



IAH INTEGRATED COORDINATION CENTER

HOUSTON AIRPORT SYSTEMS
 GENERAL SERVICES FACILITY
 4551 WILL CLAYTON PKWY,
 HUMBLE, TX 77396



SHEET INDEX

Sheet Number	Sheet Name
01-GENERAL	
G-000	COVER SHEET
G-002	SYMBOLS LEGEND, ABBREVIATIONS, VICINITY MAP
G-003	GENERAL NOTES
G-004	TEXAS ACCESSIBILITY GUIDELINES - 1 OF 2
G-005	TEXAS ACCESSIBILITY GUIDELINES - 2 OF 2
G-111	INTERIOR PARTITION SCHEDULE & UL DESIGNS
G-121	INTERIOR PARTITION DETAILS - TYPICAL
G-201	LIFE SAFETY LEVEL 1 PLAN AND CODE SUMMARY
G-202	LIFE SAFETY LEVEL 2 PLAN AND CODE REVIEW CONT.
04-ARCHITECTURAL DEMOLITION	
AD-111	DEMOLITION FLOOR PLANS
AD-151	DEMOLITION REFLECTED CEILING PLAN
04-ARCHITECTURAL	
A-111	OVERALL FLOOR PLANS
A-151	OVERALL REFLECTED CEILING PLANS
A-401	ENLARGED FLOOR PLAN - LEVEL 1 - EOC
A-403	ENLARGED FLOOR PLAN - LEVEL 2 - ICC
A-404	ENLARGED FLOOR PLAN - LEVEL 2 - SHOWERS & UPS
A-411	ENLARGED REFLECTED CEILING PLAN - LEVEL 1 - ICC
A-413	ENLARGED REFLECTED CEILING PLAN - LEVEL 2 - ICC
A-414	ENLARGED REFLECTED CEILING PLAN - LEVEL 2 - SHOWERS
A-421	ENLARGED FURNITURE & EQUIPMENT PLAN
A-422	ENLARGED FURNITURE & EQUIPMENT PLAN
A-451	INTERIOR ELEVATIONS
A-471	ENLARGED SHOWER PLAN & ELEVATIONS
A-531	DETAILS
A-601	ROOM FINISH SCHEDULE AND MATERIALS LEGEND
A-611	DOOR SCHEDULE
A-612	SIGNAGE SCHEDULE
MECHANICAL	
M0.01	MECHANICAL ABBREVIATIONS, LEGENDS AND NOTES
M1.00	OVERALL MECHANICAL PLAN
M1.01	MECHANICAL ENLARGED PLAN - LEVEL 1
M1.02	MECHANICAL ENLARGED PLAN - LEVEL 2
M1.03	MECHANICAL ENLARGED PLAN - LEVEL 2
M3.01	MECHANICAL DETAILS AND SCHEDULES
ELECTRICAL	
E0.01	ELECTRICAL ABBREVIATIONS, LEGENDS, AND NOTES
E4.01	ELECTRICAL ONE LINE DIAGRAM
E5.01	ELECTRICAL SCHEDULES
E5.02	ELECTRICAL SCHEDULES
E5.03	ELECTRICAL SCHEDULES
E5.04	ELECTRICAL DETAILS
EL1.00	OVERALL ELECTRICAL LIGHTING PLAN
EL1.01	ELECTRICAL LIGHTING DEMOLITION ENLARGED PLAN - LEVEL 1
EL1.02	ELECTRICAL LIGHTING DEMOLITION ENLARGED PLAN - LEVEL 2
EL1.03	ELECTRICAL LIGHTING DEMOLITION ENLARGED PLAN - LEVEL 2
EL1.04	ELECTRICAL LIGHTING ENLARGED PLAN - LEVEL 1
EL1.05	ELECTRICAL LIGHTING ENLARGED PLAN - LEVEL 2
EL1.06	ELECTRICAL LIGHTING ENLARGED PLAN - LEVEL 2
EP1.00	OVERALL ELECTRICAL POWER PLAN
EP1.01	ELECTRICAL POWER ENLARGED PLAN - LEVEL 1
EP1.02	ELECTRICAL POWER ENLARGED PLAN - LEVEL 2
EP1.03	ELECTRICAL POWER ENLARGED PLAN - LEVEL 2
PLUMBING	
P0.01	PLUMBING SYMBOLS AND ABBREVIATIONS
P1.01	OVERALL PLUMBING PLAN
P4.01	PLUMBING ENLARGED PLAN - LEVEL 1 - ICC
P4.02	PLUMBING ENLARGED PLAN - LEVEL 1 & 2 - SHOWERS
P5.01	PLUMBING DETAILS AND SCHEDULES
P6.01	PLUMBING RISERS
TECHNOLOGY	
T-001	TELECOMMUNICATIONS LEGEND AND NOTES
T-200	TELECOMMUNICATIONS SITE PLAN
T-211	LEVEL 1 TELECOMMUNICATIONS PLAN - OVERALL
T-213A	LEVEL 1 TELECOMMUNICATIONS - AREA B FURNITURE PLAN
T-213B	LEVEL 1 TELECOMMUNICATIONS - AREA B
T-214	LEVEL 2 TELECOMMUNICATIONS PLAN - OVERALL
T-215	LEVEL 2 TELECOMMUNICATIONS - AREA A
T-216A	LEVEL 2 TELECOMMUNICATIONS - AREA B FURNITURE LAYOUT
T-216B	LEVEL 2 TELECOMMUNICATIONS - AREA B
T-401	TELECOMMUNICATIONS ENLARGED PLAN AT MDF
T-402	TELECOMMUNICATIONS ENLARGED PLAN AT IDF172
T-403	ENLARGED PLAN AT RHP
T-411	TELECOMMUNICATIONS ELEVATIONS
T-501	TELECOMMUNICATIONS DETAILS
T-601	TELECOMMUNICATIONS CONSOLE SCHEDULES
T-701	TELECOMMUNICATIONS RADIO ONE LINES
AUDIO VISUAL	
TA-001	AV LEGEND AND NOTES
TA-211	LEVEL 1 AV PLAN - OVERALL
TA-213	LEVEL 1 AV PLAN - AREA B
TA-214	LEVEL 2 AV PLAN - OVERALL
TA-216	LEVEL 2 AV PLAN - AREA B
TA-401	AUDIO ENLARGED PLAN AT IDF W205.4
TA-402	AUDIO ENLARGED PLAN AT STORAGE 144
TA-411	AV ELEVATIONS
TA-501	AV DETAILS
TA-601	AV SCHEDULES
TA-701	AV ONE LINE DIAGRAM
SECURITY	
TY-001	SECURITY LEGEND AND NOTES
TY-211	LEVEL 1 SECURITY PLAN - OVERALL
TY-213	LEVEL 1 SECURITY PLAN - AREA B
TY-214	LEVEL 2 SECURITY PLAN - OVERALL
TY-216	LEVEL 2 SECURITY PLAN - AREA B
TY-401	SECURITY ENLARGED PLAN AT MDF
TY-402	SECURITY ENLARGED PLAN AT IDF W205.4
TY-501	SECURITY EQUIPMENT SCHEDULES
TY-601	SECURITY DETAILS

ISSUE FOR REVIEW

ISSUE DATE: 06/08/2023

PROJECT STATUS: IFB

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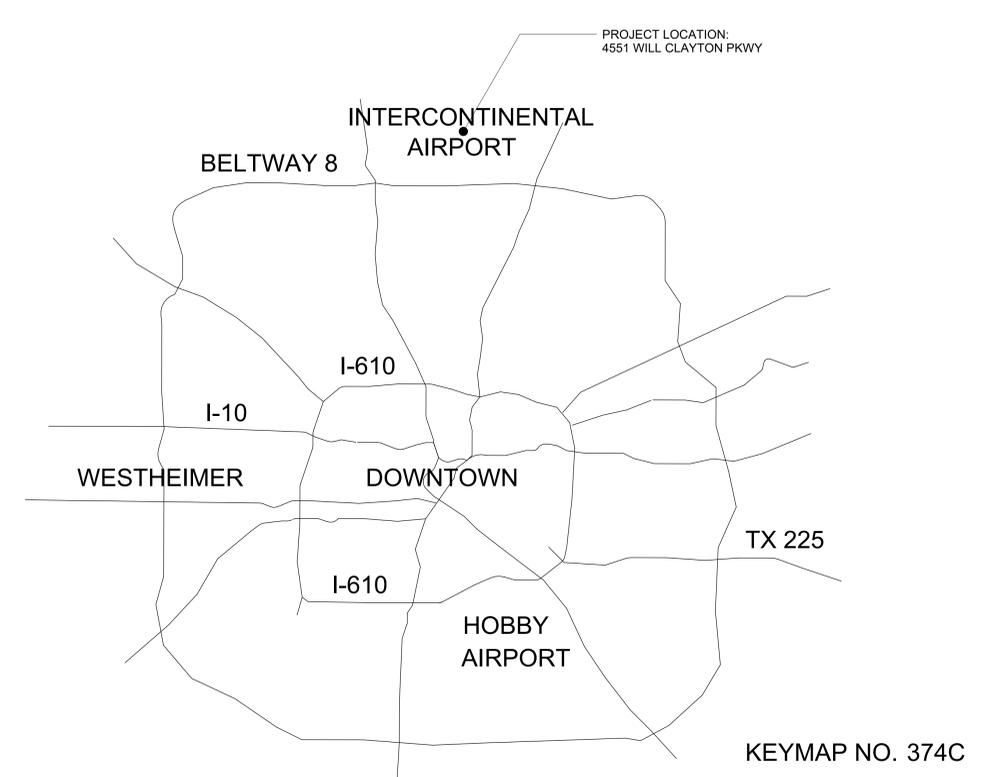
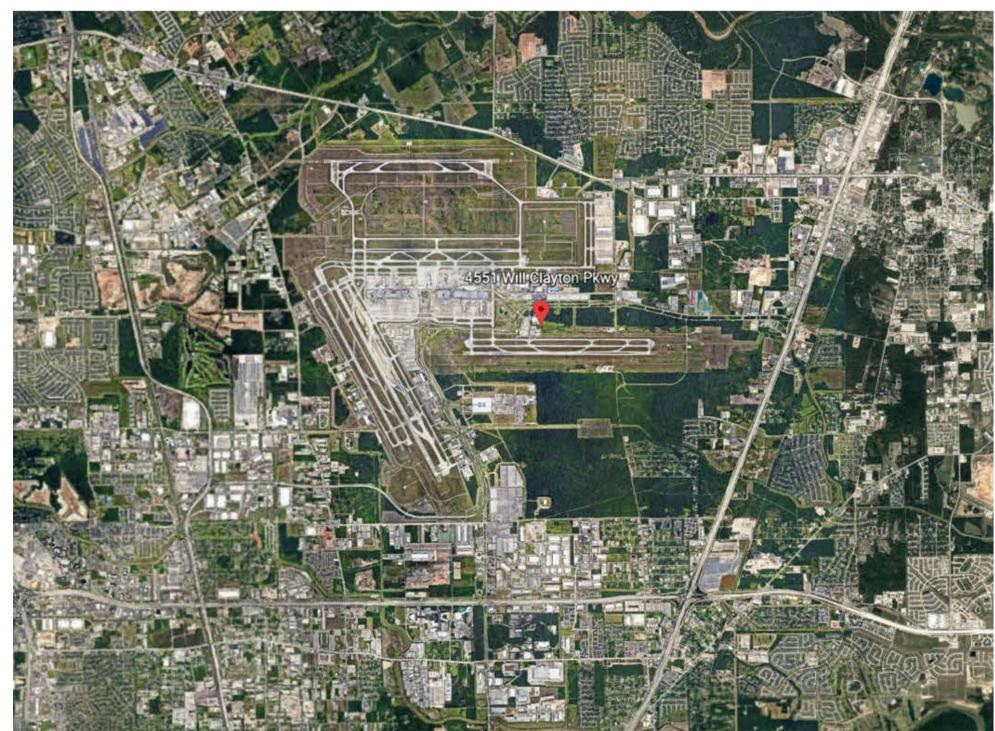
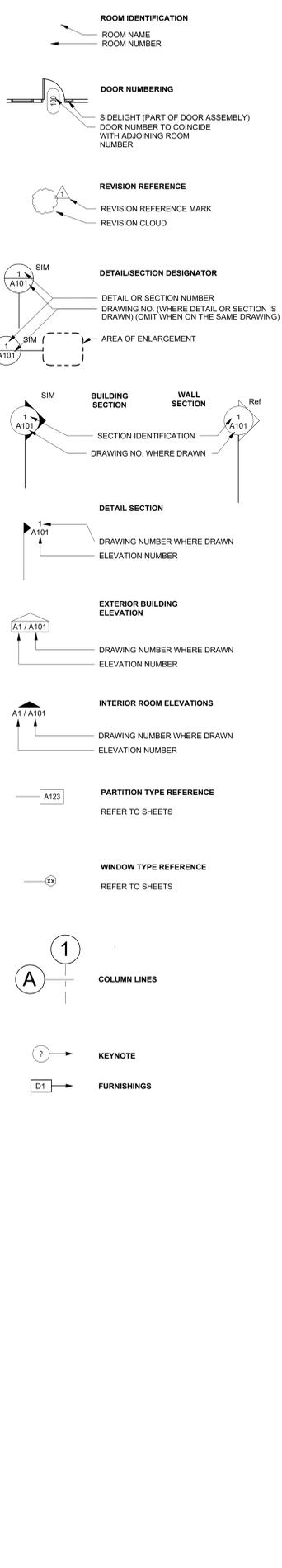
ARCHITECTURAL ABBREVIATIONS

&	AND	FOS	FACE OF STUDS	RCP	REFLECTED CEILING
@	AT	AT	FACE OF WALL	REF	REFERENCE
A	ANGLE	FP	FIREPROOF	REFR	REFRIGERATOR
AC	AIR CONDITIONER / CONDITIONING	FPL	FIREPLACE	REIN	REINFORCE(D)
ABV	ABOVE	FR	FRAME	REQ	REQUIRED
ACCS	ACCESSORIES	FRG	FIBER REINFORCED CONCRETE	RESIL	RESILIENT
ACSDR	ACCESS DOOR	FRGP	FIBER REINFORCED GYPSUM PLASTER	RESS	RESILIENT SHEET
ACSF	ACCESS FLOOR	FRT	FIRE RETARDANT TREATED	REST	RESILIENT TILE
ACST / ACOUS	ACOUSTICAL	FS	FLOOR SINK	RET	RETAINING
ACT	ACOUSTICAL CEILING	FTG	FOOTING	REV	REVISE / REVISION
AD	AREA DRAIN	FURR	FURRING	RFG	ROOFING
ADA	AMERICANS WITH DISABILITIES ACT	FUT	FUTURE	RFL	REFLECTED
ADDL	ADDITIONAL	GA	GAGE	RH	RIGHT HAND
ADDM	ADDITIONAL	GALV	GALVANIZE(D)	RM	ROOM
ADJ	ADJUSTABLE / ADJACENT	GB	GRAB BAR	RO	ROUGH OPENING
ADMIN	ADMINISTRATION	GC	GENERAL CONTRACTOR	RS	RUBBER SHEET
AFC	ABOVE FINISHED	GL	GLASS / GLAZING	RST	RUBBER STAIR TREADS
AFF	ABOVE FINISHED FLOOR	GND	GROUND	RSTR	RUBBER STAIR TREADS & RISERS
AFG	ABOVE FINISHED GRADE	GR	GRADE	RT	RUBBER TILE
AFS	ABOVE FINISHED SLAB	GRV	GRAVEL	RWD	REDWOOD
AGR	AGGREGATE	GT	GYP	RWL	RAIN WATER LEADER
AHR	ANCHOR	GYP BD	GYPSUM BOARD	S	SOUTH
AHU	AIR HANDLING UNIT	HB	HOSE BIB	SC	SOLID CORE
AL / ALUM	ALUMINUM	HCP	HOLLOW CORE	SCD	SEAT COVER DISPENSER
ALNMT	ALIGNMENT	HD	HEAVY DUTY	SCHED	SCHEDULE
ALT	ALTERNATE	HD	HARD	SCN	SCREEN
AND	AND	HDR	HEADER	SCR	SCREEN
ANOD	ANODIZED	HDWR	HARDWARE	SD	SEAT DISPENSER / STORM DRAIN
AP	ACCESS PANEL	H	HIGH	SDC	SEALED CONCRETE SECTION
APC	ACOUSTICAL PANEL	HM	HOLLOW METAL	SECT	SECTION
APPROX	APPROXIMATELY	HMI	HOLLOW METAL INSULATED	SF	SQUARE FEET
APPV	APPROVED	HORIZ	HORIZONTAL	SHT	SHEET
ARCH	ARCHITECT(URAL)	HOR / HORIZ	HORIZONTAL	SHTG	SHEATHING
ASPH	ASPHALT	HP	HIGH POINT	SHWR	SHOWER
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS	HR	HANDRAIL	SHR	SHOWER
AUTO	AUTOMATIC	HR	HOUR	SND	SANITARY NAPKIN DISPENSER
AVG	AVERAGE	HT	HEIGHT	SNR	SANITARY NAPKIN RECEPTACLE
BD	BOARD	HVAC	HEATING / VENTILATION / AIR CONDITIONING	SG	STANDARD
BS	BUMPER GUARD	HW	HARDWARE	SOG	SPECIFY / SPECIFICATION
BTUM	BITUMINOUS	HYD	HYDRANT	SPEC	SPEAKER
BL	BLACK	ID	INSIDE DIAMETER	SPK	SPEAKER
BLDG	BUILDING	IN	INCH / INCHES	SQ	SQUARE
BLK	BLOCK	INCL	INCLUDE(D) / INCLUDING	SQFT	SQUARE FEET
BLKG	BLOCKING	INSUL	INSULATE / INSULATION	SQN	SQUARE (INCHES)
BM	BEAM	INT	INTERIOR	SS	STAINLESS STEEL
BMS	BALANCE MAGNETIC SWITCH	JAN	JANITOR	ST	STONE
BOS	BOTTOM OF STEEL	JT	JOINT	STA	STATION
BOT	BOTTOM	KIT	KITCHEN	STC	STAINED CONCRETE
BS	BOTH SIDES	KIT	KITCHEN	STD	STANDARD
CAB	CABINET	LAB	LABORATORY	STDS	STUDS
CAS	CASEWORK	LAM	LAMINATE(D)	STIF	STIFFENER
CATCH	CATCH BASIN	LAV	LAVATORY	STL	STEEL
CEM	CEMENT	LB(S)	POUND(S)	STN	STAINED
CER	CERAMIC	LF	LINEAR FOOT (FEET)	STOR	STORAGE
CF	CUBIC FOOT	LH	LEFT HAND	STR	STRUCTURE / STRUCTURAL
CFM	COLD FORMED METAL FRAMING	LIB	LIBRARY	SUSP	SUSPENDED
CG	CORNER GUARD	LKR	LOCKER	SW	SWITCH
CH	CEILING HEIGHT	LNS	LINOLEUM SHEET	SYM	SYMMETRICAL
CHAM	CHAMFER	LNT	LINOLEUM TILE	SYN	SYNTHETIC
CHBD	CHALKBOARD	LP	LOW POINT	SYS	SYSTEM
CI	CAST IRON	LT	LIGHT	SYST	SYSTEM
CI	CONTRACTOR INSTALLED	LVR	LOUVER	TB	TONGUE AND GROOVE
CIP	CAST IN PLACE	LWT	LIGHT WEIGHT	TC	TOP OF CURB
CJ	CONTROL JOINT	MACH	MACHINE	TEL	TELEPHONE
CL	CENTER LINE	MAINT	MAINTENANCE	TEMP	TEMPORARY / TEMPERATURE
CLG	CEILING	MATL	MATERIAL	TER	TERRAZZO
CLO	CLOSET	MAX	MAXIMUM	THK	THICK
CLR	CLEAR	MC	MAXIMUM	THRU	THROUGH
CMU	CONCRETE MASONRY UNIT	ME	MEDICINE CABINET	THRU	THROUGH
CO	CLEAN/CLEAR OUT	MECH	MECHANICAL EQUIPMENT	TOC	TOP OF CONCRETE
COL	COLUMN	MEZZ	MEZZANINE	TOS	TOP OF SLAB
CONC	CONCRETE	MFR	MANUFACTURE(R)	TOW	TOP OF WALL
CONST	CONSTRUCTION	MH	MANHOLE	TPD	TILE PAPER DISPENSER
CONT	CONTINUOUS	MIN	MINIMUM	TPTN	TILE PARTITION
CORR	CORRIDOR	MIR	MIRROR	TV	TELEVISION
CPR	COPPER	MISC	MISCELLANEOUS	TYP	TYPICAL
CPT	CARPETED(JING)	MLD / MLDG	MOULDING	UC	UNDERCUT
CT	CERAMIC TILE	MO	MASONRY OPENING	UG	UNDERGROUND
CTR	COUNTER	MR	MOISTURE RESISTANT	UL	UNDERWRITER'S LABORATORY UNFINISHED
DBL	DOUBLE	MTD	MOUNTED	UNF / UNFIN	UNLESS NOTED OTHERWISE
DEFS	DIRECT APPLIED EXTERIOR FINISH SYSTEM	MTL	METAL	UNO	UNINTERRUPTIBLE POWER SUPPLY
DEG	DEGREE	MUL	MULLION	UR	URINAL
DEMO	DEMOLISH	N	NORTH	V	VOLT
DEP	DEPRESSION	NA OR NA	NOT AVAILABLE / APPLICABLE	VAC	VACUUM
DET	DETAIL	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION	VB	VAPOR BARRIER
DF	DRINKING FOUNTAIN	NIC	NOT IN CONTRACT	VCT	VINYL COMPOSITION TILE
DIA	DIAMETER	NO / #	NUMBER	VENT	VENTILATE
DIAG	DIAGONAL	NOM	NOMINAL	VERT	VERTICAL
DM	DIMENSION	NTS	NOT TO SCALE	VEST	VESTIBULE
DISP	DISPENSER	OA	OVERALL	VIF	VERIFY IN FIELD
DIV	DIVISION	OBS	OBSCURE	VNR	VENEER
DN	DOWN	OC	ON CENTER	VOL	VOLUME
DR	DOOR	OD	OUTSIDE DIAMETER	VOL	VOLUME
DS	DOWNSPOUT	OCFI	OWNER FURNISHED CONTRACTOR INSTALLED	VSTR	VINYL STAIR TREADS & RISERS
DWG	DRAWING	OFF	OFFICE	VT	VINYL TILE
E	EAST	OPG / OPNG	OPENING	VTR	VENT THRU ROOF
EA	EACH	OPP	OPPOSITE	W	WEST
EF	EACH FREE	OZ	OUNCE	W	WITH
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM	PART	PARTIAL	W/O	WITHOUT
EJ	EXPANSION JOINT	PAT	PATTERN	W/	WITH
EL	ELEVATION	PBD	PARTICLE BOARD	W/	WITH
ELEC	ELECTRICAL	PC / PCC	PRECAST CONCRETE	W/	WITH
ELEV	ELEVATOR	PER	PERMETER	W/	WITHOUT
EMER	EMERGENCY	PERF	PERFORATED	WC	WATER CLOSET
ENCL	ENCLOSED / ENCLOSURE	PERP	PERPENDICULAR	WC	WATER CLOSET
ENG	ENGINEER	PF	PRE-FINISHED	WCV	WALLCOVERING
EOD	EDGE OF DECK	PIP	POURED-IN-PLACE	WD	WOOD
EQ	EQUAL(ITY)	PL	PLATE	WF	WIDE FLANGE
EQT	EQUIPMENT	PLM	PLASTIC LAMINATE	WG	WIRE GLASS
EST	ESTIMATE	PLAS	PLASTER	WH	WALL HOSE / HYDRANT
EW	ELECTRIC WATER COOLER	PLYVD	PLYWOOD	WI	WROUGHT IRON
EXIST	EXISTING	PME	PREPRESSED METAL FRAMES	WIN	WINDOW
EXP	EXPANSION	POP	POINT OF PRESENCE	WK	WORK
EXT	EXTERIOR	PR	PAIR	WNSCT	WAINSOT WATERPROOFING
FA	FIRE ALARM	PRCST	PRE-CAST	WP	WORK POINT
FAST	FASTENER	PREFAB	PREFABRICATED	WR	WATER RESISTANT
FCO	FLOOR CLEAN OUT	PROP	PROPERTY	WRR	WOOD RISER
FD	FLOOR DRAIN	PRT	PROPERTY	WT	WEIGHT
FDN	FOUNDATION	PSF	POUNDS PER SQUARE FOOT	YD	YARD
FE	FIRE EXTINGUISHER	PSI	POUNDS PER SQUARE INCH		
FEC	FIRE EXTINGUISHER CABINET	PT	POINT		
FEC (R)	FIRE EXTINGUISHER CABINET, RECESSED	PTD	PAPER TOWEL DISPENSER		
FEC (SR)	FIRE EXTINGUISHER CABINET, SEMI-RECESSED	PTDWR	PAPER TOWEL DISPENSER & WASTE RECEPTACLE		
FEW	FIRE EXTINGUISHER, WALL MOUNTED	PTDF	PRESSURE TREATED DOUGLAS FIR PARTITION		
FF	FINISHED FLOOR	PTN	PARTITION		
FGL	FIBERGLASS	PTR	PAPER TOWEL RECEPTACLE		
FIN	FINISH(ED)	PVC	POLYVINYL CHLORIDE		
FXT	FIXTURE	Q	QUARTZ		
FL	FLOOR	QT	QUARTZ TILE		
FLASH	FLASHING	QTY	QUANTITY		
FLUOR	FLUORESCENT	R	RISER		
FOC	FACE OF CONCRETE	RAD	RADIUS		
FOF	FACE OF FINISH	RB	RUBBER BASE		
FOM	FACE OF MASONRY				

MATERIAL INDICATIONS

	SECTION	ELEVATION
	CONCRETE	
	PRECAST CONCRETE	
	CMU	
	BRICK	
	CAST/CUT STONE	
	NATURAL STONE	
	STEEL	
	ALUMINUM	
	BRASS/BRONZE	
	FINISHED WOOD	
	EXTERIOR PLASTER AND LATHE	
	CERAMIC/QUARRY TILE	
	GLASS/MIRROR	
	EARTH	
	GRAVEL	
	SAND	
	CONT. WOOD BLOCKING	
	DISCONT. WOOD BLOCKING	
	PLYWOOD	
	SPRAY APPLIED FIREPROOFING	
	BATT/BANKET INSULATION	
	RIGID INSULATION	
	GYPSUM BOARD	
	BACKER ROD & SEALANT	
	JOINT FILLER	
	ACOUSTICAL CEILING	

ARCHITECTURAL SYMBOLS



GENERAL SERVICES FACILITY
4551 WILL CLAYTON PKWY,
HUMBLE, TX 77396

IAH INTEGRATED COORDINATION CENTER

C.I.P. No.	PN793	A.I.P. No.	N/A
C.G.H. No.	N/A	D.O.A. No.	N/A
B.S.G. No.	BSG-2022-257-IAH	T.I.P. No.	TIP-22-219-IAH



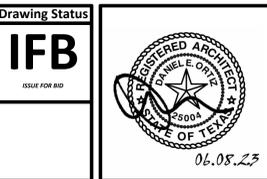
DESIGNER PROJECT No.: 1429.13
PROJECT STATUS: IFB

REVISIONS

No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
1	ISSUE FOR BID	06/08/2023	

DESIGN BY: DENISE YEE
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ISSUE DATE: 06/08/2023
APPROVED BY: DANIEL ORTIZ
APPROVAL DATE: 06/08/2023

DIRECTOR
of
HOUSTON AIRPORT SYSTEM



Drawing Status: IFB

North
TRUE

SHEET NAME: SYMBOLS LEGEND, ABBREVIATIONS, VICINITY MAP
SHEET No.: G-002 SCALE: As indicated
SHEET SIZE: 30"x42" ARCH E1

PLOT DATE: 6/7/2023 11:16:21 AM
DOA DWG FILE:
OLD DOA No. :
PLOT DATE:
FILE PATH: Autodesk Docs://1429.13 IAH ICC/1429.13_HAS-IAH-IC_Central.rvt
HAS FILE:



GENERAL SERVICES FACILITY
4551 WILL CLAYTON PKWY,
HUMBLE, TX 77396

**IAH INTEGRATED COORDINATION
CENTER**

C.I.P. No. **PN793** A.I.P. No. **N/A**
C.O.H. No. **N/A** D.O.A. No. **N/A**
B.S.G. No. **BSG-2022-257-IAH** T.I.P. No. **TIIP-22-219-IAH**

RDLR

DESIGNER PROJECT NO.: **1429.13**

PROJECT STATUS: **IFB**

REVISIONS

No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
1	ISSUE FOR BID	06/08/2023	

DESIGN BY: DENISE YEE
DRAWN BY: DENISE YEE
CHECKED BY: DANIEL ORTIZ
ISSUE DATE: 06/08/2023
APPROVED BY: DANIEL ORTIZ
APPROVAL DATE: 06/08/2023

DIRECTOR
of
HOUSTON AIRPORT SYSTEM

Drawing Status

IFB
ISSUE FOR BID



06.08.23



SHEET NAME: **GENERAL NOTES**

SHEET No. **G-003** SCALE: **1/4" = 1'-0"**

SHEET SIZE: **30"x42" ARCH E1**

ACCESSIBILITY NOTES

- AN EXIT IS A CONTINUOUS AND UNOBSTRUCTED MEAN OF EGRESS TO A PUBLIC WAY AND SHALL INCLUDE INTERVENING ROOMS, DOORS, AISLES, AND YARDS. A PUBLIC WAY IS ANY STREET, ALLEY OR SIMILAR PARCEL OF LAND UNOBSTRUCTED FROM GROUND TO SKY WHICH IS DEDICATED FOR PUBLIC USE AND HAVING A CLEAR WIDTH OF NOT LESS THAN 10 FEET.
- ALL EXTERIOR GROUND FLOOR EXIT DOORS SHALL BE MADE ACCESSIBLE.
- ALL REQUIRED EXIT DOORWAYS SHALL BE OF SIZE TO PERMIT THE INSTALLATION OF A DOOR NOT LESS THAN 3' WIDTH AND 6'-8" IN HEIGHT U.N.O.
- MANUALLY OPERATED EDGE OR SURFACE MOUNTED FLUSH BOLTS ARE PROHIBITED IN EXIT PATH. WHEN EXIT DOORS USED IN PAIRS AND APPROVED AUTOMATIC FLUSH BOLTS ARE USED, THE DOOR LEAF HAVING THE AUTOMATIC FLUSH BOLTS SHALL HAVE NO DOOR KNOB OR URFACE MOUNTED HARDWARE. THE UNLATCHING OF ANY LEAF SHALL NOT REQUIRE MORE THAN ONE OPERATION. LATCHING AND LOCKING DEVICES THAT ARE HINGED OR ACTIVATED AND WHICH ARE IN A PATH OF TRAVEL SHALL BE OPERABLE WITH A SINGLE EFFORT BY LEVER TYPE HARDWARE, BY PANIC BARS, OR OTHER HARDWARE DESIGNED TO PROVIDE PASSAGE WITHOUT REQUIRING THE ABILITY TO GRASP THE HARDWARE.
- HAND ACTIVATED DOOR HARDWARE SHALL BE CENTERED BETWEEN 30" AND 44" ABOVE THE FLOOR.
- EXIT DOORS SHALL OPEN TO A CLEAR WIDTH OF NOT LESS THAN 32".
- WHERE A PAIR OF DOORS IS PROVIDED, AT LEAST ONE OF THE DOORS SHALL PROVIDE A CLEAR OPENING WIDTH OF 32".
- THERE SHALL BE A LEVEL AND CLEAR FLOOR OR LANDING ON EACH SIDE OF A DOOR. THE LEVEL AREA SHALL HAVE A LENGTH IN THE DIRECTION OF THE DOOR SWING OF AT LEAST 60" AND A LENGTH OPPOSITE THE DIRECTION OF THE DOOR SWING OF 48".
- THE WIDTH OF THE LEVEL AREA ON THE SIDE TO WHICH THE DOOR SWINGS SHALL EXTEND 24" PAST THE STRIKE EDGE OF THE DOOR FOR EXTERIOR DOORS AND 18" PAST THE STRIKE EDGE FOR INTERIOR DOORS.
- PROVIDE A CLEAR SPACE OF 12" PAST THE STRIKE EDGE OF THE DOOR ON THE OPPOSITE SIDE TO WHICH THE DOOR SWINGS IF THE DOOR IS EQUIPPED WITH BOTH A LATCH AND CLOSER.
- THE FLOOR OR LANDING SHALL NOT BE MORE THAN 1/2" LOWER THAN THE THRESHOLD OF THE DOORWAY.
- THE BOTTOM 10" OF ALL DOORS EXCEPT AUTOMATIC AND SLIDING SHALL HAVE A SMOOTH, UNINTERRUPTED SURFACE TO ALLOW THE DOORS TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARD.
- THE MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED 15 LBS FOR EXTERIOR DOORS AND 5 LBS FOR INTERIOR DOORS.
- CIRCULATION AISLES AND PEDESTRIAN WAYS SHALL BE SIZED ACCORDING TO FUNCTIONAL REQUIREMENTS BUT SHALL NOT BE LESS THAN 36" CLEAR WIDTH WITH EVERY PORTION OF EVERY BUILDING WHICH ARE INSTALLED SEATS, TABLES, MERCHANDISE, EQUIPMENT, OR SIMILAR MATERIALS SHALL BE PROVIDED WITH AISLES LEADING TO AN EXIT.
- EVERY AISLE SHALL NOT BE LESS THAN 3' WIDTH IF SERVING ONLY ONE SIDE, AND NOT LESS THAN 3'-6" WIDTH IF SERVING BOTH SIDES.
- OBJECTS PROTRUDING FROM WALLS WITH THEIR LEADING EDGES BETWEEN 27" AND ABOVE THE FINISHED FLOOR SHALL PROTRUDE NO MORE THAN 4" INTO WALKS, HALLS, PASSAGEWAYS OR AISLES.
- FREE STANDING OBJECTS MOUNTED ON POSTS MAY OVERHANG 12" MAXIMUM FROM 27" TO 80" ABOVE THE FINISHED FLOOR.
- CLEAR FLOOR SPACE THAT ALLOWS A FORWARD OR PARALLEL APPROACH BY A PERSON USING A WHEELCHAIR SHALL BE PROVIDED AT CONTROLS, RECEPTACLES, AND OTHER OPERABLE EQUIPMENT.
- THE HIGHEST AND LOWEST OPERABLE PART OF ALL CONTROLS, RECEPTACLES, AND OTHER OPERABLE EQUIPMENT SHALL BE PLACED WITHIN 48" OF THE FLOOR BUT NOT LOWER THAN 15" IF FORWARD APPROACHED AND WITHIN 54" BUT NOT LOWER THAN 9" IF SIDE APPROACHED.
- ELECTRICAL AND COMMUNICATION SYSTEM RECEPTACLES SHALL NOT BE PLACED LESS THAN 15" ABOVE THE FLOOR.
- CONTROLS AND OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO OPERATE CONTROLS SHALL BE NO GREATER THAN 5 LBS.
- THE MINIMUM CLEAR FLOOR SPACE REQUIRED TO ACCOMMODATE A SINGLE STATIONARY WHEELCHAIR IS 30" BY 48". THE MINIMUM CLEAR FLOOR SPACE MAY BE POSITIONED FOR FORWARD OR PARALLEL APPROACH.
- THE MINIMUM CLEAR WIDTH FOR A SINGLE WHEELCHAIR PASSAGE SHALL BE 32" AT A POINT AND 36" CONTINUOUSLY.
- THE MINIMUM CLEAR WIDTH FOR 2 WHEELCHAIRS TO PASS SHALL BE 60".
- THE MINIMUM CLEAR WIDTH REQUIRED FOR A WHEELCHAIR TO TURN AROUND AN OBSTRUCTION SHALL BE 36" WHERE THE OBSTRUCTION IS 48" OR MORE IN LENGTH AND 42" WHERE THE OBSTRUCTION IS LESS THAN 48" IN LENGTH.
- IF SEATING FOR PEOPLE IN WHEELCHAIRS IS PROVIDED AT FIXED TABLES OR COUNTERS, KNEE SPACES AT LEAST 27" HIGH, 30" WIDE, AND 19" DEEP SHALL BE PROVIDED.
- THE TOPS OF TABLES AND COUNTERS SHALL BE 29" TO 34" FROM THE FLOOR.
- THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHALL BE THE STANDARD USED TO IDENTIFY FACILITIES THAT ARE ACCESSIBLE AND SHALL CONSIST OF A WHITE FIGURE ON A BLUE BACKGROUND. THE BLUE SHALL BE EQUAL TO COLOR NO. 15999 IN FEDERAL STANDARD 595B.
- ALL BUILDING ENTRANCES THAT ARE ACCESSIBLE AND AT EVERY MAJOR JUNCTION ALONG OR LEADING TO AN ACCESSIBLE ROUTE OF TRAVEL SHALL BE IDENTIFIED WITH A SIGN DISPLAYING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY.
- WHEN PERMANENT IDENTIFICATION IS PROVIDED FOR ROOMS AND SPACES, RAISED LETTERS SHALL BE PROVIDED AND SHALL BE ACCOMPANIED BY BRAILLE. SIGNS SHALL BE INSTALLED ON THE WALL ADJACENT TO THE LATCH OUTSIDE OF THE DOOR. WHERE THERE IS NO WALL SPACE ON THE LATCH SIDE, INCLUDING AT DOUBLE LEAF DOORS, SIGNS SHALL BE PLACED ON THE NEAREST ADJACENT WALL, PREFERABLY ON THE RIGHT. MOUNTING HEIGHT SHALL BE 60" ABOVE THE FLOOR TO THE CENTERLINE OF THE SIGN. MOUNTING LOCATION SHALL BE DETERMINED SO THAT A PERSON MAY APPROACH WITHIN 3" OF SIGNAGE WITHOUT ENCOUNTERING PROTRUDING OBJECTS OR STANDING WITHIN THE SWING OF THE DOOR.
- WHEN RAISED CHARACTERS OR SYMBOLS ARE USED, THEY SHALL CONFORM TO THE FOLLOWING:
LETTERS AND NUMBERS SHALL BE RAISED OR RECESSED 1/32" MINIMUM AND SHALL BE SANS-SERIF UPPERCASE CHARACTERS ACCOMPANIED BY GRADE B BRAILLE.
RAISED CHARACTERS OR SYMBOLS SHALL BE A MINIMUM OF 5/8" HIGH.
PICTORIAL SYMBOL SIGNS SHALL BE ACCOMPANIED BY THE EQUIVALENT VERBAL DESCRIPTION PLACED DIRECTLY BELOW THE PICTOGRAM. THE BORDER DIMENSION OF THE PICTOGRAM SHALL BE A MINIMUM OF 1" IN HEIGHT.
CONTRACTOR SHALL NOTIFY ARCHITECT SHOULD ANY OF THE ABOVE GENERAL NOTES BE IN CONFLICT WITH THE TEXAS ACCESSIBILITY STANDARDS.

ELECTRICAL NOTES

- ALL CONDUIT FEEDS TO ELECTRICAL DEVICES MOUNTED ON WALLS SHALL BE PLACED WITHIN THE WALL FOR CONCEALMENT, REGARDLESS OF THE HEIGHT OF THE WALL MOUNTED DEVICE U.N.O.
- ALL ELECTRICAL POWER OUTLETS SHALL BE COMMERCIAL GRADE IN ALL AREAS. FACE PLATES SHALL BE STAINLESS STEEL WITH STAINLESS STEEL FLAT HEAD SCREW FASTENERS TO MATCH ALL DEVICE AND FACEPLATE COLORS ARE TO BE VERIFIED WITH THE ARCHITECT.
- EXPOSED CONDUIT SHALL BE INSTALLED STRAIGHT, LEVEL, UNIFORMLY SPACED, AND PARALLEL TO EXPOSED STRUCTURAL ELEMENTS.
- THE DESIGN INTENT FOR UNDERSLAB CONDUIT IS TO SUPPLY POWER & DATA TO FLOOR RECEPTACLES AND "FLOATING" WALLS. "FLOATING" WALLS ARE WALL PARTITIONS WHICH DO NOT CONNECT TO THE ROOF DECK OR STRUCTURE ABOVE, DO NOT CONNECT TO A FINISHED CEILING, OR DO NOT CONNECT TO AN EXTERIOR PERIMETER BUILDING WALL. THE DESIGN INTENT IS TO PREVENT HAVING CONDUIT HANG DOWN OR DROP DOWN FROM THE CEILING INTO VISUALLY EXPOSED OPEN PLENUM SPACE.
- NO UNDER SLAB CONDUIT SHALL EXTEND TO CEILING MOUNTED DEVICES UNLESS CONCEALED FROM VIEW.
- NO OVERHEAD OR CEILING MOUNTED CONDUIT SHALL EXTEND DOWN FROM THE CEILING TO FLOOR OR WALL DEVICES UNLESS CONCEALED FROM VIEW.
- POWER DISTRIBUTION TO OVERHEAD LIGHTS AND OTHER OVERHEAD EQUIPMENT SHALL BE SUPPLIED BY CONDUIT RUNS PLACED IN THE CEILING, WITH CEILING HOLE RUNS LOCATED BELOW STEEL BEAMS AND WITH THE OPEN WEB JOIST CAVITY.
- NO CONDUIT SHALL BE PLACED ON ANY EXPOSED COLUMN SURFACES UNLESS SPECIFICALLY INDICATED WITHIN THE ARCHITECTURAL DETAILS, OR SPECIFICALLY COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION.
- EXPOSED CEILING CONDUITS SHALL BE GANGED TOGETHER WHEREVER POSSIBLE, AND SHALL BE ROUTED PARALLEL OR PERPENDICULAR TO EXPOSED STRUCTURAL ELEMENTS. DIAGONAL ROUTING SHALL NOT BE ACCEPTED.
- THERE SHALL BE NO EXPOSED CONDUITS ON OR SPANNING ACROSS SKYLIGHT AREAS OR CLERESTORY.
- EXPOSED CEILING CONDUIT SHALL BE INSTALLED STRAIGHT, LEVEL, AND UNIFORMLY SPACED.
- STRUCTURED CEILING SOFFITS SHALL HAVE POWER FED FROM CONCEALED CONDUITS WHICH EXTEND FROM THE PERIMETER WALL.
- EXIT SIGNS ARE INDICATED FOR DESIGN INTENT. VERIFY PROPOSED LOCATIONS ARE ACCEPTABLE TO THE BUILDING AUTHORITY AND NOTIFY ARCHITECT OF REQUIRED CHANGES DIRECTED BY THE BUILDING AUTHORITY PRIOR TO INSTALLATION.
- ALL WALL RECEPTACLES AND SWITCHES SHALL BE WHITE, UNLESS INDICATED OTHERWISE.
- COORDINATE CONDUIT REQUIREMENTS FOR MECHANICAL SYSTEM DEVICES SUCH AS THERMOSTATS AND CO2 SENSORS TO COMPLY WITH THE NOTES HEREIN.
- SEE NOTE 7 ON THE REFLECTED CEILING PLAN GENERAL NOTES ON THIS SHEET.

LIGHTING GENERAL NOTES

- SCHEDULED LIGHT FIXTURE ARE PROPRIETARY PRODUCTS AND SHALL BE INTERPRETED AS THE BASIS-OF-DESIGN. THE SCHEDULED FIXTURES SHALL TAKE PRECEDENCE OVER OTHER PRODUCTS INDICATED ELSEWHERE IN THE CONTRACT DOCUMENTS. ALTERNATIVE FIXTURES MAY BE USED IF EQUAL TO THE BASIS OF DESIGN. ALTERNATIVE FIXTURES SHALL MATCH THE PERFORMANCE, QUALITY, PROFILE, AND LAMPING OF THE BASIS-OF-DESIGN FIXTURE. CONTRACTOR SHALL CONSULT WITH ARCHITECT BEFORE PROCEEDING WITH AN ALTERNATIVE PRODUCT TO THAT WHICH IS SPECIFICALLY IDENTIFIED IN THE DRAWINGS.
- THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS FOR THE EXACT LOCATION OF ALL LIGHT FIXTURES, FIXTURE MOUNTING HEIGHTS, AND FIXTURE MOUNTING DETAILS. NOTIFY ARCHITECT OF ANY CONFLICTS BETWEEN THE INDICATED MOUNTING REQUIREMENTS AND THE MANUFACTURERS RECOMMENDED INSTALLATION DETAILS PRIOR TO ORDERING AND PURCHASING OF FIXTURES.
- ALL FIXTURE FINISHES ARE TO BE VERIFIED WITH THE ARCHITECT.
- SUBMIT PRODUCT DATA FOR ALL LIGHTING SYSTEM COMPONENTS INCLUDING, BUT NOT LIMITED TO, COLOR, FINISH, MOUNTING HARDWARE, AND LAMPING. PROVIDE DETAILS FOR ANY NON-STANDARD MOUNTING CONFIGURATIONS. STANDARD FIXTURE MOUNTING IS ASSUMED TO BE MANUFACTURERS STANDARD OR CUSTOM LENGTH SUSPENSION SYSTEM AND POWER CORD CONNECTION DIRECTLY TO THE ROOF DECK, ROOF STRUCTURE, AND ROOF DECK MOUNTED J-BORES, WHERE APPLICABLE.
- SEE NOTE 7 ON THE REFLECTED CEILING PLAN NOTES.

MECHANICAL NOTES

- PROVIDE CONDUIT RUNS FOR REQUIRED THERMOSTATS AND CO2 SENSORS BASED ON CRITERIA INDICATED IN THE ELECTRICAL NOTES ABOVE. RUN CONDUIT FOR WALL MOUNTED DEVICES UNDER THE FLOOR, AND RUN CONDUIT FOR CEILING MOUNTED DEVICES WITHIN THE CEILING, DO NOT EXTEND CONDUIT FROM CEILING TO WALL UNLESS CONDUIT IS COMPLETELY CONCEALED FROM VIEW.
- SEE NOTE 7 ON THE REFLECTED CEILING PLAN GENERAL NOTES ON THIS SHEET.

REFLECTED CEILING PLAN NOTES

- THE GENERAL NOTES HEREIN ADDRESS ARCHITECTURAL DESIGN INTENT FOR ALL BUILDING SYSTEM COMPONENTS INSTALLED ABOVE THE FLOOR AND WITHIN THE CEILING AREAS, INCLUDING MECHANICAL, ELECTRICAL, PLUMBING, AND ARCHITECTURAL. CONTRACTOR SHALL REFER TO THESE GENERAL NOTE REQUIREMENTS FOR CLARIFICATION ON ARCHITECTURAL DESIGN INTENT FOR ALL EXPOSED BUILDING SYSTEMS. FURTHERMORE, CONTRACTOR SHALL ISSUE A RFI REQUEST FOR CLARIFICATION ON ANY RELATED ITEMS EXPOSED TO THE WORK OR WHICH INFORMATION IS GIVEN HERE, AND CONTRADICTED ELSEWHERE WITHIN THE DOCUMENTS.
 - MINIMIZE EXPOSED ACCESS HATCHES IN LOBBY AREAS, WHERE FINISHED CEILING IS GYP. BOARD, PLACE EQUIPMENT ADJACENT ACCESSIBLE CEILING AREAS ADJACENT TO HARD LID GYP. BOARD CEILINGS.
 - ELEMENTS INDICATED ON THE ARCHITECTURAL CEILING PLANS, INCLUDING LIGHTS, AIR DIFFUSERS, SPRINKLER HEADS (WHERE INDICATED), DUCT RUNS, PIPING, SPEAKERS, ETC., INDICATE THE ARCHITECTURAL DESIGN INTENT. NOTIFY ARCHITECT OF ANY REQUIRED VARIATIONS TO THE INDICATED DESIGN INTENT PRIOR TO SUBMITTING BIDS FOR THE WORK. PURCHASING MATERIALS OR COMMENCEMENT OF SYSTEM INSTALLATION.
 - ALL ACCESS HATCHES TO BE KEYPED ALIKE.
 - THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR THE LOCATION OF ALL EXPOSED MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS, INCLUDING CONDUITS, DIFFUSERS, DUCTS, AIR DIFFUSERS, SPRINKLER LIGHT FIXTURES, CONDUITS, SENSORS, SWITCHES, OUTLETS, FIRE SPRINKLER PIPES, SPRINKLER HEADS AND EQUIPMENT INCLUDING PROVIDE STATIONAL BRACING AND FRAMING AS NECESSARY TO MEET THE DESIGN AND DEFLECTION CRITERIA.
 - WHERE DISCREPANCIES OCCUR BETWEEN ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS, INCLUDING THE QUANTITY OF FIXTURES INDICATED, THE CONTRACTOR SHALL ASK THE ARCHITECT IN WRITING FOR AN INTERACTION PRIOR TO PLACING A BID FOR THE WORK. OTHERWISE, THE LARGEST QUANTITY AND/OR MOST EXPENSIVE PRODUCT INDICATED SHALL APPLY.
 - ALL KNOWN CEILING ELEMENTS HAVE BEEN INDICATED ON THE ARCHITECTURAL PLANS INCLUDING LIGHT FIXTURES, AIR DIFFUSERS, AND DUCT WORK. ITEMS NOT INDICATED EXPOSED CONDUIT. NOTIFY ARCHITECT OF ANY REQUIRED VARIATIONS TO THE INDICATED ARCHITECTURAL LAYOUTS PRIOR TO PURCHASING MATERIALS OR COMMENCEMENT OF SYSTEM INSTALLATION.
 - NOTIFY ARCHITECT OF ANY VARIATIONS BETWEEN THE NOTES HEREIN AND DRAWINGS. DETAILS OF SPECIFICATIONS PRIOR TO PURCHASING MATERIALS OR COMMENCEMENT OF SYSTEM INSTALLATION.
- FIRE DEPARTMENT NOTES**
- AN AUTOMATIC FIRE SPRINKLER SHALL BE PROVIDED THROUGHOUT WITH A GROUP I FIRE AREA. THE SYSTEM SHALL BE DESIGNED, INSTALLED, INSPECTED, AND MAINTAINED IN ACCORDANCE WITH THE 2015 IFC AND NFPA STANDARD 13 - 2012 EDITION.
 - AN AUTOMATIC FIRE SPRINKLER SHALL BE DESIGN BUILD BY CONTRACTOR. CONTRACTOR SHALL SUBMIT DESIGN DOCUMENTS TO ARCHITECT TO REVIEW FOR GENERAL DESIGN COMPLIANCE, AND TO FIRE DISTRICT AS REQUIRED FOR PERMIT.
 - WINDOWLESS BUILDINGS SHALL BE PROVIDED WITH AN ENGINEERED SMOKE CONTROL SYSTEM TO PROVIDE VENTILATION IN ACCORDANCE WITH IBC/IFC SECTION 909 FOR EACH WINDOWLESS SMOKE COMPARTMENT. REFER TO MECHANICAL DRAWINGS.
 - AN ENGINEERED SMOKE CONTROL SYSTEM SHALL UNDERGO SPECIAL INSPECTIONS AND TESTS SUFFICIENT TO VERIFY THE PROPER COMMISSIONING.
 - PORABLE FIRE EXTINGUISHERS SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH IFC SECTION 906.2 AND NFPA 10.
 - PLANS FOR ALL FIRE PROTECTION SYSTEMS (SPRINKLER, FIRE ALARM, SMOKE CONTROL, STANDPIPE, ETC.) MUST BE APPROVED BY THE FIRE DISTRICT PRIOR TO COMMENCEMENT OF ANY WORK ON A FIRE PROTECTION SYSTEM. WHETHER THE SYSTEM IS REQUIRED OR NOT, PLANS MUST BE SUBMITTED BY CONTRACTOR AND MUST INCLUDE AT LEAST 2 COMPLETE SETS OF SYSTEM DRAWINGS AND SPECIFICATIONS FOR ALL DEVICES TO BE INSTALLED.
- FIRE SPRINKLER/FIRE ALARM NOTES**
- FIRE SPRINKLERS SHALL BE DESIGNED BY A LICENSED FIRE PROTECTION ENGINEER HIRED BY THE FIRE PROTECTION CONTRACTOR. ALL REQUIRED SUBMITTALS SHALL BE PREPARED AND SUBMITTED TO THE ARCHITECT FOR CONFORMANCE WITH ARCHITECTURAL DESIGN INTENT, AND BY THE AUTHORITIES HAVING JURISDICTION FOR CONFORMANCE WITH FEDERAL, STATE, AND NATIONAL CODES AND ORDINANCES.
 - FIRE SPRINKLER DESIGN SHALL INCLUDE CALCULATIONS FOR THE SIZE OF THE RATED FIRE MAIN, SPRINKLER DISTRIBUTION LAYOUT, FIRE ALARM SYSTEM, AND SHALL INCLUDE ALL RELATED SYSTEM COMPONENTS AS DIRECTED BY THE AUTHORITY. ALL FIRE SPRINKLERS AND FIRE ALARMS TO BE LABELED IN A MANNER SIMILAR TO ELECTRICAL EQUIPMENT AS NOTED IN SPECIFICATIONS.
 - FIRE SPRINKLER PIPING SHALL NOT BE DESIGNED OR LOCATED TO BE EXPOSED TO VIEW WITHIN AN OPEN SKYLIGHT, LIGHT WELLS, OR CLERESTORIES EXIST AND SPRINKLERS ARE REQUIRED, CONTRACTOR SHALL SIDE-WALL AND/OR CONCEAL THE SPRINKLER SYSTEM COMPONENT IN A MANNER ACCEPTABLE TO ARCHITECT AND THE LOCAL FIRE DEPARTMENT.
 - CONTRACTOR SHALL ROUTE ALL FIRE SPRINKLER PIPING IN CONCEALED SPACES WHERE SUCH PIPING MUST CROSS OVER A SKYLIGHT, LIGHT WELL OR CLERESTORY. WHERE NO CONCEALED SPACES EXISTS, CONTRACTOR SHALL REQUEST CLARIFICATION FROM ARCHITECT PRIOR TO PLACING A BID FOR THE WORK.
 - SPRINKLER HEADS AND OTHER VISIBLE CEILING COMPONENTS INDICATED IN THE ARCHITECTURAL DESIGN INTENT, AND QUANTITIES INDICATED MAY EXCEED MINIMUM QUANTITIES REQUIRED FOR SYSTEM PERFORMANCE. PROVIDE THE QUANTITIES FOR THE LAYOUT INDICATED, AND NOTIFY ARCHITECT IF ADDITIONAL QUANTITIES ARE REQUIRED.
 - IT IS THE DESIGN INTENT TO CONCEAL SPRINKLER PIPING, SIDEWALL ALL HEADS IN EXPOSED AREAS.
 - ALL SPRINKLER HEADS WITHIN PAINTED GYPSUM BOARD OR ACT CEILING SHALL BE WHITE COLORED CONCEALED TYPE HEADS UNLESS OTHERWISE NOTED.
 - SPRINKLER PIPE DISTRIBUTION LINES SHALL BE PLACED BELOW STEEL BEAMS WITHIN THE OPEN WEB JOIST CAVITY, IN CONCEALED AREAS.
 - SPRINKLER PIPE DISTRIBUTION LINES SHALL BE PLACED PERPENDICULAR OR PARALLEL TO EXPOSED STRUCTURAL BEAMS AND JOISTS, COORDINATE LOCATION WITH THE ARCHITECT.
 - SUBMIT COORDINATION DRAWINGS INDICATING COMPLIANCE WITH THE ARCHITECTURAL DESIGN INTENT PRIOR TO FABRICATION AND INSTALLATION OF SYSTEM. NO WALL WILL BE ALLOWED TO PROCEED WITHOUT COORDINATION DRAWINGS.
 - ALL EXPOSED SPRINKLER PIPING, FITTINGS, HANGARS AND OTHER COMPONENTS SHALL BE PAINTED TO MATCH THE EXPOSED CEILING DECK AND STRUCTURE.
 - REFER TO MEP DRAWING

ARCHITECTURAL SYSTEMS AND FINISHES

- COLORS INDICATED ON THE MATERIALS AND FINISH KEY ARE CUSTOM COLORS TO MATCH THE COLOR INDICATED COLORS FROM MANUFACTURERS STANDARD CHARTS WILL NOT BE ACCEPTED UNLESS THOSE COLORS MATCH THE COLORS INDICATED. CONTRACTOR MAY USE ANY ACCEPTABLE ALTERNATE PAINT MANUFACTURER THAT CAN MATCH THE SPECIFIED COLOR.
 - ALL EXTERIOR WALL STUD FRAMING SHALL BE STRUCTURAL COLD FORMED STUDS, DESIGNED AND ENGINEERED BY THE CONTRACTOR FOR ANY APPLIED DESIGN LOADS OR ANCHORAGE OF ADJACENT BUILDING COMPONENTS. STUD GAUGES INDICATED ON THE DRAWINGS ARE MINIMUMS ONLY, AND DO NOT REPRESENT AN ENGINEERED DESIGN FOR THE DETAILED APPLICATION.
 - INTERIOR STUD WALL FRAMING DESIGN IS INDICATED ON THE PARTITION SCHEDULE. SPECIFIED GAUGES ARE MINIMUMS TO BE UTILIZED FOR TYPICAL APPLICATIONS AND CONDITIONS. CONTRACTOR SHALL PROVIDE ADDITIONAL BRACING AT SPECIFIC LOCATIONS WHERE THE SPECIFIED OR DETAILED STUD APPLICATION WILL NOT MEET THE MINIMUM DESIGN OR DEFLECTION CRITERIA.
 - NON-LOAD BEARING INTERIOR STUDS SUBJECT TO LOCALIZED STRUCTURAL LOADS FROM OTHER BUILDING SYSTEMS OR COMPONENTS, INCLUDING BUT NOT LIMITED TO ANCHORAGE REQUIREMENTS FOR DOORS, WINDOWS, STOREFRONTS, CURTAIN WALLS, CABINETS, BUILT-IN FURNITURE, ETC. SHALL BE DESIGNED AND ENGINEERED BY THE CONTRACTOR. IF SUCH DESIGN IS NOT SPECIFICALLY INDICATED IN THE DOCUMENTS.
 - MISCELLANEOUS STUD FRAMING FOR SOFFITS AND OTHER ARCHITECTURAL ELEMENTS ARE INDICATED FOR GENERAL DESIGN INTENT AND PROFILE ONLY. CONTRACTOR SHALL PROVIDE STATIONAL BRACING AND FRAMING AS NECESSARY TO MEET THE DESIGN AND DEFLECTION CRITERIA.
 - INTERIOR WALL, SOFFIT, AND CEILING FRAMING SHALL MEET A MINIMUM OF 5 PSF WIND LOAD AND L240 DEFLECTION DESIGN CRITERIA. INTERIOR ELEVATOR OR MECHANICAL SHAFT FRAMING SHALL MEET A MINIMUM OF 10 PSF WIND LOAD AND L240 DEFLECTION DESIGN CRITERIA. EXTERIOR OR STRUCTURAL FRAMING SHALL MEET SPECIFIC DESIGN CRITERIA SPECIFIED ELSEWHERE IN THE DOCUMENTS.
 - GYP. BOARD CONTROL JOINTS ARE INDICATED FOR GENERAL DESIGN INTENT ONLY. CONTRACTOR IS RESPONSIBLE FOR INSTALLING CONTROL JOINTS TO COMPLY W/ ASTM C840. ALL CONTROL JOINT LOCATIONS ARE TO BE VERIFIED IN THE FIELD WITH THE ARCHITECT PRIOR TO INSTALLATION.
 - SEALANT JOINTS DESIGNED AS REVEALS ARE INDICATED GRAPHICALLY AS RECESSED, AND MAY ALSO BE NOTED AS "RECESSED". MAINTAIN A CONSISTENT BACK OF REVEAL DEPTH.
 - COORDINATE THE ACCURATE INSTALLATION OF TOILET ROOM WALL PARTITIONS. DO NOT PROCEED WITH TILE INSTALLATION UNTIL BOTH METAL FRAMER AND TILE INSTALLER HAVE INDEPENDENTLY VERIFIED THE PARTITION LAYOUT.
- SPECIAL INSPECTIONS AND SUBMITTALS**
- A MONTHLY REPORT BY THE CONTRACTOR WITH A COPY OF THE QUALITY CONTROL LOG AND A COPY OF ALL NON-COMPLIANCE ITEMS SHALL BE MAINTAINED AND SUBMITTED TO THE OWNER, ARCHITECT.
 - SPECIAL INSPECTIONS ARE REQUIRED FOR THE FOLLOWING WORK, BUT ARE NOT LIMITED TO:
a. ANCHOR BOLTS INSTALLED IN CONCRETE.
- DEFERRED SUBMITTALS**
- THE FOLLOWING BUILDING SYSTEMS SHALL BE DESIGN-BUILD BY THE CONTRACTOR AND SHALL BE SUBMITTED FOR SEPARATE REVIEW TO THE AUTHORITIES HAVING JURISDICTION:
a. FIRE ALARM SYSTEM.
b. NON-STRUCTURAL MISCELLANEOUS STEEL FABRICATIONS.
 - THE FOLLOWING BUILDING SYSTEMS HAVE BEEN SHOWN IN THE CONTRACT DRAWINGS, BUT SHALL BE DESIGN-BUILD BY THE CONTRACTOR BASED ON THE DESIGN IN THE CONSTRUCTION DOCUMENTS
a. METAL STUD FRAMING.

GENERAL NOTES

- THE WORK PERFORMED UNDER THIS CONTRACT SHALL CONSIST OF FURNISHING ALL MATERIALS, SUPPLIES, TRANSPORTATION SERVICES, POWER AND WATER, ESSENTIAL COMMUNICATIONS, AND THE PERFORMANCE OF ALL WORK REQUIRED. CALCULATIONS, TESTING, OR OPERATIONS REQUIRED FOR THE FULFILLMENT OF THE CONTRACT, IN STRICT ACCORDANCE WITH THE PLANS, SPECIFICATIONS, AND SCHEDULES, ALL OF WHICH ARE MADE A PART HEREOF, INCLUDING DETAIL SKETCHES AS MAY BE FURNISHED BY ARCHITECT. ENGINEER PROVIDED TO THE DURING CONSTRUCTION IN EXPLANATION OF THE PLANS. THE WORK SHALL BE COMPLETE AND ALL MATERIAL SERVICES, INCIDENTALS QUALITY OR NOT SPECIFICALLY CALLED FOR QUALITY AND CONDITIONS NOTED, IN THE SPECIFICATIONS, OR NOT SHOWN ON THE PLANS WHICH MAY BE NECESSARY FOR THE COMPLETE AND PROPER CONSTRUCTION TO CARRY OUT THE CONTRACT IN GOOD FAITH AND IN A SATISFACTORY MANNER SHALL BE PERFORMED, FURNISHED, AND INSTALLED BY THE CONTRACTOR AT NO INCREASE IN COST TO THE STATE.
- THE WORK PERFORMED UNDER THIS CONTRACT SHALL CONSIST OF FURNISHING ALL MATERIALS AND LABOR REQUIRED TO COMPLETE THE INSTALLATION OF ALL BUILDING SYSTEMS, BUILDING COMPONENTS, SPECIFIED EQUIPMENT, AND MATERIALS / FINISHES IDENTIFIED IN THE DOCUMENTS. SUCH WORK SHALL INCLUDE ALL SUPPORTING MATERIALS AND COMPONENTS NECESSARY TO COMPLETE THE INSTALLATION FOR A FULLY OPERATIONAL, FUNCTIONAL AND STRUCTURALLY ANCHORED SYSTEM. CONSTRUCTION WITH STANDARD PRACTICES, MANUFACTURERS RECOMMENDATIONS, AND GOVERNING CODES.
- THE CONTRACT DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS CALLED FOR IN ONE PART SHALL BE AS BINDING AS CALLED FOR IN ANY OTHER PART. THE INTENT OF THE DOCUMENTS IS TO INCLUDE ALL WORK CONSISTENT THEREWITH AND REASONABLY INFERRABLE THEREFROM. CONTRACTOR SHALL TAKE PRECEDENCE OVER SMALLER CONTRACT, MATERIALS OR WORK DESCRIBED IN WORDS THAT INDICATE PROPER EXECUTION AND WELL KNOWN CHARACTER OF TRADE PRECEDENCE SHALL BE HELD TO REFER TO RECOGNIZED STANDARDS.
- ARCHITECT DOES NOT WARRANT THE ACCURACY OF SCALED DIMENSIONS. DIMENSIONS INDICATED BY FIGURES OR NUMERALS SHALL GOVERN. LARGER SCALE DRAWINGS SHALL TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS.
- OMISSIONS FROM THE PLANS AND SPECIFICATIONS SHALL NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY OF FURNISHING, MAKING, OR INSTALLING ALL ITEMS REQUIRED BY LAW OR USUALLY FURNISHED, MADE, OR INSTALLED IN ACCORDANCE WITH RECOGNIZED STANDARDS, FOR A PROJECT OF THE SCOPE AND CHARACTER INDICATED ON THE PLANS AND SPECIFICATIONS.
- THE PLANS SHOW CONDITIONS AS THEY ARE SUPPOSED OR BELIEVED TO EXIST, BUT IT IS NOT INTENDED OR INFERRED THAT THE CONDITIONS AS SHOWN CONSTITUTE A REPRESENTATION OF THE CONDITIONS AS IMPLIED, THAT SUCH CONDITIONS ACTUALLY EXIST.
- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL WORK COMPLIES WITH THE CONTRACT DOCUMENTS. UPON DISCOVERY, ALL DEFECTIVE OR NONCOMPLIANT WORK SHALL BE IMMEDIATELY REPAIRED OR REPLACED BY THE CONTRACTOR. FAILURE OF THE ARCHITECT TO IDENTIFY NONCOMFORMING WORK SHALL NOT CONSTITUTE ACCEPTANCE OR IMPLIED ACCEPTANCE OF SUCH WORK.
- ANY DELAYS OR IMPACTS ARISING ON THE WORK AS A RESULT OF CONSTRUCTION, FABRICATION OR DELIVERY OF NONCONFORMING WORK OR MATERIALS SHALL BE THE CONTRACTORS SOLE EXPENSE, WITH OR WITHOUT REIMBURSEMENT FOR EXTENDED OVERHEAD.
- THE CONTRACT DOCUMENTS INDICATE THE SCOPE OF THE PROJECT IN TERMS OF THE ARCHITECTURAL DESIGN CONCEPT, THE DIMENSIONS OF THE MAJOR ARCHITECTURAL ELEMENTS AND THE MAJOR DESIGN OF THE STRUCTURAL AND ELECTRICAL SYSTEMS, BASED ON THE SCOPE DESCRIBED HEREIN. PROVIDE ALL ITEMS, SYSTEMS, PRODUCTS AND LABOR REQUIRED FOR OR INFERRED FOR THE PROPER EXECUTION AND COMPLETE INSTALLATION OF THE SPECIFIED PRODUCT.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS.
- THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES AND THEIR SERVICE CONNECTIONS WITH THE PROPER UTILITY COMPANIES AND AGENCIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCURATE PLACEMENT OF THE CONSTRUCTION ON THE SITE.
- DETAILS NOT SHOWN ARE SIMILAR IN NATURE TO THOSE DETAILED, WHERE CONDITIONS ARE SIMILAR. WHERE SPECIFIC DIMENSIONS, DETAILS, OR DESIGN INTENT CAN NOT BE DETERMINED, CONSULT ARCHITECT BEFORE PROCEEDING WITH THE WORK. TYPICAL DETAILS OCCUR AT ALL SIMILAR CONDITIONS, WHETHER REFERENCED OR NOT.
- WHERE DISCREPANCIES EXIST BETWEEN DRAWINGS BY VARIOUS TRADES, THE CONTRACTOR SHALL CONSULT THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.
- THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL STIFFENERS, BRACKINGS, BACK-UP PLATES, AND SUPPORTING BRACKETS REQUIRED FOR THE BEST POSSIBLE INSTALLATION OF ALL BUILDING COMPONENTS AND EQUIPMENT.
- WHEN DISCREPANCIES EXIST WITHIN THE DRAWINGS, AND BETWEEN THE DRAWINGS AND SPECIFICATIONS, THE COSTLER CONDITION SHALL APPLY.
- THE CONTRACTOR SHALL SUBMIT TO THE ARCHITECT, PRIOR TO STARTING THE WORK, A COMPREHENSIVE LAYOUT INDICATING DIMENSIONAL CRITERIA FOR ALL VISIBLE BUILDING ELECTRICAL, SECURITY, LIFE SAFETY, CONTROLS, AND OTHER EQUIPMENT.
- PROPRIETARY PRODUCTS AND MATERIALS IDENTIFIED IN THE DRAWINGS SHALL BE INTERPRETED AS THE BASIS OF DESIGN AND SHALL TAKE PRECEDENCE OVER OTHER PRODUCTS AND COMPONENTS INDICATED IN THE SPECIFICATIONS. ALTERNATE PRODUCTS INDICATED WITHIN THE SPECIFICATIONS MAY BE USED IF EQUAL TO THE BASIS OF DESIGN. ALTERNATE PRODUCTS SHALL MATCH THE PERFORMANCE, QUALITY, AND PROFILE OF THE "BASIS OF DESIGN" PRODUCT. CONTRACTOR SHALL COMPONENTS INDICATED WITHIN THE SPECIFICATIONS WITH AN ALTERNATE PRODUCT TO WHAT IS SPECIFICALLY IDENTIFIED IN THE DRAWINGS. BASIS OF DESIGN PRODUCTS INCLUDE BUT ARE NOT LIMITED TO ITEMS AS SCHEDULED ON ELEVATIONS & FINISH SCHEDULE.

302 FLOOR OR GROUND SURFACES

302.1 GENERAL. FLOOR AND GROUND SURFACES SHALL BE STABLE, FIRM, AND PRESENT AND SHALL COMPLY WITH 303.
302.2 CARPET. CARPET OR CARPET TILE SHALL BE SECURELY ATTACHED AND SHALL HAVE A FIRM CUSHION, PAD, OR BACKING OR NO CUSHION OR PAD. CARPET TILE SHALL HAVE A LEVEL LOOP-TEXTURED LOOP, LEVEL CUT PILE, OR LEVEL CUT/TEXTURED PILE. PILE HEIGHT SHALL BE 1/2 INCH (13 MM) MAXIMUM. EXPOSED EDGES OF CARPET SHALL BE FASTENED TO FLOOR SURFACES AND SHALL HAVE TRIM ON THE ENTIRE PERIMETER LENGTH OF THE EXPOSED EDGE. CARPET EDGE TRIM SHALL COMPLY WITH 303.
302.3 OPENINGS. OPENINGS IN FLOOR OR GROUND SURFACES SHALL NOT ALLOW PASSAGE OF A SPHERE MORE THAN 1/2 INCH (13 MM) DIAMETER EXCEPT AS ALLOWED IN 407.4.3, 409.4.3, 410.4.3, 810.5.3 AND 810.10. ELONGATED OPENINGS SHALL BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL.
302.4 RAMP. CHANGES IN LEVEL GREATER THAN 1/2 INCH (13 MM) HIGH SHALL BE RAMPED, AND SHALL COMPLY WITH 405 OR 406.

303 CHANGES IN LEVEL

303.1 GENERAL. WHERE CHANGES IN LEVEL ARE PERMITTED IN FLOOR OR GROUND SURFACES, THEY SHALL COMPLY WITH 303.
303.2 VERTICAL. CHANGES IN LEVEL OF 1/4 INCH (6.4 MM) HIGH MAXIMUM SHALL BE PERMITTED TO BE VERTICAL.
303.3 MINIMUM REQUIRED DEPTH. WHERE KNEE CLEARANCE IS REQUIRED UNDER AN ELEMENT AS PART OF A CLEAR FLOOR SPACE, THE KNEE CLEARANCE SHALL BE 11 INCHES (280 MM) DEEP MINIMUM AT 9 INCHES (230 MM) ABOVE THE FINISH FLOOR OR GROUND, AND 8 INCHES (205 MM) DEEP MINIMUM AT 27 INCHES (685 MM) ABOVE THE FINISH FLOOR OR GROUND.
303.4 CLEARANCE REDUCTION. BETWEEN 9 INCHES (230 MM) AND 27 INCHES (685 MM) ABOVE THE FINISH FLOOR OR GROUND, THE KNEE CLEARANCE SHALL BE PERMITTED TO REDUCE AT A RATE OF 1 INCH (25 MM) IN DEPTH FOR EACH 6 INCHES (150 MM) IN HEIGHT.
303.5 WIDTH. KNEE CLEARANCE SHALL BE 30 INCHES (760 MM) WIDE MINIMUM.

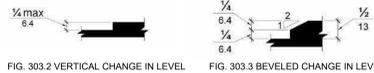


FIG. 303.2 VERTICAL CHANGE IN LEVEL



FIG. 303.3 BEVELED CHANGE IN LEVEL

304 TURNING SPACE

304.1 GENERAL. TURNING SPACE SHALL COMPLY WITH 304.
304.2 FLOOR OR GROUND SURFACES. FLOOR OR GROUND SURFACES OF A TURNING SPACE SHALL COMPLY WITH 302. CHANGES IN LEVEL ARE NOT PERMITTED.
304.3 SIZE. TURNING SPACE SHALL COMPLY WITH 304.3.1 OR 304.3.2.
304.3.1 CIRCULAR SPACE. THE TURNING SPACE SHALL BE A SPACE OF 60 INCHES (1525 MM) DIAMETER MINIMUM. THE SPACE SHALL BE PERMITTED TO INCLUDE KNEE AND TOE CLEARANCE COMPLYING WITH 306.
304.3.2 T-SHAPED SPACE. THE TURNING SPACE SHALL BE A T-SHAPED SPACE WITHIN A 60 INCH (1525 MM) SQUARE MINIMUM WITH ARMS AND BASE 36 INCHES (915 MM) WIDE MINIMUM. EACH ARM OF THE T SHALL BE CLEAR OF OBSTRUCTIONS 12 INCHES (305 MM) MINIMUM IN EACH DIRECTION AND THE BASE SHALL BE CLEAR OF OBSTRUCTIONS 24 INCHES (610 MM) MINIMUM. THE SPACE SHALL BE PERMITTED TO INCLUDE KNEE AND TOE CLEARANCE COMPLYING WITH 306 ONLY AT THE END OF EITHER THE BASE OR ONE ARM.

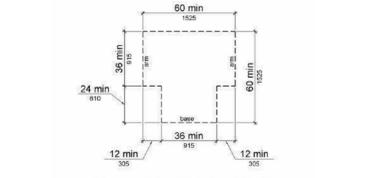


FIG. 304.3.1 CIRCULAR TURNING SPACE



FIG. 304.3.2 T-SHAPED TURNING SPACE

304.4 DOOR SWING. DOORS SHALL BE PERMITTED TO SWING INTO TURNING SPACES.

305 CLEAR FLOOR OR GROUND SPACE

305.1 GENERAL. CLEAR FLOOR OR GROUND SPACE SHALL COMPLY WITH 305.
305.2 FLOOR OR GROUND SURFACES. FLOOR OR GROUND SURFACES OF A CLEAR FLOOR OR GROUND SPACE SHALL COMPLY WITH 302. CHANGES IN LEVEL ARE NOT PERMITTED.
305.3 SIZE. THE CLEAR FLOOR OR GROUND SPACE SHALL BE 30 INCHES (760 MM) MINIMUM BY 48 INCHES (1220 MM) MINIMUM
305.4 KNEE AND TOE CLEARANCE. UNLESS OTHERWISE SPECIFIED, CLEAR FLOOR OR GROUND SPACE SHALL BE PERMITTED TO INCLUDE KNEE AND TOE CLEARANCE COMPLYING WITH 306.
305.5 POSITION. UNLESS OTHERWISE SPECIFIED, CLEAR FLOOR OR GROUND SPACE SHALL BE POSITIONED FOR EITHER FORWARD OR PARALLEL APPROACH TO AN ELEMENT.

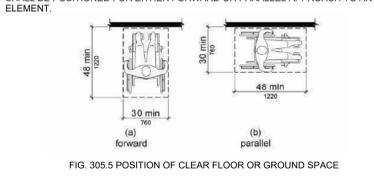


FIG. 305.3 CLEAR FLOOR OR GROUND SPACE

305.6 APPROACH. ONE FULL UNOBSTRUCTED SIDE OF THE CLEAR FLOOR OR GROUND SPACE SHALL ADJOIN AN ACCESSIBLE ROUTE OR ADJOIN ANOTHER CLEAR FLOOR OR GROUND SPACE.
305.7 MANEUVERING CLEARANCE. WHERE A CLEAR FLOOR OR GROUND SPACE IS LOCATED IN AN ALCOVE OR OTHERWISE CONFINED ON ALL OR PART OF THREE SIDES, ADDITIONAL MANEUVERING CLEARANCE SHALL BE PROVIDED IN ACCORDANCE WITH 305.7.1 AND 305.7.2.
305.7.1 FORWARD APPROACH. ALCOVES SHALL BE 36 INCHES (915 MM) MINIMUM WHERE THE DEPTH EXCEEDS 24 INCHES (610 MM).
305.7.2 PARALLEL APPROACH. ALCOVES SHALL BE 60 INCHES (1525 MM) WIDE MINIMUM WHERE THE DEPTH EXCEEDS 15 INCHES (380 MM).

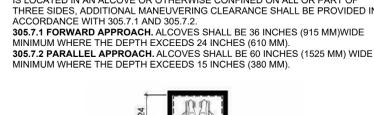


FIG. 305.7.1 MANEUVERING CLEARANCE IN AN ALCOVE, FORWARD APPROACH



FIG. 305.7.2 MANEUVERING CLEARANCE IN AN ALCOVE, PARALLEL APPROACH

306 KNEE AND TOE CLEARANCE

306.1 GENERAL. WHERE SPACE BENEATH AN ELEMENT IS INCLUDED AS PART OF CLEAR FLOOR OR GROUND SPACE OR TURNING SPACE, THE SPACE SHALL COMPLY WITH 306. ADDITIONAL SPACE SHALL NOT BE PROHIBITED BENEATH AN ELEMENT BUT SHALL NOT BE CONSIDERED AS PART OF THE CLEAR FLOOR OR GROUND SPACE OR TURNING SPACE.
306.2 TOE CLEARANCE.
306.2.1 GENERAL. SPACE UNDER AN ELEMENT BETWEEN THE FINISH FLOOR OR GROUND AND 9 INCHES (230 MM) ABOVE THE FINISH FLOOR OR GROUND SHALL BE CONSIDERED TOE CLEARANCE AND SHALL COMPLY WITH 306.2.
306.2.2 MAXIMUM DEPTH. TOE CLEARANCE SHALL EXTEND 25 INCHES (635 MM) MAXIMUM UNDER AN ELEMENT.
306.2.3 MINIMUM REQUIRED DEPTH. WHERE TOE CLEARANCE IS REQUIRED AT AN ELEMENT AS PART OF A CLEAR FLOOR SPACE, THE TOE CLEARANCE SHALL EXTEND 17 INCHES (430 MM) MINIMUM UNDER THE ELEMENT.
306.2.4 ADDITIONAL CLEARANCE. SPACE EXTENDING GREATER THAN 6 INCHES (150 MM) BEYOND THE AVAILABLE KNEE CLEARANCE AT 9 INCHES (230 MM) ABOVE THE FINISH FLOOR OR GROUND SHALL NOT BE CONSIDERED TOE CLEARANCE.
306.2.5 WIDTH. TOE CLEARANCE SHALL BE 30 INCHES (760 MM) WIDE MINIMUM.

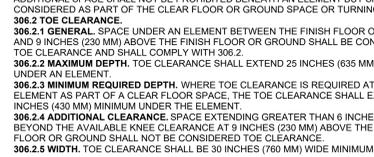


FIG. 306.2 TOE CLEARANCE

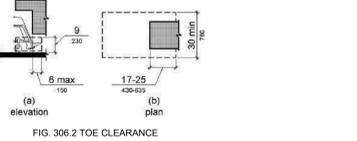


FIG. 306.3 KNEE CLEARANCE

307 PROTRUDING OBJECTS

307.1 GENERAL. PROTRUDING OBJECTS SHALL COMPLY WITH 307.
307.2 PROTRUSION LIMITS. OBJECTS WITH LEADING EDGES MORE THAN 27 INCHES (685 MM) HIGH AND NOT MORE THAN 80 INCHES (2030 MM) ABOVE THE FINISH FLOOR OR GROUND SHALL PROTRUDE 4 INCHES (100 MM) MAXIMUM HORIZONTALLY INTO THE CIRCULATION PATH.
307.3 POST-MOUNTED OBJECTS. FREE-STANDING OBJECTS MOUNTED ON POSTS OR PYLONS SHALL OVERHANG CIRCULATION PATHS 12 INCHES (305 MM) MAXIMUM WHEN LOCATED 27 INCHES (685 MM) MINIMUM AND 80 INCHES (2030 MM) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND. WHERE THE CLEARANCE IS GREATER THAN 27 INCHES (685 MM), THE OVERHANG SHALL BE CLEAR OF OBSTRUCTIONS 24 INCHES (610 MM) MINIMUM. THE CLEARANCE BETWEEN THE POSTS OR PYLONS IS GREATER THAN 12 INCHES (305 MM), THE LOWEST EDGE OF SUCH SIGN OR OBJECT SHALL BE 48 INCHES (1220 MM) ABOVE THE FINISH FLOOR OR GROUND. WHERE THE CLEARANCE IS GREATER THAN 48 INCHES (1220 MM), THE LOWEST EDGE OF SUCH SIGN OR OBJECT SHALL BE 60 INCHES (1525 MM) ABOVE THE FINISH FLOOR OR GROUND.
307.4 POSITION. UNLESS OTHERWISE SPECIFIED, CLEAR FLOOR OR GROUND SPACE SHALL BE POSITIONED FOR EITHER FORWARD OR PARALLEL APPROACH TO AN ELEMENT.

