURS BETWEEN THE DOCUMENTS, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. CARRY AS PART OF THE BID THE LARGER QUANTITY AND/OR MORE EXPENSIVE ITEM(S).
8. THIS CONTRACT SHALL INCLUDE ALL THE NECESSARY PIPING, FITTINGS, TRANSITIONS, OFFSETS, ETC. AS REQUIRED TO INSTALL PIPING, EQUIPMENT, MAINTAINING PROPER CLEARANCES AND TO AVOID ANY CONFLICTS WITH OTHER TRADES, AND THE BUILDING STRUCTURE. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY ASSUMPTIONS, OMISSIONS OR ERRORS HE MAKES AS A RESULT OF HIS FAILURE TO COORDINATE WITH OTHER TRADES OR BECOME FULLY FAMILIAR WITH THE PROJECT DOCUMENTS OF ALL TRADES.
9. DO NOT INSTALL ANY PIPING OVER ELECTRICAL PANELS, TRANSFORMERS, SPECIAL EQUIPMENT, OR THROUGH ELECTRICAL ROOMS, DATA ROOMS, ELEVATOR MACHINE ROOM, STAIRWELL OR STAIRWELL WALLS THAT ARE NOT ASSOCIATED WITH OR SERVE THE RESPECTIVE ROOMS. COORDINATE THE LOCATION OF ELECTRICAL EQUIPMENT IN THE FIELD AND ADJUST AS NECESSARY.
10. IT IS NOT THE INTENT OF THE DRAWINGS TO SHOW INDIVIDUAL BRANCH PIPING TO EACH PLUMBING FIXTURE; ONLY THE BRANCH PIPING TO GROUPS OF FIXTURES IS INDICATED. EACH AND EVERY FIXTURE SHALL BE PROPERLY PIPED TO WATER, WASTE, AND VENT PIPING SYSTEMS. REFER TO THE PLUMBING SCHEDULES FOR INDIVIDUAL PIPE SIZES TO EACH FIXTURE.
11. PROVIDE PROPER PIPING SYSTEM IDENTIFICATION LABELS, SLOPES FOR DRAIN PIPING, CLEANOUTS, HANGERS, ETC. IN ACCORDANCE WITH THE PLUMBING CODE.
12. REFER TO THE ARCHITECTURAL DRAWINGS FOR THE EXACT LOCATION AND MOUNTING HEIGHTS OF PLUMBING FIXTURES OR EQUIPMENT. ALL SUCH EQUIPMENT AND EQUIPMENT COLORS AND FINISHES SHALL BE COORDINATED WITH THE ARCHITECT. MOUNTING HEIGHTS SHALL BE APPROVED BY THE ARCHITECT.
13. INSTALL WATER HAMMER ARRESTORS (WHA) AT ALL QUICK CLOSING VALVES (FLUSH VALVES, SOLENOID VALVES, ETC.); SIZE SHALL BE BASED ON FIXTURE UNITS PER PDI STANDARDS AND INSTALLED PER MANUFACTURER'S RECOMMENDATION.
14. ALL PIPING, DRAINS, STRAINERS, FAUCETS, FAUCET AERATORS, FILTERS, ETC. SHALL BE THOROUGHLY CLEANED AND FLUSHED IMMEDIATELY BEFORE PROJECT COMPLETION. PROVIDE CERTIFICATION ON CONTRACTOR'S LETTER HEAD THAT THIS WORK HAS BEEN COMPLETED.
15. DOMESTIC WATER DROPS AND RISERS INSTALLED IN EXTERIOR WALLS SHALL BE INSTALLED ON THE WARM SIDE OF INSULATION AND THE LOCATION SHALL BE MADE INFILTRATION FREE.
16. BEFORE INSTALLATION, COORDINATE THE WORK WITH OWNER-FURNISHED EQUIPMENT, INCLUDING REQUIRED SERVICE CONNECTIONS, FACTORY START UPS AND INSTALLATION OF FIELD DEVICES.
17. PIPE ALL CONDENSATE DRAINS FROM MECHANICAL EQUIPMENT COOLING COILS, BY GRAVITY (INTERIOR AIR HANDLING UNITS, FAN COIL UNITS, AC UNITS, ETC.) TO FLOOR DRAINS, JANITOR'S SINKS OR OTHER APPROVED LOCATION THROUGH AN AIR GAP. EACH CONDENSATE DRAIN SHALL BE TRAPPED AT THE EQUIPMENT DRAIN OUTLET, REFER TO TRAP DETAILS ON DRAWINGS. COORDINATE EXACT LOCATION OF EQUIPMENT WITH THE HVAC CONTRACTOR AND ADJUST AS NECESSARY.
18. INSULATE ALL WASTE ABOVE SLAB RECEIVING CONDENSATE FROM EQUIPMENT INCLUDING "P" TRAPS AND BRANCH WASTE PIPING
19. ALL INDIRECT WASTE SHALL BE PIPED TO FLOOR DRAINS, FUNNELS OR FIXED AIR GAP FITTINGS, THROUGH AIR GAP OR TO A SINK DRAIN TAILPIECE.
20. INSTALL TRAP PRIMERS OR TRAP GUARD SEALER FOR FLOOR DRAINS, HUB DRAINS AND FIXED AIR GAP FITTINGS, WHERE TRAP IS SUBJECT TO LOSS OF SEAL BY EVAPORATION, CONNECT TRAP PRIMER TO COLD WATER LINE. PROVIDE ISOLATION VALVES AND EXTEND SLOPED PRIMING LINE TO DRAIN TRAPS.
21. COORDINATE ALL PLUMBING EQUIPMENT REQUIRING POWER, FOR EXACT LOCATION AND POWER REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR.
22. ALL EXTERIOR EXPOSED GAS PIPING SHALL BE PRIMED AND PAINTED.
23. FLOOR MOUNTED PLUMBING EQUIPMENT SHALL BE INSTALLED ON A 6" CONCRETE HOUSE-KEEPING PAD. COORDINATE SIZE AND FINAL LOCATION OF ALL CONCRETE PADS WITH THE STRUCTURAL ENGINEER. PADS SHALL BE MINIMUM 6" LARGER THAN THE EQUIPMENT IN BOTH HORIZONTAL DIRECTIONS.
24. COORDINATE EXACT LOCATION OF PLUMBING SERVICES ENTERING THE BUILDING WITH THE SITE CONTRACTOR AND UTILITY DRAWINGS PRIOR TO INSTALLATION. COORDINATE ALL FOUNDATION WALL PENETRATIONS AND INVERT ELEVATIONS WITH THE GENERAL CONTRACTOR AND/OR CONSTRUCTION MANAGER BEFORE COMMENCING WORK.
25. SEISMICALLY SUPPORT THE EQUIPMENT AS REQUIRED BY CODE, THE AUTHORITY HAVING JURISDICTION, AND/OR AS SPECIFIED. SUBMIT ENGINEERED INSTALLATION DETAILS PER THE SPECIFICATIONS. THE CONTRACTOR'S SEISMIC ENGINEER SHALL REVIEW THE INSTALLATION AND PROVIDE A DETAILED REPORT FOR THE RECORD.
26. PROVIDE PIPE EXPANSION COMPENSATION FOR THE VARIOUS PIPING SYSTEMS. SUBMIT ENGINEERED DETAILS FOR APPROVAL AND VERIFY INSTALLATION IS IN ACCORDANCE WITH THE CODE. THE CONTRACTOR'S CONSULTING ENGINEER SHALL REVIEW THE INSTALLATION AND PROVIDE A REPORT OF THE FINDINGS.

CT INNOVATIONS - THE DISTRICT

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KEY PLAN

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PLUMBING ABBREVIATIONS, GENERAL NOTES AND SYMBOL LIST

P0.01

PLUMBING SPECIFICATIONS

GENERAL CONDITIONS OF THE CONTRACT

IT IS THE INTENT OF THE SPECIFICATIONS AND DRAWINGS TO PROVIDE FOR FINISHED WORK, TESTED AND READY FOR OPERATION.

WORK OF THIS SECTION SHALL BE GOVERNED BY THE CONTRACT DOCUMENTS. PROVIDE MATERIALS, LABOR, EQUIPMENT AND SERVICES NECESSARY TO FURNISH, DELIVER AND INSTALL ALL WORK AS SPECIFIED AND AS REQUIRED BY JOB CONDITIONS. WHERE A CONFLICT EXISTS BETWEEN THESE NOTES, THE DRAWINGS AND THE FOLLOWING SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL APPLY.

ITEMS AND SERVICES NOT SHOWN ON THE DRAWINGS OR STATED IN THE SPECIFICATIONS, BUT REQUIRED TO RENDER THE WORK COMPLETE AND READY FOR OPERATION, SHALL BE PROVIDED WITHOUT ADDITIONAL COST.

DRAWINGS ARE DIAGRAMMATIC AND ARE NOT TO BE SCALED. DRAWINGS INDICATE A GENERAL ARRANGEMENT OF WORK AND ARE NOT TO BE CONSIDERED SUB-CONTRACTOR DOCUMENTS. IT IS THE INTENT OF THESE DOCUMENTS TO INCLUDE THE PROVISION AND INSTALLATION OF ALL NECESSARY WORK AND MATERIALS FOR COMPLETE, OPERATIONAL AND CODE COMPLIANT SYSTEMS BY THE CONTRACTOR.

GENERAL DESIGN CONCEPTS INDICATED MUST BE FOLLOWED OR BETTERED.

THE BID SHALL INCLUDE OFFSETS, ADDITIONAL PIPING, VALVES, EQUIPMENT AND

COMPONENTS AS REQUIRED TO MEET CONSTRUCTION CONDITIONS FOR PROPER OPERATION.

THE CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED AND PAY ALL APPLICABLE FEES. INCLUDED SHALL BE ANY UTILITY COST ASSOCIATED WITH ANY NEW OR MODIFIED SERVICES.

CONSULT ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR SPACE CONDITIONS AND ADDITIONAL REQUIREMENTS.

PERFORM THE WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT'S GENERAL CONDITIONS AND IN COORDINATION WITH ALL OTHER TRADES. ALL WORK SHALL BE DONE IN CONFORMANCE AND PROVISIONS OF ALL APPLICABLE LOCAL, STATE AND FEDERAL CODES AND LAWS AS REFERENCED OR STATED.

CONNECTICUT CODES AND STANDARDS:
2015 INTERNATIONAL BUILDING CODE
2015 INTERNATIONAL ENERGY CONSERVATION CODE WITH AMENDMENTS
2015 INTERNATIONAL EXISTING BUILDING CODE
2015 INTERNATIONAL MECHANICAL CODE
2015 INTERNATIONAL PLUMBING CODE
2017 NATIONAL ELECTRICAL CODE (NFPA 70)
1CC/ANSI A117.1-2009 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES

WORK SHALL INCLUDE ALL INCIDENTALS, LABOR, MATERIAL, EQUIPMENT, APPLIANCES, SERVICES, HOISTING, SCAFFOLDING, SUPPORTS, TOOLS, CONSUMABLE ITEMS,AND ADMINISTRATIVE TASKS/DUTIES REQUIRED TO COMPLETE AND MAKE OPERABLE WORK SHOWN ON THE DRAWINGS OR SPECIFIED HEREIN.

STORE MATERIALS INSIDE AND PROTECTED FROM DEBRIS, WEATHER AND MOISTURE.

SEISMIC RESTRAINTS

THE PROJECT IS IN A SEISMIC ZONE AND ALL WORK SHALL BE INSTALLED, SUPPORTED, AND SEISMICALLY RESTRAINED IN ACCORDANCE WITH CURRENT SEISMIC REQUIREMENTS.

COORDINATION
CONTRACTOR IS REQUIRED TO OBTAIN COMPLETE SETS OF THE CONTRACT DOCUMENTS FOR COORDINATION WITH ALL OTHER TRADES.

SHOP DRAWINGS

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER INITIAL REVIEW AND APPROVAL, REVISED IF REQUIRED AND RESUBMITTED AS PER ENGINEER'S COMMENTS PRIOR TO CONSTRUCTION.

ACCEPTANCE OF DEVIATIONS OR SUBSTITUTIONS FROM BASE SPECIFIED ITEMS OR EQUIPMENT SHALL BE AT THE ENGINEERS DISCRETION. ANY CHANGES REQUIRED FOR ACCOMMODATION SHALL BE AT NO ADDITIONAL COST.

OWNER'S MANUAL AND AS BUILT DRAWINGS

UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL PROVIDE AN OWNER'S MANUAL WITH AS-BUILT DRAWINGS REFLECTING INSTALLED CONDITIONS.

THE OWNER'S MANUAL SHALL CONSIST OF ALL DOCUMENTATION PROVIDED AS SHOP DRAWINGS, MANUALS PACKED WITH EQUIPMENT AND COMPLETE PARTS BREAKDOWN WITH PART NUMBERS AND DIAGRAMS. THE OWNER'S MANUALS SHALL BE IN A THREE RING BINDER. PROVIDE NAMES AND PHONE NUMBERS OF SUPPLY HOUSES WHERE PARTS MAY BE PURCHASED.

AS-BUILT DRAWINGS SHALL CONSIST OF FIELD MARK-UPS TO THE CONSTRUCTION DRAWINGS AND INCLUDE ANY ADDITIONAL DETAILS TO CLEARLY REFLECT INSTALLED CONDITIONS. ANY ISSUED OR SUPPLEMENTAL SKETCHES OR DIRECTIVES SHALL BE INCORPORATED INTO THE FINAL CONSTRUCTION MARK-UPS.

CONTRACTOR SHALL MAINTAIN, ON-SITE, A FIELD MARK-UP SET OF DOCUMENTS WHICH SHALL BE KEPT CURRENT WITH ANY CHANGES FROM THE ORIGINAL CONTRACT DOCUMENTS. THESE MARK-UPS ARE TO BE PROVIDED AS AS-BUILT DRAWINGS FOR COMPARISONS.

BASES, HANGERS AND SUPPORTS

THE CONTRACTOR SHALL PROVIDE, OR CAUSE TO BE PROVIDED BY ANOTHER CONTRACTOR, ALL REQUIRED BASES AND SUPPORTS FOR PIPING AND EQUIPMENT PROVIDED UNDER THESE SPECIFICATIONS.

PROVIDE ADJUSTABLE CLEVIS HANGERS FOR ALL SINGLE RUN PIPING. WHERE REQUIRED, OVERSIZE TO ACCOMMODATE INSULATION TO PASS THROUGH. PROVIDE INSULATION SHIELDS. WHERE POSSIBLE, GROUP PIPING TO ALLOW TRAPEZE HANGERS TO BE USED.

PROVIDE ALL ANCHORS, INSERTS AND BEAM CLAMPS REQUIRED FOR HANGERS AND SUPPORTS. IF ADDITIONAL STRUCTURAL MEMBERS OR SUPPORTS ARE REQUIRED, THE CONTRACTOR IS TO COORDINATE WITH THE STRUCTURAL CONTRACTOR FOR PROVISION OF THESE MEMBERS. ALL PIPING AND EQUIPMENT IS TO BE SECURELY FASTENED TO THE BUILDING STRUCTURE IN AN ACCEPTABLE MANNER.

ALL PIPING PASSING THROUGH WALLS AND FLOORS SHALL BE SLEEVED. THE SLEEVES SHALL HAVE AN INSIDE DIAMETER 1" LARGER THAN THE PIPE AND INSULATION, IF INSULATED. INSULATION SHALL PASS CONTINUOUS THROUGH THE SLEEVE.

PIPE SEALS AND FIRE-STOPS

SEAL ALL PIPING PASSING THROUGH FIRE AND/OR SMOKE RATED PARTITIONS, WALLS AND FLOORS WITH A UL LISTED, APPROVED AND TESTED FIRE AND/OR SMOKE SEALING MATERIAL EQUIVALENT TO THE RATING OF THE WALL, PARTITION OR FLOOR. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR COMPATIBILITY WITH WALL AND FLOOR CONSTRUCTION.

FOR INTERIOR PARTITIONS, WALLS AND FLOORS, SLEEVES SIZED TO ALLOW INSULATION TO PASS THROUGH CONTINUOUS WITH A MAXIMUM 1" ANNULAR SPACE BETWEEN THE INSULATION AND SLEEVE. SLEEVES TO BE CUT SMOOTH AND INSTALLED FLUSH WITH FINISHED WALLS AND 2" ABOVE FINISHED FLOORS. FILL THE ANNULAR SPACE WITH UL SEALING MATERIAL.

EQUIPMENT ACCESSIBILITY

LOCATE ALL EQUIPMENT WHICH MUST BE SERVICED, OPERATED OR MAINTAINED IN FULLY ACCESSIBLE POSITION WITH ADEQUATE CLEARANCES TO PROVIDE SERVICE OR REPAIR.

ACCESS DOORS OR PANELS IN WALLS, CEILINGS OR FLOORS SHALL BE FIELD COORDINATED AND INSTALLED FOR ACCESS TO CONCEALED VALVES, EQUIPMENT OR DEVICES.

CLEANING AND PROTECTION AGAINST FOREIGN MATTER

THE JOBSITE SHALL BE KEPT CLEAN AT ALL TIMES. CAP EXPOSED PIPING AND COVER FLOOR DRAINS TO INSURE ADEQUATE PROTECTION AGAINST THE ENTRANCE OF FOREIGN MATTER.

AT COMPLETION OF THE PROJECT, ALL EQUIPMENT, FIXTURES, ETC. SHALL BE CLEANED.

OPERATING INSTRUCTIONS

UPON THE COMPLETION OF ALL WORK, TESTING AND ADJUSTING THE CONTRACTOR SHALL FURNISH PERSONNEL TO INSTRUCT THE OWNER'S REPRESENTATIVES IN THE OPERATION, ADJUSTMENT AND MAINTENANCE OF THE EQUIPMENT AND SYSTEMS FURNISHED.

GUARANTEES

IN ADDITION TO THE CONTRACTOR'S GUARANTEE, PROVIDE ALL APPLICABLE EXTENDED GUARANTEES FOR EQUIPMENT.

PLUMBING PIPING INSULATION

PROVIDE 1" GLASS FIBER INSULATION FOR ALL NEW COPPER PIPING (HOT AND COLD WATER), INCLUDES INSULATION FOR FITTINGS AND VALVES. INSULATION TO BE AS MANUFACTURED BY KNAUF, MANVILLE, OWENS-CORNING OR CERTAIN-TEED.

INSULATION TO HAVE A "K" VALUE OF 0.24 AT 75°F, FLAME SPREAD/SMOKE OF 5/50, MAX. 850°F RATING, VAPOR BARRIER WHITE KRAFT PAPER WITH GLASS FIBER YARN BONDED TO ALUMINIZED FILM.

AT ALL FITTINGS AND VALVES PROVIDE PRE-MOLDED PVC JACKET BY ZESTON.

BEFORE INSTALLING INSULATION, ALL REQUIRED PIPING IS TO BE TESTED AND APPROVED.

INSULATION IS TO PASS CONTINUOUSLY THROUGH HANGERS, WALLS, SLEEVES AND OTHER PIPE PENETRATIONS.

PLUMBING PIPING

PIPING MATERIAL SHALL BE AS FOLLOWS:

SANITARY/WASTE PIPING ABOVE AND BELOW FLOOR SLAB - CAST IRON,

HUBLESS, NEOPRENE GASKET, STAINLESS STEEL HEAVY DUTY CLAMP AND SHIELD COUPLING. CISPI 301.

VENT PIPING ABOVE AND BELOW FLOOR SLAB - CAST IRON, HUBLESS,

NEOPRENE GASKET, STAINLESS STEEL HEAVY DUTY CLAMP AND SHIELD COUPLING, CISPI 301.

WATER PIPING - COPPER, TYPE L, ASTM B88, SOLDER OR PRESS CONNECTIONS.

BALL VALVES SHALL BE BRONZE, TWO PIECE, FULL PORT, EXTENDED LEVER HANDLE FOR INSULATION, CLASS 150-400 PSI WOG, AS MANUFACTURED BY MILWAUKEE, NIBCO OR APOLLO.

NO PIPING SHALL BE COVERED UNTIL TESTED AND APPROVED BY THE AUTHORITIES HAVING JURISDICTION.

INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS OR CONNECTED EQUIPMENT.

CONCEALED PIPING AND ACCESSORIES SHALL BE ARRANGED TO USE THE MINIMUM AMOUNT OF ACCESS DOORS AND PANELS.

PIPING SHALL BE RUN CONCEALED IN FURRED SPACES, CHASES, WALLS, ETC. CONTRACTOR SHALL OBTAIN PERMISSION TO RUN EXPOSED PIPING.

PROVIDE ISOLATION AND SHUT-OFF VALVES AT ALL BRANCH LINES AND EQUIPMENT.

PROVIDE LISTED AND APPROVED DIELECTRIC FITTINGS WHEN JOINING DISSIMILAR METALS.

RUN ALL SANITARY AND WASTE PIPING AT A MINIMUM OF 1/8" PER FOOT FOR PIPING. SLOPE VENT PIPING TO DRAIN.

PIPE HANGERS SHALL BE PLACED ADJACENT TO MOTOR DRIVEN EQUIPMENT. HANGERS AND SUPPORTS SHALL BE AS FOLLOWS:

COPPER PIPING

1/2" TO 1-1/4" AT MAXIMUM 6'-0" SPACING
1-1/2" TO 3" AT MAXIMUM 10'-0" SPACING

CAST IRON PIPING

1-1/2" TO 2" AT MAXIMUM 10'-0" SPACING
2-1/2" AND ABOVE AT MAXIMUM 5'-0" SPACING

WATER PIPING IS TO BE FLUSHED AND DISINFECTED IN ACCORDANCE WITH LOCAL AND STATE HEALTH REGULATIONS. AFTER FLUSHING AND DISINFECTING, THE WATER IS TO BE TESTED BY THE CONTRACTOR THROUGH AN INDEPENDENT LAB WITH A WRITTEN REPORT.

ALL NEW WATER, SANITARY, WASTE, AND VENT PIPING SHALL BE PRESSURE TESTED AS FOLLOWS:

SANITARY, WASTE, AND VENT PIPING - HYDROSTATIC TEST AT 10 FT HEAD FOR A MINIMUM 4 HOURS. SUBMIT WRITTEN/SIGNED TEST RESULTS.

WATER PIPING - HYDROSTATIC TEST AT 125 PSI OR 1-1/2 TIMES OPERATING PRESSURE (WHICHEVER IS GREATER)FOR A MINIMUM 4 HOURS WITH MAXIMUM LOSS OF 2 PSI. SUBMIT WRITTEN/SIGNED TEST RESULTS. AIR TESTING WILL NOT BE ACCEPTABLE.

PLUMBING PIPING SPECIALTIES

CLEANOUTS IN INTERIOR FINISHED FLOORS SHALL HAVE A CAST IRON BODY WITH ANCHOR FLANGE, THREADED TOP ASSEMBLY AND ROUND GASKETED SCORED COVER. FOR FINISHED FLOORS PROVIDE DEPRESSED COVER TO ACCEPT FLOOR FINISH.

WATER HAMMER ARRESTORS SHALL BE STAINLESS STEEL CONSTRUCTION, BELLOWS TYPE, PRECHARGED. AIR CHAMBERS ARE NOT ACCEPTABLE. INSTALL WATER HAMMER ARRESTORS AT ALL QUICK CLOSING VALVES, ON HOT AND/OR COLD WATER SUPPLIES TO NEW INDIVIDUAL FIXTURES OR IN BANKS OF FIXTURES.

PLUMBING EQUIPMENT AND FIXTURES

ALL PLUMBING EQUIPMENT AND FIXTURES SHALL BE NEW, COMPLETE WITH ALL TRIM AS SPECIFIED. APPROVAL CERTIFICATION BY MASSACHUSETTS IS REQUIRED.

FOR ALL EQUIPMENT AND FIXTURES, INSTALL AS PER MANUFACTURER'S INSTRUCTIONS, AS REQUIRED BY CODE, AND IN COMPLIANCE WITH CONDITIONS FOR CERTIFICATION (IF ANY). RETAIN ALL INFORMATION, MANUALS AND PARTS DIAGRAMS PACKAGED WITH THE UNITS.

COORDINATE ALL RELATED ELECTRICAL WORK AND REQUIRED CONNECTIONS TO ACHIEVE AN OPERATIONAL SYSTEM. VERIFY THAT ELECTRICAL POWER HAS PROPER CHARACTERISTICS.

ALL EQUIPMENT SHALL BE UL TESTED AND APPROVED AND IF APPLICABLE SHALL HAVE NSF CERTIFICATION.

PLUMBING FIXTURES SHALL BE INSTALLED WITH TRIM, INCLUDING BUT NOT LIMITED TO, FAUCETS, CARRIERS, WATER SUPPLIES, SUPPLY STOPS, TRAPS, TAILPIECES, HARDWARE, HANGERS/SUPPORTS, AND FASTENING DEVICES.

PLUMBING FIXTURES AND TRIM SHALL BE OF THE MANUFACTURER LISTED ON THE DRAWINGS OR AN APPROVED EQUAL MEETING THE OPERATIONAL CHARACTERISTICS, FUNCTION, SIMILAR APPEARANCE AND QUALITY OF THE SPECIFIED ITEMS.

FOR ALL EXPOSED PIPING TO FIXTURES, PROVIDE CHROME PLATED PIPES, ESCUTCHEONS AT WALLS, SUPPLY TUBES AND SUPPLY STOPS. DRAIN PIPING SHALL BE MINIMUM 17 GA, CHROME PLATED CAST BRASS, P-TRAPS SHALL HAVE CLEANOUT PLUGS.

SEAL FIXTURES TO WALLS AND FLOOR WITH APPROVED SILICONE SEALANT, COLOR TO MATCH FIXTURE COLOR OR CLEAR.

UPON COMPLETION OF INSTALLATION OF PLUMBING EQUIPMENT AND FIXTURES, TEST TO DEMONSTRATE CAPABILITY AND COMPLIANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND CODES. FOR ALL EQUIPMENT, REPAIR OR REPLACE ANY MALFUNCTIONING EQUIPMENT OR FIXTURES AND RETEST.

ADJUST WATER PRESSURES THROUGH VALVES OR STOPS TO OBTAIN PROPER FLOW RATES AND PRESSURES REQUIRED.

UPON COMPLETION OF INSTALLATION OF EQUIPMENT OR FIXTURES, THOROUGHLY CLEAN ALL EXPOSED SURFACES, TRIM AND PIPING, FLUSH STRAINERS AND VERIFY FINAL OPERATION.

PROVIDE ALL WARRANTIES AND GUARANTEES TO THE OWNER WITH ALL NAMES, ESTABLISHED DATES, AND ANY ADDITIONAL INFORMATION REQUIRED FOR ENFORCEMENT.

NATURAL GAS PIPING SYSTEM

UNLESS OTHERWISE NOTED ON THE PLANS, GAS PIPING SHALL BE AS FOLLOWS:

GAS PIPING TO BE SCHEDULE 40 BLACK STEEL WITH MALLEABLE IRON FITTINGS, ASTM A53.

PIPE THREADS TO BE TAPERED AND PIPING SHALL SLOPE TOWARDS EQUIPMENT WITH DRIPS AT LOW POINTS AND EQUIPMENT. ASME B1.20.1

ALL PIPING SHALL BE TESTED IN COMPLIANCE WITH THE NEW YORK STATE GAS CODE AND NFPA 54 WITH ALL DOCUMENTATION OF TESTS SIGNED BY CONTRACTOR. TEST WITH COMPRESSED AIR OR OTHER INERT GAS.

SLOPE PIPING UPWARDS AT A MINIMUM OF 1/4" IN 15'-0" HORIZONTAL PIPE RUN.

HANGERS AND SUPPORT SPACING SHALL BE AS FOLLOWS:
ALL PIPE SIZES AT MAXIMUM 6'-0" SPACING

GAS CONNECTORS TO EQUIPMENT SHALL BE MADE WITH CCST OR OTHER CSA CERTIFIED/UL LISTED FLEXIBLE CONNECTORS.