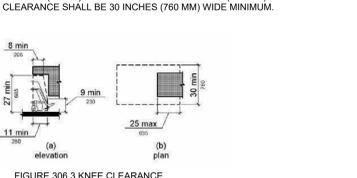


FIG. 307.2 LIMITS OF PROTRUDING OBJECTS

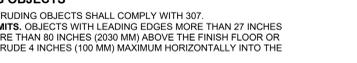


FIG. 307.3 POST-MOUNTED PROTRUDING OBJECTS

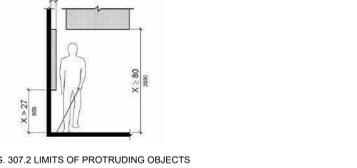


FIG. 307.4 VERTICAL CLEARANCE

308 REACH RANGES

308.1 GENERAL. REACH RANGES SHALL COMPLY WITH 308.
308.2 FORWARD REACH.
308.2.1 UNOBSTRUCTED. WHERE A FORWARD REACH IS UNOBSTRUCTED, THE HIGH FORWARD REACH SHALL BE 48 INCHES (1220 MM) MAXIMUM AND THE LOW FORWARD REACH SHALL BE 15 INCHES (380 MM) MINIMUM ABOVE THE FINISH FLOOR OR GROUND.
308.2.2 OBSTRUCTED. WHERE A FORWARD REACH IS UNOBSTRUCTED, THE HIGH FORWARD REACH SHALL BE 48 INCHES (1220 MM) MAXIMUM AND THE LOW FORWARD REACH SHALL BE 15 INCHES (380 MM) MINIMUM ABOVE THE FINISH FLOOR OR GROUND.

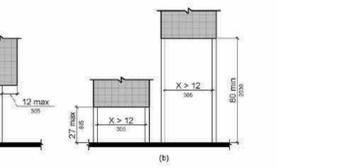


FIG. 308.2.1 UNOBSTRUCTED FORWARD REACH



FIG. 308.2.2 OBSTRUCTED HIGH FORWARD REACH

308.3 SIDE REACH.

308.3.1 UNOBSTRUCTED. WHERE A CLEAR FLOOR OR GROUND SPACE ALLOWS A PARALLEL APPROACH TO AN ELEMENT AND THE SIDE REACH IS UNOBSTRUCTED, THE HIGH SIDE REACH SHALL BE 48 INCHES (1220 MM) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND. 308.3.1 UNOBSTRUCTED, WHERE A CLEAR FLOOR OR GROUND SPACE ALLOWS A PARALLEL APPROACH TO AN ELEMENT AND THE SIDE REACH IS UNOBSTRUCTED, THE HIGH SIDE REACH SHALL BE 48 INCHES (1220 MM) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND. 308.3.1 UNOBSTRUCTED, WHERE A CLEAR FLOOR OR GROUND SPACE ALLOWS A PARALLEL APPROACH TO AN ELEMENT AND THE SIDE REACH IS UNOBSTRUCTED, THE HIGH SIDE REACH SHALL BE 48 INCHES (1220 MM) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND. 308.3.1 UNOBSTRUCTED, WHERE A CLEAR FLOOR OR GROUND SPACE ALLOWS A PARALLEL APPROACH TO AN ELEMENT AND THE SIDE REACH IS UNOBSTRUCTED, THE HIGH SIDE REACH SHALL BE 48 INCHES (1220 MM) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND.



FIG. 308.3.1 UNOBSTRUCTED SIDE REACH

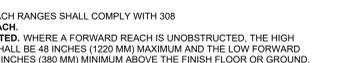


FIG. 308.3.2 OBSTRUCTED HIGH SIDE REACH

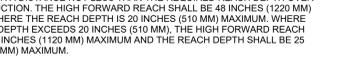


FIG. 308.4 CLEAR FLOOR OR GROUND SPACE

402 ACCESSIBLE ROUTES

402.1 GENERAL. ACCESSIBLE ROUTES SHALL COMPLY WITH 402.
402.2 COMPONENTS. ACCESSIBLE ROUTES SHALL CONSIST OF ONE OR MORE OF THE FOLLOWING COMPONENTS: WALKING SURFACES THAT HAVE A SMOOTH SURFACE ON THE PUSH SIDE EXTENDING THE FULL WIDTH OF THE DOOR OR GATE PARTS CREATING HORIZONTAL OR VERTICAL JOINTS IN THESE SURFACES SHALL BE WITHIN 1/16 INCH (1.6 MM) OF THE SAME PLANE AS THE OTHER. CAVITIES CREATED BY ADDED KICK PLATES SHALL BE 48 INCHES (1220 MM) HIGH AND 18 INCHES (455 MM) WIDE. THE CLEARANCE BETWEEN THE POSTS OR PYLONS IS GREATER THAN 12 INCHES (305 MM), THE LOWEST EDGE OF SUCH SIGN OR OBJECT SHALL BE 48 INCHES (1220 MM) ABOVE THE FINISH FLOOR OR GROUND. WHERE THE CLEARANCE IS GREATER THAN 48 INCHES (1220 MM), THE LOWEST EDGE OF SUCH SIGN OR OBJECT SHALL BE 60 INCHES (1525 MM) ABOVE THE FINISH FLOOR OR GROUND.
402.3 SLOPE. THE RUNNING SLOPE OF WALKING SURFACES SHALL NOT BE STEEPER THAN 1:20. THE CROSS SLOPE OF WALKING SURFACES SHALL NOT BE STEEPER THAN 1:48.
402.4 CHANGES IN LEVEL. CHANGES IN LEVEL SHALL COMPLY WITH 303.
402.5 CLEARANCES. WALKING SURFACES SHALL PROVIDE CLEARANCES COMPLYING WITH 403.
402.5.1 CLEAR WIDTH. EXCEPT AS PROVIDED IN 403.5.2 AND 403.5.3, THE CLEAR WIDTH OF WALKING SURFACES SHALL BE 36 INCHES (915 MM) MINIMUM.
402.5.2 CLEAR WIDTH AT TURN. WHERE THE ACCESSIBLE ROUTE MAKES A 90 DEGREE TURN AROUND AN ELEMENT WHICH IS LESS THAN 48 INCHES (1220 MM) WIDE, CLEAR WIDTH SHALL BE 42 INCHES (1065 MM) MINIMUM. APPROACHING THE TURN, 48 INCHES (1220 MM) MINIMUM AT THE TURN AND 42 INCHES (1065 MM) MINIMUM LEAVING THE TURN.
402.5.3 PASSING SPACES. AN ACCESSIBLE ROUTE WITH A CLEAR WIDTH LESS THAN 60 INCHES (1525 MM) SHALL PROVIDE PASSING SPACES AT INTERVALS OF 200 FEET (61 M) MAXIMUM. PASSING SPACES SHALL BE EITHER A SPACE 60 INCHES (1525 MM) MINIMUM BY 60 INCHES (1525 MM) MINIMUM, OR AN INTERSECTION OF TWO WALKING SURFACES PROVIDING A T-SHAPED SPACE COMPLYING WITH 304.3.2 WHERE THE BASE AND ARMS OF THE T-SHAPED SPACE EXTEND 48 INCHES (1220 MM) MINIMUM BEYOND THE INTERSECTION.
402.6 HANDRAILS. WHERE HANDRAILS ARE PROVIDED ALONG WALKING SURFACES WITH RUNNING SLOPES NOT STEEPER THAN 1:20 THEY SHALL COMPLY WITH 505.

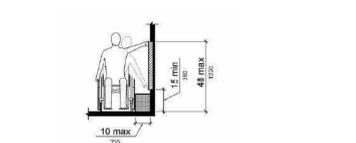


FIG. 402.2 COMPONENTS OF AN ACCESSIBLE ROUTE



FIG. 402.3.1 CLEAR WIDTH OF AN ACCESSIBLE ROUTE

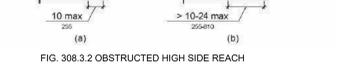


FIG. 402.3.2 CLEAR WIDTH AT TURN

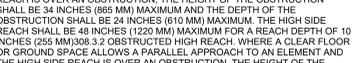


FIG. 402.5.1 CLEAR WIDTH OF AN ACCESSIBLE ROUTE

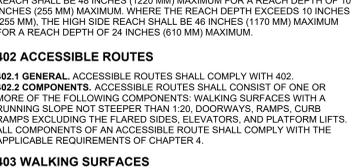


FIG. 402.5.2 CLEAR WIDTH AT TURN

403 WALKING SURFACES

403.1 GENERAL. WALKING SURFACES THAT ARE A PART OF AN ACCESSIBLE ROUTE SHALL COMPLY WITH 403.
403.2 FLOOR OR GROUND SURFACE. FLOOR OR GROUND SURFACES SHALL COMPLY WITH 302.
403.3 SLOPE. THE RUNNING SLOPE OF WALKING SURFACES SHALL NOT BE STEEPER THAN 1:20. THE CROSS SLOPE OF WALKING SURFACES SHALL NOT BE STEEPER THAN 1:48.
403.4 CHANGES IN LEVEL. CHANGES IN LEVEL SHALL COMPLY WITH 303.
403.5 CLEARANCES. WALKING SURFACES SHALL PROVIDE CLEARANCES COMPLYING WITH 403.
403.5.1 CLEAR WIDTH. EXCEPT AS PROVIDED IN 403.5.2 AND 403.5.3, THE CLEAR WIDTH OF WALKING SURFACES SHALL BE 36 INCHES (915 MM) MINIMUM.
403.5.2 CLEAR WIDTH AT TURN. WHERE THE ACCESSIBLE ROUTE MAKES A 90 DEGREE TURN AROUND AN ELEMENT WHICH IS LESS THAN 48 INCHES (1220 MM) WIDE, CLEAR WIDTH SHALL BE 42 INCHES (1065 MM) MINIMUM. APPROACHING THE TURN, 48 INCHES (1220 MM) MINIMUM AT THE TURN AND 42 INCHES (1065 MM) MINIMUM LEAVING THE TURN.
403.5.3 PASSING SPACES. AN ACCESSIBLE ROUTE WITH A CLEAR WIDTH LESS THAN 60 INCHES (1525 MM) SHALL PROVIDE PASSING SPACES AT INTERVALS OF 200 FEET (61 M) MAXIMUM. PASSING SPACES SHALL BE EITHER A SPACE 60 INCHES (1525 MM) MINIMUM BY 60 INCHES (1525 MM) MINIMUM, OR AN INTERSECTION OF TWO WALKING SURFACES PROVIDING A T-SHAPED SPACE COMPLYING WITH 304.3.2 WHERE THE BASE AND ARMS OF THE T-SHAPED SPACE EXTEND 48 INCHES (1220 MM) MINIMUM BEYOND THE INTERSECTION.
403.6 HANDRAILS. WHERE HANDRAILS ARE PROVIDED ALONG WALKING SURFACES WITH RUNNING SLOPES NOT STEEPER THAN 1:20 THEY SHALL COMPLY WITH 505.

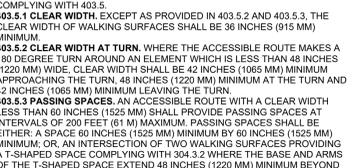


FIG. 403.1 WALKING SURFACES

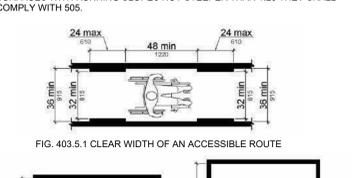


FIG. 403.2 FLOOR OR GROUND SURFACE



FIG. 403.3 SLOPE OF WALKING SURFACES



FIG. 403.4 CHANGES IN LEVEL



FIG. 403.5.1 CLEAR WIDTH OF AN ACCESSIBLE ROUTE



FIG. 403.5.2 CLEAR WIDTH AT TURN

404 DOORS, DOORWAYS, AND GATES

404.1 GENERAL. DOORS, DOORWAYS, AND GATES THAT ARE PART OF AN ACCESSIBLE ROUTE SHALL COMPLY WITH 404.
404.2 MANUAL DOORS, DOORWAYS, AND MANUAL GATES. MANUAL DOORS AND DOORWAYS AND MANUAL GATES INTENDED FOR USER PASSAGE SHALL COMPLY WITH 404.2.
404.2.1 REVOLVING DOORS, GATES, AND TURNSTILES. REVOLVING DOORS, REVOLVING GATES, AND TURNSTILES SHALL PROVIDE A CLEAR WIDTH OF 32 INCHES (815 MM) MINIMUM. CLEAR OPENINGS OF DOORWAYS WITH SWINGING DOORS SHALL BE MEASURED BETWEEN THE FACE OF THE DOOR AND THE STOP, WITH THE DOOR OPEN 90 DEGREES. OPENINGS MORE THAN 24 INCHES (610 MM) DEEP SHALL HAVE A CLEAR OPENING OF 36 INCHES (915 MM) MINIMUM. THERE SHALL BE NO PROJECTIONS INTO THE REQUIRED CLEAR OPENING WIDTH LOWER THAN 34 INCHES (865 MM) ABOVE THE FINISH FLOOR OR GROUND. THE HIGH SIDE REACH SHALL BE 48 INCHES (1220 MM) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND. 308.3.1 UNOBSTRUCTED, WHERE A CLEAR FLOOR OR GROUND SPACE ALLOWS A PARALLEL APPROACH TO AN ELEMENT AND THE SIDE REACH IS UNOBSTRUCTED, THE HIGH SIDE REACH SHALL BE 48 INCHES (1220 MM) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND. 308.3.1 UNOBSTRUCTED, WHERE A CLEAR FLOOR OR GROUND SPACE ALLOWS A PARALLEL APPROACH TO AN ELEMENT AND THE SIDE REACH IS UNOBSTRUCTED, THE HIGH SIDE REACH SHALL BE 48 INCHES (1220 MM) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND.

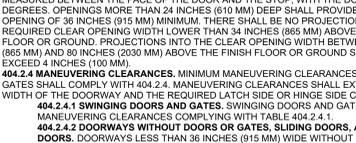


FIG. 404.2.1 REVOLVING DOORS

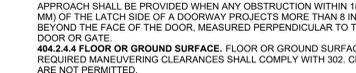


FIG. 404.2.2 DOUBLE-LEAF DOORS

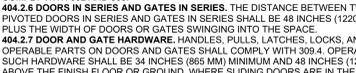


FIG. 404.2.3 DOOR WIDTH

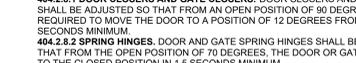


FIG. 404.2.4 DOOR SWING

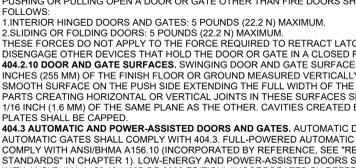


FIG. 404.2.5 DOOR AND GATE HARDWARE

405 RAMPS

405.1 GENERAL. RAMPS ON ACCESSIBLE ROUTES SHALL COMPLY WITH 405.
405.2 SLOPE. RAMP RUNS SHALL HAVE A RUNNING SLOPE NOT STEEPER THAN 1:12.
405.3 CROSS SLOPE. CROSS SLOPE OF RAMP RUNS SHALL NOT BE STEEPER THAN 1:48.
405.4 FLOOR OR GROUND SURFACES. FLOOR OR GROUND SURFACES OF RAMP RUNS SHALL COMPLY WITH 302. CHANGES IN LEVEL OTHER THAN THE RUNNING SLOPE AND CROSS SLOPE ARE NOT PERMITTED ON RAMP RUNS.
405.5 CLEAR WIDTH. THE CLEAR WIDTH OF A RAMP RUN AND, WHERE HANDRAILS ARE PROVIDED, THE CLEAR WIDTH BETWEEN HANDRAILS SHALL BE 36 INCHES (915 MM) MINIMUM.
405.6 RISE. THE RISE FOR ANY RAMP RUN SHALL BE 30 INCHES (760 MM) MAXIMUM.
405.7 LANDINGS. RAMPS SHALL HAVE LANDINGS AT THE TOP AND THE BOTTOM OF EACH RAMP RUN. LANDINGS SHALL COMPLY WITH 302.
405.7.1 SLOPE. LANDINGS SHALL COMPLY WITH 302. CHANGES IN LEVEL ARE NOT PERMITTED.
405.7.2 WIDTH. THE LANDING CLEAR WIDTH SHALL BE AT LEAST AS WIDE AS THE WIDEST RAMP RUN LEADING TO THE LANDING.
405.7.3 LENGTH. THE LANDING CLEAR LENGTH SHALL BE 60 INCHES (1525 MM) LONG MINIMUM.
405.7.4 CHANGE IN DIRECTION. RAMPS THAT CHANGE DIRECTION BETWEEN RUNS AT LANDINGS SHALL HAVE A CLEAR LANDING 60 INCHES (1525 MM) MINIMUM BY 60 INCHES (1525 MM) MINIMUM.
405.8 DOORWAYS. WHERE DOORWAYS ARE LOCATED ADJACENT TO A RAMP LANDING, MANEUVERING CLEARANCES REQUIRED BY 404.2.4 AND 404.3.2 SHALL BE PERMITTED TO OVERLAP THE REQUIRED LANDING AREA.
405.8.1 HANDRAILS. RAMP RUNS WITH A RISE GREATER THAN 6 INCHES (150 MM) SHALL HAVE HANDRAILS COMPLYING WITH 505.
405.9 EDGE PROTECTION. EDGE PROTECTION COMPLYING WITH 405.9.1 OR 405.9.2 SHALL BE PROVIDED ON EACH SIDE OF RAMP RUNS AND AT EACH SIDE OF RAMP LANDINGS.
405.9.1 EXTENDED FLOOR OR GROUND SURFACE. THE FLOOR OR GROUND SURFACE OF THE RAMP RUN OR LANDING SHALL EXTEND 12 INCHES (305 MM) BEYOND THE INSIDE FACE OF A HANDRAIL COMPLYING WITH 505.
405.9.2 CURB OR BARRIER. A CURB OR BARRIER SHALL BE PROVIDED THAT PREVENTS THE PASSAGE OF A 4 INCH (100 MM) DIAMETER SPHERE, WHERE ANY PORTION OF THE SPHERE IS WITHIN 4 INCHES (100 MM) OF THE FINISH FLOOR OR GROUND SURFACE.
405.10 WET CONDITIONS. LANDINGS SUBJECT TO WET CONDITIONS SHALL BE DESIGNED TO PREVENT THE ACCUMULATION OF WATER.

406 CURB RAMP

406.1 GENERAL. CURB RAMPS ON ACCESSIBLE ROUTES SHALL COMPLY WITH 406, 405.2 THROUGH 405.5, AND 405.10.
406.2 COUNTER SLOPE. COUNTER SLOPES OF ADJOINING GUTTERS AND ROAD SURFACES IMMEDIATELY ADJACENT TO THE CURB RAMP SHALL NOT BE STEEPER THAN 1:20. THE ADJACENT SURFACES AT TRANSITIONS AT CURB RAMPS TO WALKS, GUTTERS, AND STREETS SHALL BE AT THE SAME LEVEL.
406.3 SIDES OF CURB RAMPS. WHERE PROVIDED, CURB RAMP FLANKS SHALL NOT BE STEEPER THAN 1:10.
406.4 LANDINGS. LANDINGS SHALL BE PROVIDED AT THE TOPS OF CURB RAMPS. THE LANDING CLEAR WIDTH SHALL BE 36 INCHES (915 MM) MINIMUM. THE LANDING CLEAR WIDTH SHALL BE AT LEAST AS WIDE AS THE CURB RAMP, EXCLUDING FLARED SIDES, LEADING TO THE LANDING.
406.5 LOCATION. CURB RAMPS AND THE FLARED SIDES OF CURB RAMPS SHALL BE LOCATED SO THAT THEY DO NOT PROJECT INTO VEHICULAR TRAFFIC LANES, PARKING SPACES, OR PARKING ACCESSIBLE AREAS. CURB RAMPS AT MARKED CROSSINGS SHALL BE WHOLLY CONFINED WITHIN THE MARKINGS, EXCLUDING ANY FLARED SIDES.
406.6 DIAGONAL CURB RAMPS. DIAGONAL OR CORNER TYPE CURB RAMPS WITH RETURNED CURBS OR OTHER WELL-DEFINED EDGES SHALL HAVE THE EDGES PARALLEL TO THE DIRECTION OF PEDESTRIAN FLOW. THE BOTTOM OF DIAGONAL CURB RAMPS SHALL HAVE A CLEAR SPACE 48 INCHES (1220 MM) MINIMUM OUTSIDE ACTIVE TRAFFIC LANES OF THE ROADWAY. DIAGONAL CURB RAMPS PROVIDED AT MARKED CROSSINGS SHALL PROVIDE THE 48 INCH (1220 MM) MINIMUM CLEAR SPACE WITHIN THE MARKINGS. DIAGONAL CURB RAMPS WITH FLARED SIDES SHALL HAVE A SEGMENT OF CURB 24 INCHES (610 MM) LONG MINIMUM LOCATED ON EACH SIDE OF THE CURB RAMP AND WITHIN THE MARKED CROSSING.
406.7 ISLANDS. RAISED ISLANDS SHALL BE OUT THROUGH LEVEL WITH THE STREET OR HAVE CURB RAMPS AT BOTH SIDES. EACH CURB RAMP SHALL HAVE A LEVEL AREA 48 INCHES (1220 MM) LONG MINIMUM BY 36 INCHES (915 MM) MINIMUM AREA SHALL BE ORIENTED SO THAT THE 48 INCH (1220 MM) MINIMUM LENGTH IS IN THE DIRECTION OF THE RUNNING SLOPE OF THE CURB RAMP IT SERVES. THE 48 INCH (1220 MM) MINIMUM CLEAR SPACE SHALL BE IN AREAS AND THE ACCESSIBLE ROUTE SHALL BE PERMITTED TO OVERLAP.
406.8 INTERIOR HINGED DOORS AND GATES. 5 POUNDS (2.2 N) MAXIMUM.
406.9 SLIDING OR FOLDING DOORS. 5 POUNDS (2.2 N) MAXIMUM.
406.10 OTHER DEVICES. THE FORCE REQUIRED TO RETRACT LATCH BOLTS OR DISengage OTHER DEVICES AT THE DOOR OR GATE IN A CLOSED POSITION SHALL BE 5 LBS (2.2 N) MAXIMUM.
406.11 DOOR AND GATE SURFACES. SWINGING DOOR AND GATE SURFACES WITHIN 10 INCHES (255 MM) OF THE FINISH FLOOR OR GROUND MEASURED VERTICALLY SHALL HAVE A SMOOTH SURFACE ON THE PUSH SIDE EXTENDING THE FULL WIDTH OF THE DOOR OR GATE PARTS CREATING HORIZONTAL OR VERTICAL JOINTS IN THESE SURFACES SHALL BE WITHIN 1/16 INCH (1.6 MM) OF THE SAME PLANE AS THE OTHER. CAVITIES CREATED BY ADDED KICK PLATES SHALL BE 48 INCHES (1220 MM) HIGH AND 18 INCHES (455 MM) WIDE. THE CLEARANCE BETWEEN THE POSTS OR PYLONS IS GREATER THAN 12 INCHES (305 MM), THE LOWEST EDGE OF SUCH SIGN OR OBJECT SHALL BE 48 INCHES (1220 MM) ABOVE THE FINISH FLOOR OR GROUND. WHERE THE CLEARANCE IS GREATER THAN 48 INCHES (1220 MM), THE LOWEST EDGE OF SUCH SIGN OR OBJECT SHALL BE 60 INCHES (1525 MM) ABOVE THE FINISH FLOOR OR GROUND.
406.12 AUTOMATIC AND POWER-ASSISTED DOORS AND GATES. AUTOMATIC DOORS AND AUTOMATIC GATES SHALL COMPLY WITH 404.3. FULL-POWERED AUTOMATIC DOORS SHALL COMPLY WITH ANSIBHMA A156.10 (INCORPORATED BY REFERENCE, SEE "REFERENCED STANDARDS" IN CHAPTER 1). LOW-ENERGY AND POWER-ASSISTED DOORS SHALL COMPLY WITH ANSIBHMA A156.19 (1997 OR 2002 EDITION) (INCORPORATED BY REFERENCE, SEE "REFERENCED STANDARDS" IN CHAPTER 1).
406.13 CLEAR WIDTH. DOORWAYS SHALL PROVIDE A CLEAR OPENING OF 32 INCHES (815 MM) MINIMUM IN POWER-ON AND POWER-OFF MODE. THE MINIMUM CLEAR WIDTH FOR AUTOMATIC DOOR SYSTEMS AT A DOORWAY SHALL BE BASED ON THE CLEAR OPENING PROVIDED BY ALL LEAVES IN THE OPEN POSITION.
406.14 MANEUVERING CLEARANCE. CLEARANCES AT POWER-ASSISTED DOORS AND GATES SHALL COMPLY WITH 404.2. CLEARANCES AT AUTOMATIC DOORS AND GATES WITHOUT STANDBY POWER AND SERVING AN ACCESSIBLE MEANS OF EGRESS SHALL COMPLY WITH 404.2.4.
406.15 THRESHOLDS. THRESHOLDS AND CHANGES IN LEVEL AT DOORWAYS SHALL COMPLY WITH 302 AND 303.
406.16 DOORS IN SERIES AND GATES IN SERIES. DOORS IN SERIES AND GATES IN SERIES SHALL COMPLY WITH 404.2.4.
406.17 CONTROLS. MANUALLY OPERATED CONTROLS SHALL COMPLY WITH 309. THE FLOOR SPACE ADJACENT TO THE CONTROL SHALL BE LOCATED BEYOND THE ARC OF THE DOOR SWING.
406.18 BREAK OUT OPENING. WHERE DOORS AND GATES WITHOUT STANDBY POWER ARE A PART OF A MEANS OF EGRESS, THE CLEAR BREAK OUT OPENING AT SWINGING OR SLIDING DOORS AND GATES SHALL BE 32 INCHES (815 MM) MINIMUM WHEN OPERATED IN EMERGENCY MODE.
406.19 REVOLVING DOORS, REVOLVING GATES, AND TURNSTILES. REVOLVING DOORS, REVOLVING GATES, AND TURNSTILES SHALL NOT BE PART OF AN ACCESSIBLE ROUTE.
406.20 HALL SIGNALS. HALL SIGNALS, INCLUDING IN-CAR SIGNALS, SHALL COMPLY WITH 407.2.2.

Table 404.2.1.1: Maneuvering Clearances at Manual Swinging Doors and Gates

Approach Direction	Type of Use	Door or Gate Side	Perpendicular to Doorway	Parallel to Doorway (beyond latch side unless noted)
From front	Pull	Pull	60 inches (1525 mm)	18 inches (455 mm)
From front	Push	Push	48 inches (1220 mm)	0 inches (0 mm)
From hinge side	Pull	Push	60 inches (1525 mm)	36 inches (915 mm)
From hinge side	Pull	Pull	54 inches (1370 mm)	42 inches (1065 mm)
From hinge side	Push	Push	42 inches (1065 mm)	42 inches (1065 mm)
From latch side	Pull	Push	48 inches (1220 mm)	24 inches (610 mm)
From latch side	Push	Pull	42 inches (1065 mm)	24 inches (610

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407.4.5 ILLUMINATION. THE LEVEL OF ILLUMINATION AT THE CAR CONTROLS PLATFORM CAR THRESHOLD AND CAR LANDING SHALL BE 5 FOOT CANDLES (54 LUX) MINIMUM.

407.4.6 ELEVATOR CAR CONTROLS. WHERE PROVIDED, ELEVATOR CAR CONTROLS SHALL BE LOCATED AS FOLLOWS:

407.4.6.1 LOCATION. CONTROLS SHALL BE LOCATED WITHIN ONE OF THE REACH RANGES SPECIFIED IN 308.

407.4.6.2 BUTTONS. CAR CONTROL BUTTONS WITH FLOOR DESIGNATIONS SHALL COMPLY WITH 407.4.6.2 AND SHALL BE RAISED OR FLUSH.

407.4.6.2.1 SIZE. BUTTONS SHALL BE 3/4 INCH (19 MM) MINIMUM IN THEIR SMALLEST DIMENSION.

407.4.6.2.2 ARRANGEMENT. BUTTONS SHALL BE ARRANGED WITH NUMBERS IN ASCENDING ORDER WHEN TWO OR MORE COLUMNS OF BUTTONS ARE PROVIDED. THEY SHALL READ FROM LEFT TO RIGHT.

407.4.6.3 KEYPADS. CAR CONTROL KEYPADS SHALL BE IN A STANDARD TELEPHONE KEYPAD ARRANGEMENT AND SHALL COMPLY WITH 407.4.2.

407.4.6.4 EMERGENCY CONTROLS. EMERGENCY CONTROLS SHALL COMPLY WITH 407.4.4.

407.4.6.4.1 HEIGHT. EMERGENCY CONTROL BUTTONS SHALL HAVE THEIR CENTERLINES 35 INCHES (890 MM) MINIMUM ABOVE THE FINISH FLOOR.

407.4.6.4.2 LOCATION. EMERGENCY CONTROLS, INCLUDING THE EMERGENCY ALARM, SHALL BE GROUPED AT THE BOTTOM OF THE PANEL.

407.4.7 DESIGNATIONS AND INDICATORS OF CAR CONTROLS. DESIGNATIONS AND INDICATORS OF CAR CONTROLS SHALL COMPLY WITH 407.4.7.

407.4.7.1 BUTTONS. CAR CONTROL BUTTONS SHALL COMPLY WITH 407.4.7.1.

407.4.7.1.1 TYPE. CONTROL BUTTONS SHALL BE IDENTIFIED BY TACTILE CHARACTERS COMPLYING WITH 703.2.

407.4.7.1.2 CLEARANCE. TACTILE CHARACTERS AND BRAILLE DESIGNATIONS SHALL BE PLACED IMMEDIATELY TO THE LEFT OF THE CONTROL BUTTON TO WHICH THE DESIGNATIONS APPLY.

407.4.7.1.3 SYMBOLS. THE CONTROL BUTTON FOR THE EMERGENCY STOP, ALARM, DOOR OPEN, DOOR CLOSE, MAIN ENTRY FLOOR, AND PHONE, SHALL BE IDENTIFIED WITH TACTILE SYMBOLS AS SHOWN IN TABLE 407.4.7.1.3.

407.4.7.1.4 VISIBLE INDICATORS. BUTTONS WITH FLOOR DESIGNATIONS SHALL BE PROVIDED WITH VISIBLE INDICATORS TO SHOW THAT A CALL HAS BEEN RECEIVED. THE VISIBLE INDICATION SHALL EXTINGUISH WHEN THE CAR ARRIVES AT THE DESIGNATED FLOOR.

407.4.7.2 KEYPADS. KEYPADS SHALL BE IDENTIFIED BY CHARACTERS COMPLYING WITH 703.5 AND ON THE CORRESPONDING KEYPAD BUTTON THE NUMBER FIVE KEY SHALL HAVE A SINGLE RAISED DOT. THE DOT SHALL BE 0.119 INCH (3 MM) TO 0.120 INCH (3.05 MM) BASE DIAMETER AND OTHER SPECS SHALL COMPLY WITH TABLE 703.5.1.

407.4.8 CAR POSITION INDICATORS. AUDIBLE AND VISIBLE CAR POSITION INDICATORS SHALL BE PROVIDED IN ELEVATOR CARS.

407.4.8.1 VISIBLE INDICATORS. VISIBLE INDICATORS SHALL COMPLY WITH 407.4.8.1.

407.4.8.1.1 SIZE. CHARACTERS SHALL BE 1/2 INCH (13 MM) HIGH MINIMUM.

407.4.8.1.2 LOCATION. INDICATORS SHALL BE LOCATED ABOVE THE CAR CONTROL PANEL OR ABOVE THE DOOR.

407.4.8.1.3 FLOOR ARRIVAL. AS THE CAR PASSES A FLOOR AND WHEN A CAR STOPS AT A FLOOR SERVED BY THE ELEVATOR, THE CORRESPONDING CHARACTER SHALL ILLUMINATE.

407.4.8.1.4 DESTINATION INDICATOR. IN DESTINATION-ORIENTED ELEVATORS, A DISPLAY SHALL BE PROVIDED IN THE CAR WITH VISIBLE INDICATORS TO SHOW CAR DESTINATIONS.

407.4.8.2 AUDIBLE INDICATORS. AUDIBLE INDICATORS SHALL COMPLY WITH 407.4.8.2.

407.4.8.2.1 SIGNAL TYPE. THE SIGNAL SHALL BE AN AUTOMATIC VERBAL ANNUNCIATOR WHICH ANNOUNCES THE FLOOR AT WHICH THE CAR IS ABOUT TO STOP.

407.4.8.2.2 SIGNAL LEVEL. THE VERBAL ANNUNCIATOR SHALL BE 10 DB MINIMUM ABOVE AMBIENT, BUT SHALL NOT EXCEED 80 DB, MEASURED AT THE ANNUNCIATOR.

407.4.8.2.3 FREQUENCY. THE VERBAL ANNUNCIATOR SHALL HAVE A FREQUENCY OF 300 HZ MINIMUM TO 3000 HZ MAXIMUM.

407.4.9 EMERGENCY COMMUNICATION. EMERGENCY TWO-WAY COMMUNICATION SYSTEMS SHALL COMPLY WITH 308. TACTILE SYMBOLS AND CHARACTERS SHALL BE PROVIDED ADJACENT TO THE DEVICE AND SHALL COMPLY WITH 703.2.

502 PARKING SPACES

502.1 GENERAL. CAR AND VAN PARKING SPACES SHALL COMPLY WITH 502, WHERE PARKING SPACES ARE MARKED WITH LINES. WIDTH MEASUREMENTS OF PARKING SPACES AND ACCESS AISLES SHALL BE MADE FROM THE CENTERLINE OF THE MARKINGS.

502.2 VEHICLE SPACES. CAR PARKING SPACES SHALL BE 96 INCHES (2440 MM) WIDE MINIMUM AND VAN PARKING SPACES SHALL BE 132 INCHES (3350 MM) WIDE MINIMUM. SHALL BE MARKED TO DEFINE THE WIDTH AND HAVE AN ADJACENT ACCESS AISLE COMPLYING WITH 502.3. 502.2 VEHICLE SPACES, CAR SPACES SHALL BE 96 INCHES (2440 MM) WIDE MINIMUM AND VAN PARKING SPACES SHALL BE 132 INCHES (3350 MM) WIDE MINIMUM. SHALL BE MARKED TO DEFINE THE WIDTH, AND SHALL HAVE AN ADJACENT ACCESS AISLE COMPLYING WITH 502.3.

502.3 ACCESS AISLE. ACCESS AISLES SERVING PARKING SPACES SHALL COMPLY WITH 502.3. ACCESS AISLES SHALL ADJOIN AN ACCESSIBLE ROUTE. TWO PARKING SPACES SHALL BE PERMITTED TO SHARE A COMMON ACCESS AISLE.

502.3.1 WIDTH. ACCESS AISLES SERVING CAR AND VAN PARKING SPACES SHALL BE 60 INCHES (1525 MM) WIDE MINIMUM.

502.3.2 LENGTH. ACCESS AISLES SHALL EXTEND THE FULL LENGTH OF THE PARKING SPACES THEY SERVE.

502.3.3 MARKING. ACCESS AISLES SHALL BE MARKED SO AS TO DISCOURAGE PARKING IN THEM.

502.3.4 LOCATION. ACCESS AISLES SHALL NOT OVERLAP THE VEHICULAR WAY. ACCESS AISLES SHALL BE PERMITTED TO BE PLACED ON EITHER SIDE OF THE PARKING SPACE EXCEPT FOR ANGLED VAN PARKING SPACES WHICH SHALL HAVE ACCESS AISLES LOCATED ON THE PASSENGER SIDE OF THE PARKING SPACES.

502.4 FLOOR OR GROUND SURFACES. PARKING SPACES AND ACCESS AISLES SERVING THEM SHALL COMPLY WITH 302. ACCESS AISLES SHALL BE AT THE SAME LEVEL AS THE PARKING SPACES THEY SERVE. CHANGES IN LEVEL ARE NOT PERMITTED.

502.5 VERTICAL CLEARANCE. PARKING SPACES FOR VANS AND ACCESS AISLES AND VEHICULAR ROUTES SERVING THEM SHALL PROVIDE A VERTICAL CLEARANCE OF 98 INCHES (2490 MM) MINIMUM.

502.6 IDENTIFICATION. PARKING SPACE IDENTIFICATION SIGNS SHALL INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY COMPLYING WITH 703.2.1.1. SIGNS IDENTIFYING VAN PARKING SPACES SHALL CONTAIN THE DESIGNATION "VAN ACCESSIBLE." SIGNS SHALL BE 60 INCHES (1525 MM) MINIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE MEASURED TO THE BOTTOM OF THE SIGN.

502.7 RELATIONSHIP TO ACCESSIBLE ROUTES. PARKING SPACES AND ACCESS AISLES SHALL BE DESIGNED SO THAT CARS AND VANS, WHEN PARKED, CANNOT OBSTRUCT THE REQUIRED CLEAR WIDTH OF ADJACENT ACCESSIBLE ROUTES.

503 PASSENGER LOADING ZONES

503.1 GENERAL. PASSENGER LOADING ZONES SHALL COMPLY WITH 503.

503.2 VEHICLE PULL-UP SPACE. PASSENGER LOADING ZONES SHALL PROVIDE A VEHICULAR PULL-UP SPACE 96 INCHES (2440 MM) WIDE MINIMUM AND 20 FEET (6100 MM) LONG MINIMUM.

503.3 ACCESS AISLE. PASSENGER LOADING ZONES SHALL PROVIDE ACCESS AISLES COMPLYING WITH 503 ADJACENT TO THE VEHICLE PULL-UP SPACE. ACCESS AISLES SHALL ADJOIN AN ACCESSIBLE ROUTE AND SHALL NOT OVERLAP THE VEHICULAR WAY.

503.3.1 WIDTH. ACCESS AISLES SERVING VEHICLE PULL-UP SPACES SHALL BE 60 INCHES (1525 MM) WIDE MINIMUM.

503.3.2 LENGTH. ACCESS AISLES SHALL EXTEND THE FULL LENGTH OF THE VEHICLE PULL-UP SPACES THEY SERVE.

503.3.3 MARKING. ACCESS AISLES SHALL BE MARKED SO AS TO DISCOURAGE PARKING IN THEM.

503.4 FLOOR AND GROUND SURFACES. VEHICLE PULL-UP SPACES AND ACCESS AISLES SERVING THEM SHALL COMPLY WITH 302. ACCESS AISLES SHALL BE AT THE SAME LEVEL AS THE VEHICULAR PULL-UP SPACE THEY SERVE. CHANGES IN LEVEL ARE NOT PERMITTED.

503.5 VERTICAL CLEARANCE. VEHICLE PULL-UP SPACES, ACCESS AISLES SERVING THEM, AND A VEHICULAR ROUTE FROM AN ENTRANCE TO THE PASSENGER LOADING ZONE, AND FROM THE PASSENGER LOADING ZONE TO A VEHICULAR EXIT SHALL PROVIDE A VERTICAL CLEARANCE OF 114 INCHES (2895 MM) MINIMUM.

504 STAIRWAYS

504.1 GENERAL. STAIRS SHALL COMPLY WITH 504.

504.2 TREADS AND RISERS. ALL STEPS ON A FLIGHT OF STAIRS SHALL HAVE UNIFORM RISER HEIGHTS AND UNIFORM TREAD DEPTHS. RISERS SHALL BE 4 INCHES (100 MM) HIGH MINIMUM AND 7 INCHES (180 MM) HIGH MAXIMUM. TREADS SHALL BE 11 INCHES (280 MM) DEEP MINIMUM.

504.3 OPEN RISERS. OPEN RISERS ARE NOT PERMITTED.

504.4 TREAD SURFACE. STAIR TREADS SHALL COMPLY WITH 302. CHANGES IN LEVEL ARE NOT PERMITTED.

504.5 NOSINGS. THE RADIUS OF CURVATURE AT THE LEADING EDGE OF THE TREAD SHALL BE 1/2 INCH (13 MM) MAXIMUM. NOSINGS THAT PROJECT BEYOND RISERS SHALL HAVE THE UNDERSIDE OF THE LEADING EDGE CURVED OR BEVELLED. RISERS SHALL BE PERMITTED TO SLOPE UNDER THE TREAD AT AN ANGLE OF 30 DEGREES MAXIMUM FROM VERTICAL. THE PERMITTED PROJECTION OF THE NOSING SHALL EXTEND 1 1/2 INCHES (38 MM) MAXIMUM OVER THE TREAD BELOW.

504.6 HANDRAILS. STAIRS SHALL HAVE HANDRAILS COMPLYING WITH 505.

504.7 WET CONDITIONS. STAIR TREADS AND LANDINGS SUBJECT TO WET CONDITIONS SHALL BE DESIGNED TO PREVENT THE ACCUMULATION OF WATER.

505 HANDRAILS

505.1 GENERAL. HANDRAILS PROVIDED ALONG WALKING SURFACES COMPLYING WITH 305. REQUIRED AT RAMP'S COMPLYING WITH 405. AND REQUIRED AT STAIRS COMPLYING WITH 504 SHALL COMPLY WITH 505.

505.2 WHERE REQUIRED. HANDRAILS SHALL BE PROVIDED ON BOTH SIDES OF STAIRS AND RAMPS.

505.3 CONTINUITY. HANDRAILS SHALL BE CONTINUOUS WITHIN THE FULL LENGTH OF EACH STAIR FLIGHT OR RAMP RUN. INSIDE HANDRAILS ON SWITCHBACK OR DOGGLE STAIRS AND RAMPS SHALL BE CONTINUOUS BETWEEN FLIGHTS OR RUNS.

505.4 HEIGHT. TOP OF GRIPPING SURFACES OF HANDRAILS SHALL BE 34 INCHES (865 MM) MINIMUM AND 38 INCHES (965 MM) MAXIMUM VERTICALLY ABOVE WALKING SURFACES. STAIR NOSINGS, AND RAMP SURFACES. HANDRAILS SHALL BE AT A CONSISTENT HEIGHT ABOVE WALKING SURFACES, STAIR NOSINGS, AND RAMP SURFACES.

505.5 CLEARANCE. CLEARANCE BETWEEN HANDRIL GRIPPING SURFACES AND ADJACENT SURFACES SHALL BE 1 1/2 INCHES (38 MM) MINIMUM.

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505.6 GRIPPING SURFACE. HANDRIL GRIPPING SURFACES SHALL BE CONTINUOUS ALONG THEIR LENGTH AND SHALL NOT BE OBSTRUCTED ALONG THEIR UPS OR DOWNSIDES. THE BOTTOMS OF HANDRIL GRIPPING SURFACES SHALL NOT BE OBSTRUCTED FOR MORE THAN 20 PERCENT OF THEIR LENGTH. WHERE PROVIDED, HORIZONTAL GROOVES SHALL OCCUR 1 1/2 INCHES (38 MM) MINIMUM BELOW THE BOTTOM OF THE HANDRIL GRIPPING SURFACE.

505.7 CROSS SECTION. HANDRIL GRIPPING SURFACES SHALL HAVE A CROSS SECTION CONFORMING WITH 505.7.1 OR 505.7.2.

505.7.1 CIRCULAR CROSS SECTION. HANDRIL GRIPPING SURFACES WITH A CIRCULAR CROSS SECTION SHALL HAVE AN OUTSIDE DIAMETER OF 1 1/4 INCHES (32 MM) MINIMUM AND 2 INCHES (51 MM) MAXIMUM.

505.7.2 NON-CIRCULAR CROSS SECTIONS. HANDRIL GRIPPING SURFACES WITH A NON-CIRCULAR CROSS SECTION SHALL HAVE A PERIMETER DIMENSION OF 4 INCHES (100 MM) MINIMUM AND 6 1/4 INCHES (160 MM) MAXIMUM, AND A CROSS-SECTION DIMENSION OF 2 1/4 INCHES (57 MM) MAXIMUM.

505.7.3 CIRCULAR CROSS SECTION. HANDRIL GRIPPING SURFACES WITH A CIRCULAR CROSS SECTION SHALL HAVE AN OUTSIDE DIAMETER OF 1 1/4 INCHES (32 MM) MINIMUM AND 2 INCHES (51 MM) MAXIMUM.

505.7.4 NON-CIRCULAR CROSS SECTIONS. HANDRIL GRIPPING SURFACES WITH A NON-CIRCULAR CROSS SECTION SHALL HAVE A PERIMETER DIMENSION OF 4 INCHES (100 MM) MINIMUM AND 6 1/4 INCHES (160 MM) MAXIMUM, AND A CROSS-SECTION DIMENSION OF 2 1/4 INCHES (57 MM) MAXIMUM.

505.8 SURFACES. HANDRIL GRIPPING SURFACES AND ANY SURFACES ADJACENT TO THEM SHALL BE FREE OF SHARP OR ABRASIVE ELEMENTS AND SHALL HAVE ROUNDED EDGES.

505.9 FITTINGS. HANDRAILS SHALL NOT ROTATE WITHIN THEIR FITTINGS.

505.10 HANDRAIL EXTENSIONS. HANDRIL GRIPPING SURFACES SHALL EXTEND BEYOND 2 INCHES (51 MM) TO THE TOP OF THE STAIR FLIGHT.

505.11 TOP AND BOTTOM EXTENSION AT RAMPS. RAMP HANDRAILS SHALL EXTEND HORIZONTALLY ABOVE THE LANDING FOR 12 INCHES (305 MM) MINIMUM BEYOND THE TOP AND BOTTOM OF RAMP RUNS. EXTENSIONS SHALL RETURN TO A WALL, GUARD, OR THE LANDING SURFACE, OR SHALL BE CONTINUOUS TO THE HANDRAIL OF AN ADJACENT RAMP RUN.

505.12 TOP EXTENSION AT STAIRS. AT THE TOP OF A STAIR FLIGHT, HANDRAILS SHALL EXTEND HORIZONTALLY ABOVE THE LANDING FOR 12 INCHES (305 MM) MINIMUM BEGINNING DIRECTLY ABOVE THE FIRST RISER NOSING. EXTENSIONS SHALL RETURN TO A WALL, GUARD, OR THE LANDING SURFACE, OR SHALL BE CONTINUOUS TO THE HANDRIL OF AN ADJACENT STAIR FLIGHT.

505.13 BOTTOM EXTENSION AT STAIRS. AT THE BOTTOM OF A STAIR FLIGHT, HANDRAILS SHALL EXTEND AT THE SLOPE OF THE STAIR FLIGHT FOR A HORIZONTAL DISTANCE AT LEAST EQUAL TO ONE TREAD DEPTH BEYOND THE LAST RISER NOSING. EXTENSION SHALL RETURN TO A WALL, GUARD, OR THE LANDING SURFACE, OR SHALL BE CONTINUOUS TO THE HANDRIL OF AN ADJACENT STAIR FLIGHT.

602 DRINKING FOUNTAINS

602.1 GENERAL. DRINKING FOUNTAINS SHALL COMPLY WITH 307 AND 602.

602.2 CLEAR FLOOR SPACE. UNITS SHALL HAVE A CLEAR FLOOR OR GROUND SPACE COMPLYING WITH 305 POSITIONED FOR A FORWARD APPROACH AND CENTERED ON THE UNIT. KNEE AND TOE CLEARANCE COMPLYING WITH 306 SHALL BE PROVIDED.

602.3 OPERABLE PARTS. OPERABLE PARTS SHALL COMPLY WITH 309.

602.4 SPURT OUTLETS. SPURT OUTLETS SHALL BE 36 INCHES (915 MM) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND.

602.5 SPOUT LOCATION. THE SPOUT SHALL BE LOCATED 15 INCHES (380 MM) MINIMUM FROM THE VERTICAL SURFACE AND 5 INCHES (125 MM) MAXIMUM FROM THE FRONT EDGE OF THE UNIT, INCLUDING OVERHEAD BUMPERS.

602.6 WATER FLOW. THE SPOUT SHALL PROVIDE A FLOW OF WATER 4 INCHES (100 MM) HIGH MINIMUM AND SHALL BE LOCATED 5 INCHES (125 MM) MAXIMUM FROM THE FRONT OF THE UNIT. THE ANGLE OF THE WATER STREAM SHALL BE MEASURED HORIZONTALLY RELATIVE TO THE FRONT FACE OF THE UNIT, WHERE SPOUTS ARE LOCATED LESS THAN 3 INCHES (75 MM) FROM THE FRONT OF THE UNIT, THE ANGLE OF THE WATER STREAM SHALL BE 30 DEGREES MAXIMUM. WHERE SPOUTS ARE LOCATED BETWEEN 3 INCHES (75 MM) AND 5 INCHES (125 MM) MAXIMUM FROM THE FRONT OF THE UNIT, THE ANGLE OF THE WATER STREAM SHALL BE 15 DEGREES MAXIMUM.

602.7 DRINKING FOUNTAINS FOR STANDING PERSONS. SPURT OUTLETS OF DRINKING FOUNTAINS FOR STANDING PERSONS SHALL BE 38 INCHES (965 MM) MINIMUM AND 43 INCHES (1090 MM) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND.

603 TOILET & BATHING ROOMS

603.1 GENERAL. TOILET AND BATHING ROOMS SHALL COMPLY WITH 603.

603.2 CLEARANCES. CLEARANCES SHALL COMPLY WITH 603.2.

603.2.1 TURNING SPACE. TURNING SPACE COMPLYING WITH 304 SHALL BE PROVIDED WITHIN THE ROOM.

603.2.2 OVERLAP. REQUIRED CLEAR FLOOR SPACES, CLEARANCE AT FIXTURES, AND TURNING SPACE SHALL BE PERMITTED TO OVERLAP.

603.2.3 DOOR SWING. DOORS SHALL NOT SWING INTO THE CLEAR FLOOR SPACE OR CLEARANCE REQUIRED FOR ANY FIXTURE. DOORS SHALL BE PERMITTED TO SWING INTO THE REQUIRED TURNING SPACE.

603.3 MIRRORS. MIRRORS LOCATED ABOVE LAVATORIES OR COUNTERTOPS SHALL BE INSTALLED WITH THE BOTTOM EDGE OF THE REFLECTING SURFACE 40 INCHES (1015 MM) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND. MIRRORS NOT LOCATED ABOVE LAVATORIES OR COUNTERTOPS SHALL BE INSTALLED WITH THE BOTTOM EDGE OF THE REFLECTING SURFACE 35 INCHES (890 MM) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND.

603.4 COAT HOOKS AND SHELVES. COAT HOOKS SHALL BE LOCATED WITHIN ONE OF THE REACH RANGES SPECIFIED IN 308. SHELVES SHALL BE LOCATED 40 INCHES (1015 MM) MINIMUM AND 48 INCHES (1220 MM) MAXIMUM ABOVE THE FINISH FLOOR.

604 WATER CLOSETS AND TOILET COMPARTMENTS

604.1 GENERAL. WATER CLOSETS AND TOILET COMPARTMENTS SHALL COMPLY WITH 604.2 THROUGH 604.8.

604.2 LOCATION. THE WATER CLOSET SHALL BE POSITIONED WITH A WALL OR PARTITION TO THE REAR AND TO ONE SIDE. THE CENTERLINE OF THE WATER CLOSET SHALL BE 16 INCHES (405 MM) MINIMUM TO 18 INCHES (455 MM) MAXIMUM FROM THE SIDE WALL OR PARTITION, EXCEPT THAT THE WATER CLOSET SHALL BE 17 INCHES (430 MM) MINIMUM AND 19 INCHES (485 MM) MAXIMUM FROM THE SIDE WALL OR PARTITION IN THE AMBULATORY ACCESSIBLE TOILET COMPARTMENT SPECIFIED IN 604.8.2. WATER CLOSETS SHALL BE ARRANGED FOR A LEFT-HAND OR RIGHT-HAND APPROACH.

604.3 CLEARANCE. CLEARANCES AROUND WATER CLOSETS AND IN TOILET COMPARTMENTS SHALL COMPLY WITH 604.3.

604.3.1 SIZE. CLEARANCE AROUND A WATER CLOSET SHALL BE 60 INCHES (1525 MM) MINIMUM FROM THE REAR AND TO ONE SIDE. THE CENTERLINE OF THE WATER CLOSET SHALL BE 14 INCHES (355 MM) MINIMUM AND 56 INCHES (1420 MM) MINIMUM MEASURED PERPENDICULAR TO THE REAR WALL.

604.3.2 CLEARANCE AT WATER CLOSETS

604.3.2.1 SIDE WALL GRAB BAR. THE SIDE WALL GRAB BAR SHALL BE 42 INCHES (1065 MM) LONG MINIMUM. LOCATED 12 INCHES (305 MM) MAXIMUM FROM THE REAR WALL AND EXTENDING 64 INCHES (1625 MM) MINIMUM FROM THE REAR WALL.

604.3.2.2 REAR WALL GRAB BAR. THE REAR WALL GRAB BAR SHALL BE 38 INCHES (965 MM) LONG MINIMUM AND EXTEND FROM THE CENTERLINE OF THE WATER CLOSET 12 INCHES (305 MM) MINIMUM ON ONE SIDE AND 24 INCHES (610 MM) MINIMUM ON THE OTHER SIDE.

604.3.2.3 OVERLAP. THE REQUIRED CLEARANCE AROUND THE WATER CLOSET SHALL BE PERMITTED TO OVERLAP THE WATER CLOSET. ASSOCIATED GRAB BARS, DISPENSERS, SANITARY NAPKIN DISPOSAL UNITS, COAT HOOKS, SHELVES, ACCESSIBLE ROUTES, CLEAR FLOOR SPACE AND CLEARANCES REQUIRED AT OTHER FIXTURES, AND THE TURNING SPACE. NO OTHER FIXTURES OR OBSTRUCTIONS SHALL BE LOCATED WITHIN THE REQUIRED WATER CLOSET CLEARANCE.

604.3.4 SEATS. THE SEAT HEIGHT OF A WATER CLOSET ABOVE THE FINISH FLOOR SHALL BE 17 INCHES (430 MM) MINIMUM AND 19 INCHES (485 MM) MAXIMUM MEASURED TO THE TOP OF THE SEAT. SEATS SHALL NOT BE SPRUNG TO RETURN TO A LIFTED POSITION.

604.3.5 GRAB BARS. GRAB BARS FOR WATER CLOSETS SHALL COMPLY WITH 609. GRAB BARS SHALL BE PROVIDED ON THE SIDE WALL CLOSEST TO THE WATER CLOSET AND ON THE REAR WALL.

604.3.6 SIDE WALL. THE SIDE WALL GRAB BAR SHALL BE 42 INCHES (1065 MM) LONG MINIMUM. LOCATED 12 INCHES (305 MM) MAXIMUM FROM THE REAR WALL AND EXTENDING 64 INCHES (1625 MM) MINIMUM FROM THE REAR WALL.

604.3.7 REAR WALL. THE REAR WALL GRAB BAR SHALL BE 38 INCHES (965 MM) LONG MINIMUM AND EXTEND FROM THE CENTERLINE OF THE WATER CLOSET 12 INCHES (305 MM) MINIMUM ON ONE SIDE AND 24 INCHES (610 MM) MINIMUM ON THE OTHER SIDE.

604.3.8 CLEARANCE AT WATER CLOSETS

604.3.8.1 SIDE WALL GRAB BAR AT WATER CLOSETS

604.3.8.2 REAR WALL GRAB BAR AT WATER CLOSETS

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604.7 DISPENSERS. TOILET PAPER DISPENSERS SHALL COMPLY WITH 309.4 AND 511. BE 7 INCHES (180 MM) MINIMUM AND 9 INCHES (230 MM) MAXIMUM IN FRONT OF THE WATER CLOSET MEASURED TO THE CENTERLINE OF THE DISPENSER. THE OUTLET OF THE DISPENSER SHALL BE 15 INCHES (380 MM) MINIMUM AND 48 INCHES (1220 MM) MAXIMUM ABOVE THE FINISH FLOOR AND SHALL NOT BE LOCATED BEHIND GRAB BARS. DISPENSERS SHALL NOT BE OF A TYPE THAT CONTROLS DELIVERY OR THAT DOES NOT ALLOW CONTINUOUS PAPER FLOW.

604.8 TOILET COMPARTMENTS. WHEELCHAIR ACCESSIBLE TOILET COMPARTMENTS SHALL MEET THE REQUIREMENTS OF 604.8.1 AND 604.8.3. COMPARTMENTS CONTAINING MORE THAN ONE PLUMBING FIXTURE SHALL COMPLY WITH 603.

604.8.1 WHEELCHAIR ACCESSIBLE COMPARTMENTS. WHEELCHAIR ACCESSIBLE COMPARTMENTS SHALL COMPLY WITH 604.8.1.

604.8.1.1 SIZE. WHEELCHAIR ACCESSIBLE COMPARTMENTS SHALL BE 60 INCHES (1525 MM) WIDE MINIMUM MEASURED PERPENDICULAR TO THE SIDE WALL, AND 56 INCHES (1420 MM) DEEP MINIMUM FOR WALL HUNG WATER CLOSETS AND 59 INCHES (1500 MM) DEEP MINIMUM FOR FLOOR MOUNTED WATER CLOSETS MEASURED PERPENDICULAR TO THE REAR WALL. WHEELCHAIR ACCESSIBLE COMPARTMENTS FOR CHILDREN'S USE SHALL BE 60 INCHES (1525 MM) WIDE MINIMUM MEASURED PERPENDICULAR TO THE SIDE WALL, AND 59 INCHES (1500 MM) DEEP MINIMUM FOR WALL HUNG AND FLOOR MOUNTED WATER CLOSETS MEASURED PERPENDICULAR TO THE REAR WALL.

604.8.1.2 DOORS. TOILET COMPARTMENT DOORS, INCLUDING DOOR HARDWARE, SHALL COMPLY WITH 404 EXCEPT THAT IF THE APPROACH IS TO THE LATCH SIDE OF THE COMPARTMENT DOOR, CLEARANCE BETWEEN THE DOOR SIDE OF THE COMPARTMENT AND ANY OBSTRUCTION SHALL BE 42 INCHES (1065 MM) MINIMUM. DOORS SHALL BE LOCATED IN THE FRONT PARTITION OR IN THE SIDE WALL OR PARTITION FARTHEST FROM THE WATER CLOSET. WHERE LOCATED IN THE FRONT PARTITION, THE DOOR OPENING SHALL BE 4 INCHES (100 MM) MAXIMUM FROM THE SIDE WALL OR PARTITION FARTHEST FROM THE WATER CLOSET. WHERE LOCATED IN THE SIDE WALL OR PARTITION, THE DOOR OPENING SHALL BE 4 INCHES (100 MM) MAXIMUM FROM THE FRONT PARTITION. THE DOOR SHALL BE SELF-CLOSING. A DOOR PULL COMPLYING WITH 404.2.7 SHALL BE PLACED ON BOTH SIDES OF THE DOOR NEAR THE LATCH. TOILET COMPARTMENT DOORS SHALL NOT SWING INTO THE MINIMUM REQUIRED COMPARTMENT AREA.

604.8.1.3 APPROACH. COMPARTMENTS SHALL BE ARRANGED FOR LEFT-HAND OR RIGHT-HAND APPROACH TO THE WATER CLOSET.

604.8.1.4 TOE CLEARANCE. THE FRONT PARTITION AND AT LEAST ONE SIDE PARTITION SHALL PROVIDE A TOE CLEARANCE OF 9 INCHES (230 MM) MINIMUM ABOVE THE FINISH FLOOR AND 6 INCHES (150 MM) DEEP MINIMUM BEYOND THE COMPARTMENT SIDE OF THE PARTITION. THE PARTITION SHALL BE 1/2 INCHES (12.5 MM) MINIMUM ABOVE THE FINISH FLOOR OR GROUND. THE PARTITION SHALL BE INSTALLED WITH A TOE CLEARANCE OF 12 INCHES (305 MM) MINIMUM ABOVE THE FINISH FLOOR.

604.8.1.5 GRAB BARS. GRAB BARS SHALL COMPLY WITH 609. A SIDE-WALL GRAB BAR COMPLYING WITH 604.5.1 SHALL BE PROVIDED AND SHALL BE LOCATED ON THE WALL CLOSEST TO THE WATER CLOSET. IN ADDITION, A REAR-WALL GRAB BAR COMPLYING WITH 604.5.1 SHALL BE PROVIDED ON BOTH SIDES OF THE WATER CLOSET.

604.8.2 AMBULATORY ACCESSIBLE COMPARTMENTS. AMBULATORY ACCESSIBLE COMPARTMENTS SHALL COMPLY WITH 604.8.2.

604.8.2.1 SIZE. AMBULATORY ACCESSIBLE COMPARTMENTS SHALL HAVE A DEPTH OF 60 INCHES (1525 MM) MINIMUM AND A WIDTH OF 35 INCHES (890 MM) MINIMUM AND 37 INCHES (940 MM) MAXIMUM.

604.8.2.2 DOORS. TOILET COMPARTMENT DOORS, INCLUDING DOOR HARDWARE, SHALL COMPLY WITH 404, EXCEPT THAT IF THE APPROACH IS TO THE LATCH SIDE OF THE COMPARTMENT DOOR, CLEARANCE BETWEEN THE DOOR SIDE OF THE COMPARTMENT AND ANY OBSTRUCTION SHALL BE 42 INCHES (1065 MM) MINIMUM. THE DOOR SHALL BE SELF-CLOSING. A DOOR PULL COMPLYING WITH 404.2.7 SHALL BE PLACED ON BOTH SIDES OF THE DOOR NEAR THE LATCH. TOILET COMPARTMENT DOORS SHALL NOT SWING INTO THE MINIMUM REQUIRED COMPARTMENT AREA.

604.8.2.3 GRAB BARS. GRAB BARS SHALL COMPLY WITH 609. A SIDE-WALL GRAB BAR COMPLYING WITH 604.5.1 SHALL BE PROVIDED ON BOTH SIDES OF THE WATER CLOSET.

604.8.3 COAT HOOKS AND SHELVES. COAT HOOKS SHALL BE LOCATED WITHIN ONE OF THE REACH RANGES SPECIFIED IN 308. SHELVES SHALL BE LOCATED 40 INCHES (1015 MM) MINIMUM AND 48 INCHES (1220 MM) MAXIMUM ABOVE THE FINISH FLOOR.

604.9 WATER CLOSETS AND TOILET COMPARTMENTS FOR CHILDREN'S USE. WATER CLOSETS AND TOILET COMPARTMENTS FOR CHILDREN'S USE SHALL COMPLY WITH 604.9.

604.9.1 LOCATION. THE WATER CLOSET SHALL BE LOCATED WITH A WALL OR PARTITION TO THE REAR AND TO ONE SIDE. THE CENTERLINE OF THE WATER CLOSET SHALL BE 12 INCHES (305 MM) MINIMUM AND 18 INCHES (455 MM) MAXIMUM FROM THE SIDE WALL OR PARTITION, EXCEPT THAT THE WATER CLOSET SHALL BE 17 INCHES (430 MM) MINIMUM AND 19 INCHES (485 MM) MAXIMUM FROM THE SIDE WALL OR PARTITION IN THE AMBULATORY ACCESSIBLE TOILET COMPARTMENT SPECIFIED IN 604.8.2.

604.9.2 CLEARANCE. CLEARANCE AROUND A WATER CLOSET SHALL COMPLY WITH 604.3.

604.9.3 HEIGHT. THE HEIGHT OF WATER CLOSETS SHALL BE 11 INCHES (280 MM) MINIMUM AND 17 INCHES (430 MM) MAXIMUM MEASURED TO THE TOP OF THE SEAT. SEATS SHALL NOT BE SPRUNG TO RETURN TO A LIFTED POSITION.

604.9.4 GRAB BARS. GRAB BARS FOR WATER CLOSETS SHALL COMPLY WITH 604.5.

604.9.5 FLUSH CONTROLS. FLUSH CONTROLS SHALL BE HAND OPERATED OR AUTOMATIC. HAND OPERATED FLUSH CONTROLS SHALL COMPLY WITH 309.2 AND 309.4 AND SHALL BE INSTALLED 36 INCHES (915 MM) MAXIMUM ABOVE THE FINISH FLOOR. FLUSH CONTROLS SHALL BE LOCATED ON THE OPEN SIDE OF THE WATER CLOSET EXCEPT IN AMBULATORY ACCESSIBLE COMPARTMENTS COMPLYING WITH 604.8.2.

604.9.6 DISPENSERS. TOILET PAPER DISPENSERS SHALL COMPLY WITH 309.4 AND SHALL BE 7 INCHES (180 MM) MINIMUM AND 9 INCHES (230 MM) MAXIMUM IN FRONT OF THE WATER CLOSET MEASURED TO THE CENTERLINE OF THE DISPENSER. THE OUTLET OF THE DISPENSER SHALL BE 14 INCHES (355 MM) MINIMUM AND 19 INCHES (485 MM) MAXIMUM ABOVE THE FINISH FLOOR. DISPENSERS SHALL NOT BE OF A TYPE THAT CONTROLS DELIVERY OR THAT DOES NOT ALLOW CONTINUOUS PAPER FLOW.

604.9.7 TOILET COMPARTMENTS. TOILET COMPARTMENTS SHALL COMPLY WITH 604.8.

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605 URINALS

605.1 GENERAL. URINALS SHALL COMPLY WITH 605.

605.2 HEIGHT AND DEPTH. URINALS SHALL BE THE STALL TYPE OR THE WALL-HUNG TYPE WITH THE RIM 17 INCHES (430 MM) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND. URINALS SHALL BE 18 1/2 INCHES (465 MM) DEEP MINIMUM MEASURED FROM THE OUTER FACE OF THE URINAL RIM TO THE BACK OF THE FIXTURE.

605.3 CLEAR FLOOR SPACE. A CLEAR FLOOR OR GROUND SPACE COMPLYING WITH 305 POSITIONED FOR FORWARD APPROACH SHALL BE PROVIDED.

605.4 FLUSH CONTROLS. FLUSH CONTROLS SHALL BE HAND OPERATED OR AUTOMATIC. HAND OPERATED FLUSH CONTROLS SHALL COMPLY WITH 309.

605.5 FLUSH CONTROLS. FLUSH CONTROLS SHALL BE HAND OPERATED OR AUTOMATIC. HAND OPERATED FLUSH CONTROLS SHALL COMPLY WITH 309.

605.6 FLUSH CONTROLS. FLUSH CONTROLS SHALL BE HAND OPERATED OR AUTOMATIC. HAND OPERATED FLUSH CONTROLS SHALL COMPLY WITH 309.

606 LAVATORIES AND SINKS

606.1 GENERAL. LAVATORIES AND SINKS SHALL COMPLY WITH 606.

606.2 CLEAR FLOOR SPACE. A CLEAR FLOOR OR GROUND SPACE COMPLYING WITH 305 POSITIONED FOR A FORWARD APPROACH. AND KNEE AND TOE CLEARANCE COMPLYING WITH 306 SHALL BE PROVIDED.

606.3 HEIGHT. LAVATORIES AND SINKS SHALL BE INSTALLED WITH THE FRONT OF THE HIGHER OF THE RIM OR COUNTER SURFACE 34 INCHES (865 MM) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND.

606.4 FAUCETS. FAUCETS FOR LAVETS SHALL COMPLY WITH 309. HAND-OPERATED METERING FAUCETS SHALL REMAIN OPEN FOR 10 SECONDS MINIMUM.

606.5 EXPOSED PIPES AND SURFACES. WATER SUPPLY AND DRAIN PIPES UNDER SINKS AND LAVATORIES SHALL BE PROTECTED BY PROTECTIVE CAPS OR OTHER PROTECTIVE CONTACT. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES AND SINKS.

609 GRAB BARS

609.1 GENERAL. GRAB BARS IN TOILET FACILITIES AND BATHING FACILITIES SHALL COMPLY WITH 609.

609.2 CROSS SECTION. GRAB BARS SHALL HAVE A CROSS SECTION COMPLYING WITH 609.2.1 OR 609.2.2.

609.2.1 CIRCULAR CROSS SECTION. GRAB BARS WITH CIRCULAR CROSS SECTIONS SHALL HAVE AN OUTSIDE DIAMETER OF 1 1/4 INCHES (32 MM) MINIMUM AND 2 INCHES (51 MM) MAXIMUM.

609.2.2 NON-CIRCULAR CROSS SECTION. GRAB BARS WITH NON-CIRCULAR CROSS SECTIONS SHALL HAVE A CROSS-SECTION DIMENSION OF 2 INCHES (51 MM) MAXIMUM AND A PERIMETER DIMENSION OF 4 INCHES (100 MM) MINIMUM AND 4 INCHES (120 MM) MAXIMUM.

609.3 SPACING. THE SPACE BETWEEN THE WALL AND THE GRAB BAR SHALL BE 1 1/2 INCHES (38 MM); THE SPACE BETWEEN THE GRAB BAR AND PROJECTING OBJECTS BELOW AND AT THE ENDS SHALL BE 1 1/2 INCHES (38 MM) MINIMUM. THE SPACE BETWEEN THE GRAB BAR AND PROJECTING OBJECTS ABOVE SHALL BE 12 INCHES (305 MM) MINIMUM.

609.4 POSITION OF GRAB BARS. GRAB BARS SHALL BE INSTALLED IN A HORIZONTAL POSITION ON 35 INCHES (890 MM) MINIMUM AND 38 INCHES (965 MM) MINIMUM ABOVE THE FINISH FLOOR MEASURED TO THE TOP OF THE GRIPPING SURFACE, EXCEPT THAT AT WATER CLOSETS FOR CHILDREN'S USE COMPLYING WITH 604.9, GRAB BARS SHALL BE INSTALLED IN A HORIZONTAL POSITION 18 INCHES (455 MM) MINIMUM AND 20 INCHES (508 MM) MAXIMUM ABOVE THE FINISH FLOOR MEASURED TO THE TOP OF THE GRIPPING SURFACE. THE HEIGHT OF THE LOWER GRAB BAR ON THE BACK WALL OF A BATHROOM SHALL COMPLY WITH 603.

609.5 SURFACE HAZARDS. GRAB BARS AND ANY WALL OR OTHER SURFACES ADJACENT TO GRAB BARS SHALL BE FREE OF SHARP OR ABRASIVE ELEMENTS AND SHALL HAVE ROUNDED EDGES.

609.6 FITTINGS. GRAB BARS SHALL NOT ROTATE WITHIN THEIR FITTINGS.

609.7 INSTALLATION. GRAB BARS SHALL BE INSTALLED IN ANY MANNER THAT PROVIDES A GRIPPING SURFACE AT THE SPECIFIED LOCATIONS AND THAT DOES NOT OBSTRUCT THE REQUIRED CLEAR FLOOR SPACE.

609.8 STRUCTURAL STRENGTH. ALLOWABLE STRESSES SHALL NOT EXCEED FOR MATERIALS USED WHEN A VERTICAL OR HORIZONTAL FORCE OF 250 POUNDS (112 N) IS APPLIED AT ANY POINT ON THE GRAB BAR, FASTENER, MOUNTING DEVICE, OR SUPPORTING STRUCTURE.

702 FIRE ALARM SYSTEMS

702.1 GENERAL. FIRE ALARM SYSTEMS SHALL HAVE PERMANENTLY INSTALLED AUDIBLE AND VISIBLE ALARMS COMPLYING WITH NFPA 72 (1999 OR 2002 EDITION) (INCORPORATED BY REFERENCE. SEE "REFERENCE STANDARDS" IN CHAPTER 1), EXCEPT THAT THE MESSAGES SHALL BE REPEATED AT A RATE OF 10 MESSAGES PER MINUTE. APPLIANCES COMPLYING WITH SECTION 4.3.2.1 OF NFPA 72 (1999 EDITION) SHALL HAVE A SOUND LEVEL NO MORE THAN 110 DB AT THE MINIMUM HEARING DISTANCE FROM THE AUDIBLE APPLIANCE. IN ADDITION, LARGE ENDS IN GUEST ROOMS SHALL BE PROVIDED COMMUNICATION FEATURES SHALL COMPLY WITH SECTIONS 4.3 AND 4.4 OF NFPA 72 (1999 EDITION) OR SECTIONS 7.4 AND 7.5 OF NFPA 72 (2002 EDITION).

703 SIGNS

703.1 GENERAL. SIGNS SHALL COMPLY WITH 703, WHERE BOTH VISUAL AND TACTILE CHARACTERS ARE REQUIRED. EITHER ONE SIGN WITH BOTH VISUAL AND TACTILE CHARACTERS, OR TWO SEPARATE SIGNS, ONE WITH VISUAL, AND ONE WITH TACTILE CHARACTERS, SHALL BE PROVIDED.

703.2 RAISED CHARACTERS. RAISED CHARACTERS SHALL COMPLY WITH 703.2 AND SHALL BE DUPLICATED IN BRILLE AND COMPLY WITH 703.3. RAISED CHARACTERS SHALL BE INSTALLED IN ACCORDANCE WITH 703.4.

703.2.1 DEPTH. RAISED CHARACTERS SHALL BE 1/32 INCH (0.8 MM) MINIMUM ABOVE THEIR BACKGROUND.

703.2.2 CASE. CHARACTERS SHALL BE UPPERCASE.

703.2.3 STYLE. CHARACTERS SHALL BE SANS SERIF. CHARACTERS SHALL NOT BE ITALIC, OBLIQUE, SCRIPT, HIGHLY DECORATIVE, OR OF OTHER FORMS.

703.2.4 CHARACTER PROPORTIONS. CHARACTERS SHALL BE SELECTED FROM FONTS WHERE THE WIDTH OF THE UPPERCASE LETTER "O" IS 55 PERCENT MINIMUM AND 110 PERCENT MAXIMUM OF THE HEIGHT OF THE UPPERCASE LETTER "T".

703.2.5 CHARACTER HEIGHT. CHARACTER HEIGHT MEASURED VERTICALLY FROM THE BASELINE OF THE CHARACTER SHALL BE 5/8 INCH (16 MM) MINIMUM AND 2 INCHES (51 MM) MAXIMUM BASED ON THE HEIGHT OF THE UPPERCASE LETTER "T".

703.2.6 STROKE THICKNESS. STROKE THICKNESS OF THE UPPERCASE LETTER "T" SHALL BE 15 PERCENT MAXIMUM OF THE HEIGHT OF THE CHARACTER.

703.2.7 CHARACTER SPACING. CHARACTER SPACING SHALL BE MEASURED BETWEEN THE TWO CLOSEST POINTS OF ADJACENT RAISED CHARACTERS WITHIN A MESSAGE, EXCLUDING WORD SPACES. WHERE CHARACTERS HAVE RECTANGULAR CROSS SECTIONS, SPACING BETWEEN INDIVIDUAL RAISED CHARACTERS SHALL BE 1/8 INCH (3.2 MM) MINIMUM AND 4 TIMES THE RAISED CHARACTER STROKE WIDTH MAXIMUM, WHERE CHARACTERS HAVE OTHER CROSS SECTIONS, SPACING BETWEEN INDIVIDUAL RAISED CHARACTERS SHALL BE 1/16 INCH (1.6 MM) MINIMUM AND 4 TIMES THE RAISED CHARACTER STROKE WIDTH MAXIMUM AT THE BASE OF THE CROSS SECTIONS, AND 1/8 INCH (3.2 MM) MINIMUM AND 4 TIMES THE RAISED CHARACTER STROKE WIDTH MAXIMUM AT THE TOP OF THE CROSS SECTIONS. CHARACTER "T" SHALL BE SEPARATED FROM RAISED BORDERS AND DECORATIVE ELEMENTS 3/8 INCH (9.5 MM) MINIMUM.

703.2.8 LINE SPACING. SPACING BETWEEN THE BASELINES OF SEPARATE LINES OF RAISED CHARACTERS WITHIN A MESSAGE SHALL BE 135 PERCENT MINIMUM AND 170 PERCENT MAXIMUM OF THE RAISED CHARACTER HEIGHT.

703.3 BRaille. BRaille SHALL BE CONTRACTED (GRADE 2) AND SHALL COMPLY WITH 703.3 AND 703.

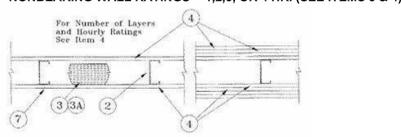
703.3.1 DIMENSIONS AND CAPITALIZATION. BRaille DOTS SHALL HAVE A DOMED OR ROUNDED SHAPE AND SHALL COMPLY WITH TABLE 703.3.1. THE INDICATION OF AN UPPERCASE LETTER OR LETTERS SHALL ONLY BE USED BEFORE THE FIRST WORD OF SENTENCES, PROPER NOUNS AND NAMES. INDIVIDUAL LETTERS OF THE ALPHABET, INITIALS, AND ACRONYMS.

703.4 INSTALLATION HEIGHT AND LOCATION. SIGNS WITH TACTILE CHARACTERS SHALL COMPLY WITH 703.4.

703.4.1 HEIGHT ABOVE FINISH FLOOR OR GROUND. TACTILE CHARACTERS ON SIGNS SHALL BE LOCATED 48 INCHES (1220 MM) MINIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE LOWEST TACTILE CHARACTER AND 60 INCHES (1525 MM) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE

DESIGN NO. U419

NONBEARING WALL RATINGS -- 1, 2, 3, OR 4 HR. (SEE ITEMS 3 & 4)



- Floor and Ceiling Runners -- (Not shown) -- Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min width to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners 24 in. OC.
- Steel Studs -- Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min width as indicated under item 4, min 1-1/4 in. flanges and 1/4 in. return, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
- Batts and Blankets -- (Required as indicated under item 4) -- Mineral wool batts, friction fitted between studs and runners. Min non thickness as indicated under item 4. See Batts and Blankets (BKW or BZJZ) Categories for names of Classified companies.
- Gypsum Board -- Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

Wallboard Protection on Each Side of Wall

Rating	Min Stud	Depth of Panel	No. of Layers & Thins	Min Thins	of Insulation
1		3-1/2	1 layer, 5/8 in. thick		Optional
2		2-1/2	1 layer, 1/2 in. thick		Optional
1		1-5/8	1 layer, 3/4 in. thick		Optional
2		1-5/8	2 layers, 1/2 in. thick		Optional
1		1-5/8	2 layers, 5/8 in. thick		Optional
3		3-1/2	1 layer, 3/4 in. thick	3 in.	
3		1-5/8	3 layers, 1/2 in. thick		Optional
3		1-5/8	2 layers, 3/4 in. thick		Optional
3		1-5/8	3 layers, 5/8 in. thick		Optional
4		1-5/8	4 layers, 5/8 in. thick		Optional
4		2-1/2	2 layers, 3/4 in. thick	2 in.	

CANADIAN GYPSUM COMPANY -- 1/2 in. thick Type C, IP-X2 or IPC-AR; WRC, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX or WRC; 3/4 in. thick Types IP-X3 or ULTRACODE UNITED STATES GYPSUM CO -- 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type SCX, SHX, WRX, IP-X1, AR, C, WRC, FRX-G, IP-AR, IP-X2, IPC-AR, 3/4 in. thick Types IP-X3 or ULTRACODE USG MEXICO S A DE C V -- 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX, WRC or 3/4 in. thick Types IP-X3 or ULTRACODE When Item 6B, Steel Framing Members, is used, Nonbearing Wall Rating is limited to 1 Hr. Min. stud depth is 3-1/2 in., min. thickness of insulation (Item 3) is 3 in., and two layers of gypsum board panels (1/2 in. or 5/8 in. thick) shall be attached to furring channels as described in item 5. One layer of gypsum board panels (1/2 in. or 5/8 in. thick) attached to opposite side of stud without furring channels as described in item 5. Gypsum Board -- (As an alternate to item 4) -- 5/8 in. thick, 2 ft. wide, tongue and groove edge, applied horizontally as the outer layer to one side of the assembly. Secured as described in item 5. Joint covering (Item 7) not required.

CANADIAN GYPSUM COMPANY -- Type SHX.
UNITED STATES GYPSUM CO -- Type SHX.
USG MEXICO S A DE C V -- Type SHX.

- Fasteners -- (Not shown) -- Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 6). Single layer systems: 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC. When panels are applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. Two layer systems: First layer- 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels or 2- 1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. When installed horizontally, or 8 in. OC when installed vertically and staggered 8 in. from first layer. Three-layer systems: First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in., 5/8 in. thick panels or 2-5/8 in. thick panels, spaced 24 in. OC. Four-layer systems: First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels or 2-5/8 in. thick panels, spaced 24 in. OC. Fourth layer- 2-5/8 in. long for 1/2 in. thick panels or 3 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.
- Furring Channels -- (Optional, not shown) -- For use with single or double layer systems. Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws. Not for use with Item 4A.

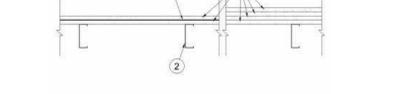
- Steel Framing Members (Not shown) -- (Optional on one or both sides, not shown, for single or double layer systems) -- As an alternate to Item 6, furring channels and Steel Framing Members as described below: Furring Channels -- Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep, spaced max 24 in. OC perpendicular to studs. Channels secured to studs as described in item 5. Gypsum board attached to furring channels as described in item 5. Not for use with Item 4A. Steel Framing Members -- Used to attach furring channels (Item 6A) to studs (Item 2). Clips spaced max 48 in. OC, and secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips. PAC INTERNATIONAL INC. -- Type RSC-1.
- Steel Framing Members (Not shown) -- As an alternate to Item 6, furring channels and Steel Framing Members on only one side of studs as described below: Furring Channels -- Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in item 5. Batts and Blankets placed in stud cavity as described in item 4. Two layers of gypsum board attached to furring channels as described in item 4. Not for use with Item 4A. Steel Framing Members -- Used to attach furring channels (Item 6A) to one side of studs (Item 2) only. Clips spaced 48 in. OC, and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.

- KINETICS NOISE CONTROL INC -- Type Isoamk
- Joint Tape and Compound -- Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layers. Paper tape, non 2 in. wide, embedded in first layer of compound over all joints of outer layers. Paper tape and joint compound may be omitted when gypsum panels are supplied with a square edge.
- Siding, Brick or Stucco -- (Optional, not shown) -- Aluminum, vinyl or steel siding, brick veneer or stucco, meeting the requirements of local code agencies, installed over gypsum panels. Brick veneer attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each course of brick.
- Caulking and Sealants -- (Optional, not shown) -- A bead of acoustical sealant applied around the partition perimeter for sound control.

UNITED STATES GYPSUM CO -- Type AS
Being the UL Classification Mark

DESIGN NO. V97

DESIGN NO. V497

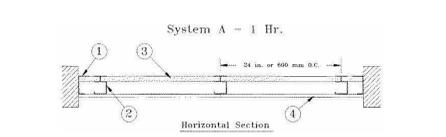


- Floor and Ceiling Runners -- (Not shown) -- Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min width to accommodate stud size, with min 1-1/4 in. long legs, attached to floor and ceiling with fasteners 24 in. OC.
- Steel Studs -- Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min 3-5/8 in. wide, min 1-1/4 in. flanges, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
- Laminating Compound -- For use with Item 4 -- Use to bond outer layer wallboard to inner layer wallboard. Powder type mixed with water in accordance with instructions shown on bags. Applied to entire surface of base layer wallboard. Applied with notched trowel producing continuous beads about 1/4 in. wide and 1/4 in. high.
- NATIONAL GYPSUM CO -- 5/8 in. thick Type eX-C, FSL, FSW, FSK, FSW-3, FSW-5, FSW-G, FSK-G, FSW-6, FSW-C, FSK-C, FSK-C, Type SBWB
- Joint Tape and Compound -- (Not shown) -- Joints covered with joint compound and paper tape. Paper tape, non 2 in. wide, embedded in first layer of compound over all joints of outer panels.

UNITED STATES GYPSUM CO -- Type AS
Being the UL Classification Mark

DESIGN NO. U415 NONBEARING

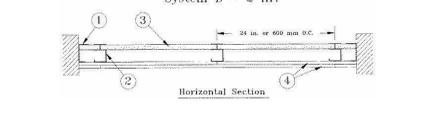
WALL RATINGS -- 1, 2, 3, OR 4 HR



- Floor, Side and Ceiling Runners -- "I" shaped runner, min 2-1/2 in. deep (min 4 in. deep when System C is used), with unequal legs of 1 in. and 2 in., fabricated from min 24 MSG (min 20 MSG when Item 4A or 7 are used) galv steel. Runners positioned with short leg toward finished side of wall. Runners attached to structural supports with steel fasteners located not greater than 2 in. from ends and not greater than 24 in. OC. "E" shaped studs (Item 2A) may be used as side runners in place of "I" shaped runners.
- Steel Studs -- "C-H" shaped studs, min 2-1/2 in. deep (min 4 in. deep when System C is used), fabricated from min 25 MSG (min 20 MSG when Item 2C, 5C, or 7 is used) galv steel. Cut to lengths 3/8 to 1/2 in. less than floor-to-ceiling height and spaced 24 in. or 600 mm OC.

- Steel Studs (Not shown) -- "E" shaped studs installed back to back in place of "C-H" shaped studs (Item 2) "E" shaped studs secured together with steel screws spaced a maximum 12 in. OC. Fabricated from min 25 MSG (min 20 MSG when Item 2D or Item 7 is used) galv steel, min 2-1/2 in. deep (min 4 in. deep when System C is used), with one leg 1 in. long and two legs 3/4 in. long. Shorter legs 1 in. apart to engage gypsum liner panels. Cut to lengths 3/8 to 1/2 in. less than floor to ceiling height.
- Furring Channels -- (Optional, not shown) -- For use with single or double layer systems. Resilient furring channels fabricated from min 25MSG corrosion protected steel, installed horizontally, and spaced vertically a max 24 in. OC. Flange portion of channel attached to each intersecting "C-H" or "E" stud on side of stud opposite the 1 in. liner panels with 1/2 in. long Type S or S-12 pan-head steel screws. When furring channels are used, wallboard to be installed vertically only. Not to be used with Type FRX or FRX-G gypsum wallboard (Item 4A) or cementitious backer units (Item 7).

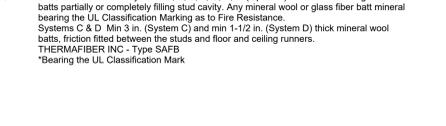
- Furring Channels -- For use with System I -- "Hat" shaped, 25 MSG galv steel furring channels attached directly over the inner layers of wallboard to each stud with 2 in. long Type S pan head steel screws. Screws alternate from top flange to bottom flange at each stud intersection. Furring channels spaced vertically max 24 in. OC. Steel Framing Members -- (Optional, not shown) -- For use with single or double layer systems. Furring channels and Steel Framing Members as described below. Not to be used with Type FRX or FRX-G gypsum wallboard (Item 4A) or cementitious backer units (Item 7):
 - Furring Channels -- Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep, spaced max 24 in. OC perpendicular to studs. Channels secured to studs as described in item 5. Gypsum board installed vertically only and attached to furring channels as described in item 5.
 - Steel Framing Members -- Used to attach furring channels (Item 2Da) to studs (Item 2 or 2A). Clips spaced max 24 in. OC, and secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips. PAC INTERNATIONAL INC. -- Type RSC-1



- Gypsum Board -- Gypsum liner panels, non 1 in. thick, 24 in. or 600 mm (for metric spacing) wide. Panels cut 1 in. less in length than floor to ceiling height. Vertical edges inserted in "I" portion of "C-H" studs or the gap between the two 3/4 in. legs of the "E" studs. Free edge of end panels attached to long leg of vertical "I" runners with 1-5/8 in. long Type S steel screws spaced not greater than 12 in. OC. When wall height exceeds furring channel length, liner panels may be butted to extend to the full height of the wall. Horizontal joints need not be backed by steel framing. In System 1, butt joints in liner panels are staggered min 36 in. But joints backed with 6 in. by 2x1 in. strip of 3/4 in. thick gypsum wallboard (Item 4). Wallboard strips centered over butt joints and secured to liner panels with six 1-1/2 in. long Type G steel screws, three screws along the 22 in. dimension at the top and bottom of the strips.

- CANADIAN GYPSUM COMPANY -- Type SLX
UNITED STATES GYPSUM CO -- Type SLX
- Gypsum Board -- System A - 1 Hr
Gypsum panels, with beveled, square or tapered edges, non 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, attached to studs with 1 in. long Type S steel screws spaced 12 in. when installed vertically or 8 in. OC when installed horizontally. Horizontal joints need not be backed by steel framing.
 - CANADIAN GYPSUM COMPANY -- Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX
 - UNITED STATES GYPSUM CO -- Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX
 - USG MEXICO S A DE C V -- Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX
- System B -- 2 Hr. Gypsum panels, with beveled, square or tapered edges, non 1/2 in. or 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally in two layers. Inner or base layer attached to studs with 1 in. long Type S steel screws spaced 24 in. OC when installed vertically or 16 in. OC when installed horizontally. Outer or face layer attached to studs with 1-5/8 in. long Type S steel screws spaced 12 in. OC when installed vertically and staggered 12 in. from base layer screws or 8 in. OC when installed horizontally and staggered 8 in. from base layer screws. Horizontal joints between inner and outer layers staggered a min of 12 in. Horizontal joints need not be backed by steel framing. Vertical joints centered over studs and staggered 24 in.
 - CANADIAN GYPSUM COMPANY -- 1/2 in. Type C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX
 - UNITED STATES GYPSUM CO -- 1/2 in. Types C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX
 - USG MEXICO S A DE C V -- 1/2 in. Types C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX

- Joint Tape and Compound -- (Not shown). Systems A, B, C, E, F, G, H, I. Joints on outer layers of gypsum boards (Item 4 and 4A) covered with paper tape and joint compound. Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges. Exposed screw heads covered with joint compound.
- Batts and Blankets -- Systems A, B, E, F, G, H, I. (Optional) -- Mineral wool or glass fiber batts partially or completely filling stud cavity. Any mineral wool or glass fiber batt mineral bearing the UL Classification Marking as to Fire Resistance. Systems C & D Min 3 in. (System C) and min 1-1/2 in. (System D) thick mineral wool batts, friction fitted between the studs and floor and ceiling runners. THERMAFIBER INC. -- Type SAFB
Being the UL Classification Mark



- Floor and Ceiling Runners -- (Not shown) -- Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min width to accommodate stud size, with min 1-1/4 in. long legs, attached to floor and ceiling with fasteners 24 in. OC.
- Steel Studs -- Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min 3-5/8 in. wide, min 1-1/4 in. flanges, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
- Laminating Compound -- For use with Item 4 -- Use to bond outer layer wallboard to inner layer wallboard. Powder type mixed with water in accordance with instructions shown on bags. Applied to entire surface of base layer wallboard. Applied with notched trowel producing continuous beads about 1/4 in. wide and 1/4 in. high.
- NATIONAL GYPSUM CO -- 5/8 in. thick Type eX-C, FSL, FSW, FSK, FSW-3, FSW-5, FSW-G, FSK-G, FSW-6, FSW-C, FSK-C, Type SBWB
- Joint Tape and Compound -- (Not shown) -- Joints covered with joint compound and paper tape. Paper tape, non 2 in. wide, embedded in first layer of compound over all joints of outer panels.

UNITED STATES GYPSUM CO -- Type AS
Being the UL Classification Mark

DESIGN NO. U415 NONBEARING

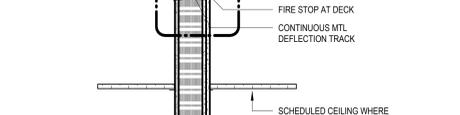
WALL RATINGS -- 1, 2, 3, OR 4 HR



- Floor, Side and Ceiling Runners -- "I" shaped runner, min 2-1/2 in. deep (min 4 in. deep when System C is used), with unequal legs of 1 in. and 2 in., fabricated from min 24 MSG (min 20 MSG when Item 4A or 7 are used) galv steel. Runners positioned with short leg toward finished side of wall. Runners attached to structural supports with steel fasteners located not greater than 2 in. from ends and not greater than 24 in. OC. "E" shaped studs (Item 2A) may be used as side runners in place of "I" shaped runners.
- Steel Studs -- "C-H" shaped studs, min 2-1/2 in. deep (min 4 in. deep when System C is used), fabricated from min 25 MSG (min 20 MSG when Item 2C, 5C, or 7 is used) galv steel. Cut to lengths 3/8 to 1/2 in. less than floor-to-ceiling height and spaced 24 in. or 600 mm OC.

- Steel Studs (Not shown) -- "E" shaped studs installed back to back in place of "C-H" shaped studs (Item 2) "E" shaped studs secured together with steel screws spaced a maximum 12 in. OC. Fabricated from min 25 MSG (min 20 MSG when Item 2D or Item 7 is used) galv steel, min 2-1/2 in. deep (min 4 in. deep when System C is used), with one leg 1 in. long and two legs 3/4 in. long. Shorter legs 1 in. apart to engage gypsum liner panels. Cut to lengths 3/8 to 1/2 in. less than floor to ceiling height.
- Furring Channels -- (Optional, not shown) -- For use with single or double layer systems. Resilient furring channels fabricated from min 25MSG corrosion protected steel, installed horizontally, and spaced vertically a max 24 in. OC. Flange portion of channel attached to each intersecting "C-H" or "E" stud on side of stud opposite the 1 in. liner panels with 1/2 in. long Type S or S-12 pan-head steel screws. When furring channels are used, wallboard to be installed vertically only. Not to be used with Type FRX or FRX-G gypsum wallboard (Item 4A) or cementitious backer units (Item 7).

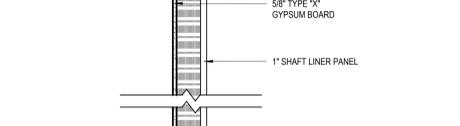
- Furring Channels -- For use with System I -- "Hat" shaped, 25 MSG galv steel furring channels attached directly over the inner layers of wallboard to each stud with 2 in. long Type S pan head steel screws. Screws alternate from top flange to bottom flange at each stud intersection. Furring channels spaced vertically max 24 in. OC. Steel Framing Members -- (Optional, not shown) -- For use with single or double layer systems. Furring channels and Steel Framing Members as described below. Not to be used with Type FRX or FRX-G gypsum wallboard (Item 4A) or cementitious backer units (Item 7):
 - Furring Channels -- Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep, spaced max 24 in. OC perpendicular to studs. Channels secured to studs as described in item 5. Gypsum board installed vertically only and attached to furring channels as described in item 5.
 - Steel Framing Members -- Used to attach furring channels (Item 2Da) to studs (Item 2 or 2A). Clips spaced max 24 in. OC, and secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips. PAC INTERNATIONAL INC. -- Type RSC-1



- Gypsum Board -- Gypsum liner panels, non 1 in. thick, 24 in. or 600 mm (for metric spacing) wide. Panels cut 1 in. less in length than floor to ceiling height. Vertical edges inserted in "I" portion of "C-H" studs or the gap between the two 3/4 in. legs of the "E" studs. Free edge of end panels attached to long leg of vertical "I" runners with 1-5/8 in. long Type S steel screws spaced not greater than 12 in. OC. When wall height exceeds furring channel length, liner panels may be butted to extend to the full height of the wall. Horizontal joints need not be backed by steel framing. In System 1, butt joints in liner panels are staggered min 36 in. But joints backed with 6 in. by 2x1 in. strip of 3/4 in. thick gypsum wallboard (Item 4). Wallboard strips centered over butt joints and secured to liner panels with six 1-1/2 in. long Type G steel screws, three screws along the 22 in. dimension at the top and bottom of the strips.

- CANADIAN GYPSUM COMPANY -- Type SLX
UNITED STATES GYPSUM CO -- Type SLX
- Gypsum Board -- System A - 1 Hr
Gypsum panels, with beveled, square or tapered edges, non 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, attached to studs with 1 in. long Type S steel screws spaced 12 in. when installed vertically or 8 in. OC when installed horizontally. Horizontal joints need not be backed by steel framing.
 - CANADIAN GYPSUM COMPANY -- Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX
 - UNITED STATES GYPSUM CO -- Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX
 - USG MEXICO S A DE C V -- Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX
- System B -- 2 Hr. Gypsum panels, with beveled, square or tapered edges, non 1/2 in. or 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally in two layers. Inner or base layer attached to studs with 1 in. long Type S steel screws spaced 24 in. OC when installed vertically or 16 in. OC when installed horizontally. Outer or face layer attached to studs with 1-5/8 in. long Type S steel screws spaced 12 in. OC when installed vertically and staggered 12 in. from base layer screws or 8 in. OC when installed horizontally and staggered 8 in. from base layer screws. Horizontal joints between inner and outer layers staggered a min of 12 in. Horizontal joints need not be backed by steel framing. Vertical joints centered over studs and staggered 24 in.
 - CANADIAN GYPSUM COMPANY -- 1/2 in. Type C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX
 - UNITED STATES GYPSUM CO -- 1/2 in. Types C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX
 - USG MEXICO S A DE C V -- 1/2 in. Types C, IP-X2, IPC-AR or WRC; 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX

- Joint Tape and Compound -- (Not shown). Systems A, B, C, E, F, G, H, I. Joints on outer layers of gypsum boards (Item 4 and 4A) covered with paper tape and joint compound. Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges. Exposed screw heads covered with joint compound.
- Batts and Blankets -- Systems A, B, E, F, G, H, I. (Optional) -- Mineral wool or glass fiber batts partially or completely filling stud cavity. Any mineral wool or glass fiber batt mineral bearing the UL Classification Marking as to Fire Resistance. Systems C & D Min 3 in. (System C) and min 1-1/2 in. (System D) thick mineral wool batts, friction fitted between the studs and floor and ceiling runners. THERMAFIBER INC. -- Type SAFB
Being the UL Classification Mark



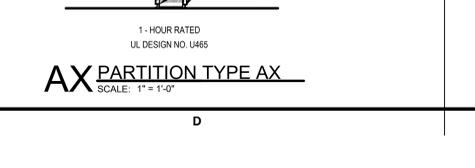
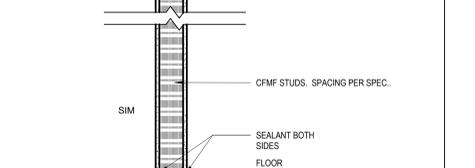
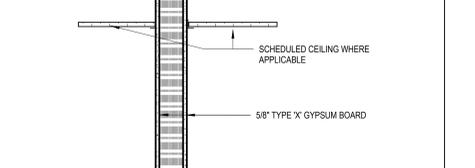
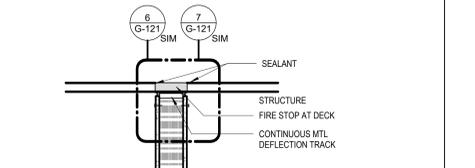
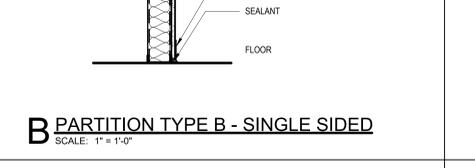
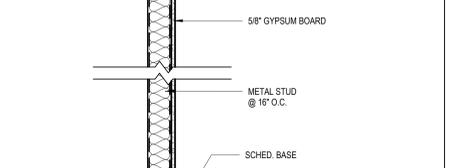
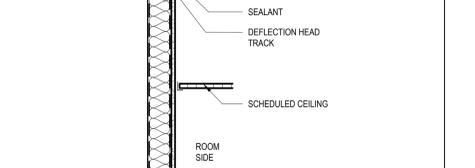
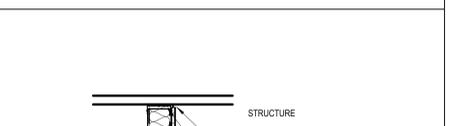
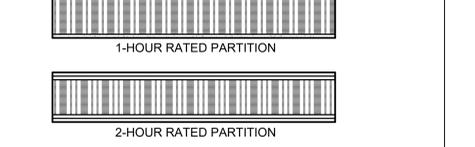
- Floor and Ceiling Runners -- (Not shown) -- Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min width to accommodate stud size, with min 1-1/4 in. long legs, attached to floor and ceiling with fasteners 24 in. OC.
- Steel Studs -- Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min 3-5/8 in. wide, min 1-1/4 in. flanges, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
- Laminating Compound -- For use with Item 4 -- Use to bond outer layer wallboard to inner layer wallboard. Powder type mixed with water in accordance with instructions shown on bags. Applied to entire surface of base layer wallboard. Applied with notched trowel producing continuous beads about 1/4 in. wide and 1/4 in. high.
- NATIONAL GYPSUM CO -- 5/8 in. thick Type eX-C, FSL, FSW, FSK, FSW-3, FSW-5, FSW-G, FSK-G, FSW-6, FSW-C, FSK-C, Type SBWB
- Joint Tape and Compound -- (Not shown) -- Joints covered with joint compound and paper tape. Paper tape, non 2 in. wide, embedded in first layer of compound over all joints of outer panels.

UNITED STATES GYPSUM CO -- Type AS
Being the UL Classification Mark

PARTITION TYPE NOTES

- PARTITION TYPES SCHEDULE DEFINES ASSEMBLY TYPES AND VARIATIONS WITHIN EACH TYPE REFER TO FLOOR PLANS TO DETERMINE THE LOCATION FOR EACH TYPE.
- ALL GYPSUM WALLBOARD (INCLUDING CEILINGS) TO BE INSTALLED IN WET OR DAMP AREAS SUCH AS TOILETS, KITCHENS, JANITOR CLOSETS, MECHANICAL ROOMS, UNCONDITIONED SPACES, BELOW GRADE AREAS, OR ANY OTHER AREAS SUSCEPTIBLE TO MOISTURE OR DAMPNESS SHALL BE WATER RESISTANT TYPE, U.N.O.
- ALL WALLBOARD INSTALLED WHERE TILE FINISH IS SCHEDULED SHALL BE 5/8" CEMENT BACKER BOARD U.N.O.
- USE DEEP LEG DEFLECTION TRACK @ THE TOP OF ALL PARTITIONS SECURED TO UNDERSIDE OF STRUCTURE.
- AT FIRE RATED WALLS APPLY AN ADDITIONAL LAYER OF WALLBOARD ON ANY FACES RECEIVING REVEALS.
- PROVIDE ADDITIONAL METAL FRAMING AS REQUIRED TO SUPPORT GYPSUM BOARD FINISHES. IF NO SUPPORT IS INDICATED PROVIDE FRAMING ASSEMBLY THAT COMPLES WITH MIN. DESIGN LOAD OF L420 & 10 PSF AND 5PSF LOADINGS, TYPICAL FOR MECHANICAL PLenums AND ELEVATOR SHAFTS.
- LIMITING HEIGHTS ARE CONTRACTOR'S RESPONSIBILITY. TO BE BASED ON STEEL STUD MANUFACTURERS ASSOCIATION (SSIA) LIMITING WALL HEIGHT TABLES; ALL PARTITIONS SHALL BE BRACED AS REQUIRED TO MEET MINIMUM DEFLECTION CRITERIA.
- ALL METAL STUDS EXTEND TO STRUCTURE U.N.O. BY TYPE DESIGNATION OR SPECIFIC DETAIL.
- ALIGN EXTERIOR CORNERS AND JOINTS IN FINISHED AREAS, TYP.
- PROVIDE CONTINUOUS CAULKING AT ALL DUCT AND PIPE PENETRATIONS THROUGH WALLS IN ACCORDANCE WITH SPECIFICATIONS.
- AT CHASE WALLS PROVIDE HORIZONTAL BRACING FOR SEPARATIONS LESS THAN 9" WITH MIN. 4 1/4" METAL BRACE AT SEPARATIONS GREATER THAN 9" PROVIDE 1/2" WIDE GYPSUM WALL BOARD BRACE. ALL BRACES AT 32" O.C. MIN.
- DIMENSION PLANS SHALL INDICATE PARTITION CLEAR DIMENSIONS FROM FACE OF WALLBOARD TO FACE OF WALLBOARD UNLESS NOTED OTHERWISE.

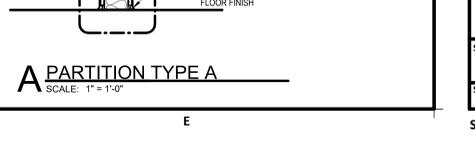
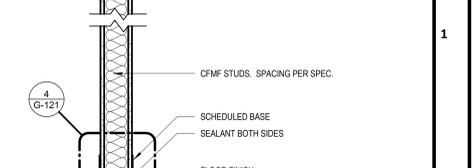
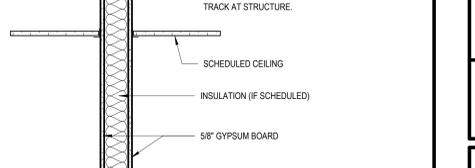
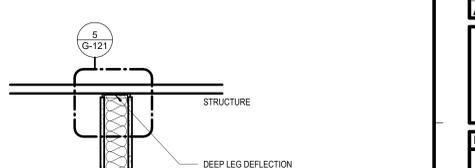
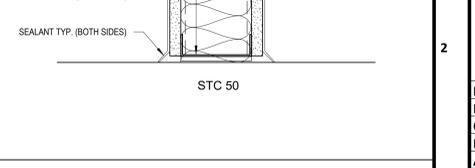
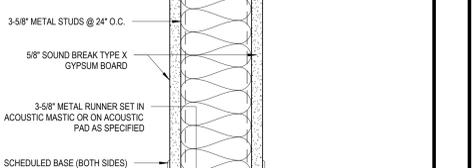
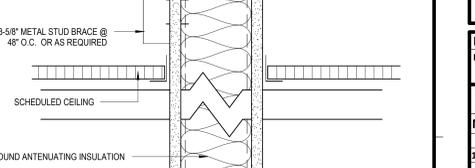
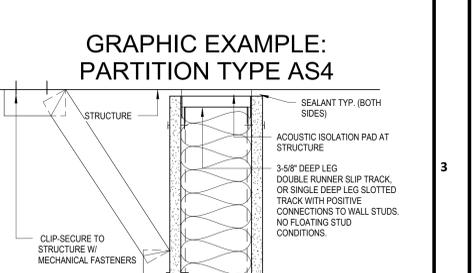
FIRE RATING GRAPHIC SYMBOL



PARTITION TYPE KEY CODE

- AS4**
- FIRST CHARACTER: PARTITION TYPE - REFERENCE DIAGRAMS THIS SHEET
- | | |
|---|---|
| A | TYPICAL CFMF STUD PARTITION |
| B | TYPICAL CFMF FURRING WALL (FINISH ON 1 SIDE ONLY TYP) |
| C | TYPICAL CFMF CHASE WALL PARTITION |
| D | CFMF STUD PARTITION |
| F | CFMF PONY WALL PARTITION |
- SECOND CHARACTER GROUP: SPECIALTY CHARACTERISTIC (IF APPLICABLE)
- | | |
|----|--|
| L | NO CHARACTER SIGNIFIES STANDARD PARTITION TYPE |
| S | GWB FINISH TERMINATES 6" ABOVE CEILING - DOES NOT EXTEND TO STRUCTURE. BRACE AS REQUIRED |
| X | SOUND ATTENUATING PARTITION WITH STC RATING |
| 2X | STC RATING IS NOTED BELOW DETAIL. |
| 3X | 1 HR FIRE RATED PARTITION ASSEMBLY WITH UL LISTING |
| | UL DESIGNATION IS NOTED BELOW DETAIL. |
| | 2 HR FIRE RATED PARTITION ASSEMBLY WITH UL LISTING |
| | UL DESIGNATION IS NOTED BELOW DETAIL. |
- THIRD CHARACTER: STUD THICKNESS AS FOLLOWS (REFER TO PLAN):
- | | |
|---|---|
| 0 | 7/8" METAL FURRING CHANNEL |
| 1 | 1-5/8" METAL STUD OR 1-1/2" FURRING CHANNEL |
| 2 | 2-1/2" METAL STUD OR FURRING CHANNEL |
| 4 | 3-5/8" METAL STUD OR 4" CMU |
| 6 | 6" METAL STUD |
| 8 | 8" METAL STUD OR 8" CMU |

GRAPHIC EXAMPLE: PARTITION TYPE AS4



GENERAL SERVICES FACILITY
4551 WILL CLAYTON PKWY,
HUMBLE, TX 77336

IAH INTEGRATED COORDINATION CENTER

C.I.P. No.	PN793	A.I.P. No.	N/A
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REVISIONS

No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
1	ISSUE FOR BID	06/08/2023	

DESIGN BY: DENISE YEE
DRAWN BY: DENISE YEE
CHECKED BY: DANIEL ORTIZ
ISSUE DATE: 06/08/2023
APPROVED BY: DANIEL ORTIZ
APPROVAL DATE: 06/08/2023

DIRECTOR
of
HOUSTON AIRPORT SYSTEM

Drawing Status

IFB
ISSUE FOR BID



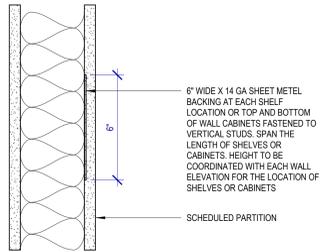
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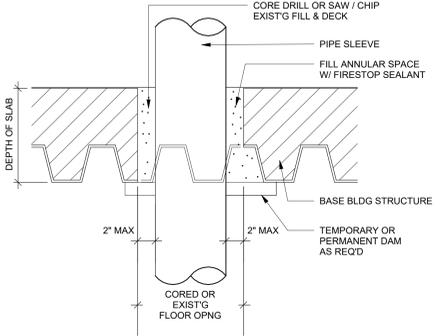
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INTERIOR PARTITION DETAILS - TYPICAL

SHEET No. G-121 SCALE: 3" = 1'-0"

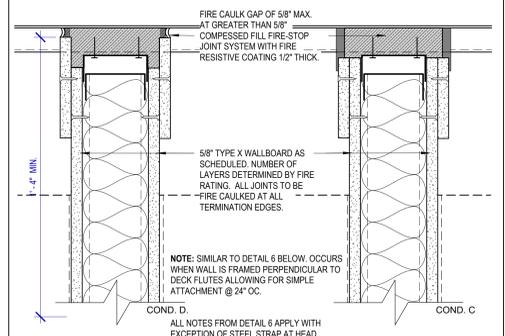
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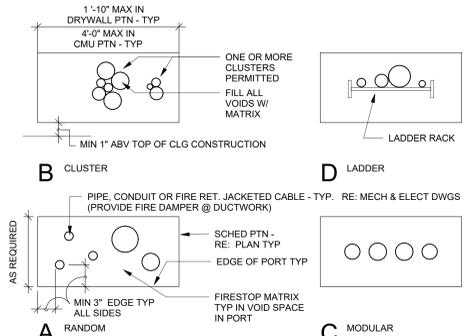
8 PLAN SECTION - TYP. PARTITION BACKING



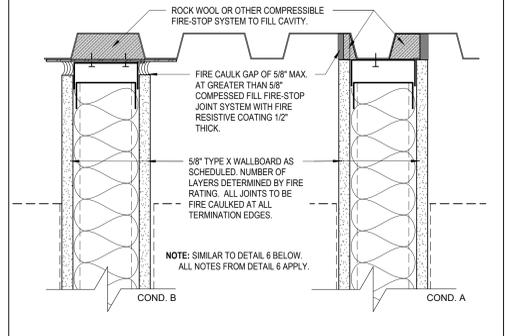
12 FIRESAFING FLOOR CORE



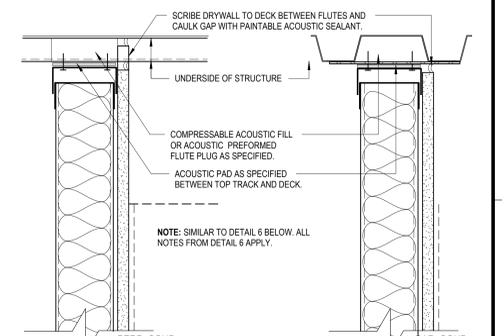
7 FIRE RATED HEAD DETAIL - PERP TO DECK



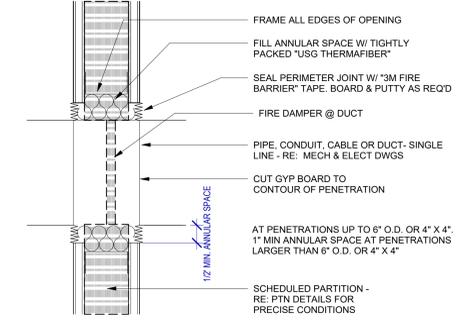
11 FIRESAFING DETAIL CONDUIT



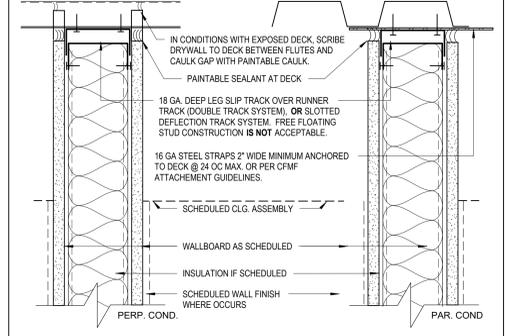
6 FIRE RATED HEAD DETAIL - PARALLEL TO DECK



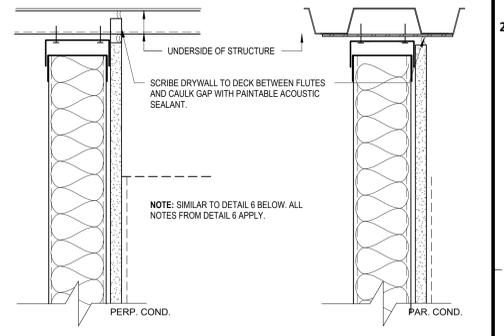
3 SINGLE SIDE FIRE RATED HEAD DTLS



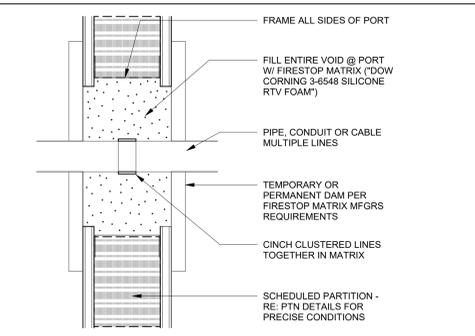
10 FIRESAFING DETAIL DAMPER



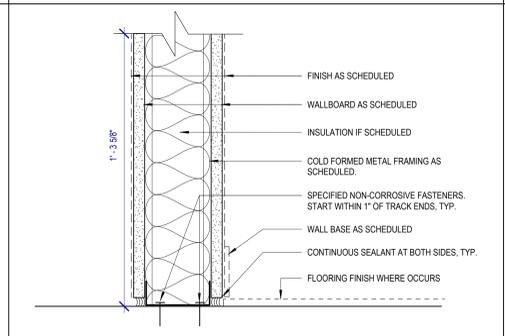
5 TYPICAL HEAD DETAILS



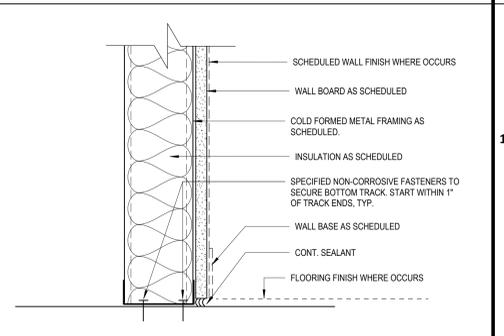
2 SINGLE SIDE PARTITION TYPICAL HEAD DETAILS



9 FIRESAFING DETAIL - PIPE THUR PARTITION



4 TYPICAL / FIRE RATED BASE DETAIL



1 SINGLE SIDED PARTITION BASE DETAIL

FILE PATH: Autodesk Docs://1429.13 IAH ICC/1429.13_HAS-IAH-CC_Central.rvt
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 PLOT DATE:

IAH INTEGRATED COORDINATION CENTER

C.I.P. No. **PN793** A.I.P. No. **N/A**
E.G.H. No. **N/A** D.O.A. No. **N/A**
B.S.G. No. **BSG-2022-257-IAH** T.I.P. No. **TIP-22-219-IAH**

RDLR

DESIGNER PROJECT No.: **1429.13**
PROJECT STATUS: **IFB**

REVISIONS

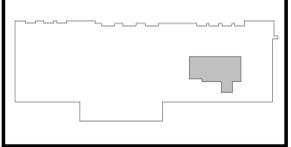
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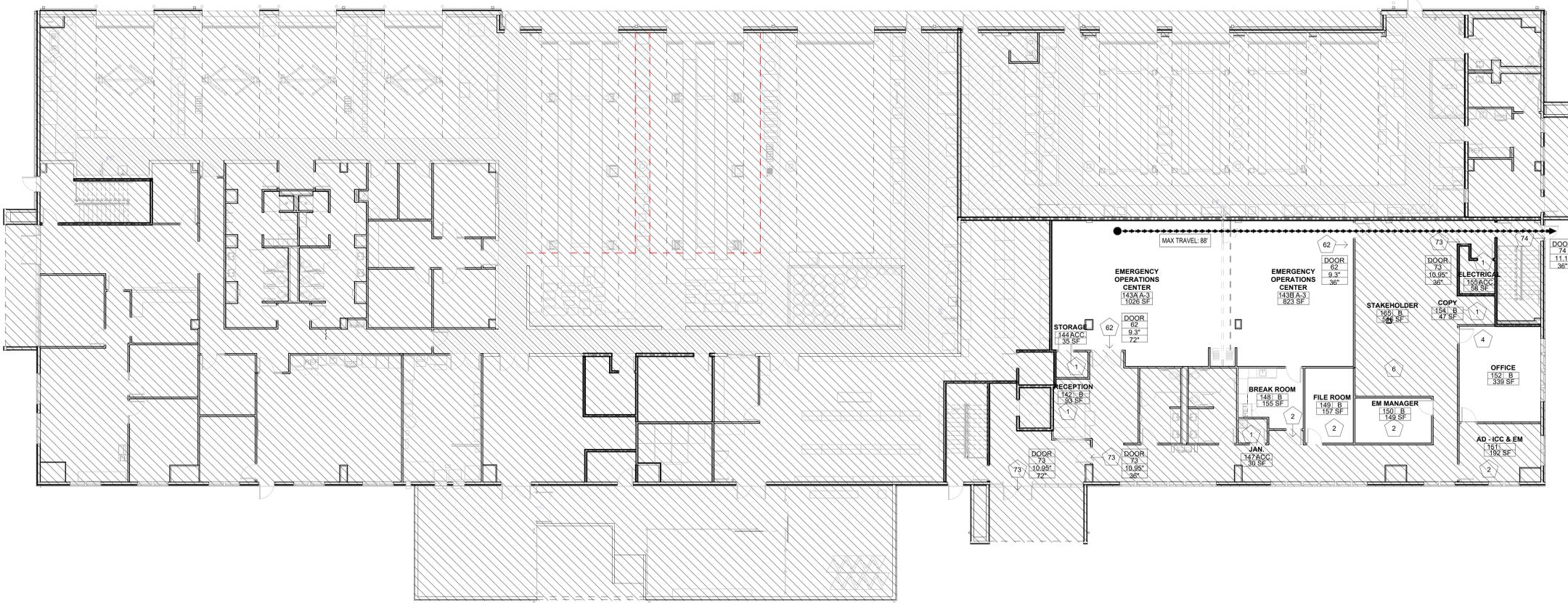
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Drawing Status

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SHEET NAME: LIFE SAFETY LEVEL 1 PLAN AND CODE SUMMARY
SHEET No. **G-201** SCALE: **As indicated**



A3 LEVEL 1 LIFE/SAFETY
SCALE: 3/32" = 1'-0"

SCOPE SUMMARY

THE AOC & EOC ARE RELOCATING TO THE GSF FROM THE TERMINAL. THE FOLLOWING PROVIDES A SCOPE SUMMARY OF THE PROPOSED RENOVATIONS & IMPROVEMENTS.

GENERAL
THE PROPOSED RELOCATION OF THESE SPACES REQUIRES SIGNIFICANT UPGRADES TO IT/AV/SECURITY AND ELECTRICAL UPS SYSTEMS TO BE MADE. ARCHITECTURAL AND MEP SYSTEM DESIGN SCOPE FOCUSES ON SUPPORTING THESE TECHNOLOGY NEEDS.

GROUND FLOOR
THE EOC WILL BE LOCATED AT THE GROUND FLOOR. STRUCTURAL CHANGES (RELOCATION OF INTERIOR PARTITIONS) TO THE SPACE ARE NOT NEEDED. THE LARGE EXISTING MEETING ROOM (HAS MOVEABLE PARTITION) WILL BE USED AS A TRAINING FACILITY (WEST) AND CONFERENCE (EAST). IT/AV UPGRADES WILL INCLUDE VIDEO WALLS (8 MONITORS) AT EACH OF THE SPACES. AN EXISTING HUDDLE ROOM LOCATED TO THE SOUTH WILL BE REPURPOSED AS A BREAKROOM. MILLWORK & STANDARD BREAKROOM EQUIPMENT & SINK TO BE ADDED.

SECOND FLOOR
THE AOC, RENAMED ICC (INTEGRATED CONTROL CENTER), WILL BE LOCATED ON THE SECOND FLOOR. THE 247' NATURE OF THE SPACE REQUIRED THE ADDITION OF SHOWERS. TRANSFORMATION OF THE LARGE OPEN WORKSPACE TO THE ICC CONSOLE / CONTROL SPACE INVOLVED CHANGES TO THE EXISTING LIGHT FIXTURES (TO ELIMINATE GLARE), ADDITION OF POWER / DATA FLOOR BOXES. RELOCATION / ADJUSTMENT OF A SMALL PERCENTAGE OF ABOVE CEILING HVAC / FIRE SUPPRESSION SYSTEMS, AS WELL AS THE ADDITION OF A PARTITION OFFSET FROM THE SOUTH WALL, MEANT TO SEAL THE SPACE FROM DAYLIGHT. 3 GROUPINGS OF 8 MONITORS EACH ARE LOCATED ALONG THIS NEW PARTITION. 24 CONSOLES WILL BE ACCOMMODATED IN THIS LARGE OPEN SPACE.

AN ENCLOSED SPACE FOR TSA IS PARTITIONED OFF IN A PREVIOUSLY EMPTY CORNER OF THE SPACE. THIS SPACE WILL HOUSE 6 CONSOLES (2 ROWS OF 3) WITH A VIDEO WALL CONSISTING OF 8 MONITORS LOCATED ON THE EAST WALL.

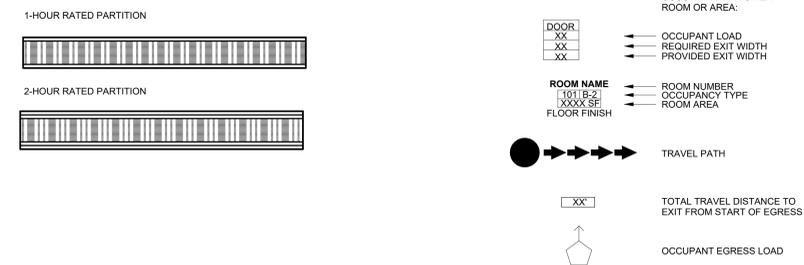
A UPS SYSTEM WILL BE PROVIDED TO SUPPORT THE ICC & EOC ACTIVITIES.

TECHNOLOGY SCOPE
IT AND TELECOMMUNICATIONS INFRASTRUCTURE TO SUPPORT ALL ICC IT COMPONENTS SUCH AS COMPUTER WORKSTATIONS, DESKTOPS PCS, TELEPHONY, AV EQUIPMENT AND SYSTEMS. ACCESS.

EXITING OCCUPANCY LOAD CALCULATOR ---

NUMBER	NAME	OCCUPANCY	AREA	O.L.F	OCCUPANT COUNT
142	RECEPTION	B	93	100 SF	1
143A	EMERGENCY OPERATIONS CENTER	A-3	1028	15 SF	69
143B	EMERGENCY OPERATIONS CENTER	A-3	823	15 SF	55
144	STORAGE	ACC.	35	300 SF	1
147	JAN.	ACC.	30	300 SF	1
148	BREAK ROOM	B	155	100 SF	2
149	FILE ROOM	B	157	100 SF	2
150	EM MANAGER	B	149	100 SF	2
151	AD - ICC & EM		192		0
152	OFFICE	B	339	100 SF	4
154	COPY	B	47	100 SF	1
155	ELECTRICAL	ACC.	58	300 SF	1
165	STAKEHOLDER	B	516	100 SF	6
Grand total: 13					145

FIRE RATING GRAPHIC SYMBOL



APPLICABLE BUILDING CODES

- 2015 INTERNATIONAL BUILDING CODE
- 2015 INTERNATIONAL FIRE CODE
- 2015 UNIFORM MECHANICAL CODE
- 2015 UNIFORM PLUMBING CODE
- 2020 NATIONAL ELECTRICAL CODE
- 2015 HOUSTON COMMERCIAL ENERGY CONSERVATION CODE
- CITY OF HOUSTON SIGN CODE
- CITY OF HOUSTON BUILDING CODE AMENDMENTS
- STATE OF TEXAS ACCESSIBILITY STANDARDS

BUILDING CODE SUMMARY

OCCUPANCY CLASSIFICATION
GROUP B (EXISTING): OFFICE
GROUP F-1 (EXISTING): MAINTENANCE
GROUP A-3 (EXISTING): ASSEMBLY (ACCESSORY)
NO CHANGE TO BUILDING OCCUPANCY.

SPECIAL REQUIREMENTS BASED ON USE AND OCCUPANCY
NO SPECIAL REQUIREMENTS BASED ON USE AND OCCUPANCY

PROJECT DESCRIPTION

EXISTING 48,084 GSF 2-STORY RIGID METAL FRAMED STRUCTURE, TYPE IIB. BUILDING CONSISTS OF AIRPORT GENERAL SERVICES, INCLUDING VEHICLE MAINTENANCE, FULLY SPRINKLERED. OCCUPANCY CLASSIFICATIONS GROUP B, BUSINESS, AND GROUP F-1, MAINTENANCE.

THE SCOPE OF WORK INCLUDES 9,286 GSF OF TENANT IMPROVEMENTS.

ACCESSORY OCCUPANCIES

508.2 ACCESSORY OCCUPANCIES NOT MORE THAN 10% OF THE FLOOR AREA OF THE STORY IN WHICH THEY ARE LOCATED ARE NOT REQUIRED TO BE SEPARATED.

508.3.1 NONSEPARATED OCCUPANCIES SHALL BE INDIVIDUALLY CLASSIFIED IN ACCORDANCE WITH SECTION 302.1. CODE REQUIREMENTS SHALL APPLY TO EACH PORTION OF THE BUILDING BASED ON THE OCCUPANCY CLASSIFICATION OF THAT SPACE EXCEPT THAT THE MOST RESTRICTIVE APPLICABLE PROVISIONS OF SECTION 403 AND CHAPTER 9 SHALL APPLY TO THE ENTIRE BUILDING OR PORTION THEREOF.

OCCUPANCY SEPARATIONS

TABLE 508.4 NO SEPARATION REQUIRED BETWEEN OCCUPANCIES B & F-1

CONSTRUCTION REQUIREMENTS

CONSTRUCTION TYPE: TYPE IIB, FULLY SPRINKLERED

TABLE 509 STATIONARY STORAGE BATTERY SYSTEMS FOR UNINTERRUPTABLE POWER SUPPLY REQUIRES 1 HR RATING IN GROUP B OCCUPANCIES

TABLE 601 FIRE RESISTIVE REQUIREMENTS FOR BUILDING ELEMENTS

STRUCTURAL FRAME	0-HOUR
BEARING WALLS	0-HOUR
NONBEARING WALLS	0-HOUR
FLOOR CONSTRUCTION	0-HOUR
ROOF CONSTRUCTION	0-HOUR

TABLE 602 FIRE RESISTIVE REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE - NOT APPLICABLE DUE TO DISTANCE OF BUILDING TO PROPERTY LINE.

FIRE PROTECTION FEATURES

TABLE 721.1(3) 3.5 INCHES THICK CONCRETE FLOOR SLAB PROVIDES A MINIMUM OF 1 HOUR OF FIRE PROTECTION

INTERIOR FINISHES

TABLE 803.11 INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY

GROUP	EXIT ENCLOSURES	CORRIDORS	ROOMS
B	B	C	C

MEANS OF EGRESS

TABLE 1004.1 DESIGN OCCUPANT LOAD

REFER TO EXITING OCCUPANCY LOAD CALCULATOR

TABLE 1005.1 EGRESS WIDTH PER OCCUPANT SERVED

STAIRWAYS	OTHER COMPONENTS
0.2	0.15 / OCCUPANT X [TOTAL OCCUPANT LOAD] = XX"

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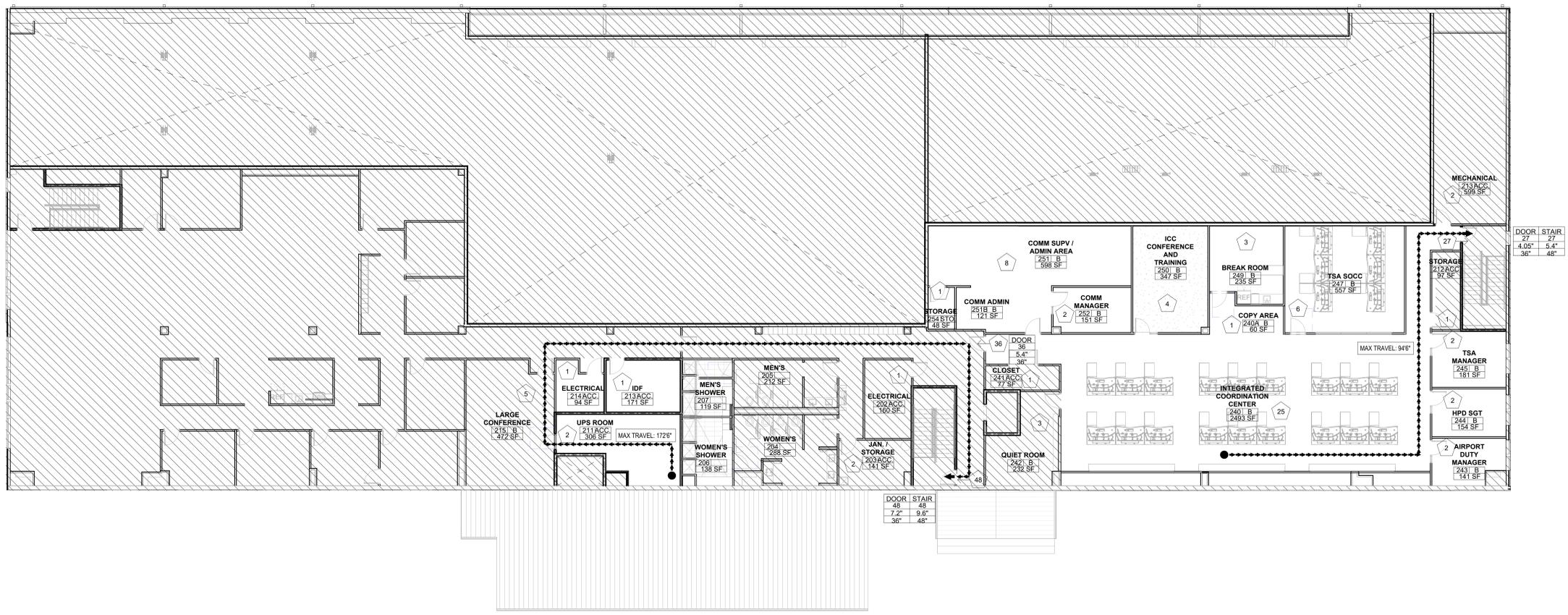


GENERAL SERVICES FACILITY
4551 WILL CLAYTON PKWY,
HUMBLE, TX 77396

IAH INTEGRATED COORDINATION CENTER

C.I.P. No.	PN793	A.I.P. No.	N/A
C.G.H. No.	N/A	D.O.A. No.	N/A
B.S.G. No.	BSG-2022-257-IAH	T.I.P. No.	TIP-22-219-IAH

RDLR



A3 LEVEL 2 LIFE/SAFETY
SCALE: 3/32" = 1'-0"

EXITING OCCUPANCY LOAD CALCULATOR - LEVEL 2

NUMBER	NAME	OCCUPANCY	AREA	O.L.F.	OCCUPANT COUNT
202	ELECTRICAL	ACC.	160	300 SF	1
203	JAN. / STORAGE	ACC.	141	300 SF	1
204	WOMEN'S		288		0
205	MEN'S		212		0
206	WOMEN'S SHOWER		138		0
207	MEN'S SHOWER		119		0
211	UPS ROOM	ACC.	306	300 SF	2
212	STORAGE	ACC.	97	300 SF	1
213	<varies>	ACC.	<varies>	300 SF	3
214	ELECTRICAL	ACC.	94	300 SF	1
215	LARGE CONFERENCE	B	472	100 SF	5
240	INTEGRATED COORDINATION CENTER	B	2493	100 SF	25
240A	COPY AREA	B	60	100 SF	1
241	CLOSET	ACC.	77	300 SF	1
242	QUIET ROOM	B	232	100 SF	3
243	AIRPORT DUTY MANAGER	B	141	100 SF	2
244	HPD SGT	B	154	100 SF	2
245	TSA MANAGER	B	181	100 SF	2
247	TSA SOCC	B	557	100 SF	6
249	BREAK ROOM	B	235	100 SF	3
250	ICC CONFERENCE AND TRAINING	B	347	100 SF	4
251	COMM SUPV / ADMIN AREA	B	598	100 SF	6
251B	COMM ADMIN	B	121	100 SF	2
252	COMM MANAGER	B	151	100 SF	2
254	STORAGE	STO.	48	300 SF	1
Grand total:					74

FIRE RATING GRAPHIC SYMBOL



BUILDING CODE SUMMARY CONTINUED

SECTION	DESCRIPTION
1006.2	TWO EXITS OR EXIT ACCESS DOORWAYS ARE REQUIRED FROM ANY SPACE WHERE THE OCCUPANT LOAD EXCEEDS COMMON PATH OF TRAVEL VALUES OR THE OCCUPANT LOAD VALUES OF TABLE 1006.2.1.
1006.3	MINIMUM EXITS REQUIRED, 1-500 OCCUPANTS 2
1007.1	MINIMUM ACCESSIBLE ENTRANCES/EXITS REQUIRED 2
1016.2	EGRESS FROM A ROOM OR SPACE SHALL NOT PASS THROUGH ADJOINING OR INTERVENING ROOMS OR AREAS, EXCEPT WHERE SUCH ADJOINING ROOMS OR AREAS ARE ACCESSORY TO THE AREA SERVED, ARE NOT HIGH HAZARD OCCUPANCY, AND PROVIDE A CLEAR PATH OF EGRESS TRAVEL TO AN EXIT.
TABLE 1017.2	300' MAXIMUM EXIT ACCESS TRAVEL DISTANCE FOR B OCCUPANCY WITH SPRINKLER SYSTEM
TABLE 1020.1	CORRIDOR FIRE-RESISTANCE RATING A, B OCCUPANCIES WITH SPRINKLER SYSTEM 0-HOUR
1020.4	EXCEPTION 2: MAXIMUM LENGTH OF DEAD END CORRIDORS IS 50'-0".

ELECTRONIC LOCKS AND ACCESS-CONTROLLED EGRESS	
DEFINITIONS	
FAIL SAFE	SHALL MEAN THAT THE LOSS OF POWER TO THE PART OF THE SYSTEM THAT LOCKS THE DOOR SHALL AUTOMATICALLY UNLOCK THE DOOR
FAIL SECURE	SHALL MEAN THAT THE LOSS OF POWER TO THE LOCKING SYSTEM WILL ALLOW THE DOORS TO REMAIN LOCKED
1010.1.9.8	ELECTRONIC LOCKS THAT ARE ELECTRONICALLY LOCKED FROM THE INGRESS SIDE AND CAN BE MECHANICALLY UNLOCKED FROM THE EGRESS SIDE, CAN BE FAIL SECURE FROM THE INGRESS SIDE.
	ELECTRONIC LOCKS THAT UNLOCK ELECTRONICALLY FROM THE EGRESS SIDE SHALL BE FAIL SAFE AND MUST BE UNLOCKED BY A LISTED DIRECT POWER-INTERRUPTING DEVICE WITHOUT TIME-DELAY.

PLUMBING SYSTEMS	
TABLE 2902.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES	
USE	TOILETS LAVATORIES SHOWERS DRINKING FOUNTAINS SERVICE SINKS
B (142M/142F)	3.84M/3.84F 2.78M/2.78F 0 2.84 1
F-1 (26M/26F)	.26M/.26F .26M/.26F 0 .13 1
A-3 (86M/86F)	.69M/.69F .43M/.43F 0 .34 1
TOTAL	4.79M/4.79F 3.47M/3.47F 0 3.31 3

PROVIDED PLUMBING FIXTURES	
USE	TOILETS LAVATORIES SHOWERS DRINKING FOUNTAINS SERVICE SINKS
B (142M/142F)	5M + 5U/7F 4M/5F 4M/4F 4 2
F-1 (26M/26F)	1M + 1U/1F 1M/1F 0 2 1
A-3 (86M/86F)	1M + 1U/2F 2M/2F 0 2 1
TOTAL	7M + 7U/10F 7M/8F 4M/4F 8 4

DESIGNER PROJECT No.: 1429.13
PROJECT STATUS: IFB

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HOUSTON AIRPORT SYSTEM

Drawing Status: IFB

North
TRUE

 SHEET NAME: LIFE SAFETY LEVEL 2 PLAN AND CODE REVIEW CONT.
 SHEET No.: G-202 SCALE: As indicated

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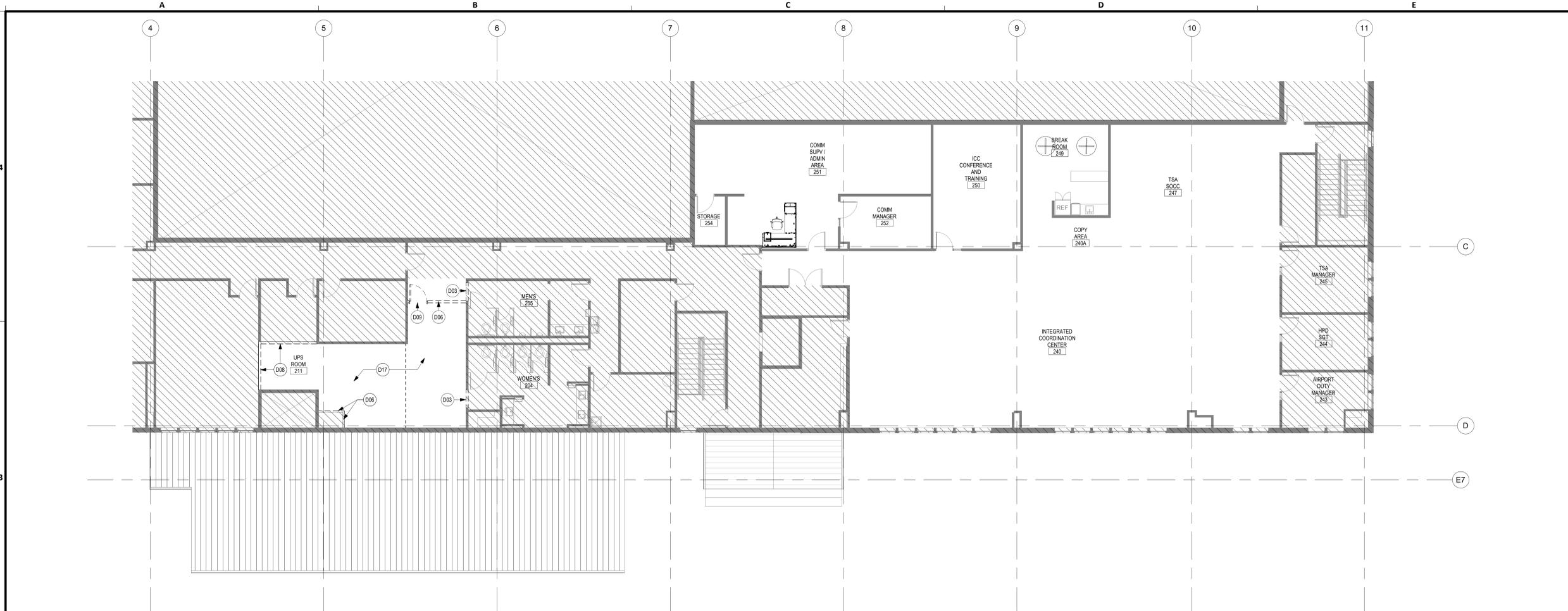
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Drawing Status: IFB (ISSUE FOR BID)

SHEET NAME: DEMOLITION FLOOR PLANS
SHEET No.: AD-111 SCALE: As indicated
SHEET SIZE: 30"x42" ARCH E1



A3 DEMO FLOOR PLAN LEVEL 2
SCALE: 1/8" = 1'-0"

DEMOLITION GENERAL NOTES

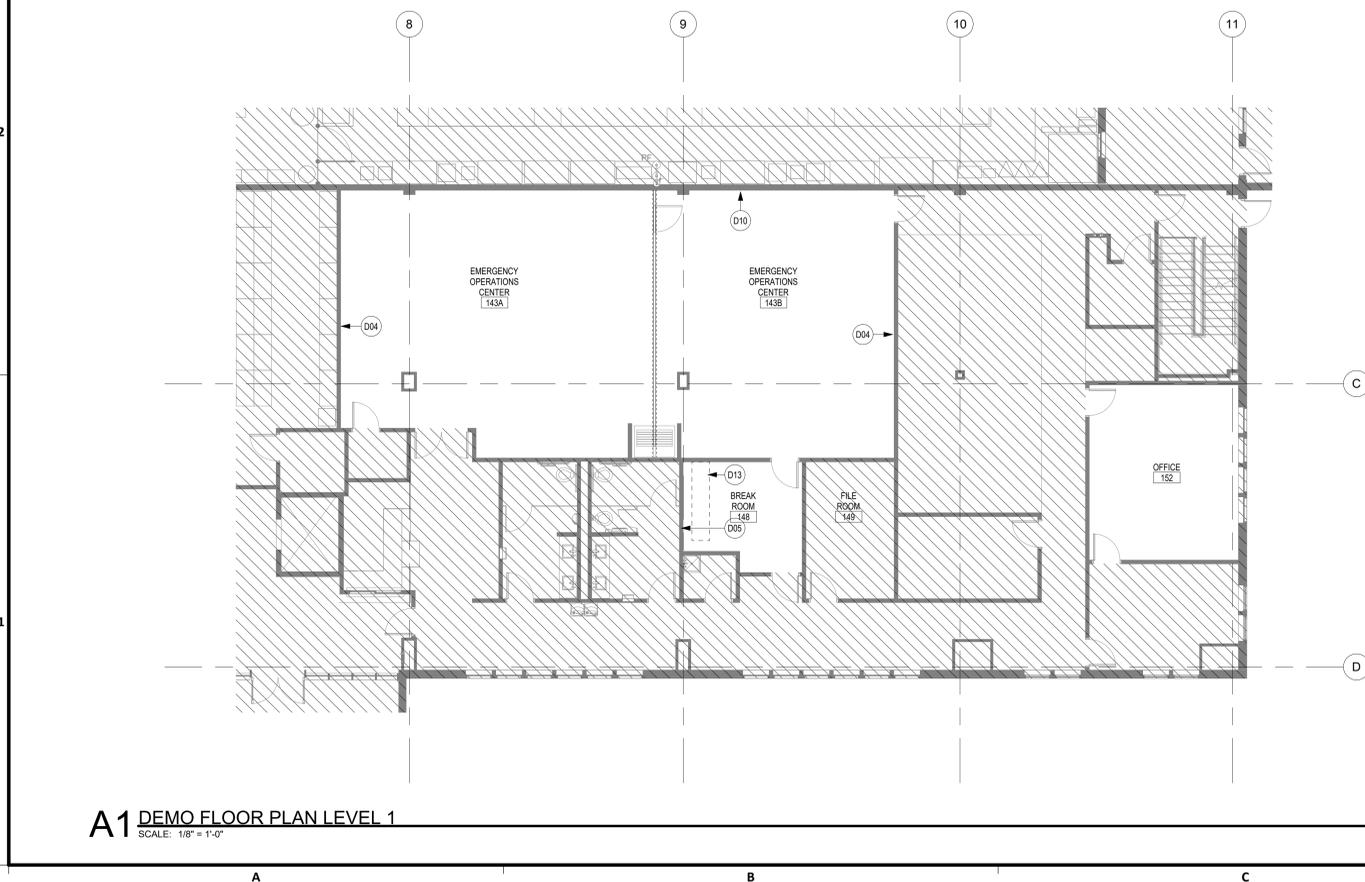
- CONTRACTOR SHALL USE CARE WHEN PERFORMING WORK ADJACENT TO EXISTING CONSTRUCTION, FURNITURE, FIXTURES, OR EQUIPMENT. ANY DAMAGE INCURRED TO EXISTING CONSTRUCTION, FURNITURE, FIXTURES OR EQUIPMENT DURING CONSTRUCTION SHALL BE REPAIRED BY CONTRACTOR TO MATCH EXISTING CONDITIONS AT NO COST TO OWNER.
- CONTRACTOR SHALL VERIFY AND CONFIRM THE QUANTITIES, DIMENSIONS, AND LOCATIONS OF ALL MATERIALS, PRODUCTS AND FINISHES IDENTIFIED IN THE CONTRACT DOCUMENTS. ANY DIMENSIONS OR QUANTITIES SHOWN ON THE DOCUMENTS SHALL BE CONSIDERED GENERAL IN NATURE AND MUST BE VERIFIED.
- DASHED LINES ON DEMOLITION PLAN INDICATE EXISTING MATERIALS TO BE REMOVED.
- PATCH AND FILL ALL OPENINGS AND HOLES LEFT AFTER DEMOLITION, SEAL AROUND ALL PIPING, ETC.
- A NON-DESTRUCTIVE TEST SUCH AS GPR OR EQUIVALENT SHALL BE PERFORMED TO IDENTIFY EXISTING OBJECTS IN EXISTING WALLS, FLOORS, AND CEILING PRIOR TO ANY PENETRATIONS. SUBMIT THE REPORT TO ARCHITECT AND OWNER FOR REVIEW ONCE COMPLETE.
- OWNER HAS FIRST RIGHT OF SALVAGE.
- ALL CEILING MOUNTED FIRE ALARM HORN & STROBE TO BE PROTECTED DURING CONSTRUCTION.
- WHEN MODIFYING EXISTING CEILING GRID, SUPPORT ALL MAIN T'S WHERE CUT.

KEYNOTE LEGEND

Key Value	Keynote Text
D03	DEMO WALL AS REQUIRED AND PREP FOR NEW DOOR INSTALLATION.
D04	OPEN EXISTING WALLS TO INSTALL BLOCKING TO SUPPORT VIDEO WALLS.
D05	OPEN EXISTING WALLS TO CONNECT NEW SINK TO EXISTING SANITARY WASTE LINE.
D06	DEMO EXISTING WALL AND PREP AS REQUIRED FOR NEW WORK.
D08	REMOVE GYP BOARD ON INDICATED SIDE OF WALL.
D09	REMOVE DOOR AND SALVAGE FOR REUSE.
D10	REMOVE WALL MOUNTED MEDIA CONTROLLER AND SALVAGE FOR REUSE.
D13	TRENCH CUT FLOOR SLAB TO CONNECT SINK DRAIN TO EXISTING SANITARY LINE. REFER TO PLUMBING FOR MORE INFORMATION.
D17	DEMO EXISTING FLOORING FINISH. PREP AS REQUIRED FOR NEW FINISH.

DEMOLITION LEGEND

- DASHED LINE INDICATED OBJECT OR PARTITION TO BE DEMOLISHED
- EXISTING PARTITION TO REMAIN
- ▨ NOT IN SCOPE



A1 DEMO FLOOR PLAN LEVEL 1
SCALE: 1/8" = 1'-0"

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DESIGNER PROJECT No.: 1429.13
PROJECT STATUS: IFB

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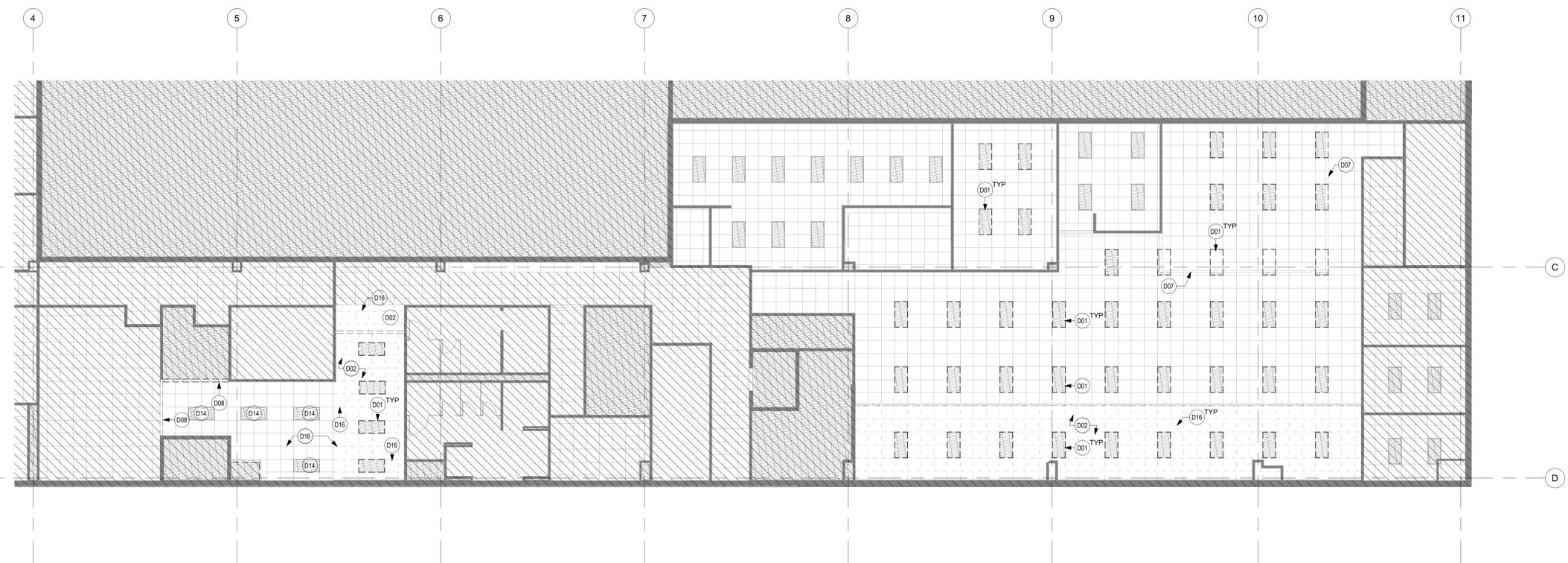
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ISSUE FOR BID



SHEET NAME: DEMOLITION REFLECTED CEILING PLAN

SHEET No. AD-151 SCALE: As indicated

SHEET SIZE: 30"x42" ARCH E1



A3 DEMO REFLECTED CEILING PLAN - LEVEL 2
SCALE: 1/8" = 1'-0"

DEMOLITION GENERAL NOTES

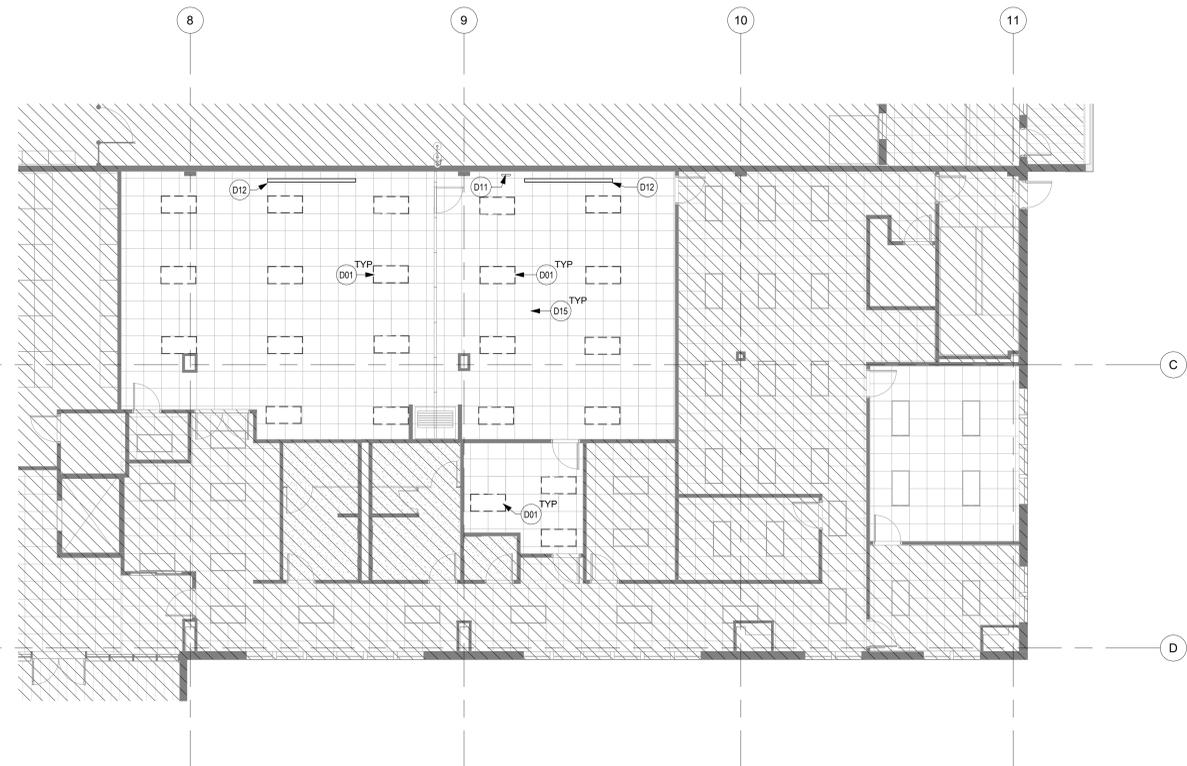
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- ALL CEILING MOUNTED FIRE ALARM HORN & STROBE TO BE PROTECTED DURING CONSTRUCTION.
- WHEN MODIFYING EXISTING CEILING GRID, SUPPORT ALL MAIN T'S WHERE CUT.

KEYNOTE LEGEND

Key Value	Keynote Text
D01	REMOVE EXISTING CEILING LIGHTS FOR STORAGE AS ATTIC STOCK. COORDINATE STORAGE WITH OWNER.
D02	DEMO EXISTING CEILING. RESUPPORT MAIN T'S AS REQUIRED.
D07	DEMO EXISTING CEILING AS REQUIRED FOR NEW FULL HEIGHT PARTITION. SUPPORT CEILING GRIDS WHERE CUT.
D08	REMOVE GYP BOARD ON INDICATED SIDE OF WALL.
D11	RELOCATE EXISTING CEILING MOUNTED SPEAKER AS REQUIRED FOR INSTALLATION OF NEW PARTITION.
D12	EXISTING RECESSED PROJECTOR SCREEN TO REMAIN.
D14	EXISTING LIGHT FIXTURE TO REMAIN.
D15	EXISTING CEILING DIFFUSERS TO REMAIN.
D16	EXISTING CEILING DIFFUSERS TO BE RELOCATED.

DEMOLITION LEGEND

- DASHED LINE INDICATED OBJECT OR PARTITION TO BE DEMOLISHED
- ===== EXISTING PARTITION TO REMAIN
- ▨ NOT IN SCOPE



A1 DEMO REFLECTED CEILING PLAN LEVEL 1
SCALE: 1/8" = 1'-0"

PLOT DATE: 6/7/2023 11:16:18 AM
 DOA DWG FILE:
 OLD DOA No.:
 PLOT DATE:
 HAS FILE:
 FILE PATH: Autodesk Docs://1429.13 IAH ICC/1429.13_HAS-IAH-CC_Central.rvt



GENERAL SERVICES FACILITY
4551 WILL CLAYTON PKWY,
HUMBLE, TX 77396

IAH INTEGRATED COORDINATION CENTER

C.I.P. No.	PN793	A.I.P. No.	N/A
E.G.H. No.	N/A	D.O.A. No.	N/A
B.S.G. No.	BSG-2022-257-IAH	T.I.P. No.	TIP-22-219-IAH

RDLR

DESIGNER PROJECT No.: 1429.13
PROJECT STATUS: IFB

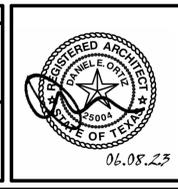
REVISIONS

No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
1	ISSUE FOR BID	06/08/2023	

DESIGN BY: DENISE YEE
 DRAWN BY: DENISE YEE
 CHECKED BY: DANIEL ORTIZ
 ISSUE DATE: 06/08/2023
 APPROVED BY: DANIEL ORTIZ
 APPROVAL DATE: 06/08/2023

DIRECTOR
of
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Drawing Status
IFB
ISSUE FOR BID



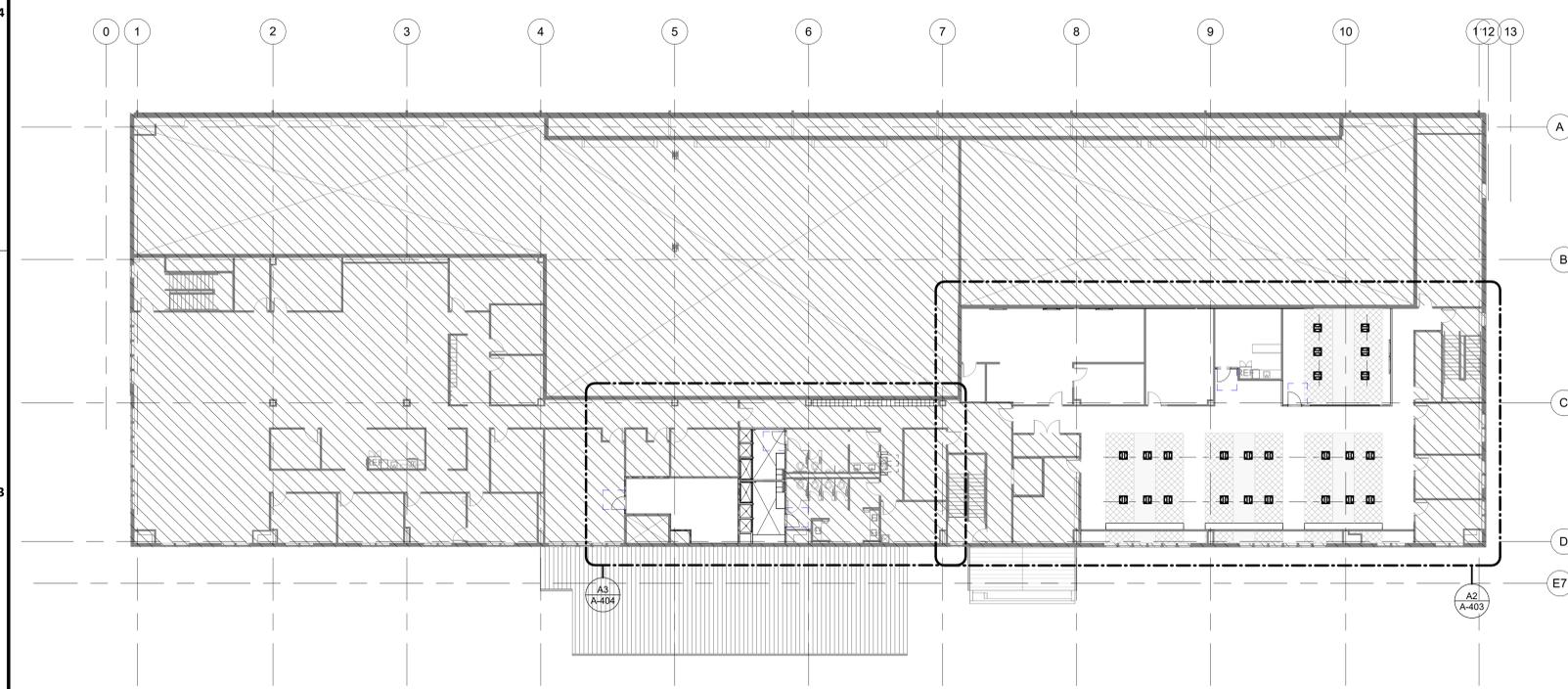
SHEET NAME: OVERALL FLOOR PLANS

SHEET No. A-111 SCALE: As indicated

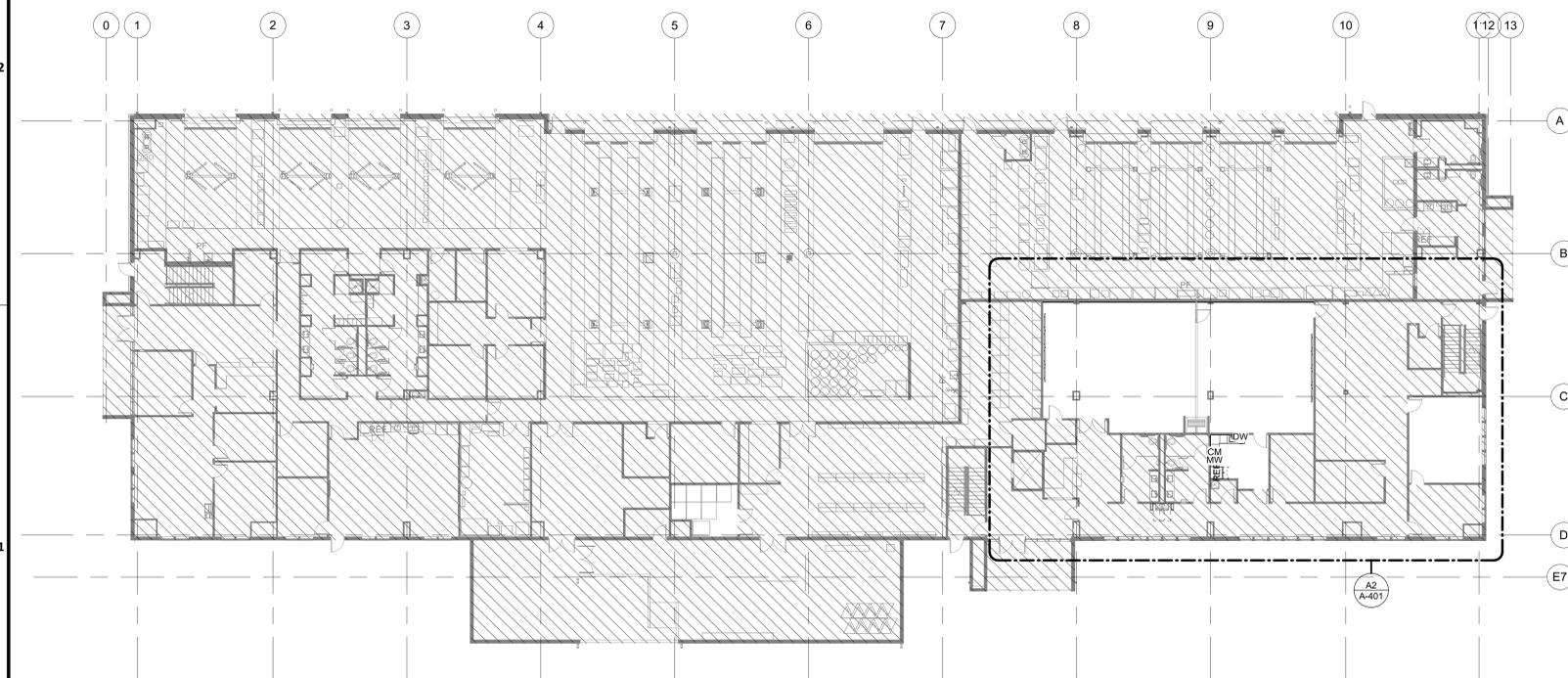
SHEET SIZE: 30"x42" ARCH E1

CONTEXT PLAN GENERAL NOTES

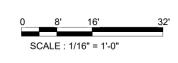
- BUILDING PLAN SHOWN ONLY FOR THE PURPOSE OF SHOWING CONTEXT AND DEFINING SCOPE. EXISTING CONDITIONS TO BE VERIFIED BY THE CONTRACTOR.
- CONTRACTOR SHALL USE CARE WHEN PERFORMING WORK ADJACENT TO EXISTING CONSTRUCTION. ANY DAMAGE INCURRED TO EXISTING CONSTRUCTION DURING CONSTRUCTION SHALL BE REPAIRED BY CONTRACTOR TO MATCH EXISTING CONDITIONS AT NO COST TO OWNER.
- REFER TO SHEETS G-004 & G-005 FOR TYPICAL ACCESSIBILITY STANDARDS FOR ALL DESIGN STANDARDS AND REQUIREMENTS RELATED TO ACCESSIBILITY.
- COMPLY WITH THE REQUIREMENTS OF THE TEXAS ACCESSIBILITY STANDARDS FOR ALL DESIGN STANDARDS AND REQUIREMENTS RELATED TO ACCESSIBILITY.