ALL PIPING UP TO 2" SHALL BE THREADED, 2-1/2" AND LARGER SHALL BE WELDED.

VALVING SHALL BE BALL VALVES (BRONZE BODY, BRASS STEM PTFE SEAT) FOR PIPING UP TO 2" AND IRON BODY GAS COCKS (BRASS PLUG AND WASHER) FOR PIPING 2-1/2" AND LARGER. CSA CERTIFIED/UL LISTED.

ALL NEW GAS PIPING SHALL BE PAINTED WITH PRIMER AND TWO COATS YELLOW ENAMEL WITH PIPE LABELS SPACED AT MAXIMUM 6'-0" INTERVALS. LABELS TO INDICATE NATURAL GAS AND GAS PRESSURE.

1 PLUMBING SPECIFICATION
1/8" = 1'-0"

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KEY PLAN

N

PROJECT DATA

PROJECT NUMBER	18-000
CURRENT SUBMISSION DATE	08/29/19
DRAWN	FSM
CHECKED	RHR
SCALE	1/8" = 1'-0"

HISTORY OF SUBMISSIONS

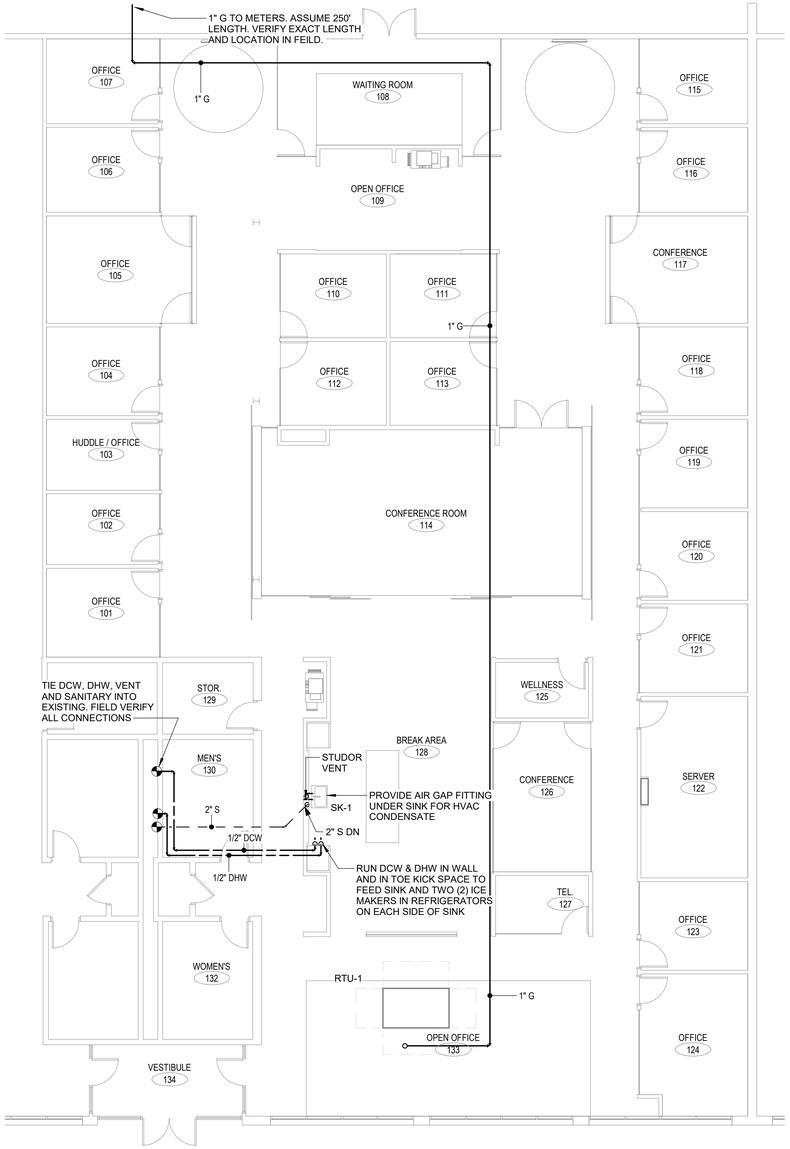
No.	Date	Description

DD SET

SHEET TITLE

PLUMBING SPECIFICATION

P0.02



1 PLUMBING FIRST FLOOR PLAN
1/8" = 1'-0"

PLUMBING FIXTURE SCHEDULE

GENERAL NOTES:

PIPE SIZES SHOWN ARE FOR SUPPLY AND DRAINAGE ONLY. PROVIDE SUPPLIES WITH SCREWDRIVER STOPS, WALL ESCUTCHEON, 17-GAUGE SEMI-CAST "P"TRAPS WITH CLEANOUT PLUG, PLUMBING FIXTURE SUPPORTS AND NECESSARY FITTINGS TOMAKE FINAL CONNECTION. REFER TO SPECIFICATION FOR EQUIVALENTS. NOTE: REFER TO ARCHITCTURAL DRAWINGS FOR MOUNTING HEIGHTS OF PLUMBING FIXTURES, CLEARANCE BELOW SINKS AND LAVATORIES AND OFSET DRAIN LOCATIONS. OFFSET DRAINS SHALL BE OFSET LEFT REAR OR OFSET RIGHT REAR .

TYPE	FIXTURE	ACCESSIBILITY	MANUFACTURER	MODEL	COLD	HOT	SAN	VENT	REMARKS
SK-1	SINK		KOHLER	VAULT 25"X22"X6"	1/2"	1/2"	2"	1 1/2"	PROVIDE KOHLER FAUCET MODEL K-596 POLISHED CHROME. COORDINATE MOUNTING WITH ARCHITECT

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SHEET TITLE

FIRST FLOOR PLUMBING PLAN

P1.01

ABBREVIATIONS

AC	AIR COMPRESSOR
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AMB	AMBIENT
APROX	APPROXIMATE
AS	AIR SEPERATOR
ATC	AUTOMATIC TEMPERATURE CONTROL
AVG	AVERAGE
AWT	AVERAGE WATER TEMPERATURE
BAS	BUILDING AUTOMATION SYSTEM
BDD	BACK DRAFT DAMPER
BFW	BOILER FEED WATER
BHP	BRAKE HORSEPOWER
BMS	BULIDING MANAGEMENT SYSTEM
BTUH	BRITISH THERMAL UNITS PER HOUR
CC	COOLING COIL
CD	CONDENSATE DRAIN
CDR	CONDENSER WATER RETURN
CDS	CONDENSER WATER SUPPLY
CFM	CUBIC FEET PER MINUTE
CFP	CHEMICAL FEED PUMPS
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CLG	CEILING
CO	CLEANOUT
CO2	CARBON DIOXIDE
COMP	COMPRESSOR
COND	CONDENSER
CONV	CONVECTOR
CP	CONDENSATE PUMP
CPU	CENTRAL PROCESSING UNIT
CT	COOLING TOWER
CU	CONDENSING UNIT
CU FT	CUBIC FEET
CUH	CABINET UNIT HEATER
CV	COEFFICIENT, VALVE FLOW
CV	CONSTANT VOLUME
D	DEPTH
DB	DRY BULB TEMPERATURE
dB	DECIBEL
DEG or °	DEGREE
DIA or Ø	DIAMETER
DN	DOWN
DP	DIFFERENTIAL PRESSURE
DWG	DRAWING
DX	DIRECT EXPANSION
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EBB	ELECTRIC BASEBOARD RADIATION
EDR	EQUIVALENT DIRECT RADIATION
EF	EXHAUST FAN
EFF	EFFICIENCY
ELEC	ELECTRICAL
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EUH	ELECTRIC UNIT HEATER
EVAP	EVAPORATOR
EWB	ENTERING WET BULB TEMPERATURE
EWT	ENTERING WATER TEMPERATURE
F	FAHRENHEIT
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FD	FLOOR DRAIN
FD/SB	FIRE DAMPER WITH INTEGRAL SECURITY BARS
FM	FLOW METER
FOB	FLAT ON BOTTOM
FOF	FUEL OIL FILL
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FOT	FLAT ON TOP
FOV	FUEL OIL VENT
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FLOOR SINK
FSD	FIRE/SMOKE DAMPER
FT	FOOT OR FEET
G	GAS
GA	GAUGE
GAL	GALLONS
GND	GROUND
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GR	GRAINS
H	HEIGHT
H/C	HEATING/COOLING
HC	HEATING COIL
HD	HEAD
HP	HORSEPOWER
HPC	HIGH PRESSURE CONDENSATE
HPG	HIGH PRESSURE GAS
HPS	HIGH PRESSURE STEAM
HR	HOUR(S)
HT	HEAT
HTHW	HIGH TEMPERATURE HOT WATER

ABBREVIATIONS

HTHWR	HIGH TEMPERATURE HOT WATER RETURN
HTHWS	HIGH TEMPERATURE HOT WATER SUPPLY
HTR	HEATER
HUM	HUMIDIFIER
HV	HEATING/VENTILATION UNIT
HW	HOT WATER
HWR	HOT WATER RETURN
HWRP	HOT WATER RETURN PUMP
HWRR	HOT WATER REVERSE RETURN
HWS	HOT WATER SUPPLY
HX	HEAT EXCHANGER
HZ	FREQUENCY (CYC, PER SEC.)
ID	INSIDE DIAMETER
IN	INCHES
IN WG	INCHES OF WATER, GAUGE (PRESS.)
IW	INDIRECT WASTE
KEF	KITCHEN EXHAUST FAN
KW	KILOWATT
L	LENGTH
LA	LABORATORY COMPRESSED AIR
LAT	LEAVING AIR TEMPERATURE
LAV	LAVATORY
LBS/HR	POUNDS PER HOUR
LF	LINEAR FEET
LPC	LOW PRESSURE CONDENSATE
LPS	LOW PRESSURE STEAM
LV	LABORATORY VACUUM
LWT	LEAVING WATER TEMPERATURE
MA	MIXED AIR
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MBH	BTU PER HOUR (THOUSAND)
MD	MOTORIZED DAMPER
MECH	MECHANICAL
MFR	MANUFACTURER
MH	METAL HALIDE
MIN	MINIMUM
MPC	MEDIUM PRESSURE CONDENSATE
MPS	MEDIUM PRESSURE STEAM
N2	NITROGREN
N2O	NITROUS OXIDE
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
N.T.S.	NOT TO SCALE
N/A	NOT APPLICABLE
NEC	NATIONAL ELECTRICAL CODE
NIC	NOT IN CONTRACT
OA	OUTSIDE AIR
PCD	PUMPED CONDENSATE DRAIN (COOLING)
PCR	PUMPED CONDENSATE RETURN (STEAM)
PD	PRESSURE DROP
PH or Ø	PHASE
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
RA	RETURN AIR
RG	REFRIGERANT GAS
RH	RELATIVE HUMIDITY
RHC	REHEAT COIL
RHG	REFRIGERANT HOT GAS
RL	REFRIGERANT LIQUID
RM	ROOM
RPD	REDUCED PRESSURE DEVICE
RPM	REVOLUTIONS PER MINUTE
RTU	ROOFTOP UNIT
S&R	SUPPLY AND RETURN
SA	SUPPLY AIR
SCP	STEAM CONDENSATE PUMP
SD	SMOKE DAMPER
SP	STATIC PRESSURE
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
T'STAT	THERMOSTAT
TD	TEMPERATURE DIFFERENCE
TEMP	TEMPERATURE
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UH	UNIT HEATER
V	VOLTAGE
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VEL	VELOCITY
VFD	VARIABLE FREQUENCY DRIVE
VIF	VERIFY IN FIELD
VOL	VOLUME
W	WATT
W	WIDTH
WB	WET BULB TEMPERATURE
WP	WEATHERPROOF
WPD	WATER PRESSURE DROP
WWM	WELDED WIRE MESH

HVAC SYMBOLS

	RECTANGULAR, FLAT OVAL OR ROUND AIR DUCT
	AIR DUCT WITH ACOUSTICAL LINING
	SUPPLY AIR DUCT UP
	SUPPLY AIR DUCT DOWN
	RETURN AIR DUCT UP
	RETURN AIR DUCT DOWN
	EXHAUST AIR DUCT UP
	EXHAUST AIR DUCT DOWN
	TURNING VANES
AD / AD	ACCESS DOOR
	FLEXIBLE DUCT CONNECTION
	CEILING SUPPLY DIFFUSERS
	CEILING RETURN / EXHAUST GRILLE
	HARD DUCTED DIFFUSER OR GRILLE WITH FULL SIZE BOTTOM TAKE-OFF
	DIRECTION OF SUPPLY OR OUTDOOR AIRFLOW
	DIRECTION OF RETURN OR EXHAUST AIRFLOW
	DOOR UNDERCUT
BDD	BACK DRAFT DAMPER
VD	VOLUME DAMPER
FD	FIRE DAMPER
FD/SB	FIRE DAMPER WITH INTEGRAL SECURITY BARS
FS	FIRE/SMOKE DAMPER
SD	SMOKE DAMPER SYSTEM AND ASSOCIATED DEVICES PER SPECIFICATIONS AND MEP DETAILS
M	MOTORIZED DAMPER
H	HUMIDIFIER TUBE/PANEL
XXX	SUPPLY PIPING, REFER TO ABBREVIATION LIST FOR DESIGNATION (XXX)
XXX	RETURN PIPING, REFER TO ABBREVIATION LIST FOR DESIGNATION (XXX)
DS	DUCT SMOKE DETECTOR WITH REMOTE INDICATING LIGHT AND TEST SWITCH
SP	DUCT STATIC PRESSURE SENSOR
DP	DIFFERENTIAL PRESSURE SENSOR
VFD	VARIABLE FREQUENCY DRIVE
AFS	AIR FLOW STATION
SA	DUCT SOUND ATTENUATOR
T	ROOM THERMOSTAT
T	ROOM TEMPERATURE SENSOR
CO	CARBON MONOXIDE SENSOR
C	CARBON DIOXIDE SENSOR
H	HUMIDISTAT
	FINNED TUBE RADIATION
FM	FLOW METER
RC	VRF REMOTE CONTROL

FITTINGS AND VALVES

	BACKFLOW PREVENTOR
	STRAINER OR STRAINER WITH BLOW-DOWN VALVE HOSE END, CAP AND CHAIN
	PIPE ELBOW UP OR PIPE TEE UP
	PIPE ELBOW DOWN
	PIPE TEE DOWN
	TAKEOFF FROM BOTTOM OF MAIN PIPE
	TAKEOFF FROM TOP OF MAIN PIPE
	IN-LINE EXPANSION COMPENSATOR
	PIPE ANCHOR
	COMPANION FLANGE
	PIPE CAP OR CAPPED END OF PIPE
	UNION
	PIPE GUIDES
	PUMP
	DIRECTION OF FLUID FLOW
	VALVE ON RISER
	VALVE ON DROP
	AIR VENT
	FLOW SENSOR
	2-WAY CONTROL VALVE
	3-WAY CONTROL VALVE
	BALL VALVE
	CALIBRATED BALANCING VALVE
	SHUT-OFF VALVE (SEE SPECIFICATIONS FOR APPLICATION TYPE)
	BUTTERFLY VALVE
	CHECK VALVE
	GLOBE VALVE
	GATE VALVE
	PRESSURE REDUCING VALVE
	TRIPLE DUTY VALVE
	OS&Y VALVE
	DRAIN VALVE WITH HOSE END, CAP & CHAIN OR WALL HYDRANT / HOSE BIBB
M	MOTORIZED BUTTERFLY VALVE
	PRESSURE RELIEF SAFETY VALVE
A	AQUASTAT
T	TEMPERATURE SENSOR WITH SEPARABLE SOCKET IN IMMERSIBLE WELL
T	TEMPERATURE GAUGE WITH SEPARABLE SOCKET IN IMMERSIBLE WELL
	THERMOMETER WITH SEPARABLE SOCKET IN IMMERSIBLE WELL
P	PRESSURE GAUGE
P	PRESSURE SENSOR WITH SYPHON (STEAM)
	FLEXIBLE CONNECTOR

DUCT SIZING	
20x12	RECTANGULAR DUCT
20/12	FLAT OVAL DUCT
20"ø	ROUND DUCT

HVAC GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH CURRENT APPLICABLE CODES, ORDINANCES, THE REGULATORY AGENCIES HAVING JURISDICTION AND THE SPECIFICATIONS. THE SPECIFICATIONS MAY EXCEED THE REQUIREMENTS OF THE CODE, IN WHICH CASE, THE SPECIFICATION MUST BE FOLLOWED.
2. THE INTENT OF THESE DOCUMENTS IS FOR THE MEP TRADES TO FURNISH AND INSTALL COMPLETE MECHANICAL AND ELECTRICAL SYSTEMS. THE SPECIFIED HVAC SYSTEM SHALL BE COMPLETE IN ALL RESPECTS; OPERATIONAL, TESTED, ADJUSTED, APPROVED BY THE AUTHORITIES HAVING JURISDICTION AND READY FOR BENEFICIAL USE BY THE OWNER.
3. THE TRADES SHALL OBTAIN AND REVIEW ALL CONTRACT DOCUMENTS BEFORE SUBMITTING A BID. INFORMATION IS PROVIDED ON THE VARIOUS DRAWINGS, SCHEDULES, SPECIFICATIONS AND ALL OF THE VARIOUS DOCUMENTS IN THE BIDDING PACKAGE. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY AND FORM A TOTAL PROJECT DESIGN AND INFORMATION SOURCE FOR CONSTRUCTION PURPOSES.
4. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED IN THE CONTRACT. COORDINATE LOCATIONS OF EQUIPMENT WITH OTHER TRADES BEFORE AND DURING CONSTRUCTION. ANY MODIFICATION TO THE EQUIPMENT LAYOUT, REQUIRED FOR INSTALLATION, IS TO BE PERFORMED UNDER THE CONTRACT AGREEMENT, AT NO ADDITIONAL COST. REFER TOP DETAILS, SCHEDULES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
5. THE CONTRACTOR SHALL BECOME THOROUGHLY FAMILIAR WITH THE PROJECT DOCUMENTS OF ALL TRADES. THE DRAWINGS ARE DIAGRAMMATIC AND SHOW THE GENERAL ARRANGEMENT OF EQUIPMENT AND PIPING. THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF EQUIPMENT AND PIPING INSTALLATION WITH ALL THE TRADES BEFORE COMMENCING WORK.
6. EQUIPMENT SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS, WHEN EQUIPMENT MUST BE LOCATED ABOVE AN INACCESSIBLE CEILING (GYP BOARD OR EQUIVALENT), OR BEHIND A WALL, AN APPROPRIATE ACCESS DOOR SHALL BE PROVIDED. IF AN ACCESS DOOR IS REQUIRED, IT SHALL BE OF A RATING APPROPRIATE FOR THE WALL/CEILING IN WHICH IT IS TO BE INSTALLED. THE CONTRACTOR SHALL COORDINATE LOCATIONS OF ACCESS PANELS FOR ALL VALVES AND DEVICES, REQUIRING ACCESS, WITH THE ARCHITECT, PRIOR TO INSTALLATION OF SUCH DEVICES OR OTHER APPURTENANCES.
7. WHERE A CONFLICT OCCURS BETWEEN THE DOCUMENTS, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. CARRY AS PART OF THE BID THE LARGER QUANTITY AND/OR MORE EXPENSIVE ITEM(S).
8. THIS CONTRACT SHALL INCLUDE ALL THE NECESSARY PIPING, FITTINGS, TRANSITIONS ETC. AS REQUIRED TO INSTALL PIPING AND EQUIPMENT, AND TO AVOID ANY CONFLICTS WITH OTHER TRADES AND THE BUILDING STRUCTURE. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY ASSUMPTIONS, OMISSIONS OR ERRORS HE MAKES AS A RESULT OF HIS FAILURE TO COORDINATE WITH OTHER TRADES OR BECOME FULLY FAMILIAR WITH THE PROJECT DOCUMENTS OF ALL TRADES.
9. DO NOT INSTALL ANY PIPING OVER ELECTRICAL PANELS, TRANSFORMERS, SPECIAL EQUIPMENT, OR THROUGH ELECTRICAL ROOMS, DATA ROOMS, ELEVATOR MACHINE ROOM, STAIRWELL OR STAIRWELL WALLS THAT ARE NOT ASSOCIATED WITH OR SERVE THE RESPECTIVE ROOMS. COORDINATE THE LOCATION OF ELECTRICAL EQUIPMENT IN THE FIELD AND ADJUST AS NECESSARY.
10. INSTALL SMOKE DETECTORS IN BOTH SUPPLY & RETURN AIR DUCTS FOR AIR HANDLING EQUIPMENT 2,000 CFM AND GREATER.
11. PROVIDE SMOKE DAMPERS IN BOTH SUPPLY & RETURN AIR DUCTS FOR AIR HANDLING EQUIPMENT 15,000 CFM AND GREATER.
12. PROVIDE SMOKE DAMPERS AND SMOKE DETECTORS AT DUCT PENETRATIONS OF SMOKE-BRRIERS, AND AT ELEVATOR SHAFT VENTS PER CODE REQUIREMENTS.
13. PROVIDE FIRE DAMPERS AT DUCT PENETRATIONS OF FIRE-RATED CONSTRUCTION, INCLUDING WALLS, SHAFTS AND FLOOR PENETRATIONS. COORDINATE WITH ARCHITECTURAL DRAWINGS.
14. PROVIDE AN AUTOMATIC TEMPERATURE CONTROL SYSTEM COMPLETE IN ALL REGARDS. ALL ZONES, VAV'S AND SYSTEM SHALL BE THERMOSTATICALLY CONTROLLED. REVIEW THE PLANS AND SPECIFICATIONS OF ALL MEP TRADES FOR A COMPLETE SCOPE OF THE WORK.
15. PIPING SHALL BE SUPPORTED FROM STRUCTURE ABOVE. TO MAXIMIZE HEAD ROOM, INSTALL PIPING TIGHT TO BOTTOM OF BEAMS WHEN RUNNING PERPENDICULAR TO BEAM; INSTALL PIPING TIGHT TO FLOOR SLAB WHEN RUNNING PARALLEL TO BEAM; PROVIDE ALL NECESSARY FITTINGS AND TRANSITIONS.
16. PROVIDE THROTTLING VALVES AND SHUT-OFF VALVES AS INDICATED IN SPECIFICATIONS IN ADDITION TO THOSE INDICATED ON THE DOCUMENTS.
17. INSTALL ALL EQUIPMENT VALVES AS REQUIRED BY MANUFACTURERS INSTRUCTIONS AND RECOMMENDATIONS AND AS DETAILED.
18. PROVIDE AIR VENTS AT ALL HIGH POINTS AND DRAINS AT ALL LOW POINTS.
19. PROVIDE PRESSURE RELIEF DOORS FOR AIR SYSTEMS, PER THE SPECIFICATIONS.
20. PROVIDE MOTORIZED DAMPERS AT ALL PERMANENT OPENINGS (EXHAUST, SUPPLY, RELIEF, O.A. INTAKES, MAKE-UP AIR, SMOKE VENTS, ETC.) EXCEPT DRYER, KITCHEN, AND FUME EXHAUST AND PROVIDE A MEANS TO CONTROL THE DAMPER OPERATION.
21. ALL SUPPLY RECTANGULAR 90° ELBOWS SHALL HAVE TURNING VANES.
22. PROVIDE DUCT TAKE-OFF TYPES AND VOLUME DAMPERS PER THE SPECIFICATIONS AND DUCT TAKE-OFF DETAILS ON DRAWINGS. TAKE-OFFS SHOWN ON FLOOR PLANS DO NOT REPRESENT THE SPECIFIC TYPE OF TAKE-OFF REQUIRED; CONSULT THE DETAILS AND SPECIFICATIONS.
23. PROVIDE VOLUME DAMPERS ON ALL SUPPLY, EXHAUST, AND RETURN BRANCH DUCTS.
24. COORDINATE AND VERIFY LOCATIONS OF ALL ITEMS REQUIRING ACCESS WITH ARCHITECT IN FIELD., INCLUDING VALVES, VOLUME DAMPERS, FIRE DAMPERS, ETC.
25. ALL EQUIPMENT LOCATED ON THE ROOF THAT REQUIRES SERVICING SHALL BE LOCATED A MINIMUM 10'-0" FROM EDGE OF THE ROOF.
26. ALL EXPOSED DUCTWORK SHALL BE FLAT, OVAL, OR ROUND. COORDINATE WITH ARCHITECT'S CEILING PLANS AND IDENTIFY ON DUCTWORK SHOP DRAWINGS.
27. ALL DUCTWORK AND PIPING CROSSING SEISMIC JOINTS SHALL ACCOMMODATE DIFFERENTIAL MOTION. REFER TO DETAILS AND SPECIFICATIONS FOR MORE INFORMATION. SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR LOCATIONS.
28. ALL THERMOSTATS LOCATED ON OUTSIDE WALL SHALL HAVE INSULATED PAD BEHIND.
29. ALL MOTORIZED DAMPERS SHALL BE WIRED BY ATC CONTRACTOR, COORDINATE VOLTAGE REQUIREMENTS WITH EQUIPMENT.
30. ALL TOILETS & BATHROOMS SHALL HAVE 3/4" UNDERCUT DOORS.
31. ALL LOUVERS ARE SELECTED AND SCHEDULED BY ARCHITECT. LOUVER TAGS ARE SHOWN FOR COORDINATION ONLY.
32. SEISMICALLY SUPPORT THE EQUIPMENT AS REQUIRED BY CODE, THE AUTHORITY HAVING JURISDICTION, AND/OR AS SPECIFIED. SUBMIT ENGINEERED INSTALLATION DETAILS PER THE SPECIFICATIONS. THE CONTRACTOR'S SEISMIC ENGINEER SHALL REVIEW THE INSTALLATION AND PROVIDE A DETAILED REPORT FOR THE RECORD.
33. PROVIDE PIPE EXPANSION COMPENSATION FOR THE VARIOUS PIPING SYSTEMS. SUBMIT ENGINEERED DETAILS FOR APPROVAL AND VERIFY INSTALLATION IS IN ACCORDANCE WITH THE CODE. THE CONTRACTOR'S CONSULTING ENGINEER SHALL REVIEW THE INSTALLATION AND PROVIDE A REPORT OF THE FINDINGS.

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KEY PLAN

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PROJECT DATA

PROJECT NUMBER	18-000
CURRENT SUBMISSION DATE	08/29/19
DRAWN	FSM
CHECKED	RHR
SCALE	12" = 1'-0"

HISTORY OF SUBMISSIONS

No.	Date	Description

DD SET

SHEET TITLE

MECHANICAL
ABBREVIATIONS, GENERAL
NOTES AND SYMBOL LIST

M0.01

MECHANICAL SPECIFICATIONS

GENERAL

1. WHEN A CONFLICT BETWEEN THE DRAWINGS, NOTES AND/OR SPECIFICATIONS OCCUR, THE MORE STRINGENT, AND/OR LARGER QUANTITY AND/OR MORE EXPENSIVE SHALL APPLY. THE REQUIREMENTS LISTED WITHIN NOTES OR SPECIFICATIONS SHALL BE REQUIRED, PROVIDED AND INSTALLED WHETHER SPECIFICALLY INDICATED ON THE DRAWINGS OR NOT.

2. IT IS THE INTENTION OF THE SPECIFICATIONS AND DRAWINGS TO PROVIDE FOR FINISHED WORK, TESTED AND READY FOR OPERATION.

3. ITEMS AND SERVICES NOT SHOWN ON DRAWINGS OR SPECIFICATIONS BUT REQUIRED TO RENDER THE WORK COMPLETE AND READY FOR OPERATION, SHALL BE PROVIDED WITHOUT ADDITIONAL COST.

4. WORK OF THIS SECTION SHALL BE GOVERNED BY THE CONTRACT DOCUMENTS. PROVIDE MATERIALS, LABOR, EQUIPMENT AND SERVICES NECESSARY TO FURNISH, DELIVER AND INSTALL ALL WORK AS REQUIRED BY JOB CONDITIONS. PWHERE A CONFLICT EXISTS BETWEEN THESE NOTES, THE DRAWINGS AND THE SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL APPLY.

5. DRAWINGS ARE DIAGRAMMATIC AND INDICATE A GENERAL ARRANGEMENT OF WORK AND ARE NOT TO BE CONSIDERED SUB-CONTRACTOR DOCUMENTS. IT IS THE INTENT OF THESE DOCUMENTS TO INCLUDE THE PROVISION AND INSTALLATION OF ALL NECESSARY WORK AND MATERIALS FOR COMPLETE, OPERATIONAL AND CODE COMPLIANT SYSTEMS BY THE CONTRACTOR. GENERAL DESIGN CONCEPTS INDICATED MUST BE FOLLOWED OR BETTERED. THE BID SHALL INCLUDE OFFSETS, ADDITIONAL PIPING, VALVES AND EQUIPMENT AND COMPONENTS AS REQUIRED TO MEET CONSTRUCTION CONDITIONS FOR PROPER OPERATION. DO NOT SCALE DRAWINGS. CONSULT ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR SPACE CONDITIONS AND ADDITIONAL REQUIREMENTS. DO NOT SCALE THE DRAWINGS.

6.PERFORM THE WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT GENERAL CONDITIONS AND IN COORDINATION WITH ALL OTHER TRADES. ALL WORK SHALL BE DONE IN CONFORMANCE AND PROVISIONS OF ALL APPLICABLE LOCAL, STATE AND FEDERAL CODES AND LAWS.

CODES AND STANDARDS:
- CONNECTICUT BUILDING CODE AND ALL SUPPLEMENTS
- IBC 2015 INTERNATIONAL BUILDING CODE
- IEBC 2015 INTERNATIONAL EXISTING BUILDING CODE
- IMC 2015 INTERNATIONAL MECHANICAL CODE
- IMP 2015 INTERNATIONAL PLUMBING CODE
- IECC 2015 INTERNATIONAL ENERGY CONSERVATION CODE
- NEC 2017 NATIONAL ELECTRICAL CODE / NFPA 70
- NFPA NFPA-101 FIRE SAFETY CODE
- ICC/ANSI A117.1-2003 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES

7. WORK SHALL INCLUDE ALL INCIDENTALS, LABOR, MATERIALS, EQUIPMENT, APPLIANCES, SERVICES, HOISTING, SCAFFOLDING, SUPPORTS, TOOLS, CONSUMABLE ITEMS, FEES, LICENSES, AND ADMINISTRATIVE TASKS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.

8. STORE MATERIALS INSIDE AND PROTECTED FROM DEBRIS, WEATHER AND MOISTURE.

9.THE CONTRACTOR SHALL EXAMINE THE DRAWINGS AND SPECIFICATIONS RELATING TO THE WORK OF ALL DIVISIONS AND TRADES AND BECOME FULLY FAMILIAR AND INFORMED AS TO THE EXTENT AND CHARACTER OF WORK REQUIRED, AND ITS RELATIONSHIP TO THE REQUIREMENTS OF THIS DIVISION. INCLUDE ALL SUCH REQUIREMENTS AS PART OF THIS MECHANICAL WORK.

10. BEFORE SUBMITTING A BID, THE CONTRACTOR SHALL VISIT THE SITE, AND SHALL BECOME THOROUGHLY FAMILIAR WITH ALL CONDITIONS UNDER WHICH THE WORK WILL BE INSTALLED. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY ASSUMPTIONS, OMISSIONS OR ERRORS MADE AS A RESULT OF FAILURE TO BECOME FAMILIAR WITH THE SITE AND EXISTING BUILDING AND THE CONTRACT DOCUMENTS.

PERMITS AND FEES

1.THE CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES, OBTAIN ALL PERMITS; AND PAY ALL GOVERNMENT AND STATE SALES TAXES AND FEES WHERE APPLICABLE, AND OTHER COSTS, INCLUDING UTILITY CONNECTIONS OR EXTENSIONS IN CONNECTION WITH THE WORK, FILE ALL NECESSARY DRAWINGS, PREPARE ALL DOCUMENTS AND OBTAIN ALL NECESSARY APPROVALS OF ALL GOVERNMENTAL AND STATE DEPARTMENTS HAVING JURISDICTION, OBTAIN ALL REQUIRED CERTIFICATES OF INSPECTIONS FOR HIS WORK, AND DELIVER A COPY TO THE OWNER'S REPRESENTATIVE BEFORE REQUEST FOR ACCEPTANCE AND FINAL PAYMENT FOR THE WORK. REFER TO THE SUPPLEMENTARY GENERAL CONDITIONS FOR INFORMATION ON WAIVING OF PERMIT FEES.

ALTERATION WORK AND DEMOLITION

1.ALL EQUIPMENT, DUCTWORK, PIPING, CONTROL DEVICES ETC... TO BE REMOVED, SHALL BE DISPOSED OF, TURNED OVER TO THE OWNER, OR SALVAGED AS DIRECTED BY THE OWNER. EQUIPMENT, DUCTWORK, PIPING, CONTROL DEVICES, ETC. SHALL NOT BE REMOVED FROM THE PREMISES WITHOUT THE OWNERS APPROVAL. REMOVE ALL EXISTING COMPONENTS REQUIRED TO MEET THE FUNCTIONAL INTENT OF THE DESIGN DRAWINGS.

2.NO DEAD ENDS SHALL BE LEFT ON ANY DUCTWORK AND PIPING SYSTEMS UPON COMPLETION OF WORK. ALL DUCTWORK AND PIPING BEING REMOVED SHALL BE PROPERLY VALVED AND CAPPED AT THE MAINS.

3.ALL SYSTEMS SHALL BE LEFT IN WORKING ORDER TO THE SATISFACTION OF THE OWNER UPON COMPLETION OF ALL NEW WORK.

4.CONDUCT SELECTIVE DEMOLITION WORK IN A MANNER THAT WILL MINIMIZE NEED FOR DISRUPTION OF NORMAL OPERATIONS IN OTHER AREAS OF THE BUILDING. PROVIDE MINIMUM OF 48 HOURS ADVANCE NOTICE TO OWNER OF DEMOLITION OR SYSTEM SHUTDOWN ACTIVITIES THAT WILL AFFECT NORMAL OPERATIONS IN THE BUILDING OR REQUIRE THE INTERRUPTION OF UTILITY SERVICES.

5.DRAINING OF PIPING SYSTEMS: WHERE EXISTING PIPING SYSTEMS REQUIRE DRAINING OF FLUIDS FROM EQUIPMENT AND PIPING, ALL DRAINAGE SHALL BE DIRECTED BY HOSE OR PIPE TO SUITABLE, FREE FLOWING DRAINS OR SUITABLE CONTAINERS. DO NOT ALLOW EXCESSIVE FLUID/WATER BUILDUP ON FLOORS OR SITE AREA. ENSURE THAT EXISTING DRAINS ARE KEPT CLEAR OF DEBRIS TO PREVENT BLOCKAGES.

6.CERTAIN ITEMS OF EXISTING EQUIPMENT AND PIPING OR DUCTWORK MAY BE INDICATED FOR REMOVAL, RELOCATION OR ABANDONMENT. ITEMS NOTED FOR REMOVAL SHALL BE DISCONNECTED AND DISPOSED OF BY THE CONTRACTOR OR TURNED OVER TO THE OWNER IF THE OWNER SO REQUESTS. IF INSTRUCTED TO DISPOSE OF ITEMS, THE CONTRACTOR SHALL REMOVE THE ITEMS FROM THE PREMISES AND DISPOSE OF THEM IN A SAFE, LEGAL AND RESPONSIBLE MANNER AND LOCATION. ITEMS NOTED FOR RELOCATION ARE INTENDED FOR REUSE IN ANOTHER LOCATION AS DESIGNATED ON THE DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE THE MATERIAL FROM ITS PRESENT LOCATION, STORE THE MATERIAL IN A SAFE PLACE, AND REINSTALL THE MATERIAL IN ITS NEW LOCATION. QUESTIONS REGARDING THE SUITABILITY OF THE MATERIAL OR EQUIPMENT SHALL BE BROUGHT, IN WRITTEN FORM, TO THE ATTENTION OF THE OWNER/ENGINEER. ABANDONMENT SHALL BE DEFINED AS LEAVING IN PLACE ANY ITEM SO DESIGNATED AND SHALL INCLUDE PROPER PIPING OR DUCTWORK TERMINATION WITHIN ANY OCCUPIED OR OPEN AREA. ALL ABANDONED PIPES AND DUCTS SHALL BE DISCONNECTED AND CAPPED AT THEIR MAINS.

COORDINATION WITH OTHER DIVISIONS

1. ALL WORK SHALL BE CARRIED OUT IN CONJUNCTION WITH OTHER TRADES AND FULL COOPERATION SHALL BE GIVEN IN ORDER THAT ALL WORK MAY PROCEED WITH A MINIMUM OF DELAY AND INTERFERENCE. PARTICULAR EMPHASIS IS PLACED ON TIMELY INSTALLATION OF MAJOR APPARATUS AND FURNISHING OTHER CONTRACTORS, ESPECIALLY THE CONSTRUCTION MANAGER, WITH INFORMATION AS TO OPENINGS, CHASES, SLEEVES, BASES, INSERTS, EQUIPMENT LOCATIONS, PANELS, ETC., REQUIRED BY OTHER TRADES.

2.THE CONTRACTORS ARE REQUIRED TO EXAMINE ALL OF THE PROJECT DRAWINGS, INCLUDING THE SITE, ARCHITECTURAL, STRUCTURAL AND THOSE OF OTHER MECHANICAL AND ELECTRICAL TRADES AND MUTUALLY ARRANGE WORK SO AS TO AVOID INTERFERENCE WITH THE WORK OF OTHER TRADES AND / OR EXISTING SYSTEMS AND EQUIPMENT. IN GENERAL, DUCTWORK, HEATING PIPING, SPRINKLER PIPING AND DRAINAGE LINES TAKE PRECEDENCE OVER WATER, GAS AND ELECTRICAL CONDUITS. THE ENGINEER SHALL MAKE FINAL DECISIONS REGARDING THE ARRANGEMENT OF WORK WHICH CANNOT BE AGREED UPON BY THE CONTRACTORS.

3.WHERE THE WORK OF THE CONTRACTOR WILL BE INSTALLED IN CLOSE PROXIMITY TO OR WILL INTERFERE WITH WORK OF OTHER TRADES, THE CONTRACTORS WILL COOPERATE IN WORKING OUT SPACE CONDITIONS TO MAKE A SATISFACTORY ADJUSTMENT.

4.IF THE WORK UNDER A SECTION IS INSTALLED BEFORE COORDINATING WITH OTHER DIVISIONS OR SECTIONS OR SO AS TO CAUSE INTERFERENCE WITH WORK OF OTHER SECTIONS, THE NECESSARY CHANGES TO CORRECT THE CONDITION SHALL BE MADE BY THE CONTRACTOR CAUSING THE INTERFERENCE WITHOUT EXTRA CHARGE TO THE OWNER.

SHUT DOWNS

1.WHEN INSTALLATION OF A NEW SYSTEM REQUIRES THE TEMPORARY SHUTDOWN OF AN EXISTING OPERATING SYSTEM, THE CONNECTION OF THE NEW SYSTEM SHALL BE PERFORMED AT SUCH TIME AS DESIGNATED BY THE ENGINEER OR THE OWNER'S REPRESENTATIVE.

2.THE ENGINEER AND THE OWNER SHALL BE NOTIFIED OF THE ESTIMATED DURATION OF THE SHUTDOWN PERIOD AT LEAST THREE (3) DAYS IN ADVANCE OF THE DATE THE WORK IS TO BE PERFORMED.

3.WORK SHALL BE ARRANGED FOR CONTINUOUS PERFORMANCE WHENEVER POSSIBLE. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY LABOR, INCLUDING OVERTIME IF REQUIRED, TO ASSURE THAT EXISTING OPERATING SERVICES WILL BE SHUT DOWN ONLY DURING THE TIME ACTUALLY REQUIRED TO MAKE NECESSARY CONNECTIONS.

ELECTRICAL CONNECTIONS

1.UNLESS OTHERWISE SPECIFIED, ALL WIRING SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH DIVISION 26.

2.ALL POWER WIRING SHALL BE FURNISHED AND INSTALLED UNDER DIVISION 26 COMPLETE FROM POWER SOURCE TO MOTOR OR EQUIPMENT JUNCTION BOX INCLUDING POWER WIRING THROUGH THE STARTERS. ALL STARTERS NOT FACTORY MOUNTED ON EQUIPMENT SHALL BE MOUNTED UNDER THE SPECIFICATION SECTION FURNISHING THE STARTER.

3.THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL TEMPERATURE CONTROL WIRING, INTERLOCK WIRING AND EQUIPMENT CONTROL WIRING FOR THE EQUIPMENT FURNISHED UNDER THIS DIVISION.

4.THE MECHANICAL CONTRACTOR SHALL FURNISH STARTERS AND/OR DISCONNECTS TO THE ELECTRICAL CONTRACTOR FOR EQUIPMENT PROVIDED. THE MECHANICAL CONTRACTOR SHALL PROVIDE AND BE RESPONSIBLE FOR THE PROPER SIZED OVERLOAD HEATERS IN ALL STARTERS THAT HE FURNISHES.

SHOP DRAWINGS

1.PRIOR TO DELIVERY TO THE JOBSITE AND SUFFICIENTLY IN ADVANCE TO ALLOW THOROUGH REVIEW, THE CONTRACTOR SHALL SUBMIT, FOR REVIEW, DETAILED SHOP DRAWINGS OF ALL EQUIPMENT AND MATERIAL SPECIFIED IN EACH SECTION AND COORDINATED DUCTWORK LAYOUTS. ALL DUCTWORK SHOP DRAWINGS, AUTOMATIC TEMPERATURE CONTROLS AND ALL DIAGRAMS AND RISERS SHALL BE SUBMITTED IN HARD COPY FORMAT. NO MATERIAL OR EQUIPMENT MAY BE DELIVERED TO THE JOB SITE OR INSTALLED UNTIL THE CONTRACTOR HAS RECEIVED SHOP DRAWINGS FOR THE PARTICULAR MATERIAL OR EQUIPMENT WHICH HAVE BEEN PROPERLY REVIEWED.

2.SHOP DRAWINGS SHALL BE SUBMITTED WITHIN 30 DAYS AFTER AWARD OF CONTRACT BEFORE ANY MATERIAL OR EQUIPMENT IS PURCHASED. THE CONTRACTOR SHALL SUBMIT FOR REVIEW COPIES OF ALL SHOP DRAWINGS TO BE INCORPORATED IN THE MECHANICAL CONTRACT. REFER TO THE GENERAL CONDITIONS AND SUPPLEMENTARY GENERAL CONDITIONS FOR THE QUANTITY OF COPIES REQUIRED FOR SUBMISSION. WHERE QUANTITIES ARE NOT SPECIFIED, PROVIDE SEVEN (7) COPIES FOR REVIEW.

3.PROVIDE SHOP DRAWINGS FOR ALL DEVICES SPECIFIED ON DRAWINGS IN EQUIPMENT SCHEDULES AND FOR ALL SYSTEMS INCLUDING DUCTWORK, PIPING, CONTROLS, ETC., OR WHERE CALLED FOR ELSEWHERE IN THE SPECIFICATIONS. SHOP DRAWINGS SHALL INCLUDE MANUFACTURERS' NAMES, CATALOG NUMBERS, CUTS, WIRING AND PIPING DIAGRAMS AND OTHER SUCH DESCRIPTIVE DATA AS MAY BE REQUIRED TO IDENTIFY AND ACCEPT THE EQUIPMENT, CERTIFIED DIMENSIONAL DRAWINGS, ACCURATE LAYOUT AND ARRANGEMENT DRAWINGS, LOCATIONS AND SIZES OF ALL CONNECTIONS, AND EQUIPMENT WEIGHTS ALL PERFORMANCE DATA REQUIRED TO VERIFY THE EQUIPMENT'S SUITABILITY SHALL BE CLEARLY PRESENTED. A COMPLETE LIST IN EACH CATEGORY (EXAMPLE: ALL DIFFUSERS) OF ALL SHOP DRAWINGS, CATALOG CUTS, MATERIAL LISTS, ETC., SHALL BE SUBMITTED TO THE ENGINEER AT ONE TIME. NO CONSIDERATION WILL BE GIVEN TO A PARTIAL SHOP DRAWING SUBMITTAL.

A. EQUIPMENT SHOP DRAWINGS SHALL CONTAIN FULL RANGE PERFORMANCE CURVES, GRAPHS, TABLES OR OTHER PERTINENT DATA WHICH CLEARLY INDICATES OPERATIONAL RANGE OF A GIVEN UNIT SIZE. COMPUTER GENERATED/PLOTTED CURVES OR INFORMATION, BASED SOLELY ON THE DESIGN PERFORMANCE, WILL NOT BE ACCEPTED.

B. ALL SUBMITTALS OF EQUIPMENT FURNISHED WITH MOTORS SHALL CONTAIN A COMPLETE DESCRIPTION OF THE MOTOR'S OPERATING CHARACTERISTICS (HORSEPOWER, VOLTAGE, PHASE, SERVICE FACTOR) AND THE NAMEPLATE MOTOR EFFICIENCY.

C. SHOP DRAWING SUBMITTAL SHEETS WHICH MAY SHOW ITEMS THAT ARE NOT BEING FURNISHED SHALL HAVE THOSE ITEMS CROSSED OFF IN INK TO CLEARLY INDICATE WHICH ITEMS WILL BE FURNISHED AND WHICH WILL NOT BE FURNISHED.

4.ACCEPTANCE RENDERED ON SHOP DRAWINGS SHALL NOT BE CONSIDERED AS A GUARANTEE OF MEASUREMENTS OR BUILDING CONDITIONS. WHERE DRAWINGS ARE REVIEWED, REVIEW DOES NOT MEAN THAT DRAWINGS HAVE BEEN CHECKED IN DETAIL; SAID APPROVAL DOES NOT IN ANY WAY RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITY OR NECESSITY OF FURNISHING MATERIAL OR PERFORMING WORK AS REQUIRED BY THE CONTRACT DRAWINGS AND SPECIFICATIONS. VERIFY AVAILABLE SPACE PRIOR TO SUBMITTING SHOP DRAWINGS. ACCEPTANCE OF SHOP DRAWINGS SHALL NOT APPLY TO QUANTITY NOR RELIEVE CONTRACTOR OF HIS RESPONSIBILITY TO COMPLY WITH INTENT OF DRAWINGS AND SPECIFICATIONS.

AS-BUILT DRAWINGS

1.PROVIDE A COMPLETE SET OF AS -BUILT DRAWINGS REFLECTING AS INSTALLED CONDITIONS. AS-BUILT DRAWINGS SHALL INDICATE ALL INSTALLED CONDITIONS OF SYSTEMS WITHIN THIS DISCIPLINE. DRAWINGS SHALL BE OF SIMILAR SCALE AS THE CONSTRUCTION DOCUMENTS AND INCLUDE DETAILS AS NECESSARY TO CLEARLY REFLECT THE INSTALLED CONDITION. DRAWINGS SHALL BE BOUND IN A COMPLETE AND CONSECUTIVE SET. SUPPLEMENTAL SKETCHES AND LOOSE PAPERWORK WILL NOT BE ACCEPTABLE AND WILL BE RETURNED FOR REVISION. THE CONTRACTOR SHALL COMPLY WITH THE ENGINEERS COMMENTS TO PRODUCE A CLEAR AND CONCISE SET OF DRAWINGS. DRAWINGS SHALL BE SUBMITTED IN BOTH HARD COPY AND ELECTRONIC (AUTO-CAD VERSION AS REQUIRED BY THE OWNER) VERSION. NUMBER OF COPIES OF EACH AS REQUESTED BY THE OWNER.

2.PROVIDE “AS-BUILT DRAWINGS” INDICATING IN A NEAT AND ACCURATE MANNER A COMPLETE RECORD OF ALL REVISIONS OF THE ORIGINAL DESIGN OF THE WORK. INDICATE THE FOLLOWING INSTALLED CONDITIONS:

A. INCLUDE ALL CHANGES AND AN ACCURATE RECORD, ON REPRODUCTIONS OF THE CONTRACT DRAWINGS OR APPROPRIATE SHOP DRAWINGS, OF ALL DEVIATIONS, BETWEEN THE WORK SHOWN AND THE WORK INSTALLED.

B. MAINS AND BRANCHES OF PIPING SYSTEMS, WITH VALVES AND CONTROL DEVICES LOCATED AND NUMBERED, CONCEALED UNIONS LOCATED, AND WITH ITEMS REQUIRING MAINTENANCE LOCATED (I.E. TRAPS, STRAINERS, EXPANSION COMPENSATORS, TANKS, ETC…) VALVE LOCATION DIAGRAMS, COMPLETE WITH VALVE TAG CHART.

C. EQUIPMENT LOCATIONS (EXPOSEED AND CONCEALED), DIMENSIONED FROM PROMINENT BUILDING LINES.

D. APPROVED SUBSTITUTIONS, CONTRACT MODIFICATIONS, AND ACTUAL EQUIPMENT AND MATERIALS INSTALLED.

E. CONTRACT MODIFICATIONS, ACTUAL EQUIPMENT AND MATERIALS INSTALLED.

3.SUBMIT FOR REVIEW BOUND SETS OF THE REQUIRED DRAWINGS, MANUALS AND OPERATING INSTRUCTIONS.

4.SUBMIT A COMPLETE MAINTENANCE MANUAL OF ALL EQUIPMENT INSTALLED UNDER THIS CONTRACT.

HANGERS AND SUPPORT

1. SEISMIC RESTRAINT: PROVIDE SEISMIC RESTRAINT AND EXPANSION OF ALL MECHANICAL EQUIPMENT AND SYSTEMS IN ACCORDANCE WITH STATE AND LOCAL BUILDING CODE REQUIREMENTS. SUBMIT SHOP DRAWINGS SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF THE PROJECT INDICATING ALL NECESSARY COMPONENT CUTS, PLAN LOCATIONS AND CALCULATIONS FOR A COMPLETE SYSTEM.

2. PROVIDE ALL NECESSARY STRUCTURAL MEMBERS INCLUDING ADDITIONAL STRUCTURAL SUPPORT TO SUPPORT PIPING AND EQUIPMENT. HANGERS AND SUPPORTS SHALL BE OF AN APPROVED DESIGN NECESSARY TO SUPPORT DUCTWORK, PIPING EQUIPMENT AND TO KEEP IN PROPER ALIGNMENT AND PREVENT TRANSMISSION OF INJURIOUS THRUSTS AND VIBRATIONS. IN ALL CASES WHERE HANGERS, BRACKETS, ETC. ARE SUPPORTED FROM CONCRETE CONSTRUCTION. DO NOT WEAKEN CONCRETE OR PENETRATE WATERPROOFING. ALL HANGERS AND SUPPORTS SHALL BE CAPABLE OF SCREW ADJUSTMENT AFTER PIPING IS ERECTED. HANGERS SUPPORTING PIPING EXPANDING INTO LOOPS, BENDS, AND OFFSETS SHALL BE SECURED TO THE BUILDING STRUCTURE IN SUCH A MANNER THAT HORIZONTAL ADJUSTMENT PERPENDICULAR TO THE RUN OF PIPING SUPPORTED MAY BE MADE TO ACCOMMODATE DISPLACEMENT DUE TO EXPANSION. ALL SUCH HANGERS SHALL BE FINALLY ADJUSTED BOTH IN THE VERTICAL AND HORIZONTAL DIRECTION, AS REQUIRED. HANGERS IN CONTACT WITH COPPER OR BRASS PIPE SHALL BE DIELECTRIC, COMPATIBLE WITH COPPER AND BRASS ALLOY OR PROVIDED WITH FELT SLEEVE.

3. PROVIDE ADDITIONAL SUPPORT FOR DUCTWORK, PIPING AND EQUIPMENT WHEN DECK IS NOT CAPABLE OF SUPPORT.

4. BEAM CLAMPS - HANGERS SUPPORTED FROM STEEL SHALL BE CENTER LOADING BEAM CLAMPS FOR HANGERS SUPPORTING PIPING 2 INCHES FOR 2-1/2 INCHES AND LARGER, I BEAM CLAMPS SHALL BE FORGED STEEL. “C” CLAMPS ARE NOT TO BE USED.

5. PROVIDE AND INSTALL EXPANSION COMPENSATION FOR ALL PIPING. SUBMIT PLANS, CALCULATIONS AND EQUIPMENT DATA.

DUCTWORK

1. DUCTWORK SHALL BE FABRICATED FROM HOT-DIPPED GALVANIZED STEEL SHEET CONFORMING TO ASTM A653, WITH G60 COATING. EXHAUST DUCTWORK SERVING TOILET/SHOWER SPACES SHALL BE ALUMINUM SHEET ALLOY 3003-H14, ASTM B 209, ALUMINUM CONNECTORS AND BAR STOCK: ALLOY 6061-T6 OR OF EQUIVALENT STRENGTH.

2. MANUFACTURED METAL DUCTWORK AND FITTINGS SHALL BE BY LINDAB, SEMCO OR UNITED McGILL CORP. FLAT OVAL AND ROUND DUCTS: MACHINE MADE FROM SPIRAL LOCKSEAM DUCT WITH LIGHT REINFORCING CORRUGATIONS; FITTINGS MANUFACTURED OF AT LEAST TWO GAGES HEAVER THAN METAL DUCT.

3. FABRICATE, SUPPORT, INSTALL AND SEAL IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE, AND AS INDICATED. PROVIDE DUCT MATERIAL, GAUGES, REINFORCING AND SEALING FOR OPERATING PRESSURES INDICATED.

4. INSULATED FLEXIBLE DUCTS SHALL BE FABRICATED FROM MULTIPLE LAYERS OF ALUMINUM LAMINATE SUPPORTED BY HELICALLY WOUND SPRING STEEL WIRE WITH FIBERGLASS INSULATION AND POLYETHYLENE VAPOR BARRIER. PRESSURE RATING SHALL BE 10 INCH W.G. POSITIVE AND 1.0 INCH W.G. NEGATIVE. FLEXIBLE DUCTS SHALL NOT PASS THROUGH WALLS NOR EXCEED 8 FEET IN LENGTH. SECURE TO DUCT TAP WITH CLAMP OR DRAWBAND. PROPERLY SUPPORT SO AS NOT TO SAG OR KINK.

5. JOINT SEALERS AND SEALANTS SHALL BE NON-HARDENING, WATER, MILDEW AND MOLD RESISTANT. MAXIMUM FLAME SPREAD OF 25, SMOKE DEVELOPED OF 50 WHEN TESTED IN ACCORDANCE WITH ASTM E84.

6. PROVIDE AIR FOIL TURNING VANES WHEN RECTANGULAR ELBOWS MUST BE USED.

7.ACCESS DOORS SHALL BE PROVIDED UNDER THIS SECTION AS REQUIRED TO PROVIDE ACCESS TO FIRE AND SMOKE DAMPERS, CONTROLS, HUMIDIFIERS, COILS VALVES, ETC., WHICH ARE LOCATED IN DUCTS.

8.ON ALL AIR HANDLING EQUIPMENT INCLUDING AIR HANDLERS, ERV UNITS, UTILITY AND CABINET FANS, FURNISH AND INSTALL FLEXIBLE DUCT CONNECTORS TO ISOLATE FAN VIBRATION FROM THE DUCT SYSTEM. (EXCEPTION: AIR HANDLING UNITS WITH INTERNAL FAN VIBRATION ISOLATORS AND FLEXIBLE CONNECTORS INSTALLED BETWEEN FAN AND HOUSING.)

9.ACCESSORY DUCTWORK MATERIALS SUCH AS TAPES, SEALANTS, FASTENERS, ETC., SHALL COMPLY WITH NFPA 90A WITH A MAXIMUM FLAME SPREAD RATING OF 25 AND A MAXIMUM SMOKE DEVELOPED RATING OF 50, AND SHALL BE SMACNA AND UL APPROVED.