A3 OVERALL FLOOR PLAN LEVEL 2
SCALE: 1/16" = 1'-0"



A1 OVERALL FLOOR PLAN LEVEL 1
SCALE: 1/16" = 1'-0"



PLOT DATE: 6/7/2023 11:15:43 AM
DOA DWG FILE:
OLD DOA No.:
PLOT DATE:
FILE PATH: Autodesk Docs://1429.13 IAH ICC/1429.13_HAS-IAH-CC_Central.rvt
HAS FILE:



GENERAL SERVICES FACILITY
4551 WILL CLAYTON PKWY,
HUMBLE, TX 77396

IAH INTEGRATED COORDINATION CENTER

C.I.P. No. PN793 A.I.P. No. N/A
C.G.H. No. N/A D.O.A. No. N/A
B.S.G. No. BSG-2022-257-IAH T.I.P. No. TIP-22-219-IAH

RDLR

DESIGNER PROJECT No.: 1429.13
PROJECT STATUS: IFB

REVISIONS

No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
1	ISSUE FOR BID	06/08/2023	

DESIGN BY: DENISE YEE
DRAWN BY: DENISE YEE
CHECKED BY: DANIEL ORTIZ
ISSUE DATE: 06/08/2023
APPROVED BY: DANIEL ORTIZ
APPROVAL DATE: 06/08/2023

DIRECTOR
of
HOUSTON AIRPORT SYSTEM

Drawing Status

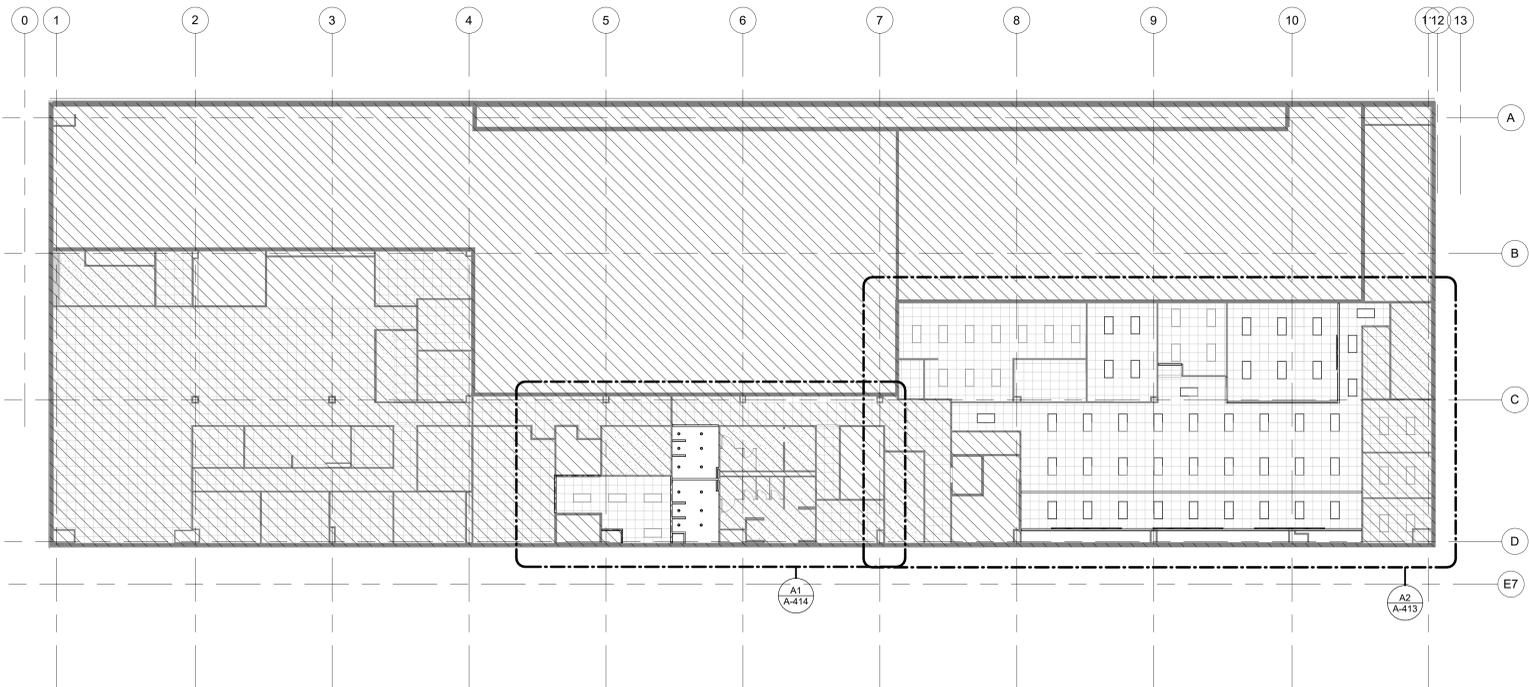
IFB
ISSUE FOR BID



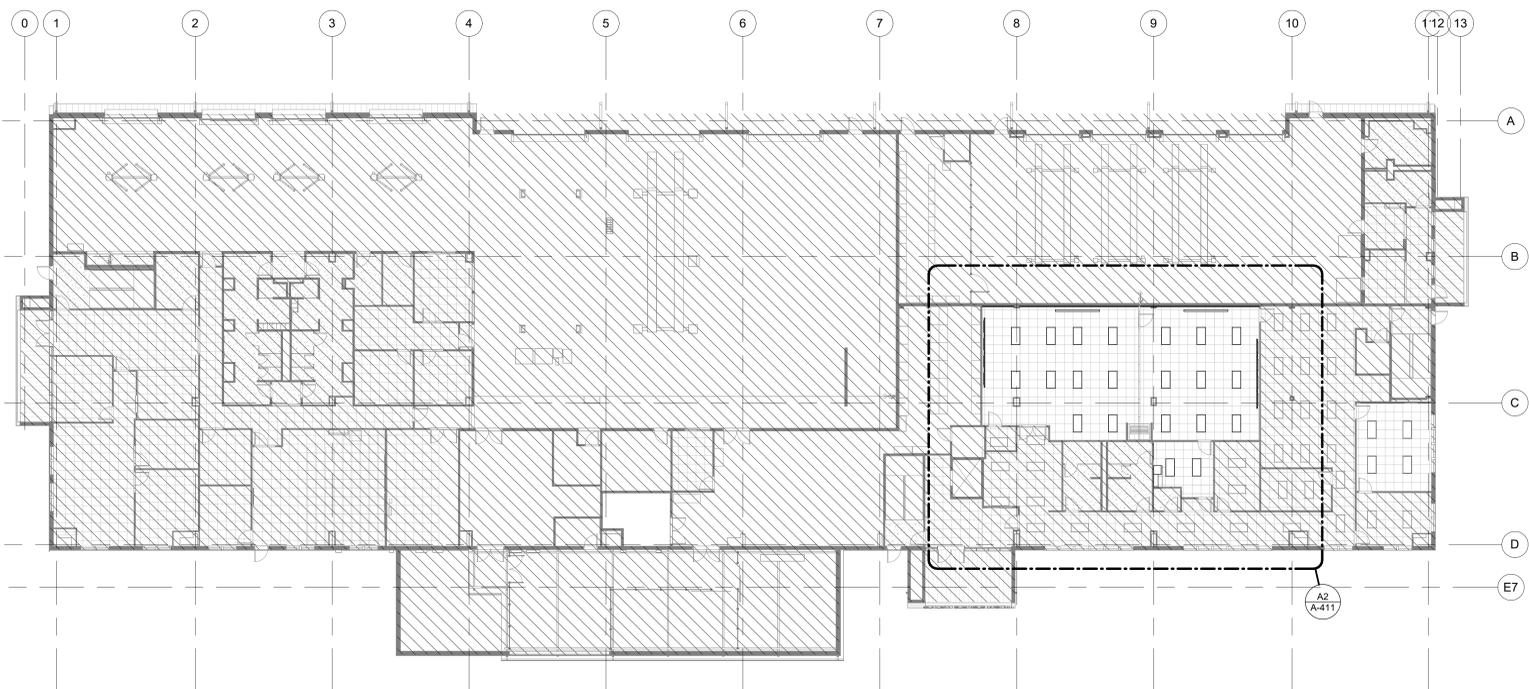
SHEET NAME: OVERALL REFLECTED CEILING PLANS

SHEET No. A-151 SCALE: 1/16" = 1'-0"

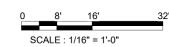
SHEET SIZE: 30"x42" ARCH E1



A3 OVERALL REFLECTED CEILING PLAN - LEVEL 2
SCALE: 1/16" = 1'-0"



A1 OVERALL REFLECTED CEILING PLAN - LEVEL 1
SCALE: 1/16" = 1'-0"



FILE PATH: Autodesk Docs://1429.13 IAH ICC/1429.13_HAS-IAH-CC_Central.rvt
HAS FILE:
PLOT DATE: 6/7/2023 11:15:45 AM
DOA DWG FILE:
OLD DOA No.:



GENERAL SERVICES FACILITY
4551 WILL CLAYTON PKWY,
HUMBLE, TX 77396

IAH INTEGRATED COORDINATION
CENTER

C.I.P. No. PN793 A.I.P. No. N/A
C.G.H. No. N/A D.O.A. No. N/A
B.S.G. No. BSG-2022-257-IAH T.I.P. No. TIP-22-219-IAH

RDLR

DESIGNER PROJECT No.: 1429.13
PROJECT STATUS: IFB

REVISIONS

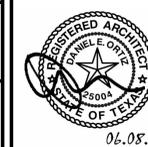
No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
2	PERMIT COMMENTS 2	11/11/2022	
2	ISSUE FOR BID	06/08/2023	

DESIGN BY: DENISE YEE
DRAWN BY: DENISE YEE
CHECKED BY: DANIEL ORTIZ
ISSUE DATE: 06/08/2023
APPROVED BY: DANIEL ORTIZ
APPROVAL DATE: 06/08/2023

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Drawing Status

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ISSUE FOR BID



06.08.23

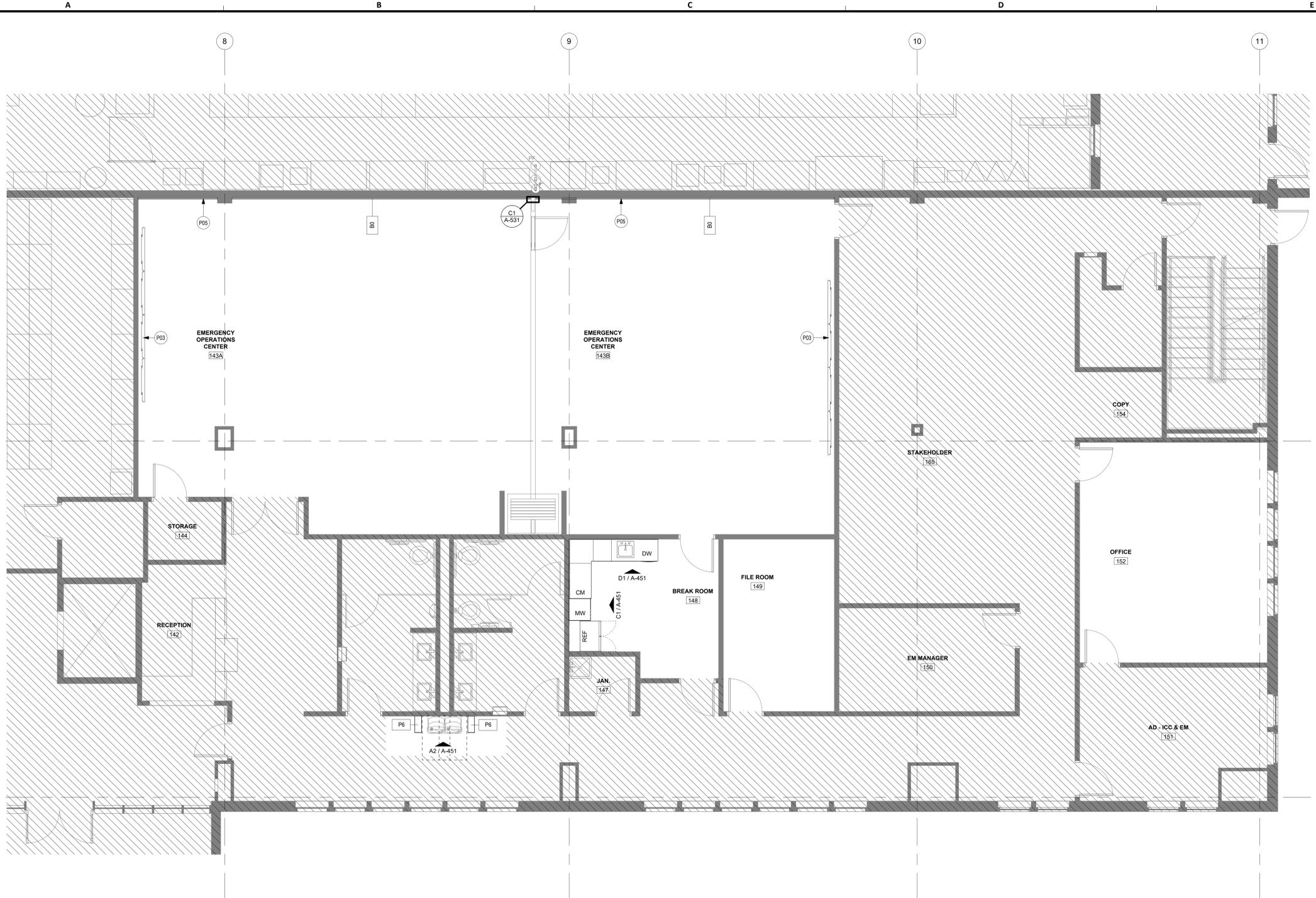


TRUE

SHEET NAME:
ENLARGED FLOOR PLAN - LEVEL 1 - EOC

SHEET No. A-401 SCALE: 1/4" = 1'-0"

SHEET SIZE: 30"x42" ARCH E1



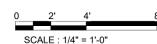
A2 ENLARGED FLOOR PLAN - LEVEL 1 - EOC
SCALE: 1/4" = 1'-0"

FLOOR PLAN GENERAL NOTES

- REFER TO SHEET G-002 FOR KEY TO SYMBOLS LEGEND AND ABBREVIATIONS
- REFER TO G-111- G-121 FOR PARTITION TYPES AND TYPICAL DETAILS
- REFER TO A-551 FOR CASEWORK TYPES AND DETAILS.
- ALL LOCATIONS OF ELECTRICAL DEVICES, FIRE ALARM DEVICES, SECURITY DEVICES AND ACCESS PANELS SHALL BE VERIFIED IN THE FIELD WITH THE ARCHITECT PRIOR TO ROUGH-IN.
- DOOR OPENINGS NOT LOCATED BY DIMENSION SHALL BE LOCATED 4" FROM THE FINISHED WALL OR PARTITION TO OUTSIDE OF FINISHED JAMB.
- A NON-DESTRUCTIVE TEST SUCH AS GPR OR EQUIVALENT SHALL BE PERFORMED TO IDENTIFY EXISTING OBJECTS IN EXISTING FLOOR PRIOR TO ANY PENETRATIONS. SUBMIT THE REPORT TO ARCHITECT AND OWNER FOR REVIEW ONCE COMPLETE.
- ALL WOOD SHEATHING, BACKING, AND BLOCKING TO BE FIRE RETARDANT TREATED. VERIFICATION REQUIRED AT INSPECTION. MATERIAL LABELING TO BE VISIBLE.

KEYNOTE LEGEND

Key Value	Keynote Text
P03	VIDEO WALL. REFER TO E, T, AND TA DRAWINGS FOR MORE INFORMATION.
P05	REINSTALL SALVAGED WALL MOUNTED MEDIA CONTROLLER. EXTEND CONDUIT BEHIND FURRING WALL AS REQUIRED TO REPOSITION CONTROLLER. CONNECT TO PODIUM PER EXISTING.



FILE PATH: Autodesk Docs://1429.13 IAH ICC/1429.13_HAS-IAH-ICC_Central.rvt

HAS FILE:

PLOT DATE: 6/7/2023 11:15:46 AM
DOA DWG FILE:
OLD DOA No. :
PLOT DATE:



GENERAL SERVICES FACILITY
4551 WILL CLAYTON PKWY,
HUMBLE, TX 77396

IAH INTEGRATED COORDINATION CENTER

C.I.P. No. PN793 A.I.P. No. N/A
E.G.H. No. N/A D.O.A. No. N/A
B.S.G. No. BSG-2022-257-IAH T.I.P. No. TIP-22-219-IAH

RDLR

DESIGNER PROJECT No.: 1429.13
PROJECT STATUS: IFB

REVISIONS

No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
1	PERMIT COMMENTS 1	10/26/2022	
2	ISSUE FOR BID	06/08/2023	

DESIGN BY: DENISE YEE
DRAWN BY: DENISE YEE
CHECKED BY: DANIEL ORTIZ
ISSUE DATE: 06/08/2023
APPROVED BY: DANIEL ORTIZ
APPROVAL DATE: 06/08/2023

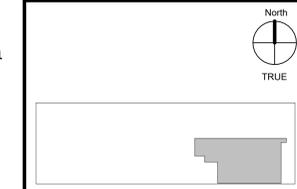
DIRECTOR
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Drawing Status

IFB
ISSUE FOR BID



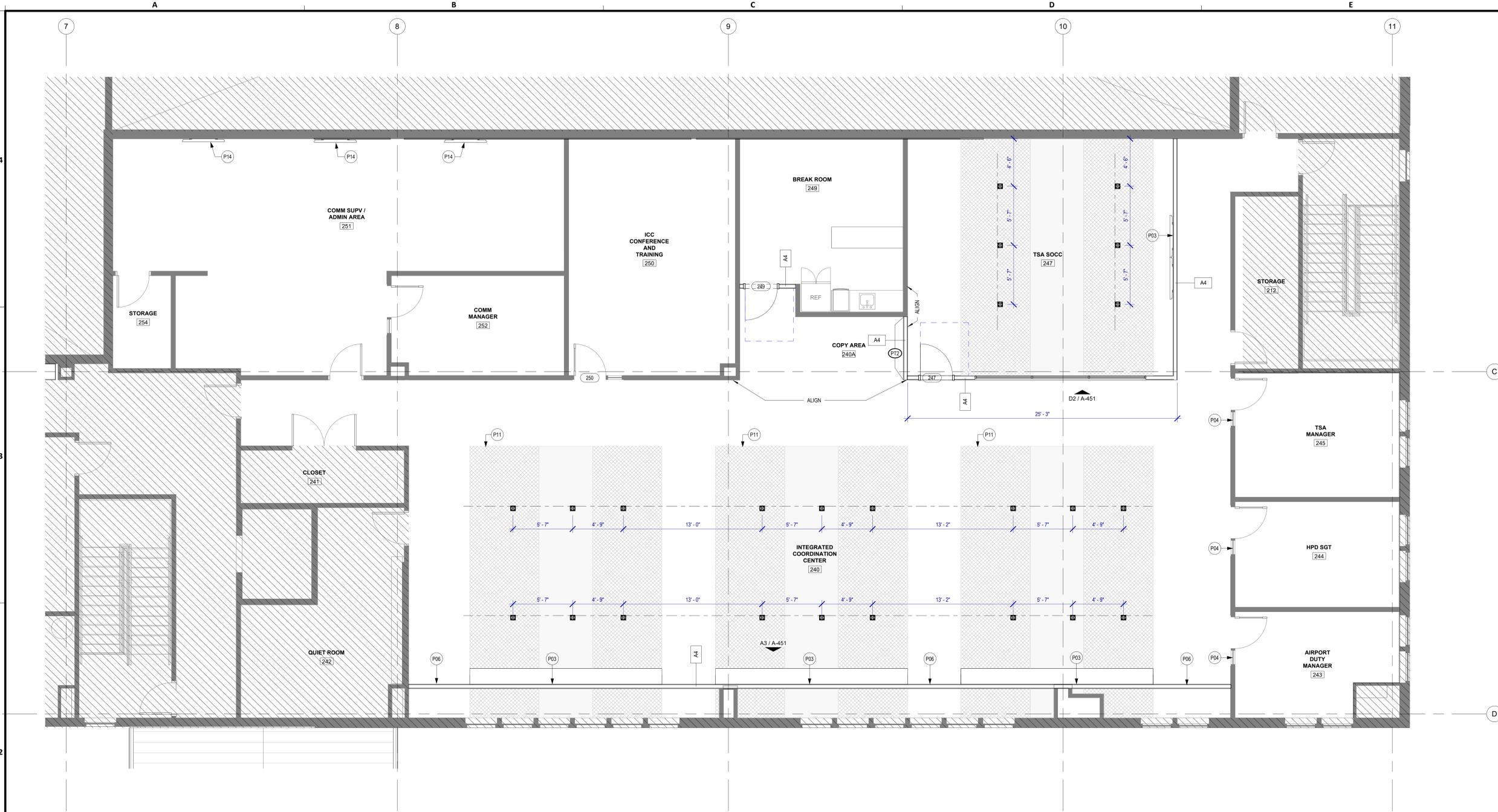
06.08.23



SHEET NAME:
ENLARGED FLOOR PLAN - LEVEL 2 - ICC

SHEET No. A-403 SCALE: 1/4" = 1'-0"

SHEET SIZE: 30"x42" ARCH E1



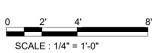
A2 ENLARGED FLOOR PLAN - LEVEL 2 - ICC
SCALE: 1/4" = 1'-0"

FLOOR PLAN GENERAL NOTES

- REFER TO SHEET G-002 FOR KEY TO SYMBOLS LEGEND AND ABBREVIATIONS
- REFER TO G-111-G-121 FOR PARTITION TYPES AND TYPICAL DETAILS
- REFER TO A-551 FOR CASEWORK TYPES AND DETAILS
- ALL LOCATIONS OF ELECTRICAL DEVICES, FIRE ALARM DEVICES, SECURITY DEVICES AND ACCESS PANELS SHALL BE VERIFIED IN THE FIELD WITH THE ARCHITECT PRIOR TO ROUGH-IN.
- DOOR OPENINGS NOT LOCATED BY DIMENSION SHALL BE LOCATED 4" FROM THE FINISHED WALL OR PARTITION TO OUTSIDE OF FINISHED JAMB.
- A NON-DESTRUCTIVE TEST SUCH AS GPR OR EQUIVALENT SHALL BE PERFORMED TO IDENTIFY EXISTING OBJECTS IN EXISTING FLOOR PRIOR TO ANY PENETRATIONS. SUBMIT THE REPORT TO ARCHITECT AND OWNER FOR REVIEW ONCE COMPLETE.
- ALL WOOD SHEATHING, BACKING, AND BLOCKING TO BE FIRE RETARDANT TREATED. VERIFICATION REQUIRED AT INSPECTION, MATERIAL LABELING TO BE VISIBLE.

KEYNOTE LEGEND

Key Value	Keynote Text
P03	VIDEO WALL. REFER TO E, T, AND TA DRAWINGS FOR MORE INFORMATION.
P04	APPLY FILM TO EXISTING DOOR SIDELIGHT. REFER TO MATERIALS LEGEND FOR MORE INFORMATION.
P06	24"x24" WALL ACCESS PANEL. FINISHED TO MATCH WALL.
P11	EXISTING CARPET FLOOR FINISH. SHOWN FOR REFERENCE ONLY.
P14	NEW VIDEO MONITORS. REFER TO TECHNOLOGY DRAWINGS FOR MORE INFORMATION.



PLOT DATE: 6/7/2023 11:15:47 AM
DOA DWG FILE:
OLD DOA No. :
PLOT DATE:

FILE PATH: Autodesk Docs://1429.13 IAH ICC/1429.13_HAS-IAH-ICC_Central.rvt

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GENERAL SERVICES FACILITY
4551 WILL CLAYTON PKWY,
HUMBLE, TX 77396

IAH INTEGRATED COORDINATION CENTER

C.I.P. No.	PN793	A.I.P. No.	N/A
E.G.H. No.	N/A	D.O.A. No.	N/A
B.S.G. No.	BSG-2022-257-IAH	T.I.P. No.	TIP-22-219-IAH

RDLR

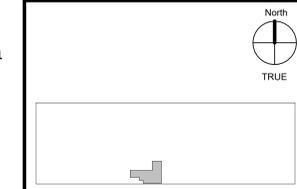
DESIGNER PROJECT No.: 1429.13
PROJECT STATUS: IFB

REVISIONS		
No.	DESCRIPTION	DATE BY
	50% CD	08/30/2022
	95% CD	09/21/2022
1	PERMIT COMMENTS 2	11/17/2022
2	ISSUE FOR BID	06/08/2023

DESIGN BY: DENISE YEE
 DRAWN BY: DENISE YEE
 CHECKED BY: DANIEL ORTIZ
 ISSUE DATE: 06/08/2023
 APPROVED BY: DANIEL ORTIZ
 APPROVAL DATE: 06/08/2023

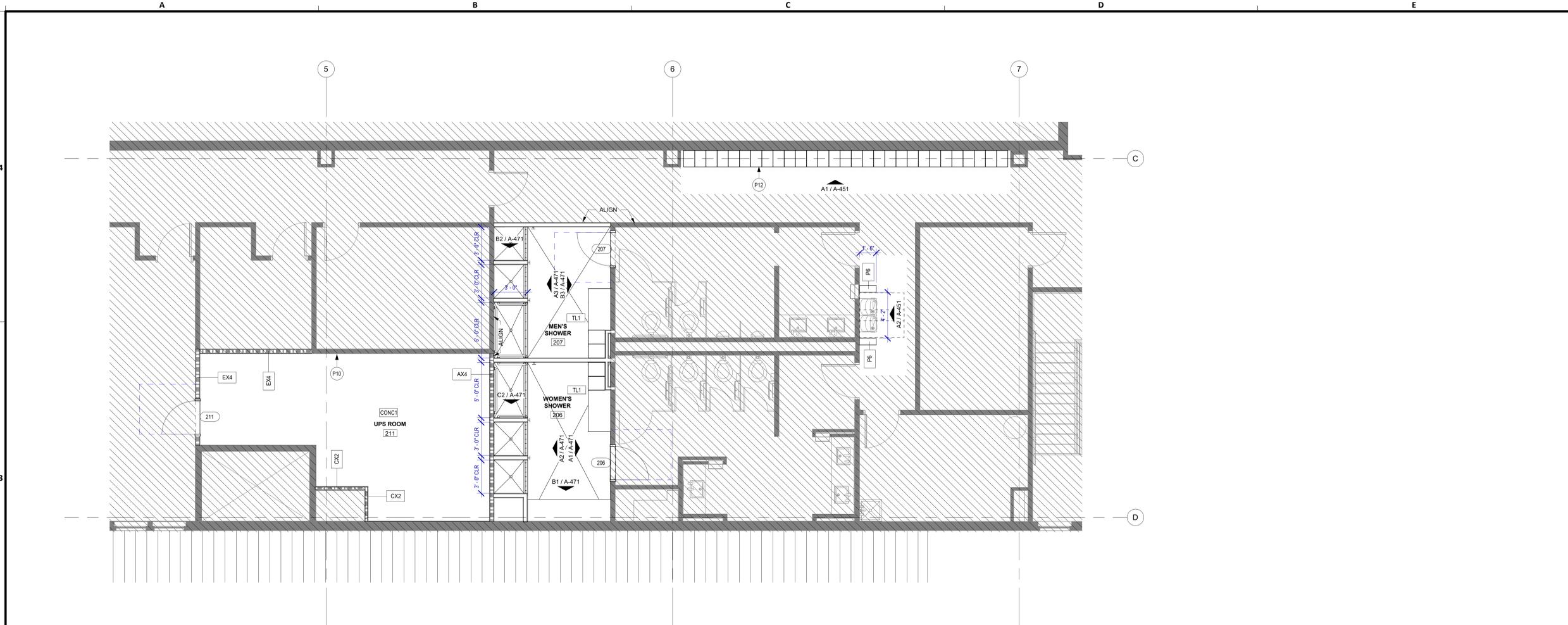
DIRECTOR
of
HOUSTON AIRPORT SYSTEM

Drawing Status
IFB
ISSUE FOR BID



SHEET NAME:
ENLARGED FLOOR PLAN - LEVEL 2 - SHOWERS & UPS
SHEET No. A-404 SCALE: 1/4" = 1'-0"

SHEET SIZE: 30"x42" ARCH E1



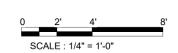
A32 SHOWERS
SCALE: 1/4" = 1'-0"

FLOOR PLAN GENERAL NOTES

- REFER TO SHEET G-002 FOR KEY TO SYMBOLS LEGEND AND ABBREVIATIONS
- REFER TO G-111- G-121 FOR PARTITION TYPES AND TYPICAL DETAILS
- REFER TO A-551 FOR CASEWORK TYPES AND DETAILS.
- ALL LOCATIONS OF ELECTRICAL DEVICES, FIRE ALARM DEVICES, SECURITY DEVICES AND ACCESS PANELS SHALL BE VERIFIED IN THE FIELD WITH THE ARCHITECT PRIOR TO ROUGH-IN.
- DOOR OPENINGS NOT LOCATED BY DIMENSION SHALL BE LOCATED 4" FROM THE FINISHED WALL OR PARTITION TO OUTSIDE OF FINISHED JAMB.
- A NON-DESTRUCTIVE TEST SUCH AS GPR OR EQUIVALENT SHALL BE PERFORMED TO IDENTIFY EXISTING OBJECTS IN EXISTING FLOOR PRIOR TO ANY PENETRATIONS. SUBMIT THE REPORT TO ARCHITECT AND OWNER FOR REVIEW ONCE COMPLETE.
- ALL WOOD SHEATHING, BACKING, AND BLOCKING TO BE FIRE RETARDANT TREATED. VERIFICATION REQUIRED AT INSPECTION, MATERIAL LABELING TO BE VISIBLE.

KEYNOTE LEGEND

Key Value	Keynote Text
P10	ADD LAYER OF GYPSUM BOARD TO EXISTING WALL. FINISH TO MATCH EXISTING.
P12	NEW LOCKERS. LIST INDUSTRIES. REFER TO FURNITURE & EQUIPMENT SCHEDULE FOR MORE INFORMATION.



PLOT DATE: 6/7/2023 11:15:48 AM
DOA DWG FILE:
OLD DOA No. :
PLOT DATE:

FILE PATH: Autodesk Docs://1429.13 IAH ICC/1429.13_HAS-IAH-ICC_Central.rvt

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GENERAL SERVICES FACILITY
4551 WILL CLAYTON PKWY,
HUMBLE, TX 77396

IAH INTEGRATED COORDINATION CENTER

C.I.P. No. PN793 A.I.P. No. N/A
C.G.H. No. N/A D.O.A. No. N/A
B.S.G. No. BSG-2022-257-IAH T.I.P. No. TIP-22-219-IAH

RDLR

DESIGNER PROJECT No.: 1429.13
PROJECT STATUS: IFB

REVISIONS

No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
1	ISSUE FOR BID	06/08/2023	

DESIGN BY: DENISE YEE
DRAWN BY: DENISE YEE
CHECKED BY: DANIEL ORTIZ
ISSUE DATE: 06/08/2023
APPROVED BY: DANIEL ORTIZ
APPROVAL DATE: 06/08/2023

DIRECTOR
of
HOUSTON AIRPORT SYSTEM

Drawing Status

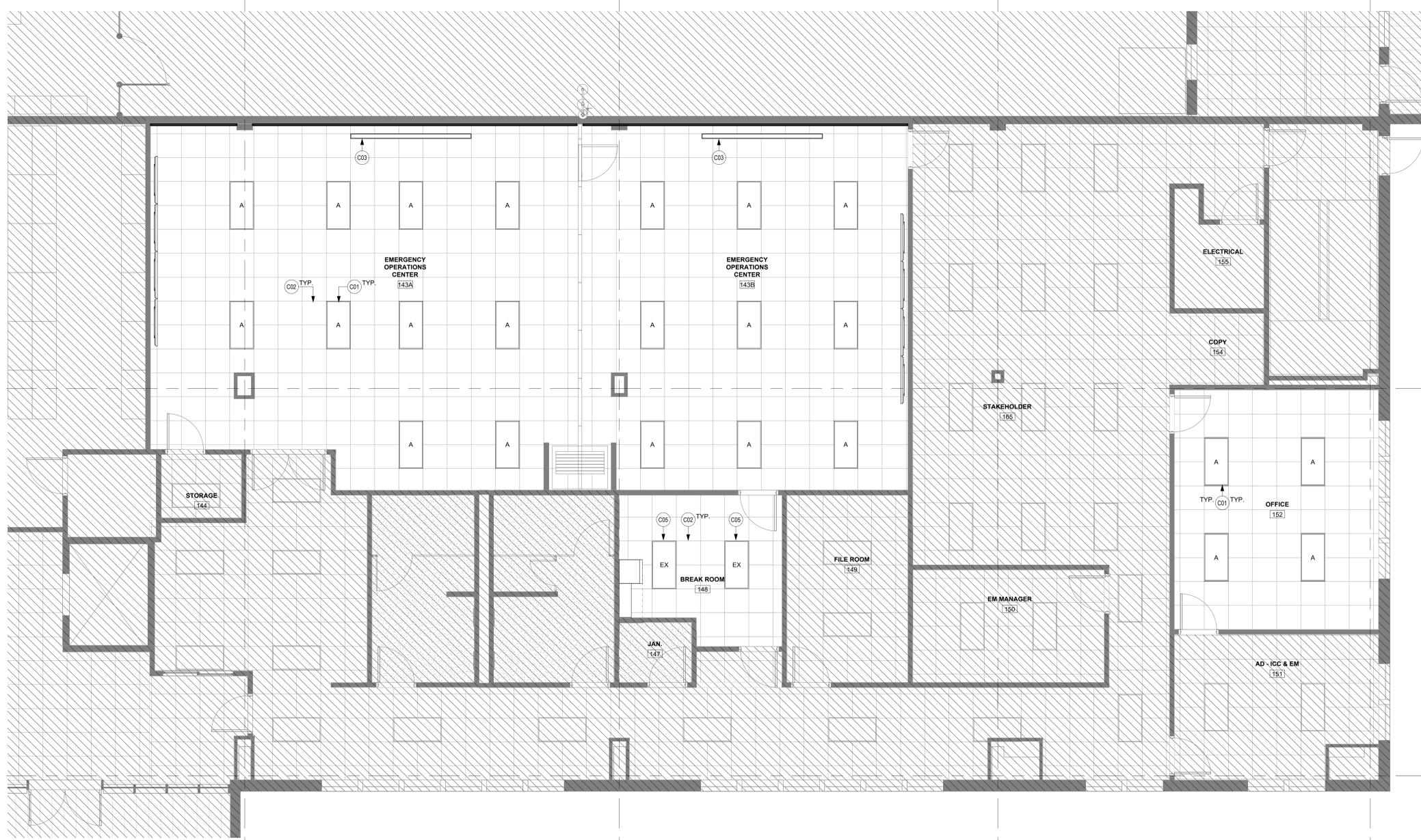
IFB
ISSUE FOR BID



North
TRUE

SHEET NAME:
ENLARGED REFLECTED CEILING PLAN - LEVEL
1 - ICC
SHEET No. A-411 SCALE: 1/4" = 1'-0"

SHEET SIZE: 30"x42" ARCH E1



A2 REFLECTED CEILING PLAN - LEVEL 1 - EDC
SCALE: 1/4" = 1'-0"

RCP GENERAL NOTES

- REFER TO G-003 FOR LIGHTING GENERAL NOTES AND FLOOR PLAN SCHEDULE SHEETS A-540'S FOR FINISH MATERIAL SCHEDULE.
- ALL EXPOSED CONDUIT, HVAC DUCTS, HVAC DIFFUSERS, ROOF ASSEMBLIES AND STRUCTURAL TO BE PAINTED (COLOR TO BE DETERMINED), UNLESS NOTED OTHERWISE.
- ALL EXPOSED CONDUIT AND WIRING SUPPLYING CEILING FIXTURES SHALL BE GANGED TOGETHER IN A CLEAN AND ORGANIZED MANNER AND RUN PERPENDICULAR AND/OR PARALLEL TO ROOF FRAMING.
- ALL LIGHT FIXTURES NOT LOCATED BY DIMENSIONS ARE TO BE CENTERED IN CEILING TILES WHERE FIXTURE ARE LOCATED IN GB-1, CENTER FIXTURE IN ROOM UNLESS NOTED.
- ALL FIRE SPRINKLER HEADS LOCATED IN ATC AND APC SHALL BE CENTERED WITHIN TILE.
- V.I.F. ALL FIXTURE MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO INSTALLATION.
- REFER TO MEP DRAWINGS FOR EGRESS / EMERGENCY LIGHTING.

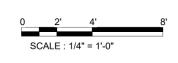
Key Value	Keynote Text
C01	NEW SCHEDULED LIGHT FIXTURE
C02	EXISTING CEILING DIFFUSERS TO REMAIN
C03	EXISTING RECESSED PROJECTOR SCREEN TO REMAIN
C05	EXISTING LIGHT FIXTURE RELOCATED TO INDICATED LOCATION

CEILING SCHEDULE

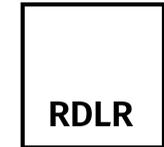
TYPE	MANUFACTURER	CEILING GRID	CEILING TILE	SIZE	NRC RATING	NOTES
ACT2	ARMSTRONG CEILINGS	9/16" STANDARD GRID	REGULAR	24" X 24"		
GWB1						

LIGHT FIXTURE SCHEDULE

TYPE	MANUFACTURER	MODEL	DESCRIPTION
A	LSI INDUSTRIES	SLI24-LED-HO-NW-UE	2X4 VOLUMETRIC INDIRECT RECESSED LIGHT
B	HE WILLIAMS	6DR-TL-L15-840-DIM-UNV-OW-OF-CS-MWT-N-F1	6" RECESSED LED DOWNLIGHT
C	HE WILLIAMS	6DR-TL-L15-840-DIM-UNV-LW-OF-CS-WET/CC-N-F1	WET RATED 6" RECESSED LED DOWNLIGHT
EX	MATCH EXISTING	MATCH EXISTING	EXISTING LIGHT FIXTURE RELOCATED



FILE PATH: Autodesk Docs://1429.13 IAH ICC/1429.13_HAS-IAH-ICC_Central.rvt
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 PLOT DATE: 6/7/2023 11:15:49 AM
 DOA DWG FILE:
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 PLOT DATE:



DESIGNER PROJECT No.: 1429.13
PROJECT STATUS: IFB

REVISIONS

No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
1	ISSUE FOR BID	06/08/2023	

DESIGN BY: DENISE YEE
DRAWN BY: DENISE YEE
CHECKED BY: DANIEL ORTIZ
ISSUE DATE: 06/08/2023
APPROVED BY: DANIEL ORTIZ
APPROVAL DATE: 06/08/2023

DIRECTOR
of
HOUSTON AIRPORT SYSTEM

Drawing Status

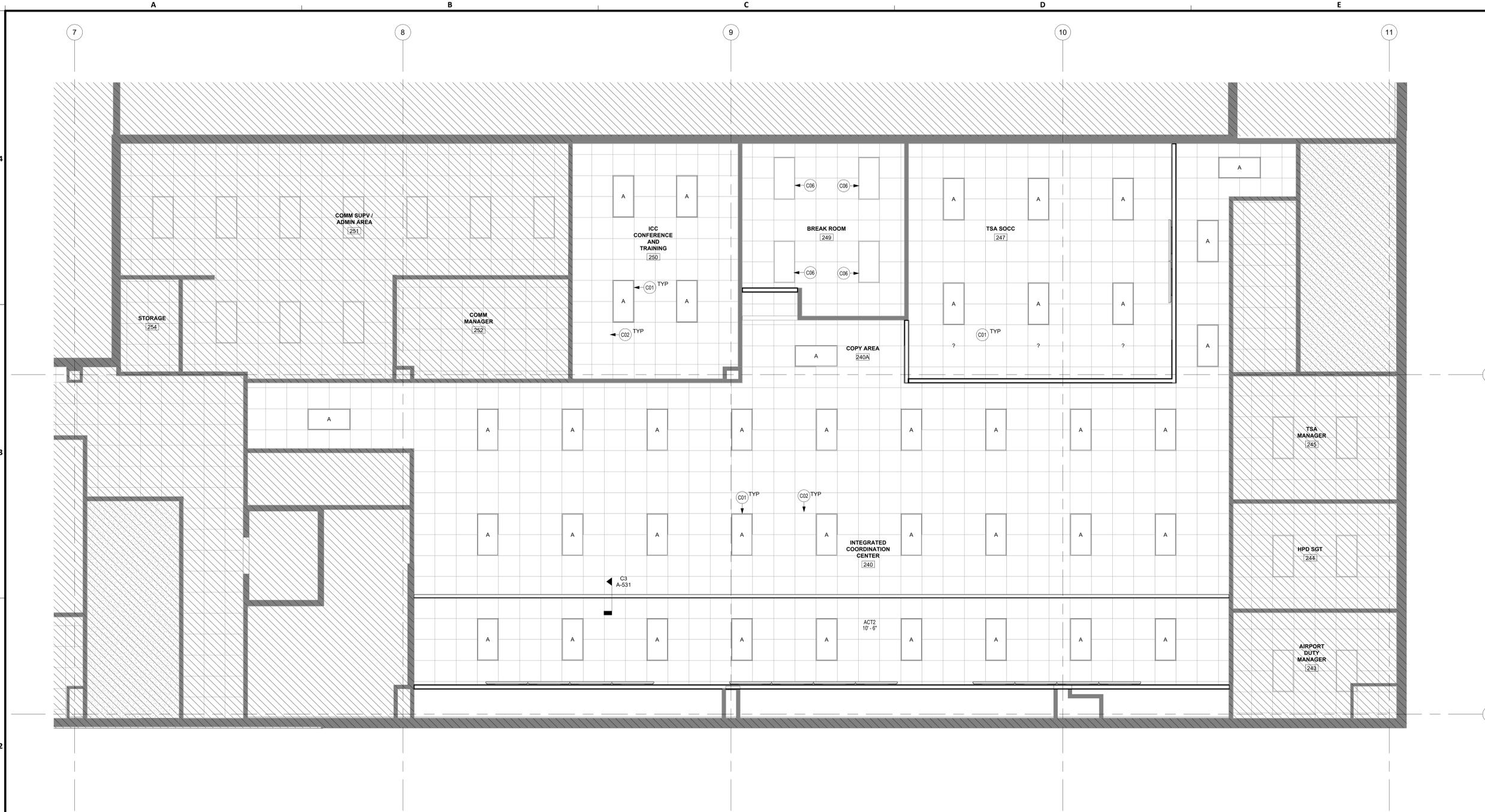
IFB
ISSUE FOR BID



SHEET NAME:
ENLARGED REFLECTED CEILING PLAN - LEVEL 2 - ICC

SHEET No. A-413 SCALE: 1/4" = 1'-0"

SHEET SIZE: 30"x42" ARCH E1



A2 REFLECTED CEILING PLAN - LEVEL 2 - ICC
SCALE: 1/4" = 1'-0"

RCP GENERAL NOTES

- REFER TO G-003 FOR LIGHTING GENERAL NOTES AND FLOOR PLAN SCHEDULE SHEETS A-540'S FOR FINISH MATERIAL SCHEDULE.
- ALL EXPOSED CONDUIT, HVAC DUCTS, HVAC DIFFUSERS, ROOF ASSEMBLIES AND STRUCTURAL TO BE PAINTED (COLOR TO BE DETERMINED), UNLESS NOTED OTHERWISE.
- ALL EXPOSED CONDUIT AND WIRING SUPPLYING CEILING FIXTURES SHALL BE GANGED TOGETHER IN A CLEAN AND ORGANIZED MANNER AND RUN PERPENDICULAR AND/OR PARALLEL TO ROOF FRAMING.
- ALL LIGHT FIXTURES NOT LOCATED BY DIMENSIONS ARE TO BE CENTERED IN CEILING TILES WHERE FIXTURE ARE LOCATED IN GR-1, CENTER FIXTURE IN ROOM UNLESS NOTED.
- ALL FIRE SPRINKLER HEADS LOCATED IN ATC AND APC SHALL BE CENTERED WITHIN TILE.
- V.I.F. ALL FIXTURE MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO INSTALLATION.
- REFER TO MEP DRAWINGS FOR EGRESS / EMERGENCY LIGHTING.

KEYNOTE LEGEND

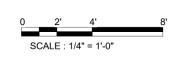
Key Value	Keynote Text
CO1	NEW SCHEDULED LIGHT FIXTURE.
CO2	EXISTING CEILING DIFFUSERS TO REMAIN.
CO6	EXISTING LIGHT FIXTURE SHOWN FOR REFERENCE ONLY.

CEILING SCHEDULE

TYPE	MANUFACTURER	CEILING GRID	CEILING TILE	SIZE	NRC RATING	NOTES
ACT2 GWB1	ARMSTRONG CEILINGS	9/16" STANDARD GRID	REGULAR	24" X 24"		

LIGHT FIXTURE SCHEDULE

TYPE	MANUFACTURER	MODEL	DESCRIPTION
A	LSI INDUSTRIES	SL124-LED-HO-NW-UE	2X4 VOLUMETRIC INDIRECT RECESSED LIGHT
B	HE WILLIAMS	6DR-TL-L15-840-DIM-UNV-OW-OF-CS-MWT-N-F 1	6" RECESSED LED DOWNLIGHT
C	HE WILLIAMS	6DR-TL-L15-840-DIM-UNV-LW-OF-CS-WET/CC-N -F1	WET RATED 6" RECESSED LED DOWNLIGHT
EX	MATCH EXISTING	MATCH EXISTING	EXISTING LIGHT FIXTURE RELOCATED



FILE PATH: Autocad Docs://1429.13 IAH ICC/1429.13_HAS-IAH-ICC_Central.rvt
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 OLD DOA No.:
 DOA DWG FILE:
 PLOT DATE: 6/7/2023 11:15:50 AM

RDLR

DESIGNER PROJECT No.: 1429.13
PROJECT STATUS: IFB

REVISIONS

No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
1	ISSUE FOR BID	06/08/2023	

DESIGN BY: DENISE YEE
DRAWN BY: DENISE YEE
CHECKED BY: DANIEL ORTIZ
ISSUE DATE: 06/08/2023
APPROVED BY: DANIEL ORTIZ
APPROVAL DATE: 06/08/2023

DIRECTOR
of
HOUSTON AIRPORT SYSTEM

Drawing Status

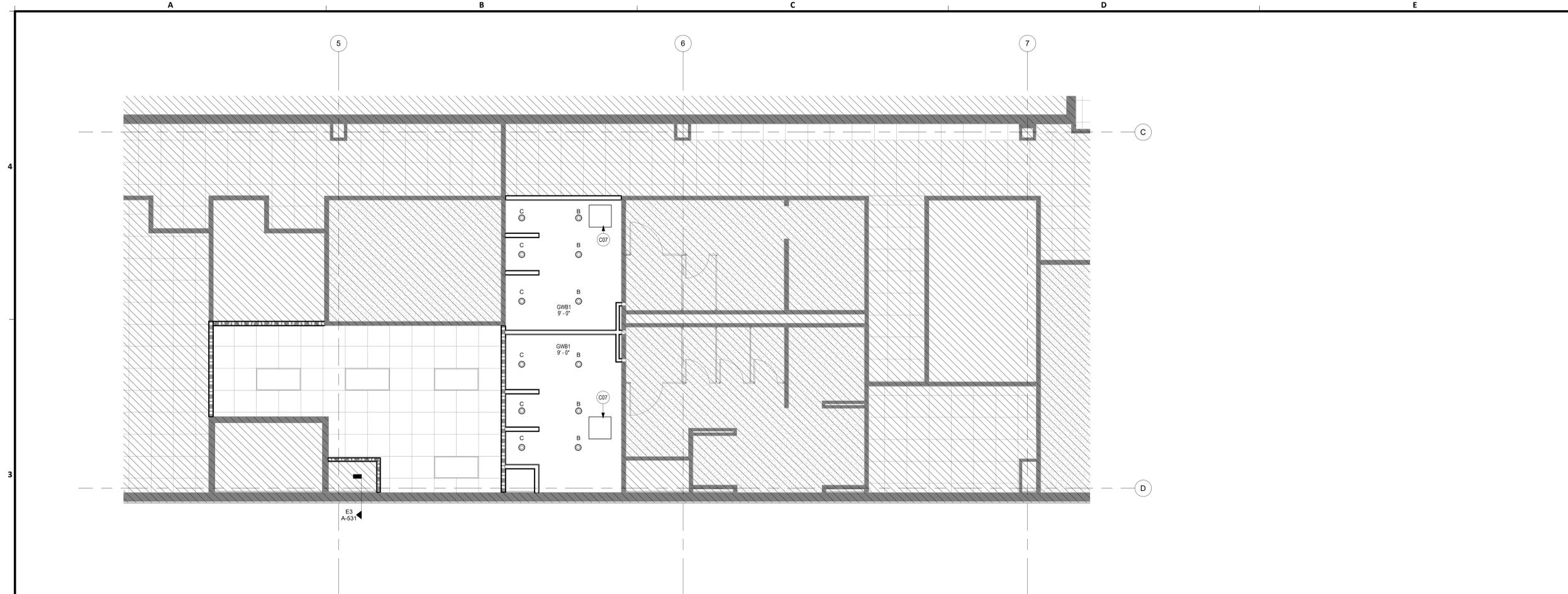
IFB



SHEET NAME:
ENLARGED REFLECTED CEILING PLAN - LEVEL 2 - SHOWERS

SHEET No. A-414 SCALE: 1/4" = 1'-0"

SHEET SIZE: 30"x42" ARCH E1



A1 REFLECTED CEILING PLAN - LEVEL 2 - SHOWERS
SCALE: 1/4" = 1'-0"

RCP GENERAL NOTES

1. REFER TO G-003 FOR LIGHTING GENERAL NOTES AND FLOOR PLAN SCHEDULE SHEETS A-540'S FOR FINISH MATERIAL SCHEDULE.
2. ALL EXPOSED CONDUIT, HVAC DUCTS, HVAC DIFFUSERS, ROOF ASSEMBLIES AND STRUCTURAL TO BE PAINTED (COLOR TO BE DETERMINED), UNLESS NOTED OTHERWISE.
3. ALL EXPOSED CONDUIT AND WIRING SUPPLYING CEILING FIXTURES SHALL BE GANGED TOGETHER IN A CLEAN AND ORGANIZED MANNER AND RUN PERPENDICULAR AND/OR PARALLEL TO ROOF FRAMING.
4. ALL LIGHT FIXTURES NOT LOCATED BY DIMENSIONS ARE TO BE CENTERED IN CEILING TILES WHERE FIXTURE ARE LOCATED IN GB-1, CENTER FIXTURE IN ROOM UNLESS NOTED.
5. ALL FIRE SPRINKLER HEADS LOCATED IN ATC AND APC SHALL BE CENTERED WITHIN TILE.
6. V.I.F. ALL FIXTURE MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO INSTALLATION.
7. REFER TO MEP DRAWINGS FOR EGRESS / EMERGENCY LIGHTING.

KEYNOTE LEGEND

Key Value	Keynote Text
C07	PROVIDE ACCESS PANEL.

CEILING SCHEDULE

TYPE	MANUFACTURER	CEILING GRID	CEILING TILE	SIZE	NRC RATING	NOTES
ACT2	ARMSTRONG CEILINGS	9/16" STANDARD GRID	REGULAR	24" X 24"		
GWB1						

LIGHT FIXTURE SCHEDULE

TYPE	MANUFACTURER	MODEL	DESCRIPTION
A	LSI INDUSTRIES	SLI24-LED-HO-NW-UJ	2X4 VOLUMETRIC INDIRECT RECESSED LIGHT
B	HE WILLIAMS	6DR-TL-L15-840-DIM-UNV-OW-OF-CS-MWT-N-F	6" RECESSED LED DOWNLIGHT
C	HE WILLIAMS	6DR-TL-L15-840-DIM-UNV-LW-OF-CS-WET/CC-N-F1	WET RATED 6" RECESSED LED DOWNLIGHT
EX	MATCH EXISTING	MATCH EXISTING	EXISTING LIGHT FIXTURE RELOCATED



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RDLR

DESIGNER PROJECT No.: 1429.13
PROJECT STATUS: IFB

REVISIONS

No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
1	PERMIT COMMENTS 1	10/26/2022	
2	ISSUE FOR BID	06/08/2023	

DESIGN BY: DENISE YEE
DRAWN BY: DENISE YEE
CHECKED BY: DANIEL ORTIZ
ISSUE DATE: 06/08/2023
APPROVED BY: DANIEL ORTIZ
APPROVAL DATE: 06/08/2023

DIRECTOR
of
HOUSTON AIRPORT SYSTEM

Drawing Status

IFB
ISSUE FOR BID



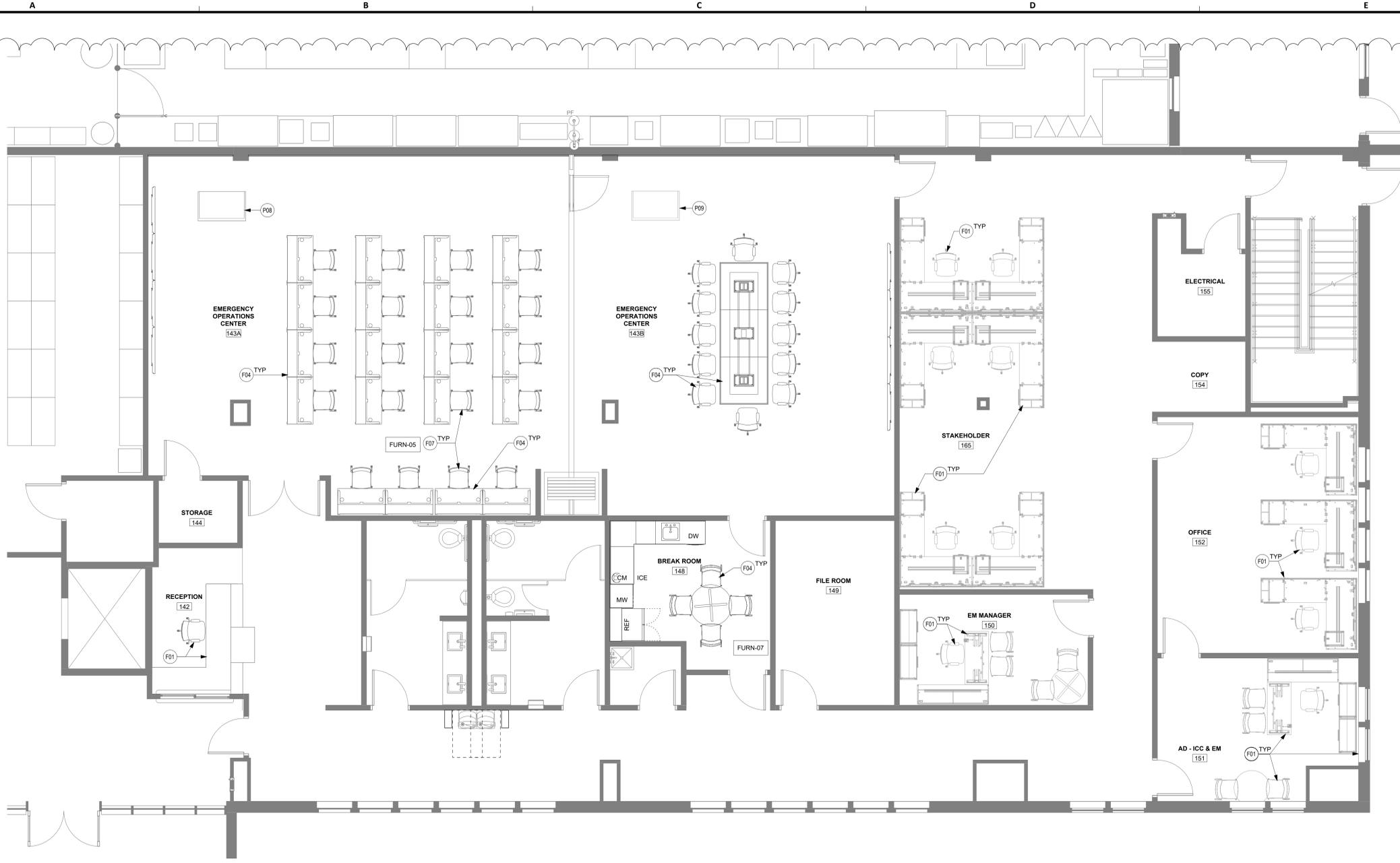
North

TRUE

SHEET NAME:
ENLARGED FURNITURE & EQUIPMENT PLAN

SHEET No. A-421 SCALE: As indicated

SHEET SIZE: 30"x42" ARCH E1



A2 ENLARGED FURNITURE & EQUIPMENT PLAN - LEVEL 1
SCALE: 1/4" = 1'-0"

KEYNOTE LEGEND

Key Value	Keynote Text
F01	EXISTING FURNITURE. SHOWN FOR REFERENCE ONLY.
F04	OWNER PROVIDED FURNITURE. CONTRACTOR INSTALLED.
F07	NEW CHAIRS. REFER TO FURNITURE & EQUIPMENT SCHEDULE FOR MORE INFORMATION.
F09	NEW TABLES.
P08	EXISTING PODIUM RELOCATED TO INDICATED POSITION.
P09	EXISTING PODIUM TO REMAIN AT CURRENT LOCATION.

FURNITURE SCHEDULE

- FURN-01
NOT USED
- FURN-02
CHAIR - VIA - BRISBANE HD 24/7 TASK CHAIR WITH HEADREST IN BLACK FAUX LEATHER - #1603-67C-SS-51A20S-19AB-18BB-16HP-12LUM-HDR1-9FA-GR
- FURN-03
RECEPTION DESK - THREE H - #362743 - SUNSET W336 FINISH
- FURN-04
CONSOLE - EVANS - RESPONSE NEXTGEN
- FURN-05
EOC OPERATOR CHAIRS - HON - IGNITION ARLES CHAIR WITH CASTERS - BLACK MESH BACK - BLACK SEAT FABRIC - BLACK FRAME
- FURN-06
LOUNGE CHAIR - HUMAN TOUCH - ZER GRAVITY PC-610 CLASSIC ELECTRIC - PERFORMANCE PADDING, DARK OAK BASE, DARK GREY LEATHER COVERING
- FURN-07
BREAKROOM TABLES - THREE H - MAHOGANY LAMINATE WITH BLACK METAL BASE

	TAG	ROOM NO.	MANUFACTURER & MODEL NUMBER	QUANTITY	PROPRIETARY	OPEN SPEC (NOT EQUAL)	OP/OI	OP/CI	CP/CI	
EQUIP	REF	148	GE - Energy Star 23.7 cu ft French Door Refrigerator	1		X			X	
	MW	148	GE - Profile 2.2 cu ft Built-In Microwave Oven	1		X			X	
	ICE	148	Kitchenaid - 18" ADA Stainless Steel Automatic Ice Maker	1		X			X	
	DW	148	GE - Profile 18" ADA Stainless Steel Dishwasher	1		X			X	
	CM	148	Keurig K-2500 Commercial Coffee Maker	1		X			X	
								X		
									X	
FURNITURE		143A		16			X			
	FURN-05	143A	Hon, Ignition Arles Chair with Casters, Black Mesh Back, Black Seat Fabric, Black Frame	20	X				X	
		143B		1				X		
		143B		12					X	
	FURN-07	148	Three H, Breakroom Table with Mahogany laminate and black metal base	1	X				X	
		148		4			X			
	LCK1	Hall	List Industries, Unibody All-Welded Corridor Lockers, The Classmate, Single Tier with Slope Top and Louvered Doors, 12" W x 18" D x 72" H, Denim Blue	29		X			X	
	LCK2	206, 207	Hollman, Double Tier Locker, Model B2 ADA, HPL Smooth Earth, 15" W x 18" D x 72" H	4		X			X	
		206, 207		2		X			X	
	FURN-07	249	Three H, Breakroom Table with Mahogany laminate and black metal base	2		X			X	
		249		8				X		
	FURN-03	251B	Three H, #362743, Sunset W336 Finish	1	X				X	
	FURN-05	251B	Hon, Ignition Arles Chair with Casters, Black Mesh Back, Black Seat Fabric, Black Frame	1		X			X	
		243, 244, 245, 251, 252		11					X	
		243, 244, 245, 251, 252		11					X	
		243, 244, 245, 252		16				X		
	243, 244, 245, 252		1				X			
FURN-04	240, 247	Evans, Response NextGen	24	X				X		
FURN-02	240, 247	Via, Brisbane HD, 24/7 Task Chair with Headrest in Black Faux Leather Human Tough, Zero Gravity PC-610 Classic Electric, Performance Padding, Dark Oak Base, Dark Grey Leather Covering	24	X				X		
	242		2	X				X		



REVISIONS

No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
2	PERMIT COMMENTS 1	10/26/2022	
3	PERMIT COMMENTS 2	11/17/2022	
4	ISSUE FOR BID	06/08/2023	

DESIGN BY: DENISE YEE
DRAWN BY: DENISE YEE
CHECKED BY: DANIEL ORTIZ
ISSUE DATE: 06/08/2023
APPROVED BY: DANIEL ORTIZ
APPROVAL DATE: 06/08/2023

DIRECTOR
of
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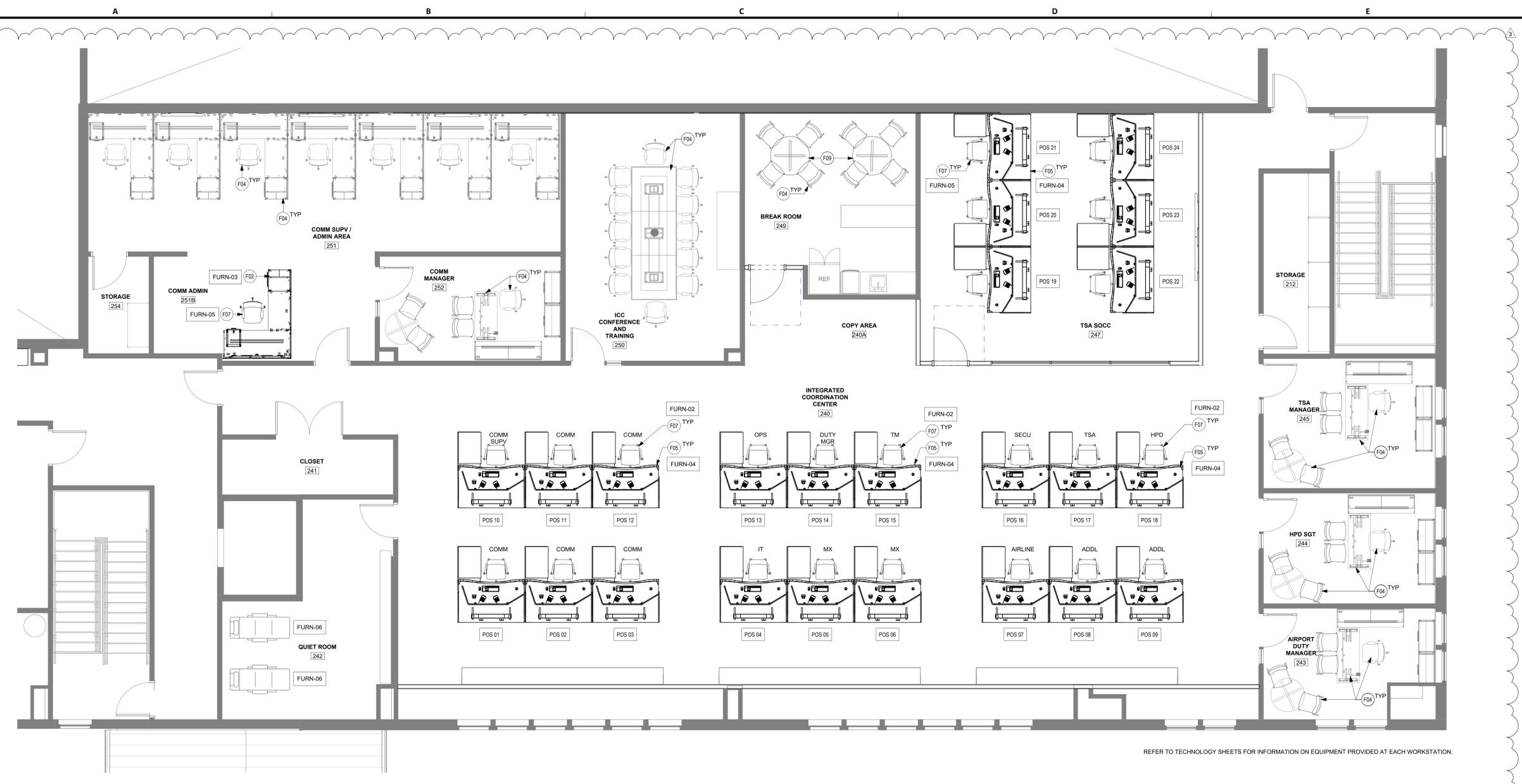
Drawing Status
IFB
 ISSUE FOR BID

North

 TRUE

SHEET NAME:
ENLARGED FURNITURE & EQUIPMENT PLAN

SHEET No. **A-422** SCALE: **As indicated**



REFER TO TECHNOLOGY SHEETS FOR INFORMATION ON EQUIPMENT PROVIDED AT EACH WORKSTATION.

A2 ENLARGED FURNITURE & EQUIPMENT PLAN - LEVEL 2 ICC
 SCALE: 1/4" = 1'-0"

KEYNOTE LEGEND

Key Value	Keynote Text
F02	NEW RECEPTION DESK, THREE H. REFER TO FURNITURE & EQUIPMENT SCHEDULE FOR MORE INFORMATION.
F04	OWNER PROVIDED FURNITURE, CONTRACTOR INSTALLED.
F05	NEW CONSOLES, EVANS, RESPONSE NEXTGEN. REFER TO FURNITURE & EQUIPMENT SCHEDULE AND TECHNOLOGY DRAWINGS AND SPECIFICATIONS FOR MORE INFORMATION.
F07	NEW CHAIRS. REFER TO FURNITURE & EQUIPMENT SCHEDULE FOR MORE INFORMATION.
F09	NEW TABLES.

FURNITURE SCHEDULE

- FURN-01**
NOT USED
- FURN-02**
CHAIR - VIA - BRISBANE HD 247 TASK CHAIR WITH HEADREST IN BLACK FAUX LEATHER - #1603-67C-SS-51A20S-19AB-18BB-16HP-12LUM-HDR1-9FA-GR
- FURN-03**
RECEPTION DESK - THREE H - #982743 - SUNSET W336 FINISH
- FURN-04**
CONSOLE - EVANS - RESPONSE NEXTGEN
- FURN-05**
ECC OPERATOR CHAIRS - HON - IGNITION ARLES CHAIR WITH CASTERS - BLACK MESH BACK - BLACK SEAT FABRIC - BLACK FRAME
- FURN-06**
LOUNGE CHAIR - HUMAN TOUCH - ZER GRAVITY PC-610 CLASSIC ELECTRIC - PERFORMANCE PADDING, DARK OAK BASE, DARK GREY LEATHER COVERING
- FURN-07**
BREAKROOM TABLES - THREE H - MAHOGANY LAMINATE WITH BLACK METAL BASE

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 PLOT DATE:

RDLR

DESIGNER PROJECT No.: 1429.13
 PROJECT STATUS: IFB

REVISIONS

No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
1	ISSUE FOR BID	06/08/2023	

DESIGN BY:	DENISE YEE
DRAWN BY:	DENISE YEE
CHECKED BY:	DANIEL ORTIZ
ISSUE DATE:	06/08/2023
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APPROVAL DATE:	06/08/2023

DIRECTOR
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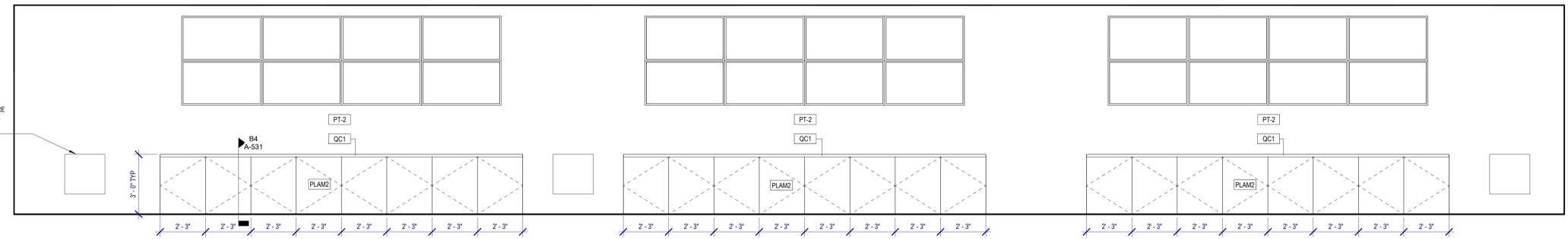
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North

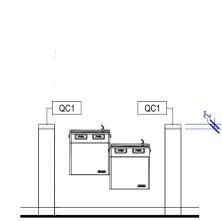
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SHEET NAME: INTERIOR ELEVATIONS
 SHEET No. A-451 SCALE: 3/8" = 1'-0"

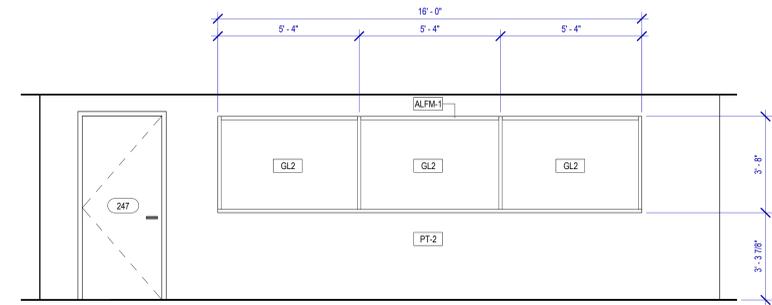
SHEET SIZE: 30"x42" ARCH E1



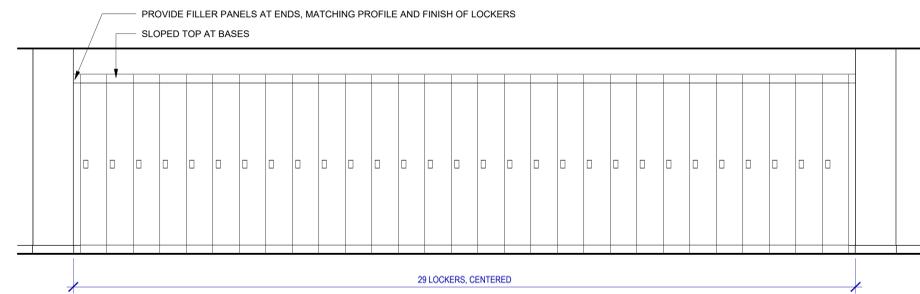
A3 ICC VIDEO WALL ELEVATION
 SCALE: 3/8" = 1'-0"



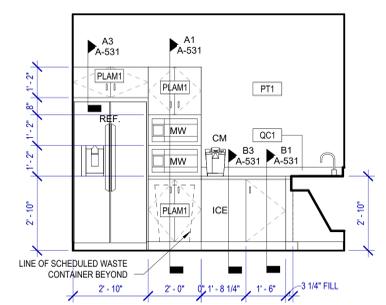
A2 WATER FOUNTAIN WING WALL TYPICAL ELEVATION
 SCALE: 3/8" = 1'-0"



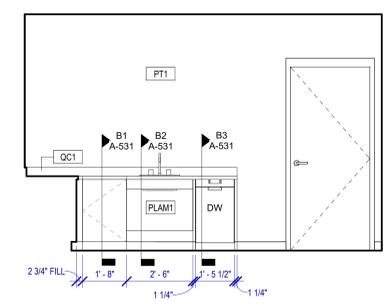
D2 ISA SOCC INTERIOR ELEVATION
 SCALE: 3/8" = 1'-0"



A1 LOCKER ELEVATION
 SCALE: 3/8" = 1'-0"



C1 LEVEL 1 BREAK ROOM ELEVATION
 SCALE: 3/8" = 1'-0"



D1 LEVEL 1 BREAK ROOM ELEVATION 2
 SCALE: 3/8" = 1'-0"

PLOT DATE: 6/7/2023 11:16:05 AM
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 FILE PATH: Autodesk Docs://1429.13 IAH ICC/1429.13_HAS-IAH-CC_Central.rvt
 HAS FILE:

IAH INTEGRATED COORDINATION CENTER

C.I.P. No.	PN793	A.I.P. No.	N/A
C.G.H. No.	N/A	D.O.A. No.	N/A
B.S.G. No.	BSG-2022-257-IAH	T.I.P. No.	TIP-22-219-IAH

RDRL

DESIGNER PROJECT No.: 1429.13
PROJECT STATUS: IFB

REVISIONS

No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
1	PERMIT COMMENTS 1	10/26/2022	
2	ISSUE FOR BID	06/08/2023	

DESIGN BY: DENISE YEE
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CHECKED BY: DANIEL ORTIZ
ISSUE DATE: 06/08/2023
APPROVED BY: DANIEL ORTIZ
APPROVAL DATE: 06/08/2023

DIRECTOR
of
HOUSTON AIRPORT SYSTEM

Drawing Status: **IFB**
ISSUE FOR BID

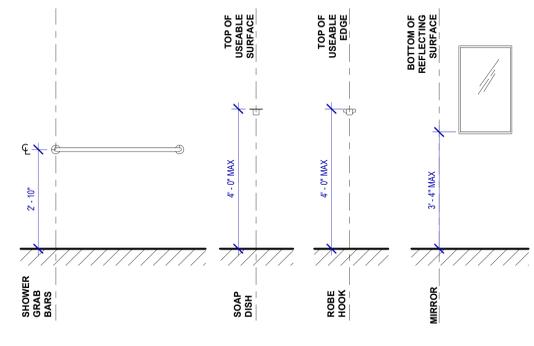


SHEET NAME: ENLARGED SHOWER PLAN & ELEVATIONS
SHEET No.: A-471
SCALE: 1/2" = 1'-0"

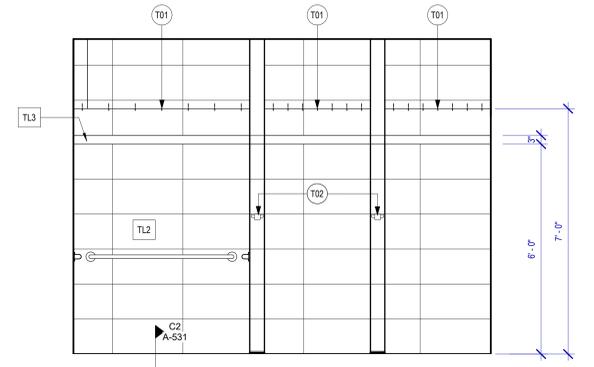
SHEET SIZE: 30"x42" ARCH E1

KEYNOTE LEGEND

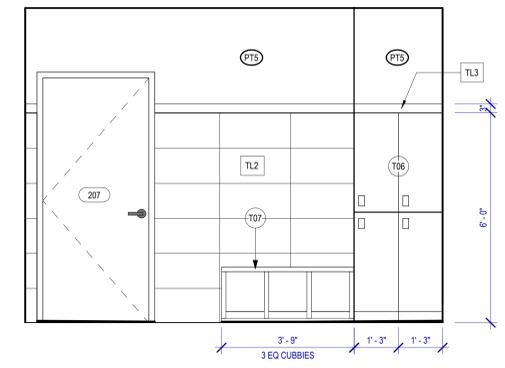
Key Value	Keynote Text
T01	SHOWER CURTAIN, HOOKS AND ROD. BOBRICK 204-3 SHOWER CURTAIN, ON BOBRICK 204-1 SHOWER CURTAIN HOOK, ON BOBRICK 207 SHOWER CURTAIN ROD WITH CONCEALED MOUNTING.
T02	ROBE HOOK. BOBRICK B-7617 SINGLE ROBE HOOK.
T03	SOAP DISH. BOBRICK B-6807 SURFACE-MOUNTED SOAP DISH.
T04	BACK GRAB BAR. BOBRICK B-5806x48 STRAIGHT GRAB BAR.
T05	SIDE GRAB BAR. BOBRICK B-5806x30 STRAIGHT GRAB BAR.
T06	LOCKERS. HOLLMAN B2 DOUBLE TIER LOCKERS WITH ADA ACCESS AND KEYLESS1 LOCK.
T07	CUBBY BENCH. REFER TO ELEVATIONS.
T08	SCHEDULED SHOWER FIXTURE. REFER TO PLUMBING SHEETS FOR MORE INFORMATION.



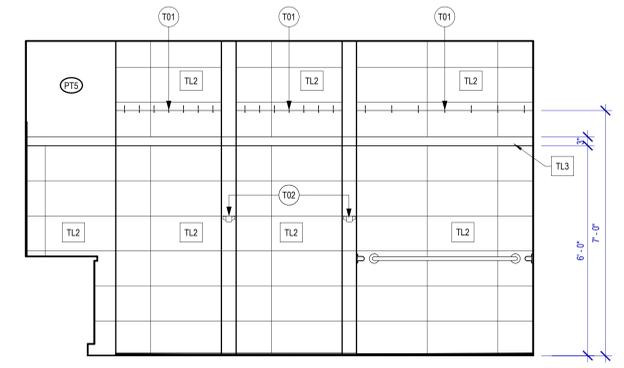
B4 TYPICAL ACCESSORY MOUNTING LOCATIONS - SHOWERS
SCALE: 1/2" = 1'-0"



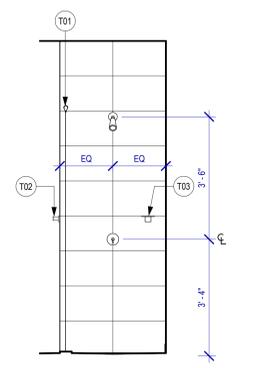
A3 MEN'S SHOWER WEST
SCALE: 1/2" = 1'-0"



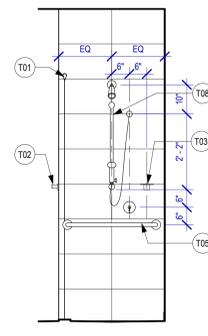
B3 MEN'S SHOWER EAST
SCALE: 1/2" = 1'-0"



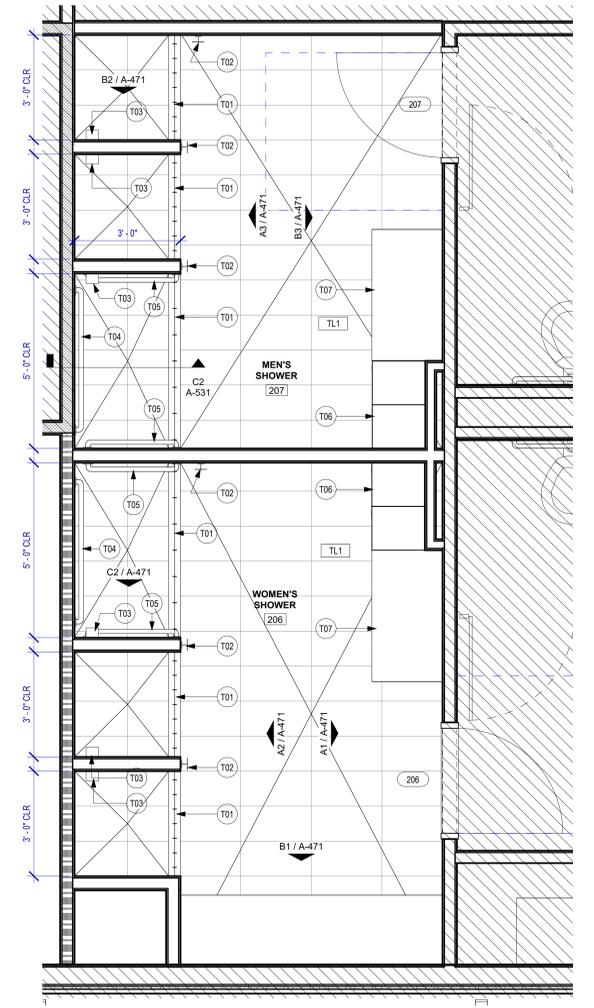
A2 WOMEN'S SHOWER WEST
SCALE: 1/2" = 1'-0"



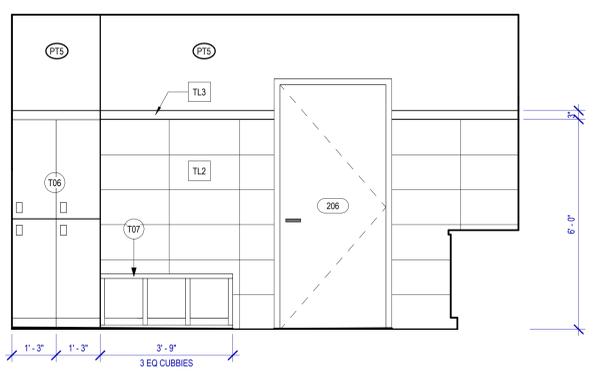
B2 TYP. SHOWER CONTROL WALL
SCALE: 1/2" = 1'-0"



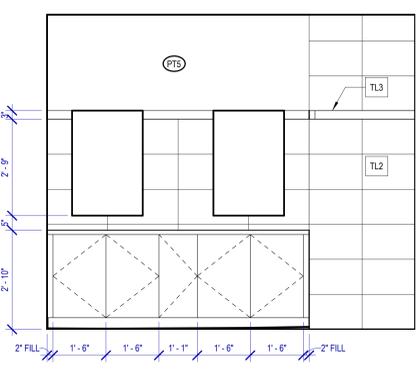
C2 ADA SHOWER CONTROL WALL
SCALE: 1/2" = 1'-0"



D2 SHOWERS
SCALE: 1/2" = 1'-0"



A1 WOMEN'S SHOWER EAST
SCALE: 1/2" = 1'-0"



B1 WOMEN'S SHOWER SOUTH
SCALE: 1/2" = 1'-0"

PLOT DATE: 6/7/2023 11:16:08 AM
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OLD DOA No. :
PLOT DATE:

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GENERAL SERVICES FACILITY
 4551 WILL CLAYTON PKWY,
 HUMBLE, TX 77396

IAH INTEGRATED COORDINATION CENTER

C.I.P. No. PN793 A.I.P. No. N/A
 E.O.H. No. N/A D.O.A. No. N/A
 B.S.G. No. BSG-2022-257-IAH T.I.P. No. TIP-22-219-IAH



DESIGNER PROJECT No.: 1429.13
 PROJECT STATUS: IFB

REVISIONS

No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
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DESIGN BY: DENISE YEE
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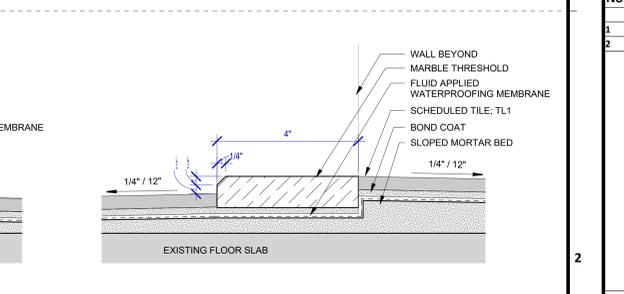
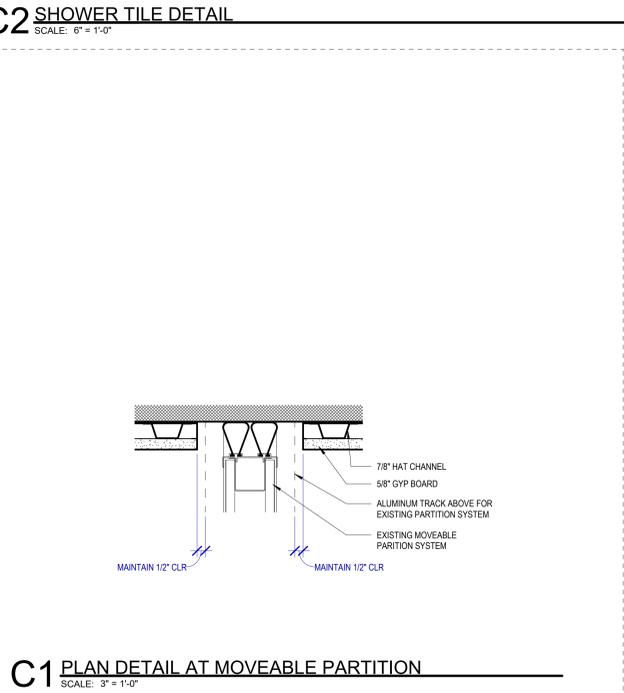
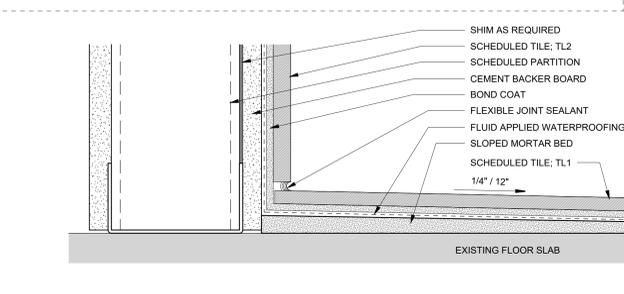
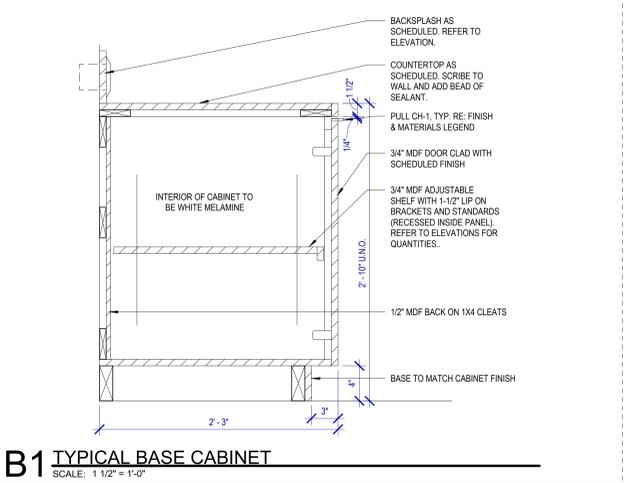
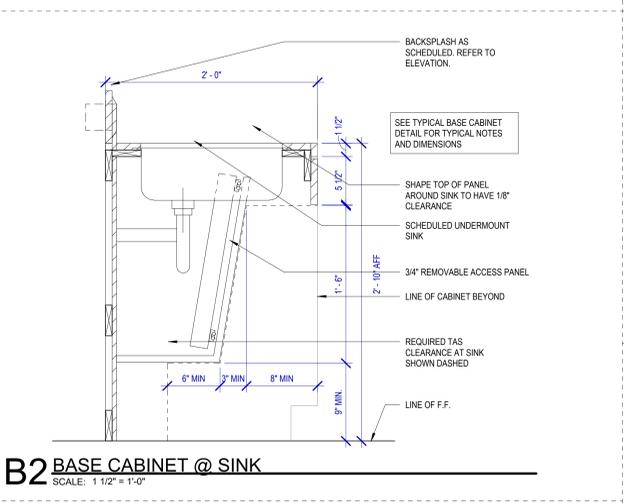
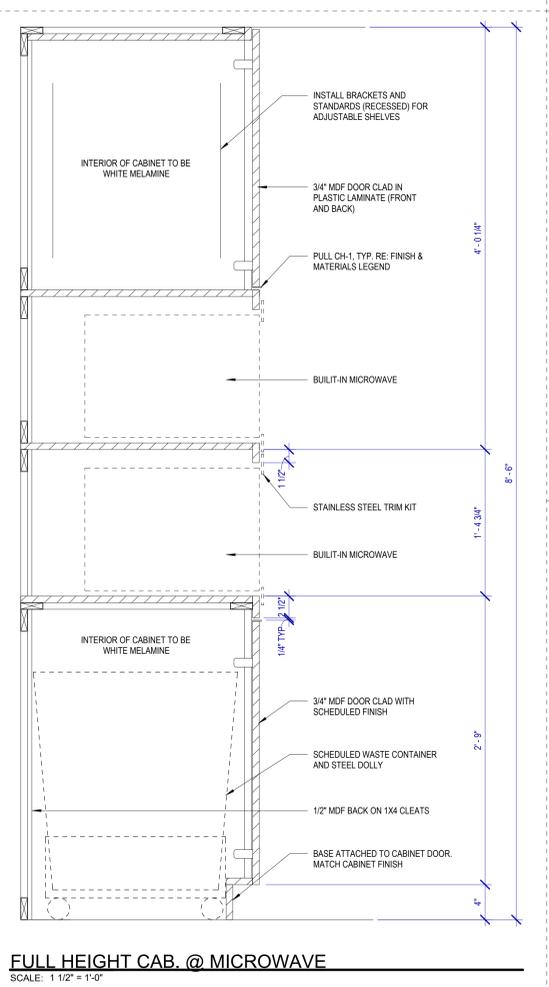
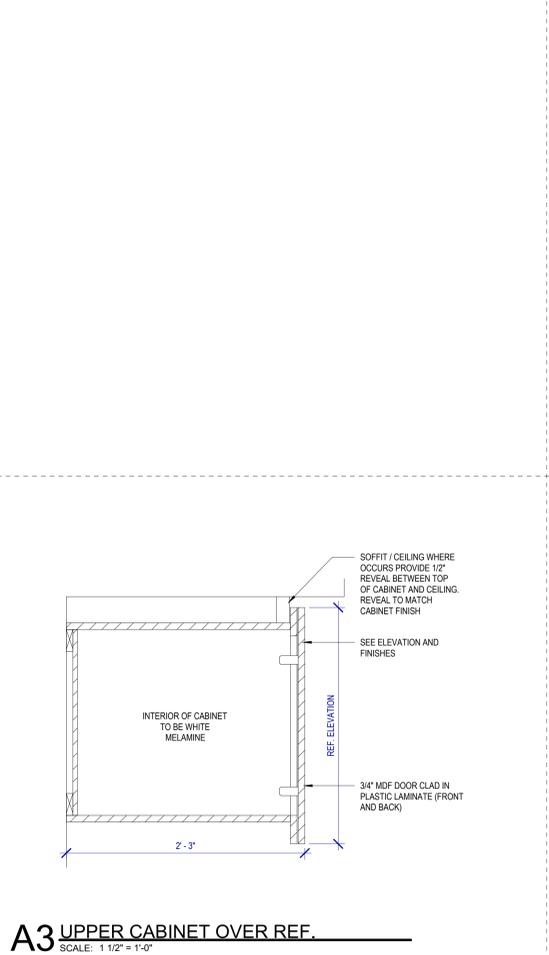
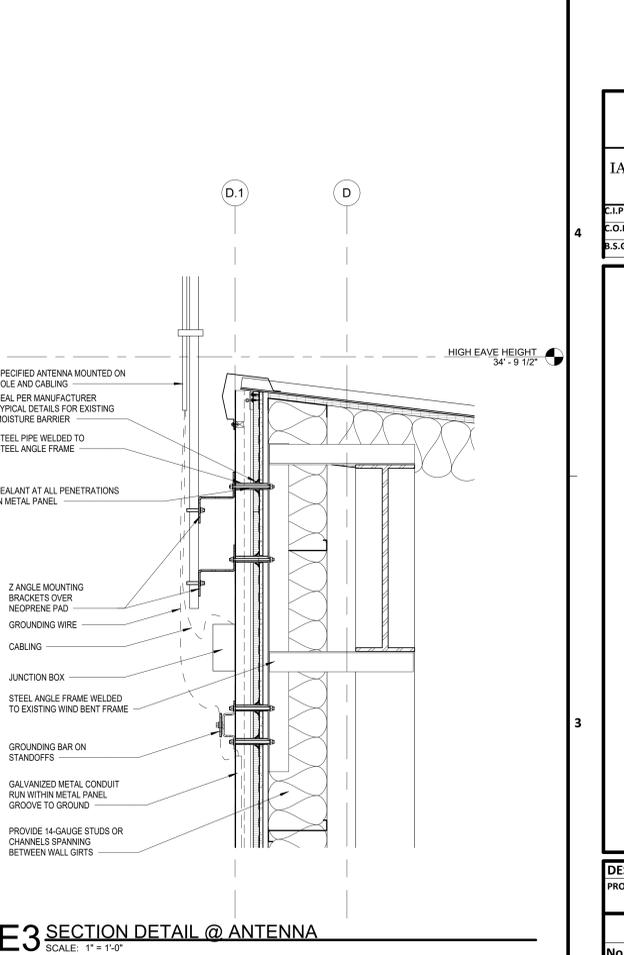
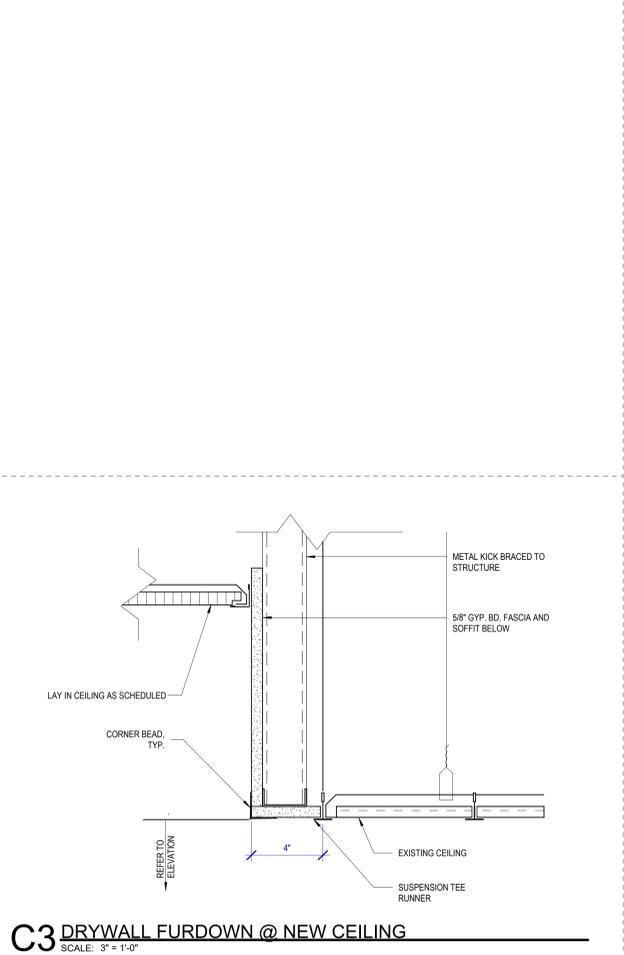
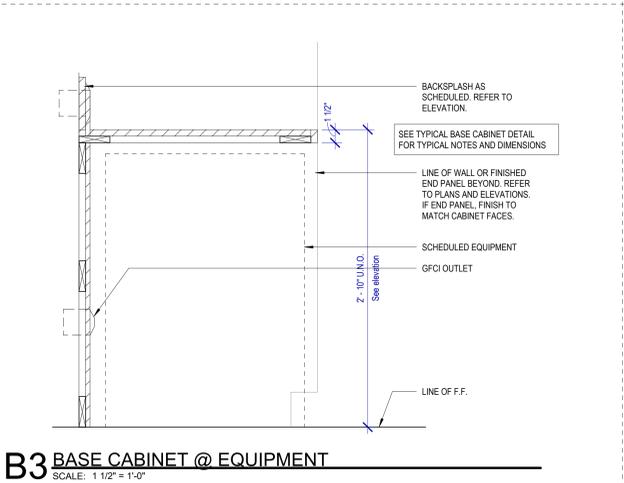
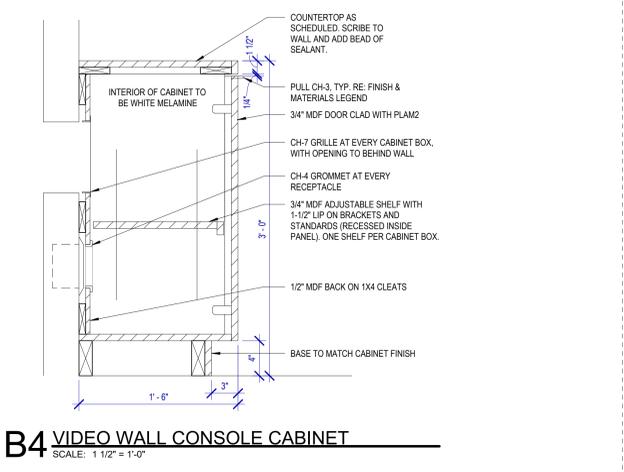
DIRECTOR
 of
 HOUSTON AIRPORT SYSTEM

Drawing Status: IFB
 ISSUE FOR BID

North
 TRUE

SHEET NAME: DETAILS

SHEET No. A-531 SCALE: As indicated



MATERIALS & FINISH KEY

DIVISION 6 - WOODS AND PLASTIC

CUSTOM CABINETS: CUSTOM DESIGNED CASEWORK OF PLASTIC LAMINATE, SHOP FABRICATED AND FINISHED. ALSO INCLUDES RELATED HARDWARE AND ACCESSORIES.

DIVISION 6 - CABINET HARDWARE & ACCESSORIES

CH1 4" WIRE PULL, FINISH: SATIN NICKEL. OCCURS: ALL CABINETS U.N.O.

CH2 RUBBERMAID, 3541 SLIM-JIM, COLOR GRAY. SIZE 23L X 11W X 24.9H. OCCURS: LEVEL 1 BREAK ROOM.

CH3 MOCKET, DP3 TAB PULL SERIES. SIZE: 3". FINISH: SATIN NICKEL. OCCURS: LEVEL 2 ICC VIDEO WALL CONSOLES.

CH4 MOCKET, 4 1/2" MIN OPENING, BRUSHED STAINLESS GROMMET. OCCURS: AT MILLWORK FOR ACCESS TO POWER, TYPICAL.

CH5 RUBBERMAID, 3553 SLIM-JIM STAINLESS STEEL DOLLY. OCCURS: LEVEL 1 BREAK ROOM.

CH6 1) GRASS, CONCEALED SELF CLOSING 120 HINGES.

2) ACCURIDE, #C38000 DRAWER SLIDE

3) KNAPE & VOIGHT, #87 AND 187 SHELF STANDARD

CH7 MOCKET, 8" X 18" METAL AIR VENT GRILLE. OCCURS: AT MILLWORK FOR VENTILLATING EQUIPMENT HEAT LOAD, TYPICAL.

DIVISION 9 - DOORS AND WINDOWS

ALEM1 RAKO SOLUTIONS 375 SERIES WITH 1" TRIM AND A 4-7/8" OVERALL WIDTH, FACTORY FINISHED, FINISH: ANODIZED 1" SNAP FACE TRIM AS ELEVATED. REFER TO ELEVATIONS AND FLOOR PLAN.

GL1 NOT USED

GL2 ONE WAY MIRROR GLASS.

DIVISION 9 - FINISHES

PLASTIC LAMINATE
PLAM1 WILSONART - BRIGHTON WALNUT

PLAM2 WILSONART - CHARCOAL VELVET - TRACELESS FINISH

QUARTZ

QC1 COSENTINO - SILESTONE - ET CALACATTA GOLD

ACOUSTIC TILE

ACT1 NOT USED

ACT2 2x2 OPTIMA REGULAR WITH 9/16" STANDARD GRID, PAINTED BLACK TO MATCH PT4. MAINTAIN ACOUSTICAL PROPERTIES AFTER PAINT.

RUBBER BASE

RB1 ROPPE 4" TALL, 700 SERIES, LUNAR DUST 114. COVE BASE @ SEALED CONCRETE, STRAIGHT BASE @ CARPET AND DOOR PORTAL BUILD-OUTS. OCCURS: TYPICAL WALL BASE UND. REFER TO PLAN FOR FURTHER INFORMATION.

PAINT

PT1 SHERWIN WILLIAMS - DRIFT OF MIST 9166. OCCURS: ALL WALLS U.N.O. REFER TO PLAN.

PT2 SHERWIN WILLIAMS - ENDLESS SEA 9150. ACCENT COLOR. REFER TO PLAN FOR MORE INFORMATION.

PT3 SHERWIN WILLIAMS. COLOR TO MATCH EXISTING DOOR FRAMES. OCCURS: ALL DOOR FRAMES.

PT4 SHERWIN WILLIAMS - BLACK TBD. ACCENT COLOR. REFER TO PLANS AND ELEVATIONS FOR MORE INFORMATION.

PT5 SHERWIN WILLIAMS - EPOXY PAINT - DRIFT OF MIST 9166. OCCURS: SHOWER WALLS AND CEILING.

GLASS FILM

GF1 3M - CRYSTAL GLASS FINISH - FROSTED CRYSTAL 7725SE-324. OCCURS: SIDE LITES IN DOORS TO OFFICES AT LEVEL 2 ICC

TILE

TL1 DALTILE - VL72 INTENSITY PEBBLE - 12"x24". OCCURS: SHOWER FLOORS.

TL2 DALTILE - VL74 REVERB ASH - 12"x24". OCCURS: SHOWER WALLS.

TL3 DALTILE - BP97 EVENING SKY - BRICK JOINT - MOSAIC. OCCURS: ACCENT TRIM AT SHOWER WALLS.

DIVISION 10 - SPECIALTIES**LOCKERS**

LCK1 LIST INDUSTRIES - UNIBODY ALL-WELDED CORRIDOR LOCKERS - THE GLASSMATE - SINGLE TIER WITH SLOPE TOP AND LOUVERED DOORS - 12" WIDTH X 18" DEPTH X 72" HEIGHT - DENIM BLUE. OCCURS: HALLWAY

LCK2 HOLLMAN - DOUBLE TIER LOCKER - MODEL B2 - ADA MODEL - HPL SMOOTH EARTH - 72" HEIGHT X 15" WIDTH X 18" DEPTH. OCCURS: SHOWERS

DIVISION 11 - EQUIPMENT**REFRIGERATOR**

RFE GE - ENERGY STAR 23.7 CU FT FRENCH DOOR REFRIGERATOR. OCCURS: LEVEL 1 BREAK ROOM

MICROWAVE

MW GE - PROFILE 2.2 CU FT BUILT-IN MICROWAVE OVEN. OCCURS: LEVEL 1 BREAK ROOM

DISHWASHER

DW GE - PROFILE 18" ADA STAINLESS STEEL DISHWASHER. OCCURS: LEVEL 1 BREAK ROOM

UNDERCOUNTER ICE MAKER

ICE KITCHENAID - 18" ADA STAINLESS STEEL AUTOMATIC ICE MAKER. OCCURS: LEVEL 1 BREAK ROOM

COFFEE MAKER

CM KEURIG - K-2500 COMMERCIAL COFFEE MAKER. OCCURS: LEVEL 1 BREAK ROOM

DIVISION 12-FURNITURE AND FABRICS

REFER TO FURNITURE & EQUIPMENT PLAN.

DIVISION 23 - MECHANICAL

REFER TO MECHANICAL DRAWINGS

DIVISION 26 - ELECTRICAL

REFER TO ELECTRICAL DRAWINGS

WIRING DEVICES

POWERSIGNAL OUTLETS, SWITCHES AND SWITCH PLATES TO BE LEVITON DECORA, WHITE FINISH TYPICAL ON ALL PT-1 WALLS.

ROOM FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR FINISH	BASE	NORTH WALL FINISH	SOUTH WALL FINISH	EAST WALL FINISH	WEST WALL FINISH	CEILING FINISH	REMARKS
143A	EMERGENCY OPERATIONS CENTER	Existing	RB1	PT1	PT1	PT1	PT1	Existing	
143B	EMERGENCY OPERATIONS CENTER	Existing	RB1	PT1	PT1	PT1	PT1	Existing	
148	BREAK ROOM	Existing	Existing	Existing	Existing	Existing	Existing	Existing	
152	OFFICE	Existing	Existing	Existing	Existing	Existing	Existing	Existing	
206	WOMEN'S SHOWER	TL1	TL1	TL2, TL3	TL2, TL3	TL2, TL3	TL2, TL3	PT1	
207	MEN'S SHOWER	TL1	TL1	TL2, TL3	TL2, TL3	TL2, TL3	TL2, TL3	PT1	
211	UPS ROOM	Existing	RB1	PT1	PT1	PT1	PT1	Existing	
240	INTEGRATED COORDINATION CENTER	Existing	RB1	PT2	PT4	Existing	Existing	Existing, ACT2	1, 2
240A	COPY AREA	Existing	RB1	PT2	PT2	Existing	Existing	Existing	
243	AIRPORT DUTY MANAGER	Existing	Existing	Existing	Existing	Existing	Existing	Existing	
244	HPD SGT	Existing	Existing	Existing	Existing	Existing	Existing	Existing	
245	TSA MANAGER	Existing	Existing	Existing	Existing	Existing	Existing	Existing	
247	TSA SOCC	Existing	RB1	Existing	PT1	PT4	PT1	Existing	1
249	BREAK ROOM	Existing	RB1	PT1	PT1	PT1	PT1	Existing	

ROOM FINISH SCHEDULE REMARKS LEGEND

- REFER TO FLOOR PLANS AND INTERIOR ELEVATIONS FOR MATERIAL PATTERNS, ORIENTATIONS AND PAINT COLOR LOCATIONS.
- CEILING HEIGHT VARIES.



GENERAL SERVICES FACILITY
4551 WILL CLAYTON PKWY,
HUMBLE, TX 77396

IAH INTEGRATED COORDINATION CENTER

C.I.P. No. PN793 A.I.P. No. N/A

C.G.H. No. N/A D.O.A. No. N/A

B.S.G. No. BSG-2022-257-IAH T.I.P. No. TIP-22-219-IAH

RDRLR

DESIGNER PROJECT No.: 1429.13

PROJECT STATUS: IFB

REVISIONS

No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
1	ISSUE FOR BID	06/08/2023	

DESIGN BY: DENISE YEE

DRAWN BY: DENISE YEE

CHECKED BY: DANIEL ORTIZ

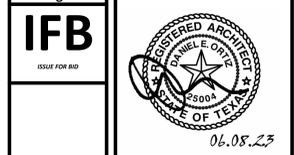
ISSUE DATE: 06/08/2023

APPROVED BY: DANIEL ORTIZ

APPROVAL DATE: 06/08/2023

DIRECTOR of HOUSTON AIRPORT SYSTEM

Drawing Status



SHEET NAME: ROOM FINISH SCHEDULE AND MATERIALS

SHEET No. A-601 SCALE: As indicated

SHEET SIZE: 30"x42" ARCH E1

MATERIALS AND FINISHES GENERAL NOTES

- WHERE MULTIPLE MATERIALS, FINISHES &/OR VARIATIONS IN ELEVATION ARE SPECIFIED FOR A SINGLE SURFACE, REFERENCE INFORMATION IS LOCATED ON THE PLANS AND ELEVATIONS.
- INTERIOR WALL FINISHES ARE REFERENCED FROM THE ROOM FINISH SCHEDULE OR FROM THE INTERIOR ELEVATIONS.
- INTERIOR FLOOR FINISHES ARE REFERENCED FROM THE ROOM FINISH SCHEDULE OR FROM THE FLOOR PLANS.
- INTERIOR CEILING FINISHES ARE REFERENCED FROM THE ROOM FINISH SCHEDULE OR FROM THE REFLECTED CEILING PLANS.
- WHERE GYPSUM BOARD LAYERS DIFFER BETWEEN BETWEEN TWO ADJOINING WALLS, MAINTAIN A CONTINUOUS FINISH FACE OF WALL.
- ALL INTERIOR PAINT SHEENS TO BE EGGSHELL UNLESS OTHERWISE NOTED.
- PROVIDE RUBBER TRANSITION STRIPS AT ALL FLOOR MATERIAL TRANSITIONS UNLESS OTHERWISE NOTED. MATCH ROPPE #50 TILE/CARPET JOINER, BLACK 100. ALL LOCATIONS ARE TO BE VERIFIED IN THE FIELD WITH THE ARCHITECT PRIOR TO INSTALLATION.
- ALL PAINT COLOR LOCATIONS ARE TO BE VERIFIED IN THE FIELD WITH THE ARCHITECT PRIOR TO INSTALLATION.
- ALL GWB PARTITIONS TO BE PT1 UNLESS OTHERWISE NOTED.
- GWB CEILINGS TO BE PT1 UNLESS OTHERWISE NOTED.

DOOR AND DOOR SCHEDULE GENERAL NOTES

- ALL DOOR SIZES ARE TO JAMB OPENING SIZE.
- ALL UNDERCUT DOOR REQUIREMENTS FOR VARIOUS FLOOR FINISHES SHALL BE VERIFIED AND COORDINATED BY THE CONTRACTOR.
- ALL DOOR OPENINGS, FRAMES, AND HARDWARE SHALL COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE CODES.
- COORDINATE ALL DOORS AND DETAILS TO PROVIDE ADEQUATE CLEARANCE AND FRAME REINFORCEMENT FOR HARDWARE TYPES.
- TYPICAL DOOR BEVEL TO BE 1/8" IN 2". UNLESS NOTED OTHERWISE BY THE REQUIRED HARDWARE TEMPLATES.
- ALL EGRESS DOORS SHALL BE READILY OPENABLE FROM THE SIDE OF EGRESS WITHOUT USE OF SPECIAL KNOWLEDGE OR EFFORT.
- DOOR OPENINGS NOT LOCATED BY DIMENSION SHALL BE LOCATED 4" FROM THE FINISHED WALL TO OUTSIDE OF FINISHED JAMB.

DOOR HARDWARE SETS

REFER TO SPECIFICATIONS FOR MORE INFORMATION.

- Manufacturer List**
- BE BEST Access & Door Closers
 - MK McGinley
 - OT Other
 - PE Pemko
 - RO Rockwood
 - SA SARGENT
 - SU Securiton

Set: 1.0

Description: SGL - CR LOCKSET - CLOSER

Qty	Item	Description	Finish	Mfr
2	Hinge, Full Mortise	T42714	US26D	MK
1	Hinge, Full Mortise (Elec)	T42714 QCoX	US26D	MK
1	Full Secure Lock	72 RK 8271-24V x Facility Trim	US26D	SA
1	Core	Match Facility Standard	626	BE
1	Surface Closer	351 Reg / PA	EN	SA
1	Kick Plate	K1050 12" High x LDW CSK	US26D	RO
1	Door Stop	406 / 409 / 446 as required	US26D	RO
3	Silencer	As req'd		RO
1	ElectroLynx Harness - Frame	QC-C1500P		MK
1	ElectroLynx Harness - Door	QC-C1500P x Length as required		MK
1	Position Switch	DPS-MW-WH (as required)		SU
1	Card Reader	By Security		OT
1	Power Supply	ADLX-E1 - Size as required		SU

Notes: Door is normally closed, latched, and secured. Valid credential for ingress, free egress at all times. Coordinate with security and electrical.

Set: 2.0

Description: SGL - RATED - STORAGE - CLOSER

Qty	Item	Description	Finish	Mfr
3	Hinge, Full Mortise	T42714	US26D	MK
1	Statorom Lock	72 8204 x Facility Trim	US26D	SA
1	Core	Match Facility Standard	626	BE
1	Surface Closer	351 Reg / PA	EN	SA
1	Kick Plate	K1050 12" High x LDW CSK	US26D	RO
1	Door Stop	406 / 409 / 446 as required	US26D	RO
1	Gasketing	5980 (Head & Jamb)		PE

Set: 3.0

Description: SGL - PUSH/PULL PLATE - CLOSER

Qty	Item	Description	Finish	Mfr
3	Hinge (heavy weight)	T443766	US32D	MK
1	Pull Plate	BIF 110 x 70C	US32D	RO
1	Pull Plate	7UE	US32D	RO
1	Surface Closer	351 Reg / PA	EN	SA
1	Kick Plate	K1050 12" High x LDW CSK	US32D	RO
1	Door Stop	406 / 409 / 446 as required	US32D	RO
3	Silencer	As req'd		RO

DOOR SCHEDULE

Mark	ROOM NAME	TYPE	DOOR OPENING				MATERIAL	FINISH	FIRE RATING	GLAZING TYPE	HARDWARE GROUP	DOOR FRAME				DETAILS			REMARKS			
			THICKNESS	WIDTH	HEIGHT	WIDTH						HEIGHT	WIDTH	MATERIAL	FINISH	JAMB	HEAD	THRESHOLD				
206	WOMEN'S SHOWER	EXISTING	0' - 1 3/4"	3' - 0"	7' - 0"	EXISTING	EXISTING				3.0	EXISTING	7' - 2"	3' - 4"	HM	PT3 - Paint						
207	MEN'S SHOWER	B	0' - 1 3/4"	3' - 0"	7' - 0"	HM	PT3 - Paint				3.0	1	7' - 2"	3' - 4"	HM	PT3 - Paint						
211	UPS ROOM	B	0' - 1 3/4"	3' - 0"	7' - 0"	HM	PT3 - Paint	1			2.0	1	7' - 2"	3' - 4"	HM	PT3 - Paint						2, 3
247	TSA SOCC	A	0' - 1 3/4"	3' - 0"	7' - 0"	WOOD	PLAM1				1.0	1	7' - 2"	3' - 4"	HM	PT3 - Paint						1
249	BREAK ROOM	A	0' - 1 3/4"	3' - 0"	7' - 0"	WOOD	PLAM1				3.0	1	7' - 2"	3' - 4"	HM	PT3 - Paint						

DOOR SCHEDULE REMARKS LEGEND

- ACCESS-CONTROLLED
- ALWAYS LOCKED ON PULL SIDE
- ALWAYS FREE EGRESS

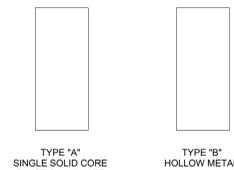


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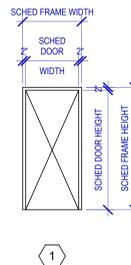
IAH INTEGRATED COORDINATION CENTER

C.I.P. No.	PN793	A.I.P. No.	N/A
C.G.H. No.	N/A	D.O.A. No.	N/A
B.S.G. No.	BSG-2022-257-IAH	T.I.P. No.	TIP-22-219-IAH

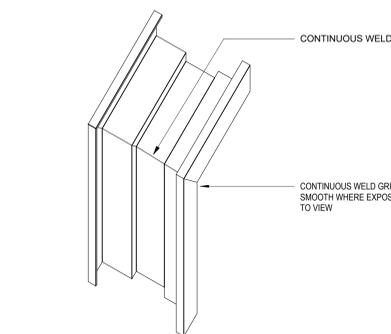
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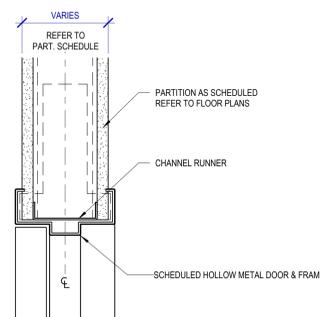
DOOR TYPE ELEVATIONS



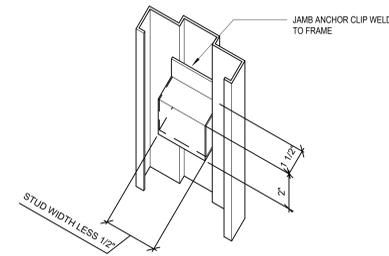
FRAME TYPE ELEVATIONS
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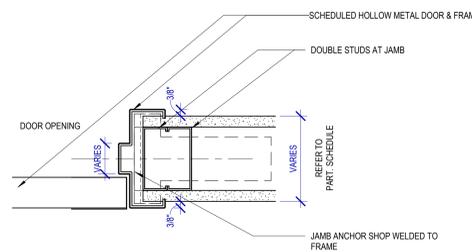
3 TYPICAL FRAME CORNER
SCALE: 3" = 1'-0"



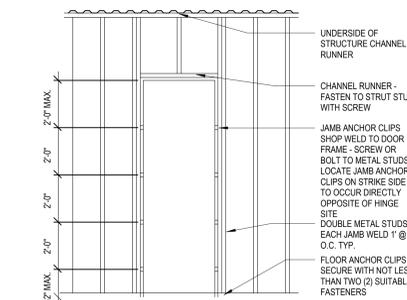
5 DOOR HEAD AT GYP WALL
SCALE: 3" = 1'-0"



2 TYPICAL JAMB METAL STUD FRAMING
SCALE: 3" = 1'-0"



4 DOOR JAMB AT GYP WALL
SCALE: 3" = 1'-0"



1 DRYWALL FRAME INSTALLATION
SCALE: 3" = 1'-0"

DESIGNER PROJECT No.:	1429.13
PROJECT STATUS:	IFB

REVISIONS

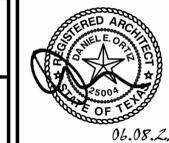
No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
1	PERMIT COMMENTS 1	10/26/2022	
2	ISSUE FOR BID	06/08/2023	

DESIGN BY:	DENISE YEE
DRAWN BY:	DENISE YEE
CHECKED BY:	DANIEL ORTIZ
ISSUE DATE:	06/08/2023
APPROVED BY:	DANIEL ORTIZ
APPROVAL DATE:	06/08/2023

DIRECTOR
of
HOUSTON AIRPORT SYSTEM

Drawing Status

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SHEET NAME: DOOR SCHEDULE

SHEET No. A-61 SCALE: As indicated

SHEET SIZE: 30"x42" ARCH E1



GENERAL SERVICES FACILITY
4551 WILL CLAYTON PKWY,
HUMBLE, TX 77396

IAH INTEGRATED COORDINATION CENTER

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C.G.H. No. N/A D.O.A. No. N/A
B.S.G. No. 85G-2022-257-IAH T.I.P. No. TIP-22-219-IAH



DESIGNER PROJECT No.: 1429.13
PROJECT STATUS: IFB

REVISIONS

No.	DESCRIPTION	DATE	BY
1	PERMIT COMMENTS 1	10/26/2022	
2	ISSUE FOR BID	06/08/2023	

DESIGN BY: DENISE YEE
DRAWN BY: DENISE YEE
CHECKED BY: DANIEL ORTIZ
ISSUE DATE: 06/08/2023
APPROVED BY: DANIEL ORTIZ
APPROVAL DATE: 06/08/2023

DIRECTOR
of
HOUSTON AIRPORT SYSTEM

Drawing Status
IFB
ISSUE FOR BID

North

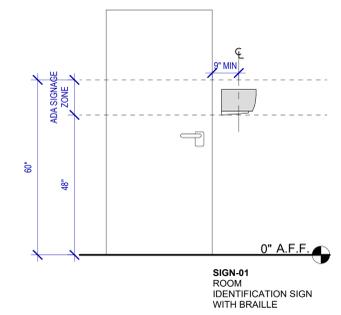
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SHEET NAME: SIGNAGE SCHEDULE
SHEET No. A-612 SCALE: As indicated
SHEET SIZE: 30"x42" ARCH E1

SIGNAGE SCOPE

- CONTRACTOR TO UPDATE ALL EXTERIOR SIGNAGE (INCLUDING EXTERIOR MARQUEE) AS APPROPRIATE TO INCLUDE NEW OCCUPANTS (EOC & ICC)
- CONTRACTOR TO PROVIDE NEW INTERIOR SIGNAGE TO MATCH EXISTING AT SCOPE LOCATIONS DEFINED IN THIS PACKAGE.
- ALL SIGNAGE MUST COMPLY WITH HAS SIGNAGE STANDARDS AND MOST RECENT TASI/ADA TACTILE/SPACING/SIZING/FORMATTING REQUIREMENTS.
- CONTRACTOR TO VERIFY ALL ROOM NUMBERS AND NAMES WITH OWNER PRIOR TO FABRICATION.

TYPICAL ROOM SIGNAGE MOUNTING



EXAMPLE OF EXISTING SIGNAGE - SIGN-01



EXAMPLE OF EXISTING SIGNAGE - SIGN-02



EXAMPLE OF EXISTING SIGNAGE - SIGN-03



EXAMPLE OF EXISTING SIGNAGE - SIGN-05



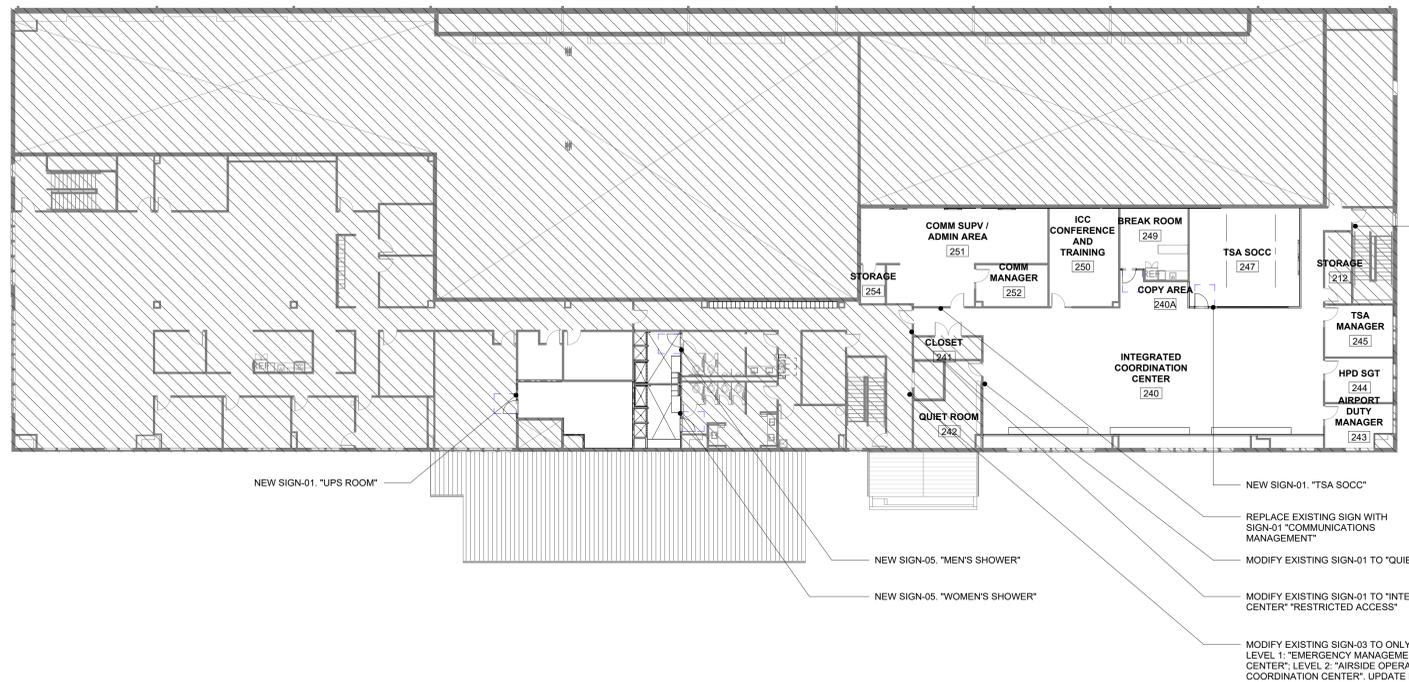
EXAMPLE OF EXISTING SIGNAGE - SIGN-06



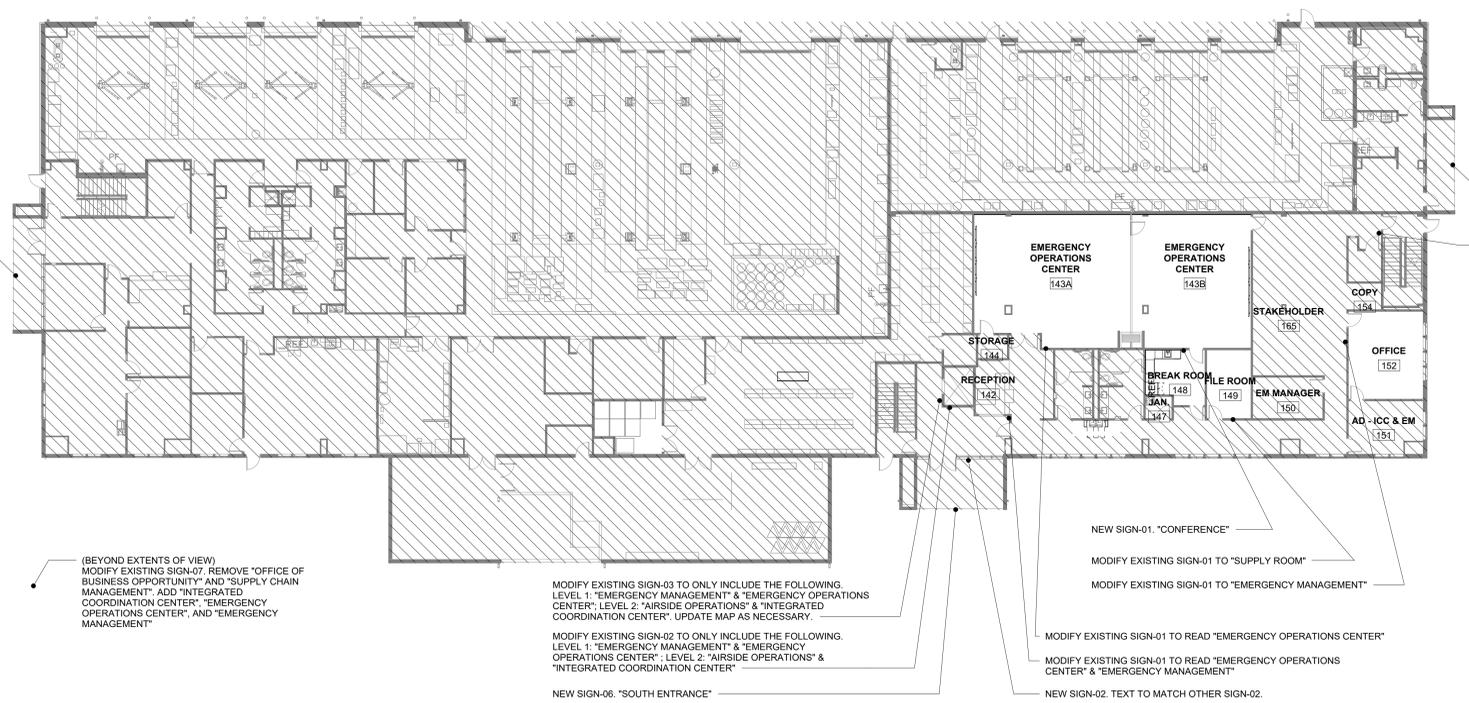
EXAMPLE OF EXISTING SIGNAGE - SIGN-07



REPLACE "OFFICE OF BUSINESS OPPORTUNITY" AND "SUPPLY CHAIN" AND "INTEGRATED COORDINATION CENTER", "EMERGENCY OPERATIONS CENTER" AND "EMERGENCY MANAGEMENT" IN LISTED ORDER.



3 SIGNAGE PLAN - LEVEL 2 - ICC
SCALE: 1/16" = 1'-0"



2 SIGNAGE PLAN - LEVEL 1 - EOC
SCALE: 1/16" = 1'-0"

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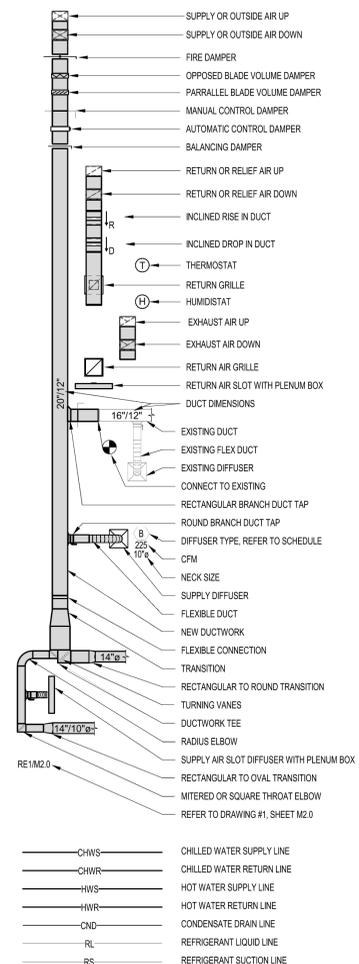
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MECHANICAL GENERAL NOTES

1. PIPING AND DUCTWORK ON DRAWINGS ARE SCHEMATIC ONLY. COORDINATE WITH OTHER TRADES FOR PIPING AND DUCTWORK ROUTING, OFFSET AND RUN PIPING/DUCTWORK INSIDE THE STRUCTURE IF REQUIRED. PROVIDE ALL NECESSARY PIPING, DUCTWORK, FITTINGS, INSULATION, AND OTHER ACCESSORIES.
2. EXACT LOCATIONS OF TERMINAL BOXES, GRILLES, DAMPERS SHALL BE FIELD COORDINATED WITH OTHER TRADES TO AVOID CONFLICTS AND ALLOW ADEQUATE CLEARANCE AND EASY ACCESS.
3. COORDINATE LOCATIONS OF FLOOR AND WALL OPENINGS WITH ARCHITECT AND STRUCTURAL ENGINEER.
4. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.
5. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF ALL OUTSIDE AIR INTAKES TO MAINTAIN 10 FEET DISTANCE BETWEEN OUTSIDE AIR INTAKES AND ANY EXHAUST AIR OUTLET, FLUES OR PLUMBING VENTS.
6. PROVIDE A CONICAL SPIN-IN SHEETMETAL INLET DUCT TO TERMINAL BOX SHALL BE SAME SIZE AS TERMINAL BOX INLET SIZE. PROVIDE RIGID ROUND DUCT THAT IS ONE SIZE LARGER THAN THE INLET BOX SIZE IF THE DISTANCE BETWEEN THE MAIN DUCT AND THE TERMINAL BOX INLET IS MORE THAN 6'-0".
7. CONTRACTOR SHALL PROVIDE ADEQUATE CLEARANCE AROUND VAV BOXES AS REQUIRED BY MANUFACTURER. COORDINATE EXACT LOCATION WITH OTHER TRADES.
8. ROUTE HYDRONIC PIPING FROM MAINS TO VAV BOXES. REFER TO SCHEDULES FOR PIPE SIZING. WITH AN ISOLATION VALVE ON THE SUPPLY AND RETURN LINES AND A VENT AT THE HIGH POINT. OFFSET PIPING AND RUN INSIDE STRUCTURE AS NEEDED TO PROVIDE PROPER CLEARANCES. TYPICAL.
9. ALL SUPPLY AIR DUCT UPSTREAM OF TERMINAL BOXES (PER DIRECTION OF AIRFLOW) SHALL BE SIZED AND CLASSIFIED TO BE MEDIUM PRESSURE DUCTWORK. THIS DUCT SHALL BE CONSTRUCTED TO MEET THE LATEST SMACNA STANDARDS FOR MEDIUM PRESSURE DUCTWORK.
10. INSTALL TERMINAL BOXES TO ENSURE ACCESS PANELS ARE NOT BLOCKED. MAINTAIN MINIMUM 4'-0" FOR CONTROL PANEL ACCESS.
11. NO PIPE HANGERS SHALL BE SPACED MORE THAN 10'-0". COMPLY WITH PIPE SPACING AS SPECIFIED IN THE PIPE SUPPORT SPECIFICATION.
12. CONTRACTOR SHALL COMPLY WITH ALL STATE, LOCAL, AND FEDERAL CODES AND AUTHORITIES HAVING JURISDICTION.
13. EQUIPMENT SIZES, DIMENSIONS, AND REQUIRED CONNECTIONS SHALL BE VERIFIED WITH THE MANUFACTURER DRAWINGS AND CUTSHEETS BEFORE FABRICATION OF DUCTWORK, PIPING, OR POURING OF CONCRETE HOUSEKEEPING PADS.
14. CONTRACTOR SHALL VERIFY DUCTED RETURN AIR PATH BACK TO ALL UNITS. REFER TO FLOOR PLANS AND AIR DEVICE TAGS FOR EXACT SIZING. WHERE RETURN AIR PATH IS ROUTED THROUGH A FIRE RATED WALL, A FIRE DAMPER SHALL BE PROVIDED IN THE DUCTWORK.
15. COORDINATE EXACT LOCATION, FINISH, AND COLOR OF ALL AIR DEVICES WITH ARCHITECT PRIOR TO INSTALLATION.
16. ALL EXPOSED DUCTWORK SHALL BE DOUBLE WALL INSULATED.
17. PROVIDE ACCESS PANEL FOR ALL HVAC EQUIPMENT LOCATED ABOVE HARD CEILING. SIZE PANEL PER MANUFACTURER'S RECOMMENDED SERVICE CLEARANCES AND COORDINATE WITH ARCHITECT FOR FINISH.
18. PROVIDE TEMPERATURE SENSORS, HUMIDISTATS AND CO2 SENSORS AT LOCATIONS INDICATED ON PLANS. MOUNT TEMPERATURE SENSORS, HUMIDISTATS AND CO2 SENSORS AT THE SAME ELEVATION AS LIGHT SWITCHES. COORDINATE EXACT LOCATIONS WITH ARCHITECT.
19. PROVIDE SPIN-IN CONNECTION WITH LOCKING QUADRANT BUTTERFLY FOR ALL ROUND DUCTWORK CONNECTED TO RECTANGULAR DUCT.
20. DUCT SIZES SHOWN ON PLANS ARE CLEAR INSIDE DIMENSIONS.
21. ALL LOW PRESSURE DUCTWORK AND ASSOCIATED ACCESSORIES SHALL BE CONSTRUCTED TO MEET THE LATEST SMACNA STANDARDS FOR MEDIUM AND LOW PRESSURE DUCTWORK.
22. PROVIDE AIRFOIL TYPE TURNING VANES IN ALL 90 DEGREE ELBOWS.
23. FASTEN AND SEAL ALL DUCTWORK JOINTS, LONGITUDINAL AND TRANSVERSE SEAMS AND CONNECTIONS PER ASHRAE 90.1 SECTION 4.4.2.1. DUCT SEALANT SHALL BE APPLIED PRIOR TO DUCTWORK BEING INSULATED.
24. ALL EXPOSED DUCTWORK AND PIPING ALONG WITH ASSOCIATED ACCESSORIES IN AREAS WITH NO CEILING OR PARTIAL CEILING SHALL BE PAINTED. REFER TO ARCHITECT FOR COLOR.
25. PROVIDE REMOTE SPIN-IN CONNECTION FOR ALL ROUND DUCTWORK CONNECTED TO RECTANGULAR DUCT LOCATED ABOVE A HARD CEILING.
26. ALL EQUIPMENT LOCATED OUTDOORS SHALL BE SELECTED TO WITHSTAND 150 MPH WINDS AND SHALL BE SECURED DIRECTLY TO STRUCTURE/GRADE. ALL FANS, RELIEF HOODS, AND INTAKE HOODS SHALL BE SECURED TO CURB USING STEEL CABLES. ALL PIPE SUPPORTS AND CONDUIT SUPPORTS SHALL BE ANCHORED TO ROOF DECK. ALL AIR COOLED CONDENSING UNITS SHALL BE ANCHORED TO ROOF DECK. VIBRATION ISOLATORS SHALL INCLUDE UPLIFT SECUREMENT.
27. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE VERIFIED EXISTING JOBSITE CONDITIONS DURING THE BIDDING PERIOD, SO THEY WILL HAVE OBTAINED THE SCOPE OF MECHANICAL WORK INVOLVED AS A RESULT OF ARCHITECTURAL MODIFICATIONS TO THE EXISTING STRUCTURE. THE SCOPE OF WORK SHALL INCLUDE MATERIALS AND DUCTWORK CONSISTING OF DEVICES, EQUIPMENT, OR APPARATUS WHICH MUST BE REROUTED, RELOCATED, OR REMOVED EITHER TEMPORARILY OR PERMANENTLY, OR WHICH MUST BE PROVIDED SO THAT THE INDICATED REMODELING MAY BE ACCOMPLISHED. NOT ALL EXISTING CONDITIONS ARE NECESSARILY INDICATED ON DRAWINGS. CONTRACTOR SHALL DEMOLISH ONLY WHAT IS INDICATED TO BE DEMOLISHED ON DRAWINGS.
28. COORDINATE ALL MOUNTING LOCATIONS AND HEIGHTS OF AIR DEVICES WITH ARCHITECT PRIOR TO FINAL INSTALLATION.
29. AFTER THE HYDRONIC SYSTEM FLUSH IT IS THE MECHANICAL CONTRACTORS RESPONSIBILITY TO PROVIDE ALL BYPASS LOOPS ON ALL OF THE COIL. PIPING IS CLOSED ONCE THE VALVE IS PROVIDED CLOSED. REMOVE THE HANDLE OF THE BYPASS ISOLATION VALVE TO ENSURE NO BYPASS LINE CAN BE OPENED DURING REGULAR OPERATION.

MECHANICAL SYMBOLS



ENERGY CODE NOTES

1. DUCT SEALING: DUCTWORK AND PLENUMS SHALL BE SEALED IN ACCORDANCE WITH THE 2015 ECC AND 2015 UAC.
 2. BALANCING: SYSTEM SHALL BE BALANCED IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING STANDARDS (NEBB, ASBC, OR ASHRAE 11). AIR SYSTEMS SHALL BE IN A MANNER TO FIRST MINIMIZE THROTTLING LOSSES. THEN FOR FANS WITH FAN SYSTEM POWER GREATER THAN 1 HP, FAN SPEED SHALL BE ADJUSTED TO MEET DESIGN FLOW CONDITIONS.
 3. ENERGY CODE COMPLETION REQUIREMENTS:
 - DRAWINGS: CONSTRUCTION DOCUMENTS SHALL REQUIRE THAT WITHIN 90 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE RECORD DRAWINGS OF THE ACTUAL INSTALLATION BE PROVIDED TO THE BUILDING OWNER OR THE DESIGNATED REPRESENTATIVE OF THE BUILDING OWNER. RECORD DRAWINGS SHALL INCLUDE AS A MINIMUM THE LOCATION AND PERFORMANCE DATA ON EACH PIECE OF EQUIPMENT, GENERAL CONFIGURATION OF DUCT AND PIPE DISTRIBUTION SYSTEM INCLUDING SIZES AND THE TERMINAL AIR OR WATER DESIGN FLOW RATES.
 - MANUALS: CONSTRUCTION DOCUMENTS REQUIRE THAT AN OPERATING MANUAL AND A MAINTENANCE MANUAL BE PROVIDED TO THE BUILDING OWNER OR THE DESIGNATED REPRESENTATIVE OF THE BUILDING OWNER WITHIN 90 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE. THESE MANUALS SHALL BE IN ACCORDANCE WITH INDUSTRY ACCEPTED STANDARDS AND SHALL INCLUDE AT A MINIMUM THE FOLLOWING:
 - (A) SUBMITTAL DATA STATING EQUIPMENT SIZE AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE.
 - (B) OPERATING MANUALS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE, EXCEPT EQUIPMENT NOT FURNISHED AS PART OF THE PROJECT. REQUIRED ROUTINE MAINTENANCE SHALL BE CLEARLY IDENTIFIED.
 - (C) NAMES AND ADDRESSES OF AT LEAST ONE SERVICE AGENCY.
 - (D) HVAC CONTROL SYSTEM MAINTENANCE AND CALIBRATION INFORMATION INCLUDING WIRING DIAGRAMS, SCHEMATICS AND CONTROL SEQUENCE DESCRIPTIONS. DESIRED OR FIELD DETERMINED SET POINTS SHALL BE PERMANENTLY RECORDED ON CONTROL DRAWINGS, AT CONTROL DEVICES OR FOR DIGITAL CONTROL SYSTEMS. IN THE PROGRAMMING COMMENTS.
 - (E) COMPLETE NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE, INCLUDING SUGGESTED SETPOINTS.
- AUTOMATIC SHUTDOWN
 HVAC SYSTEM SHALL BE EQUIPPED WITH CONTROLS THAT CAN START AND STOP THE SYSTEM UNDER DIFFERENT TIME SCHEDULES FOR SEVEN DIFFERENT TIMES PER WEEK, AND BE CAPABLE OF RETAINING PROGRAMMING AND TIME SETTINGS DURING LOSS OF POWER FOR A PERIOD OF NOT LESS THAN 10 HOURS AND INCLUDE AN ACCESSIBLE MANUAL OVERRIDE, OR EQUIVALENT FUNCTION THAT ALLOWS TEMPORARY OPERATION OF THE SYSTEM FOR TWO HOURS.
- SHUTOFF DAMPER CONTROLS
 BOTH OUTDOOR AIR SUPPLY AND EXHAUST SYSTEMS SHALL BE EQUIPPED WITH MOTORIZED DAMPERS THAT WILL AUTOMATICALLY SHUT WHEN THE SYSTEMS OR SPACES SERVED ARE NOT IN USE. VENTILATION OUTDOOR AIR DAMPERS SHALL BE CAPABLE OF AUTOMATICALLY SHUTTING OFF DURING PREOCCUPANCY BUILDING WARM UP, COOL DOWN AND SETBACK.
- NOTES:
 1. DUCTWORK WITHIN THE BUILDING ENVELOPE WILL HAVE A MINIMUM INSULATION VALUE OF R-6. DUCTWORK LOCATED OUTSIDE OF THE BUILDING ENVELOPE WILL BE INSULATED WITH A MINIMUM OF R-3. DUCTWORK SHALL HAVE VAPOR RETARDERS WITH A PERM RATING NOT TO EXCEED 0.5 PERM. ALL JOINTS TO BE SEALED.
 2. CONSTRUCTION - VENTILATING CEILINGS, SUSPENDED CEILING MATERIAL SHALL HAVE A CLASS 1 FLAME-Spread CLASSIFICATION ON BOTH SIDES, DETERMINED IN ACCORDANCE WITH THE BUILDING CODE. CEILING SUPPORTS SHALL BE OF NONCOMBUSTIBLE MATERIALS. LIGHTING FIXTURES RECESSED INTO VENTILATING CEILINGS SHALL BE OF A TYPE APPROVED FOR THAT PURPOSE.
 3. APPLIANCES DESIGNED TO BE FIRED IN POSITION SHALL BE SECURELY FASTENED IN PLACE. SUPPORTS FOR APPLIANCES SHALL BE DESIGNED AND CONSTRUCTED TO SUSTAIN VERTICAL AND HORIZONTAL LOADS WITHIN THE STRESS LIMITATIONS SPECIFIED IN THE IBC, SECTION 304.4 - UNIFORM MECHANICAL CODE.

MECHANICAL SHEET LIST

DWG NUMBER	DWG NAME
M0.01	MECHANICAL ABBREVIATIONS, LEGENDS AND NOTES
M1.00	OVERALL MECHANICAL PLAN
M1.01	MECHANICAL ENLARGED PLAN - LEVEL 1
M1.02	MECHANICAL ENLARGED PLAN - LEVEL 2
M1.03	MECHANICAL ENLARGED PLAN - LEVEL 2
M3.01	MECHANICAL DETAILS AND SCHEDULES



C.I.P. No.	PN793	A.I.P. No.	N/A
C.O.H. No.	N/A	D.O.A. No.	N/A
B.S.G. No.	BSG-2022-257-IAH	T.I.P. No.	TIP-22-219-IAH

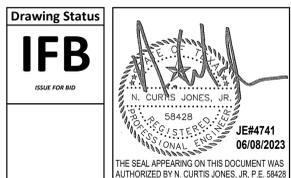


DESIGNER PROJECT No.:	1429.13
PROJECT STATUS:	IFB

REVISIONS			
No.	DESCRIPTION	DATE	BY
	ISSUE FOR PERMIT	10/06/2022	JE
3	ISSUE FOR BID	06/08/2023	JE

DESIGN BY:	JE
DRAWN BY:	JE
CHECKED BY:	JE
ISSUE DATE:	06/08/2023
APPROVED BY:	JE
APPROVAL DATE:	06/08/2023

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SHEET NAME: MECHANICAL ABBREVIATIONS, LEGENDS AND NOTES	
SHEET No. M0.01	SCALE: 12" = 1'-0"

SHEET SIZE: 30"x42" ARCH E1



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C.O.H. No. N/A D.O.A. No. N/A
B.S.G. No. 85G-2022-257-IAH T.I.P. No. TIP-22-219-IAH



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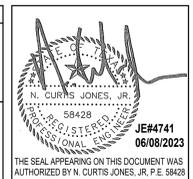
REVISIONS

No.	DESCRIPTION	DATE	BY
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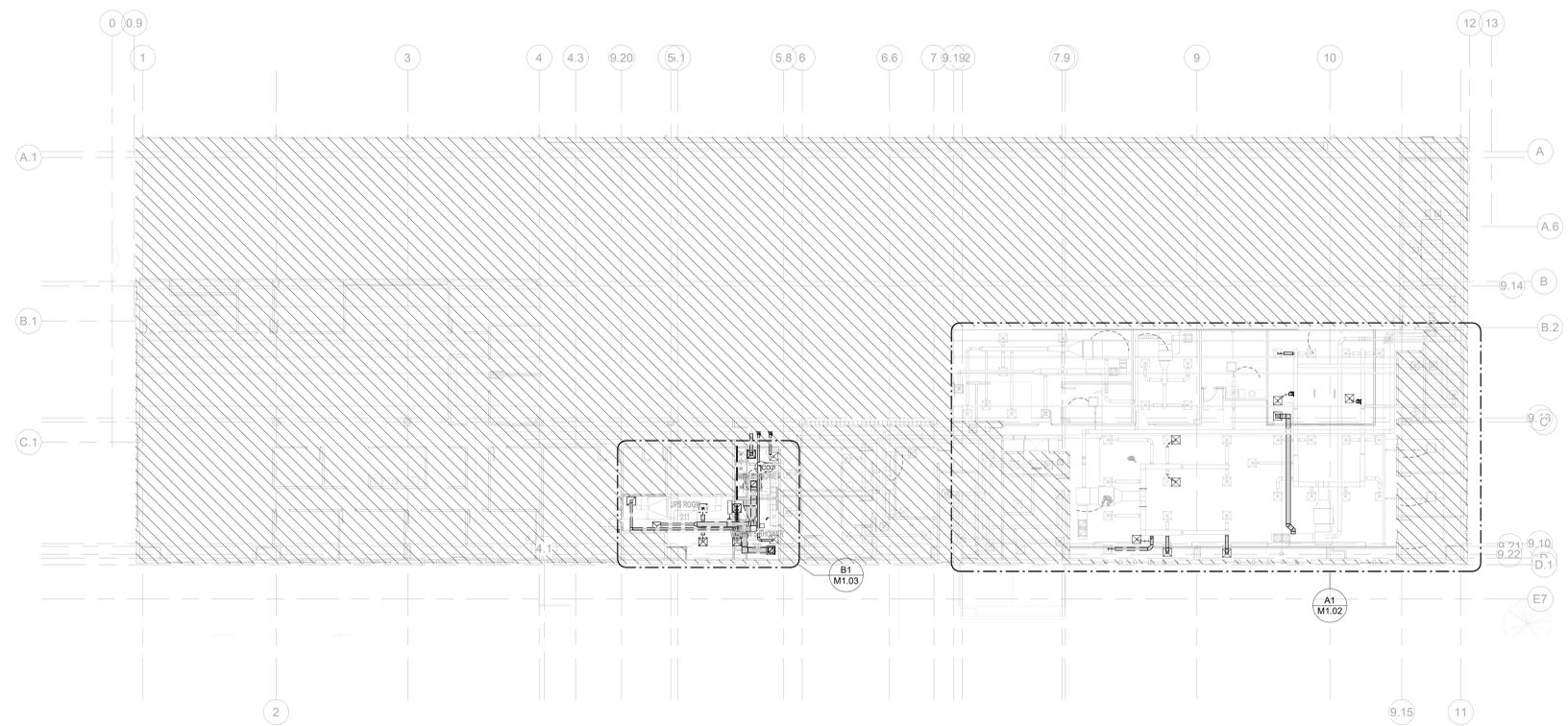
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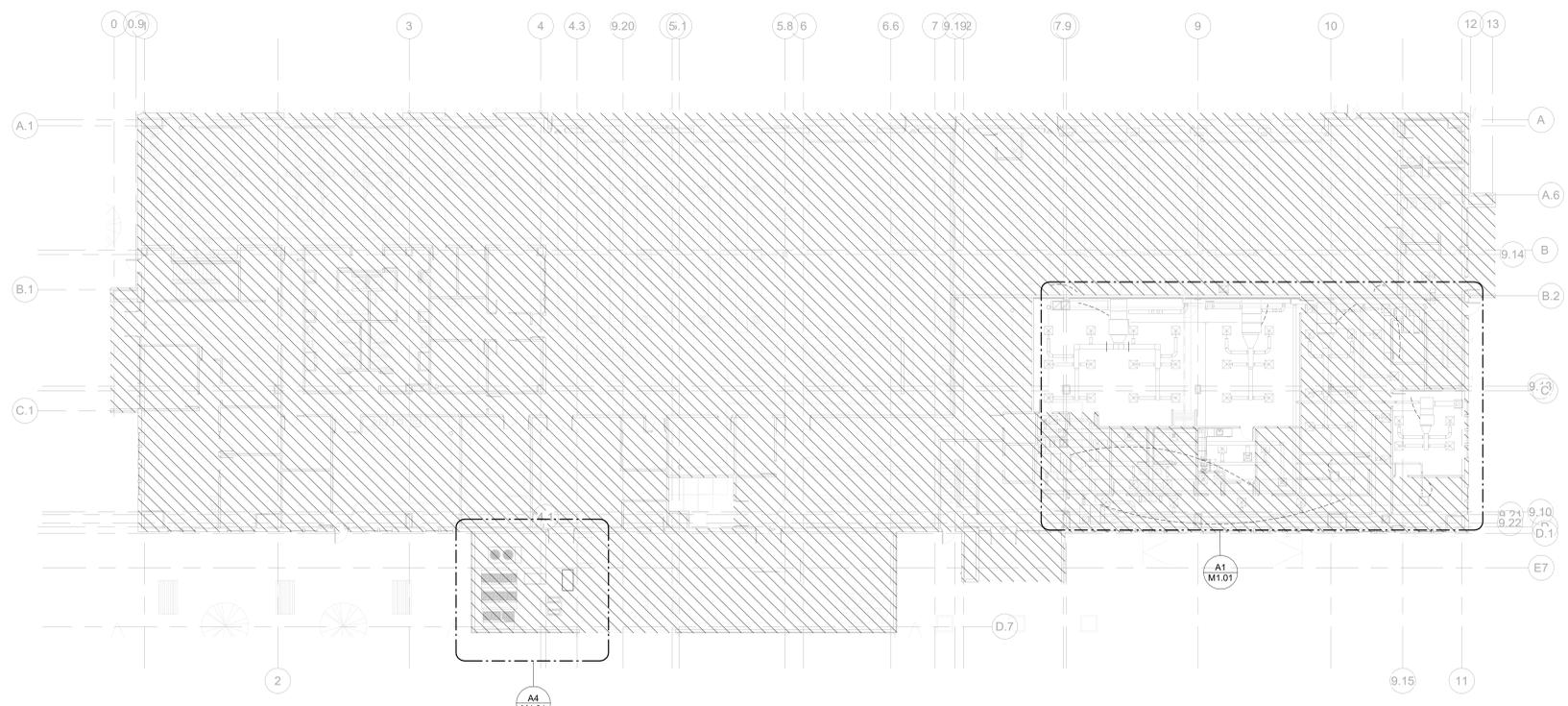
Drawing Status
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SHEET NAME: OVERALL MECHANICAL PLAN
SHEET No. M1.00 SCALE: 1/16" = 1'-0"
SHEET SIZE: 30"x42" ARCH E1



A3 OVERALL MECHANICAL PLAN - LEVEL 2
1/16" = 1'-0"



A1 OVERALL MECHANICAL PLAN - LEVEL 1
1/16" = 1'-0"

PLOT DATE: 6/7/2023 4:34:33 PM
DOA DWG FILE:
OLD DOA No.:
PLOT DATE:
FILE PATH: BIM 360/4844 HAS IAH General Services Building ICC and Emergency Operations Bulldozer/4844_ICC_MEP_R21.rvt
HAS FILE:



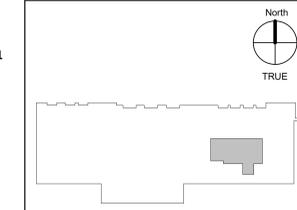
DESIGNER PROJECT No.: 1429.13
PROJECT STATUS: IFB

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No.	DESCRIPTION	DATE BY
1	ISSUE FOR PERMIT	10/06/2022
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SHEET NAME:
MECHANICAL ENLARGED PLAN - LEVEL 1
SHEET No. M1.01 SCALE: As indicated

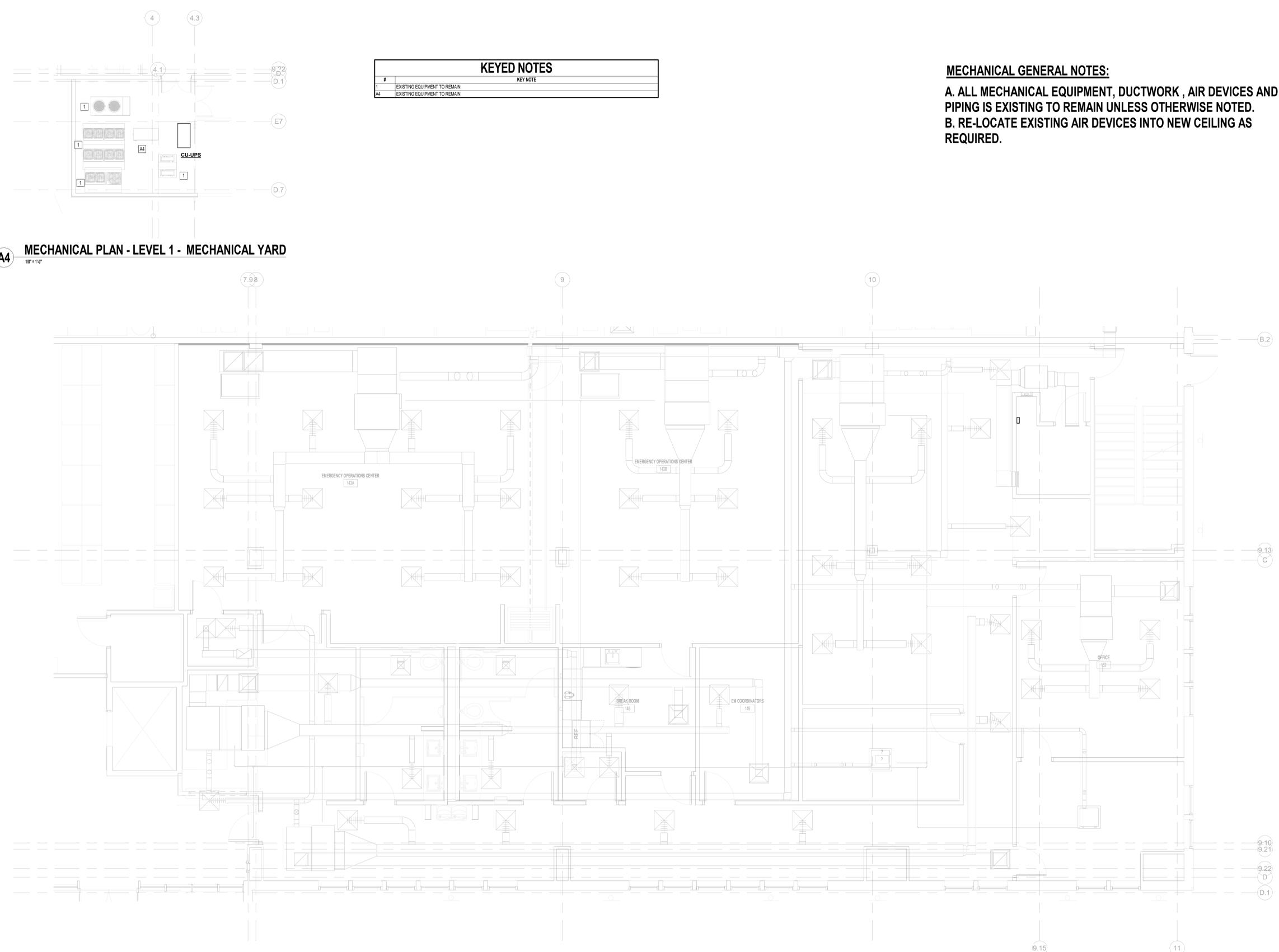
SHEET SIZE: 30"x42" ARCH E1

MECHANICAL GENERAL NOTES:
A. ALL MECHANICAL EQUIPMENT, DUCTWORK , AIR DEVICES AND PIPING IS EXISTING TO REMAIN UNLESS OTHERWISE NOTED.
B. RE-LOCATE EXISTING AIR DEVICES INTO NEW CEILING AS REQUIRED.

#	KEY NOTE
1	EXISTING EQUIPMENT TO REMAIN
A4	EXISTING EQUIPMENT TO REMAIN

A4 MECHANICAL PLAN - LEVEL 1 - MECHANICAL YARD
1/8" = 1'-0"

A1 MECHANICAL PLAN - LEVEL 1 - CALLOUT 1
1/8" = 1'-0"



PLOT DATE: 6/7/2023 4:34:49 PM
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OLD DOA No. :
PLOT DATE:
FILE PATH: BIM 360/4844 HAS IAH General Services Building ICC and Emergency Operations Buildout/4844_ICC_MEP_R21.rvt
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C.G.H. No.	N/A	D.O.A. No.	N/A
B.S.G. No.	85G-2022-257-IAH	T.I.P. No.	TIP-22-219-IAH



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PROJECT STATUS:	IFB

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North
TRUE

SHEET NAME:
MECHANICAL ENLARGED PLAN - LEVEL 2

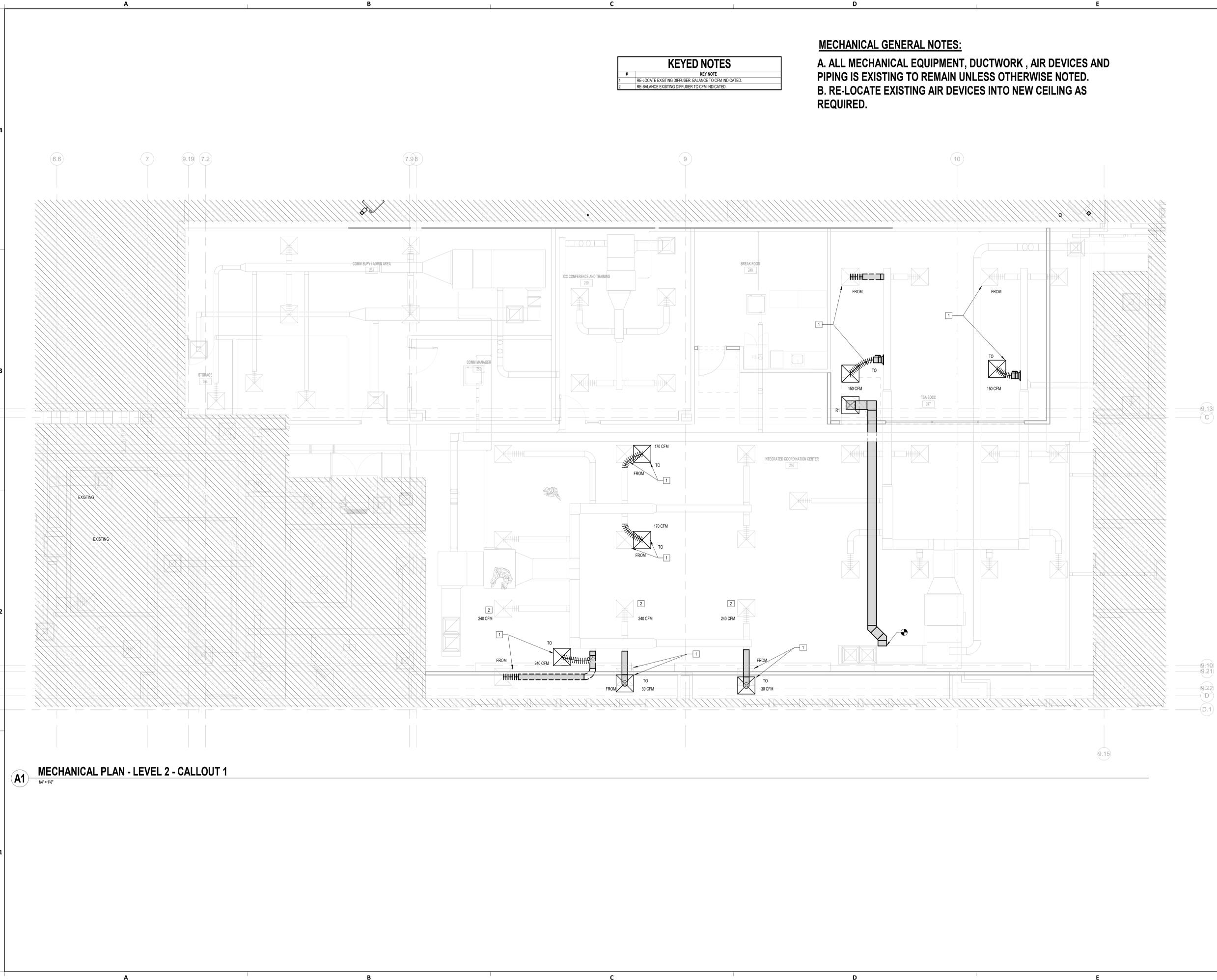
SHEET No. M1.02 SCALE: As indicated

SHEET SIZE: 30"x42" ARCH E1

MECHANICAL GENERAL NOTES:

- A. ALL MECHANICAL EQUIPMENT, DUCTWORK, AIR DEVICES AND PIPING IS EXISTING TO REMAIN UNLESS OTHERWISE NOTED.
- B. RE-LOCATE EXISTING AIR DEVICES INTO NEW CEILING AS REQUIRED.