DUCTWORK INSULATION

1.FACED FIBERGLASS DUCT WRAP SHALL BE APPLIED EXTERNALLY TO ALL CONCEALED DUCTS IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. DUCT WRAP TO BE 1.5 PCF DENSITY WITH K VALUE OF 0.27 AT 75 DEG F, EQUAL TO OWENS CORNING TYPE 100 OR EQUIVALENT.

2.APPLY RIGID BOARD INSULATION TO ALL EXPOSED DUCTWORK AND PLENUMS, ETC., BY USING MECHANICAL, WELD-TYPE PIN FASTENERS. FASTENERS SHALL BE SPOTTED NOT LESS THAN 3 INCHES FROM THE EDGE OF THE DUCT AND ON 12-INCH CENTERS THROUGHOUT THE AREA OF THE DUCT. RIGID BOARD INSULATION SHALL BE 6.0 PCF DENSITY WITH K VALUE OF 0.22 AT 75 DEG F, EQUAL TO OWENS CORNING TYPE 705 OR EQUIVALENT.

3.APPLY 1" ACOUSTICAL DUCT LINER AND LINER BOARD TO THE INSIDE OF DUCTS AND PLENUMS AS SPECIFIED AND AS CALLED FOR ON DRAWINGS. ACOUSTICAL LINER SHALL BE 2.0 PCF DENSITY WITH K VALUE OF 0.26 AT 75 DEG F, EQUAL TO MANVILLE PERMACOTE LINACOUSTIC-HP OR EQUIVALENT.

4.THE FOLLOWING DUCTS SHALL BE INSULATED WITH KRAFT FOIL FACED DUCT WRAP INSULATION IN SUFFICIENT THICKNESS TO MEET THE REQUIREMENTS OF THE 2015 INTERNATIONAL ENERGY CODE:

A. ALL CONCEALED SUPPLY AIR AND RETURN AIR DUCTWORK ABOVE CEILINGS WHETHER LINED OR UNLINED.

B. ALL OUTDOOR AIR DUCTWORK.

C. ALL EXHAUST DUCTWORK ON COLD SIDE OF BACKDRAFT OR MOTORIZED DAMPERS.

5.PROVIDE 1” ACOUSTICAL DUCT LINER ON FIRST 10' OF SUPPLY AIR DISCHARGE AND RETURN AIR INLET DUCTS OF ALL AIR HANDLING UNITS.

REGISTERS, GRILLES AND DIFFUSERS

1.REGISTERS, GRILLES AND DIFFUSERS SHALL BE AS SCHEDULED ON THE DRAWINGS. FINISH SHALL BE AS SELECTED BY THE ARCHITECT.

2. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

3.CHECK LOCATIONS OF OUTLETS AND INLETS AND MAKE NECESSARY ADJUSTMENTS IN POSITION TO CONFORM WITH ARCHITECTURAL FEATURES, SYMMETRY AND LIGHTING ARRANGEMENT. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR LOCATIONS OF REGISTERS, GRILLS AND DIFFUSERS.

4. INSTALL DIFFUSERS TO DUCTWORK WITH AIR TIGHT CONNECTION.PAINT INSIDE OF DUCT CONNECTION TO REGISTERS AND DIFFUSERS BLACK FOR A DISTANCE OF 18" WHEREVER SHINY SHEETMETAL IS VISIBLE FORM THE OCCUPIED SPACE.

5. PROVIDE BALANCING DAMPERS ON DUCT TAKE-OFFS TO DIFFUSERS, GRILLES AND REGISTERS, DESPITE WHETHER DAMPERS ARE SPECIFIED AS PART OF THE DIFFUSER, GRILLE OR REGISTER ASSEMBLY.

PIPING

1. HOT WATER SUPPLY AND RETURN & CHILLED WATER SUPPLY AND RETURN

A. PIPE: SCHEDULE 40 BLACK STEEL PIPE CONFORMING TO ASTM A53, WITH WELDED, THREADED OR GROOVED JOINTS.

B. FITTINGS: ASTM A234 WROUGHT STEEL WELDING TYPE FITTINGS, ASTM B16.3 MALLEABLE IRON THREADED FITTINGS, OR GROOVED FITTINGS AND MECHANICAL COUPLINGS.

C. FITTINGS 2" AND UNDER SHALL BE THREADED, FITTINGS 2-1/2" AND OVER SHALL BE WELDED OR GROOVED.

D. PIPING 2" AND SMALLER MAY BE ASTM B88 TYPE K DRAWN COPPER WITH SOLDERED FITTINGS OR COPPER PRESS FITTINGS.

2. LOW PRESSURE STEAM

A. PIPE: SCHEDULE 40 BLACK STEEL PIPE CONFORMING TO ASTM A53, WITH WELDED OR THREADED JOINTS.

B. FITTINGS: ASTM A234 WROUGHT STEEL WELDING TYPE FITTINGS OR ASTM B16.3 MALLEABLE IRON THREADED FITTINGS.

C. FITTINGS 2" AND UNDER SHALL BE THREADED, FITTINGS 2-1/2" AND OVER SHALL BE WELDED.

3.LOW PRESSURE CONDENSATE

A. PIPE: SCHEDULE 80 BLACK STEEL PIPE CONFORMING TO ASTM A53, WITH WELDED OR THREADED JOINTS.

B. FITTINGS: ASTM A234 WROUGHT STEEL WELDING TYPE FITTINGS OR ASTM B16.3 MALLEABLE IRON THREADED FITTINGS.

C. FITTINGS 2" AND UNDER SHALL BE THREADED, FITTINGS 2-1/2" AND OVER SHALL BE WELDED.

4. PIPING INSULATION:

A. PROVIDE RIGID MOLDED, NONCOMBUSTIBLE FIBERGLASS PIPE INSULATION WITH WHITE KRAFT PAPER VAPOR BARRIER JACKET AND SELF-SEALING LAP JOINT AND BUTT STRIPS. INSULATION SHALL BE 1.5 PCF DENSITY WITH K VALUE OF 0.24 AT 75 DEG F. INSULATION SHALL BE RATED FOR OPERATING TEMPERATURES FROM 0 DEG F TO 850 DEG F AND BE EQUIVALENT TO OWENS CORNING ASJ-SSL II OR EQUIVALENT.

B. FITTINGS SHALL BE COVERED WITH FLEXIBLE FIBERGLASS INSULATION AND ZESTON PVC FITTING COVERS. INSULATION THICKNESS SHALL BE IN CONFORMANCE WITH THE 2015 INTERNATIONAL ENERGY CODE.

C. ALL INSULATION MATERIALS, INCLUDING JACKETS AND ADHESIVES, SHALL MEET THE REQUIREMENTS OF NFPA 90A, ACCORDING TO ASTM TEST E-84, NFPA 255 AND UL 723, HAVING A FLAME-SPREAD RATING OF NOT OVER 25, A SMOKE-DEVELOPED RATING OF NOT OVER 50 AND A FUEL-CONTRIBUTED RATING OF NOT OVER 50.

5. PIPING INSTALLATION

A. ALL PIPE CONNECTIONS SHALL BE INSTALLED TO ALLOW FOR FREEDOM OF MOVEMENT OF THE PIPING DURING EXPANSION AND CONTRACTION WITHOUT SPRINGING. SWING JOINTS, EXPANSION LOOPS AND EXPANSION JOINTS WITH PROPER ANCHORS AND GUIDES SHALL BE PROVIDED BY THE CONTRACTOR WHERE NECESSARY AND/OR WHERE SHOWN ON THE DRAWINGS. ANCHORS AND GUIDES SHALL BE SUBJECT TO THE REVIEW OF THE ENGINEER. PAY PARTICULAR ATTENTION TO PLASTIC PIPING WITH HIGH COEFFICIENTS OF EXPANSION.

B. REMOVE SCALE AND DIRT ON INSIDE AND OUTSIDE OF PIPE BEFORE ASSEMBLY.

C. AFTER COMPLETION, FILL, CLEAN AND TREAT SYSTEM. VENT AIR FROM SYSTEM.

D. INSTALL HOT WATER AND CHILLED WATER PIPING TO ASME B31.9 REQUIREMENTS.

E. ROUTE PIPING IN AN ORDERLY MANNER, PARALLEL TO BUILDING STRUCTURE, AND MAINTAIN GRADIENT. GROUP PIPING WHENEVER PRACTICAL AT COMMON ELEVATIONS. SLEEVE PIPING PASSING THROUGH PARTITIONS, WALLS AND FLOORS. SLOPE PIPING AND ARRANGE TO DRAIN AT LOW POINTS.

F.PIPING SYSTEMS SHALL BE PERMANENTLY LABELED TO IDENTIFY FLUID INSIDE PIPES, DIRECTION OF FLUID FLOW AND APPROXIMATE WORKING PRESSURE. LABELING SYSTEM SHALL BE “OPTI-CODE” WITH “ARROWS ON A ROLL TAPE” PERMANENTLY AFFIXED TO PIPING AS MANUFACTURED BY SETON NAME PLATE CORP., OR AN ACCEPTED EQUIVALENT.

G. UNIONS ARE TO BE USED AT CONNECTIONS TO FIXTURES AND OTHER APPARATUS TO ALLOW EASY REMOVAL. PROVIDE ACCEPTABLE DIELECTRIC UNIONS OR ADAPTERS AT ALL CONNECTIONS BETWEEN FERROUS AND NON-FERROUS PIPING.

H. ANY EXPOSED, UNINSULATED PIPING LOCATED IN FINISHED AREAS WHERE PIPING PASSES THROUGH WALLS, FLOOR OR CEILING, SHALL BE CHROME-PLATED WITH CHROME-PLATED ESCUTCHEONS.

I. PROVIDE HOSE BIB DRAINS WITH BRASS CAPS AT LOW POINTS OF PIPING RISERS FOR DRAINAGE.

6.PIPE HANGERS AND SUPPORTS

A. ALL HANGER, SUPPORT AND ANCHOR TYPES OR MODEL NUMBERS SPECIFIED HEREIN ARE BASED ON GRINNELL OR ACCEPTABLE EQUIVALENT. SUPPORTS SHALL CONFORM TO MSS-SP-69 AND ANSI B31.1. WIRE AND/OR STRAP HANGERS WILL NOT BE ACCEPTABLE.

B. ALTERNATE PIPING SUPPORT SYSTEMS MAY BE ACCEPTABLE BASED ON TYPE AND SIZE OF PIPING INSTALLED AND SUPPORT SYSTEM EMPLOYED. STRUT SYSTEMS SUCH AS B-LINE, UNI-STRUT, SUPER STRUT, ETC. WITH INTEGRAL PIPE CLAMPING AND SUPPORTING HARDWARE OR INNOVATIVE SUPPORT PRODUCTS MAY BE ACCEPTED. SUBMIT A DRAFT SUBMITTAL TO ENGINEER PRIOR TO OFFICIAL SUBMITTAL FOR APPROVAL TO DETERMINE ACCEPTABILITY OF ALTERNATIVE SUPPORT SYSTEMS.

C. IN NO CASE SHALL PIPING BE BOTTOM OR FLOOR SUPPORTED ON THREADED ROD ONLY. A MANUFACTURED SUPPORT / BASE SHALL BE EMPLOYED WHICH IS DURABLE AND SUITABLE RESISTANT TO THE EFFECTS OF CORROSION AND MINOR IMPACT.

D. HANGERS FOR PIPE SIZES TWO (2") INCHES AND SMALLER SHALL BE LIGHT-DUTY, CLEVIS-TYPE HANGERS, #65. FOR COPPER PIPES TWO (2") INCHES AND SMALLER, USE CT-69 COPPER BAND HANGERS OR CT-65 COPPER PLATED CLEVIS.

E. HANGERS FOR PIPING OVER 2-1/2 INCHES SHALL BE GENERAL-DUTY, CLEVIS-TYPE HANGERS, #260. FOR COPPER SIZES 2-1/2 INCHES THROUGH 4 INCHES, USE CT-65. THESE HANGERS MAY BE USED FOR LARGER SIZES IN PLASTIC DRAINAGE PIPING. USE SADDLES OR INSULATION PROTECTORS FOR PLASTIC PIPE OR USE FEE & MASON FIGURE 108.

F.FOR INSULATED COLD AND/OR CHILLED WATER PIPING SYSTEMS, HANGERS SHALL BE SIZED FOR THE SPECIFIED INSULATION THICKNESS. PROVIDE NON-COMPRESSIBLE, FOAM-TYPE PIPE COVERING SADDLES OF THE REQUIRED THICKNESS AND A SHEET METAL HANGER SADDLE TO PREVENT CRUSHING OF INSULATION BY THE HANGER. INSULATED HOT WATER PIPING MAY BE INSTALLED WITH LINE- SIZE HANGERS. INSULATE AROUND HANGER.

G. VERTICAL RISERS SHALL BE SUPPORTED WITH RISER CLAMPS. FOR PIPES 2-1/2" AND SMALLER, USE FIGURE 261. FOR PIPES 3" THROUGH 8”, USE RISER CLAMPS, FIGURE 261 WITH SHEAR LUGS WELDED TO PIPE. RISERS 10” AND LARGER, OR WHERE RISER CLAMP MUST BE HUNG FROM STRUCTURE ABOVE OR ON HIGH PRESSURE STEAM OR HIGH TEMPERATURE HOT WATER SYSTEMS USE A 4 OR 6 BOLT CLAMP, FIGURE 40.

H. UPPER ATTACHMENTS FOR PIPING IN WOOD CONSTRUCTION SHALL BE MALLEABLE IRON SIDE BEAM BRACKET, GRINNELL #202, WITH LEG BOLT INTO SIDE OF WOOD MEMBER OR APPROVED “SAMMY” TYPE SCREWS.

REFRIGERANT PIPING

1. DRAWN (RIGID) COPPER TUBE SHALL BE TYPE ACR, R410 RATED, ASTM B280, H58 TEMPER, CLEAN, DRY AND CAPPED. FITTINGS SHALL BE ASME B16.22 WROUGHT COPPER. JOINTS SHALL BE BRAZED WITH AWS A5.8 BCUP SILVER / PHOSPHORUS / COPPER ALLOY.

2. ANNEALED (SOFT) COPPER TUBE SHALL BE TYPE ACR, R410 RATED, ASTM B280, O60 TEMPER, CLEAN, DRY AND CAPPED. FITTINGS SHALL BE ASME 16.22 WROUGHT COPPER. JOINTS SHALL BE FLARED OR BRAZED WITH AWS A5.8 BCUP SILVER / PHOSPHORUS / COPPER ALLOY.

3. INSULATION SHALL BE FLEXIBLE ELASTOMERIC. INSULATION THICKNESS SHALL BE IN CONFORMANCE WITH THE 2015 INTERNATIONAL ENERGY CODE.

4.PIPING INSTALLATION

A. INSTALL REFRIGERATION PIPING IN ACCORDANCE WITH VRF SYSTEM MANUFACTURER'S INSTRUCTIONS AND ASME B31.5.

B. ROUTE PIPING IN AN ORDERLY MANNER, PARALLEL TO BUILDING STRUCTURE, AND MAINTAIN GRADIENT. GROUP PIPING WHENEVER PRACTICAL AT COMMON ELEVATIONS. SLEEVE PIPING PASSING THROUGH PARTITIONS, WALLS AND FLOORS. SLOPE PIPING AND ARRANGE TO DRAIN AT LOW POINTS.

TESTING, ADJUSTING AND BALANCING

1. AFTER COMPLETION OF THE WORK, BUT BEFORE SUBSTANTIAL COMPLETION, TEST, ADJUST AND BALANCE ALL AIR AND WATER SYSTEMS IN ACCORDANCE WITH EITHER AABC, NEBB, OR TABB STANDARDS.

2. TESTING AND BALANCING CONTRACTORS SHALL BE CERTIFIED BY EITHER AABC, NEBB OR TABB.

3. AIR HANDLING SYSTEMS SHALL BE BALANCED TO WITHIN PLUS OR MINUS 5 PERCENT OF DESIGN FOR SUPPLY SYSTEMS AND PLUS OR MINUS 10 PERCENT FOR RETURN AND EXHAUST SYSTEMS.

4. AIR OUTLETS AND INLETS SHALL BE BALANCED TO WITHIN PLUS 10 PERCENT AND MINUS 5 PERCENT OF DESIGN TO SPACE. ADJUST OUTLETS AND INLETS IN SPACE TO WITHIN PLUS OR MINUS 10 PERCENT OF DESIGN.

5. ADJUST HYDRONIC SYSTEMS TO WITHIN PLUS OR MINUS 10 PERCENT OF DESIGN.

6. PERMANENTLY MARK SETTINGS OF VALVES, DAMPERS, AND OTHER ADJUSTMENT DEVICES ALLOWING SETTINGS TO BE RESTORED. SET AND LOCK MEMORY STOPS.

7. SUBMIT FINAL REPORT INDICATING DESIGN VERSUS FINAL PERFORMANCE; NOTABLE CHARACTERISTICS OF THE SYSTEM; DESCRIPTION OF SYSTEMS OPERATION SEQUENCE; TEST CONDITIONS; AND A LIST OF INSTRUMENTS USED. FINAL REPORT SHALL BE SUBMITTED PRIOR TO SUBSTANTIAL COMPLETION OF THE PROJECT.

1 MECHANICAL SPECIFICATION
1/8" = 1'-0"

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KEY PLAN

N

PROJECT DATA

PROJECT NUMBER	18-000
CURRENT SUBMISSION DATE	08/29/19
DRAWN	FSM
CHECKED	RHR
SCALE	1/8" = 1'-0"

HISTORY OF SUBMISSIONS

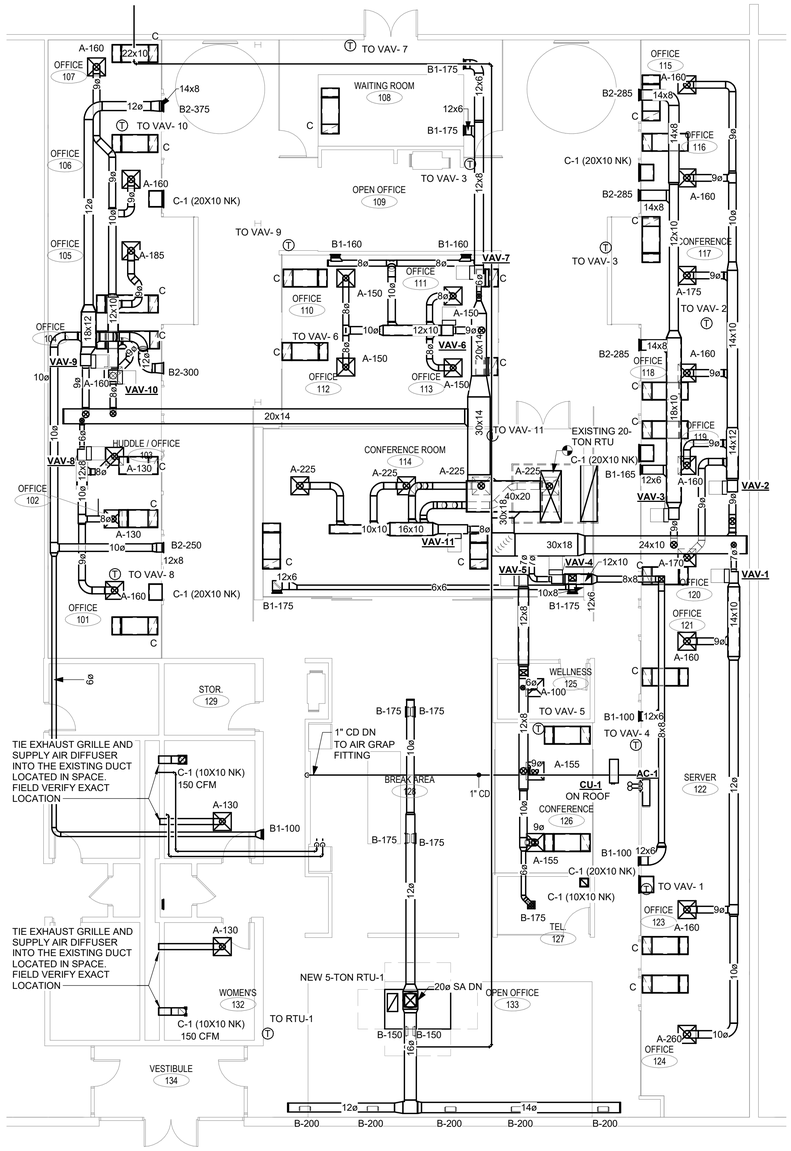
No.	Date	Description

DD SET

SHEET TITLE

MECHANICAL SPECIFICATIONS

M0.02



1 MECHANICAL DUCT FIRST FLOOR PLAN
1/8" = 1'-0"

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HISTORY OF SUBMISSIONS

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DD SET

SHEET TITLE

FIRST FLOOR MECHANICAL DUCT PLAN

M1.01

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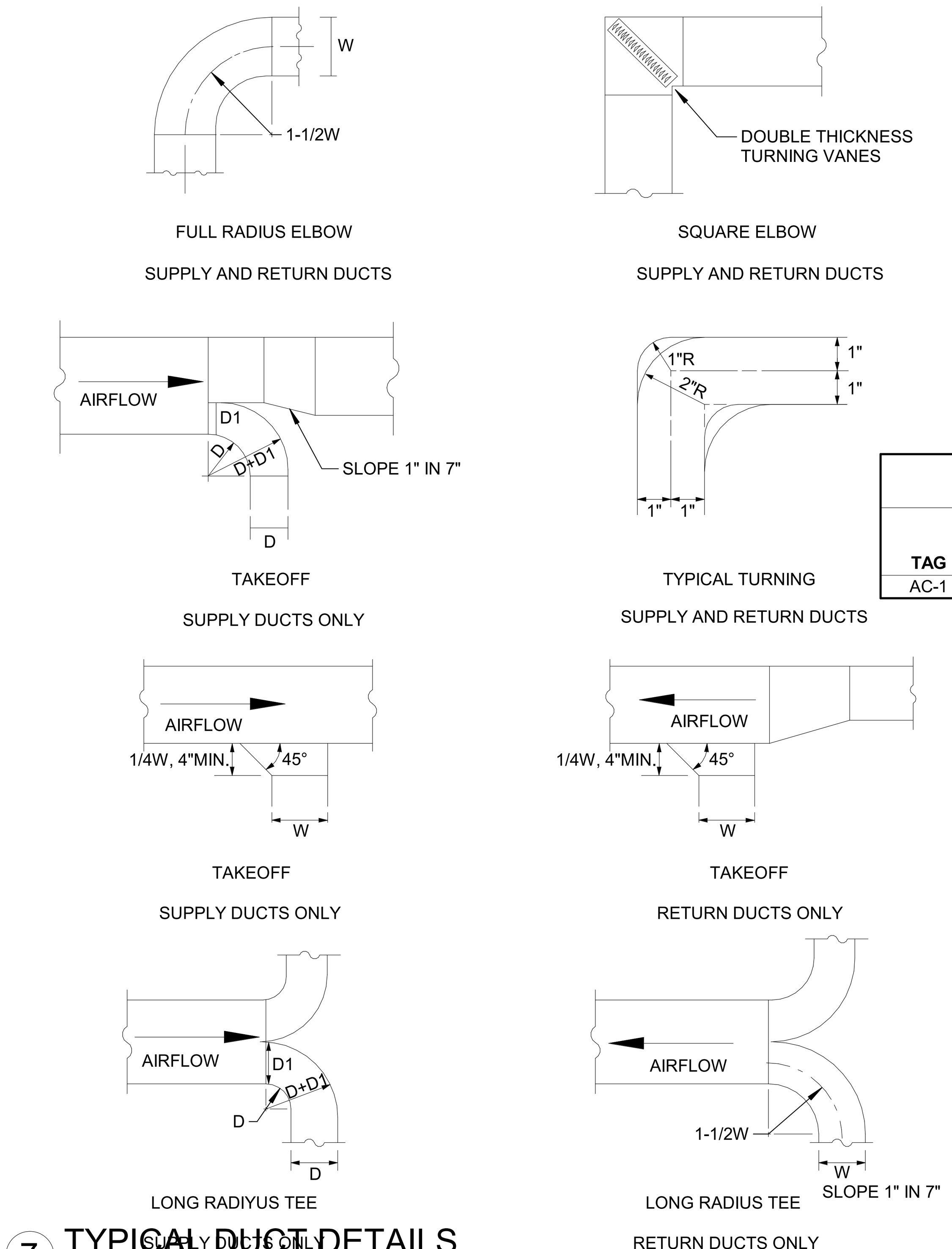
ROOFTOP UNIT SCHEDULE																					
				OUTSIDE AIRFLOW	FANS					COILS (REFER TO COIL SCHEDULES)	GAS BURNER		EFFICIENCY				ELECTRICAL DATA				
					SUPPLY				SECONDARY	COOLING											
TAG	MANUFACTURER	MODEL NO.	TYPE	MIN (CFM)	FLOW (CFM)	ESP (in-wg)	POWER (hp)	RPM	FLOW (CFM)	D/X	INPUT (Btu/h)	OUTPUT (Btu/h)	SEER	EER	IEER	COP	MCA	MOCP	VOLT	PH	REMARKS
RTU-1	Trane	YHC067E3RHA	ROOFTOP	140	2000	1.00	0.0	1023	0	Yes	60	48	0	0	0	0	33 A	45 A	208 V	3	PROVIDE WITH 14" CURB AND ECONOMIZER

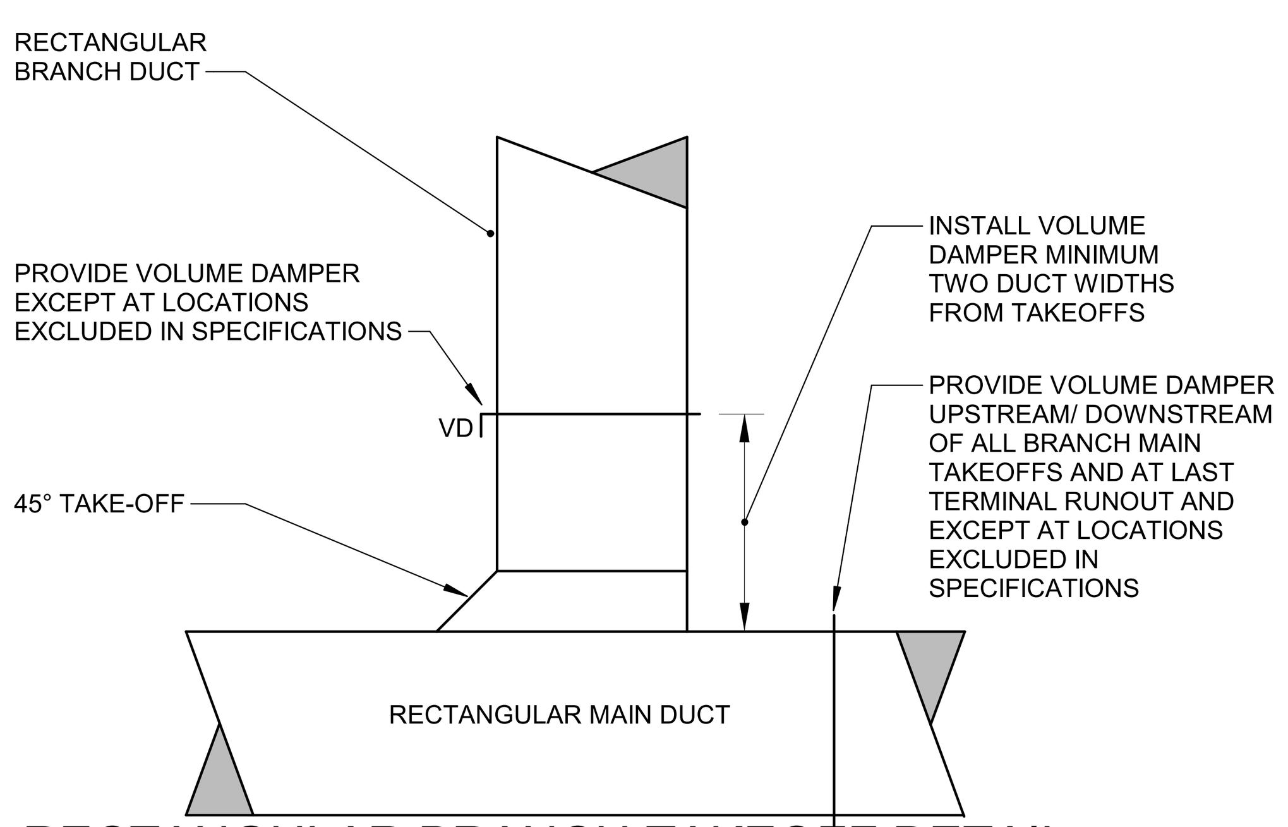
FAN COIL UNIT SCHEDULE												
				AIRFLOW	COIL CAPACITY		ELECTRICAL DATA					
TAG	MANUFACTURER	MODEL NO.	TYPE	SUPPLY (CFM)	COOLING (Btu/h)	HEATING (Btu/h)	FLA	MCA	MOCP	VOLT	PH	REMARKS
AC-1	Mitsubishi Electric	PKA-A12HA7	WALL HUNG	425	12000.0	18000.0	0.3 A	1 A	15 A	208 V	1	