#	KEY NOTE
1	RE-LOCATE EXISTING DIFFUSER. BALANCE TO CFM INDICATED.
2	RE-BALANCE EXISTING DIFFUSER TO CFM INDICATED.



A1 MECHANICAL PLAN - LEVEL 2 - CALLOUT 1
1/4" = 1'-0"

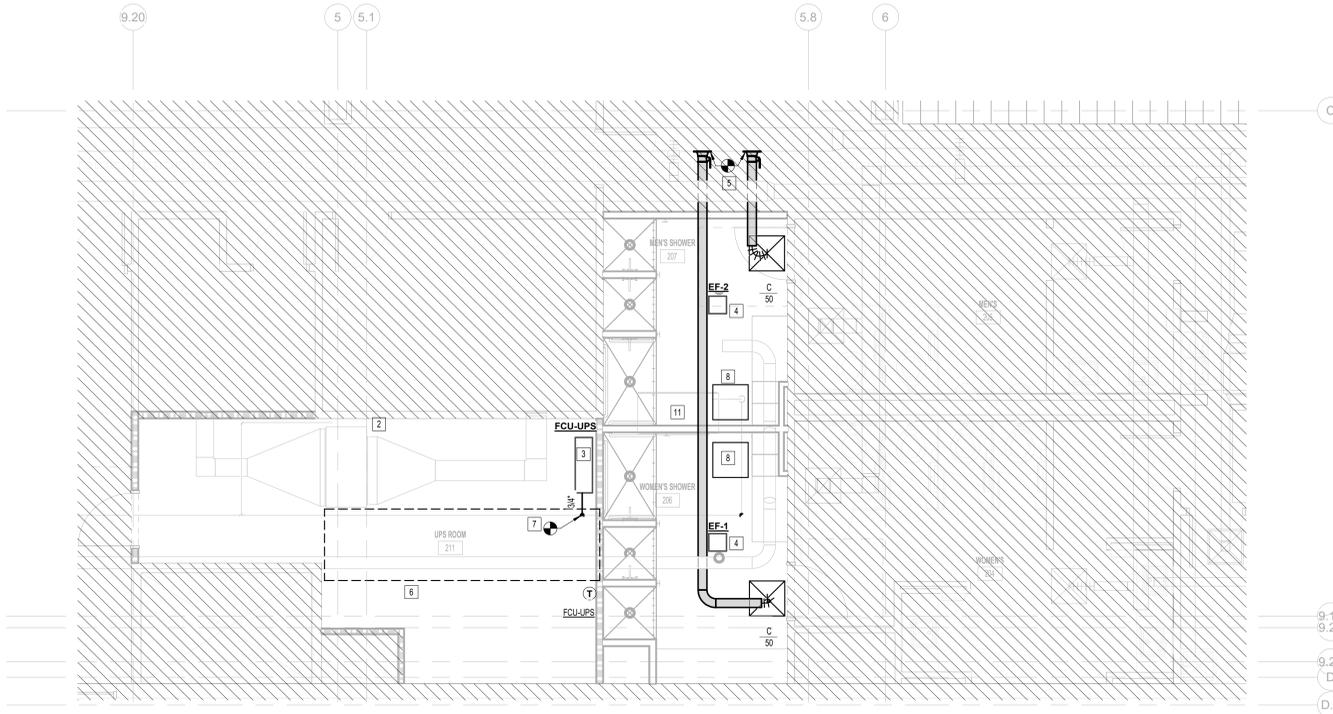
PLOT DATE: 6/7/2023 4:35:02 PM
DOA DWG FILE:
OLD DOA No. :
PLOT DATE:

FILE PATH: BIM 360/4844 HAS IAH General Services Building ICC and Emergency Operations Bulldozer/4844_ICC MEP_R21.rvt
HAS FILE:

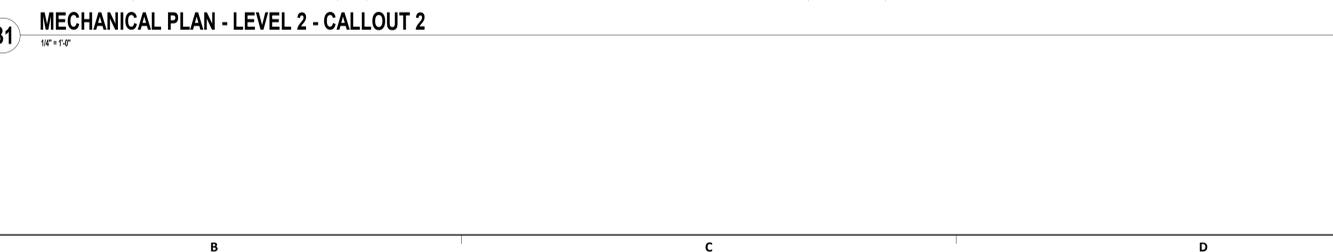
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 DOA DWG FILE:
 OLD DOA No. :
 PLOT DATE:

FILE PATH: BIM 360/4844 HAS IAH General Services Building ICC and Emergency Operations Buildout/4844_ICC_MEP_R21.rvt
 HAS FILE:

B3 MECHANICAL PLAN - LEVEL 2 - CALLOUT 2 DEMOLITION
 1/4" = 1'-0"



B1 MECHANICAL PLAN - LEVEL 2 - CALLOUT 2
 1/4" = 1'-0"



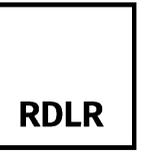
KEYED NOTES		
#	KEY NOTE	
1	DEMOLITION POINT. ALL DOWNSTREAM DUCTWORK AND AIR DEVICES TO BE REMOVED.	
2	EXISTING FAN COIL UNIT TO REMAIN.	
3	NEW 3 TON MINISPLIT WITH CONDENSING UNIT IN MECHANICAL YARD. RE: MECHANICAL DETAILS AND SCHEDULES FOR ADDITIONAL INFORMATION.	
4	NEW EXHAUST FAN ON ROOF. RE: MECHANICAL DETAILS AND SCHEDULES FOR ADDITIONAL INFORMATION.	
5	CONNECT TO EXISTING BRANCH DUCTWORK.	
6	PROVIDE FAN WITH MOISTURE DETECTION SYSTEM LINKED TO BAS FOR EXISTING DUCT AND PIPE.	
7	CONNECT NEW 3/4" CONDENSATE LINE TO EXISTING CONDENSATE LINE. NEW CONDENSATE LINE TO BE HARD DRAWN COPPER.	
8	2X2 ACCESS PANEL.	
9	EXISTING FAN COIL UNIT TO BE DE-COMMISSIONED AND ABANDONED IN PLACE. DEMOLISH EXISTING DUCT CONNECTIONS. ALL REFRIGERANT AND CONDENSATE PIPING CONNECTIONS ARE EXISTING TO REMAIN. EXIST THERMOSTAT TO BE REMOVED FROM WALL AND RELOCATED ABOVE CEILING ATTACHED TO UNIT.	
10	CAP AND SEAL EXISTING OUTSIDE AIR CONNECTION.	
11	EXISTING DE-COMMISSIONED FAN COIL UNIT TO REMAIN.	



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 C.G.H. No. **N/A** D.O.A. No. **N/A**
 B.S.G. No. **85G-2022-257-IAH** T.I.P. No. **TIP-22-219-IAH**



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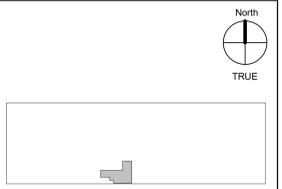
DESIGNER PROJECT No.: **1429.13**
 PROJECT STATUS: **IFB**

REVISIONS			
No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
1	PERMIT COMMENTS 1	10/26/2022	
3	ISSUE FOR BID	06/08/2023	

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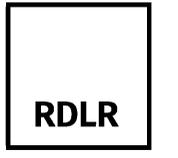
SHEET NAME:
 MECHANICAL ENLARGED PLAN - LEVEL 2
 SHEET No. **M1.03** SCALE: **1/4" = 1'-0"**
 SHEET SIZE: **30"x42" ARCH E1**



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SHEET NAME: MECHANICAL DETAILS AND SCHEDULES
SHEET No. M3.01 SCALE: As indicated
SHEET SIZE: 30"x42" ARCH E1

FAN SCHEDULE														
MARK	MANU.	MODEL	LOCATION	AREA(S) SERVED	FAN TYPE	CFM	E.S.P. IN. W.G.	ELECTRICAL				NOTES		
								HP	RPM	V	PH		HZ	
EF-1	GREENHECK	G-890-VG	ROOF	SHOWER	UPBLAST	210	0.5	0.1	1515	120	1	60	1.4	
EF-2	GREENHECK	G-890-VG	ROOF	SHOWER	UPBLAST	210	0.5	0.1	1515	120	1	60	1.4	

NOTES:
1. EXTERNAL STATIC PRESSURE DOES NOT ACCOUNT FOR LOSSES DUE TO FILTERS, HOUSING, NOR ACCESSORIES.
2. PROVIDE FAN WITH MOTOR RATED TOGGLE SWITCH, VARI-GREEN DIAL, MOUNTED ON EXTERIOR OF FAN HOUSING, AND VIBRATION ISOLATORS.
3. FAN TO BE MONITORED VIA SACKET INTERFACE, BUT CONTROLLED VIA OCCUPANCY SENSOR.
4. ROOF EXHAUST.

FAN COIL UNIT SCHEDULE															
MARK	MANUFACTURER	MODEL	TYPE	ASSOCIATED CONDENSING UNIT	AIR			DX COOLING COIL			ELECTRICAL				NOTES
					AIRFLOW (CFM)	E.S.P. (IN. WC)	OUTSIDE AIR (CFM)	TOTAL CAPACITY (BTU)	V	PH	HZ	MCA (AMPS)	MOP (AMPS)		
FCL-UFS	LG ELECTRONICS	LSN834LV3	DUCTLESS, WALL MOUNT	CU-LUPS	1200	0.25	0	36000	208	1	60	3	15		

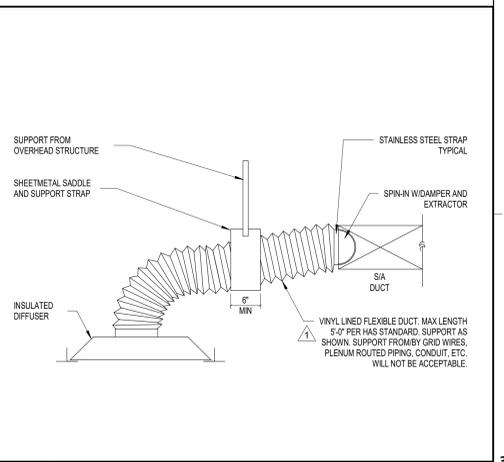
NOTES:
1. NOMINAL COOLING CAPACITIES ARE BASED ON INDOOR AIR TEMPERATURE OF 80°F DB / 67°F WB, OUTDOOR AIR TEMPERATURE OF 95°F (DB)
2. NOMINAL HEATING CAPACITIES ARE BASED ON INDOOR AIR TEMPERATURE OF 70°F DB, OUTDOOR AIR TEMPERATURE OF 47°F DB / 43°F WB

AIR COOLED CONDENSING UNIT SCHEDULE														
MARK	MANUFACTURER	MODEL	LOCATION	COOLING DATA			ELECTRICAL				NOTES			
				HIGH AMBIENT OUTDOOR TEMP (°F)	TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	AMBIENT DESIGN TEMP (°F)	V	PH	HZ		MCA (AMPS)	MOP (AMPS)	
CU-LUPS	LG ELECTRONICS	LSU3634LV3	MECH YARD	105	36000	32000	55	208	1	60	17	25		

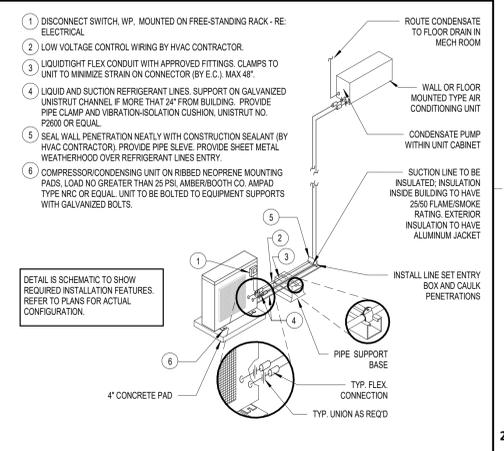
NOTES:
1. NOMINAL COOLING CAPACITIES ARE BASED ON INDOOR AIR TEMPERATURE OF 80°F DB / 67°F WB, OUTDOOR AIR TEMPERATURE OF 95°F (DB)
2. NOMINAL HEATING CAPACITIES ARE BASED ON INDOOR AIR TEMPERATURE OF 70°F DB, OUTDOOR AIR TEMPERATURE OF 47°F DB / 43°F WB
3. DUCTLESS AND SINGLE-PHASE VRF HEAT PUMP EFFICIENCY VALUES FOR EER, SEER, AND HSPF ARE FOR MIXED DUCTED AND NON-DUCTED INDOOR UNITS BASED ON AHRI 210240 TEST METHOD.

AIR DEVICE SCHEDULE											
MARK	MANU.	MODEL	TYPE	NOMINAL FACE SIZE	MAX CFM	NECK SIZE	NOISE CRITERIA		NOTES		
							(MAX) NC				
C	TITUS	TMS	HIGH PERFORMANCE SQUARE CONE DIFFUSER	24 x 24	150 CFM	6"		25			
R1	TITUS	PAR	EGGCRATE RETURN GRILLE	24 x 24	500 CFM	12"x12"		25			

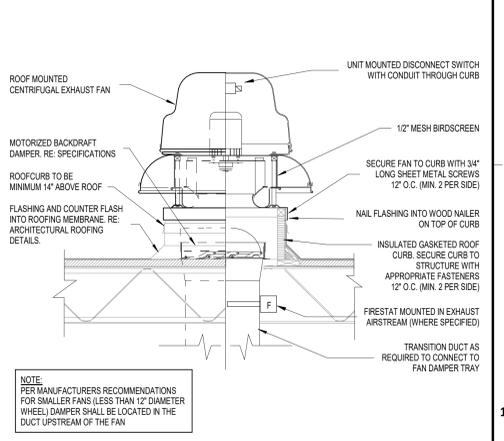
NOTES:
1. COORDINATE EXACT LOCATIONS AND BORDER TYPE WITH ARCHITECTURAL REFLECTED CEILING PLAN.
2. DUCT RUNOUTS TO DIFFUSERS SHALL BE SAME SIZE AS SCHEDULED NECK DIAMETER.
3. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR CEILING TYPES



E3 TYPICAL DIFFUSER
NOT TO SCALE

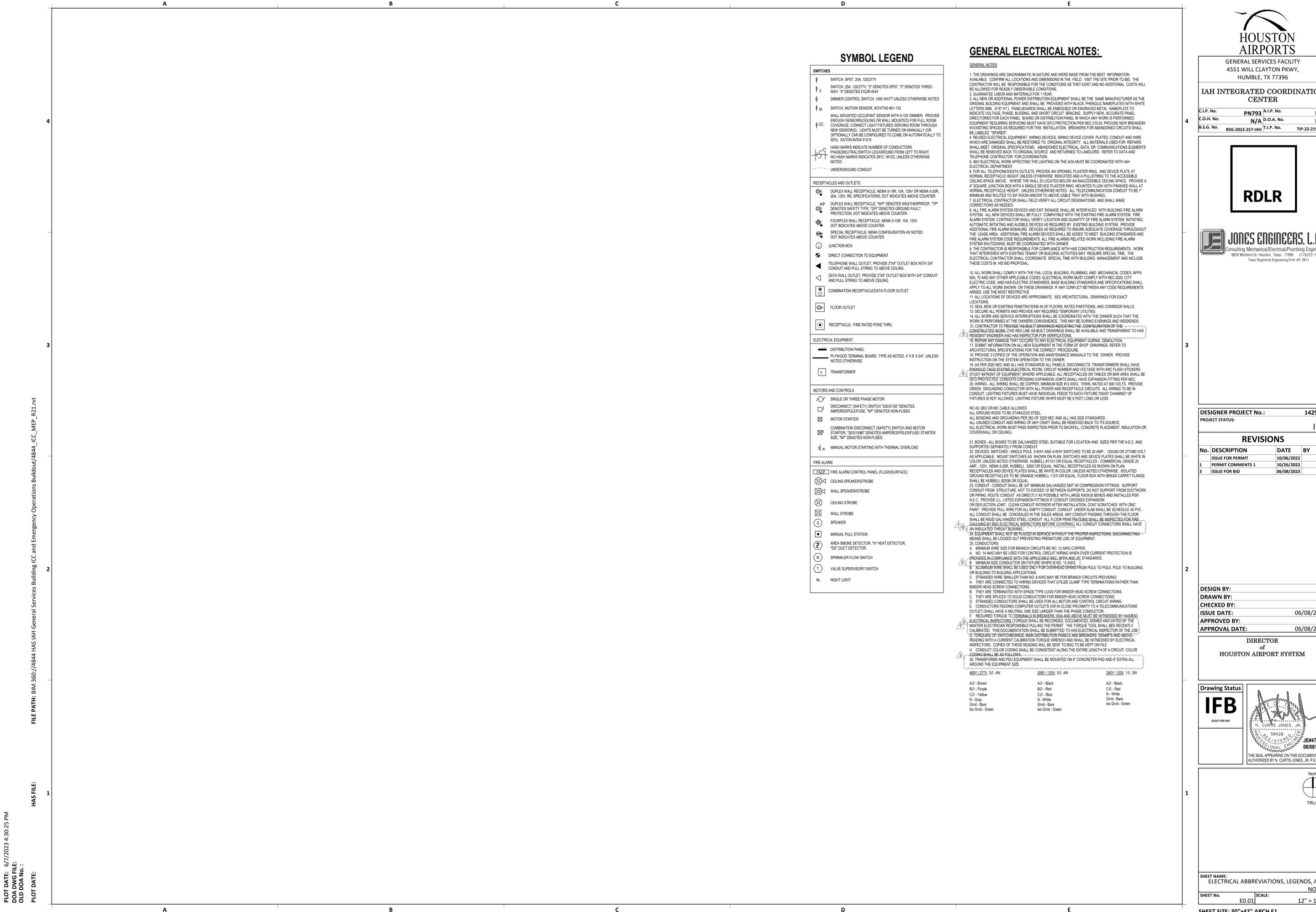


E2 DUCTLESS SPLIT SYSTEM A/C UNIT
NOT TO SCALE



E1 TYPICAL EXHAUST FAN - ROOF MOUNTED
NOT TO SCALE

FILE PATH: BIM 360/4844 HAS IAH General Services Building ICC and Emergency Operations Buildout/4844_ICC_MEP_R21.rvt
PLOT DATE: 6/7/2023 4:35:27 PM
DOA DWG FILE:
OLD DOA No. :
PLOT DATE:
HAS FILE:



GENERAL SERVICES FACILITY
4551 WILL CLAYTON PKWY,
HUMBLE, TX 77396

IAH INTEGRATED COORDINATION CENTER			
C.I.P. No.	PN793	A.I.P. No.	N/A
C.O.H. No.	N/A	D.O.A. No.	N/A
B.S.G. No.	85G-2022-257-IAH	T.I.P. No.	TP-22-219-IAH



JONES ENGINEERS, L.P.
Consulting Mechanical/Electrical/Plumbing Engineers
9820 Whitson Dr. Houston, Texas 77095 (713)222-7766
Texas Registered Engineering Firm #1-381

DESIGNER PROJECT No.:	1429.13
PROJECT STATUS:	IFB

REVISIONS			
No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
2	PERMIT COMMENTS 1	10/26/2022	
3	ISSUE FOR BID	06/08/2023	

DESIGN BY: JE
DRAWN BY: JE
CHECKED BY: JE
ISSUE DATE: 06/08/2023
APPROVED BY: JE
APPROVAL DATE: 06/08/2023

DIRECTOR
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HOUSTON AIRPORT SYSTEM

Drawing Status
IFB
ISSUE FOR BID

JE#4741
06/08/2023

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY N. CURTIS JONES, JR., P.E. 58428

North

TRUE

SHEET NAME:	ELECTRICAL ABBREVIATIONS, LEGENDS, AND NOTES
SHEET No.:	EO.01
SCALE:	12" = 1'-0"

SYMBOL LEGEND

SWITCHES	
SWITCH, SPST, 20A, 120/277V	
SWITCH, 20A, 120/277V, "2" DENOTES DPST, "3" DENOTES THREE-WAY, "4" DENOTES FOURWAY	
DIMMER CONTROL SWITCH, 1000 WATT UNLESS OTHERWISE NOTED	
SWITCH, MOTION SENSOR, NOVITAS 801-133	
WALL MOUNTED OCCUPANT SENSOR WITH 0-10V DIMMER, PROVIDE ENOUGH SENSORS/CELLING OR WALL MOUNTED FOR FULL ROOM COVERAGE. CONNECT LIGHT FIXTURES SERVING ROOM THROUGH NEW SENSOR(S). LIGHTS MUST BE TURNED ON MANUALLY (OR OPTIONALLY CAN BE CONFIGURED TO COME ON AUTOMATICALLY TO 50%). EATON #WSV-P-010	
HASH MARKS INDICATE NUMBER OF CONDUCTORS PHASE/NEUTRAL SWITCH LEG/GROUND FROM LEFT TO RIGHT. NO HASH MARKS INDICATES 2P/1N, 1P/1G, UNLESS OTHERWISE NOTED.	
UNDERGROUND CONDUIT	

RECEPTACLES AND OUTLETS	
DUPLEX WALL RECEPTACLE, NEMA 5-15R, 15A, 125V OR NEMA 5-20R, 20A, 125V, RE: SPECIFICATIONS, DOT INDICATES ABOVE COUNTER.	
DUPLEX WALL RECEPTACLE, "WP" DENOTES WEATHERPROOF, "TP" DENOTES SAFETY TYPE, "GF" DENOTES GROUND FAULT PROTECTION, DOT INDICATES ABOVE COUNTER.	
FOURPLEX WALL RECEPTACLE, NEMA 5-15R, 15A, 125V, DOT INDICATES ABOVE COUNTER.	
SPECIAL RECEPTACLE, NEMA CONFIGURATION AS NOTED, DOT INDICATES ABOVE COUNTER.	
JUNCTION BOX	
DIRECT CONNECTION TO EQUIPMENT	
TELEPHONE WALL OUTLET, PROVIDE 2"x4" OUTLET BOX WITH 3/4" CONDUIT AND PULL STRING TO ABOVE CEILING.	
DATA WALL OUTLET, PROVIDE 2"x4" OUTLET BOX WITH 3/4" CONDUIT AND PULL STRING TO ABOVE CEILING.	
COMBINATION RECEPTACLE/DATA FLOOR OUTLET	
FLOOR OUTLET	
RECEPTACLE - FIRE RATED POKIE THRU	

ELECTRICAL EQUIPMENT	
DISTRIBUTION PANEL	
PL/WOOD TERMINAL BOARD, TYPE AS NOTED, 4" X 8" X 3/4", UNLESS NOTED OTHERWISE	
TRANSFORMER	

MOTORS AND CONTROLS	
SINGLE OR THREE PHASE MOTOR	
DISCONNECT (SAFETY SWITCH "300"3"SP" DENOTES AMP/RES/POLE/FUSE, "NF" DENOTES NON-FUSED)	
MOTOR STARTER	
COMBINATION DISCONNECT (SAFETY SWITCH AND MOTOR STARTER, "300"3"SW" DENOTES AMP/RES/POLE/FUSE/STARTER SIZE, "NF" DENOTES NON-FUSED)	
MANUAL MOTOR STARTING WITH THERMAL OVERLOAD	

FIRE ALARM	
FIRE ALARM CONTROL PANEL (FLUSH/SURFACE)	
CEILING SPEAKER/STROBE	
WALL SPEAKER/STROBE	
CEILING STROBE	
WALL STROBE	
SPEAKER	
MANUAL PULL STATION	
AREA SMOKE DETECTOR, "H" HEAT DETECTOR, "DD" DUCT DETECTOR.	
SPRINKLER FLOW SWITCH	
VALVE SUPERVISORY SWITCH	
NIGHT LIGHT	

GENERAL ELECTRICAL NOTES:

- GENERAL NOTES:
- THE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND WERE MADE FROM THE BEST INFORMATION AVAILABLE. CONFIRM ALL LOCATIONS AND DIMENSIONS IN THE FIELD. VISIT THE SITE PRIOR TO BID. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE CONDITIONS AS THEY EXIST AND NO ADDITIONAL COSTS WILL BE ALLOWED FOR READILY OBSERVABLE CONDITIONS.
 - GUARANTEE LABOR AND MATERIALS FOR 1 YEAR.
 - ALL NEW OR ADDITIONAL POWER DISTRIBUTION EQUIPMENT SHALL BE THE SAME MANUFACTURER AS THE ORIGINAL BUILDING EQUIPMENT AND SHALL BE PROVIDED WITH BLACK PHENOLIC NAMEPLATES WITH WHITE LETTERS (MIN. 3/8" HT.). PANELBOARDS SHALL BE EMBOSSED OR ENGRAVED METAL NAMEPLATE TO INDICATE VOLTAGE, PHASE, BUSING, AND SHORT CIRCUIT BRACING. SUPPLY NEW, ACCURATE PANEL DIRECTORIES FOR EACH PANEL BOARD OR DISTRIBUTION PANEL IN WHICH ANY WORK IS PERFORMED. EQUIPMENT REQUIRING SERVICING MUST HAVE GFCI PROTECTION PER NEC 210.83. PROVIDE NEW BREAKERS IN EXISTING SPACES AS REQUIRED FOR THIS INSTALLATION. BREAKERS FOR ABANDONED CIRCUITS SHALL BE LABELED "SPARES".
 - REUSED ELECTRICAL EQUIPMENT, WIRING DEVICES, SPRING DEVICE COVER PLATED CONDUIT AND WIRE WHICH ARE DAMAGED SHALL BE RESTORED TO ORIGINAL INTEGRITY. ALL MATERIALS USED FOR REPAIRS SHALL MEET ORIGINAL SPECIFICATIONS. ABANDONED ELECTRICAL, DATA, OR COMMUNICATIONS ELEMENTS SHALL BE REMOVED BACK TO ORIGINAL SOURCE AND RETURNED TO LANDFILL. REFER TO DATA AND TELEPHONE CONTRACTOR FOR COORDINATION.
 - ANY ELECTRICAL WORK AFFECTING THE LIGHTING ON THE ADA MUST BE COORDINATED WITH IAH ELECTRICAL DEPARTMENT.
 - FOR ALL TELEPHONE/DATA OUTLETS, PROVIDE AN OPENING, PLASTER RING, AND DEVICE PLATE AT NORMAL RECEPTACLE HEIGHT UNLESS OTHERWISE INDICATED AND A PULLSTRING TO THE ACCESSIBLE CEILING SPACE ABOVE. WHERE THE WALL IS LOCATED BELOW AN INACCESSIBLE CEILING SPACE, PROVIDE A 4" SQUARE JUNCTION BOX WITH A SINGLE DEVICE PLASTER RING MOUNTED FLUSH WITH FINISHED WALL AT NORMAL RECEPTACLE HEIGHT. UNLESS OTHERWISE NOTED, ALL TELECOMMUNICATION CONDUIT TO BE 1" MINIMUM AND ROUTED TO CEILING ROOM AND ABOVE CABLE TRAY WITH BUSHING.
 - ELECTRICAL CONTRACTOR SHALL VERIFY ALL CIRCUIT DESIGNATIONS AND SHALL MAKE CORRECTIONS AS NEEDED.
 - ALL FIRE ALARM SYSTEM DEVICES AND EXT SIGNAGE SHALL BE INTERFACED WITH BUILDING FIRE ALARM SYSTEM. ALL NEW DEVICES SHALL BE FULLY COMPATIBLE WITH THE EXISTING FIRE ALARM SYSTEM. FIRE ALARM SYSTEM CONTRACTOR SHALL VERIFY LOCATION AND QUANTITY OF FIRE ALARM SYSTEM INITIATING, AUTOMATIC INITIATING AND ADJUDIC DEVICES AS REQUIRED BY EXISTING BUILDING SYSTEM. PROVIDE ADDITIONAL FIRE ALARM SIGNALING DEVICES AS REQUIRED TO INSURE ADEQUATE COVERAGE THROUGHOUT THE LEASE AREA. ADDITIONAL FIRE ALARM DEVICES SHALL BE ADDED TO MEET BUILDING STANDARDS AND FIRE ALARM SYSTEM CODE REQUIREMENTS. ALL FIRE ALARMS RELATED WORK INCLUDING FIRE ALARM SYSTEM SHUTDOWNS, MUST BE COORDINATED WITH OWNERS.
 - THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH HAS CONSTRUCTION REQUIREMENTS, WORK THAT INTERFERES WITH EXISTING TENANT OR BUILDING ACTIVITIES MAY REQUIRE SPECIAL TIME, THE ELECTRICAL CONTRACTOR SHALL COORDINATE SPECIAL TIME WITH BUILDING MANAGEMENT AND INCLUDE THESE COSTS IN HIS BID PROPOSAL.
 - ALL WORK SHALL COMPLY WITH THE FAA, LOCAL BUILDING, PLUMBING, AND MECHANICAL CODES, NFPA 90A, 70 AND ANY OTHER APPLICABLE CODES. ELECTRICAL WORK MUST COMPLY WITH NEC-2020, CITY ELECTRIC CODE, AND HAS-ELECTRIC STANDARDS. BASE BUILDING STANDARDS AND SPECIFICATIONS SHALL APPLY TO ALL WORK SHOWN ON THESE DRAWINGS, IF ANY CONFLICT BETWEEN ANY CODE REQUIREMENTS ARISES, USE THE MOST RESTRICTIVE.
 - ALL LOCATIONS OF DEVICES ARE APPROXIMATE. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS.
 - SEAL NEW OR EXISTING PENETRATIONS IN OF FLOORS, RATED PARTITIONS, AND CORRIDOR WALLS.
 - SECURE ALL PERMITS AND PROVIDE ANY REQUIRED TEMPORARY UTILITIES.
 - ALL WORK AND SERVICE INTERRUPTIONS SHALL BE COORDINATED WITH THE OWNER SUCH THAT THE WORK IS PERFORMED AT THE OWNERS CONVENIENCE. THIS MAY BE DURING EVENINGS AND WEEKENDS.
 - CONTRACTOR TO PROVIDE AS-BUILT DRAWINGS INDICATING THE CONFIGURATION OF THE CONSTRUCTED WORK. THE RED LINE AS-BUILT DRAWINGS SHALL BE AVAILABLE AND TRANSPARENT TO HAS RESIDENT ENGINEER AND HAS INSPECTOR FOR VERIFICATIONS.
 - REPAIR ANY DAMAGE THAT OCCURS TO ANY ELECTRICAL EQUIPMENT DURING DEMOLITION.
 - SUBMIT INFORMATION ON ALL NEW EQUIPMENT IN THE FORM OF SHOP DRAWINGS. REFER TO ARCHITECTURAL SPECIFICATIONS FOR THE CORRECT PROCEDURE.
 - PROVIDE 3 COPIES OF THE OPERATION AND MAINTENANCE MANUALS TO THE OWNER. PROVIDE INSTRUCTION ON THE SYSTEM OPERATION TO THE OWNER.
 - AS PER 2020 NEC AND ALL HAS STANDARDS, ALL PANELS, DISCONNECTS, TRANSFORMERS SHALL HAVE PHENOLIC TAGS, TERMINAL ELECTRICAL ROOM, CIRCUIT NUMBER AND VOLTAGE WITH ARC FLASH STICKERS STUDY IN FRONT OF EQUIPMENT, WHERE APPLICABLE. ALL RECEPTACLES ON TABLES OR BAR AREA SHALL BE GFCI PROTECTED. CONDUITS CROSSING EXPANSION JOINTS SHALL HAVE EXPANSION FITTING PER NEC.
 - WIRING - ALL WIRING SHALL BE COPPER, MINIMUM SIZE 2# AWG, THIN, RATED AT 600 VOLTS. PROVIDE GREEN GROUNDING CONDUCTOR WITH ALL POWER AND RECEPTACLE CIRCUITS. ALL WIRING TO BE IN CONDUIT. LIGHTING FIXTURES MUST HAVE INDIVIDUAL FEEDS TO EACH FIXTURE. "DAISY CHAINING" OF FIXTURES IS NOT ALLOWED. LIGHTING FIXTURE WHIPS MUST BE 6 FEET LONG OR LESS.

- NO AC (BX) OR MC CABLE ALLOWED.
ALL GROUND RODS TO BE STAINLESS STEEL.
ALL BONDING AND GROUNDING PER 250 OF 2020 NEC AND ALL HAS 2020 STANDARDS.
ALL UNUSED CONDUIT AND WIRING OF ANY CRAFT SHALL BE REMOVED BACK TO ITS SOURCE.
ALL ELECTRICAL WORK MUST PASS INSPECTION PRIOR TO BACKFILL, CONCRETE PLACEMENT, INSULATION OR CURING(WALL OR CEILING).

21. BOXES - ALL BOXES TO BE GALVANIZED STEEL SUITABLE FOR LOCATION AND SIZED PER THE N.E.C. AND SUPPORTED SEPARATELY FROM CONDUIT.
22. DEVICES/SWITCHES - SINGLE POLE 3-WAY AND 4-WAY SWITCHES TO BE 20 AMP, 120/240 OR 277/480 VOLT AS APPLICABLE. MOUNT SWITCHES AS SHOWN ON PLAN. SWITCHES AND DEVICE PLATES SHALL BE WHITE IN COLOR, UNLESS NOTED OTHERWISE. HUBBELL H1121 OR EQUAL RECEPTACLES - COMMERCIAL GRADE 20 AMP, 120V, NEMA 5-20R, HUBBELL 5262 OR EQUAL. INSTALL RECEPTACLES AS SHOWN ON PLAN.
RECEPTACLES AND DEVICE PLATES SHALL BE WHITE IN COLOR, UNLESS NOTED OTHERWISE. ISOLATED GROUND RECEPTACLES TO BE ORANGE HUBBELL H1211 OR EQUAL. FLOOR BOX WITH BRASS CARPET FLANGE SHALL BE HUBBELL B236 OR EQUAL.
23. CONDUIT - CONDUIT SHALL BE 3/4" MINIMUM GALVANIZED EMT W/ COMPRESSION FITTINGS. SUPPORT CONDUIT FROM STRUCTURE, NOT TO EXCEED 10' BETWEEN SUPPORTS. DO NOT SUPPORT FROM DUCTWORK OR PIPING. ROUTE CONDUIT AS DIRECTLY AS POSSIBLE WITH LARGE RADIUS BENDS AND INSTALLED PER N.E.C. PROVIDE U.L. LISTED EXPANSION FITTINGS IF CONDUIT CROSSES EXPANSION OR DEFLECTION JOINT. CLEAN CONDUIT INTERIOR AFTER INSTALLATION, COAT SCRATCHES WITH ZINC PAINT. PROVIDE PULL WIRE FOR ALL EMPTY CONDUIT. CONDUIT UNDER SLAB SHALL BE SCHEDULE 40 PVC. ALL CONDUIT SHALL BE CONCEALED IN THE SLAB AREAS. ANY CONDUIT PASSING THROUGH THE FLOOR SHALL BE RIGID GALVANIZED STEEL CONDUIT. ALL FLOOR PENETRATIONS SHALL BE INSPECTED FOR FIRE CALLING BY BSG ELECTRICAL INSPECTORS BEFORE COVERING. ALL CONDUIT CONNECTORS SHALL HAVE AN INSULATED THROAT BUSHING.

24. EQUIPMENT SHALL NOT BE PLACED IN SERVICE WITHOUT THE PROPER INSPECTIONS; DISCONNECTING MEANS SHALL BE LOCKED OUT PREVENTING PREMATURE USE OF EQUIPMENT.
25. CONDUCTORS:
A. MINIMUM WIRE SIZE FOR BRANCH CIRCUITS BE NO. 12 AWG COPPER.
B. NO. 14 AWG MAY BE USED FOR CONTROL CIRCUIT WIRING WHEN OVER CURRENT PROTECTION IS PROVIDED IN COMPLIANCE WITH THE APPLICABLE NEC, NFPA AND JIC STANDARDS.
C. MINIMUM SIZE CONDUCTOR ON FIXTURE WHIPS IS NO. 12 AWG. 1
D. ALUMINUM WIRE SHALL BE USED ONLY FOR OVERHEAD SPANS FROM POLE TO POLE, POLE TO BUILDING, OR BUILDING TO BUILDING APPLICATIONS.
E. STRANDED WIRE SMALLER THAN NO. 8 AWG MAY BE FOR BRANCH CIRCUITS PROVIDING:
A. THEY ARE CONNECTED TO WIRING DEVICES THAT UTILIZE CLAMP TYPE TERMINATIONS RATHER THAN BINDER HEAD SCREW CONNECTIONS.
B. THEY ARE TERMINATED WITH SPADE TYPE LUGS FOR BINDER HEAD SCREW CONNECTIONS.
C. THEY ARE SPICED TO SOLID CONDUCTORS FOR BINDER HEAD SCREW CONNECTIONS.
D. STRANDED CONDUCTORS SHALL BE USED FOR ALL MOTOR AND CONTROL CIRCUIT WIRING.
E. CONDUCTORS FEEDING COMPUTER OUTLETS (OR IN CLOSE PROXIMITY TO A TELECOMMUNICATIONS OUTLET) SHALL HAVE A NEUTRAL ONE SIZE LARGER THAN THE PHASE CONDUCTOR.
F. REQUIRED TORQUE TO TERMINALS IN BREAKERS 100A AND ABOVE MUST BE WITNESSED BY HAS/BSG ELECTRICAL INSPECTORS. TORQUE SHALL BE RECORDED, DOCUMENTED, SIGNED AND DATED BY THE MASTER ELECTRICIAN RESPONSIBLE PULLING THE PERMIT. THE TORQUE TOOL SHALL BE RECENTLY CALIBRATED. THIS DOCUMENTATION SHALL BE SUBMITTED TO HAS ELECTRICAL INSPECTOR OF THE JOB.
G. TORQUING OF SWITCHBOARDS, MAIN DISTRIBUTION PANELS AND BREAKERS 100A/150A AND ABOVE - READING WITH A CURRENT CALIBRATION TORQUE WRENCH AND SHALL BE WITNESSED BY ELECTRICAL INSPECTORS. COPIES OF THESE READINGS WILL BE SENT TO BSG TO BE KEPT ON FILE.
H. CONDUIT COLOR CODING SHALL BE CONSISTENT ALONG THE ENTIRE LENGTH OF A CIRCUIT. COLOR CODING SHALL BE AS FOLLOWS:
26. TRANSFORMERS AND TPO EQUIPMENT SHALL BE MOUNTED ON 4" CONCRETE PAD AND 6" EXTRA ALL AROUND THE EQUIPMENT SIZE.

280V/127V, 3/0, 4W
288V/120V, 3/0, 4W
280V/120V, 3/0, 4W

A0 - Brown	A0 - Black	A0 - Black
B0 - Purple	B0 - Red	C0 - Red
C0 - Yellow	C0 - Blue	N - White
N - Gray	N - White	Gnd - Bare
Gnd - Bare	Gnd - Bare	iso Gnd - Green
iso Gnd - Green	iso Gnd - Green	

FILE PATH: BIM 360/4844 HAS IAH General Services Building ICC and Emergency Operations Building/4844_ICC_MEP_R21.rvt
HAS FILE:
PLOT DATE: 6/7/2023 4:30:25 PM
DOA DWG FILE:
OLD DOA No.:



DESIGNER PROJECT No.: 1429.13
PROJECT STATUS: IFB

REVISIONS			
No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
3	ISSUE FOR BID	06/08/2023	

DESIGN BY:	JE
DRAWN BY:	JE
CHECKED BY:	JE
ISSUE DATE:	06/08/2023
APPROVED BY:	JE
APPROVAL DATE:	06/08/2023

DIRECTOR
of
HOUSTON AIRPORT SYSTEM

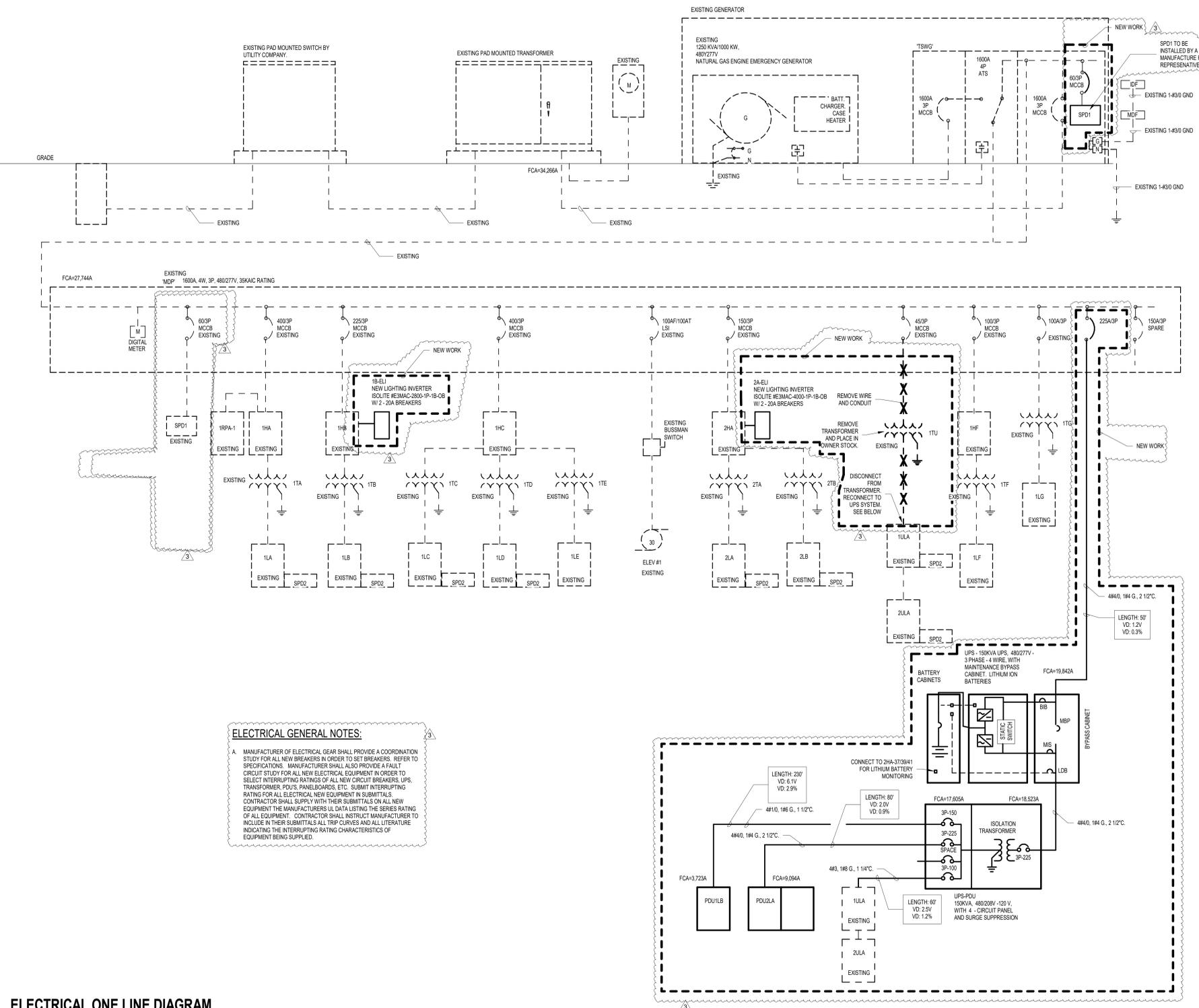
Drawing Status
IFB
ISSUE FOR BID

SHEET NAME: ELECTRICAL ONE LINE DIAGRAM

SHEET No.	E4.01	SCALE:	12" = 1'-0"
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SHEET SIZE: 30"x42" ARCH E1

FAULT CURRENT AVAILABLE = FCA



ELECTRICAL GENERAL NOTES:

A. MANUFACTURER OF ELECTRICAL GEAR SHALL PROVIDE A COORDINATION STUDY FOR ALL NEW BREAKERS IN ORDER TO SET BREAKERS. REFER TO SPECIFICATIONS. MANUFACTURER SHALL ALSO PROVIDE A FAULT CIRCUIT STUDY FOR ALL NEW ELECTRICAL EQUIPMENT IN ORDER TO SELECT INTERRUPTING RATINGS OF ALL NEW CIRCUIT BREAKERS, UPS, TRANSFORMER, PDUs, PANELBOARDS, ETC. SUBMIT INTERRUPTING RATING FOR ALL ELECTRICAL NEW EQUIPMENT IN SUBMITTALS. CONTRACTOR SHALL SUPPLY WITH THEIR SUBMITTALS ON ALL NEW EQUIPMENT THE MANUFACTURERS UL DATA LISTING THE SERIES RATING OF ALL EQUIPMENT. CONTRACTOR SHALL INSTRUCT MANUFACTURER TO INCLUDE IN THEIR SUBMITTALS ALL TRIP CURVES AND ALL LITERATURE INDICATING THE INTERRUPTING RATING CHARACTERISTICS OF EQUIPMENT BEING SUPPLIED.

2 ELECTRICAL ONE LINE DIAGRAM 12" x 12"

LOAD ANALYSIS

Load Classification	Connected Load (VA)	Demand Factor	Estimated Demand (VA)	Estimated Demand Current
EXISTING PEAK KVA	142000 VA	125.00%	177500 VA	213 A
Power	32520 VA	100.00%	32520 VA	40 A
WORKSTATIONS	46000 VA	100.00%	46000 VA	55 A
WALL VIDEO	12000 VA	100.00%	12000 VA	14 A
25% Largest Motor	10803 VA	100.00%	10803 VA	13 A
Total Connected Load (VA):	243723 VA	Total Demand Load (VA):	279223 VA	336 A
		Total Current:		1264 A

480/277 Wye, 3 Phase, 4 Wire Service
DID NOT EXCEED SERVICE CAPACITY OF 1,600AMPS
Spare Capacity

SPD SCHEDULE

MARK	MODEL	CABLE SIZE
SPD1	SIEMENS #1F84-250KA PER PHASE, 277/480V, Y	5#6 1 1/2" C

PLOT DATE: 6/7/2023 4:30:33 PM
DOA DWG FILE:
OLD DOA No. :
PLOT DATE:

FILE PATH: BIM 360/4844 HAS IAH General Services Building/CC and Emergency Operations Buildout/4844_ICC_MEP_R21.rvt
HAS FILE:

A

B

C

D

E

BRANCH PANEL: 1HB EXISTING
 LOCATION: ELECTRICAL 155
 SUPPLY FROM: MOUNTING: SURFACE ENCLASURE: Type 1
 VOLTS: 480/277 Wye PHASES: 3 WIRES: 4
 A.I.C. RATING: 6500 MAINS TYPE: MLO MAINS RATING: 225 A MCB RATING:

CKT	CIRCUIT DESCRIPTION	WIRE	TRIP	POLES	A	B	C	POLES	TRIP	WIRE	CIRCUIT DESCRIPTION	CKT	
1	EXISTING LIGHTING LEVEL 1 OFFICE	--	20 A	1	1638.. 245 VA			1	20 A	--	EXISTING LIGHTING EXTERIOR	2	
3	EXISTING LIGHTING LEVEL 1 OFFICE	--	20 A	1		1147 VA 333 VA		1	20 A	--	EXISTING LIGHTING EXTERIOR	4	
5	EXISTING LIGHTING SOUTH CANOPY	--	20 A	1		80 VA 120..		1	20 A	--	EXISTING LIGHTING EXTERIOR EAST CANOPY	6	
7	EXISTING LIGHTING SOUTH STAIR	--	20 A	1	128.. 1357 VA			1	20 A	#12	NEW LIGHTING CIRCUIT	8	
9	EXISTING ACCU9	--	20 A	3		1745L.. 0 VA		1	20 A	--		10	
11	--	--	--	--	--	--	0 VA	0 VA	1	20 A	--	SPARE	12
13	--	--	--	--	0 VA	0 VA			1	20 A	--	SPARE	14
15	EXISTING ACCU9	--	25 A	3		1745L.. 0 VA		1	20 A	--	SPARE	16	
17	--	--	--	--	--	--	0 VA	0 VA	1	20 A	--	SPARE	18
19	--	--	--	--	0 VA	0 VA			1	20 A	--	SPARE	20
21	EXISTING ACCU-7	--	20 A	3		1753L.. 0 VA		1	20 A	--	SPARE	22	
23	--	--	--	--	--	--	0 VA	0 VA	1	20 A	--	SPARE	24
25	--	--	--	--	0 VA	0 VA			1	20 A	--	SPARE	26
27	EXISTING ACCU-7	--	40 A	3		22316.. 0 VA		1	20 A	--	SPARE	28	
29	--	--	--	--	--	--	0 VA	0 VA	1	20 A	--	SPARE	30
31	--	--	--	--	0 VA	0 VA			1	20 A	--	SPARE	32
33	EXISTING OACU-3	--	30 A	3		14958.. 0 VA		1	20 A	--	SPARE	34	
35	--	--	--	--	--	--	0 VA	0 VA	1	20 A	--	SPARE	36
37	--	--	--	--	0 VA	36735 VA		3	70 A	--	EXISTING ITB	38	
39	SPARE	--	20 A	1		0 VA	0 VA	--	--	--	--	40	
41	SPARE	--	20 A	1			0 VA	0 VA	--	--	--	42	
					TOTAL LOAD:	40103 VA	91190 VA	200 VA	1 A				
					TOTAL AMPS:	167 A	351 A						

LEGEND:

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS
Cooling	89710 VA	100.00%	89710 VA	
Existing Load	36735 VA	125.00%	45919 VA	TOTAL CONN. LOAD: 131493 VA
Lighting	4270 VA	125.00%	5338 VA	TOTAL EST. DEMAND: 141939 VA
Lighting - Exterior	778 VA	125.00%	973 VA	TOTAL CONN.: 158 A
				TOTAL EST. DEMAND: 171 A

NOTES:

DID NOT EXCEED PANEL CAPACITY OF 225AMPS

BRANCH PANEL: 1ULA EXISTING
 LOCATION: SUPPLY FROM: UPS-PDU MOUNTING: SURFACE ENCLASURE: Type 1
 VOLTS: 120/208 Wye PHASES: 3 WIRES: 4
 A.I.C. RATING: 10000 MAINS TYPE: MCB MAINS RATING: 100 A MCB RATING: 100 A

CKT	CIRCUIT DESCRIPTION	WIRE	TRIP	POLES	A	B	C	POLES	TRIP	WIRE	CIRCUIT DESCRIPTION	CKT
1	EXISTING MDF 130		30 A	1	2700.. 0 VA			1	20 A	--	SPARE	2
3	EXISTING MDF 130		20 A	1		1000 VA 0 VA		1	20 A	--	SPARE	4
5	EXISTING MDF 130		20 A	1			1000 VA 0 VA	1	20 A	--	SPARE	6
7	EXISTING MDF 130		20 A	1	1000.. 0 VA			1	20 A	--	SPARE	8
9	EXISTING MDF 130		20 A	1		1000 VA 0 VA		1	20 A	--	SPARE	10
11	EXISTING MDF 130		30 A	2			4680 VA 0 VA	1	20 A	--	SPARE	12
13	--	--	--	--	0 VA	3700 VA		3	100 A	--	EXISTING PANEL 2ULA	14
15	SPARE	--	20 A	1		0 VA	2700 VA		--	--	--	16
17	SPARE	--	20 A	1			0 VA 1000..	--	--	--	--	18
19	SPARE	--	20 A	1	0 VA	0 VA		3	30 A	--	EXISTING SPD2	20
21	SPARE	--	20 A	1		0 VA	0 VA	--	--	--	--	22
23	SPARE	--	20 A	1			0 VA 0 VA	--	--	--	--	24
					TOTAL LOAD:	7400 VA	4700 VA	6880 VA				
					TOTAL AMPS:	84 A	39 A	58 A				

LEGEND:

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS
Power	18780 VA	100.00%	18780 VA	
				TOTAL CONN. LOAD: 18780 VA
				TOTAL EST. DEMAND: 18780 VA
				TOTAL CONN.: 52 A
				TOTAL EST. DEMAND: 52 A

NOTES:

BRANCH PANEL: 2ULA EXISTING
 LOCATION: IDF 213 SUPPLY FROM: 1ULA MOUNTING: SURFACE ENCLASURE: Type 1
 VOLTS: 120/208 Wye PHASES: 3 WIRES: 4
 A.I.C. RATING: 10000 MAINS TYPE: MCB MAINS RATING: 100 A MCB RATING: 100 A

CKT	CIRCUIT DESCRIPTION	WIRE	TRIP	POLES	A	B	C	POLES	TRIP	WIRE	CIRCUIT DESCRIPTION	CKT	
1	EXISTING MDF	--	20 A	1	1000.. 0 VA			1	20 A	--	SPARE	2	
3	EXISTING MDF	--	30 A	1		2700 VA 0 VA		1	20 A	--	SPARE	4	
5	EXISTING MDF	--	20 A	1			1000 VA 0 VA	1	20 A	--	SPARE	6	
7	EXISTING MDF	--	30 A	1	2700.. 0 VA			1	20 A	--	SPARE	8	
9	SPARE	--	20 A	1		0 VA	0 VA	1	20 A	--	SPARE	10	
11	SPARE	--	20 A	1			0 VA	0 VA	1	20 A	--	SPARE	12
13	SPARE	--	20 A	1	0 VA	0 VA		1	20 A	--	SPARE	14	
15	SPARE	--	20 A	1		0 VA	0 VA	1	20 A	--	SPARE	16	
17	SPARE	--	20 A	1			0 VA 0 VA	3	30 A	--	EXISTING SPD2	20	
19	SPARE	--	20 A	1	0 VA	0 VA		--	--	--	--	22	
21	SPARE	--	20 A	1			0 VA 0 VA	--	--	--	--	24	
23	SPARE	--	20 A	1			0 VA 0 VA	--	--	--	--	24	
					TOTAL LOAD:	3700 VA	2700 VA	1000 VA					
					TOTAL AMPS:	33 A	25 A	8 A					

LEGEND:

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS
Power	7400 VA	100.00%	7400 VA	
				TOTAL CONN. LOAD: 7400 VA
				TOTAL EST. DEMAND: 7400 VA
				TOTAL CONN.: 21 A
				TOTAL EST. DEMAND: 21 A

NOTES:

BRANCH PANEL: 2RPA EXISTING
 LOCATION: ELECTRICAL 214 SUPPLY FROM: MOUNTING: SURFACE ENCLASURE: Type 1
 VOLTS: 480/277 Wye PHASES: 3 WIRES: 4
 A.I.C. RATING: 6500 MAINS TYPE: MCB MAINS RATING: 225 A MCB RATING: 150 A

CKT	CIRCUIT DESCRIPTION	WIRE	TRIP	POLES	A	B	C	POLES	TRIP	WIRE	CIRCUIT DESCRIPTION	CKT	
1	EXISTING LIGHTING 165-3	--	20 A	1	1258.. 556 VA			1	20 A	--	EXISTING LIGHTING LEVEL 2B OFFICE	2	
3	EXISTING LIGHTING 165-33	--	20 A	1		1621 VA 128 VA		1	20 A	--	EXISTING LIGHTING EAST STAIR	4	
5	EXISTING LIGHTING LEVEL 2B OFFICE	--	20 A	1		1015 VA 2825..		3	30 A	--	EXISTING OAHU-3	6	
7	EXISTING LIGHTING 2B CORRIDOR	--	20 A	1	370.. 0 VA			--	--	--	--	8	
9	EXISTING LIGHTING 165-63	--	20 A	1		1628 VA	0 VA		--	--	--	10	
11	NEW LIGHTING CIRCUIT	#12	20 A	1			2419 VA 100..	1	20 A	--	EXISTING 2RPA	12	
13	SPARE	--	20 A	1	0 VA	0 VA		1	20 A	--	SPARE	14	
15	SPARE	--	20 A	1		0 VA	0 VA	1	20 A	--	SPARE	16	
17	SPARE	--	20 A	1			0 VA	0 VA	1	20 A	--	SPARE	18
19	SPARE	--	20 A	1	0 VA	0 VA		1	20 A	--	SPARE	20	
21	SPARE	--	20 A	1		0 VA	0 VA	1	20 A	--	SPARE	22	
23	SPARE	--	20 A	1			0 VA	0 VA	1	20 A	--	SPARE	24
25	SPARE	--	20 A	1	0 VA	0 VA		1	20 A	--	SPARE	26	
27	SPARE	--	20 A	1	0 VA	0 VA		1	20 A	--	SPARE	28	
29	SPARE	--	20 A	1		0 VA	0 VA	1	20 A	--	SPARE	30	
31	SPARE	--	20 A	1	0 VA	11349 VA		3	70 A	--	EXISTING 2TA	32	
33	SPARE	--	20 A	1		0 VA	14992..		--	--	--	34	
35	SPARE	--	20 A	1			0 VA	1624..	--	--	--	36	
37	LITHIUM BATTERY MONITORING	#12	20 A	3	415.. 30192 VA			3	70 A	--	EXISTING 2TB	38	
39	--	--	--	--	--	--	0 VA	0 VA	--	--	--	40	
41	--	--	--	--	--	--	0 VA	0 VA	--	--	--	42	
					TOTAL LOAD:	44140 VA	18329 VA	48033 VA					
					TOTAL AMPS:	174 A	66 A	188 A					

LEGEND:

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS
Existing Load	30192 VA	125.00%	37740 VA	
HVAC	19265 VA	100.00%	19265 VA	TOTAL CONN. LOAD: 119502 VA
Heating	28254 VA	100.00%	28254 VA	TOTAL EST. DEMAND: 109489 VA
Lighting	8995 VA	125.00%	11244 VA	TOTAL CONN.: 133 A
Other	100 VA	100.00%	100 VA	TOTAL EST. DEMAND: 132 A
Power	415 VA	100.00%	415 VA	
Receptacle	31620 VA	65.81%	20810 VA	

NOTES:

DID NOT EXCEED PANEL CAPACITY OF 150AMPS



GENERAL SERVICES FACILITY
 4551 WILL CLAYTON PKWY,
 HUMBLE, TX 77396

IAH INTEGRATED COORDINATION CENTER

C.I.P. No. **PN793** A.I.P. No. **N/A**
 C.O.H. No. **N/A** D.O.A. No. **N/A**
 B.S.G. No. **85G-2022-257-IAH** T.I.P. No. **TIP-22-219-IAH**



Consulting Mechanical/Electrical/Plumbing Engineers
 9820 Whitson Dr. Houston, Texas 77095 (713)222-7766
 Texas Registered Engineering Firm #F-3811

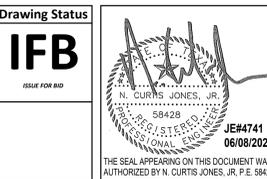
DESIGNER PROJECT No.: **1429.13**
 PROJECT STATUS: **IFB**

REVISIONS

No.	DESCRIPTION	DATE	BY
3	ISSUE FOR BID	06/08/2023	
	ISSUE FOR PERMIT	10/06/2022	

DESIGN BY: **JE**
 DRAWN BY: **JE**
 CHECKED BY: **JE**
 ISSUE DATE: **06/08/2023**
 APPROVED BY: **JE**
 APPROVAL DATE: **06/08/2023**

DIRECTOR of HOUSTON AIRPORT SYSTEM



SHEET NAME: **ELECTRICAL SCHEDULES**

SHEET No. **ES.01** SCALE:

SHEET SIZE: **30"x42" ARCH E1**

A

B

C

D

E

BRANCH PANEL: 1LB

LOCATION: ELECTRICAL 155
SUPPLY FROM:
MOUNTING: SURFACE
ENCLOSURE: Type 1

VOLTS: 120/208 Wye
PHASES: 3
WIRES: 4

A.I.C. RATING: 10000
MAINS TYPE: MCB
MAINS RATING: 200 A
MCB RATING: 150 A

EXISTING

NOTES:

CKT	CIRCUIT DESCRIPTION	WIRE	TRIP	POLES	A	B	C	POLES	TRIP	WIRE	CIRCUIT DESCRIPTION	CKT
1	EXISTING EXTERIOR REC	20 A	1	720...	360 VA			1	20 A		EXISTING BREAK RM 161 REC	2
3	EXISTING LEVEL 1B OFFICE REC	20 A	1		540 VA	180 VA		1	20 A		EXISTING BREAK RM 161 REC	4
5	EXISTING LEVEL 1B EDF	20 A	1				500 VA	1400...	1	20 A	EXISTING MICROVAE	6
7	EXISTING LEVEL 1B RR REC	20 A	1	1260...	500 VA			1	20 A		EXISTING COFFEE MAKER	8
9	EXISTING LEVEL 1B CORR REC	20 A	1		540 VA	900 VA		1	20 A		EXISTING REFRIG	10
11	SPARE	20 A	1				0 VA	540...	1	20 A	EXISTING SBM OFFICE REC	12
13	SPARE	20 A	1	0 VA	1229 VA			2	20 A		EXISTING FCU 23,27,29	14
15	SPARE	20 A	1	0 VA	0 VA	0 VA						16
17	SPARE	20 A	1				0 VA	2084...	2	20 A	EXISTING FCU-18,20	18
19	SPARE	20 A	1	0 VA	0 VA							20
21	SPARE	20 A	1		0 VA	1166 VA		2	20 A		EXISTING FCU-24,26	22
23	SPARE	20 A	1				0 VA	0 VA				24
25	SPARE	20 A	1	0 VA	6240 VA			30 A			EXISTING ACCU-2	26
27	EXISTING LEVEL 1B OFFICE REC	20 A	1		1280 VA	0 VA						28
29	EXISTING OPEN OFFICE REC	20 A	1				1000 VA	5000...	2	20 A	EXISTING COOKTOP	30
31	EXISTING LEVEL 1B AV CABINET	20 A	1	180...	0 VA							32
33	SPARE	20 A	1		0 VA	180 VA		1	20 A		EXISTING GAS WATER HEATER	34
35	EXISTING RR 162 REC	20 A	1				360 VA	1127...	1	20 A	EXISTING CIRCULATION PUMP	36
37	EXISTING COPPER	20 A	1	1200...	696 VA			1	20 A		EXISTING EF-5	38
39	EXISTING CONFERENCE 143 REC	20 A	1		1080 VA	600 VA		1	20 A		EXISTING ICE MACHINE	40
41	EXISTING EXTERIOR REC	20 A	1				360 VA	500...	1	20 A	EXISTING FSD	42
43	EXISTING PROJECTOR CONF 143	20 A	1	500...	500 VA			1	20 A		EXISTING FSD	44
45	EXISTING PROJECTOR CONF 143	20 A	1		500 VA	0 VA		1	20 A		SPARE	46
47	BREAK ROOM REF 148	#12	20 A	1			500 VA	0 VA	1	20 A	SPARE	48
49	BREAK ROOM MICROWAVE 148	#12	20 A	1	1200...	0 VA		1	20 A		SPARE	50
51	BREAK ROOM DISHWASHER 148	#12	20 A	1		180 VA	0 VA	1	20 A		SPARE	52
53	RECEPTACLE 148	#12	20 A	1			180 VA	0 VA	1	20 A	SPARE	54
55	BREAK ROOM MICROWAVE 148	#12	20 A	1	1200...	0 VA		3	30 A		EXISTING SPD2	56
57	SPARE	20 A	1		0 VA	0 VA						58
59	SPARE	20 A	1				0 VA	0 VA				60
	TOTAL LOAD:				15785 VA	7126 VA		1355 VA				
	TOTAL AMPS:				140 A	59 A		121 A				

LEGEND:

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS
Coding	10719 VA	100.00%	10719 VA	
Power	1876 VA	100.00%	1876 VA	TOTAL CONN. LOAD: 36482 VA
Receptacle	23867 VA	70.95%	16934 VA	TOTAL EST. DEMAND: 29629 VA
				TOTAL CONN.: 101 A
				TOTAL EST. DEMAND: 82 A

NOTES:

DID NOT EXCEED PANEL CAPACITY OF 150AMPS

BRANCH PANEL: 2LB

LOCATION: ELECTRICAL 202
SUPPLY FROM:
MOUNTING: SURFACE
ENCLOSURE: Type 1

VOLTS: 120/208 Wye
PHASES: 3
WIRES: 4

A.I.C. RATING: 10000
MAINS TYPE: MCB
MAINS RATING: 225 A
MCB RATING: 150 A

EXISTING

NOTES:

CKT	CIRCUIT DESCRIPTION	WIRE	TRIP	POLES	A	B	C	POLES	TRIP	WIRE	CIRCUIT DESCRIPTION	CKT
1	RECEPTACLES 240	#12	20 A	1	540...	2372 VA		2	20 A		EXISTING FCU 20,33,34,35	2
3	RECEPTACLES 240	#12	20 A	1		540 VA	0 VA					4
5	RECEPTACLES 240	#12	20 A	1			540 VA	1872...	2	20 A	EXISTING FCU 51	6
7	EXISTING LEVEL 2B CORRIDOR REC	20 A	1	720...	0 VA							8
9	SPARE	20 A	1	0 VA	1188 VA			2	20 A		EXISTING FCU 21,57,58 / BS-5	10
11	EXISTING LEVEL 2B COPIER	20 A	1				1200 VA	0 VA				12
13	EXISTING LEVEL 2B OFFICE REC	20 A	1	1080...	2247 VA			2	20 A		EXISTING FCU 54,55,56	14
15	SPARE	20 A	1		0 VA	0 VA						16
17	EXISTING LEVEL 2B OFFICE REC	20 A	1				720 VA	180...	1	20 A	EXISTING UNIT HEATER	18
19	SPARE	20 A	1	0 VA	180 VA			1	20 A		EXISTING UNIT HEATER	20
21	EXISTING LEVEL 2B SYS FURN	20 A	1		180 VA	1000 VA		1	20 A		EXISTING LEVEL 2B SYS FURN	22
23	EXISTING LEVEL 2B SYS FURN	20 A	1			180 VA	180...	1	20 A		EXISTING GWH-1	24
25	EXISTING LEVEL 2B SYS FURN	20 A	1	180...	900 VA			1	20 A		EXISTING MECH REC	26
27	EXISTING LEVEL 2B MICROWAVE	20 A	1			1400 VA	500 VA		1	20 A	EXISTING WATER FOUNTAIN	28
29	EXISTING LEVEL 2B ICE MACHINE	20 A	1				600 VA	1000...	1	20 A	EXISTING FSD	30
31	EXISTING LEVEL 2B REFRIG	20 A	1	900...	1000 VA			1	20 A		EXISTING FSD	32
33	EXISTING LEVEL 2B MICROWAVE	20 A	1		900 VA	1000 VA		1	20 A		EXISTING FSD	34
35	EXISTING LEVEL 2B SYS FURN	20 A	1				1000 VA	1000...	1	20 A	EXISTING FSD	36
37	SPARE	20 A	1	0 VA	0 VA			3	30 A		EXISTING SPD2	38
39	SPARE	20 A	1		0 VA	0 VA						40
41	EXISTING LEVEL 2B SYS FURN	20 A	1				180 VA	0 VA				42
43	WORKSTATIONS 240 TABLE	#12	20 A	1	800...	189 VA		2	20 A		EXISTING FCU	44
45	WORKSTATIONS 240 TABLE	#12	20 A	1		800 VA	0 VA					46
47	WORKSTATIONS 240 TABLE	#12	20 A	1			800 VA	800...	1	20 A	#10 WORKSTATIONS 240 TABLE	48
49	WORKSTATIONS 240 TABLE	#12	20 A	1	800...	800 VA		1	20 A		#10 WORKSTATIONS 240 TABLE	50
51	WORKSTATIONS 240 TABLE	#12	20 A	1			800 VA	800 VA	1	20 A	#10 WORKSTATIONS 240 TABLE	52
53	WORKSTATIONS 240 TABLE	#12	20 A	1			800 VA	800...	1	20 A	#10 WORKSTATIONS 240 TABLE	54
55	WORKSTATIONS 240 TABLE	#12	20 A	1	800...	800 VA		1	20 A		#10 WORKSTATIONS 240 TABLE	56
57	WORKSTATIONS 240 TABLE	#12	20 A	1			800 VA	800 VA	1	20 A	#10 WORKSTATIONS 240 TABLE	58
59	WORKSTATIONS 240 TABLE	#12	20 A	1			800 VA	800...	1	20 A	#10 WORKSTATIONS 240 TABLE	60
61	WORKSTATIONS 240 TABLE	#12	20 A	1	800...	800 VA		1	20 A		#10 WORKSTATIONS 240 TABLE	62
63	WORKSTATIONS 240 TABLE	#12	20 A	1			800 VA	800 VA	1	20 A	#10 WORKSTATIONS 240 TABLE	64
65	WORKSTATIONS 240 TABLE	#12	20 A	1			800 VA	800...	1	20 A	#10 WORKSTATIONS 240 TABLE	66
67	RECEPTACLE QUIT ROOM 242	#12	20 A	1	180...	800 VA		1	20 A		#10 WORKSTATIONS 240 TABLE	68
69	RECEPTACLE QUIT ROOM 242	#12	20 A	1		180 VA	800 VA	1	20 A		#10 WORKSTATIONS 240 TABLE	70
71	SPARE	20 A	1				0 VA	0 VA	1	20 A	SPARE	72
	TOTAL LOAD:				16888 VA	13268 VA		15052 VA				
	TOTAL AMPS:				143 A	111 A		128 A				

LEGEND:

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS
HVAC	12408 VA	100.00%	12408 VA	
Power	540 VA	100.00%	540 VA	TOTAL CONN. LOAD: 45228 VA
Receptacle	12360 VA	90.45%	11180 VA	TOTAL EST. DEMAND: 44048 VA
R	720 VA	100.00%	720 VA	TOTAL CONN.: 128 A
WORKSTATIONS	19200 VA	100.00%	19200 VA	TOTAL EST. DEMAND: 122 A

NOTES:

DID NOT EXCEED PANEL CAPACITY OF 150AMPS

BRANCH PANEL: 2LA

LOCATION: ELECTRICAL 214
SUPPLY FROM: 2TA
MOUNTING: SURFACE
ENCLOSURE: Type 1

VOLTS: 120/208 Wye
PHASES: 3
WIRES: 4

A.I.C. RATING: 10000
MAINS TYPE: MCB
MAINS RATING: 225 A
MCB RATING: 150 A

EXISTING

NOTES:

CKT	CIRCUIT DESCRIPTION	WIRE	TRIP	POLES	A	B	C	POLES	TRIP	WIRE	CIRCUIT DESCRIPTION	CKT
1	EXISTING OPEN OFFICE REC	20 A	1		1380...	897 VA		2	20 A		EXISTING FCU-36,37,38,29,41 / BS-4a-4b	2
3	EXISTING OPEN OFFICE REC	20 A	1			360 VA	0 VA					4
5	EXISTING OPEN OFFICE REC	20 A	1				360 VA	501...	2	20 A	EXISTING FCU-41,42,43	6
7	EXISTING OPEN OFFICE REC	20 A	1	1000...	0 VA							8
9	EXISTING OPEN OFFICE REC	20 A	1			1080 VA	2100 VA		2	20 A	EXISTING FCU-44	10
11	EXISTING OPEN OFFICE REC	20 A	1				1360 VA	0 VA				12
13	EXISTING CORRIDOR REC	20 A	1	540...	1872 VA			2	20 A		EXISTING FCU-14,16	14
15	EXISTING FURNITURE JBOX	20 A	1			1000 VA	0 VA					16
17	EXISTING FURNITURE JBOX	20 A	1				1000 VA	9000...	2	50 A	EXISTING RANGE	18
19	EXISTING REFRIGERATOR	20 A	1	900...	0 VA							20
21	EXISTING LEVEL 2A BRK RM REC	20 A	1			1080 VA	696 VA		1	20 A	EXISTING EF-5	22
23	EXISTING LEVEL 2A CORRIDOR REC	20 A	1				1620 VA	900...	1	20 A	EXISTING LARGE CONFERENCE REC	24
25	EXISTING LEVEL 21 OFFICE REC	20 A	1	1080...	500 VA			1	20 A		EXISTING BREAK ROOM REC	26
27	EXISTING LEVEL 21 OFFICE REC	20 A	1			1620 VA	500 VA		1	20 A	EXISTING PROJECTOR	28
29	EXISTING LEVEL 21 OFFICE REC	20 A	1				2340 VA	500...	1	20 A	EXISTING PROJECTOR	30
31	EXISTING LEVEL 21 OFFICE REC	20 A	1	360...	1000 VA			1	20 A		EXISTING RECEPTION-4 104-4 REC	32
33	EXISTING LEVEL 21 OFFICE REC	20 A	1			900 VA	80 VA		1	20 A	EXISTING UNIT HEATER	34
35	EXISTING OPS REC	20 A	1				360 VA	1080...	1	20 A	EXISTING MULTI-PURPOSE REC	36
37	EXISTING COPY 224 REC	20 A	1	1560...	0 VA			1	20 A		SPARE	38
39	EXISTING MICROWAVE	20 A	1			1400 VA	0 VA		1	20 A	SPARE	40
41	EXISTING ICE MACHINE	20 A	1				600 VA	0 VA	1	20 A	SPARE	42
43	EXISTING AV CABINET	20 A	1	180...	0 VA			1	20 A		SPARE	44
45	SPARE	20 A	1		0 VA	0 VA		1	20 A		SPARE	46
47	SPARE	20 A	1				0 VA	0 VA				48
49	SPARE	20 A	1	0 VA	0 VA			1	20 A		SPARE	50
51	SPARE	20 A	1		0 VA	0 VA		1	20 A		SPARE	52
53	SPARE	20 A	1			0 VA	0 VA	1	20 A		SPARE	54
55	SPARE	20 A	1	0 VA	100 VA			1	20 A		#12 FLOAT SWITCH SENSOR	56
57	SPARE	20 A	1		0 VA	600 VA		1	20 A		EF-1,2	58
59	SPARE	20 A	1				0 VA	604...	2	20 A	#12 FCU-UPS	60
61	SPARE	20 A	1	0 VA	0 VA			2	25 A		#10 CU-UPS	62
63	SPARE	20 A	1		0 VA	3536 VA		2	25 A		#10 CU-UPS	64
65	SPARE	20 A	1				0 VA					



GENERAL SERVICES FACILITY
4551 WILL CLAYTON PKWY,
HUMBLE, TX 77396

IAH INTEGRATED COORDINATION CENTER

C.I.P. No.	PN793	A.I.P. No.	N/A
C.O.H. No.	N/A	D.O.A. No.	N/A
B.S.G. No.	85G-2022-257-IAH	T.I.P. No.	TIP-22-219-IAH



DESIGNER PROJECT No.: 1429.13
PROJECT STATUS: IFB

REVISIONS

No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
3	ISSUE FOR BID	06/08/2023	

DESIGN BY: JE
DRAWN BY: JE
CHECKED BY: JE
ISSUE DATE: 06/08/2023
APPROVED BY: JE
APPROVAL DATE: 06/08/2023

DIRECTOR
of
HOUSTON AIRPORT SYSTEM

Drawing Status

IFB
ISSUE FOR BID

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY N. CURTIS JONES, JR. P.E. 58428

SHEET NAME: ELECTRICAL SCHEDULES

SHEET No. ES.03 SCALE:

SHEET SIZE: 30"x42" ARCH E1

BRANCH PANEL: PDU1LB												
			LOCATION: ELECTRICAL 155				VOLTS: 120/208 Wye			A.I.C. RATING: 14000		
			SUPPLY FROM: UPS-PDU				PHASES: 3			MAINS TYPE: MCB		
			MOUNTING: SURFACE				WIRES: 4			MAINS RATING: 150 A		
			ENCLOSURE: Type 1							MCB RATING: 150 A		
NOTES:												
CKT	CIRCUIT DESCRIPTION	WIRE	TRIP	POLES	A	B	C	POLES	TRIP	WIRE	CIRCUIT DESCRIPTION	CKT
1	WORKSTATION 143A	#12	20 A	1	1000..	1000 VA		1	20 A	#12	WORKSTATION 143B	2
3	WORKSTATION 143A	#12	20 A	1		1000 VA 1000 VA		1	20 A	#12	WORKSTATION 143B	4
5	WORKSTATION 143A	#12	20 A	1			1000 VA 1000..	1	20 A	#12	WORKSTATION 143B	6
7	WORKSTATION 143A	#12	20 A	1	1000..	1000 VA		1	20 A	#12	WALL VIDEO 143B	8
9	WALL VIDEO 143A	#12	20 A	1		1000 VA 1000 VA		1	20 A	#12	WALL VIDEO 143B	10
11	WALL VIDEO 143A	#12	20 A	1			1000 VA 1080..	1	20 A	#12	RECEPTACLES EM OPERATION CENTER	12
13	WORKSTATIONS 143A	#12	20 A	1	1500..	1080 VA		1	20 A	#12	RECEPTACLES EM OPERATION CENTER	14
15	PROJECTOR 143A	#12	20 A	1		500 VA 500 VA		1	20 A	#12	PROJECTOR 143B	16
17	RECEPTACLES 152	#12	20 A	1			720 VA 720..	1	20 A	#12	RECEPTACLES 150	18
19	RECEPTACLES 152	#12	20 A	1	1080..	720 VA		1	20 A	#12	RECEPTACLES 149	20
21	RECEPTACLES	#12	20 A	1		540 VA 1500 VA		1	20 A	#12	WORKSTATION 143B	22
23	SPARE	--	20 A	1			0 VA 0 VA	1	20 A	--	SPARE	24
25	SPARE	--	20 A	1	0 VA 0 VA			1	20 A	--	SPARE	26
27	SPARE	--	20 A	1		0 VA 0 VA		1	20 A	--	SPARE	28
29	SPARE	--	20 A	1			0 VA 0 VA	1	20 A	--	SPARE	30
31	SPARE	--	20 A	1	0 VA 0 VA			1	20 A	--	SPARE	32
33	SPARE	--	20 A	1		0 VA 0 VA		1	20 A	--	SPARE	34
35	SPARE	--	20 A	1			0 VA 0 VA	1	20 A	--	SPARE	36
37	SPARE	--	20 A	1	0 VA 0 VA			1	20 A	--	SPARE	38
39	SPARE	--	20 A	1		0 VA 0 VA		1	20 A	--	SPARE	40
41	SPARE	--	20 A	1			0 VA 0 VA	1	20 A	--	SPARE	42
				TOTAL LOAD:	8380 VA	7040 VA	5520 VA					
				TOTAL AMPS:	72 A	61 A	46 A					
LEGEND:												
LOAD CLASSIFICATION		CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS							
Power		6940 VA	100.00%	6940 VA								
WORKSTATIONS		10000 VA	100.00%	10000 VA	TOTAL CONN. LOAD: 20940 VA							
WALL VIDEO		4000 VA	100.00%	4000 VA	TOTAL EST. DEMAND: 20940 VA							
					TOTAL CONN.: 56 A							
					TOTAL EST. DEMAND: 56 A							
NOTES:												

BRANCH PANEL: PDU2LA												
			LOCATION: ELECTRICAL 202				VOLTS: 120/208 Wye			A.I.C. RATING: 14000		
			SUPPLY FROM: UPS-PDU				PHASES: 3			MAINS TYPE: MCB		
			MOUNTING: SURFACE				WIRES: 4			MAINS RATING: 225 A		
			ENCLOSURE: Type 1							MCB RATING: 225 A		
NOTES:												
CKT	CIRCUIT DESCRIPTION	WIRE	TRIP	POLES	A	B	C	POLES	TRIP	WIRE	CIRCUIT DESCRIPTION	CKT
1	WORKSTATIONS 240	#12	20 A	1	1500..	1500 VA		1	20 A	#12	WORKSTATIONS 240	2
3	WORKSTATIONS 240	#12	20 A	1		1500 VA 1500 VA		1	20 A	#12	WORKSTATIONS 240	4
5	WORKSTATIONS 240	#12	20 A	1			1500 VA 1500..	1	20 A	#12	WORKSTATIONS 240	6
7	WORKSTATIONS 240	#12	20 A	1	1500..	1500 VA		1	20 A	#12	WORKSTATIONS 240	8
9	WORKSTATIONS 240	#12	20 A	1		1500 VA 1500 VA		1	20 A	#12	WORKSTATIONS 240	10
11	WORKSTATIONS 240	#12	20 A	1			1500 VA 1500..	1	20 A	#12	WORKSTATIONS 240	12
13	WORKSTATIONS 240	#12	20 A	1	1500..	1500 VA		1	20 A	#12	WORKSTATIONS 240	14
15	WORKSTATIONS 240	#12	20 A	1		1500 VA 1500 VA		1	20 A	#12	WORKSTATIONS 240	16
17	WORKSTATIONS 240	#12	20 A	1			1500 VA 1500..	1	20 A	#12	WORKSTATIONS 240	18
19	WALL VIDEO 240	#12	20 A	1	1000..	1000 VA		1	20 A	#12	WALL VIDEO 240	20
21	WALL VIDEO 240	#12	20 A	1		1000 VA 1000 VA		1	20 A	#12	WALL VIDEO 240	22
23	WALL VIDEO 240	#12	20 A	1			1000 VA 1000..	1	20 A	#12	WALL VIDEO 240	24
25	WORKSTATIONS 247	#12	20 A	1	1500..	1500 VA		1	20 A	#12	WORKSTATIONS 247	26
27	WORKSTATIONS 247	#12	20 A	1		1500 VA 1500 VA		1	20 A	#12	WORKSTATIONS 247	28
29	WORKSTATIONS 247	#12	20 A	1			1500 VA 1500..	1	20 A	#12	WORKSTATIONS 247	30
31	WALL VIDEO 247	#12	20 A	1	1000..	1080 VA		1	20 A	#12	RECEPTACLES CONFERENCE AND TRAINING 250	32
33	WALL VIDEO 247	#12	20 A	1		1000 VA 540 VA		1	20 A	#12	RECEPTACLES COMM SUPV/ADMIN AREA 251	34
35	RECEPTACLES 240	#12	20 A	1			720 VA 1620..	1	20 A	#12	RECEPTACLES 243,244,245,246	36
37	RECEPTACLES 240, 247, 249	#12	20 A	1	540..	540 VA		1	20 A	#12	RECEPTACLES 240	38
39	RECEPTACLES 251,253	#12	20 A	1		1440 VA 180 VA		1	20 A	#12	RECEPTACLES 242	40
41	RECEPTACLES COMM SUPV/ADMIN AREA 251	#12	20 A	1			540 VA 0 VA	1	20 A	--	SPARE	42
43	SPARE	--	20 A	1	0 VA 0 VA			1	20 A	--	SPARE	44
45	SPARE	--	20 A	1		0 VA 0 VA		1	20 A	--	SPARE	46
47	SPARE	--	20 A	1			0 VA 0 VA	1	20 A	--	SPARE	48
49	SPARE	--	20 A	1	0 VA 0 VA			1	20 A	--	SPARE	50
51	SPARE	--	20 A	1		0 VA 0 VA		1	20 A	--	SPARE	52
53	SPARE	--	20 A	1	0 VA 0 VA		0 VA 0 VA	1	20 A	--	SPARE	54
55	SPARE	--	20 A	1		0 VA 0 VA		1	20 A	--	SPARE	56
57	SPARE	--	20 A	1		0 VA 0 VA		1	20 A	--	SPARE	58
59	SPARE	--	20 A	1			0 VA 0 VA	1	20 A	--	SPARE	60
				TOTAL LOAD:	17160 VA	17160 VA	16880 VA					
				TOTAL AMPS:	143 A	143 A	141 A					
LEGEND:												
LOAD CLASSIFICATION		CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS							
Power		7200 VA	100.00%	7200 VA								
WORKSTATIONS		35000 VA	100.00%	35000 VA	TOTAL CONN. LOAD: 51200 VA							
WALL VIDEO		8000 VA	100.00%	8000 VA	TOTAL EST. DEMAND: 51200 VA							
					TOTAL CONN.: 142 A							
					TOTAL EST. DEMAND: 142 A							
NOTES:												

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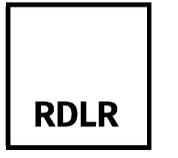
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DOA DWG FILE:
OLD DOA No.:
PLOT DATE:



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C.O.H. No.	N/A	D.O.A. No.	N/A
B.S.G. No.	85G-2022-257-IAH	T.I.P. No.	TIP-22-219-IAH



Consulting Mechanical/Electrical/Plumbing Engineers
9820 Whitson Dr. Houston, Texas 77095 (713)222-7766
Texas Registered Engineering Firm #F-5818

DESIGNER PROJECT No.: **1429.13**
PROJECT STATUS: **IFB**

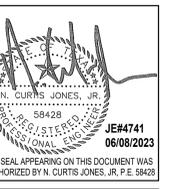
REVISIONS

No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
3	ISSUE FOR BID	06/08/2023	

DESIGN BY: JE
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ISSUE DATE: 06/08/2023
APPROVED BY: JE
APPROVAL DATE: 06/08/2023

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JE#4741
06/08/2023
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY N. CURTIS JONES, JR., P.E. 58428

SHEET NAME: ELECTRICAL DETAILS

SHEET No. **ES.04** SCALE: N.T.S.