CONDENSING UNIT SCHEDULE												
			NOMINAL CAPACITY		EFFICIENCY		ELECTRICAL DATA					
TAG	MANUFACTURER	MODEL NO.	COOLING (Btu/h)	HEATING (Btu/h)	EER	COP	FLA	MCA	MOCP	VOLT	PH	REMARKS
CU-1	Mitsubishi Electric	PKA-A12HA7	12000	18000.0	12	4.31	7.5 A	11 A	28 A	208 V	1	

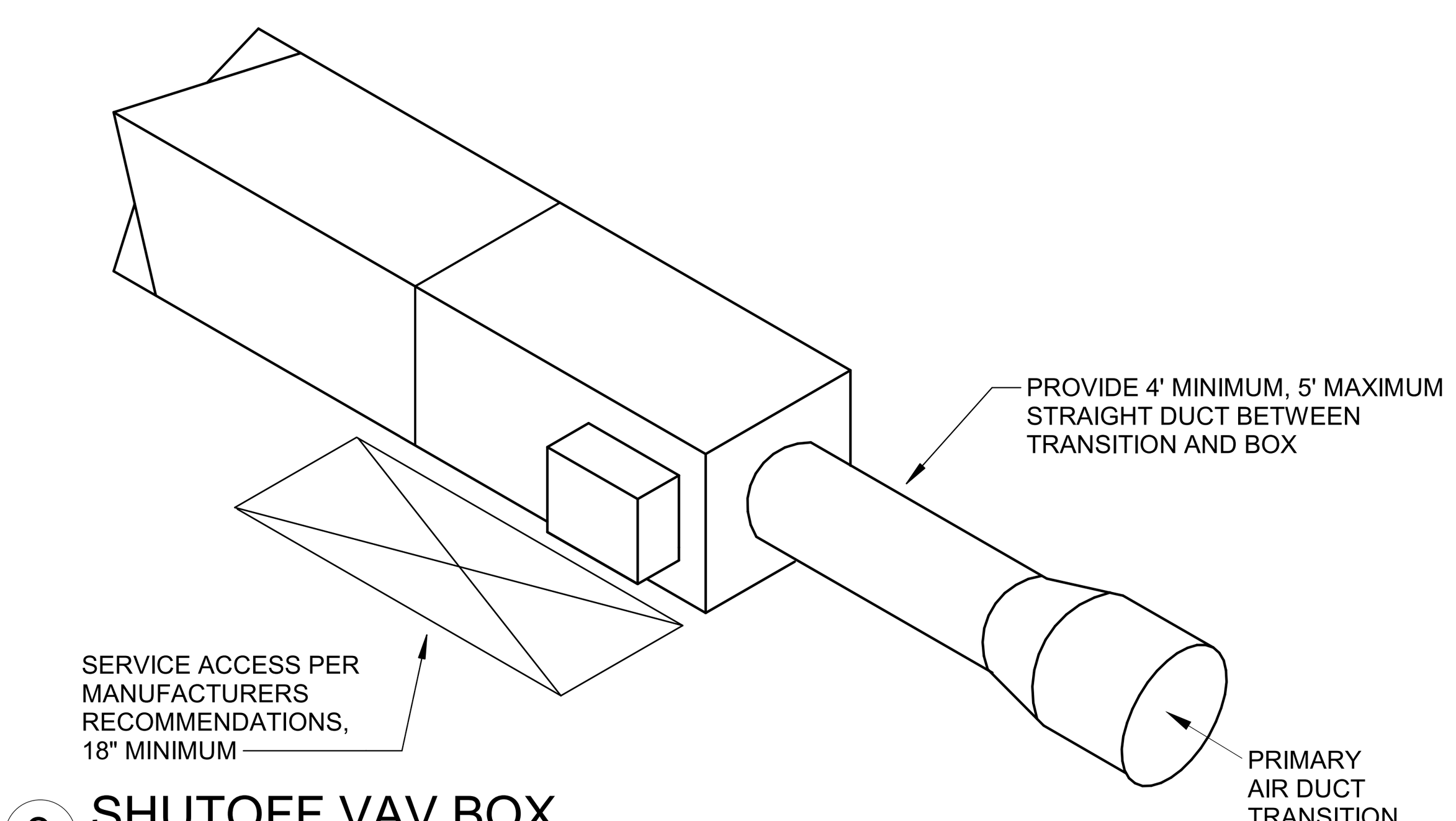
VARIABLE AIR VOLUME TERMINAL UNIT SCHEDULE						
				PRIMARY AIRFLOW		
TAG	MANUFACTURER	MODEL NO.	INLET DUCT SIZE (IN")	MAX (CFM)	MIN (CFM)	REMARKS
VAV-1	TITUS	DESV	7	590	180	PROVIDE WITH SOUND ATTENUATOR
VAV-2	TITUS	DESV	9	975	295	
VAV-3	TITUS	DESV	9	1020	310	
VAV-4	TITUS	DESV	7	550	165	
VAV-5	TITUS	DESV	7	510	155	
VAV-6	TITUS	DESV	9	920	280	
VAV-7	TITUS	DESV	6	350	105	
VAV-8	TITUS	DESV	6	420	130	
VAV-9	TITUS	DESV	9	1025	310	
VAV-10	TITUS	DESV	8	665	200	
VAV-11	TITUS	DESV	8	900	270	



7 TYPICAL DUCT DETAILS
NTS



2 RECTANGULAR BRANCH TAKEOFF DETAIL
NTS



3 SHUTOFF VAV BOX
NTS

GRILLES, DIFFUSERS AND REGISTERS SCHEDULE

(BASED ON KRUEGER)

SEE ARCHITECTURAL DRAWINGS FOR CEILING TYPES AND CONSTRUCTION. SIZE AND CFM INDICATED ON MECHANICAL DRAWINGS

A - MODEL SHPCR, 4-WAY THROW (UNLESS SHOWN OTHERWISE), 24X24 MODULE SIZE, LAY-IN BORDER, STEEL CONSTRUCTION, WHITE FINISH.

B - MODEL 5DMGDU (14X6) SPIRAL DUCT GRILLE, DOUBLE DEFLECTION CORE, 3/4" BLADE SPACING PARALLEL TO LONG DIMENSION, STEEL CONSTRUCTION, OPPOSED BLADE DAMPER, WHITE FINISH.

B 1- MODEL 880(12X6) SUPPLY GRILLE, DOUBLE DEFLECTION CORE, 3/4" BLADE SPACING PARALLEL TO LONG DIMENSION, STEEL CONSTRUCTION, OPPOSED BLADE DAMPER, WHITE FINISH.

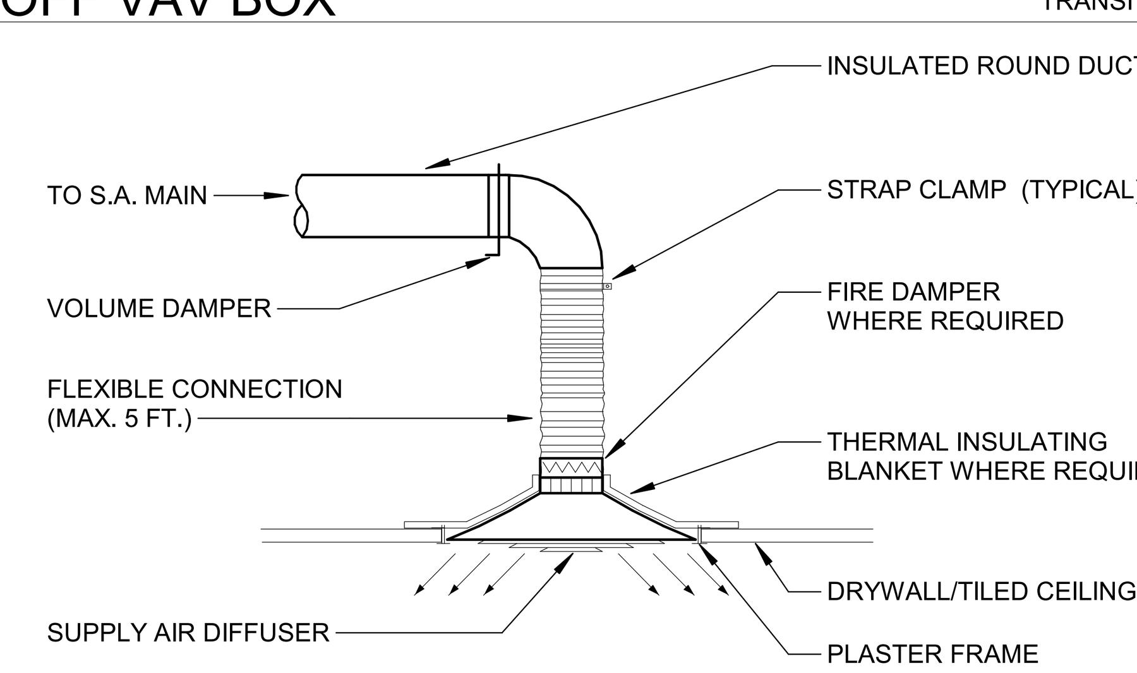
B 2- MODEL 880(14X8) SUPPLY GRILLE, DOUBLE DEFLECTION CORE, 3/4" BLADE SPACING PARALLEL TO LONG DIMENSION, STEEL CONSTRUCTION, OPPOSED BLADE DAMPER, WHITE FINISH.

C - MODEL S80 RETURN GRILLE, 45° FIXED LOUVERS, 3/4" BLADE SPACING, 24X12 MODULE SIZE (20X10 NECK), LAY-IN BORDER, STEEL CONSTRUCTION, WHITE FINISH.

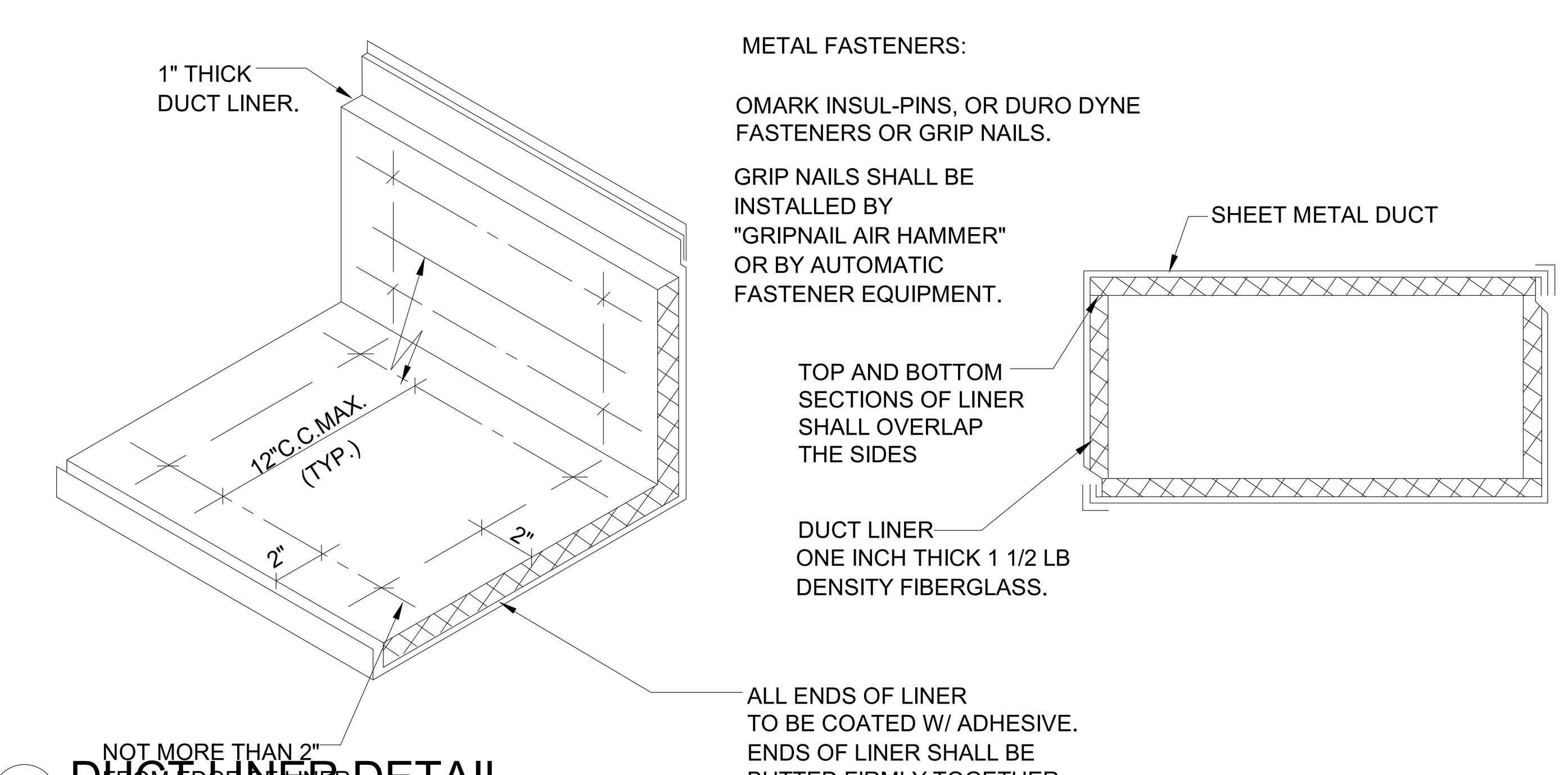
C 1- MODEL S80 RETURN GRILLE, 45° FIXED LOUVERS, 3/4" BLADE SPACING PARALLEL TO LONG DIMENSION, SURFACE MOUNT BORDER, STEEL CONSTRUCTION, WHITE FINISH.

CEILING SUPPLY DIFFUSER TYPE A		FLEIXBLE DUCT SIZE	
CFM	NECK SIZE	CFM	NECK SIZE
0 - 100	6 X 6	0 - 45	4"Ø
101 - 225	9 X 9	50 - 70	5"Ø
226 - 400	12 X 12	71 - 100	6"Ø
401 - 625	15 X 15	101 - 150	8"Ø
626 - 900	18 X 18	151 - 225	9"Ø
		226 - 275	10"Ø
		276 - 400	12"Ø
		401 - 500	14Ø
		501 - 700	16"Ø
		701 - 900	18"Ø
		901 - 1100	20"Ø

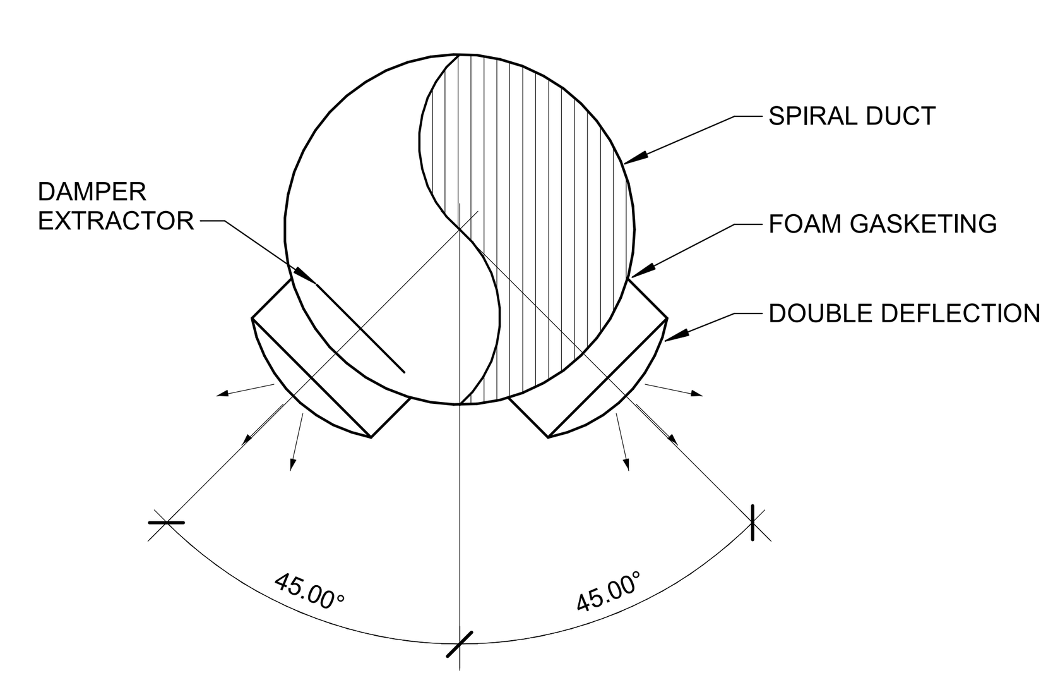
1 GRILLES, DIFFUSERS AND REGISTERS SCHEDULE



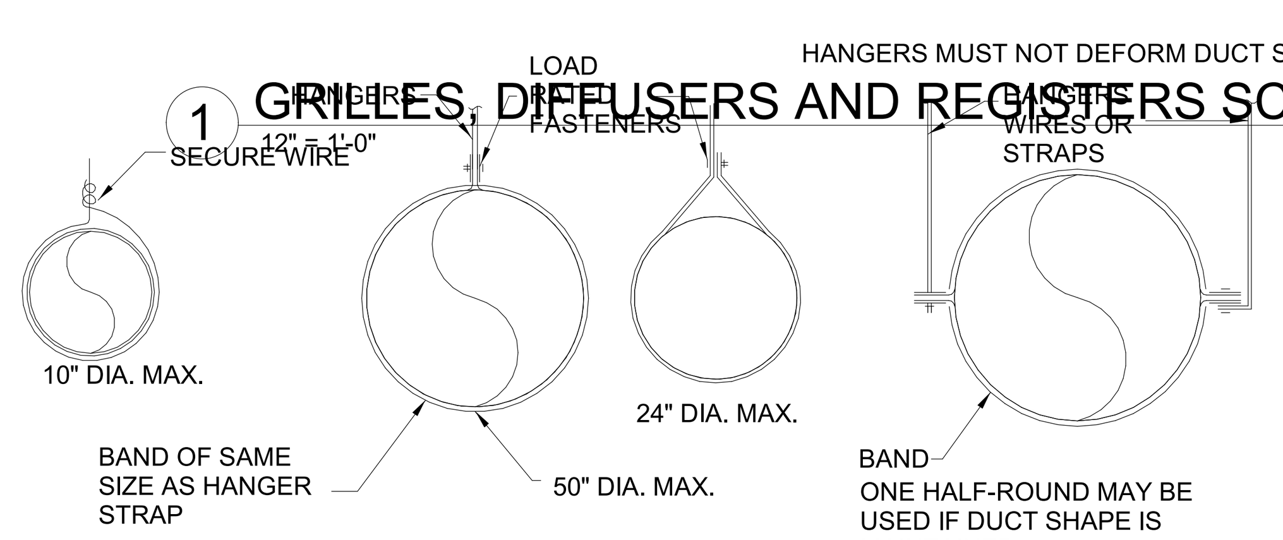
DIFFUSER MOUNTING DETAIL (DROP CEILING)



8 DUCT LINER DETAIL
12" = 1'-0"



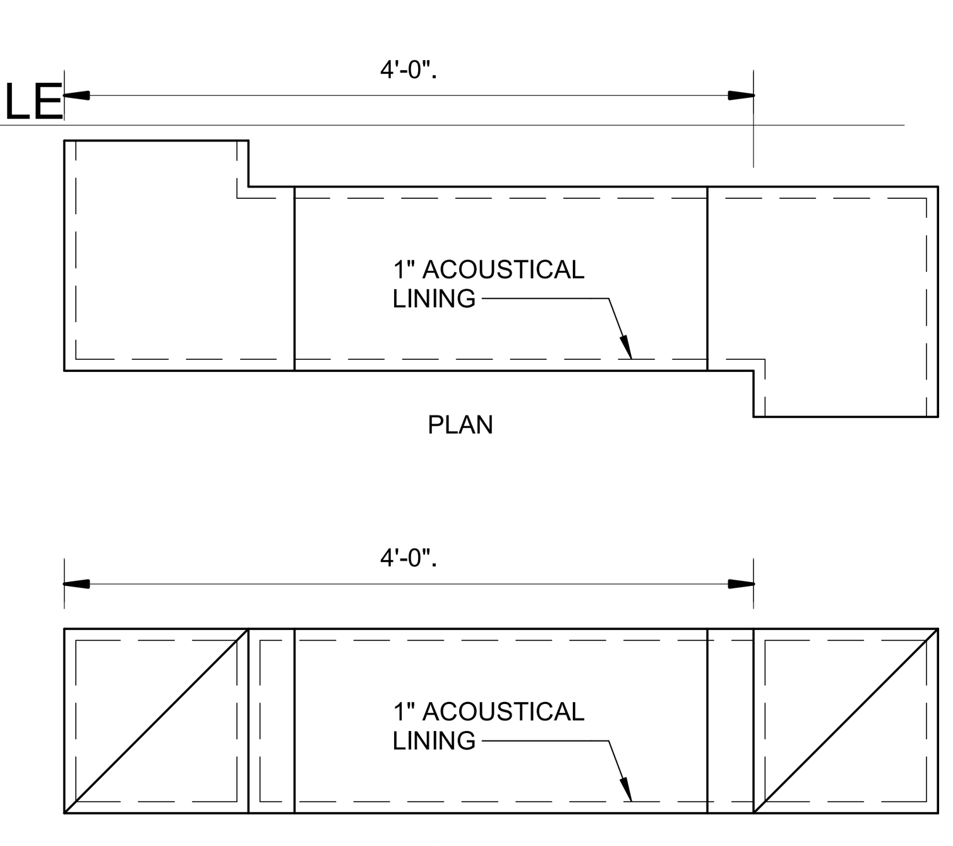
4 SPIRAL DUCT SECTION
NTS



MINIMUM HANGER SIZES FOR ROUND DUCT			
DIA.	MAXIMUM SPACING	WIRE DIA.	STRAP
10" dn	12'	One 12 ga.	1" x 22 ga.
11-18"	12'	Two 12 ga. or One 8 ga.	1" x 22 ga.
19-24"	12'	Two 10 ga.	1" x 22 ga.
25-36"	12'	Two 8 ga.	1" x 20 ga.
37-50"	12'	→	Two 1" x 20 ga.
51-60"	12'	→	Two 1" x 18 ga.
61-84"	12'	→	Two 1" x 16 ga.

FOR ADDITIONAL INFORMATION REFER TO THE LATEST EDITION OF SMACNA

6 TYPICAL ROUND DUCT HANGER DETAIL
12" = 1'-0"



NOTE:
TRANSFER AIR DUCT OPENING SHALL BE EQUAL TO 1 SQ. FT. PER 500 CFM OF SYSTEM AIR. DUCT TO BE A MINIMUM OF 4'-0" LONG, WITH 1" OF ACOUSTICAL LINING. MINIMUM OPENING 1 SQ. FT.

5 TRANSFER AIR DUCT
NTS

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KEY PLAN

N

P R O J E C T   D A T A

PROJECT NUMBER	18-000
CURRENT SUBMISSION DATE	08/29/19
DRAWN	FSM
CHECKED	RHR
SCALE	12" = 1'-0"

HISTORY OF SUBMISSIONS

No.	Date	Description

DD SET

S H E E T   T I T L E

SCHEDULES AND DETAILS

M2.01

ELECTRICAL SYMBOL LIST

NOTE: ALL MOUNTING HEIGHTS GIVEN ARE TO CENTERLINE OF DEVICE UNLESS NOTED OTHERWISE.