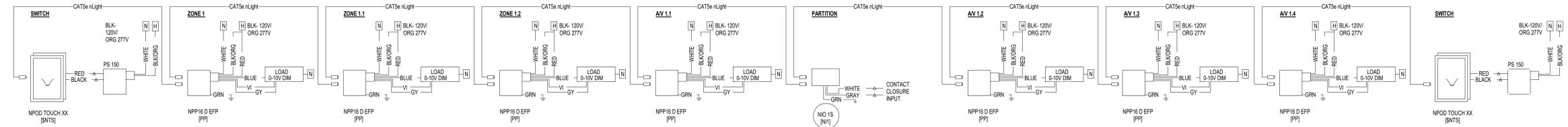
SHEET SIZE: 30"x42" ARCH E1

OCCUPANCY SENSOR		TIME CLOCK		WALL SWITCH			DAYLIGHT SENSOR			OTHER				
VACUANCY MODE	SENSOR TIMEOUT PERIOD (MINUTES)	SCHEDULED ON AT	SCHEDULED OFF AT	SCHEMATIC OVERRIDE SWITCH	HANDICAP DIMMING	KEY SWITCH	SCENE CONTROL	GRAPHICAL TOUCHSCREEN	SWITCHING (ON/OFF)	DIMMING	TARGET LIGHT LEVEL (FC)	EXTERIOR LOCATION	PLUG LOAD CONTROLS	NOTES
X	20 MIN	X						X						1,2
X	20 MIN	X						X						
X	20 MIN	X						X						
X	20 MIN	X						X						3
X	20 MIN	X						X						
X	20 MIN	X						X						
X	20 MIN	X						X						
X	20 MIN	X						X						

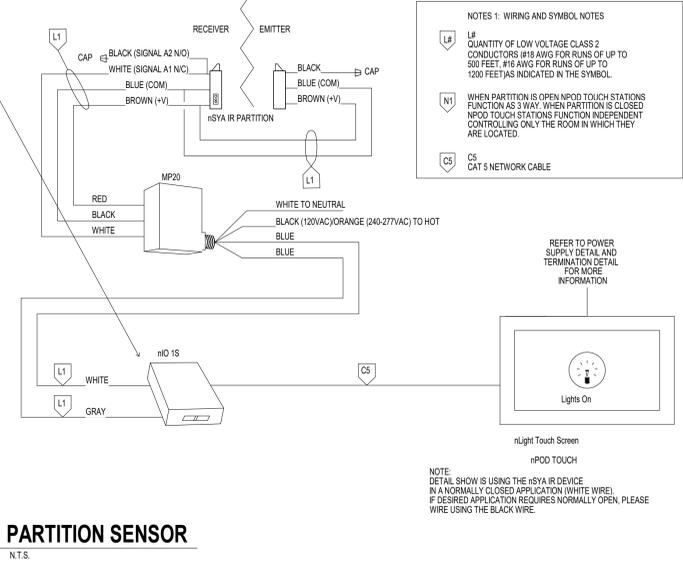
- WHEN PARTITION IS OPEN NPOD TOUCH STATION FUNCTION AS 3 WAY. WHEN PARTITION IS CLOSED NPOD TOUCH STATIONS FUNCTION INDEPENDENT CONTROLLING ONLY THE ROOM IN WHICH THEY ARE LOCATED.
- OCCUPANCY CONTROL ZONE. REFER TO 3, THIS SHEET.
- VACUANCY MODE - AUTO ON TO 50%

Mark	Description	Mounting	Lamps/ Watts	Type	Volts	Lens	Remarks
A	LSI #SLD24-LED-HO-MV-1LEXX	RECESSED	56	LED	UNV		
B	HE WILLIAMS #RDR-TL-15-8-40-DM-UNV-O-W-OF-CS-MWT-N-F1	RECESSED	13.8	LED	UNV		
BE	HE WILLIAMS #RDR-TL-15-8-40-EM-10W-DIM-UNV-O-W-OF-CS-MWT-N-F1	RECESSED	13.8	LED	UNV		WITH 90 MINUTE BATTER BACKUP
C	HE WILLIAMS #RDR-TL-15-8-40-DM-UNV-O-W-OF-CS-WETICCN-F1	RECESSED	13.8	LED	UNV		
X	NEW EXT LIGHT TO MATCH EXISTING	SURFACE	2.5	LED	UNV		WITH 90 MINUTE BATTER BACKUP

1 LIGHTING CONTROLS - SEQUENCE



LIGHTING CONTROLS - EMERGENCY OPERATIONS CENTER 143A/143B



- NOTES 1: WIRING AND SYMBOL NOTES
- L1 QUANTITY OF LOW VOLTAGE CLASS 2 CONDUCTORS #18 AWG FOR RUNS OF UP TO 500 FEET. #18 AWG FOR RUNS OF UP TO 1200 FEET AS INDICATED IN THE SYMBOL
 - N1 WHEN PARTITION IS OPEN NPOD TOUCH STATIONS FUNCTION AS 3 WAY. WHEN PARTITION IS CLOSED NPOD TOUCH STATIONS FUNCTION INDEPENDENT CONTROLLING ONLY THE ROOM IN WHICH THEY ARE LOCATED.
 - CS CAT 5 NETWORK CABLE

REFER TO POWER SUPPLY DETAIL AND TERMINATION DETAIL FOR MORE INFORMATION

NOTE: DETAIL SHOW IS USING THE rSYA IR DEVICE IN A NORMALLY CLOSED APPLICATION (WHITE WIRE). IF DESIRED APPLICATION REQUIRES NORMALLY OPEN, PLEASE WIRE USING THE BLACK WIRE.

PARTITION SENSOR

2 LIGHTING CONTROLS - DETAILS

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C.G.H. No. N/A D.O.A. No. N/A
B.S.G. No. 85G-2022-257-IAH T.I.P. No. TIP-22-219-IAH



JONES ENGINEERS, L.P.
Consulting Mechanical/Electrical/Plumbing Engineers
9820 Whitson Dr. Houston, Texas 77095 (713) 222-7766
Texas Registered Engineering Firm #F-3819

DESIGNER PROJECT No.: 1429.13
PROJECT STATUS: IFB

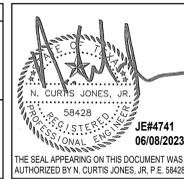
REVISIONS

No.	DESCRIPTION	DATE	BY
	ISSUE FOR PERMIT	10/06/2022	
3	ISSUE FOR BID	06/08/2023	

DESIGN BY: JE
DRAWN BY: JE
CHECKED BY: JE
ISSUE DATE: 06/08/2023
APPROVED BY: JE
APPROVAL DATE: 06/08/2023

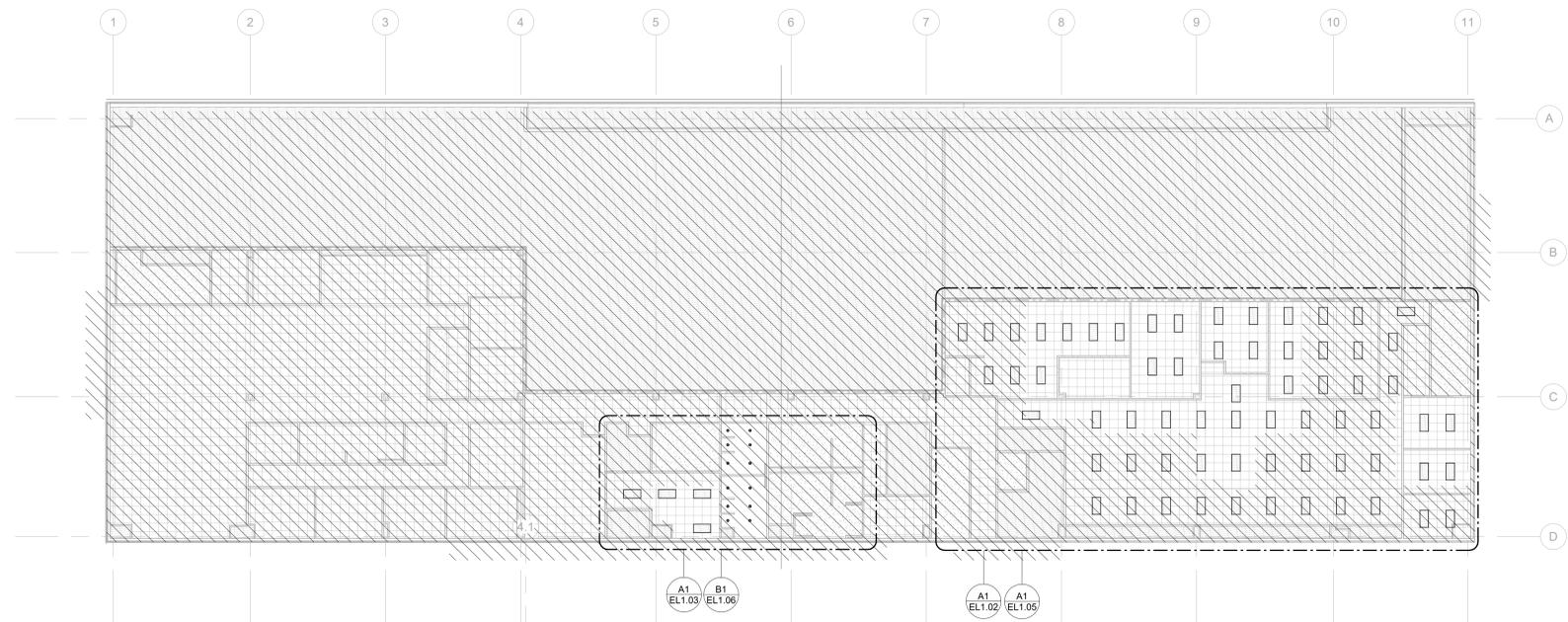
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HOUSTON AIRPORT SYSTEM

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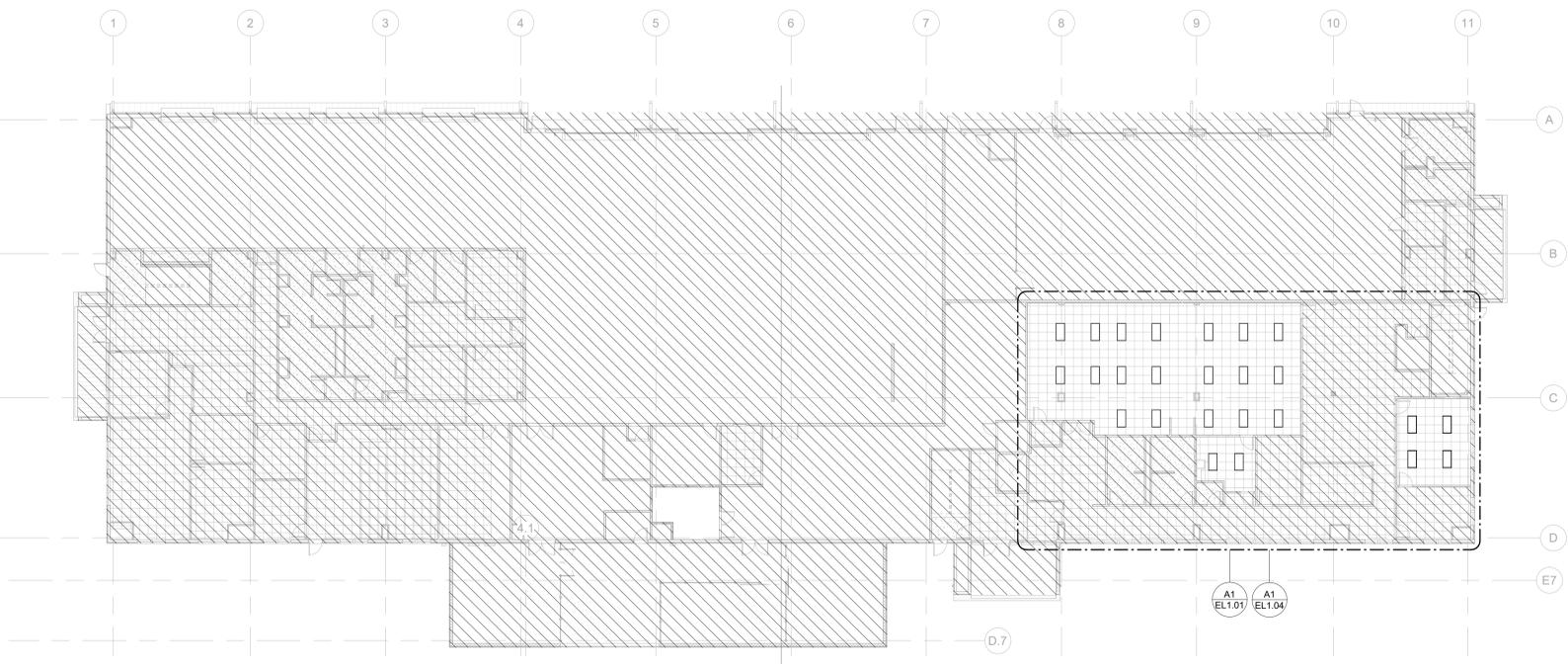


SHEET NAME:
OVERALL ELECTRICAL LIGHTING PLAN
SHEET No. EL1.00 SCALE: 1/16" = 1'-0"

SHEET SIZE: 30"x42" ARCH E1



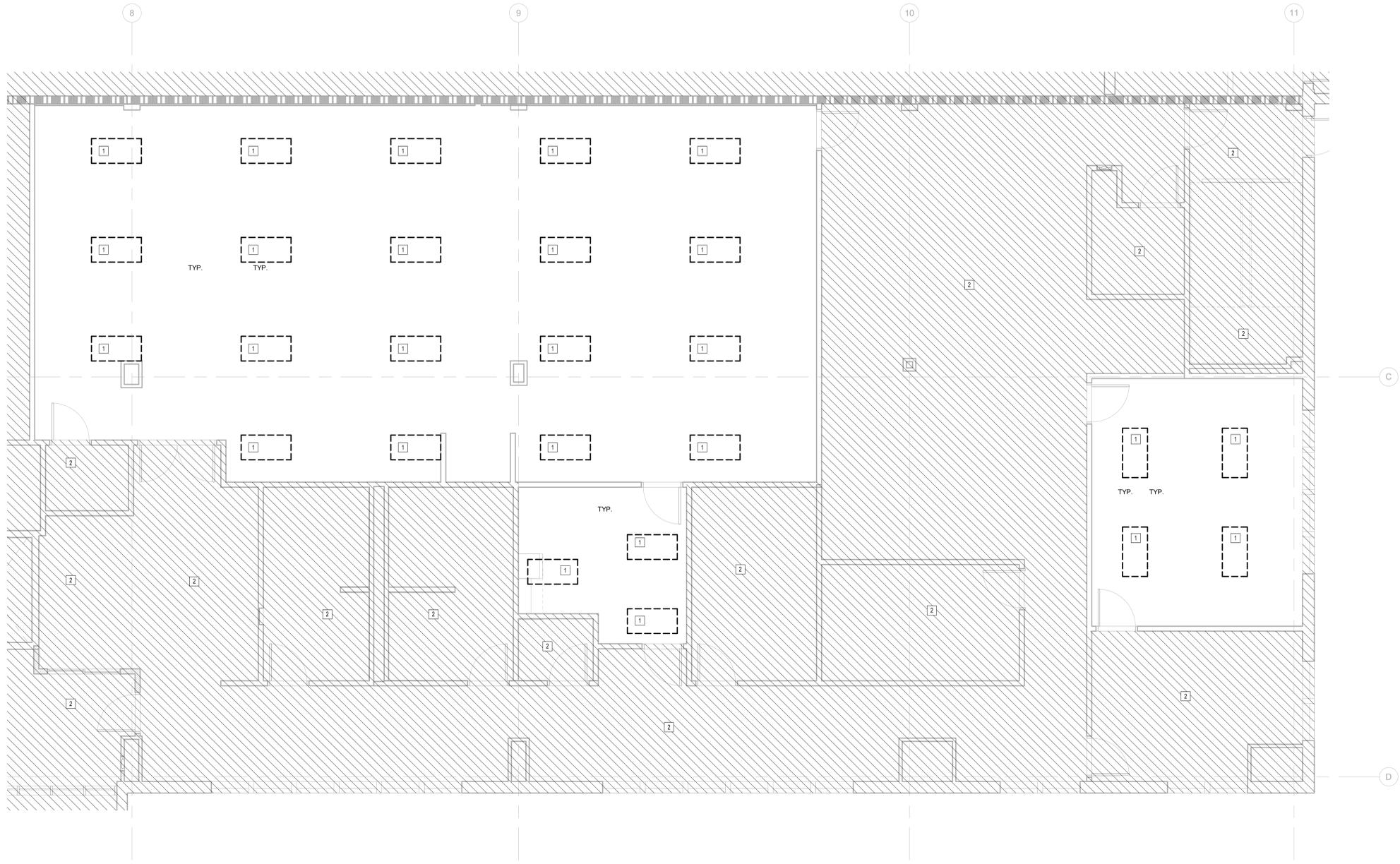
A3 OVERALL ELECTRICAL LIGHTING PLAN - LEVEL 2
1/16" = 1'-0"



A1 OVERALL ELECTRICAL LIGHTING PLAN - LEVEL 1
1/16" = 1'-0"



#	KEYNOTE
1	REMOVE LIGHT FIXTURE AND PLACE IN OWNER STOCK.
2	EXISTING LIGHTING TO REMAIN IN THIS AREA.
3	EXISTING LIGHTING TO REMAIN.



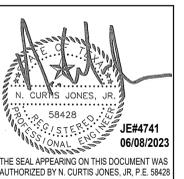
DESIGNER PROJECT No.: **1429.13**
PROJECT STATUS: **IFB**

REVISIONS			
No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
3	ISSUE FOR BID	06/08/2023	

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CHECKED BY: **JE**
ISSUE DATE: **06/08/2023**
APPROVED BY: **JE**
APPROVAL DATE: **06/08/2023**

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Drawing Status
IFB
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North
TRUE

SHEET NAME: **ELECTRICAL LIGHTING DEMOLITION ENLARGED PLAN - LEVEL 1**
SHEET No. **EL1.01** SCALE: **1/4" = 1'-0"**
SHEET SIZE: **30"x42" ARCH E1**

A1 ELECTRICAL LIGHTING DEMOLITION PLAN - LEVEL 1 - Callout 1
1/4" = 1'-0"

PLOT DATE: 6/7/2023 4:31:42 PM
 DOA DWG FILE:
 OLD DOA No. :
 PLOT DATE:

FILE PATH: BIM 360/4844 HAS IAH General Services Building ICC and Emergency Operations Bulldozer/4844_ICC_MEP_R21.rvt
 HAS FILE:

IAH INTEGRATED COORDINATION CENTER

C.I.P. No.	PN793	A.I.P. No.	N/A
C.O.H. No.	N/A	D.O.A. No.	N/A
B.S.G. No.	85G-2022-257-IAH	T.I.P. No.	TIP-22-219-IAH



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 Texas Registered Engineering Firm #F-58129

DESIGNER PROJECT No.:	1429.13
PROJECT STATUS:	IFB

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3	ISSUE FOR BID	06/08/2023	JE

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CHECKED BY:	JE
ISSUE DATE:	06/08/2023
APPROVED BY:	JE
APPROVAL DATE:	06/08/2023

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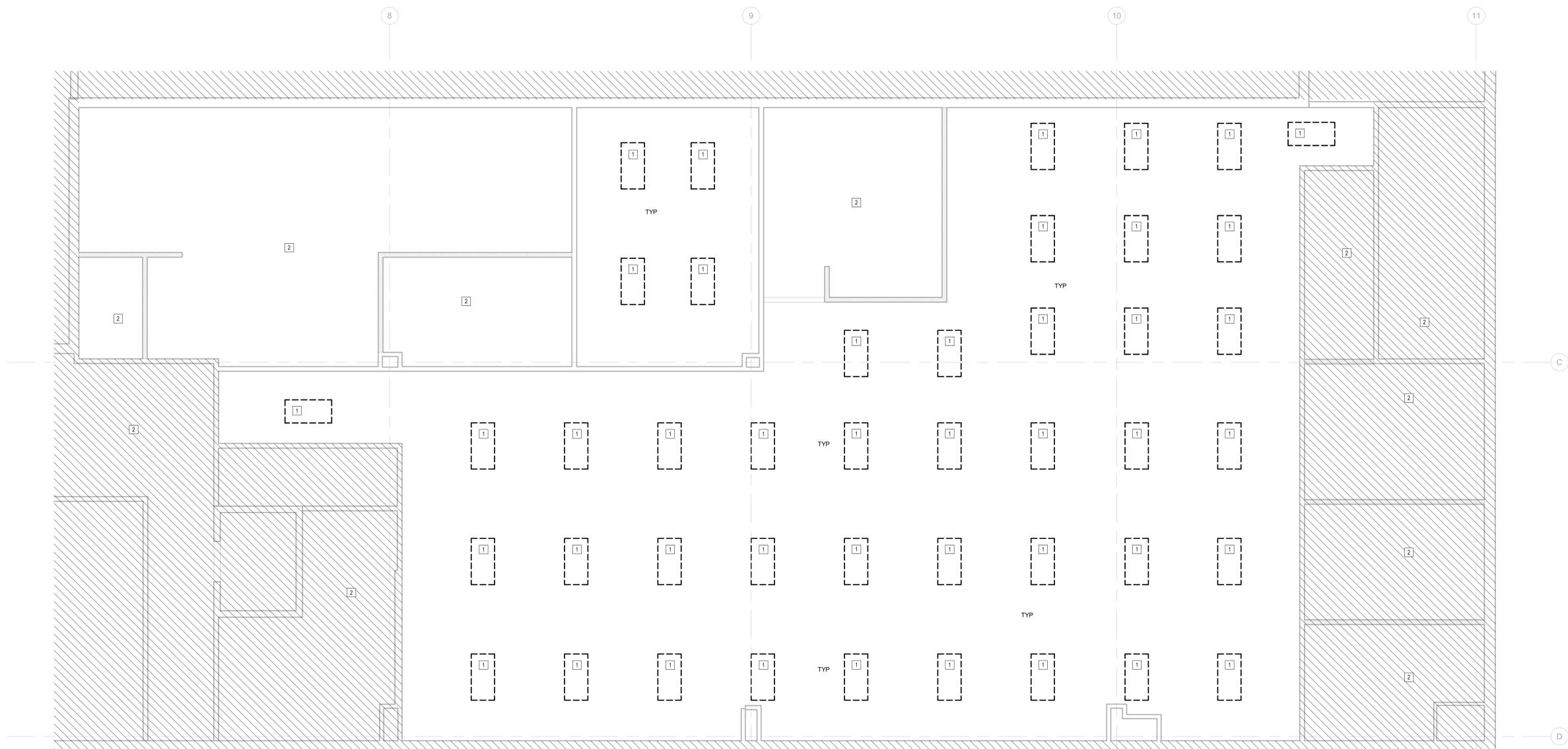
Drawing Status
IFB
 ISSUE FOR BID



SHEET NAME:	ELECTRICAL LIGHTING DEMOLITION ENLARGED PLAN - LEVEL 2
SHEET No.	EL1.02
SCALE:	1/4" = 1'-0"

SHEET SIZE: 30"x42" ARCH E1

KEYED NOTES	
#	KEYNOTE
1	REMOVE LIGHT FIXTURE AND PLACE IN OWNER STOCK.
2	EXISTING LIGHTING TO REMAIN IN THIS AREA.
3	EXISTING LIGHTING TO REMAIN.



A1 ELECTRICAL LIGHTING DEMOLITION PLAN - LEVEL 2 - Callout 1
 1/4" = 1'-0"



GENERAL SERVICES FACILITY
4551 WILL CLAYTON PKWY,
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C.O.H. No.	N/A	D.O.A. No.	N/A
B.S.G. No.	85G-2022-257-IAH	T.I.P. No.	TIP-22-219-IAH



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9820 Whitson Dr. Houston, Texas 77095 (713)222-7766
Texas Registered Engineering Firm #F-3811

DESIGNER PROJECT No.: 1429.13
PROJECT STATUS: IFB

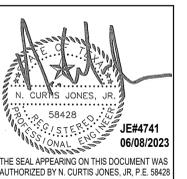
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No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
3	ISSUE FOR BID	06/08/2023	

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ISSUE DATE: 06/08/2023
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APPROVAL DATE: 06/08/2023

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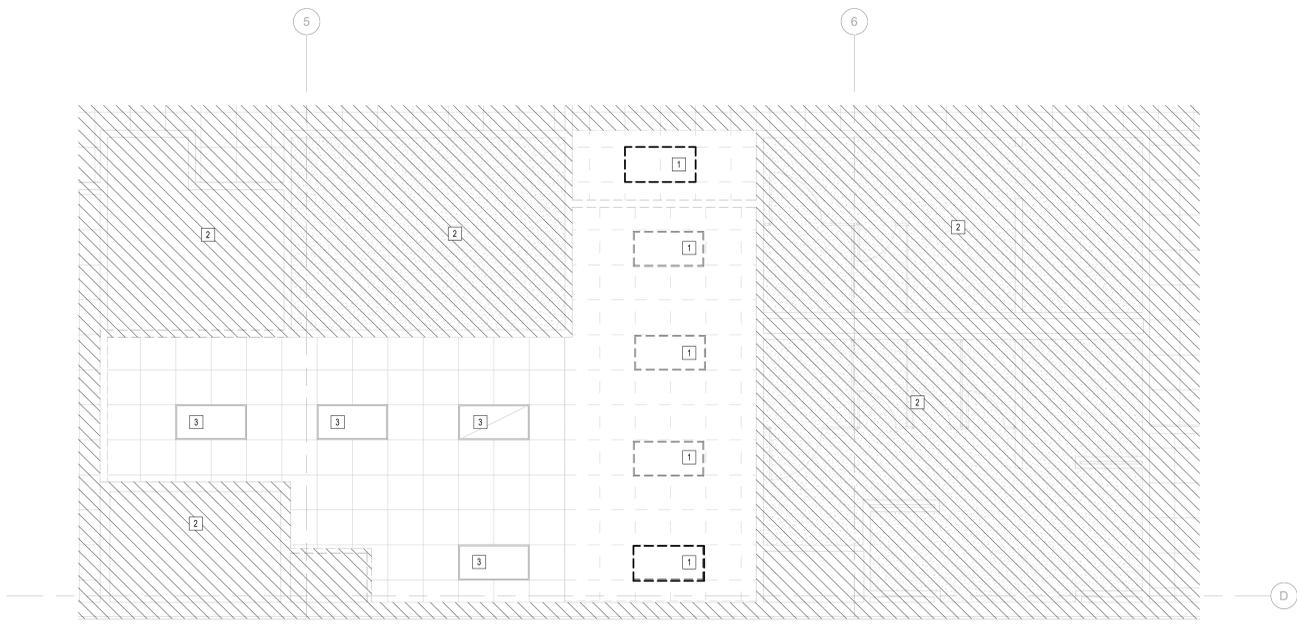
Drawing Status
IFB
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SHEET NAME: ELECTRICAL LIGHTING DEMOLITION
ENLARGED PLAN - LEVEL 2
SHEET No. EL1.03 SCALE: 1/4" = 1'-0"

SHEET SIZE: 30"x42" ARCH E1

#	KEYNOTE
1	REMOVE LIGHT FIXTURE AND PLACE IN OWNER STOCK
2	EXISTING LIGHTING TO REMAN IN THIS AREA
3	EXISTING LIGHTING TO REMAN



A1 ELECTRICAL LIGHTING DEMOLITION PLAN - LEVEL 2 - Callout 2
1/4" = 1'-0"

PLOT DATE: 6/7/2023 4:31:54 PM
DOA DWG FILE:
OLD DOA No. :
PLOT DATE:

FILE PATH: BIM 360/4844 HAS IAH General Services Building ICC and Emergency Operations Bulidout/4844_ICC_MEP_R21.rvt
HAS FILE:



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C.O.H. No. N/A D.O.A. No. N/A
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Texas Registered Engineering Firm #F-5819

DESIGNER PROJECT No.: 1429.13

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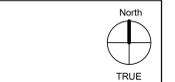
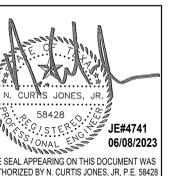
No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
3	ISSUE FOR BID	06/08/2023	

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 APPROVAL DATE: 06/08/2023

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SHEET NAME:
ELECTRICAL LIGHTING ENLARGED PLAN - LEVEL 1
SHEET No. EL1.04 SCALE: As indicated

SHEET SIZE: 30"x42" ARCH E1

ELECTRICAL GENERAL NOTES:

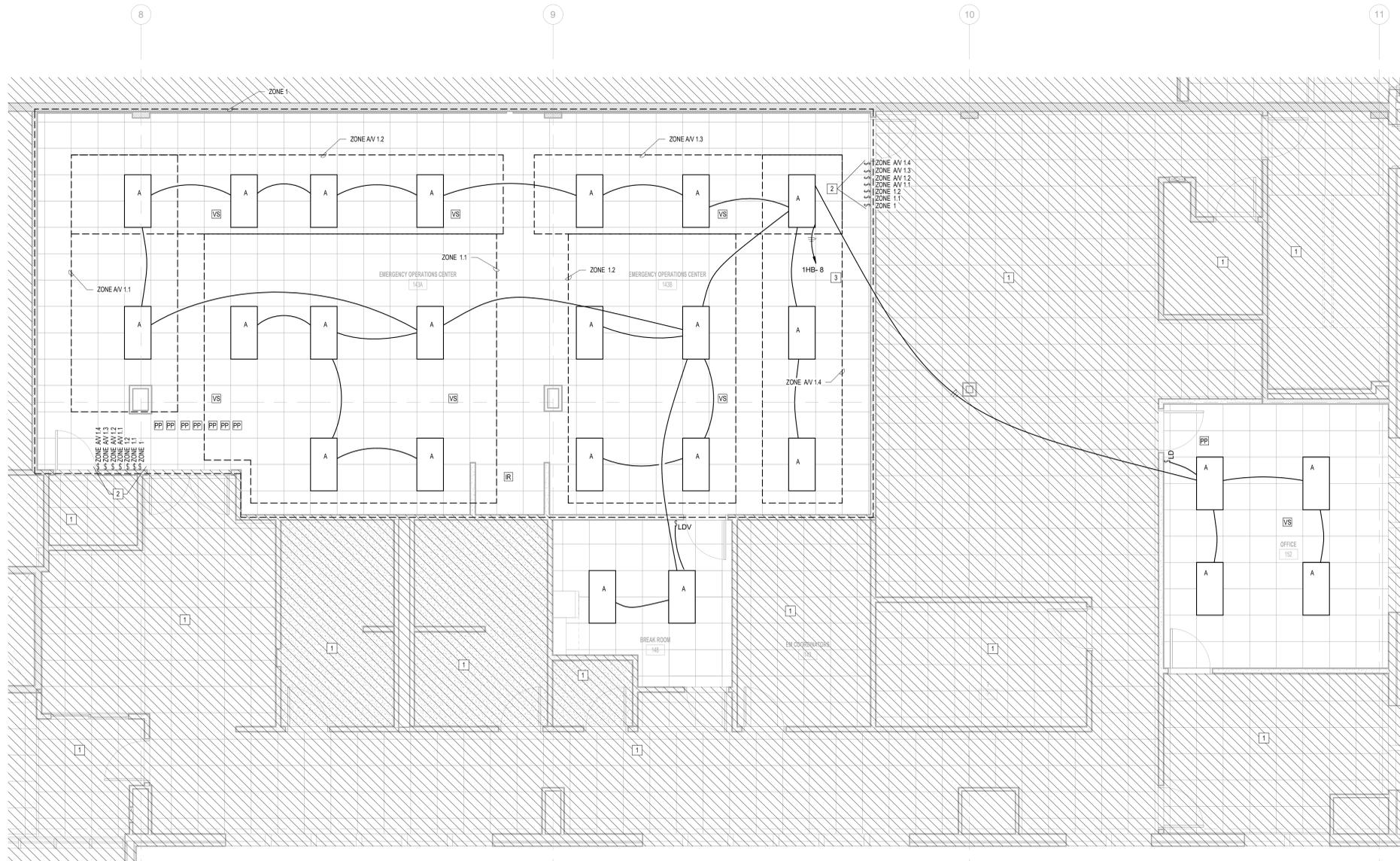
1. REPLACE EXISTING LIGHTING FIXTURES WITH NEW TYPE 'A' LIGHT FIXTURE AS INDICATED.
2. ALL FIRE ALARM DEVICES ARE EXISTING TO REMAIN.

LIGHTING CONTROL LEGEND

CC	CEILING MOUNTED OCCUPANT SENSOR. PROVIDE FULL ROOM COVERAGE. CONNECT LIGHT FIXTURES SERVING ROOM THROUGH NEW SENSOR(S). AUTO OFF / AUTO ON.
WM	WALL MOUNTED OCCUPANT SENSOR. PROVIDE FULL ROOM COVERAGE. CONNECT LIGHT FIXTURES SERVING ROOM THROUGH NEW SENSOR(S). AUTO OFF / AUTO ON.
VS	CEILING MOUNTED VACANCY SENSOR. PROVIDE FULL ROOM COVERAGE. CONNECT LIGHT FIXTURES SERVING ROOM THROUGH NEW SENSOR(S). LIGHTS MUST BE TURNED ON MANUALLY (OR OPTIONALLY CAN BE CONFIGURED TO COME ON AUTOMATICALLY TO 50%).
PP	LIGHTING CONTROL POWER PACK.
IR	PARTITION SENSOR.
LD	LOW VOLTAGE SWITCH(S) (0-10V DIMMER).
LDV	WALL MOUNTED OCCUPANT SENSOR WITH 0-10V DIMMER. PROVIDE FULL ROOM COVERAGE. CONNECT LIGHT FIXTURES SERVING ROOM THROUGH NEW SENSOR(S). LIGHTS MUST BE TURNED ON MANUALLY (OR OPTIONALLY CAN BE CONFIGURED TO COME ON AUTOMATICALLY TO 50%).
LDD	WALL MOUNTED OCCUPANT SENSOR WITH 0-10V DIMMER. PROVIDE FULL ROOM COVERAGE. CONNECT LIGHT FIXTURES SERVING ROOM THROUGH NEW SENSOR(S). AUTO OFF / AUTO ON.
S	LINE VOLTAGE SWITCH

KEYED NOTES

#	KEYNOTE
1	EXISTING LIGHTING TO REMAIN IN THIS AREA.
2	TOUCH SCREEN WALL SWITCH. REFER TO E5.04
3	ROUTE NEW CIRCUIT THROUGH NEW LIGHTING INVERTER (REFER TO EA.01 ELECTRICAL ONE-LINE DIAGRAM). ALL LIGHT TO BE ENERGIZED WITH A POWER OUTAGE. PROVIDE A 20A GENERATOR TRANSFER DEVICE FOR EMERGENCY OPERATION.



A1 ELECTRICAL LIGHTING PLAN - LEVEL 1 - Callout 1

PLOT DATE: 6/7/2023 4:32:06 PM
DOA DWG FILE:
OLD DOA No.:
PLOT DATE:

FILE PATH: BIM 360/4844 HAS IAH General Services Building ICC and Emergency Operations Buildout/4844_ICC_MEP_R21.rvt
HAS FILE:

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C.I.P. No.	PN793	A.I.P. No.	N/A
C.O.H. No.	N/A	D.O.A. No.	N/A
B.S.G. No.	85G-2022-257-IAH	T.I.P. No.	TIP-22-219-IAH



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9820 Whitson Dr. Houston, Texas 77095 (713)222-7766
Texas Registered Engineering Firm #7-381

DESIGNER PROJECT No.: 1429.13

PROJECT STATUS: IFB

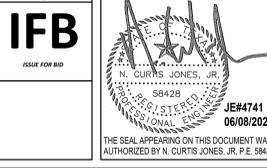
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No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	JE
2	PERMIT COMMENTS 2	11/11/2022	JE
3	ISSUE FOR BID	06/08/2023	JE

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ISSUE DATE: 06/08/2023
APPROVED BY: JE
APPROVAL DATE: 06/08/2023

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SHEET NAME: ELECTRICAL LIGHTING ENLARGED PLAN - LEVEL 2

SHEET No. EL1.05 SCALE: As indicated

SHEET SIZE: 30"x42" ARCH E1

LIGHTING CONTROL LEGEND

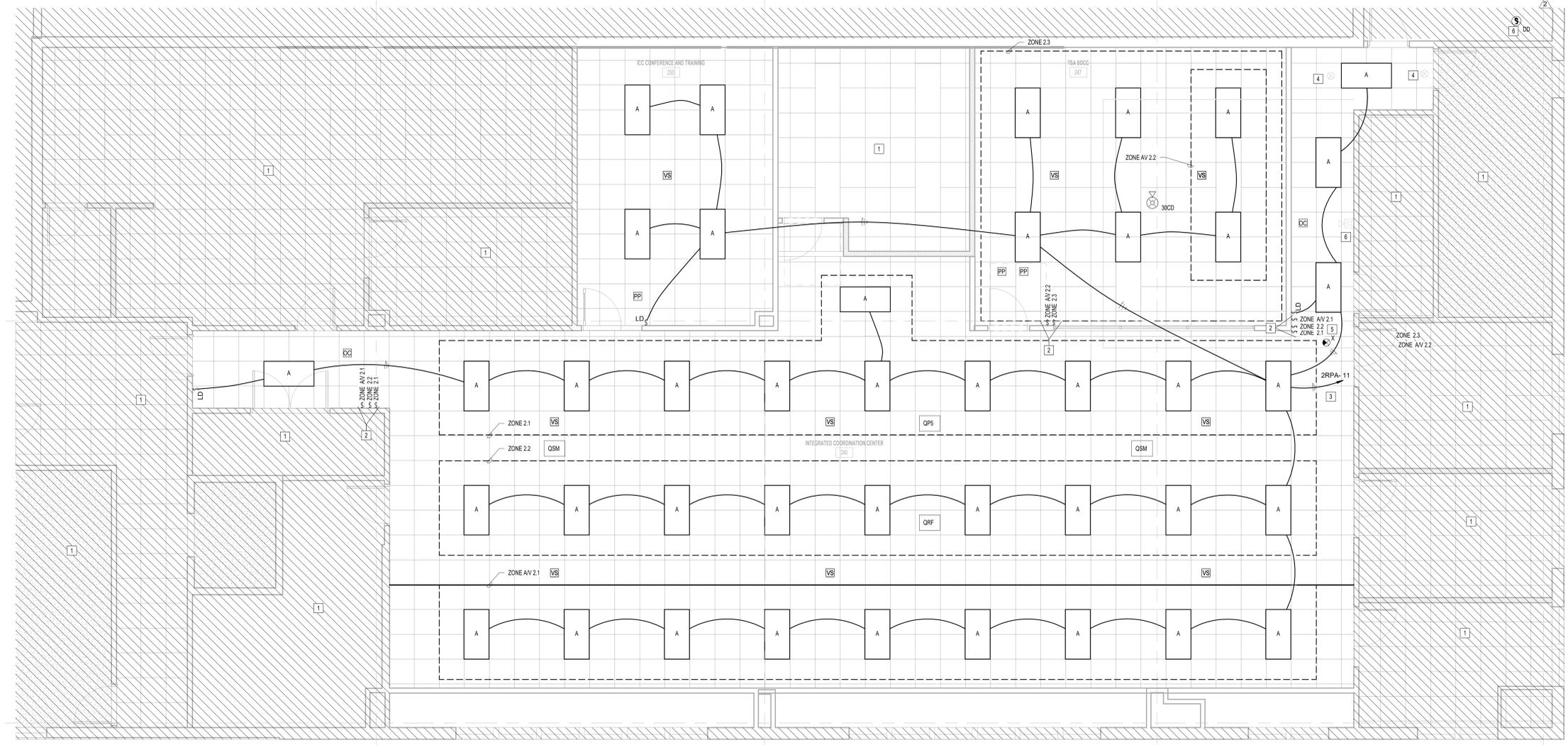
OC	CEILING MOUNTED OCCUPANT SENSOR. PROVIDE FULL ROOM COVERAGE. CONNECT LIGHT FIXTURES SERVING ROOM THROUGH NEW SENSOR(S). AUTO OFF / AUTO ON.
WM/OC	WALL MOUNTED OCCUPANT SENSOR. PROVIDE FULL ROOM COVERAGE. CONNECT LIGHT FIXTURES SERVING ROOM THROUGH NEW SENSOR(S). AUTO OFF / AUTO ON.
VS	CEILING MOUNTED VACUANCY SENSOR. PROVIDE FULL ROOM COVERAGE. CONNECT LIGHT FIXTURES SERVING ROOM THROUGH NEW SENSOR(S). LIGHTS MUST BE TURNED ON MANUALLY (OR OPTIONALLY CAN BE CONFIGURED TO COME ON AUTOMATICALLY TO 50%).
PP	LIGHTING CONTROL POWER PACK.
R	PARTITION SENSOR.
LD	LOW VOLTAGE SWITCH(S) (0-10V DIMMER).
LDV	WALL MOUNTED OCCUPANT SENSOR WITH 0-10V DIMMER. PROVIDE FULL ROOM COVERAGE. CONNECT LIGHT FIXTURES SERVING ROOM THROUGH NEW SENSOR(S). LIGHTS MUST BE TURNED ON MANUALLY (OR OPTIONALLY CAN BE CONFIGURED TO COME ON AUTOMATICALLY TO 50%).
LDV	WALL MOUNTED OCCUPANT SENSOR WITH 0-10V DIMMER. PROVIDE FULL ROOM COVERAGE. CONNECT LIGHT FIXTURES SERVING ROOM THROUGH NEW SENSOR(S). AUTO OFF / AUTO ON.
S	LINE VOLTAGE SWITCH

ELECTRICAL GENERAL NOTES:

1. REPLACE EXISTING LIGHTING FIXTURES WITH NEW TYPE 'A' LIGHT FIXTURE AS INDICATED.
2. ALL FIRE ALARM DEVICES ARE EXISTING TO REMAIN.

KEYED NOTES

#	KEYNOTE
1	EXISTING LIGHTING TO REMAIN IN THIS AREA.
2	LOW VOLTAGE 0-10V DIMMER, 3-WAY SWITCH
3	ROUTE NEW CIRCUIT THROUGH NEW LIGHTING INVERTER (REFER TO EA-01 ELECTRICAL ONE-LINE DIAGRAM). ALL LIGHT TO BE ENERGIZED WITH A POWER OUTAGE. PROVIDE A 20A GENERATOR TRANSFER DEVICE FOR EMERGENCY OPERATION.
4	EXISTING EXIT LIGHT TO REMAIN.
5	CONNECT EXIT LIGHT TO EXISTING EXIT LIGHTING CIRCUIT SERVING THIS AREA. VERIFY BRANCH CIRCUIT HAS NOT BEEN EXCEEDED.
6	PROVIDE SMOKE DETECTOR IN RETURN DUCT OF EXISTING GAHL3



A1 ELECTRICAL LIGHTING PLAN - LEVEL 2 - Callout 1

PLOT DATE: 6/7/2023 4:32:19 PM
DOA DWG FILE:
OLD DOA No. :
PLOT DATE:

FILE PATH: BIM 360/4844 HAS IAH General Services Building ICC and Emergency Operations Buildout/4844_ICC_MEP_R21.rvt
HAS FILE:



REVISIONS		
No.	DESCRIPTION	DATE
1	ISSUE FOR PERMIT	10/06/2022
3	ISSUE FOR BID	06/08/2023

DESIGN BY:	JE
DRAWN BY:	JE
CHECKED BY:	JE
ISSUE DATE:	06/08/2023
APPROVED BY:	JE
APPROVAL DATE:	06/08/2023

DIRECTOR of HOUSTON AIRPORT SYSTEM

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--	--

North
TRUE

SHEET NAME:
ELECTRICAL LIGHTING ENLARGED PLAN - LEVEL 2

SHEET No.	EL1.06	SCALE:	As indicated
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SHEET SIZE: 30"x42" ARCH E1

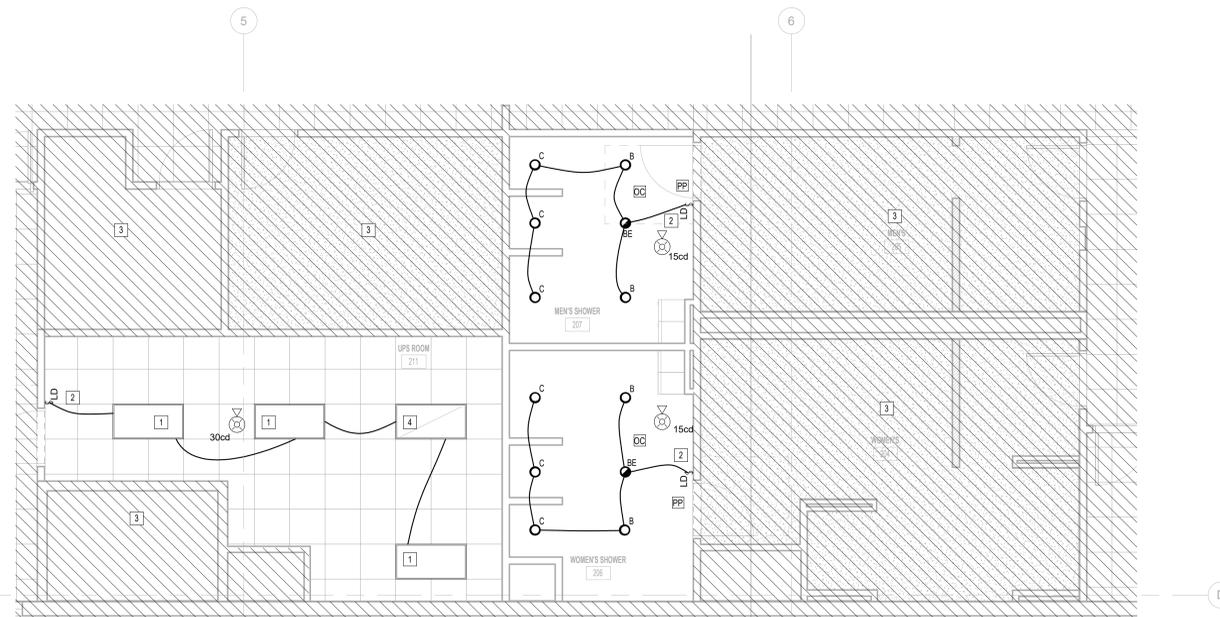
ELECTRICAL GENERAL NOTES:
1. REPLACE EXISTING LIGHTING FIXTURES WITH NEW TYPE 'X' LIGHT FIXTURE AS INDICATED.
2. ALL FIRE ALARM DEVICES ARE EXISTING TO REMAIN.

LIGHTING CONTROL LEGEND

	CEILING MOUNTED OCCUPANT SENSOR. PROVIDE FULL ROOM COVERAGE. CONNECT LIGHT FIXTURES SERVING ROOM THROUGH NEW SENSOR(S). AUTO OFF / AUTO ON.
	WALL MOUNTED OCCUPANT SENSOR. PROVIDE FULL ROOM COVERAGE. CONNECT LIGHT FIXTURES SERVING ROOM THROUGH NEW SENSOR(S). AUTO OFF / AUTO ON.
	CEILING MOUNTED VACUANCY SENSOR. PROVIDE FULL ROOM COVERAGE. CONNECT LIGHT FIXTURES SERVING ROOM THROUGH NEW SENSOR(S). LIGHTS MUST BE TURNED ON MANUALLY (OR OPTIONALLY CAN BE CONFIGURED TO COME ON AUTOMATICALLY TO 50%).
	LIGHTING CONTROL POWER PACK.
	PARTITION SENSOR.
	LOW VOLTAGE SWITCH(S) (0-10V DIMMER).
	WALL MOUNTED OCCUPANT SENSOR WITH 0-10V DIMMER. PROVIDE FULL ROOM COVERAGE. CONNECT LIGHT FIXTURES SERVING ROOM THROUGH NEW SENSOR(S). LIGHTS MUST BE TURNED ON MANUALLY (OR OPTIONALLY CAN BE CONFIGURED TO COME ON AUTOMATICALLY TO 50%).
	WALL MOUNTED OCCUPANT SENSOR WITH 0-10V DIMMER. PROVIDE FULL ROOM COVERAGE. CONNECT LIGHT FIXTURES SERVING ROOM THROUGH NEW SENSOR(S). AUTO OFF / AUTO ON.
	LINE VOLTAGE SWITCH

KEYED NOTES

#	KEYNOTE
1	EXISTING LIGHT TO REMAIN. SWITCH AS INDICATED.
2	CONNECT TO EXISTING LIGHTING CIRCUIT SERVING THIS AREA. VERIFY BRANCH CIRCUIT HAS NOT BEEN EXCEEDED.
3	EXISTING LIGHTING TO REMAIN IN THIS AREA.
4	EXISTING EMERGENCY LIGHT TO REMAIN. SWITCH AS INDICATED.



B1 ELECTRICAL LIGHTING PLAN - LEVEL 2 - Callout 2
1/4" = 1'-0"

IAH INTEGRATED COORDINATION CENTER

C.I.P. No.	PN793	A.I.P. No.	N/A
C.O.H. No.	N/A	D.O.A. No.	N/A
B.S.G. No.	85G-2022-257-IAH	T.I.P. No.	TIP-22-219-IAH



Consulting Mechanical/Electrical/Plumbing Engineers
9820 Whitson Dr. Houston, Texas 77095 (713)222-7766
Texas Registered Engineering Firm #F-381

DESIGNER PROJECT No.: 1429.13

PROJECT STATUS: IFB

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1	ISSUE FOR PERMIT	10/06/2022	
3	ISSUE FOR BID	06/08/2023	

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ISSUE DATE:	06/08/2023
APPROVED BY:	JE
APPROVAL DATE:	06/08/2023

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of
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Drawing Status
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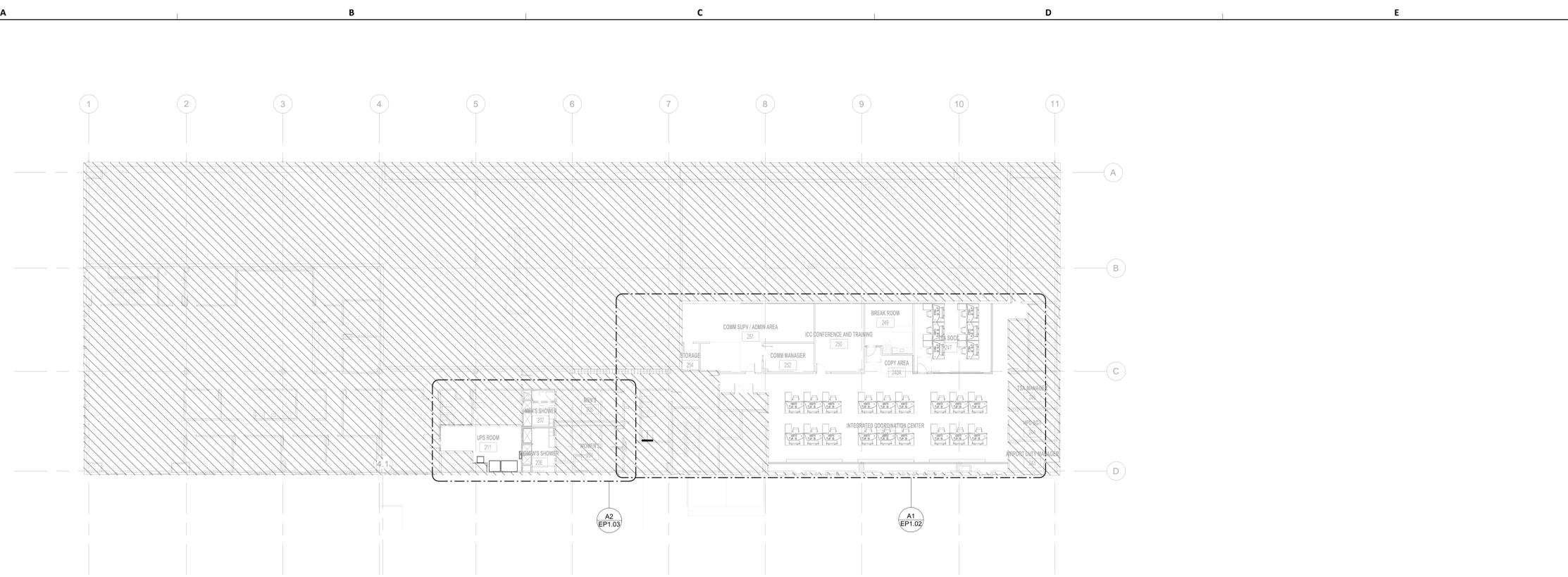


North
TRUE

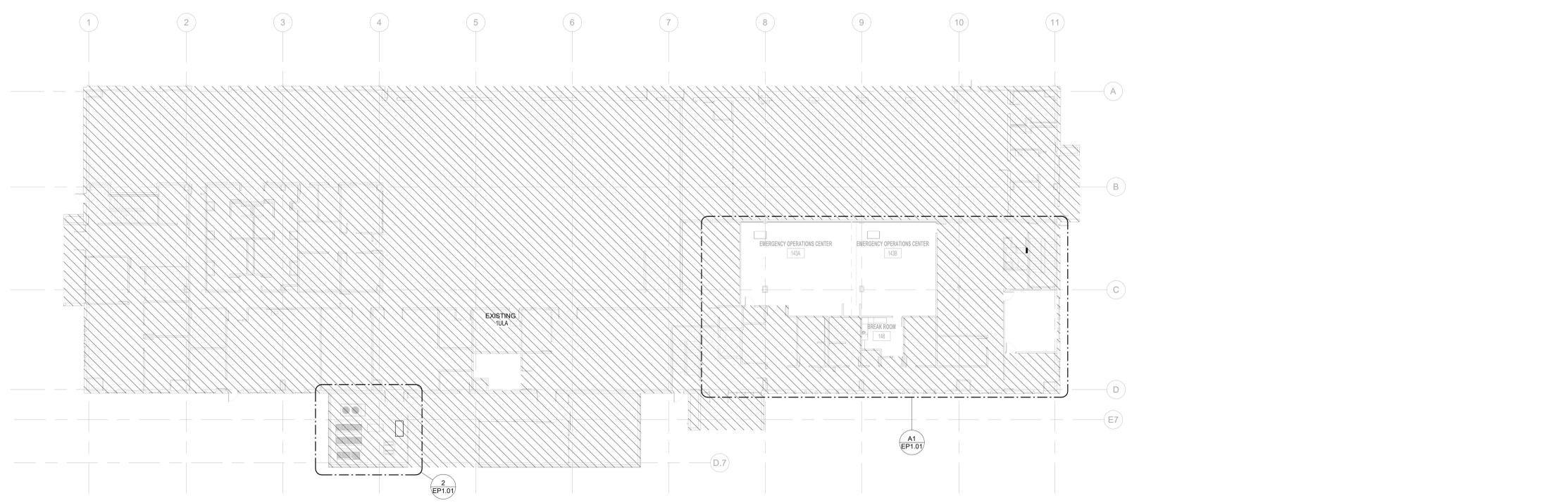
SHEET NAME: OVERALL ELECTRICAL POWER PLAN

SHEET No. EP1.00 SCALE: 1/16" = 1'-0"

SHEET SIZE: 30"x42" ARCH E1



A3 OVERALL ELECTRICAL POWER PLAN - LEVEL 2
1/8" = 1'-0"



A1 OVERALL ELECTRICAL POWER PLAN - LEVEL 1
1/8" = 1'-0"



GENERAL SERVICES FACILITY
4551 WILL CLAYTON PKWY,
HUMBLE, TX 77396

IAH INTEGRATED COORDINATION CENTER

C.I.P. No.	PN793	A.I.P. No.	N/A
C.O.H. No.	N/A	D.O.A. No.	N/A
B.S.G. No.	85G-2022-257-IAH	T.I.P. No.	TIP-22-219-IAH



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Consulting Mechanical/Electrical/Plumbing Engineers
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Texas Registered Engineering Firm #7-3811

DESIGNER PROJECT No.:	1429.13
PROJECT STATUS:	IFB

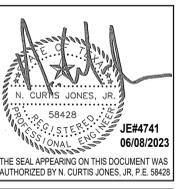
REVISIONS

No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
2	PERMIT COMMENTS 1	10/26/2022	
3	ISSUE FOR BID	06/08/2023	

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ISSUE DATE:	06/08/2023
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APPROVAL DATE:	06/08/2023

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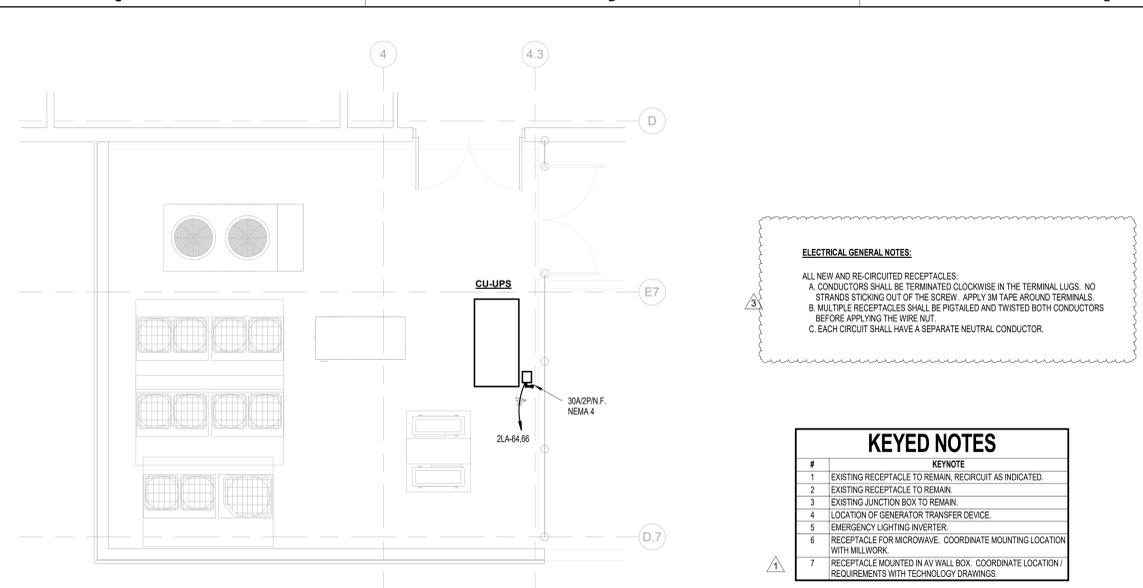
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TRUE

SHEET NAME:	ELECTRICAL POWER ENLARGED PLAN - LEVEL 1
SHEET No.	EP.1.01
SCALE:	As indicated

SHEET SIZE: 30"x42" ARCH E1



ELECTRICAL GENERAL NOTES:

ALL NEW AND RE-CIRCUITED RECEPTACLES

A. CONDUCTORS SHALL BE TERMINATED CLOCKWISE IN THE TERMINAL LUGS. NO STRANDS STICKING OUT OF THE SCREW. APPLY 3M TAPE AROUND TERMINALS BEFORE APPLYING THE WIRE NUT.

B. MULTIPLE RECEPTACLES SHALL BE PITTAILED AND TWISTED BOTH CONDUCTORS BEFORE APPLYING THE WIRE NUT.

C. EACH CIRCUIT SHALL HAVE A SEPARATE NEUTRAL CONDUCTOR.

KEYED NOTES

#	KEYNOTE
1	EXISTING RECEPTACLE TO REMAIN. RE-CIRCUIT AS INDICATED.
2	EXISTING RECEPTACLE TO REMAIN.
3	EXISTING JUNCTION BOX TO REMAIN.
4	LOCATION OF GENERATOR TRANSFER DEVICE.
5	EMERGENCY LIGHTING INVERTER.
6	RECEPTACLE FOR MICROWAVE. COORDINATE MOUNTING LOCATION WITH MILLWORK.
7	RECEPTACLE MOUNTED IN AV WALL BOX. COORDINATE LOCATION / REQUIREMENTS WITH TECHNOLOGY DRAWINGS.

2 ELECTRICAL POWER PLAN - LEVEL 1 - MECHANICAL YARD
1/4" = 1'-0"



A1 ELECTRICAL POWER PLAN - LEVEL 1 - Callout 1
1/4" = 1'-0"

FILE PATH: BIM 360/4844 HAS IAH General Services Building ICC and Emergency Operations Buildout/4844_ICC_MEP_R21.rvt
 PLOT DATE: 6/7/2023 4:33:18 PM
 DOA DWG FILE:
 OLD DOA No.:
 PLOT DATE: HAS FILE:



GENERAL SERVICES FACILITY
4551 WILL CLAYTON PKWY,
HUMBLE, TX 77396

IAH INTEGRATED COORDINATION CENTER

C.I.P. No. **PN793** A.I.P. No. **N/A**
C.O.H. No. **N/A** D.O.A. No. **N/A**
B.S.G. No. **BSG-2022-257-IAH** T.I.P. No. **TIP-22-219-IAH**



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Consulting Mechanical/Electrical/Plumbing Engineers
9820 Whitson Dr. Houston, Texas 77095 (713)222-7766
Texas Registered Engineering Firm #7-381

DESIGNER PROJECT No.: **1429.13**
PROJECT STATUS: **IFB**

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No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
2	PERMIT COMMENTS 1	10/26/2022	
3	ISSUE FOR BID	06/08/2023	

DESIGN BY: JE
DRAWN BY: JE
CHECKED BY: JE
ISSUE DATE: 06/08/2023
APPROVED BY: JE
APPROVAL DATE: 06/08/2023

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Drawing Status: **IFB**
ISSUE FOR BID
Professional Engineer Seal for Curtis Jones, Jr., No. 58428, State of Texas, License No. JE#4741, 06/08/2023.
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY N. CURTIS JONES, JR., P.E. 58428



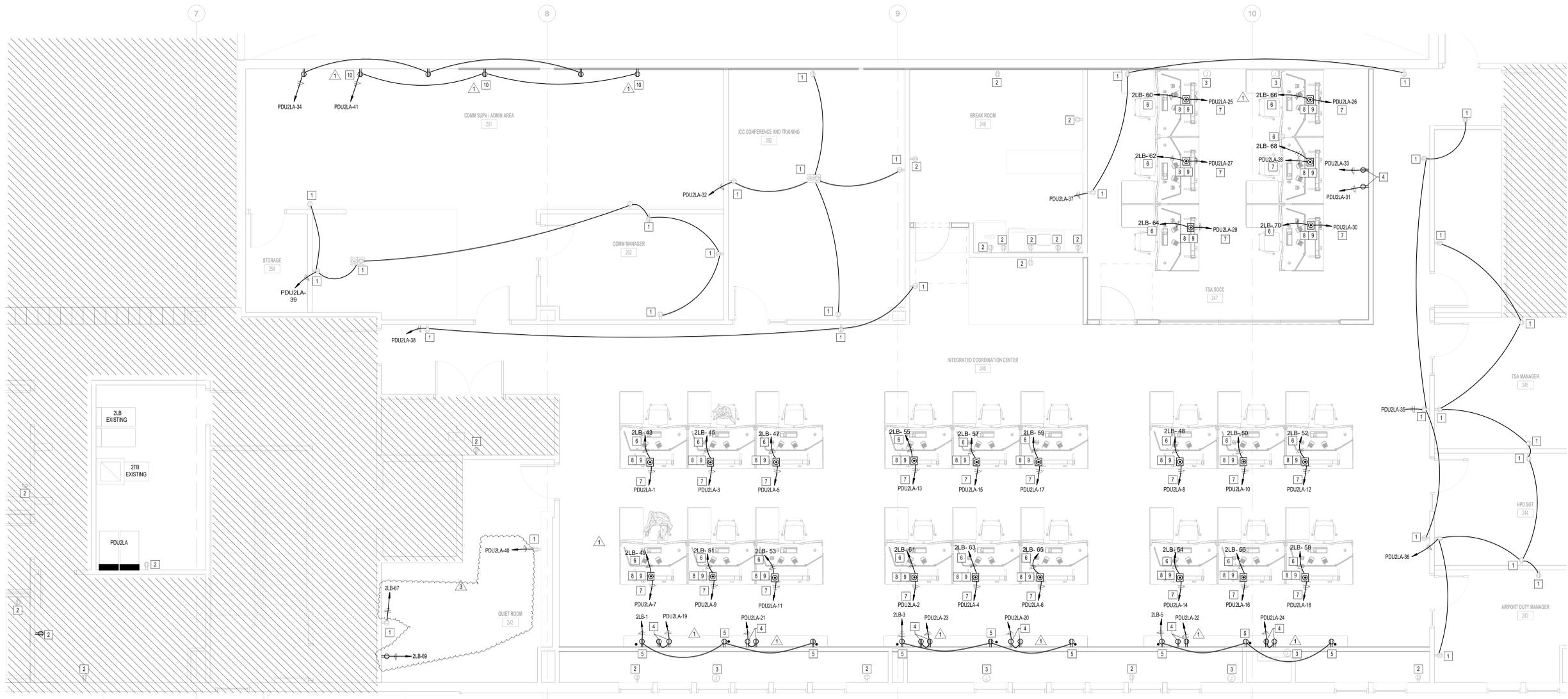
SHEET NAME:
ELECTRICAL POWER ENLARGED PLAN - LEVEL 2
SHEET No. **EP1.02** SCALE: **As indicated**

SHEET SIZE: **30"x42" ARCH E1**

ELECTRICAL GENERAL NOTES:
ALL NEW AND RE-CIRCUITED RECEPTACLES:
A. CONDUCTORS SHALL BE TERMINATED CLOCKWISE IN THE TERMINAL LUGS. NO STRANDS STICKING OUT OF THE SCREW. APPLY 3M TAPE AROUND TERMINALS.
B. MULTIPLE RECEPTACLES SHALL BE PISTAILED AND TWISTED BOTH CONDUCTORS BEFORE APPLYING THE WIRE NUT.
C. EACH CIRCUIT SHALL HAVE A SEPARATE NEUTRAL CONDUCTOR.

KEYED NOTES

#	KEYNOTE
1	EXISTING RECEPTACLE TO REMAIN, RE-CIRCUIT AS INDICATED.
2	EXISTING RECEPTACLE TO REMAIN.
3	EXISTING JUNCTION BOX TO REMAIN.
4	RECEPTACLE MOUNTED IN AN WALL BOX. COORDINATE LOCATION/ REQUIREMENTS WITH TECHNOLOGY DRAWINGS.
5	RECEPTACLE WITH USB CHARGER.
6	CIRCUIT FOR TABLE POWER. NOT THROUGH UPS SYSTEM.
7	CIRCUIT FOR UPS POWER. CONNECT TO ORANGE RECEPTACLE IN FIRE RATED POKE THROUGH.
8	6" FIRE RATED POKE THROUGH - #6-STEP, OUTER COMPARTMENT 1 #6REC, CENTER COMPARTMENT #ACT18A, OUTER COMPARTMENT 2 #6REC, ORANGE RECEPTACLE COVER #ACT25Y.
9	COORDINATE EXACT LOCATION OF FIRE RATED POKE THROUGH WITH ARCHITECTURAL DRAWINGS. REFER TO TECHNOLOGY DRAWINGS FOR ADDITIONAL ELECTRICAL REQUIREMENTS.
10	72#FF



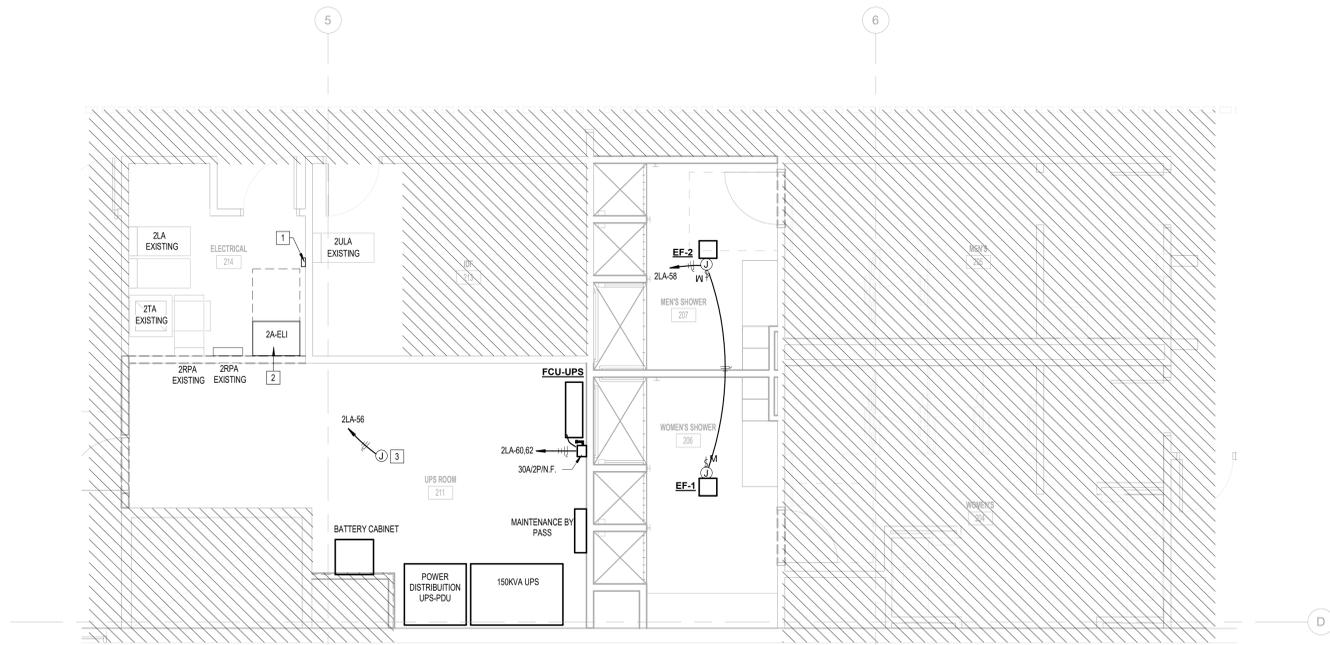
A1 ELECTRICAL POWER PLAN - LEVEL 2 - Callout 1
1/4" = 1'-0"

PLOT DATE: 6/7/2023 4:33:52 PM
DOA DWG FILE:
OLD DOA No. :
PLOT DATE:

FILE PATH: BIM 360/4844 HAS IAH General Services Building ICC and Emergency Operations Buildout/4844_ICC_MEP_R21.rvt
HAS FILE:

RDLR

#	KEYNOTE
1	LOCATION OF GENERATOR TRANSFER DEVICE.
2	EMERGENCY LIGHTING INVERTER.
3	JUNCTION BOX FOR FLOAT SWITCH. COORDINATE EXACT LOCATION IN FIELD.