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	PENDANT MOUNTED LIGHT FIXTURE	M/S	EMERGENCY SWITCH - MOUNT AT 48" A.F.F. - M=MASTER - S=SLAVE
	PENDANT MOUNTED LIGHT FIXTURE	J	JUNCTION BOX
	CEILING MOUNTED LIGHT FIXTURE	J TC	JUNCTION BOX WITH 120V POWER FOR TEMPERATURE CONTROLS
	WALL MOUNTED LIGHT FIXTURE		JUNCTION BOX FOR CATV OUTLET WITH 1 1/4" CONDUIT TO CEILING
	SURFACE MOUNTED LIGHT FIXTURE		MOTOR
	RECESSED DOWN LIGHT FIXTURE		NON-FUSED DISCONNECT SWITCH
	RECESSED 2'X4' LIGHT FIXTURE		FUSED DISCONNECT SWITCH
	RECESSED 2'X2' LIGHT FIXTURE		MAGNETIC MOTOR STARTER
	WALL MOUNTED FIXTURE		COMBINATION DISCONNECT SWITCH/MAGNETIC MOTOR STARTER
	LINEAR FIXTURE		
	SINGLE FACE EXIT SIGN WITH BATTERY AND DIRECTIONAL ARROWS UNIVERSAL MOUNT		
	DOUBLE FACE EXIT SIGN WITH BATTERY AND DIRECTIONAL ARROWS UNIVIVERSAL MOUNT		BRANCH CIRCUIT WIRING
	EMERGENCY BATTERY UNIT WITH TWO DIRECTIONAL HEADS		BRANCH CIRCUIT FEEDER
	EMERGENCY REMOTE, WEATHERPROOF, WITH DOUBLE DIRECTIONAL HEADS		ELECTRICAL GROUND
			FLEXIBLE EQUIPMENT CONNECTION
S	SINGLE POLE TOGGLE SWITCH		FIXED/HARD - WIRED EQUIPMENT CONNECTION
S_3	THREE WAY TOGGLE SWITCH		
S_4	FOUR WAY TOGGLE SWITCH	TC	TIMECLOCK
S_K	SINGLE POLE KEYED TOGGLE SWITCH	C	CONTACTOR
S_{3K}	THREE WAY KEYED TOGGLE SWITCH MOUNT		SECURITY SYSTEM CAMERA
S_{4K}	FOUR WAY KEYED TOGGLE SWITCH MOUNT	DL	SECURITY SYSTEM DOOR LOCK
S_T	THERMAL OVERLOAD SWITCH - MOUNT AT FRACTIONAL HP MOTORS		SECURITY SYSTEM MOTION SENSOR
S_D	DIMMER SWITCH	CR	SECURITY SYSTEM CARD READER
S_{PR}	PROJECTION SCREEN SWITCH	DC	SECURITY SYSTEM DOOR CONTACT
S_{OC}	WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR SWITCH	KP	SECURITY SYSTEM KEY PAD
B	DOORBELL BUZZER/CHIME - MOUNT 7'-0" A.F.F.	FS	FLOW SWITCH
OS OS	CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR	TS	TAMPER SWITCH
PC	PHOTOCELL	PS	PRESSURE SWITCH
		S	WALL MOUNTED SPEAKER
E/G	EMERGENCY ELECTRIC/GAS SHUTOFF PUSHBUTTON OPERATOR	S	CEILING MOUNTED SPEAKER
	GROUNDED DUPLEX RECEPTACLE	IC	INTERCOM STATION
A	GROUNDED DUPLEX RECEPTACLE - MOUNT ABOVE COUNTER OR BACKSPLASH 42" A.F.F.		COMBINATION SPEAKER/CLOCK
C	GROUNDED DUPLEX RECEPTACLE - MOUNT AT CEILING		CLOCK
GFI	GROUNDED DUPLEX GFI RECEPTACLE		
WP	GROUNDED DUPLEX GFI RECEPTACLE "WEATHERPROOF WHILE IN-USE" COVER		
S	GROUNDED DUPLEX RECEPTACLE - STUB UP TO 24" A.F.F. ON 1" (MIN) RGS CONDUIT		
PM	VERTICAL PLUGMOLD WITH OUTLETS AT 12" O.C. - 5' LONG		
MW	GROUNDED GFI DUPLEX RECEPTACLE DEDICATED FOR MICROWAVE OVEN - VERIFY EXAC MOUNTING LOCATION		
	GROUNDED DOUBLE DUPLEX RECEPTACLE		
	GROUNDED 240V RECEPTACLE		
USB	GROUNDED GFI DUPLEX RECEPTACLE WITH INTERGRAL USB CHARGING PORT		
	GROUNDED SIMPLEX RECEPTACLE		
	SPECIAL PURPOSE RECEPTACLE - MATCH NEMA CONFIGURATION OF EQUIPMENT SERVED		
	FLOOR MOUNTED DEVICES AS LISTED ABOVE		
	RECESSED MOUNTED PANELBOARD		
	SURFACE MOUNTED PANELBOARD		
PP	COMBINATION POWER/TEL/DATA POLE		
	TELEPHONE/DATA OUTLETS		
WAP	WIRELESS ACCESS POINT (WAP - WIRLESS ACCESS POINT) INCLUDE CAT 5e CABLE		
		ELECTRICAL LEGEND NOTES: 1. ALL SYMBOLS MAY NOT BE USED.	
F	MANUAL FIRE ALARM PULL STATION - MOUNT AT 48" A.F.F.		
H	HEAT DETECTOR		
H 200°	HEAT DETECTOR 200°		
S	AREA SMOKE DETECTOR		
S_D	DUCT SMOKE DETECTOR		
S_{CO}	AREA COMBINATION SMOKE AND CARBON MONOXIDE DETECTOR		
S_E	ELEVATOR RETURN SMOKE DETECTOR		
CO	FIRE ALARM CARBON MONOXIDE DETECTOR		
X_{RTS}	FIRE ALARM REMOTE TEST SWITCH		
M	MAGNETIC DOOR HOLDER		
	FIRE ALARM VISUAL ONLY INDICATING UNIT - MOUNT AT 6'-6" A.F.F.		
	FIRE ALARM SPEAKER/VISUAL INDICATING UNIT - MOUNT AT 6'-6" A.F.F.		
R	LIGHTING CONTROL RELAY		
AOM	FIRE ALARM ADDRESSABLE OUTPUT MODULE		
AIM	FIRE ALARM ADDRESSABLE INPUT MODULE		
S_{VC}	SPEAKER VOLUME CONTROL		
FACP	FIRE ALARM CONTROL PANEL		
FAA	FIRE ALARM REMOTE ANNUNCIATOR PANEL		
HGMP	HAZARDOUS GAS MONITOR PANEL FURNISHED BY DIV. 25, WIRED BY DIV. 26		
	EMERGENCY "CALL-FOR-AID" BUZZER/LIGHT - MOUNT AT 7'-6" A.F.F.		
S_A	EMERGENCY "CALL-FOR-AID" SWITCH - MOUNT 48" A.F.F. WITH PULL CORD TO 6" A.F.F.		

ABBREVIATIONS

A	AMPERE	KW	KILOWATT
AFF	ABOVE FINISHED FLOOR	MAU	MAKE-UP AIR UNIT
AFG	ABOVE FINISHED GRADE	NL	NIGHT LIGHT
AFI	ARC FAULT CIRCUIT INTERRUPTER	NLE	NEW LOCATION OF EXISTING
AHU	AIR HANDLING UNIT	OHD	OVERHEAD DOOR ELECTRIC OPERATOR
C	CONDUIT	P	POLE
CB	CIRCUIT BREAKER	PE	PRIMARY ELECTRIC SERVICE
CKT	CIRCUIT	PH or Ø	PHASE
CUH	CABINET UNIT HEATER	PNL	PANEL
DAC	DOOR ACCESS CONTROLLER	PVC	POLYVINYL CHLORIDE CONDUIT
EBB	ELECTRIC BASEBOARD	RAP	REMOTE ANNUNCIATOR PANEL
EBU	EMERGENCY BATTERY UNIT	RGS	RIGID GALVANIZED STEEL CONDUIT
EF	EXHAUST FAN	RLE	RELOCATE EXISTING
EM	EMERGENCY POWERED	RTU	ROOFTOP UNIT
EMT	ELECTRICAL METALLIC TUBING	SE	SECONDARY ELECTRIC SERVICE
ETR	EXISTING TO REMAIN	T	TELEPHONE SERVICE
EWC	ELECTRIC WATER COOLER	TV	TELEVISION
EWH	ELECTRIC WATER HEATER	TX	TRANSFORMER
FA	FIRE ALARM	UNO	UNLESS NOTED OTHERWISE
FACP	FIRE ALARM CONTROL PANEL	W	WIRE
FMC	FLEXIBLE METALLIC TUBING	WAP	WIRELESS ACCESS POINT
GFI	GROUND FAULT INTERRUPTER	WP	WEATHER PROOF
IG	ISOLATED GROUND		
JB	JUNCTION BOX		
KVA	KILOVOLT-AMP		

ELECTRICAL GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH CURRENT APPLICABLE CODES, ORDINANCES, THE REGULATORY AGENCIES HAVING JURISDICTION AND THE SPECIFICATIONS. THE SPECIFICATIONS MAY EXCEED THE REQUIREMENTS OF THE CODE, IN WHICH CASE, THE SPECIFICATION MUST BE FOLLOWED.
2. THE INTENT OF THESE DOCUMENTS IS FOR THE MEP TRADES TO FURNISH AND INSTALL COMPLETE MECHANICAL AND ELECTRICAL SYSTEMS. THE SPECIFIED ELECTRICAL SYSTEM SHALL BE COMPLETE IN ALL RESPECTS; OPERATIONAL, TESTED, ADJUSTED, APPROVED BY THE AUTHORITIES HAVING JURISDICTION AND READY FOR BENEFICIAL USE BY THE OWNER.
3. THE TRADES SHALL OBTAIN AND REVIEW ALL CONTRACT DOCUMENTS BEFORE SUBMITTING A BID. INFORMATION IS PROVIDED ON THE VARIOUS DRAWINGS, SCHEDULES, SPECIFICATIONS AND ALL OF THE VARIOUS DOCUMENTS IN THE BIDDING PACKAGE. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY AND FORM A TOTAL PROJECT DESIGN AND INFORMATION SOURCE FOR CONSTRUCTION PURPOSES.
4. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED IN THE CONTRACT. COORDINATE LOCATIONS OF EQUIPMENT WITH OTHER TRADES BEFORE AND DURING CONSTRUCTION. ANY MODIFICATION TO THE EQUIPMENT LAYOUT, REQUIRED FOR INSTALLATION, IS TO BE PERFORMED UNDER THE CONTRACT AGREEMENT, AT NO ADDITIONAL COST. REFER TO DETAILS, SCHEDULES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
5. THE CONTRACTOR SHALL BECOME THOROUGHLY FAMILIAR WITH THE PROJECT DOCUMENTS OF ALL TRADES. THE DRAWINGS ARE DIAGRAMMATIC AND SHOW THE GENERAL ARRANGEMENT OF EQUIPMENT AND CONDUITS. THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF EQUIPMENT AND CONDUITS INSTALLATION WITH ALL THE TRADES BEFORE COMMENCING WORK.
6. EQUIPMENT SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS, WHEN EQUIPMENT MUST BE LOCATED ABOVE AN INACCESSIBLE CEILING (GYP BOARD OR EQUIVALENT), OR BEHIND A WALL, AN APPROPRIATE ACCESS DOOR SHALL BE PROVIDED. IF AN ACCESS DOOR IS REQUIRED, IT SHALL BE OF A RATING APPROPRIATE FOR THE WALL/CEILING IN WHICH IT IS TO BE INSTALLED. THE CONTRACTOR SHALL COORDINATE LOCATIONS OF ACCESS PANELS FOR ALL DEVICES, REQUIRING ACCESS, WITH THE ARCHITECT, PRIOR TO INSTALLATION OF SUCH DEVICES OR OTHER APPURTENANCES.
7. WHERE A CONFLICT OCCURS BETWEEN THE DOCUMENTS, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. CARRY AS PART OF THE BID THE LARGER QUANTITY AND/OR MORE EXPENSIVE ITEM(S).
8. THIS CONTRACT SHALL INCLUDE ALL THE NECESSARY CONDUITS, FITTINGS, TRANSITIONS ETC. AS REQUIRED TO INSTALL CONDUITS AND EQUIPMENT, AND TO AVOID ANY CONFLICTS WITH OTHER TRADES AND THE BUILDING STRUCTURE. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY ASSUMPTIONS, OMISSIONS OR ERRORS HE MAKES AS A RESULT OF HIS FAILURE TO COORDINATE WITH OTHER TRADES OR BECOME FULLY FAMILIAR WITH THE PROJECT DOCUMENTS OF ALL TRADES.
9. DO NOT INSTALL ANY ELECTRICAL PANELS, TRANSFORMERS, SPECIAL EQUIPMENT, BELOW PIPING OR THROUGH MECHANICAL ROOMS, THAT ARE NOT ASSOCIATED WITH OR SERVE THE RESPECTIVE ROOMS. COORDINATE THE LOCATION OF MECHANICAL EQUIPMENT IN THE FIELD AND ADJUST AS NECESSARY.
10. ALL HOMERUNS SHALL BE 2#12, 1#12G., 3/4"C TO 20A-1P CIRCUIT BREAKER IN PANEL DESIGNATED UNLESS OTHERWISE NOTED.
11. ALL 120 VAC (277 VAC) CIRCUITS EXCEEDING 150' IN LENGTH SHALL BE INCREASED TO 2#10, 1#10G, 3/4" CONDUIT UNLESS OTHERWISE NOTED.
12. ALL BRANCH CIRCUITS SHALL BE PROVIDED WITH SEPARATE NEUTRALS. USE OF COMMON NEUTRALS WILL NOT BE ALLOWED.
13. FIELD VERIFY WITH MANUFACTURER'S PROVIDED EXACT ELECTRICAL CHARACTERISTICS AND CONNECTION REQUIREMENTS OF ALL OPERATIONAL EQUIPMENT PRIOR TO MAKING ELECTRICAL POWER CONNECTION. FURNISH AND INSTALL SAFETY DISCONNECT AS REQUIRED BY NEC.
14. RECEPTACLES LOCATED WITHIN 6' OF A WATER SOURCE, OR OUTSIDE, AND WHERE REQUIRED BY CODE SHALL BE PROVIDED WITH GFCI PROTECTION, WHETHER INDICATED OR NOT.
15. EXTERIOR RECEPTACLES SHALL BE PROVIDED WITH "CAST ALUMINUM" LOCKABLE COVERS RATED "WEATHER-PROOF WHILE IN USE". LOCKS SHALL BE KEYED ALIKE.
16. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED SLEEVES AND FIRE STOP FOR CONDUITS AND CABLES PENETRATING FIRE RATED WALLS AND FLOORS.
17. ELECTRICAL CONTRACTOR SHALL SEAL ALL CONDUITS PENETRATING EXTERIOR WALLS.
18. ALL WIRING SHALL BE IN CONDUIT, UNLESS OTHERWISE INDICATED. CONDUITS SHALL BE RUN CONCEALED IN NEW AND ABOVE CEILINGS.
19. ELECTRICAL CONTRACTOR SHALL COORDINATE ALL LOCATIONS OF EQUIPMENT WITH DIV. 21, 22 AND 23 PRIOR TO ROUGHING OR INSTALLING OUTLETS.
20. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE OWNER, ALL LOCATIONS OF EQUIPMENT BEING FURNISHED BY THE OWNER PRIOR TO ROUGHING OR INSTALLING OUTLETS.
21. REFER TO ARCHITECTURAL DRAWINGS FOR ELEVATIONS AND EXACT LOCATION OF DEVICES PRIOR TO ROUGHING OR INSTALLATION OF OUTLETS.
22. ELECTRICAL CONTRACTOR SHALL COORDINATE THE LOCATION OF DUCT SMOKE DETECTORS WITH DIV. 23. DUCT SMOKE DETECTORS SHALL BE FURNISHED AND WIRED BY ELECTRICAL CONTRACTOR, INSTALLED BY DIV. 23.
23. ALL FIRE ALARM DEVICES LOCATED ON BUILDING EXTERIOR SHALL BE WEATHERPROOF RATED.
24. CONDUITS AND/OR WIRING SHALL NOT PENETRATE STAIR ENCLOSURES UNLESS SPECIFICALLY SERVING EQUIPMENT OR DEVICES LOCATED WITHIN STAIR ENCLOSURE.
25. WHERE INDICATED, PROVIDE FIXTURES WITH EMERGENCY BATTERY TO OPERATE LAMPS FOR 1 1/2 HOURS UPON LOSS OF NORMAL POWER. WIRE EMERGENCY BATTERY AND EXIT LIGHTS TO LINE SIDE OF AREA LIGHTING CIRCUIT.
26. DIRECTIONAL CHEVRONS SHALL CONFORM TO NFPA 5-10.4.1.2 AND SHALL BE IDENTIFIABLE AS A DIRECTIONAL INDICATOR AT A MINIMUM OF 40 FT. UNDER ALL SPACE CONDITIONS. PROVIDE DIRECTIONAL CHEVRONS AS INDICATED ON PLAN.
27. BRANCH CIRCUIT WIRING IS SHOWN ON THE FLOOR PLANS. NUMERALS ADJACENT TO THE HOMERUN SYMBOLS FOR LIGHTING, RECEPTACLES, MOTORS, APPLIANCES, ETC. INDICATE THE CIRCUIT NUMBER TO WHICH THE ITEMS ARE TO BE CONNECTED. PROVIDE BRANCH CIRCUIT WIRING FOR ALL ITEMS SHOWN IN ACCORDANCE WITH THESE GENERAL NOTES AND THE ELECTRICAL SPECIFICATIONS.
28. ALL 1 POLE, 15 AND 20 AMPERE BRANCH CIRCUITS SERVING RECEPTACLE OR LIGHTING SHALL BE 2 WIRE CIRCUITS PROVIDING AN INDIVIDUAL NEUTRAL CONDUCTOR FOR EACH UNGROUNDED (HOT) CIRCUIT CONDUCTOR. DO NOT SHARE NEUTRAL CONDUCTORS.
29. REFER TO ARCHITECTS REFLECTED CEILING PLAN FOR EXACT LOCATIONS OF CEILING MOUNTED DEVICES.
30. ALL EXPOSED CABLES OF ANY TYPE IN PLENUM CEILING SPACE SHALL BE PLENUM RATED.
31. CONTRACTOR SHALL PROVIDE ALL NECESSARY MISCELLANEOUS STEEL FOR THE SUPPORT OF ALL EQUIPMENT, PIPING, CONDUIT AND DUCTWORK. SUSPENDED FROM SLAB, STEEL, WALL OR TRUSSWORK.
32. ALL PENETRATIONS OF FLOORS AND WALLS (WHETHER OR NOT FIRE RESISTANCE RATED) SHALL BE PROVIDED WITH A THROUGH PENETRATION PROTECTION SYSTEM (FIRESTOPPING). EACH THROUGH - PENETRATION PROTECTION SYSTEM SHALL BE TESTED IN ACCORDANCE WITH ASTM E814 AND BE LISTED FOR THE TYPE OF FLOOR OR WALL ASSEMBLY PENETRATED AND THE TYPE OF PROTECTION SYSTEM.
33. IT IS NOT THE INTENTION TO SHOW EVERY FITTING, HANGER, WIRE OR DEVICE, ALL SUCH ITEMS SHALL BE FURNISHED AND INSTALLED AS NECESSARY FOR A COMPLETE SYSTEM.
34. SEE SPECIFICATION SECTION "ELECTRICAL IDENTIFICATION" FOR PROPERLY LABELING EQUIPMENT WIRING, BOXES, ETC.
35. CONTRACTOR SHALL DETERMINE THE QUANTITY OF CONDUCTORS REQUIRED FOR PROPER OPERATION OF ALL SWITCHING SCHEMES.
36. PROVIDE ALL BONDING AND GROUNDING REQUIRED BY THE NATIONAL ELECTRIC CODE, NFPA 70 AND AS REQUIRED BY LOCAL AUTHORITY HAVING JURISDICTION.
37. ALL REQUIRED BONDING CONDUCTORS SHALL BE MINIMUM #8 SOLID INSULATED COPPER, PROVIDE ALL NECESSARY FITTINGS, JUNCTION BOXES, END FITTINGS, ETC., FOR A COMPLETE, CONTINUOUS INSTALLATION.
38. ALL BONDING/GROUNDING CONNECTIONS SHALL BE MADE BY LISTED CLAMP OR CONNECTORS AS REQUIRED BY ARTICLE 250 OF NFPA 70, THE NATIONAL ELECTRIC CODE (CURRENT ADOPTED EDITION).
39. SEISMICALLY SUPPORT THE EQUIPMENT AS REQUIRED BY CODE, THE AUTHORITY HAVING JURISDICTION, AND/OR AS SPECIFIED. SUBMIT ENGINEERED INSTALLATION DETAILS PER THE SPECIFICATIONS. THE CONTRACTOR'S SEISMIC ENGINEER SHALL REVIEW THE INSTALLATION AND PROVIDE A DETAILED REPORT FOR THE RECORD.

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KEY PLAN

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PROJECT DATA

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HISTORY OF SUBMISSIONS

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SHEET TITLE

ELECTRICAL ABBREVIATIONS, GENERAL NOTES AND SYMBOL LIST

E0.01

GENERAL PROVISIONS

A. GENERAL

1. REQUIREMENTS SPECIFIED ON COVER SHEET, ALONG WITH ELECTRICAL SPECIFICATIONS AND ALL ITS SECTIONS, COMPRISE THE CONTRACT DOCUMENTS FOR THE ELECTRICAL CONTRACT. DRAWINGS AND ALL THEIR REVISIONS UP TO THE BID SUBMITTAL DATE BECOME A BINDING PART OF THE CONTRACT, ALONG WITH THESE SPECIFICATIONS AS THOUGH THEY WERE ONE, AND ANYTHING IMPLIED BY THE SPECIFICATIONS SHALL BE INTERPRETED AS ALSO IMPLIED BY THE DRAWINGS AND VICE VERSA. PROVIDE NECESSARY ITEMS FOR A COMPLETE INSTALLATION OF ALL ELECTRICALLY OPERATED EQUIPMENT LISTED IN THE SPECIFICATIONS OR SHOWN ON THE CONTRACT DRAWINGS.

2. THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING AND EQUIPMENT DRAWINGS AND SPECIFICATIONS ARE INCORPORATED INTO, AND BECOME A PART OF THIS DIVISION. THE CONTRACTOR SHALL EXAMINE ALL SUCH DRAWINGS AND SPECIFICATIONS AND BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS CONTAINED THEREIN. THE SUBMISSION OF HIS BID SHALL INDICATE SUCH KNOWLEDGE.

3. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC. THEY ARE INTENDED TO SHOW THE APPROXIMATE LOCATIONS OF EQUIPMENT AND CONDUIT. DIMENSIONS GIVEN ON THE PLANS, IN FIGURES, SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS AND SHALL BE VERIFIED IN THE FIELD. THE ELECTRICAL CONTRACTOR SHALL LAYOUT ALL EQUIPMENT ROOMS TO MAKE SURE THE EQUIPMENT, AS PURCHASED, FITS IN THE ROOM OR SPACE SHOWN. EXACT LOCATION OF ALL EQUIPMENT SHALL BE VERIFIED IN THE FIELD AND ROUTING OF CONDUITS SHALL SUIT FIELD CONDITIONS.

4. UNTIL THE TIME OF INSTALLATION, THE ARCHITECT RESERVES THE RIGHT TO MAKE MINOR CHANGES IN THE LOCATION OF CONDUIT AND EQUIPMENT WITHOUT ADDITIONAL COST TO THE CONTRACT.

5. THE ELECTRICAL DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT EACH OTHER. MATERIAL AND LABOR NECESSARY TO THE PROJECT SHALL BE FURNISHED AND INSTALLED EVEN THOUGH NOT SPECIFICALLY MENTIONED IN BOTH. LABOR AND/OR MATERIALS NEITHER SHOWN NOR SPECIFIED, BUT OBVIOUSLY NECESSARY FOR THE COMPLETION AND PROPER FUNCTIONING OF THE SYSTEM, SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR AT NO ADDITIONAL COST.

6. ARRANGE ALL EQUIPMENT SUBSTANTIALLY AS SHOWN ON THE DRAWINGS. MAKE DEVIATIONS ONLY WHERE NECESSARY TO AVOID INTERFERENCE. CHECK ALL EQUIPMENT SIZES AGAINST AVAILABLE SPACE PRIOR TO SHIPMENT TO AVOID INTERFERENCE.

7. EXAMINE THE WORK OF OTHER TRADES INSOFAR AS THEIR WORK COMES IN CONTACT WITH OR IS COVERED BY THIS WORK. IN NO CASE ATTACH TO, OR FINISH AGAINST ANY DEFECTIVE WORK OR INSTALL WORK IN A MANNER WHICH WILL PREVENT PROPER INSTALLATION OF THE WORK OF OTHER TRADES.

8. ELECTRICAL CONTRACTOR SHALL VERIFY WITH OTHER TRADES ALL ELECTRICAL CHARACTERISTICS OF EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS. CONTRACTOR SHALL VERIFY VOLTAGE, PHASE AND HORSEPOWER AND SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO START OF WORK. ELECTRICAL CONTRACTOR SHALL PROVIDE DISCONNECTING MEANS AND OVERLOAD PROTECTION FOR ALL EQUIPMENT, UNLESS FURNISHED INTEGRAL WITH EQUIPMENT PACKAGE.

9. IT IS THE INTENT OF THESE DRAWINGS THAT THIS BE A COMPLETE ELECTRICAL JOB. ANY ERRORS OR OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO BIDDING THE JOB.

B. VISIT TO THE SITE

1. THE CONTRACTOR SHALL VISIT THE SITE OF THE WORK AND FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING HIS WORK. THE SUBMISSION OF HIS PROPOSAL SHALL INDICATE SUCH KNOWLEDGE. NO ADDITIONAL PAYMENT SHALL BE MADE ON CLAIMS THAT ARISE FROM A LACK OF KNOWLEDGE OF THE EXISTING CONDITIONS.

C. CODE AND PERMITS

1. INSTALLATION SHALL BE IN FULL ACCORDANCE WITH ALL CODES, RULES AND REGULATIONS OF MUNICIPAL, CITY, COUNTY, STATE AND PUBLIC UTILITIES AND ALL OTHER AUTHORITIES HAVING JURISDICTION OVER THE PREMISES.

2. COMPLY WITH ANY SPECIFICATION REQUIREMENTS THAT ARE IN EXCESS BUT NOT IN CONFLICT WITH CODE REQUIREMENTS.

3. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, PLAN REVIEWS AND CERTIFICATES OF INSPECTION IN CONNECTION WITH HIS WORK, REQUIRED BY THE FOREGOING AUTHORITIES. BEFORE FINAL PAYMENT OF THE CONTRACT IS ALLOWED, ALL CERTIFICATES SHALL BE DELIVERED TO THE ARCHITECT IN DUPLICATE.

4. ELECTRICAL MATERIAL AND EQUIPMENT SHALL BEAR THE UL LABEL EXCEPT WHERE UL DOES NOT LABEL SUCH TYPES OF MATERIAL AND EQUIPMENT.

D. SHOP DRAWINGS SUBMITTALS

1. THE ELECTRICAL CONTRACTOR SHALL SUBMIT FIVE (5) SETS OF SHOP DRAWINGS. THE SHOP DRAWINGS OF THE FOLLOWING EQUIPMENT USING THE INDICATED NUMBERING SYSTEM AND TITLES, SHALL BE SUBMITTED THROUGH THE ARCHITECT TO THE ENGINEER AND THEN RESUBMITTED FOR FINAL APPROVAL, IF NECESSARY. SHOP DRAWINGS SHALL BE SUBMITTED BUT NOT LIMITED FOR THE FOLLOWING ITEMS:
   a. WIRING DEVICES.
   b. PANEL BOARDS AND SAFETY SWITCHES INCLUDING FAULT CURRENT STUDY BASED ON EQUIPMENT BEING SUPPLIED.
   c. CONTRACTORS, TIME SWITCHES AND PHOTOCELL.
   d. LIGHTING FIXTURES.
   e. SUPERVISORY ALARM SYSTEM.

2. ALL SUBMITTED SHOP DRAWINGS (MANUFACTURERS "EQUIPMENT DESCRIPTIVE SHEETS OR VENDORS" PREPARED DRAWINGS) SHALL HAVE THE GENERAL CONTRACTOR'S OR SUBCONTRACTOR'S "STAMP OF APPROVAL" INDICATING THAT THE ITEM SUBMITTED IS AS CALLED FOR ON THE PLANS AND SPECIFICATIONS, IS APPROVED BY THE GENERAL CONTRACTOR OR SUBCONTRACTOR, THE DATE OF APPROVAL AND INITIALED BY THE PERSON APPROVING THE SUBMITTAL AND THE NAME OF THE COMPANY SUBMITTING SAID EQUIPMENT FOR APPROVAL.

3. SUBMIT BOUND BROCHURES COMPLETE WITH A TABLE OF CONTENTS. LOOSE OR STAPLED TOGETHER SHEETS ARE NOT ACCEPTABLE. ANY SUBMITTALS NOT IN BROCHURE FORM OR NOT AS SPECIFIED SHALL BE RETURNED AT THE CONTRACTOR'S EXPENSE FOR RESUBMITTAL.

4. ALL DESCRIPTIVE LITERATURE SHALL BE SUBMITTED IN A THREE (3) HOLE BROCHURE WITH A COVER IDENTIFYING THE FOLLOWING:
   a. NAME OF THE JOB.
   b. LOCATION OF THE JOB, ADDRESS, CITY AND STATE.
   c. NAME AND ADDRESS OF THE COMPANY SUBMITTING THE BROCHURES.
   d. DATE OF THE SUBMITTAL.

5. EVERY EFFORT SHALL BE MADE, IN CHECKING THE SHOP DRAWINGS, TO DETECT AND CORRECT ALL ERRORS, OMISSIONS AND INACCURACIES. FAILURE TO DO THIS WILL NOT RELIEVE THE ELECTRICAL CONTRACTOR OF THE RESPONSIBILITY FOR THE PROPER AND COMPLETE INSTALLATION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

E. AS-BUILT DRAWINGS

1. SUBMIT TO THE ARCHITECT ONE SET HARDCOPY AND AUTOCAD (.dwg) FILES OF THE ELECTRICAL DRAWINGS SHOWING THE AS-BUILT CONDITION.

F. STANDARDS AND SUBSTITUTIONS

1. WHEREVER THE WORDS "APPROVED BY", "APPROVED EQUAL", "AS DIRECTED" OR SIMILAR PHRASES ARE USED IN THE FOLLOWING SPECIFICATIONS, THEY SHALL BE UNDERSTOOD TO REFER TO THE OWNER AS THE APPROVING AGENCY. THE NAME OR MAKE OF ANY EQUIPMENT OR MATERIALS NAMED IN THIS SPECIFICATION (WHETHER OR NOT THE WORDS "OR APPROVED EQUAL" ARE USED) SHALL BE KNOWN AS THE "STANDARD".

2. THESE SPECIFICATIONS ESTABLISH QUALITY STANDARD OF MATERIALS AND EQUIPMENT TO BE PROVIDED. SPECIFIC ITEMS ARE IDENTIFIED BY MANUFACTURER, TRADE NAME OR CATALOG DESIGNATION. THIS CONTRACTOR SHALL SUBMIT HIS BASE BID PRICE BASED UPON STANDARD SPECIFIED EQUIPMENT DESCRIBED HEREIN AND AS DETAILED ON DRAWINGS AND ASSOCIATED CONTRACT DOCUMENTS. THESE SPECIFICATIONS ARE NOT TO BE CONSIDERED PROPRIETARY THE CONTRACTOR MAY SUBMIT INFORMATION ON MATERIALS AND MANUFACTURERS (OTHER THAN THOSE LISTED) FOR REVIEW BY THE ARCHITECT AND ENGINEER NO LATER THAN TEN (10) DAYS BEFORE BIDS ARE SUBMITTED. IN ADDITION, SAMPLES OF PROPOSED EQUIPMENT MAY BE REQUIRED TO BE SUBMITTED TO THE ENGINEER FOR REVIEW NO LATER THAN TEN (10) DAYS BEFORE BIDS ARE SUBMITTED. MANUFACTURERS OF PRODUCTS ACCEPTED BY THE ARCHITECT AND ENGINEER WILL BE LISTED IN AN ADDENDUM TO THE SPECIFICATIONS AS AN ACCEPTABLE SUBSTITUTION EQUIPMENT ACCEPTED AS DETAILED BELOW AND SHALL BE SHOWN AS A SEPARATE ADD OR DEDUCT PRICE TO BE FACTORED INTO THE BASE BID PRICE BY THE ARCHITECT AND OWNER IF ACCEPTED.

3. SHOULD THE CONTRACTOR PROPOSE TO FURNISH MATERIALS AND EQUIPMENT OTHER THAN THOSE SPECIFIED OR APPROVED BY ADDENDUM, SUBMIT A WRITTEN REQUEST FOR SUBSTITUTIONS TO THE ARCHITECT AT THE BID OPENING. THE REQUEST SHALL BE AN ALTERNATE TO THE ORIGINAL BID; BE ACCOMPANIED WITH COMPLETE DESCRIPTIVE (MANUFACTURER, BRAND NAME, CATALOG NUMBER, ETC.) AND TECHNICAL DATA FOR ALL ITEMS. FAILURE BY THIS CONTRACTOR TO SUBMIT THE REQUISITE DOCUMENTATION DETAILED ABOVE SHALL BE UNDERSTOOD BY THE ARCHITECT AND ENGINEER TO INDICATE THAT SUBSTITUTE EQUIPMENT WILL NOT BE PRESENTED BY THE CONTRACTOR FOR CONSIDERATION. SUCH SUBSTITUTIONS WILL NOT BE CONSIDERED AFTER THE BID OPENING DATE AND DELAY OF PROJECT WILL NOT BE PERMITTED FOR FURTHER INSPECTION AND EVALUATION AFTER THIS DATE.

4. WHERE SUCH SUBSTITUTIONS ALTER THE DESIGN OR SPACE REQUIREMENTS INDICATED ON THE DRAWINGS, INCLUDE ALL ITEMS OF COST FOR THE REVISED DESIGN AND CONSTRUCTION INCLUDING COST OF ALL ALLIED TRADES INVOLVED.

5. ACCEPTANCE OR REJECTION OF THE PROPOSED SUBSTITUTIONS SHALL BE SUBJECT TO APPROVAL OF THE ARCHITECT AND ENGINEER. IF REQUESTED, THE CONTRACTOR SHALL SUBMIT (AT HIS COST) INSPECTION SAMPLES OF BOTH THE SPECIFIED AND PROPOSED SUBSTITUTE ITEMS.

6. IN ALL CASES WHERE SUBSTITUTIONS ARE PERMITTED, THE CONTRACTOR SHALL BEAR ANY EXTRA COST OF EVALUATING THE QUALITY OF THE MATERIAL AND EQUIPMENT TO BE PROVIDED, INCLUDING ALL ARCH/ENGINEER FEES ASSOCIATED WITH CHANGE.

G. TESTING AND PLACING IN SERVICE

1. ANY MATERIAL OR EQUIPMENT FAILING A TEST SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.

2. TESTS SHALL INCLUDE THE FOLLOWING:
   a. MEASURE THE LOAD ON EACH PHASE OF THE MAIN SERVICE AND EACH PHASE OF EVERY FEEDER UNDER FULL LOAD CONDITIONS.
   b. MEASURE THE NO-LOAD AND FULL-LOAD VOLTAGES (PHASE TO PHASE, PHASE TO NEUTRAL AND PHASE TO GROUND FOR EACH PHASE OF EACH SERVICE, OF EACH SEPARATELY DERIVED SYSTEM, AND AT EACH PANEL BOARD OR TRANSFORMER).
   c. MEASURE THE GROUND RESISTANCE OF THE MAIN SERVICE GROUNDING ELECTRODE AND THE GROUND RESISTANCE OF EACH SEPARATELY DERIVED SYSTEM'S GROUNDING ELECTRODE.
   d. MAKE INSULATION RESISTANCE TESTS ON ALL DRY TYPE TRANSFORMERS AND MOTORS.

H. INTERFERENCES

1. BEFORE THE INSTALLATION OF ANY ITEM BEGINS, THE ELECTRICAL CONTRACTOR SHALL CAREFULLY ASCERTAIN THAT IT DOES NOT INTERFERE WITH CLEARANCES FOR THE ERECTION OF FINISH BEAMS, COLUMNS, PILASTERS, WALLS OR OTHER STRUCTURAL OR ARCHITECTURAL MEMBERS AS SHOWN ON THE ARCHITECTURAL DRAWINGS. IF ANY WORK IS INSTALLED AND THE ARCHITECTURAL DESIGN CANNOT BE FOLLOWED, THIS CONTRACTOR SHALL, AT HIS OWN EXPENSE, MAKE CHANGES IN HIS WORK AS DIRECTED BY THE ARCHITECT TO PERMIT THE COMPLETION OF THE ARCHITECTURAL WORK IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS.

2. IT SHALL BE THE DUTY OF THIS CONTRACTOR TO REPORT ANY INTERFERENCES BETWEEN HIS WORK AND THAT OF ANY OF THE OTHER CONTRACTORS AS SOON AS THEY ARE DISCOVERED. THE ARCHITECT SHALL DETERMINE WHICH EQUIPMENT WILL BE RELOCATED, REGARDLESS OF WHICH WAS INSTALLED FIRST. HIS DECISION WILL BE FINAL.

I. QUALITY ASSURANCE

1. ALL PRODUCTS SHALL BE NEW AND OF THE TYPE AND QUALITY SPECIFIED. WHERE MATERIALS, EQUIPMENT, APPARATUS OR OTHER PRODUCTS ARE SPECIFIED BY MANUFACTURER, BRAND NAME, TYPE OF CATALOG NUMBER, SUCH DESIGNATION SHALL ESTABLISH THE STANDARDS OF THE DESIRED QUALITY AND STYLE. IT IS THE INTENT OF THESE SPECIFICATIONS TO ESTABLISH A STANDARD OF QUALITY OF MATERIALS AND EQUIPMENT INSTALLED.

BASIC ELECTRICAL MATERIALS AND METHODS

A. NAMEPLATES

1. GENERAL: FURNISH AND MOUNT ON EACH PANEL BOARD, SWITCHBOARD (INCLUDING BRANCH SWITCHES), LARGE JUNCTION BOX, SAFETY SWITCH, STARTER, REMOTE CONTROL, PUSH BUTTON STATION, AND ALL SIMILAR CONTROLS, A NAMEPLATE DESCRIPTIVE OF THE EQUIPMENT OR EQUIPMENT CONTROLLED.

2. PROVIDE BLACK AND WHITE NAMEPLATES CONSTRUCTED FROM LAMINATED PHENOLIC WITH A WHITE CENTER CORE. LETTERS SHALL BE ENGRAVED IN THE PHENOLIC TO FORM WHITE LETTERS 3/8" HIGH. FASTEN THE NAMEPLATES WITH SCREWS AND AN ADHESIVE TYPE FASTENER.

B. MOUNTING ACCESSORIES

1. THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL ANGLE IRON, CHANNEL IRON, RODS, SUPPORTS, HANGERS, CONCRETE OR PLYWOOD REQUIRED TO INSTALL, MOUNT AND SUPPORT ANY ELECTRICAL EQUIPMENT OR DEVICE CALLED FOR ON THE PLANS.

2. SUPPORTING MATERIAL SHALL BE COMPLETE WITH HANGERS, CONNECTORS, BOLTS, CLAMPS AND NECESSARY ACCESSORIES TO MAKE A COMPLETE INSTALLATION. SUPPORTING MATERIAL SHALL BE GALVANIZED, PAINTED OR OTHERWISE SUITABLY FINISHED. PRODUCTS BY BRINKLEY, STEEL CITY OR RACO WILL BE ACCEPTABLE.

3. ALL SURFACE-MOUNTED EQUIPMENT ON BLOCK WALLS SHALL BE MOUNTED ON 3/4" PLYWOOD BACKBOARD. ALL FLOOR-MOUNTED EQUIPMENT SHALL BE INSTALLED ON A 4" HIGH CONCRETE HOUSEKEEPING PAD.

C. EXECUTION

1. THE ELECTRICAL WORK FOR CONSTRUCTION PROPOSED SHALL CONFORM TO ALL FEDERAL (OSHA), STATE, ALL SPECIFIC SAFETY REQUIREMENTS AND THE REQUIREMENTS OF THE CURRENT EDITION OF THE NEC.

2. CHECK THE HVAC AND PLUMBING SPECIFICATIONS FOR ELECTRICAL REQUIREMENTS AND INCLUDE THE SAME IN THE CONTRACT COST.

3. EQUIPMENT CONNECTIONS, STARTERS, DISCONNECT SWITCHES, CONTROL TRANSFORMERS AND PUSHBUTTON STATIONS FOR THE EQUIPMENT FURNISHED BY THE OWNER OR UNDER A SEPARATE CONTRACT SHALL BE INSTALLED AND CONNECTED UNDER THIS DIVISION, AS INDICATED ON THE CONTRACT DRAWINGS.

4. ALL CUTTING, PATCHING, EXCAVATING, BACKFILLING AND CONCRETE WORK RELATED TO THIS CONTRACT WILL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. THIS CONTRACTOR SHALL ASSUME THE RESPONSIBILITY OF PROVIDING THE SLEEVES, CHASES AND OPENINGS NECESSARY FOR THE ELECTRICAL INSTALLATION AND FOR THEIR REPAIR IN AN ACCEPTABLE MANNER, AS DETERMINED BY THE ARCHITECT. ALL HOLES SHALL BE CORE-DRILLED. PROVIDE FIRE STOP IN ALL OPENINGS CREATED THROUGH FIRE-RATED WALLS, FLOORS OR CEILINGS.

5. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL REQUIRED ACCESS PANELS NECESSARY FOR HIS WORK, COORDINATE WITH ARCHITECT PRIOR TO INSTALLATION.

H. MATERIALS AND WORKMANSHIP

1. ALL WORK SHALL BE INSTALLED IN A PRACTICAL AND WORKMANLIKE MANNER, BY MECHANICS SKILLED IN THE SEVERAL TRADES NECESSARY.

2. ALL MATERIALS SHALL BE NEW AND FREE FROM DEFECTS AND SHALL BE THE BEST OF THEIR SEVERAL KINDS UNLESS SPECIFIED OR INDICATED ON THE DRAWINGS TO THE CONTRARY.

3. DURING EACH PHASE AND AT THE COMPLETION OF THE CONSTRUCTION, THIS CONTRACTOR SHALL REMOVE ALL DEBRIS AND EXCESS MATERIALS CAUSED BY HIS WORK. HE SHALL LEAVE THE AREA OF OPERATION BROOM CLEAN.

4. ALL ELECTRICAL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OR ETL LABEL.

5. THIS CONTRACTOR SHALL GUARANTEE HIS WORKMANSHIP AND MATERIAL (LAMPS EXCEPTED) FOR A PERIOD OF ONE YEAR FROM THE DATE OF BUILDING OPENING AND LEAVE HIS WORK IN PERFECT ORDER AT THE COMPLETION. SHOULD DEFECTS DEVELOP WITHIN THE GUARANTEE PERIOD, THE CONTRACTOR SHALL, UPON NOTICE OF THE SAME, REMEDY THE DEFECTS AND HAVE ALL DAMAGES TO OTHER WORK OR FURNISHINGS CAUSED BY THE REPAIRS CORRECTED AT HIS EXPENSE TO THE CONDITION BEFORE SUCH DAMAGE.

I. SCOPE OF WORK

1. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIAL, STORAGE, UNPACKING AND PLACEMENT; TO INCLUDE BUT NOT BE LIMITED TO, THE FOLLOWING ITEMS:
   a. COMPLETE POWER AND LIGHTING DISTRIBUTION SYSTEM INCLUDING ALL PANELS AND FEEDERS.
   b. COMPLETE BRANCH CIRCUIT WIRING SYSTEM.
   c. COMPLETE POWER WIRING FOR ALL AIR CONDITIONING EQUIPMENT, PLUMBING SYSTEM, HEATING EQUIPMENT, VENTILATING AND EXHAUST EQUIPMENT.
   d. LIGHTING FIXTURE INSTALLATION, INCLUDING ALL FLUORESCENT LAMPS.
   e. COMPLETE TELEPHONE AND COMMUNICATION CONDUIT SYSTEM INCLUDING BOXES, PLATES, JACKS, ETC., AS SPECIFIED, SHOWN ON THE DRAWINGS AND REQUIRED BY THE LOCAL TELEPHONE COMPANY AND/OR OWNER.
   f. TEMPORARY ELECTRICAL POWER AND LIGHTING AS REQUIRED FOR CONSTRUCTION.
   g. TESTING OF ALL CABLES AND CIRCUIT WIRING AFTER INSTALLATION.
   h. EXIT LIGHT SYSTEM.
   i. WIRING DEVICES.
   j. LIGHTING CONTROLS.
   k. GROUNDING OF THE ELECTRICAL SYSTEM.
   l. COMPLETE FIRE ALARM SYSTEM INCLUDING CABLES, CONDUITS, BOXES ANY ACCESSORIES AS REQUIRED BY THE OWNER
   m. IDENTIFY RACEWAYS AND CABLES WITH COLOR BANDING AS FOLLOWS:

2. COLORS:
   a) FIRE ALARM SYSTEM: RED
   b) TELECOMMUNICATION SYSTEM: BLUE AND GRAY.
   c) SECURITY SYSTEM: YELLOW.
   d) SOUND SYSTEM: GREEN.

GROUNDING AND BONDING:

A. GROUND ALL EQUIPMENT PER N.E.C.

B. ALL CONDUITS SHALL CONTAIN A CODE-SIZED GROUND WIRE SIZED PER N.E.C. IN ADDITION TO THE CONDUCTORS SHOWN ON THE PLANS. WHERE CIRCUIT CONDUCTORS ARE INCREASED IN SIZE FOR VOLTAGE DROP, THE GROUND WIRE SIZE SHALL BE INCREASED PROPORTIONATELY.

C. AFTER INSTALLING GROUNDING SYSTEM BUT BEFORE PERMANENT ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, TEST FOR COMPLIANCE WITH REQUIREMENTS.

WIRE AND CABLE:

A. COLOR CODE CONDUCTORS (EXCEPT CONTROL AND INSTRUMENTATION CONDUCTORS) AS FOLLOWS:

208/120V SYSTEM:	480/277V SYSTEM:
PHASE A: BLACK;	PHASE A: BROWN;
PHASE B: RED;	PHASE B: ORANGE;
PHASE C: BLUE;	PHASE C: YELLOW;
NEUTRAL: WHITE;	NEUTRAL: GRAY;
GROUND: GREEN.	GROUND: GREEN.

1. #12AWG AND #10AWG CONDUCTORS SHALL HAVE CONTINUOUS INSULATION COLOR, AS LISTED ABOVE.

2. COLOR CODE CONDUCTORS LARGER THAN ABOVE, WHICH DO NOT HAVE CONTINUOUS INSULATION COLOR BY APPLICATION, OF AT LEAST TWO LAPS OF COLORED TAPE ON EACH CONDUCTOR AT ALL POINTS OF ACCESS INCLUDING JUNCTION BOXES. COLOR TAPE SHALL BE THE EQUAL OF 3M PRODUCTS SCOTCH #35.

3. CONDUCTORS SHALL BE SOFT ANNEALED COPPER INSULATED FOR 600 VOLTS UNLESS SPECIFICALLY INDICATED OTHERWISE. ALUMINUM CONDUCTORS ARE NOT ALLOWED ON THIS PROJECT.

4. ALL CONDUCTORS SHALL BE COLOR CODED THROUGHOUT AND NUMBERED AND TAGGED AT EACH JUNCTION BOX, PANEL BOARD AND DEVICES WITH SUITABLE FIREPROOF TAGS OR ADHESIVE IDENTIFICATION BANDS.

B. INSULATION TYPE SHALL BE TYPE THWN FOR WIRE SIZES #8AWG AND LARGER AND THHN OR THWN FOR #10AWG AND SMALLER. THHN SHALL NOT BE USED IN WET OR DAMP LOCATIONS. ALL WIRES AND CABLES SHALL BE COPPER AND RATED FOR 600 VOLTS.

C. FLEXIBLE CORD SHALL BE HEAVY DUTY TYPE SO WITH AN EQUIPMENT GROUND CONDUCTOR IN ADDITION TO THE CURRENT CARRYING CONDUCTORS.

D. MINIMUM SIZE:
1. LIGHTING AND POWER #12AWG CONDUCTORS FOR 120VOLT, 20AMP CIRCUIT AND 227VOLT, 20AMP CIRCUIT, UNLESS OTHERWISE INDICATED.

2. CONTROL CONDUCTORS SHALL BE #14AWG FOR NEC CLASS I AND #16AWG FOR NEC CLASS II.

3. 120VOLT, 20AMP CIRCUITS OVER 65 FEET IN LENGTH AND 277VOLT, 20AMP CIRCUIT OVER 130 FEET IN LENGTH FROM THE POINT OF SUPPLY TO THE FIRST OUTLET SHALL BE #10AWG.

4. 120VOLT, 20AMP CIRCUITS OVER 120 FEET IN LENGTH AND 277VOLT, 20AMP CIRCUIT OVER 240 FEET IN LENGTH FROM THE POINT OF SUPPLY TO THE FIRST OUTLET SHALL BE #8AWG.

5. 120VOLT, 20AMP CIRCUITS OVER 180 FEET IN LENGTH AND 277VOLT, 20AMP CIRCUIT OVER 360 FEET IN LENGTH FROM THE POINT OF SUPPLY TO THE FIRST OUTLET SHALL BE #6AWG.

E. CONDUCTORS #8AWG AND LARGER SHALL BE STRANDED.

F. CONDUCTORS #10AWG AND SMALLER SHALL BE SOLID.

G. INSTALL WIRING IN CONDUIT. CONCEALED WIRING IN WALLS OR ABOVE CEILINGS, OR EXPOSED IN UNFINISHED AREAS (WHERE NOT SUBJECT TO PHYSICAL DAMAGE) MAY BE RUN IN MC OR AC CABLE.

H. CONNECT #10AWFG AND SMALLER WIRES WITH CONSTANT PRESSURE EXPANDABLE SPRING TYPE CONNECTORS, "SCOTCHLOK" BY 3M OR B-CAP BY BUCHANAN.

I. CONNECT #8AWG AND LARGER WIRES WITH COMPRESSION CONNECTORS OR SPLICES AS MANUFACTURED BY BURNDY OR T&B.

J. INSULATE SPLICING CONNECTORS TO AT LEAST 200% OF THE WIRE INSULATION. USE PRE-STRETCHED TUBING CONNECTOR INSULATORS, 3M PST FOR #2 AND LARGER CONDUCTORS.

K. PULL CONDUCTORS USING RECOGNIZED METHODS AND EQUIPMENT LEAVING AT LEAST 6" WIRE AT ALL JUNCTION BOXES FOR CONNECTIONS. CLEANUP EACH CONDUIT SYSTEM BEFORE PULLING WIRE.

L. FORM AND TIE ALL WIRING IN PANEL BOARDS.

M. THERE SHALL BE NO WIRE NUT JOINTS OR SPLICES MADE INSIDE SWITCHBOARDS/PANELBOARDS.

N. BRANCH CIRCUIT WIRE SIZES (AND CONDUITS) SHALL BE INCREASED FROM THOSE INDICATED ON THE PLANS TO PREVENT EXCESSIVE VOLTAGE DROP. BRANCH CIRCUITS SHALL BE INSTALLED WITH WIRES OF SUFFICIENT SIZE SO THAT VOLTAGE DROP BETWEEN THE PANEL AND THE LOADS DOES NOT EXCEED LIMIT OF 3%.

O. WIRE SIZES SHALL BE BASED ON THE 60 DEGREES C. AMPACITIES FOR WIRE SIZES #14-1AWG, AND 75 DEGREES C. AMPACITIES FOR WIRE SIZES #1/0AWG AND LARGER.

P. CIRCUITS MAY BE MULTI-PLEXED IN CONDUIT PROVIDED WIRE IS PROPERLY DERATED AND CONDUIT SIZED PER CODE. UNDER NO CIRCUMSTANCE SHALL MORE THAN (8) CURRENT CARRYING CONDUCTORS BE RUN IN A SINGLE CONDUIT.

RACEWAYS AND BOXES

A. RACEWAYS

1. ALL WIRE SHALL BE RUN IN ACCORDANCE WITH CODE IN CORROSION RESISTANT, RIGID, THREADED, METAL CONDUIT OR ELECTRICAL METALLIC TUBING (E.M.T.) UNLESS OTHERWISE SPECIFICALLY STATED HEREIN.
   a. CONDUIT IN EXTERIOR WALLS, BELOW FLOOR SLAB, OR UNDERGROUND SHALL BE RIGID, THREADED, GALVANIZED, HEAVY WALL TYPE. UNDERGROUND RIGID CONDUIT SHALL BE PVC COATED OR TAPED WITHAT LEAST TWO LAPS OF ANTI-CORROSION TAPE "SCOTCHRAP #50" - 3M PRODUCT.
   b. CARLON PVC TYPE 40 HEAVY WALL CONDUIT WITH GROUND WIRE MAY BE USED BELOW FLOOR SLAB OR UNDERGROUND IN LIEU OF RIGID, THREADED, GALVANIZED CONDUIT. PVC 40 CONDUIT SHALL NOT BE RUN IN OR ABOVE FLOOR SLAB. PVC CONDUIT SHALL TERMINATE BELOW FLOOR SLAB WITH RIGID, THREADED METAL CONDUIT ADAPTER. CONDUIT ABOVE SLAB SHALL BE METAL.
   c. CONDUIT RUN EXPOSED TO THE WEATHER SHALL BE HEAVY WALL, METAL THREADED TYPE.
   d. PROVIDE BRANCH CIRCUIT CONDUCTORS THAT ARE TYPE THHN OR THWN AS REQUIRED. MC CABLE CAN BE USED FOR LIGHT FIXTURE TO LIGHT FIXTURE.
   e. LIQUID TIGHT FLEXIBLE, GALVANIZED STEEL CONDUITS WITH CONTINUOUS COPPER BONDING CONDUCTOR SHALL BE USED FOR CONNECTION TO MOTORS AND AT OTHER LOCATION WHERE VIBRATION MOVEMENT IN ENCOUNTERED.

2. ANY CONDUITS PASSING THROUGH EXPANSION JOINT SHALL BE PROVIDED WITH EXPANSION/DEFLECTION FITTING.

3. CONDUIT SIZE SHALL BE 3/4" MINIMUM.

4. NO MORE THAN FOUR (4) 90 DEGREE BENDS IN THE SINGLE RUN.

5. CONDUIT SHALL BE SECURELY FASTENED IN PLACE.

6. ALL CONDUITS AND ITS FITTINGS SHALL CONFIRM TO ITS APPLICABLE UL STANDARD.

7. BUSHINGS LARGER THAN 1" SHALL BE GROUNDING TYPE.

8. ALL CONDUIT SHALL BE CONCEALED IN WALLS, FLOOR AND CEILINGS WHEREVER POSSIBLE. EXPOSED CONDUIT IN FINISHED AREAS WILL NOT BE PERMITTED. EXPOSED CONDUIT WILL BE PERMITTED IN UNFINISHED AREAS WITH THE SPECIFIC APPROVAL OF THE ARCHITECT.

9. USE FLEXIBLE CONDUIT FOR THE CONNECTION TO RECESSED OR SEMI-RECESSED LIGHTING FIXTURES (6' LENGTH MAXIMUM). USE LIQUID TIGHT METAL CONDUIT FOR ALL CONNECTIONS TO MOTORS AND OTHER EQUIPMENT SUBJECT TO VIBRATION AND IN AREAS SUBJECT TO MOISTURE.

10. USE WATERTIGHT JOINTS WITH BURIED AND CONCRETE ENCASED CONDUIT. ALL BURIED CONDUITS OUTSIDE OF BUILDINGS SHALL HAVE A MINIMUM OF 24" OF COVER. METAL CONDUITS BURIED IN EARTH SHALL BE PAINTED (TWO COATS) WITH HEAVY ASPHALTUM PAINT.

11. SUPPORT RUNS OF CONDUIT AS DETAILED IN THE APPROPRIATE TABLE OF THE NATIONAL ELECTRICAL CODE (NEC).

12. INSTALL EXPOSED RUNS OF CONDUIT AND CONDUIT ABOVE LAY-IN CEILINGS PARALLEL OR PERPENDICULAR TO THE WALLS, STRUCTURAL MEMBERS OF INTERSECTIONS OF VERTICAL PLANES AND CEILINGS. PROVIDE RIGHT ANGLE TURNS USING FITTINGS OR SYMMETRICAL BENDS. SUPPORT CONDUITS WITHIN 1" OF ALL CHANGES IN DIRECTION.

13. IF A CONDUIT IS SUSPENDED, IT SHALL BE SUPPORTED ON TRAPEZE HANGERS WHICH USE "ALL-THREAD" RODS FROM THE STRUCTURAL STEEL. THE USE OF CEILING SUPPORT WIRE OR SIMILAR MATERIAL WILL NOT BE ACCEPTED.

14. INSTALL EMPTY CONDUIT FOR FUTURE USE AS INDICATED ON THE DRAWINGS. CONDUIT SHALL BE COMPLETE WITH JETLINE OR PULL ROPE, JUNCTION/OUTLET BOXES, TILE RINGS AND APPROPRIATE COVER PLATES.

15. PROVIDE PITCH POCKETS WHERE CONDUITS PENETRATE THE ROOF.

16. THREAD LUBRICATION/SEALANT IS REQUIRED ON OUTDOOR AND UNDERGROUND THREADED METAL JOINTS.

17. INSTALL FIRE SEAL FITTINGS WHERE CONDUITS PENETRATE CONCRETE FLOOR SLABS OR MASONRY WALLS REQUIRED TO BE FIRE RATED.

18. HORIZONTAL PORTION OF CONDUIT EXPOSED ON THE ROOF AND FEEDING EQUIPMENT SHALL NOT BE MORE THAN 5'-0" UNLESS THE WRITTEN APPROVAL FROM ARCHITECT OR ENGINEER IS OBTAINED.

B. PULL AND JUNCTION BOXES
1. INSTALL PULL AND JUNCTION BOXES WHERE SHOWN ON THE DRAWINGS, AND WHERE REQUIRED FOR CHANGES IN DIRECTION, AT JUNCTION POINTS, AND TO FACILITATE WIRE PULLING. FURNISH BOX SIZES IN ACCORDANCE WITH NEC UNLESS LARGER BOXES ARE INDICATED.

2. PROVIDE STEEL BOXES AND REMOVABLE COVERS OF CODE GAGE, HOT ROLLED SHEET STEEL, HOT DIPPED GALVANIZED INSIDE AND OUTSIDE, FOR ABOVE GROUND WORK. FURNISH WEATHERPROOF BOXES WHEN INSTALLED ABOVE GROUND OUTSIDE.

3. PROVIDE CAST IRON BOXES, HOT DIPPED GALVANIZED INSIDE AND OUTSIDE WHERE SHOWN ON THE DRAWINGS. FURNISH REMOVABLE COVERS WITH GASKETS AND STAINLESS STEEL, BRASS OR BRONZE SCREWS.

4. PROVIDE CONCRETE BOXES FOR UNDERGROUND WORK UNLESS OTHERWISE INDICATED ON THE DRAWINGS. FURNISH STEEL FRAMES AND COVERS WITH THE COVER ATTACHED TO THE FRAME WITH HEXAGON HEAD, BRASS OR BRONZE CAP SCREWS, 3/8" DIAMETER. PROVIDE A RUBBER GASKET FOR SEALING BETWEEN THE COVER AND THE FRAME. PAINT THE COVER WITH TWO COATS OF HEAVY ASPHALTUM.

C. OUTLET BOXES
1. USE SHEET STEEL BOXES, ZINC COATED OR CADMIUM PLATED, FOR CONCEALED INTERIOR WORK.

2. USE CAST BOXES, ZINC-CADMIUM FINISH MALLEABLE IRON, FOR EXPOSED INTERIOR WORK, AND FOR EXPOSED OR CONCEALED WORK IN WET, DAMP OR EXTERIOR LOCATIONS. CAST BOXES SHALL BE SERIES FD BY CROUSE HINDS OR APPLETON.

3. WALL BOX SIZES (MINIMUM) SHALL BE 4" SQUARE x 2-1/2" DEEP WHERE WALL CONSTRUCTION PERMITS. WHERE WALL CONSTRUCTION DICTATES, THE WIDTH MAY BE REDUCED TO 2-1/8" OR 1-1/2" UNDER SPECIAL CONDITIONS.

4. FIXTURE OUTLETS IN CEILINGS (MINIMUM) SHALL BE 4" OCTAGONAL x 1-1/2" DEEP (4-11/16" OCTAGONAL x 2-1/2" DEEP WHERE REQUIRED TO ACCOMMODATE LARGER CONDUIT OR LARGER NUMBER OF WIRES).

5. GANG BOXES SHALL BE ONE PIECE (MINIMUM), 2-1/8" DEEP.

6. PROVIDE CAST IRON, CONCRETE-TIGHT FLOOR BOXES WITH ADJUSTABLE COVERS SET FLUSH AND LEVEL WITH THE FINISHED FLOOR, WITH OUTLETS AS INDICATED ON THE DRAWINGS. PROVIDE HUBBELL #B-2400, 4200, OR 4300 SERIES BOXES WITH LEVELING SCREWS. FLUSH TYPE COVERS AND OPENINGS TO SERVE OUTLETS USED. FURNISH FLUSH CAPS FOR CLOSING OFF BOX WHEN NOT IN USE.

7. FLUSH MOUNT BOXES IN ALL FINISHED WALLS. INSTALL THE PLASTER RINGS IN DRYWALLED PLASTERED WALLS AND RAISED COVERS AS REQUIRED IN WALLS WITH OTHER FINISHES SO THAT THE COVER PLATES FIT TIGHTLY AGAINST BOXES OR RINGS, 3/16" MAXIMUM GAPS ARE ALLOWED FOR NONCOMBUSTIBLE WALLS.

8. ADJUST LOCATION OF OUTLETS IN MASONRY OR TILE CONSTRUCTION TO OCCUR IN THE NEAREST JOINT TO THE HEIGHT SPECIFIED. HEIGHTS SHALL MEET A.D.A. REQUIREMENTS.

9. SUPPORT ALL BOXES TO MAINTAIN PROPER ALIGNMENT AND RIGIDITY.

10. CLEAN BOXES OF ALL FOREIGN MATTER PRIOR TO THE INSTALLATION OR WIRING OF DEVICES.

11. MOUNTING HEIGHTS ON THE DRAWINGS ARE TO THE CENTERLINE OF THE BOX UNLESS OTHERWISE NOTED.

WIRING DEVICES

A. WIRING DEVICE COLOR SHALL BE WHITE, UNLESS OTHERWISE INDICATED.

B. PROVIDE TOTALLY ENCLOSED, 20 AMPERE, 120/277 VOLT, QUIET A/C GENERAL USE SNAP SWITCHES.

C. SWITCHES SHALL BE SPECIFICATION GRADE AS MANUFACTURED BY LEVITON.

D. PROVIDE NEMA CONFIGURATION 5-20R DUPLEX 125 VOLT GROUNDING TYPE RECEPTACLES RATED FOR 20 AMPERES UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

E. RECEPTACLES SHALL BE SPECIFICATION GRADE AS MANUFACTURED BY HUBBELL, P&S OR LEVITON.

F. RECEPTACLES REQUIRING AMPERAGES, VOLTAGES OR CONFIGURATIONS DIFFERENT FROM THE DUPLEX CONVENIENCE RECEPTACLES ABOVE SHALL BE AS INDICATED ON THE DRAWINGS.

G. PROVIDE OTHER RECEPTACLES OF A QUALITY, MATERIAL AND WORKMANSHIP EQUAL TO THAT SPECIFIED FOR DUPLEX CONVENIENCE RECEPTACLES.

H. PROVIDE COVER OR DEVICE PLATES FOR OUTLET BOXES AS FOLLOWS UNLESS OTHERWISE NOTED:
1. FINISHED AREAS: THERMOPLASTIC - COLOR TO MATCH DEVICE.

2. UNFINISHED AREAS: ZINC COATED SHEET METAL, ALUMINUM, OR CAST METAL, AS APPROPRIATE FOR THE TYPE OF BOX.

3. EXTERIOR AREAS: COPPER FREE ALUMINUM WITH GRAY, POWDER EPOXY FINISH, GASKET, WEATHERPROOF, CROUSE-HINDS "WLRD" FOR DUPLEX RECEPTACLES AND "WLRS" FOR SINGLE RECEPTACLES OR EQUAL.

4. TELEPHONE, COMMUNICATION, AND SIGNAL OUTLET PLATES, SHALL MATCH THOSE USED FOR RECEPTACLES AND SWITCHES. ALL OUTLET AND/OR JUNCTION BOXES SHALL BE COMPLETE WITH A COVER PLATE BY THIS CONTRACTOR.

5. WHERE DEVICES ARE GANGED, THEY SHALL BE INSTALLED UNDER A COMMON COVER PLATE.

I. LOCATE THE SWITCHES APPROXIMATELY 4'-0" ABOVE THE FINISHED FLOOR ELEVATION OR NEAREST BLOCK COURSE (WITHIN A.D.A. REQUIREMENTS), UNLESS OTHERWISE INDICATED. THE LONG DIMENSION OF THE SWITCHES SHALL BE VERTICAL.

J. LOCATE RECEPTACLES APPROXIMATELY 1"-6" ABOVE THE FINISHED FLOOR ELEVATION OR NEAREST BLOCK COURSE (WITHIN A.D.A. REQUIREMENTS), UNLESS NOTED OTHERWISE. THE LONG DIMENSION OF RECEPTACLES SHALL BE VERTICAL.

SAFETY SWITCHES

A. SAFETY SWITCHES SHALL BE THE ENCLOSED HEAVY-DUTY TYPE (TYPE HD) WITH QUICK-MAKE, QUICK-BREAK MECHANISM AND EXTERNAL PAD LOCKABLE OPERATING HANDLE.

B. SAFETY SWITCHES SHALL BE RATED FOR 240 OR 600 VOLTS AS APPLICABLE. THEY SHALL BE HORSEPOWER RATED WHEN USED IN MOTOR CIRCUITS.

C. SAFETY SWITCHES SHALL BE FUSIBLE OR NON-FUSIBLE, 2, 3, OR 4 POLE AS INDICATED ON THE DRAWINGS.

D. SAFETY SWITCHES SHALL BE SINGLE THROW UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

E. ENCLOSURES SHALL BE NEMA1 INDOORS AND NEMA3R OUTDOORS UNLESS OTHERWISE INDICATED ON DRAWINGS.

F. MANUFACTURER SHALL BE SQUARE D, SIEMENS, OR CUTLER-HAMMER. ALL SAFETY SWITCHES SHALL BE BY ONE MANUFACTURER.

AMENTA | EMMA
ARCHITECTS

CT INNOVATIONS - THE DISTRICT

470 James
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KEY PLAN

N

PROJECT DATA

PROJECT NUMBER	18-000
CURRENT SUBMISSION DATE	08/29/19
DRAWN	JJZ
CHECKED	BJZ
SCALE	1/8" = 1'-0"

HISTORY OF SUBMISSIONS

No.	Date	Description

DD SET

SHEET TITLE

ELECTRICAL SPECIFICATIONS

E0.02

LIGHTING FIXTURE NOTES

1. TYPE 'EM' EMERGENCY FIXTURES AND TYPE 'X' EXIT SIGNS SHALL BE WIRED TO LINE SIDE OF AREA LIGHTING CIRCUIT TO SENSE LOSS OF NORMAL POWER AND PROVIDE CONTINUOUS TRICKLE CHARGE, AND SHALL OPERATE AT A MINIMUM OF 1 1/2 HOURS UPON LOSS OF NORMAL POWER. SEE SCHEDULE.

2. DIRECTIONAL CHEVRONS SHALL CONFORM TO NFPA 5-10.4.1.2 AND SHALL BE IDENTIFIABLE AS A DIRECTIONAL INDICATOR AT A MINIMUM OF 40 FT. UNDER ALL SPACE CONDITIONS. SEE DETAIL BELOW.

EXIT SIGN DIRECTIONAL INDICATOR

3. ALL FIXTURES TO BE LED WITH 0-10V DRIVERS STANDARD. ALL FIXTURES TO BE COLOR TEMPERATURE 3500°K.

4. PROVIDE ERICO FASTENING PRODUCTS (CADDY) CAT. No. 515 OR 515A LIGHT FIXTURE SUPPORT CLIPS ON ALL RECESSED LIGHT FIXTURES. PROVIDE MINIMUM FOUR (4) PER FIXTURE.

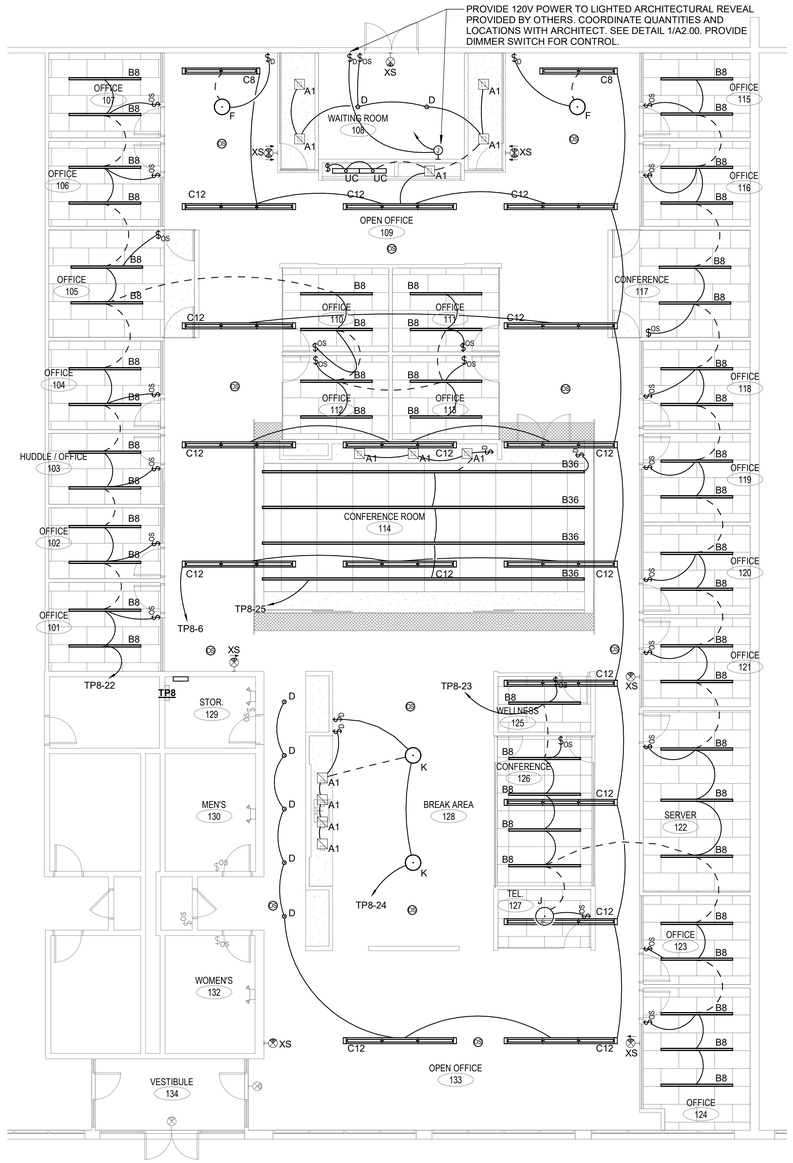
5. IN ADDITION TO THE REQUIREMENTS OF THE IBC AND THE NEC, ALL RECESSED LIGHT FIXTURES SHALL BE PROVIDED WITH SUPPORT WIRES AT A MINIMUM OF FOUR (4) PER FIXTURE AND LOCATED NOT MORE THAN SIX (6") INCHES FROM EACH CORNER, EXTENDED AND ATTACHED TO THE BUILDING STRUCTURE. HANGER WIRES SHALL BE GALVANIZED CARBON STEEL, ASTM A641, SOFT TEMPER, PRE-STRETCHED WITH A YIELD STRESS LOAD OF AT LEAST THREE (3) TIMES DESIGN LOAD BUT NOT LESS THAN 12 GAUGE (0.106"). FOR ROUND FIXTURES OR FIXTURES SMALLER THAN THE CEILING GRID, PROVIDE A MINIMUM OF FOUR (4) WIRES PER FIXTURE AND LOCATE AT EACH CORNER OF THE CEILING GRID IN WHICH THE FIXTURE IS TO BE LOCATED. ADDITIONALLY, WHERE FIXTURES OF SIZES LESS THAN THE CEILING GRID ARE INDICATED TO BE CENTERED IN THE ACOUSTICAL PANEL, SUCH FIXTURES SHALL BE SUPPORTED WITH A MINIMUM OF TWO (2) 3/4" METAL CHANNELS SPANNING AND SECURED TO THE CEILING TEES.

6. VERIFY ALL LIGHT FIXTURE FINISHES WITH ARCHITECT PRIOR TO PURCHASE.

7. VERIFY ALL LIGHT FIXTURE MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO INSTALLATION.

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	MODEL	LAMPS			VOLTAGE	REMARKS
			LUMENS	WATTAGE	LUMENS/WATT		
A1	USAI	Z3SDL C 14M2 35KS 40 S WH NC1 UNV D6F	950 lm	14 W	68 lm/W	120 V	
B8	LUX ILLUMINAIRE	EOS2.0-R-G9-500-8-35K-8-1-UNV-S1-W	4000 lm	38 W	105 lm/W	120 V	
B36	LUX ILLUMINAIRE	EOS2.0-R-G9-500-36-35K-8-1-UNV-S1-W	18000 lm	171 W	105 lm/W	120 V	
C8	PEERLESS	EGRM1L LLP 8FT MSL4 80CRI 35K I1000LMF MIN1 ZT 120 SCT NS SNS F2/72A C041 SLP	7880 lm	56 W	141 lm/W	120 V	COORDINATE MOUNTING HEIGHT WITH ARCHITECT
C12	PEERLESS	EGRM1L LLP 12FT MSL4 80CRI 35K I1000LMF MIN1 ZT 120 SCT NS SNS F2/72A C041 SLP	11820 lm	84 W	141 lm/W	120 V	COORDINATE MOUNTING HEIGHT WITH ARCHITECT
D	USAI	BLSD5 16C3 35KS 50 S WH PJ2 UNV D6F PMB P2 36 WH	1475 lm	16 W	92 lm/W	120 V	COORDINATE STEM LENGTH WITH ARCHITECT
EM	LITHONIA	ELM2L	440 lm	5 W	88 lm/W	120 V	
F	BUZZISHADE	Pendant LED Globe Medium	1500 lm	19 W	79 lm/W	120 V	COORDINATE ALL FINISHES AND MOUNTING HEIGHT WITH ARCHITECT
J	SONNEMAN	2763.16 STIX 3-ARM PENDANT	4300 lm	42 W	102 lm/W	120 V	COORDINATE MOUNTING HEIGHT WITH ARCHITECT
K	SONNEMAN	SUSPENDERS 10-BAR FREE FORM ZIG ZAG MONLINE CRYSTAL CYLINDER PENDANTS SLS1150	4000 lm	75 W	53 lm/W	120 V	COORDINATE ALL FINISHES AND MOUNTING HEIGHT WITH ARCHITECT
UC	LITHONIA	UCEL 36IN 30K 90CRI WH	1162 lm	15 W	79 lm/W	120 V	
XS	LITHONIA	EDG 1 R EL		5 W		120 V	



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KEY PLAN

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CHECKED	BJZ
SCALE	As indicated

HISTORY OF SUBMISSIONS

No.	Date	Description

DD SET

SHEET TITLE

FIRST FLOOR LIGHTING PLAN

E1.01

Branch Panel: TP8

Location: STOR. 129
Supply From:
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10,000 AMPS SYMMETRICAL
Mains Type: MLO
Mains Rating: 225 A
MCB Rating: 225 A

Notes:

CKT	Circuit Description	Type	Trip	Poles	A		B		C		Poles	Trip	Type	Circuit Description	CKT
1	Existing Bathroom Recepts		20 A	1	0.4	0.2					1	20 A		Existing RTU Recept	2
3	Existing Lights		20 A	1			0.0	0.2			1	20 A		Existing Bathroom Lights	4
5	Existing Exhaust Fan		20 A	2					0.3	1.7	1	20 A		General Lighting	6
7					0.3	1.1					1	20 A		Office 107 & 106 RCPTS	8
9	Office 105 RCPTS		20 A	1			0.7	0.9			1	20 A		Office 105 RCPT	10
11	Office 104 & 103 RCPTS		20 A	1					1.1	1.1	1	20 A		Office 102 & 101 RCPTS	12
13	Confrence Room RCPTS		20 A	1	0.9	3.5									14
15	Office 123 & 124 RCPTS		20 A	1			1.3	3.5			3	45 A		RTU-1	16
17	Open Office 133 RCPT		20 A	1					0.2	3.5					18
19	Open Office 133 RCPT		20 A	1	0.2	0.2					1	20 A		Open Office 133 RCPT	20
21	Open Office RCPTS		20 A	1			0.7	0.8			1	20 A		Office Lighting	22
23	Office Lighting		20 A	1					1.1	0.2	1	20 A		Break Area Lighting	24
25	Conference Room Lighting		20 A	1	0.7	0.0					1	20 A		Existing Reveal Waiting Room	26
27	Server 122 RCPT		20 A	1			0.4	0.7			1	20 A		Tel 127 RCPTS	28
29										1.3	2	20 A		Server RCPT	30
31	Existing Water Heater		30 A	2	1.8	1.3									32
33							1.8	1.5			1	20 A		Server RCPT	34
35	Existing Panel Recept		20 A	1					0.2	2.3	1	30 A		Server RCPT	36
37					9.3	11.2									38
39	TP8A		100 A	3			8.2	11.2			3	125 A		Existing RTU	40
41									6.9	11.2					42
				Total Load:	31.1 kVA		31.9 kVA		31.0 kVA						
				Total Amps:	258.8 A		266 A		258.7 A						

Legend:

Blank = Standard, AFI = Arc Fault Circuit Interrupter, GFI = Ground Fault Circuit Interrupter, EPD = Equipment Protection Device, ST = Shunt Trip Circuit Breaker, HACR = Heating, Air Conditioning, Refrigeration Circuit Breaker

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	11095 VA	100.00%	11095 VA		
MTR	1622 VA	124.04%	2012 VA	**Total Conn. Load:**	94023 VA
RCPT	39369 VA	62.70%	24684 VA	**Total Est. Demand:**	80916 VA
LITES	4751 VA	125.00%	5939 VA	**Total Conn.:**	261 A
HEAT	3500 VA	100.00%	3500 VA	**Total Est. Demand:**	224.6 A
AC	33685 VA	100.00%	33685 VA		

Notes:

Branch Panel: TP8A

Location: STOR. 129
Supply From: TP8
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10,000 AMPS SYMMETRICAL
Mains Type: MLO
Mains Rating: 100 A
MCB Rating: 100 A

Notes:

CKT	Circuit Description	Type	Trip	Poles	A		B		C		Poles	Trip	Type	Circuit Description	CKT
1	Server RCPT		30 A	1	2.3	1.3					2	20 A		Server RCPT	2
3	Wellness 125 RCPTS		20 A	1			0.7	1.3							4
5	Break Area RCPTS		20 A	1					0.9	1.2	1	20 A		Fridge RCPT	6
7	Break Area RCPTS		20 A	1	0.4	1.2					1	20 A		Fridge RCPT	8
9	Copier RCPT		20 A	1			1.5	0.8			2	30 A		AC-1/CU-1	10
11	Conference Room RCPTS		20 A	1					0.9	0.8					12
13	Office 112 & 110 RCPTS		20 A	1	1.3	1.3					1	20 A		Office 111 & 113 RCPTS	14
15	Open Office 109 RCPTS		20 A	1			0.7	1.5			1	20 A		Copier Open Office RCPT	16
17	Television RCPTS		20 A	1					0.4	1.1	1	20 A		Office 120 & 121 RCPTS	18
19	Office 118 & 119 RCPTS		20 A	1	1.1	0.5					1	20 A		Conference Room 117 RCPTS	20
21	Conference Room 117 RCPTS		20 A	1			0.5	1.1			1	20 A		Office 115 & 116 RCPTS	22
23	Television RCPTS		20 A	1					0.4	1.3	1	20 A		Conference Room 126 RCPTS	24
25															26
27															28
29															30
31															32
33															34
35															36
37															38
39															40
41															42
				Total Load:	9.3 kVA		8.2 kVA		6.9 kVA						
				Total Amps:	79.5 A		70.1 A		57.3 A						

Legend:

Blank = Standard, AFI = Arc Fault Circuit Interrupter, GFI = Ground Fault Circuit Interrupter, EPD = Equipment Protection Device, ST = Shunt Trip Circuit Breaker, HACR = Heating, Air Conditioning, Refrigeration Circuit Breaker

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
MTR	1622 VA	124.04%	2012 VA		
RCPT	22786 VA	71.94%	16393 VA	**Total Conn. Load:**	24409 VA
				Total Est. Demand:	18406 VA
				Total Conn.:	67.8 A
				Total Est. Demand:	51.1 A

Notes:

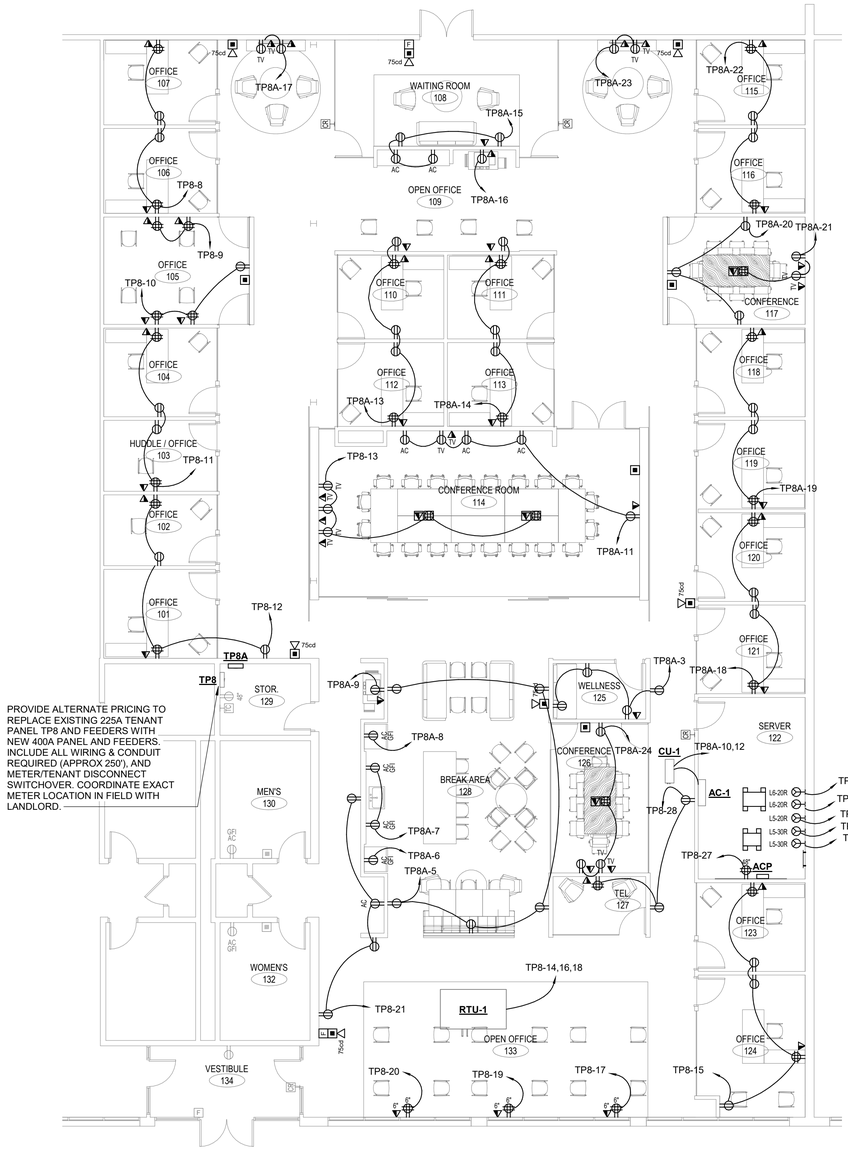
STARTER TYPES	
TYPE	**DESCRIPTION**
SPP	MANUF - SINGLE POINT POWER

DISCONNECT TYPES	
TYPE	**DESCRIPTION**
FS	MANUF - FUSED SWITCH
NFS	MANUF - NON-FUSED SWITCH
T	DIV. 26 - THERMAL OVERLOAD SWITCH

CONTROL TYPES	
TYPE	**DESCRIPTION**
T	DIV. 23 - THERMOSTAT

MECHANICAL EQUIPMENT COORDINATION SCHEDULE

	EQUIPMENT INFORMATION					CIRCUIT INFORMATION				CONTROL			STARTER			DISCONNECT			
TAG	**FLA**	**MCA**	**MOCP**	**VOLT**	**PH**	**PANEL**	**NO.**	**APPARENT LOAD**	**LOAD CLASSIFICATION**	**TYPE**	**FURNISH**	**INSTALL**	**TYPE**	**FURNISH**	**INSTALL**	**TYPE**	**FURNISH**	**INSTALL**	**REMARKS**
AC-1	0.3 A	1 A	15 A	208 V	1	TP8A	10,12	62 VA	MTR	T	DIV. 23	DIV. 23	SPP	MANUF.	MANUF.	T	DIV. 26	DIV. 26	
CU-1	7.5 A	11 A	28 A	208 V	1	TP8A	10,12	1560 VA	MTR	T	DIV. 23	DIV. 23	SPP	MANUF.	MANUF.	FS	MANUF.	MANUF.	
RTU-1	29 A	33 A	45 A	208 V	3	TP8	14,16,18	10430 VA	HVAC	T	DIV. 23	DIV. 23	SPP	MANUF.	MANUF.	NFS	MANUF.	MANUF.	



PROVIDE ALTERNATE PRICING TO REPLACE EXISTING 225A TENANT PANEL TP8 AND FEEDERS WITH NEW 400A PANEL AND FEEDERS. INCLUDE ALL WIRING & CONDUIT REQUIRED (APPROX 250'), AND METER/TENANT DISCONNECT SWITCHOVER. COORDINATE EXACT METER LOCATION IN FIELD WITH LANDLORD.

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SHEET TITLE

FIRST FLOOR POWER PLAN

E2.01