A2 ELECTRICAL POWER PLAN - LEVEL 2 - Callout 2
1/8" = 1'-0"

DESIGNER PROJECT No.: **1429.13**
PROJECT STATUS: **IFB**

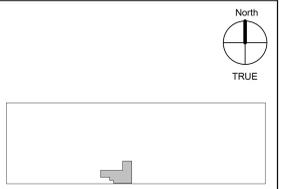
REVISIONS			
No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	JE
3	ISSUE FOR BID	06/08/2023	JE

DESIGN BY: JE
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Professional Seal:
CURTIS JONES, JR.
No. 58428
JE#4741
06/08/2023
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SHEET NAME:
ELECTRICAL POWER ENLARGED PLAN - LEVEL 2
SHEET No. EP1.03 SCALE: 1/4" = 1'-0"

RDLR

DESIGNER PROJECT No.: **1429.13**

PROJECT STATUS: **IFB**

REVISIONS

No.	DESCRIPTION	DATE	BY
3	ISSUE FOR BID	06/08/2023	

DESIGN BY: **JE**
DRAWN BY: **JE**
CHECKED BY: **JE**
ISSUE DATE: **06/08/2023**
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APPROVAL DATE: **06/08/2023**

DIRECTOR of HOUSTON AIRPORT SYSTEM

Drawing Status

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SHEET NAME: **PLUMBING SYMBOLS AND ABBREVIATIONS**

SHEET No. **P0.01** SCALE: **12" = 1'-0"**

SHEET SIZE: **30"x42" ARCH E1**

ABBREVIATIONS

A	F (Cont)	P (Cont)
AIR (COMPRESSED)	FOS FUEL OIL SUPPLY	PSI POUNDS PER SQUARE INCH
ABV ABOVE	FOV FUEL OIL VENT	PSIG POUNDS PER SQUARE INCH GAUGE
AIC AIR CONDITIONING	FP FIRE PUMP	PT PLUMBING TRIM
AC ALTERNATING CURRENT, AIR COMPRESSOR	FRZR FREEZER	PV PLUG VALVE
ACI AMERICAN CONCRETE INSTITUTE	FS FLOW SWITCH, FIRE SPRINKLER	PVC POLYVINYL CHLORIDE
AD ACCESS DOOR, AREA DRAIN ADJUSTABLE	FT FOOT, FEET	PW PROCESS WASTE
ADJ ABOVE FINISHED CEILING	FUT FUTURE	
AFC ABOVE FINISHED FLOOR		
AFG ABOVE FINISHED GRADE		
AL ALUMINUM		
AMB AMBIENT		
AP ACCESS PANEL, ALARM PANEL		
ARCH ARCHITECT, ARCHITECTURAL		
ASME AMERICAN SOCIETY OF MECHANICAL ENGINEERS		
ASTM AMERICAN SOCIETY OF TESTING AND MATERIALS		
ATS AUTOMATIC TRANSFER SWITCH		
AV ACID VENT, AIR VENT, AREA VALVE		
AVG AVERAGE		
AW ACID WASTE		
AWS AMERICAN WELDING SOCIETY		
AUX AUXILIARY		

B	H
BC BELOW COUNTER	HB HOSE BIBB
BIC BACK OF CURB	HD HEAD, HUB DRAIN
BFV BUTTERFLY VALVE	HE HEAT EXCHANGER
BH BOX HYDRANT	HORIZ HORIZONTAL
BLDG BUILDING	HP HORSEPOWER, HALON PANEL
BM BENCHMARK	HKP HOUSEKEEPING PAD
BOF BOTTOM OF FOOTING	HSC HORIZONTAL SPLIT CASE
BOS BOTTOM OF STRUCTURE	HTG HEATING
BT BATH TUB BREAK TANK	HTR HEATER
BTU BRITISH THERMAL UNIT	HW HOT WATER
BV BALL VALVE	HWC HOT WATER CIRCULATOR
BWV BACK WATER VALVE	HWR HOT WATER RETURN
	HWS HOT WATER SUPPLY
	HZ HERTZ

C	I
CEL CELSIUS	ID INSIDE DIAMETER
CAB CABINET	IE INVERT ELEVATION
CB CATCH BASIN	IN INCH
CFM CUBIC FEET PER MINUTE	INSUL INSULATION
CFS CUBIC FEET PER SECOND	INT INTERNAL, INTERIOR
C CAST IRON	IW INDIRECT WASTE
CIRC CIRCULATING	
CL CENTERLINE	
CLG CEILING	
CLR CLEAR	
COMP CORRIGATED METAL PIPE	
CONC CONCRETE MASONRY UNIT	
CPI CAST IRON PIPE INSTITUTE	
CPVC CHLORINATED POLYVINYL CHLORIDE	
CO CLEAN OUT	
COL COLUMN	
COMB COMBINATION	
COMP COMPRESSOR	
CON CONVERTER	
CONC CONCRETE, CONCENTRIC	
COND CONDENSER, CONDENSATE	
CONN CONNECTION	
CONT CONTINUOUS, CONTINUATION CONTROLLER, CONTRACTOR	
CONTR CONTROLLER, CONTRACTOR	
CRP CORROSION RESISTANT PIPE	
CRT CATHODE RAY TUBE	
CT COOLING TOWER	
CTR CENTER	
CU COPPER	
CW COLD WATER	
CI CAPACITY INDEX	
CV CHECK VALVE	

D	J
DEPTH DRAIN	JB JUNCTION BOX
DC DIRECT CURRENT	JP JOCKEY PUMP
DDC DIRECT DIGITAL CONTROL	
DE DEIONIZED WATER SUPPLY	
DEP DEIONIZED WATER PUMP	
DER DEIONIZED WATER RETURN	
DESIGN DESIGNATION	
DET DETAIL	
DF DRINKING FOUNTAIN	
DIA DIAMETER	
DM DIMENSION	
DISC DISCONNECT	
DN DOWN	
DS DOWNSPOUT, DOUBLE SUCTION	
DW DRAIN	
DWH DOMESTIC WATER HEATER	
DWP DOMESTIC WATER PUMP	

E	L
EACH	LENGTH, LAVATORY
ELECTRICAL CONTRACTOR	LA LABORATORY AIR
ECC ECCENTRIC	LAV LAVATORY
EDF ELECTRIC DRINKING FOUNTAIN	LF LINEAR FEET
EFF EFFICIENCY	LRA LOCKED ROTOR AMPS
EJ EXPANSION JOINT	LV LABORATORY VACUUM
EL ELEVATION	LVL LEVEL
ELEC ELECTRICAL	LWCO LOW WATER CUT OFF
ELEV ELEVATOR	LWT LEAVING WATER TEMPERATURE
EMERG EMERGENCY	
ENCL ENCLOSURE	
ENGR ENGINEER	
EQ EQUAL	
EQUIP EQUIPMENT	
ES END SUCTION, EMERGENCY SHOWER	
ET EXPANSION TANK	
ETR EXISTING TO REMAIN	
EVAP EVAPORATOR	
EWIT ENTERING WATER TEMPERATURE	
EX EXPLOSION PROOF	
EXT EXTERNAL	
EXTG EXISTING	

F	M
FARENHEIT, FIRE	MA MEDICAL AIR
FBO FURNISHED BY OTHERS	M METER
FCO FLOOR CLEAN OUT	MAP MASTER ALARM PANEL
FCS FLOOR CONTROL STATION	MAX MAXIMUM
FD FLOOR DRAIN	MBH THOUSAND OF BTU'S
FDS FIRE DEPARTMENT SIAMESE	MC MECHANICAL CONTRACTOR
FDV FIRE DEPARTMENT VALVE	MECH MECHANICAL
FH FIRE HYDRANT	MFR MANUFACTURER
FHC FIRE HOSE CABINET	MG MEDICAL GAS OUTLET
FHR FIRE HOSE RACK	MH MANHOLE
FHV FIRE HOSE VALVE	MI MALLEABLE IRON
FIXT FIXTURE	MIN MINIMUM
FIL FULL LOAD AMPS	MP MEDICAL AIR PURIFIER
FLEX FLEXIBLE	MS MOP SINK
FL FLOW LINE	MTD MOUNTED
FLR FLOOR	MU MAKE-UP
FOP FUEL OIL PUMP	MV MEDICAL VACUUM
FOR FUEL OIL RETURN	

G	N
GAS	N NITROGEN
GAGE	NO NITROUS OXIDE
GALLON	N.C. NORMALLY CLOSED
GALVANIZED	NFPA NATIONAL FIRE PROTECTION ASSOCIATION
GENERAL CONTRACTOR	NIC NOT IN CONTRACT
GLOBE VALVE	N.O. NORMALLY OPEN
GND GROUND	NO. NUMBER
GPD GALLONS PER DAY	NTS NOT TO SCALE
GPH GALLONS PER HOUR	
GPM GALLONS PER MINUTE	
GATE VALVE	

H	O
HEIGHT	O OXYGEN
HOSE BIBB	OC ON CENTER
HEAD, HUB DRAIN	OD OUTSIDE DIAMETER, OVERFLOW DRAIN
HEAT EXCHANGER	OE ORAL EVACUATION
HORIZONTAL	OPG OPENING
HORIZONTAL SPLIT CASE	OS&Y OPEN STEM AND YOLK

G	R
GAS	R RISER
GAGE	RAD REFRIGERATED AIR DRYER
GALLON	RCP REFLECTED CEILING PLAN, REINFORCED CONCRETE PIPE
GALVANIZED	RED REDUCER
GENERAL CONTRACTOR	RD ROOF DRAIN
GLOBE VALVE	RE REFERENCE, REFER
GND GROUND	RECIRC RECIRCULATE
GPD GALLONS PER DAY	REFR REFRIGERATOR
GPH GALLONS PER HOUR	REINF REINFORCING
GPM GALLONS PER MINUTE	REQD REQUIRED
GATE VALVE	REV REVISION, REVISE

I	S
INSIDE DIAMETER	SAN SANITARY SEWER
INVERT ELEVATION	SC STEAM CONVERTER
INCH	SCHED SCHEDULED
INSULATION	SCR SILICON CONTROLLED RECTIFIER
INTERNAL, INTERIOR	SD STORM DRAIN
INDIRECT WASTE	SE SEWAGE EJECTOR

J	T
JUNCTION BOX	TEMPERATURE CONTROL
JOCKEY PUMP	TCC TEMPERATURE CONTROL COMPRESSOR

K	U
KITCHEN EQUIPMENT CONTRACTOR	URRNL URRNAL
KNOCOUT	UG UNDERGROUND
KILOVOLT-AMPS	UL UNDERWRITERS LABORATORIES, INC.
KILOWATT	UNLESS OTHERWISE NOTED

L	V
LENGTH, LAVATORY	V VOLT, VENT, VACUUM
LABORATORY AIR	VA VOLT-AMPERE
LAVATORY	VAC VACUUM
LINEAR FEET	VB VALVE BOX
LOCKED ROTOR AMPS	VCP VITRIFIED CLAY PIPE
LABORATORY VACUUM	VEL VELOCITY
LEVEL	VP VACUUM PUMP
LOW WATER CUT OFF	VERT VERTICAL
LEAVING WATER TEMPERATURE	VIB VALVE IN BOX
	VOV VALVE ON VERTICAL
	VTR VENT THRU ROOF

M	W
MEDICAL AIR	W WATT, WASTE, WIDTH
METER	WI WITH
MAP MASTER ALARM PANEL	W/O WITHOUT
MAX MAXIMUM	WC WATER CLOSET
MBH THOUSAND OF BTU'S	WCO WALL CLEANOUT
MC MECHANICAL CONTRACTOR	WH WALL HYDRANT
MECH MECHANICAL	WM WATER METER
MFR MANUFACTURER	WP WEATHERPROOF
MG MEDICAL GAS OUTLET	WPD WATER PRESSURE DROP
MH MANHOLE	WS WATER SOFTENER
MI MALLEABLE IRON	WT WATER TIGHT WEIGHT
MIN MINIMUM	WWF WELDED WIRE FABRIC
MP MEDICAL AIR PURIFIER	
MOP SINK	
MOUNTED	
MU MAKE-UP	
MV MEDICAL VACUUM	

N	Y
NITROGEN	PH PHASE
NITROUS OXIDE	PIV POST INDICATOR VALVE
NORMALLY CLOSED	PLBG PLUMBING
NATIONAL FIRE PROTECTION ASSOCIATION	PNEU PNEUMATIC
NOT IN CONTRACT	PNL PANEL
NORMALLY OPEN	PNTH PENTHOUSE
NO. NUMBER	PP POLYPROPYLENE
NOT TO SCALE	PPM PARTS PER MILLION
	PRI PRIMARY
	PRS PRESSURE REDUCING STATION
	PRV PRESSURE REDUCING VALVE
	PSF POUNDS PER SQUARE FOOT

O	Z
OXYGEN	Z ZONE
ON CENTER	ZV ZONE VALVE
OUTSIDE DIAMETER, OVERFLOW DRAIN	
ORAL EVACUATION	
OPENING	
OPEN STEM AND YOLK	

PIPING TYPES

——	SANITARY DRAIN BELOW FLOOR
——	SANITARY DRAIN ABOVE FLOOR (NOTED)
---	SANITARY VENT
—SD	STORM DRAIN
—OD	OVERFLOW DRAIN
—	COLD WATER
- - -	HOT WATER
— · · · · ·	HOT WATER RECIRCULATION
— G	NATURAL GAS
— F	FIRE STANDPIPE, FIRE LINE
— FS	FIRE SPRINKLER
— TP	TRAP PRIMER
— D	DRAIN LINE
— GW	GREASE WASTE
— DOWF	FILTERED DOMESTIC COLD WATER
— AIR	COMPRESSED AIR
— SO	SAND/OIL SEPARATOR WASTE

(ALL SYMBOLS SHOWN ARE NOT NECESSARILY USED ON THE DRAWINGS)

PIPING SYMBOLS

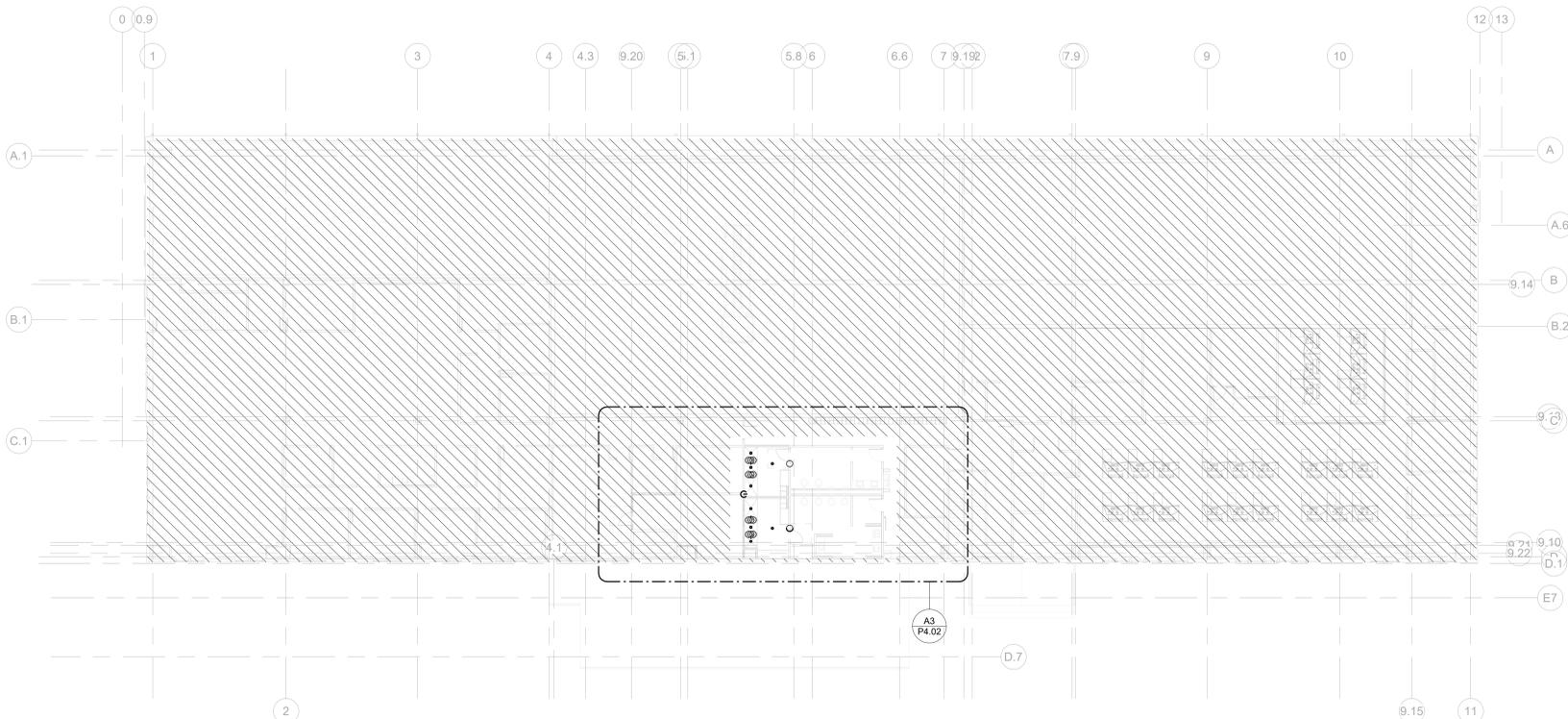
	ELBOW UP
	ELBOW DOWN
	VALVE IN DROP
	VALVE IN RISE
	DIRECTION OF FLOW
	DIRECTION OF SLOPE DOWN
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	TEE OUTLET UP
	TEE OUTLET DOWN
	UNION
	PIPE ANCHOR
	EXPANSION JOINT
	STRAINER
	SURFACE
	SUSPEND
	SANITARY VENT
	TEMPERATURE CONTROL COMPRESSOR
	TRENCH DRAIN
	TOTAL DYNAMIC HEAD
	THRUST BLOCK
	TOP OF CURB
	TRAP PRIMER
	THERMOSTAT
	TEMPERED WATER
	TYPICAL
	URINAL
	UNDERGROUND
	UNDERWRITERS LABORATORIES, INC.
	UNLESS OTHERWISE NOTED
	UNDERFLOOR
	UNDERSLAB
	LINE CLEANOUT
	FLOOR CLEANOUT
	PRESSURE GAUGE WITH GAUGE COCK
	THERMOMETER
	FLEXIBLE CONNECTION
	DOUBLE CHECK REDUCED PRESSURE BACKFLOW PREVENTER
	FLOOR DRAIN
	FLOOR SINK
	ROOF DRAIN OR OVERFLOW DRAIN
	HOSE BIBB
	WALL HYDRANT
	PLUMBING FIXTURES
	POINT OF NEW CONNECTION TO EXISTING PIPING
	POINT OF DEMOLITION TO EXISTING PIPING
	DRAWING NOTE REFERENCE
	OWNER OR CONTRACTOR FURNISHED EQUIPMENT REFERENCE
	PLUMBING EQUIPMENT REFERENCE *ddd DENOTES TYPE, "b" DENOTES NUMBER.
	RISER DESIGNATION *1" DENOTES WASTEWATER OR WASTEVENTWATER, "W" DENOTES WATER, "DS" DENOTES DOWNSPOUT, "F" DENOTES FIRE.
	FIRE DEPARTMENT SIAMESE CONNECTION

MISCELLANEOUS

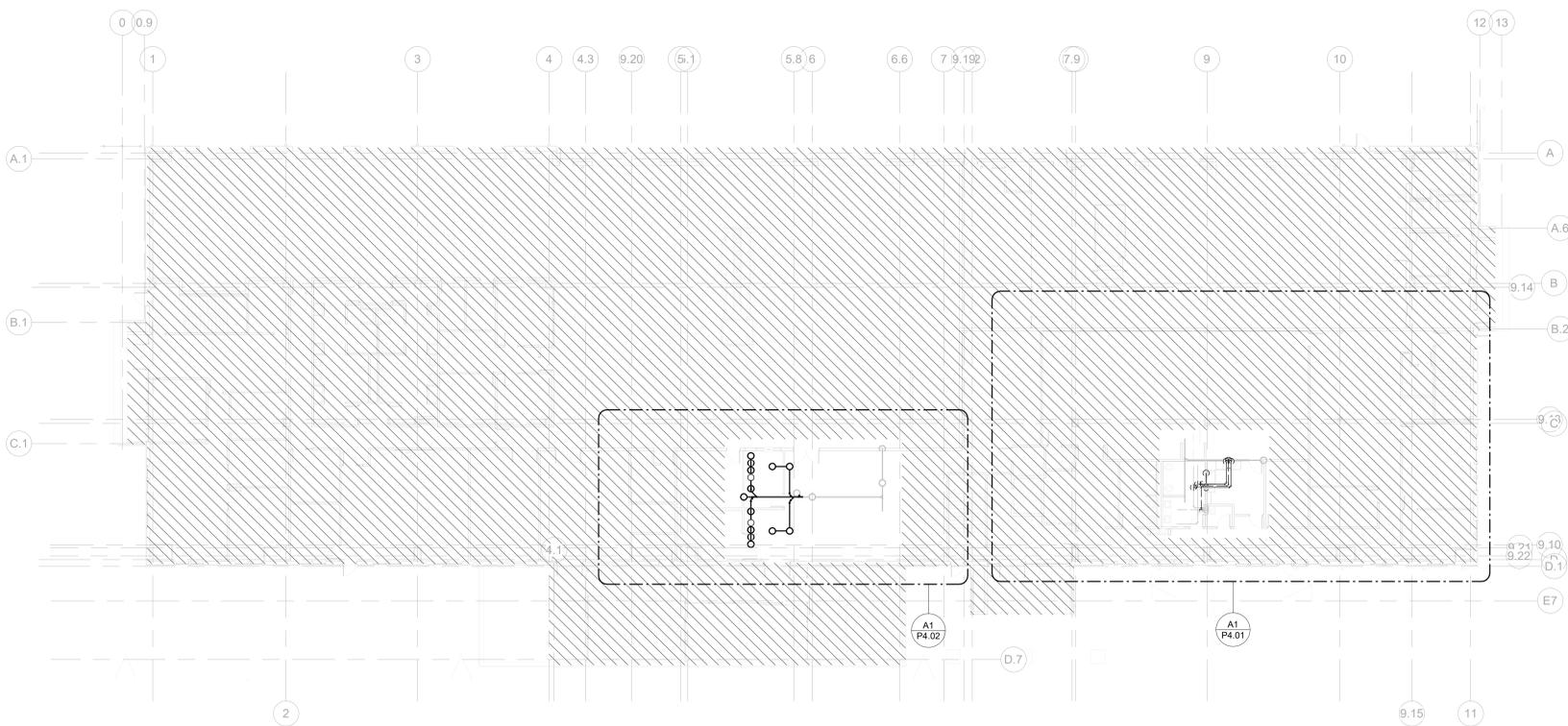
	FLOOR DRAIN
	FLOOR SINK
	ROOF DRAIN OR OVERFLOW DRAIN
	HOSE BIBB
	WALL HYDRANT
	PLUMBING FIXTURES
	POINT OF NEW CONNECTION TO EXISTING PIPING
	POINT OF DEMOLITION TO EXISTING PIPING
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	OWNER OR CONTRACTOR FURNISHED EQUIPMENT REFERENCE
	PLUMBING EQUIPMENT REFERENCE *ddd DENOTES TYPE, "b" DENOTES NUMBER.
	RISER DESIGNATION *1" DENOTES WASTEWATER OR WASTEVENTWATER, "W" DENOTES WATER, "DS" DENOTES DOWNSPOUT, "F" DENOTES FIRE.
	FIRE DEPARTMENT SIAMESE CONNECTION

PLOT DATE: 6/7/2023 4:36:05 PM
 DOA DWG FILE:
 OLD DOA No. :
 PLOT DATE:

FILE PATH: BIM 360/4844 HAS IAH General Services Building ICC and Emergency Operations Bulidout/4844_ICC_MEP_R21.rvt
 HAS FILE:



A3 OVERALL PLUMBING PLAN - LEVEL 2
 1/8" = 1'-0"



A1 OVERALL PLUMBING PLAN - LEVEL 1
 1/8" = 1'-0"

GENERAL NOTE:
 BUILDING TO BE 100%
 SPRINKLERED, PER NFPA 13.

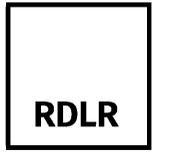
PLUMBING GENERAL NOTES:
 1. ALL PLUMBING IN THIS AREA IS EXISTING TO REMAIN UNLESS NOTED OTHERWISE.



HOUSTON AIRPORTS
 GENERAL SERVICES FACILITY
 4551 WILL CLAYTON PKWY,
 HUMBLE, TX 77396

IAH INTEGRATED COORDINATION CENTER

C.I.P. No.	PN793	A.I.P. No.	N/A
C.O.H. No.	N/A	D.O.A. No.	N/A
B.S.G. No.	85G-2022-257-IAH	T.I.P. No.	TIP-22-219-IAH



JONES ENGINEERS, L.P.
 Consulting Mechanical/Electrical/Plumbing Engineers
 9820 Whitson Dr. Houston, Texas 77095 (713)222-7766
 Texas Registered Engineering Firm #F-3819

DESIGNER PROJECT No.: 1429.13
 PROJECT STATUS: IFB

REVISIONS

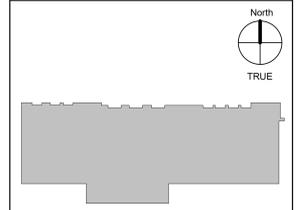
No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
3	ISSUE FOR BID	06/08/2023	

DESIGN BY: JE
 DRAWN BY: JE
 CHECKED BY: JE
 ISSUE DATE: 06/08/2023
 APPROVED BY: JE
 APPROVAL DATE: 06/08/2023

DIRECTOR
 of
 HOUSTON AIRPORT SYSTEM

Drawing Status: **IFB**
 ISSUE FOR BID

JE#4741
 06/08/2023
 THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY N. CURTIS JONES, JR., P.E. 58428



SHEET NAME: OVERALL PLUMBING PLAN
 SHEET No. P1.01 SCALE: As indicated
 SHEET SIZE: 30"x42" ARCH E1

PLOT DATE: 6/7/2023 4:36:17 PM
DOA DWG FILE:
OLD DOA No. :
PLOT DATE:

FILE PATH: BIM 360/4844 HAS IAH General Services Building ICC and Emergency Operations Bulidout/4844_ICC MEP_R21.rvt
HAS FILE:

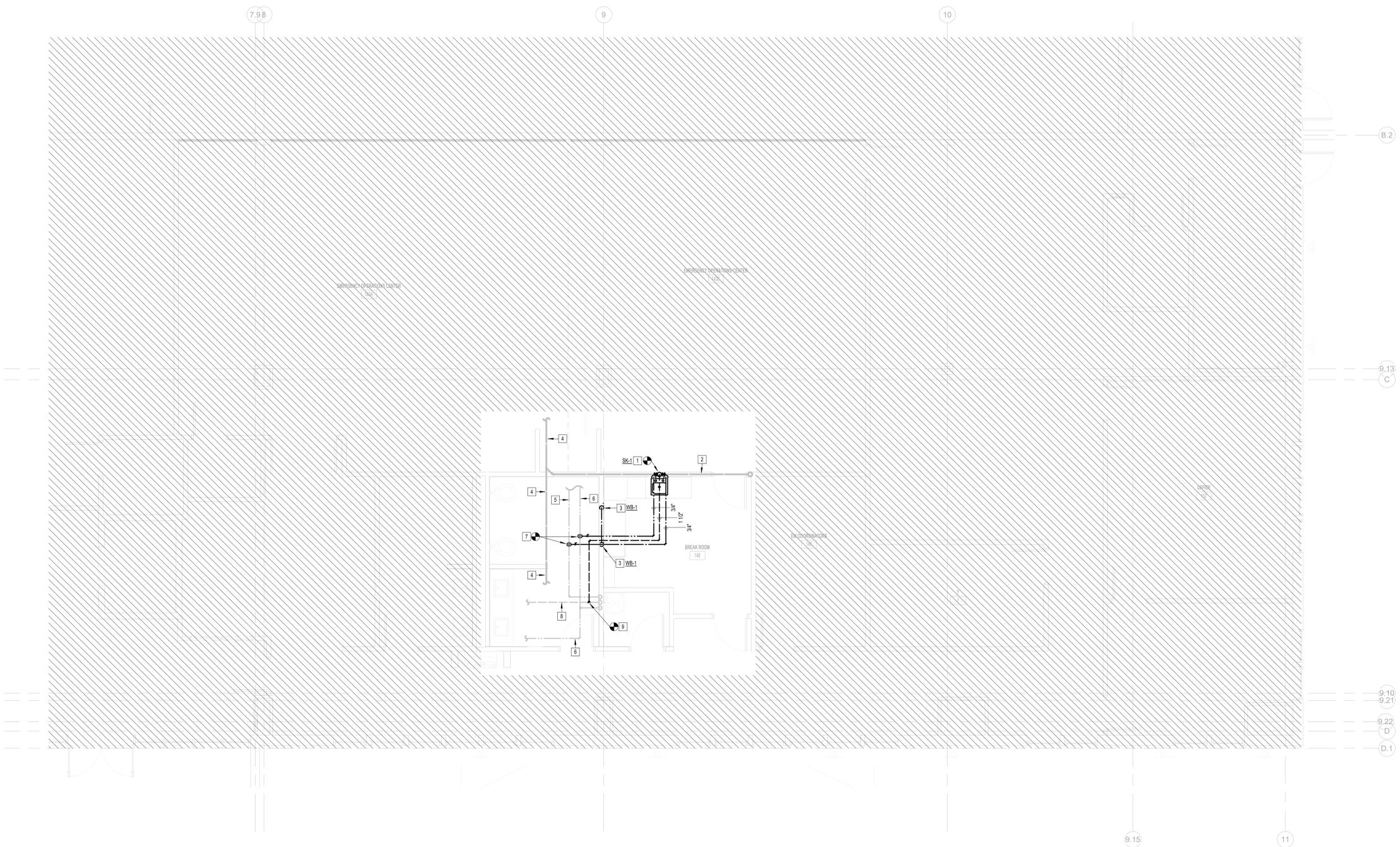
A1 PLUMBING ENLARGED PLAN - LEVEL 1 - ICC

GENERAL NOTE:
BUILDING TO BE 100%
SPRINKLERED, PER NFPA 13.

PLUMBING GENERAL NOTES:
1. ALL PLUMBING IN THIS AREA IS EXISTING TO REMAIN UNLESS NOTED OTHERWISE.

PLAN KEYED NOTES

#	NOTE
1	PROVIDE NEW BREAK ROOM SINK ACCORDING TO SCHEDULE. PROVIDE NEW 2" SAN WASTE FROM BELOW SLAB UP TO BREAK ROOM SINK. 1-1/2" VENT UP FROM TRAP TO NEAREST EXISTING VENT. 3/4" DCW AND HW ON TO SINK AND DISHWASHER. CONNECT NEW UNDERGROUND 2" SAN WASTE TO EXISTING AT THIS LOCATION. SAN CUT FLOOR AS REQUIRED. COORDINATE EXACT LOCATION AND REQUIREMENTS IN FIELD.
2	EXISTING UNDERGROUND 2" SAN WASTE FROM SINK AND FLOOR DRAIN ON LEVEL 2.
3	PROVIDE NEW 3/4" DCW DOWN TO WALL BOXES FOR REFRIGERATOR, AND COFFEE MAKER.
4	EXISTING UNDERGROUND 4" SAN WASTE LINE.
5	EXISTING 3/4" DCW.
6	EXISTING 1-1/4" DHW.
7	CONNECT NEW 3/4" DCW AND HW TO EXISTING AT THIS LOCATION.
8	EXISTING 1-1/2" VENT.
9	CONNECT NEW 1-1/2" VENT TO EXISTING AT THIS LOCATION.



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GENERAL SERVICES FACILITY
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HUMBLE, TX 77396

IAH INTEGRATED COORDINATION CENTER

C.I.P. No.	PN793	A.I.P. No.	N/A
C.O.H. No.	N/A	D.O.A. No.	N/A
B.S.G. No.	BSG-2022-257-IAH	T.I.P. No.	TIP-22-219-IAH



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Consulting Mechanical/Electrical/Plumbing Engineers
9820 Whitson Dr. Houston, Texas 77095 (713)222-7766
Texas Registered Engineering Firm #F-381

DESIGNER PROJECT No.: **1429.13**
PROJECT STATUS: **IFB**

REVISIONS

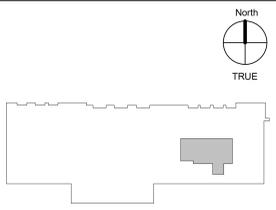
No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
3	ISSUE FOR BID	06/08/2023	

DESIGN BY: JE
DRAWN BY: JE
CHECKED BY: JE
ISSUE DATE: 06/08/2023
APPROVED BY: JE
APPROVAL DATE: 06/08/2023

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ISSUE FOR BID

Professional Engineer Seal for Curtis Jones, Jr., No. 58428, State of Texas, Expires 06/08/2023. The seal appearing on this document was authorized by N. Curtis Jones, Jr., P.E. 58428.



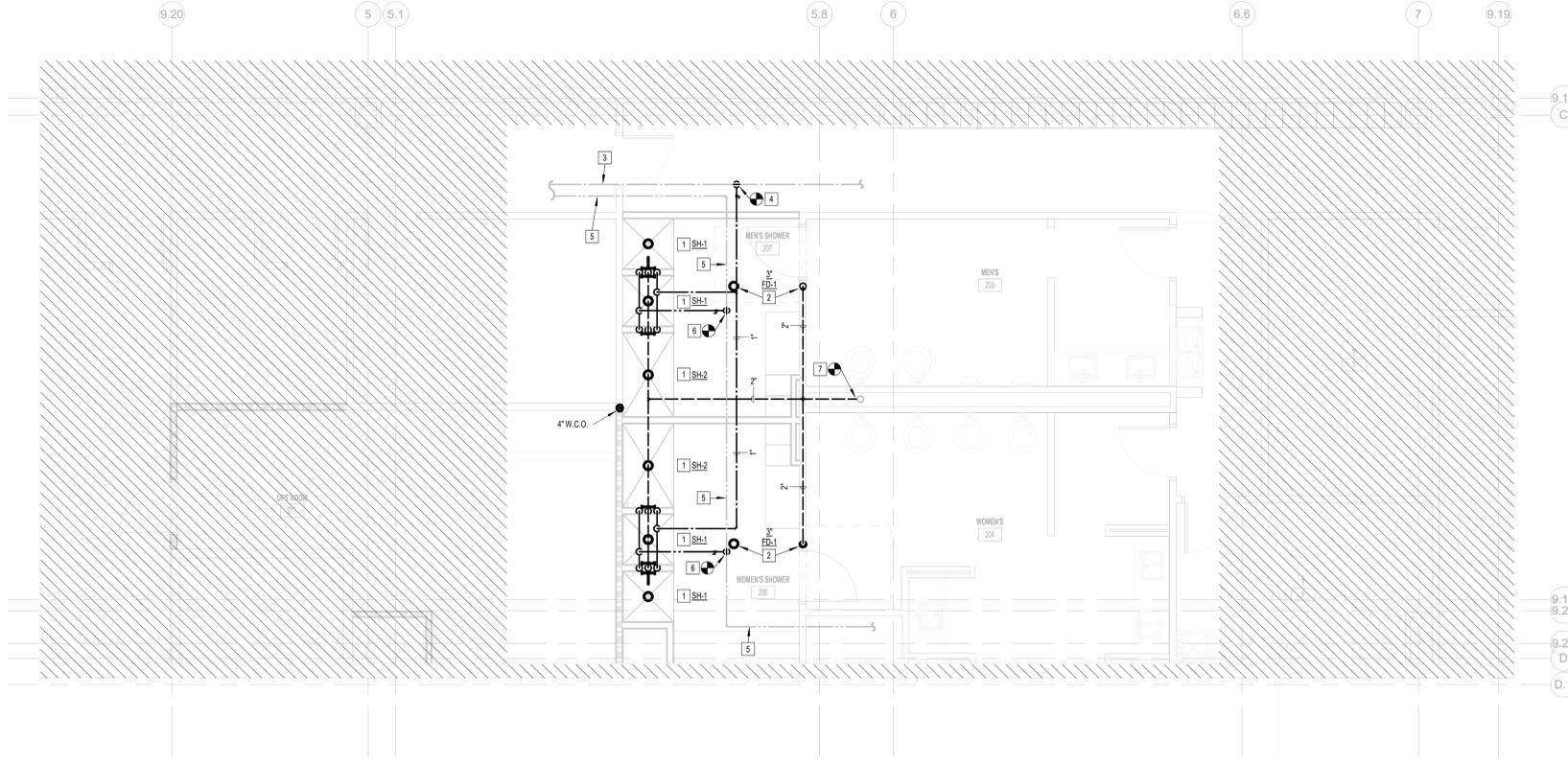
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PLUMBING ENLARGED PLAN - LEVEL 1 - ICC

SHEET No. **P4.01** SCALE: **As indicated**

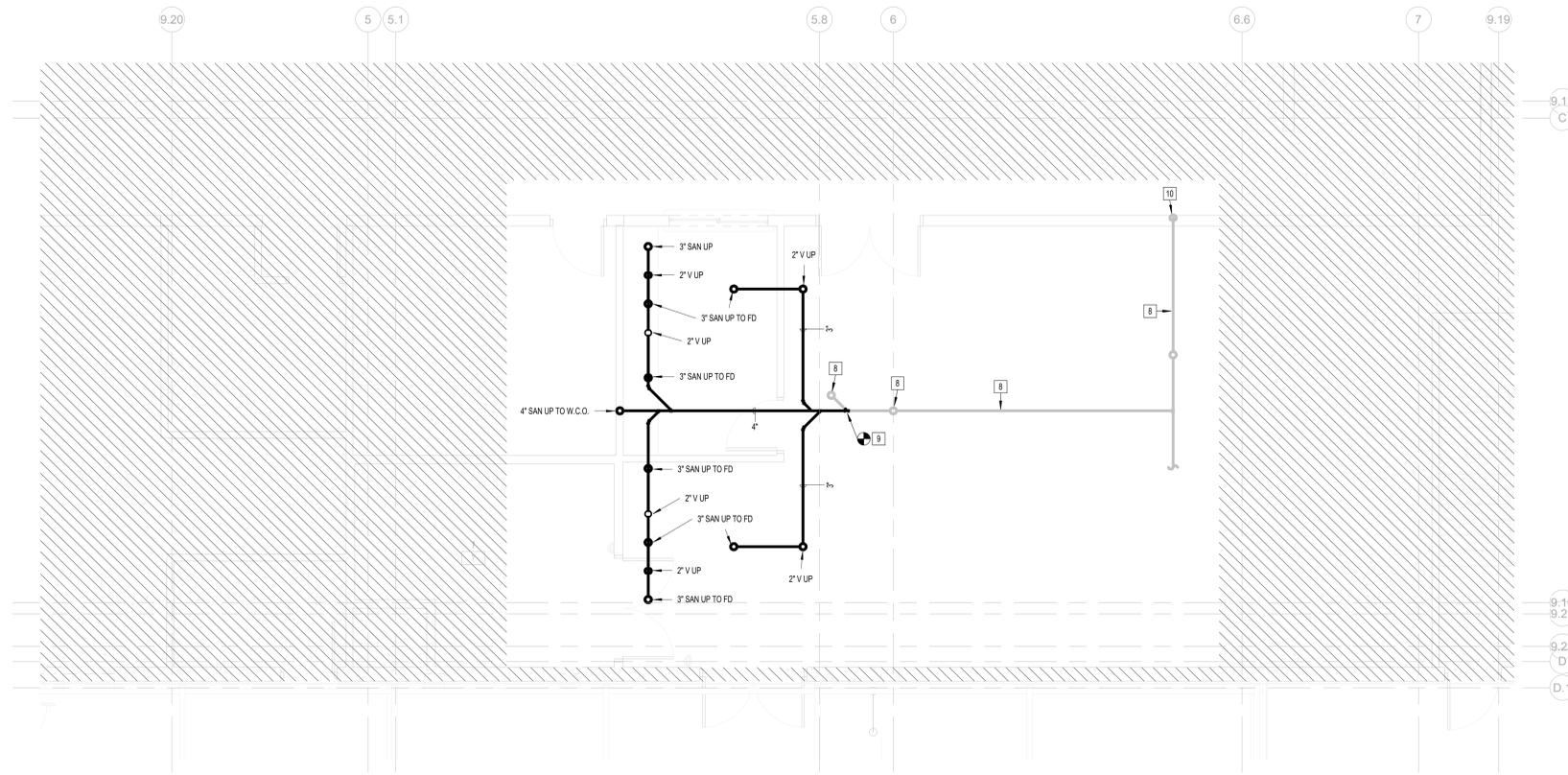
SHEET SIZE: **30"x42" ARCH E1**

PLOT DATE: 6/7/2023 4:36:29 PM
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 OLD DOA No. :
 PLOT DATE:

FILE PATH: BIM 360/4844 HAS IAH General Services Building ICC and Emergency Operations Bulldozer/4844_ICC_MEP_R21.rvt
 HAS FILE:



A3 PLUMBING ENLARGED PLAN - LEVEL 2 - SHOWERS
 1/4\"/>



A1 PLUMBING ENLARGED PLAN - LEVEL 1 - SHOWERS
 1/4\"/>

GENERAL NOTE:
 BUILDING TO BE 100%
 SPRINKLERED, PER NFPA 13.

PLUMBING GENERAL NOTES:
 1. ALL PLUMBING IN THIS AREA IS EXISTING TO REMAIN UNLESS NOTED OTHERWISE.

PLAN KEYED NOTES

#	NOTE
1	PROVIDE NEW SHOWER ACCORDING TO SCHEDULE. PROVIDE NEW 3\"/>
2	PROVIDE NEW FLOOR DRAIN ACCORDING TO SCHEDULE. PROVIDE NEW 3\"/>
3	EXISTING 1\"/>
4	CONNECT NEW 1\"/>
5	EXISTING 1\"/>
6	CONNECT NEW 1\"/>
7	CONNECT NEW 2\"/>
8	EXISTING 4\"/>
9	CONNECT NEW 4\"/>
10	EXISTING 4\"/>

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C.O.H. No.	N/A	D.O.A. No.	N/A
B.S.G. No.	85G-2022-257-IAH	T.I.P. No.	TIP-22-219-IAH



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 Texas Registered Engineering Firm #F-381

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PROJECT STATUS: IFB

REVISIONS

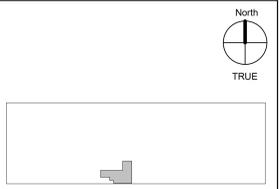
No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
3	ISSUE FOR BID	06/08/2023	

DESIGN BY: JE
DRAWN BY: JE
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ISSUE DATE: 06/08/2023
APPROVED BY: JE
APPROVAL DATE: 06/08/2023

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IFB
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SHEET NAME: PLUMBING ENLARGED PLAN - LEVEL 1 & 2 - SHOWERS
SHEET No.: P4.02 **SCALE:** As indicated
SHEET SIZE: 30"x42" ARCH E1



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C.I.P. No.	PN793	A.I.P. No.	N/A
C.O.H. No.	N/A	D.O.A. No.	N/A
B.S.G. No.	85G-2022-257-IAH	T.I.P. No.	TIP-22-219-IAH

RDLR



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9820 Whitson Dr. Houston, Texas 77095 (713)222-7766
Texas Registered Engineering Firm #F-381

PLUMBING FIXTURE AND CONNECTION SCHEDULE

MARK	FIXTURE	ROUGH-IN CONNECTION SIZE				MANUFACTURER	MODEL	DESCRIPTION AND NOTES
		C.W.	H.W.	VENT	WASTE			
3'-FD-1	FLOOR DRAIN					ZURN	Z415	FLOOR DRAIN W/ TYPE 'B' STRAINER
SH-1	SHOWER					SYMMONS	C-96-1-X	TEMPROL SHOWER SYSTEM WITH SYMMONS TEMPTROL PRESSURE BALANCING MIXING VALVE. SHOWER DRAIN TO BE 3" ZURN #2-415 FLOOR DRAIN WITH CHROME STRAINER.
SH-2	SHOWER (ADA)					SYMMONS	C-96-500-B30-V-X	ADA TEMPTROL HAND SHOWER SYSTEM WITH SYMMONS TEMPTROL PRESSURE BALANCING MIXING VALVE. SHOWER DRAIN TO BE 3" ZURN #2-415 FLOOR DRAIN WITH CHROME STRAINER.
SK-1	SINK (SINGLE COMPARTMENT)	3/4"	3/4"	1-1/2"	2"	ELKAY	LUSTERTONE LRADD171650	SINGLE COMPARTMENT COUNTERTOP, STAINLESS STEEL SINK, ADA DEPTH, WITH CHICAGO 885-317GN2AE3BCP GOOSENECK FAUCET, 2.2GPM, ADA WRISTBLAUES. PROVIDE WITH TRU-BRO TRAP AND STOP PROTECTORS OR HAND BASIN GUARD UNDER SINK ENCLOSURE AS REQUIRED. COORDINATE WITH ARCHITECT.
WB-1	WALL BOX	1/2"	1/2"			GUY GRAY	MDWB14B	WALL BOX FOR ICEMAKER. WALL BOX TO INCLUDE 1/2" INLET, 3/8" OUTLET QUARTER TURN VALVE WITH ARRESTER. PROVIDE 1/2" WATTS SERIES 7 DUAL CHECK VALVE.

PLUMBING PIPE MATERIALS

SYSTEM:	SERVICE:
WATER PIPE, BELOW GRADE	TYPE 'K' COPPER
WATER PIPE, ABOVE GRADE	TYPE 'L' COPPER
SANITARY SEWER, BELOW GRADE	SCHEDULE 40 PVC
SANITARY SEWER, ABOVE GRADE	CAST IRON
FIRE SPRINKLER LINE	BLACK STEEL

DESIGNER PROJECT No.: 1429.13
PROJECT STATUS: IFB

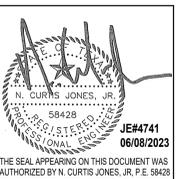
REVISIONS

No.	DESCRIPTION	DATE	BY
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3	ISSUE FOR BID	06/08/2023	

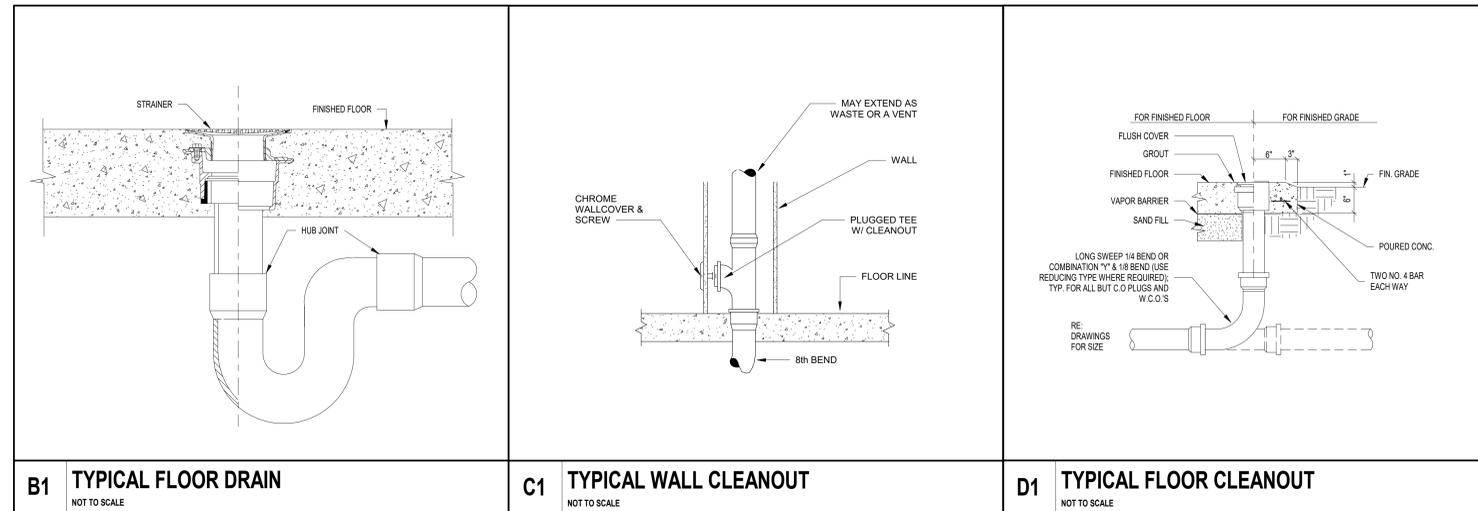
DESIGN BY: JE
DRAWN BY: JE
CHECKED BY: JE
ISSUE DATE: 06/08/2023
APPROVED BY: JE
APPROVAL DATE: 06/08/2023

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Drawing Status
IFB
ISSUE FOR BID



SHEET NAME: PLUMBING DETAILS AND SCHEDULES
SHEET No. P5.01 SCALE: As indicated
SHEET SIZE: 30"x42" ARCH E1



B1 TYPICAL FLOOR DRAIN
NOT TO SCALE

C1 TYPICAL WALL CLEANOUT
NOT TO SCALE

D1 TYPICAL FLOOR CLEANOUT
NOT TO SCALE

IAH INTEGRATED COORDINATION CENTER

C.I.P. No.	PN793	A.I.P. No.	N/A
C.O.H. No.	N/A	D.O.A. No.	N/A
B.S.G. No.	BSG-2022-257-IAH	T.I.P. No.	TIP-22-219-IAH



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Texas Registered Engineering Firm #F-3812

DESIGNER PROJECT No.: 1429.13
PROJECT STATUS: IFB

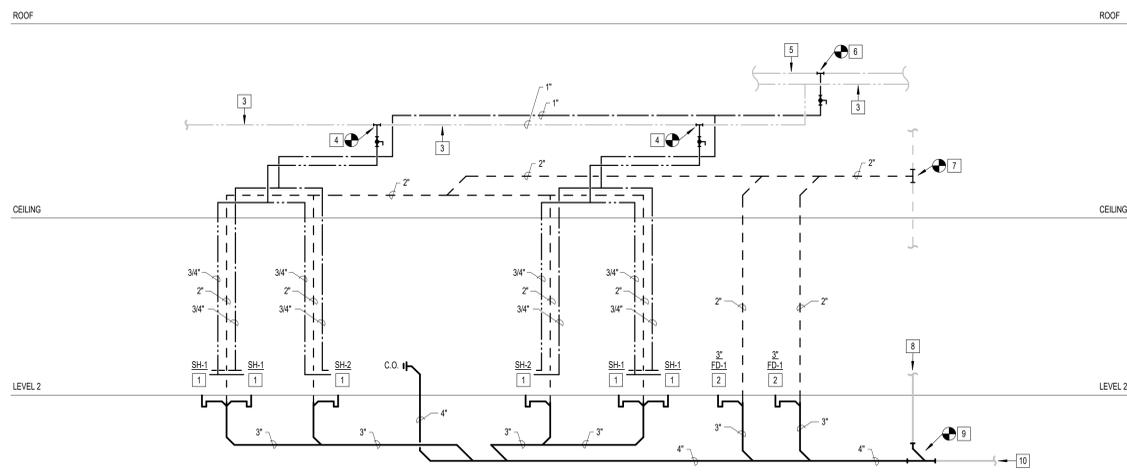
REVISIONS			
No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
3	ISSUE FOR BID	06/08/2023	

DESIGN BY: JE
DRAWN BY: JE
CHECKED BY: JE
ISSUE DATE: 06/08/2023
APPROVED BY: JE
APPROVAL DATE: 06/08/2023

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Drawing Status
IFB
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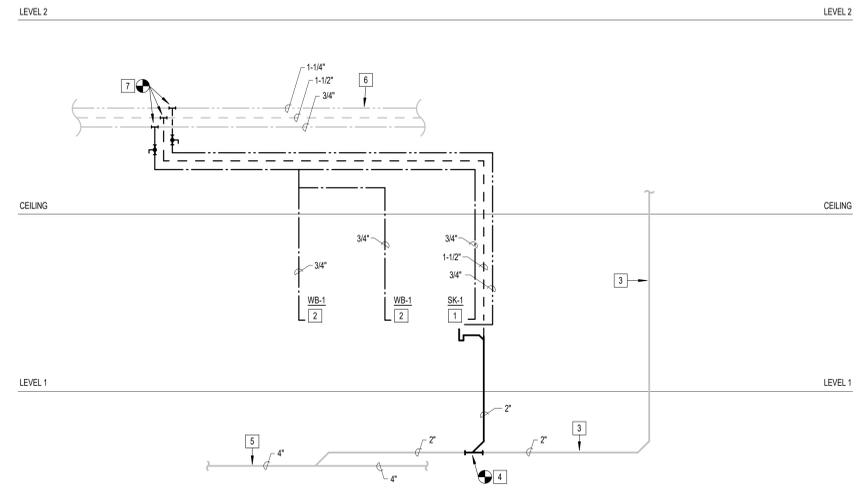
SHEET NAME: PLUMBING RISERS
SHEET No. P6.01 SCALE: N.T.S.
SHEET SIZE: 30"x42" ARCH E1



SHOWERS RISER KEYED NOTES

#	NOTE
1	PROVIDE NEW SHOWER ACCORDING TO SCHEDULE. PROVIDE NEW 3" SAN WASTE FROM BELOW UP TO FLOOR DRAIN, 2" VENT UP FROM FLOOR DRAIN, 3/4" DOW AND DHW ON TO SHOWER VALVE. CORE FLOOR AS REQUIRED. COORDINATE EXACT LOCATION AND REQUIREMENTS IN FIELD.
2	PROVIDE NEW FLOOR DRAIN ACCORDING TO SCHEDULE. PROVIDE NEW 3" SAN WASTE FROM BELOW UP TO FLOOR DRAIN, 2" VENT UP FROM TRAP. CORE FLOOR AS REQUIRED. COORDINATE EXACT LOCATION AND REQUIREMENTS IN FIELD.
3	EXISTING 1" DHW.
4	CONNECT NEW 1" DHW TO EXISTING.
5	EXISTING 1" DOW.
6	CONNECT NEW 1" DOW TO EXISTING.
7	CONNECT NEW 2" VENT TO EXISTING VERTICAL 4" VENT LINE.
8	EXISTING 4" SAN WASTE FROM RESTROOMS ABOVE.
9	CONNECT NEW 4" SAN WASTE TO EXISTING. COORDINATE EXACT LOCATION AND REQUIREMENTS IN FIELD.
10	EXISTING 4" SAN WASTE DN TO BELOW SLAB.

B3 PLUMBING RISER DIAGRAM - SHOWERS
N.T.S.



ICC RISER KEYED NOTES

#	NOTE
1	PROVIDE NEW BREAK ROOM SINK.
2	PROVIDE NEW WALL BOXES FOR REFRIGERATOR AND COFFEE MAKER.
3	EXISTING UNDERGROUND 2" SAN WASTE FROM SINK AND FLOOR DRAIN ON LEVEL 2.
4	CONNECT NEW UNDERGROUND 2" SAN WASTE TO EXISTING. SAW CUT FLOOR AS REQUIRED. COORDINATE EXACT LOCATION AND REQUIREMENTS IN FIELD.
5	EXISTING UNDERGROUND 4" SAN WASTE LINE.
6	EXISTING 3/4" DCW, 1-1/4" DHW, AND 1-1/2" VENT.
7	CONNECT NEW 3/4" DCW, 3/4" DHW, AND 1-1/2" VENT TO EXISTING.

B1 PLUMBING RISER DIAGRAM - ICC
N.T.S.



HOUSTON AIRPORTS
GENERAL SERVICES FACILITY
4551 WILL CLAYTON PKWY,
HUMBLE, TEXAS 77396

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C.I.P. No. **PN793** A.I.P. No. **N/A**
C.O.H. No. **N/A** D.O.A. No. **N/A**
B.S.G. No. **856-2022-257-IAH** T.I.P. No. **TIP-22-219-IAH**

RDLR

PGA
ENGINEERS, INC.
3820 N. Sam Houston Pkwy, Ste. 500
Houston, TX 77052
Tel: 281.325.1215
pga@pgaenr.com
TSP# 0008823

DESIGNER PROJECT No.: **2022.013**

PROJECT STATUS: **IFB**

REVISIONS

No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
2	PERMIT COMMENTS 1	10/26/2022	
3	PERMIT COMMENTS 2	11/11/2022	
3	ISSUE FOR BID & CONSTRUCTION	05/05/2023	
4	ISSUE FOR BID	06/08/2023	

DESIGN BY: **PGA**
DRAWN BY: **PGA**
CHECKED BY: **PGA**
ISSUE DATE: **06/08/2023**
APPROVED BY: **RDLR**
APPROVAL DATE: **06/08/2023**

DIRECTOR
of
HOUSTON AIRPORT SYSTEM

Drawing Status: **IFB**
ISSUE FOR BID
JOHN GRUENWALD
Professional Engineer
100036
06/08/2023

SHEET NAME:
TELECOMMUNICATIONS LEGEND AND NOTES
SHEET No. **T-001** SCALE: **12" = 1'-0"**

SHEET SIZE: **30"x42" ARCH E1**

SHEET INDEX

SHEET NO.	DESCRIPTION
T-001	TELECOMMUNICATIONS LEGEND AND NOTES
T-200	TELECOMMUNICATIONS SITE PLAN
T-211	LEVEL 1 TELECOMMUNICATIONS PLAN - OVERALL
T-213A	LEVEL 1 TELECOMMUNICATIONS - AREA B FURNITURE PLAN
T-213B	LEVEL 1 TELECOMMUNICATIONS - AREA B
T-214	LEVEL 2 TELECOMMUNICATIONS PLAN - OVERALL
T-216A	LEVEL 2 TELECOMMUNICATIONS - AREA B FURNITURE LAYOUT
T-216B	LEVEL 2 TELECOMMUNICATIONS - AREA B
T-401	TELECOMMUNICATIONS ENLARGED PLAN AT MDF
T-402	TELECOMMUNICATIONS ENLARGED PLAN AT IDF W205.4
T-403	ENLARGED PLAN AT RIDF
T-411	TELECOMMUNICATIONS ELEVATIONS
T-601	TELECOMMUNICATIONS DETAILS
T-601	TELECOMMUNICATIONS CONSOLE SCHEDULES
T-701	TELECOMMUNICATIONS RADIO ONE LINES

RESPONSIBILITY MATRIX - TELECOM

TELECOMMUNICATIONS EQUIP	TELECOMMUNICATIONS RESPONSIBILITY MATRIX						SPECIFICATION
	PROPRIETARY	OPEN SPEC	OWNER FURNISHED (NOT INSTALLED)	OWNER FURNISHED (FACTORY INSTALLED)	CONTRACTOR PURCHASE (CONTRACTOR INSTALLED)	CONTRACTOR PURCHASE (OWNER INSTALLED)	
HAS Network Switches	X			X		272100	
Structured Cabling	X		X			271300, 271500	
Motorola Radio Consoles	X		X			276300	
Radio Phone Combiners	X		X			-	
Nice Logger for all Communications	X		X			276300	
HAS Workstations	X		X			272200	
HAS Workstations LED	X		X			272200	
IP Phone	X		X		X	272100	
Wireless Access Points	X		X			272100	
Integrated Crash Phone	X		X		X	272100	
Integrated TSA Breach Phone	X		X		X	272100	
Integrated Elevator Phone	X		X		X	272100	
Integrated TSA Direct Line	X	X				272100	
Sat Phone	X					276100	
Sat Phone, Docking Station, Antenna, Transmission Line	X		X				
TSA Network Switch	X	X					
TSA Workstation	X	X					
TSA Workstations LED	X	X					
TSA Radio	X	X				276100	
TSA Antenna and Transmission Line	X	X	X				
HPD Network Switch	X		X	X			
HPD Radio	X	X	X			276100	
HPD Antenna and Transmission Line	X	X	X				
HPD Workstation	X	X	X				
HPD Workstations LED	X	X	X			DIVISION 26	
Floor Boxes, Poke Thrus	X	X	X				

TECHNOLOGY EQUIPMENT SYMBOLS LIST

SYMBOL	DESCRIPTION
○	CONDUIT TURNING UP
●	CONDUIT TURNING DOWN
┐	TERMINATING CONDUIT, PROVIDE GROUND LUG AND INSULATED THROAT BUSHING.
—	EXPOSED CONDUIT
—	CONCEALED CONDUIT
—	ARIEL CABLE
FPC	FLIGHT INFORMATION DISPLAY PC
HCM	HORIZONTAL CABLE MANAGEMENT
JB	JUNCTION BOX
EX	ETHERNET EXTENDER
SP	AV SPEAKER
REC	REMOTE EQUIPMENT ENCLOSURE
—COAX TYPE 1—	COAXIAL CABLE TYPE 1
—COAX TYPE 2—	COAXIAL CABLETYPE 2
—COAX TYPE 3—	COAXIAL CABLETYPE 3
—COAX TYPE 4—	COAXIAL CABLE TYPE 4
—COAX TYPE 5—	COAXIAL CABLETYPE 5

TECHNOLOGY EQUIPMENT SYMBOLS LIST

SYMBOL	DESCRIPTION
DAS	DISTRIBUTED ANTENNA SYSTEM
HDMI-R	HDMI RECEIVER
HDMI-T	HDMI TRANSMITTER
FOPP	FIBER OPTIC PATCH PANEL
FOT	FIBER OPTIC TRANSMITTER
FOR	FIBER OPTIC RECEIVER
CPP	COPPER PATCH PANEL
PH X	PHONE WHERE "X" IS: C - CONFERENCE PHONE D - DESK PHONE S - SOFT PHONE (NON PHYSICAL PHONE, USES LICENSE)
HH	HAND HOLE
MATV	MAINTENANCE HOLE
MH	MAINTENANCE HOLE
NS O	NETWORK SWITCH (OWNER)
NS T	NETWORK SWITCH (TENANT)
PB	PULL BOX
P	OSP COPPER PROTECTOR
X	X-CAT6 TERMINATION JACK WHERE X REPRESENTS QUANTITY OF CAT6 CABLES. FIELD COORDINATE EXACT PLACEMENT WITH OTHER TRADE.
4	EXAMPLE: 4-CAT6 WITH 4-PORT WALL PLATE, 15" A.F.F. PROVIDE PATCH CORD FOR EACH CONNECTED PORT.
TV	TV OUTLET (1 RG-6 CABLE)
AV	HDMI WITH 2 AUDIO JACKS. INCLUDE PLENUM HDMI AND 2 AUDIO CABLE FROM JACK TO AV SOURCE WITHIN ROOM.
W	1 CAT 6 WITH PLATE FOR WALL MOUNTED PHONE, 45" A.F.F.
B	BLANK WALL PLATE
X	X CAT 6 CABLE (FLOOR OUTLET) WHERE X REPRESENTS QUANTITY OF CAT6 CABLES.
WAP	WIRELESS ACCESS POINT, 2 CAT 6A CABLES
AW	ALL WEATHER OUTDOOR PHONE, 1 CAT 6
FDLU	FIBER DISTRIBUTION LOCAL UNIT
FDRU	FIBER DISTRIBUTION REMOTE UNIT
SVR	CBRS SERVER
SP	SPLITTER
MX	MULTIPLEXER
T	TERMINATOR
TAP	PASSIVE TAP/SPLITTER/COMBINER/PLEXOR
PC1	PC TYPE 1
PC2	PC TYPE 2

EXISTING TECHNOLOGY SYMBOLS

SYMBOL	DESCRIPTION
AP	EXISTING WIRELESS ACCESS CONNECTION POINT
PRJ	EXISTING WIRELESS ACCESS CONNECTION POINT
CAM	EXISTING WIRELESS ACCESS CONNECTION POINT
AED	EXISTING WIRELESS ACCESS CONNECTION POINT
AP	EXISTING ACCESS CONNECTION POINT
AVC	EXISTING AN AUDIO/VIDEO CONTROL PLATE
CAM	EXISTING A CAMERA CONTROL PLATE
DX	EXISTING OUTLET NETWORK CONNECTION
DX/TVX	EXISTING OUTLET TV CONNECTION
DX	EXISTING FLOOR BOX FOR NETWORK CONNECTION

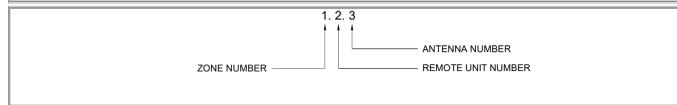
TECHNOLOGY GENERAL NOTES

- FOLLOW TELECOM STANDARDS AND PRACTICES. SEE DIVISION 27 SPECIFICATIONS AND T DRAWINGS.
- REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) SUPERVISOR SHALL REVIEW, APPROVE AND STAMP ALL SHOP DRAWINGS, COORDINATE DRAWINGS AND RECORD DRAWINGS.
- ALL WALL PENETRATIONS SHALL BE SEALED WITH APPROVED FIRE STOPPING.
- REFER TO THE ELECTRICAL FLOOR PLAN DRAWINGS FOR ADDITIONAL ROUGH-IN REQUIREMENTS. WHERE THERE ARE DRAWING DISCREPANCIES, THE CONTRACTOR SHALL INSTALL THE GREATER QUANTITY OF DEVICES.
- REFER TO THE SITE PLAN ON AND RISER DIAGRAM FOR TELECOMMUNICATION BACKBONE CONDUITS/CABLES. FIELD COORDINATE EXACT ROUTING WITH OTHER TRADES.
- ALL COMMUNICATIONS EQUIPMENT SHOWN SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE.
- BOND ALL COMMUNICATIONS CABINETS, RELAY RACKS, CABLE TRAYS, AND OTHER METALLIC SUPPORTING DEVICES TO TELECOMMUNICATIONS GROUND BUSBAR INSIDE COMMUNICATIONS ROOM. BOND WITH A #6 GROUND CONDUCTOR.
- ALL HORIZONTAL VOICE AND DATA CABLES SHALL BE DISTRIBUTED VIA MINIMUM 1" CONDUIT AND/OR CABLE TRAY. NO EXCEPTIONS.
- SINGLE LINE DIAGRAMS, SCHEMATICS, DETAILS AND CONDUIT PATHS SHOWN HEREIN ARE CONCEPTUAL AND ILLUSTRATE ONLY THE FUNCTIONAL RELATIONSHIPS BETWEEN COMPONENTS OF THE SYSTEM. ACCORDINGLY, FULL SHOP DRAWING DEVELOPMENT IS REQUIRED TO REALIZE THE SPECIFIED FUNCTIONS.
- DEVICE LOCATIONS ON PLANS ARE CONCEPTUAL. LOCATE AS SITE CONDITIONS REQUIRE AND AS APPROVED BY GC.
- REFER TO THE BID SPECIFICATION FOR ADDITIONAL REQUIREMENTS REGARDING THIS WORK.
- PAINTING, PATCHING AND FINISHES FOR DEVICES LOCATED IN EXISTING AREAS SHALL MATCH EXISTING FINISHES AS APPROVED BY GC.
- FINISHES OF DEVICES IN NEW/REMODEL AREAS SHALL BE APPROVED BY GC.
- WORK AND MATERIALS SHALL CONFORM TO THE MOST CURRENT UNIFORM STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION AS FURNISHED BY GC. WORK AND MATERIALS NOT IN CONFORMANCE WITH THESE SPECIFICATIONS AND DETAILS ARE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
- IN SOME INSTANCES THE IDF MAY BE OVER 90 METERS FROM THE IP DEVICE DUE TO LEGACY DESIGN STANDARDS WHEN THE BUILDING WAS CONSTRUCTED. IF TESTED CABLE DOES NOT PASS CERTIFICATION, CONTRACTOR MUST USE MIDSPAN EXTENDER INSTALLED INSIDE OF ENCLOSURE. REFERENCE DETAIL SHEETS FOR INSTALLATION DIAGRAM.
- CABLING INSTALLATION PRACTICES SHALL CONFORM TO ANSIBICSI N1, AS APPLICABLE, INSTALLED.
- CABLING SHALL MET THE REQUIREMENTS OF APPLICABLE STANDARDS (E.G., ANSI/TIA-608.3, ISO/IEC 11801-1). ALL CONNECTORS SHALL BE SELECTED AND PROTECTED AS APPROPRIATE FOR THE ENVIRONMENTAL (E.G., PLENUM SPACE).
- FOR PASSIVE DAS DISTRIBUTION SYSTEMS, INSTALLATION PROCEDURES SHALL CAREFULLY FOLLOW THE MANUFACTURER INSTRUCTIONS TO ENSURE A HIGH-QUALITY INSTALLATION WITH MINIMUM PIM
- INSTALLED SYSTEMS SHALL BE TESTED WITH A PIM TESTER. ANY DEFECTS FOUND SHALL BE CORRECTED AND THE SYSTEM RETESTED.

TECHNOLOGY ABBREVIATIONS

AC	ALTERNATING CURRENT	(N)	NEW
AHJ	AUTHORITY HAVING JURISDICTION	NET	NETWORK SWITCH
BDA	BIDIRECTIONAL AMPLIFIER	NIC	NOT IN CONTRACT
BIM	BUILDING INFORMATION MODELING	PIM	PASSIVE INTERMODULATION
BTS	BASE TRANSCEIVER STATION	POE	POWER OVER ETHERNET
CBRS	CITIZEN BROADBAND RADIO SERVICE	PR	PAIR AS IN COPPER PAIR (CATEGORY 5)
CX	COAXIAL CABLE	PTP	POINT TO POINT
CM	CABLE MANAGEMENT	R	RADIUS
CW	CONTINUOUS WAVE	RF	RADIO FREQUENCY
COPP	COPPER PATCH PANEL	RFI	RADIO FREQUENCY INTERFERENCE
DAS	DISTRIBUTED ANTENNA SYSTEM	SMF	SINGLE MODE FIBER
DC	DIRECT CURRENT	SNMP	SIMPLE NETWORK MANAGEMENT PROTOCOL
(E)	EXISTING	STP	SHIELDED TWISTED PAIR, 22 AWG
EIRP	EFFECTIVE ISOTROPIC RADIATED POWER	TR	TELECOMMUNICATIONS ROOM
EMI	ELECTROMAGNETIC INTERFERENCE	UHF	ULTRA HIGH FREQUENCY
ER	EQUIPMENT ROOM	UMTS	UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
ERP	EFFECTIVE RADIATED POWER	UTP	UNSHIELDED TWISTED PAIR
FOPP	FIBER OPTIC PATCH PANEL	UTP	UNSHIELDED TWISTED PAIR
GC	GENERAL CONTRACTOR	VHF	VERY HIGH FREQUENCY
ICT	INFORMATION AND COMMUNICATION TECHNOLOGY	VSWR	VOLTAGE STANDING WAVE RATIO
LEC	LOCAL EXCHANGE CARRIER	WAN	WIDE AREA NETWORK
LMR	LAND MOBILE RADIO	WLAN	WIRELESS LOCAL AREA NETWORK
LTE	LONG TERM EVOLUTION	WSP	WIRELESS SERVICE PROVIDER
MCU	MASTER CONTROL UNIT		
MIMO	MULTIPLE INPUT/MULTIPLE OUTPUT (ANTENNA)		
MMF	MULTIMODE FIBER		

DEVICE DESIGNATION KEY



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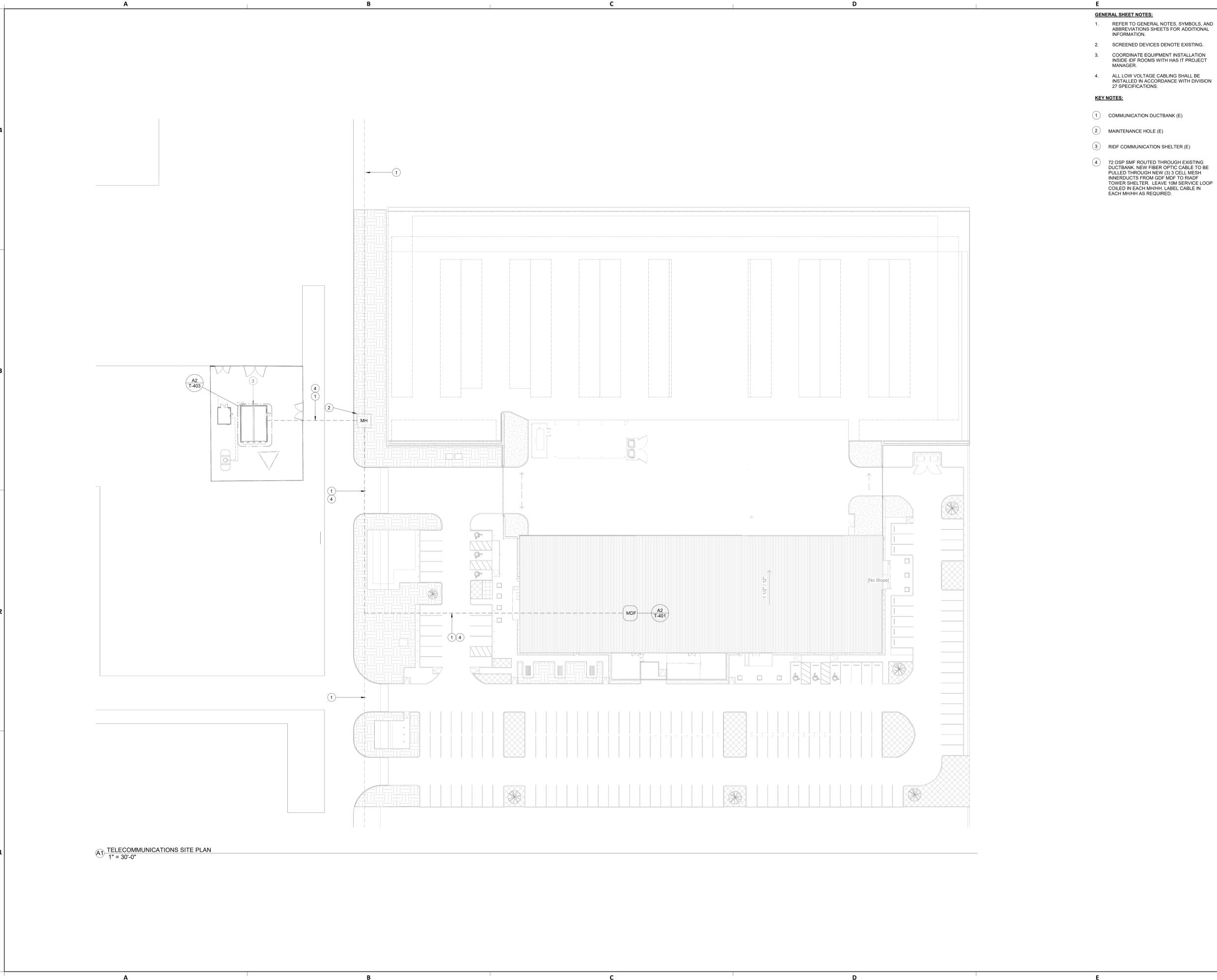
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- GENERAL SHEET NOTES:**
- REFER TO GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS SHEETS FOR ADDITIONAL INFORMATION.
 - SCREENED DEVICES DENOTE EXISTING.
 - COORDINATE EQUIPMENT INSTALLATION INSIDE IDF ROOMS WITH HAS IT PROJECT MANAGER.
 - ALL LOW VOLTAGE CABLING SHALL BE INSTALLED IN ACCORDANCE WITH DIVISION 27 SPECIFICATIONS.
- KEY NOTES:**
- COMMUNICATION DUCTBANK (E)
 - MAINTENANCE HOLE (E)
 - RIDF COMMUNICATION SHELTER (E)
 - 72 OSP SMF ROUTED THROUGH EXISTING DUCTBANK. NEW FIBER OPTIC CABLE TO BE PULLED THROUGH NEW (3) 3 CELL MESH INNERDUCTS FROM IDF MDF TO RIDF TOWER SHELTER. LEAVE 10M SERVICE LOOP COILED IN EACH MH/HH. LABEL CABLE IN EACH MH/HH AS REQUIRED.

A1 TELECOMMUNICATIONS SITE PLAN
1" = 30'-0"



GENERAL SERVICES FACILITY
4551 WILL CLAYTON PKWY,
HUMBLE, TEXAS 77396

IAH INTEGRATED COORDINATION CENTER

C.I.P. No.	PN793	A.I.P. No.	N/A
C.O.H. No.	N/A	D.O.A. No.	N/A
B.S.G. No.	85G-2022-257-IAH	T.I.P. No.	TIP-22-219-IAH



DESIGNER PROJECT No.: 2022.013
PROJECT STATUS: IFB

REVISIONS

No.	DESCRIPTION	DATE	BY
	ISSUE FOR PERMIT	10/06/2022	
1	PERMIT COMMENTS 1	10/26/2022	
2	PERMIT COMMENTS 2	11/11/2022	
3	ISSUE FOR BID & CONSTRUCTION	05/05/2023	
4	ISSUE FOR BID	06/08/2023	

DESIGN BY: PGA
DRAWN BY: PGA
CHECKED BY: PGA
ISSUE DATE: 06/08/2023
APPROVED BY: RDLR
APPROVAL DATE: 06/08/2023

DIRECTOR
of
HOUSTON AIRPORT SYSTEM

Drawing Status: IFB
ISSUE FOR BID



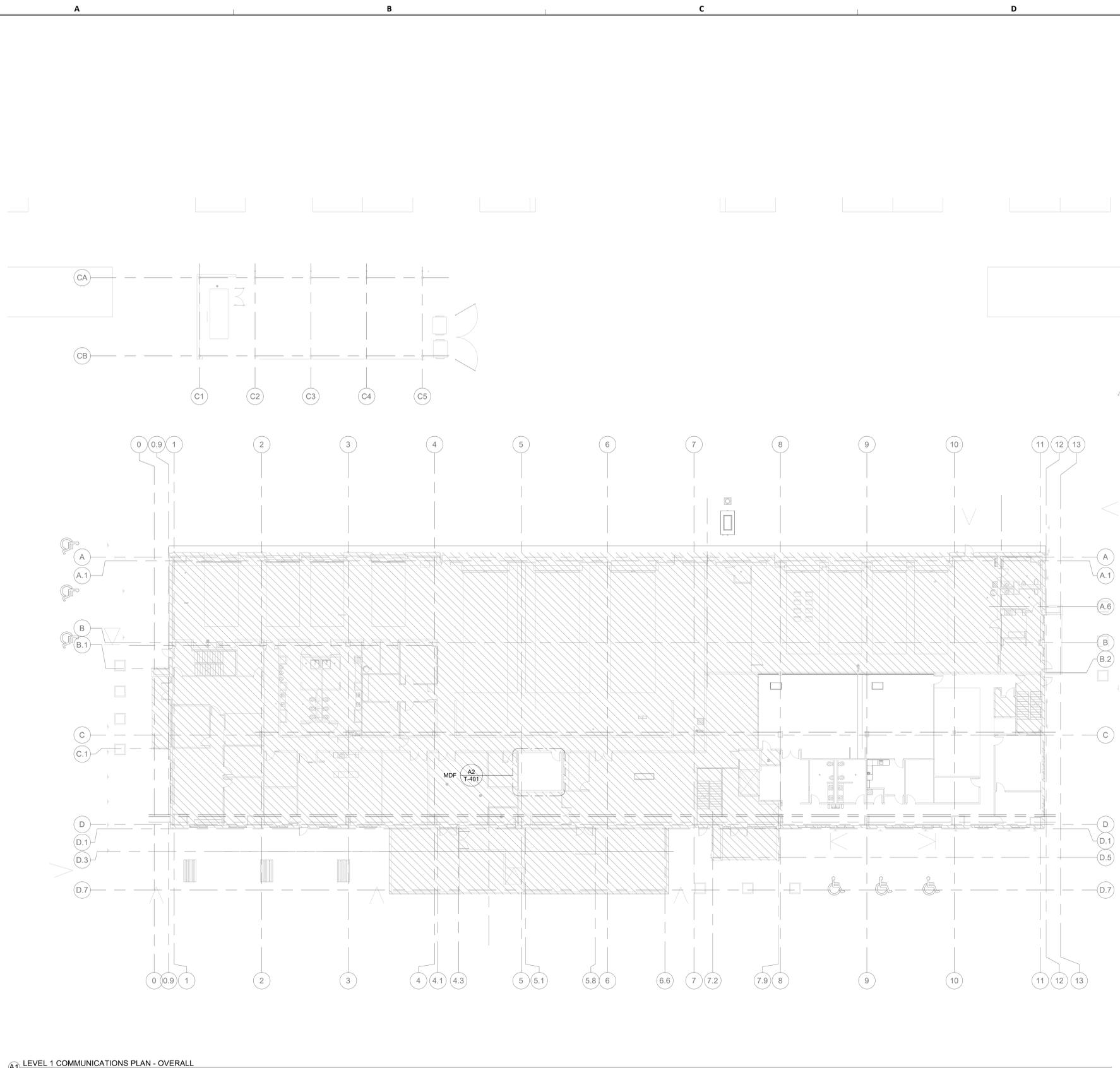
SHEET NAME: TELECOMMUNICATIONS SITE PLAN
SHEET No. T-200 SCALE: 1" = 30'-0"

SHEET SIZE: 30"x42" ARCH E1

PLOT DATE: 6/7/2023 5:03:02 PM
 DOA DWG FILE:
 OLD DOA No. :
 PLOT DATE:

FILE PATH: Autodesk Docs://1425.13 IAH ICC/ICC - T & TR.rvt

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A1 LEVEL 1 COMMUNICATIONS PLAN - OVERALL
 1/16" = 1'-0"

- GENERAL SHEET NOTES:**
- REFER TO GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS SHEETS FOR ADDITIONAL INFORMATION.
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 B.S.G. No. 856-2022-257-IAH T.I.P. No. TIP-22-219-IAH



DESIGNER PROJECT No.: 2022.013
 PROJECT STATUS: IFB

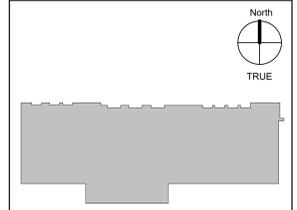
REVISIONS

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4	ISSUE FOR BID	06/08/2023	

DESIGN BY: PGA
 DRAWN BY: PGA
 CHECKED BY: PGA
 ISSUE DATE: 06/08/2023
 APPROVED BY: RDLR
 APPROVAL DATE: 06/08/2023

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Drawing Status: **IFB**
 ISSUE FOR BID



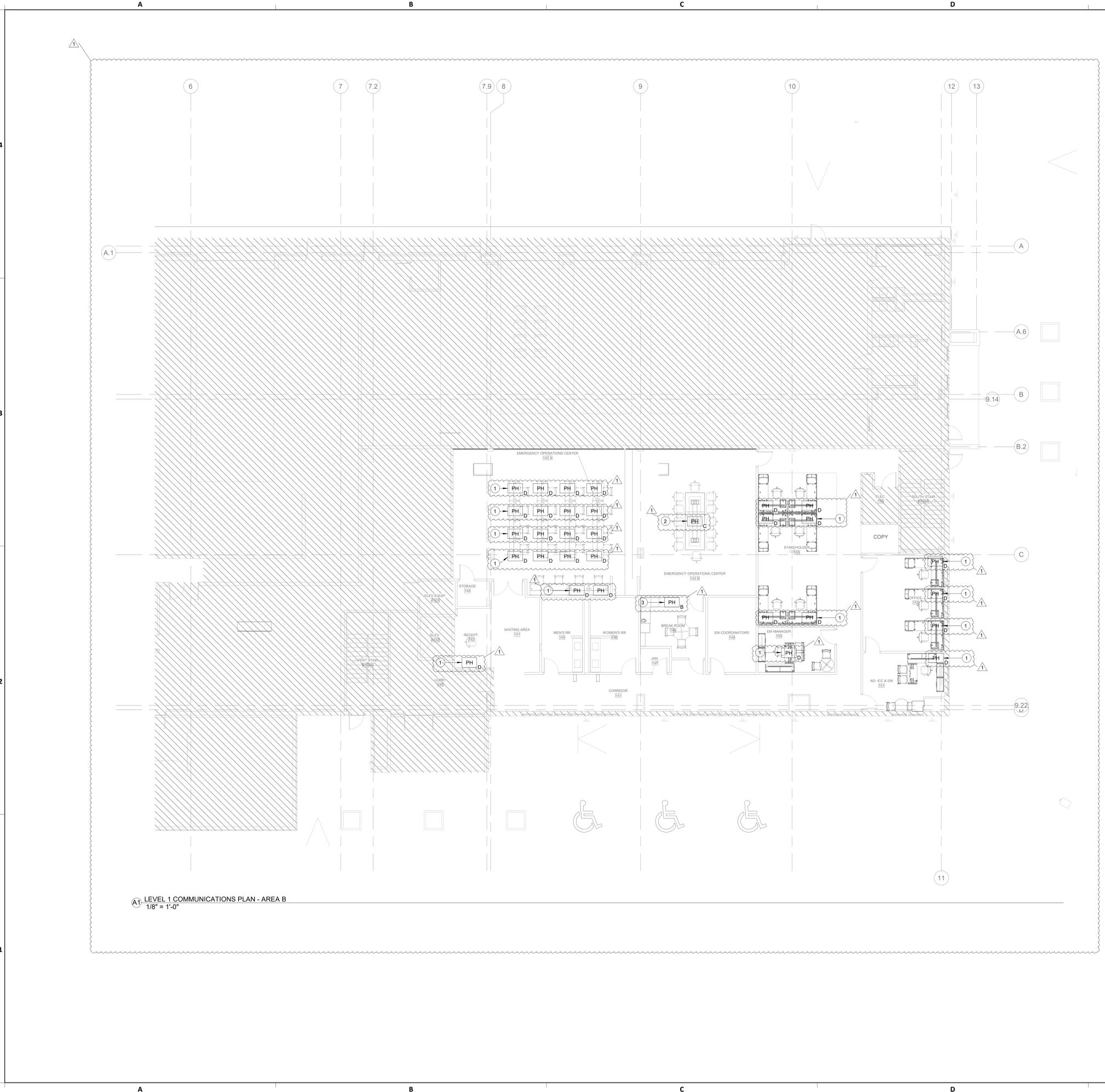
SHEET NAME: LEVEL 1 TELECOMMUNICATIONS PLAN - OVERALL
 SHEET No. T-211 SCALE: 1/16" = 1'-0"

SHEET SIZE: 30"x42" ARCH E1

PLOT DATE: 6/7/2023 5:03:10 PM
 DOA DWG FILE:
 OLD DOA No. :
 PLOT DATE:

FILE PATH: Autodesk Docs://1425.13 IAH ICC/ICC - T & T1.rvt

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- GENERAL SHEET NOTES:**
- REFER TO GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS SHEETS FOR ADDITIONAL INFORMATION.
 - SCREENED DEVICES DENOTE EXISTING.
 - COORDINATE EQUIPMENT INSTALLATION INSIDE IDF ROOMS WITH HAS IT PROJECT MANAGER.
 - ALL LOW VOLTAGE CABLING SHALL BE INSTALLED IN ACCORDANCE WITH DIVISION 27 SPECIFICATIONS.

- KEY NOTES:**
- CISCO POE DESKPHONE.
 - CISCO POE CONFERENCE PHONE.
 - CISCO POE BASIC PHONE.



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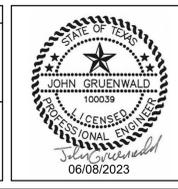
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DESIGN BY: PGA
 DRAWN BY: PGA
 CHECKED BY: PGA
 ISSUE DATE: 06/08/2023
 APPROVED BY: RDRL
 APPROVAL DATE: 06/08/2023

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 ISSUE FOR BID



SHEET NAME:
 LEVEL 1 TELECOMMUNICATIONS - AREA B
 FURNITURE PLAN

SHEET No. T-213A SCALE: 1/8" = 1'-0"

SHEET SIZE: 30"x42" ARCH E1

PLOT DATE: 6/7/2023 5:03:15 PM
 DOA DWG FILE:
 OLD DOA No. :
 PLOT DATE:

FILE PATH: Autodesk Docs://1425.13 IAH ICC/ICC - T & T1.rvt

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- GENERAL SHEET NOTES:**
- REFER TO GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS SHEETS FOR ADDITIONAL INFORMATION.
 - SCREENED DEVICES DENOTE EXISTING.
 - COORDINATE EQUIPMENT INSTALLATION INSIDE IDF ROOMS WITH HAS IT PROJECT MANAGER.
 - ALL LOW VOLTAGE CABLING SHALL BE INSTALLED IN ACCORDANCE WITH DIVISION 27 SPECIFICATIONS.

- KEY NOTES:**
- DATA JACK DEDICATED TO VIDEO WALL MOUNTED IN BACKBOX BEHIND THE DISPLAY. TO BE CABLED BACK TO IDF W205.4 ON THE SECOND FLOOR.
 - RELOCATE THE DATA JACKS (D4 AND AVC) TO THE NORTHWEST CORNER OF RM 143A (EOC) IN SUPPORT OF THE PODIUM BEING MOVED THERE. REFERENCE TA-213 FOR PODIUM LOCATION.
 - RELOCATE THE DATA JACKS (D1 AND TV1) TO THE EAST WALL OF RM 150 (EM MGR) IN SUPPORT OF FLAT PANEL RELOCATION. RELOCATE EXISTING DISPLAY AND MOUNT TO NEW LOCATION AND REINSTALL DISPLAY. PATCH AND REPAIR WALL TO NEW CONDITION.
 - VIDEO WALL PC. REFERENCE SPECIFICATION 272200.
 - CAT6 TO HAS IT CABINET 02 IN MDF. QUANTITY AS INDICATED.
 - EXISTING FLOOR BOXES. STUB UP TO CEILING.
 - (4) 1" CONDUIT. (E).
 - 1 CAT 6 WITH PLATE FOR WALL MOUNTED PHONE. 45"A.F.F.

A1 LEVEL 1 COMMUNICATIONS PLAN - AREA B
 1/8" = 1'-0"



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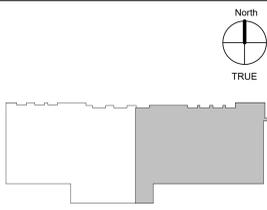
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3	PERMIT COMMENTS 2	11/11/2022	
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5	ISSUE FOR BID	06/08/2023	

DESIGN BY: PGA
 DRAWN BY: PGA
 CHECKED BY: PGA
 ISSUE DATE: 06/08/2023
 APPROVED BY: RDRL
 APPROVAL DATE: 06/08/2023

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Drawing Status
IFB
 ISSUE FOR BID



SHEET NAME:
 LEVEL 1 TELECOMMUNICATIONS - AREA B
 SHEET No. T-213B SCALE: 1/8" = 1'-0"
 SHEET SIZE: 30"x42" ARCH E1

PLOT DATE: 6/7/2023 5:03:18 PM
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 OLD DOA No. :
 PLOT DATE:

FILE PATH: Autodesk Docs://1425.13 IAH ICC/CC - T & Ty.rvt

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- GENERAL SHEET NOTES:**
1. REFER TO GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS SHEETS FOR ADDITIONAL INFORMATION.
 2. SCREENED DEVICES DENOTE EXISTING.
 3. COORDINATE EQUIPMENT INSTALLATION INSIDE IDF ROOMS WITH HAS IT PROJECT MANAGER.
 4. ALL LOW VOLTAGE CABLING SHALL BE INSTALLED IN ACCORDANCE WITH DIVISION 27 SPECIFICATIONS.



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DESIGN BY: **PGA**
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 CHECKED BY: **PGA**
 ISSUE DATE: **06/08/2023**
 APPROVED BY: **RDRL**
 APPROVAL DATE: **06/08/2023**

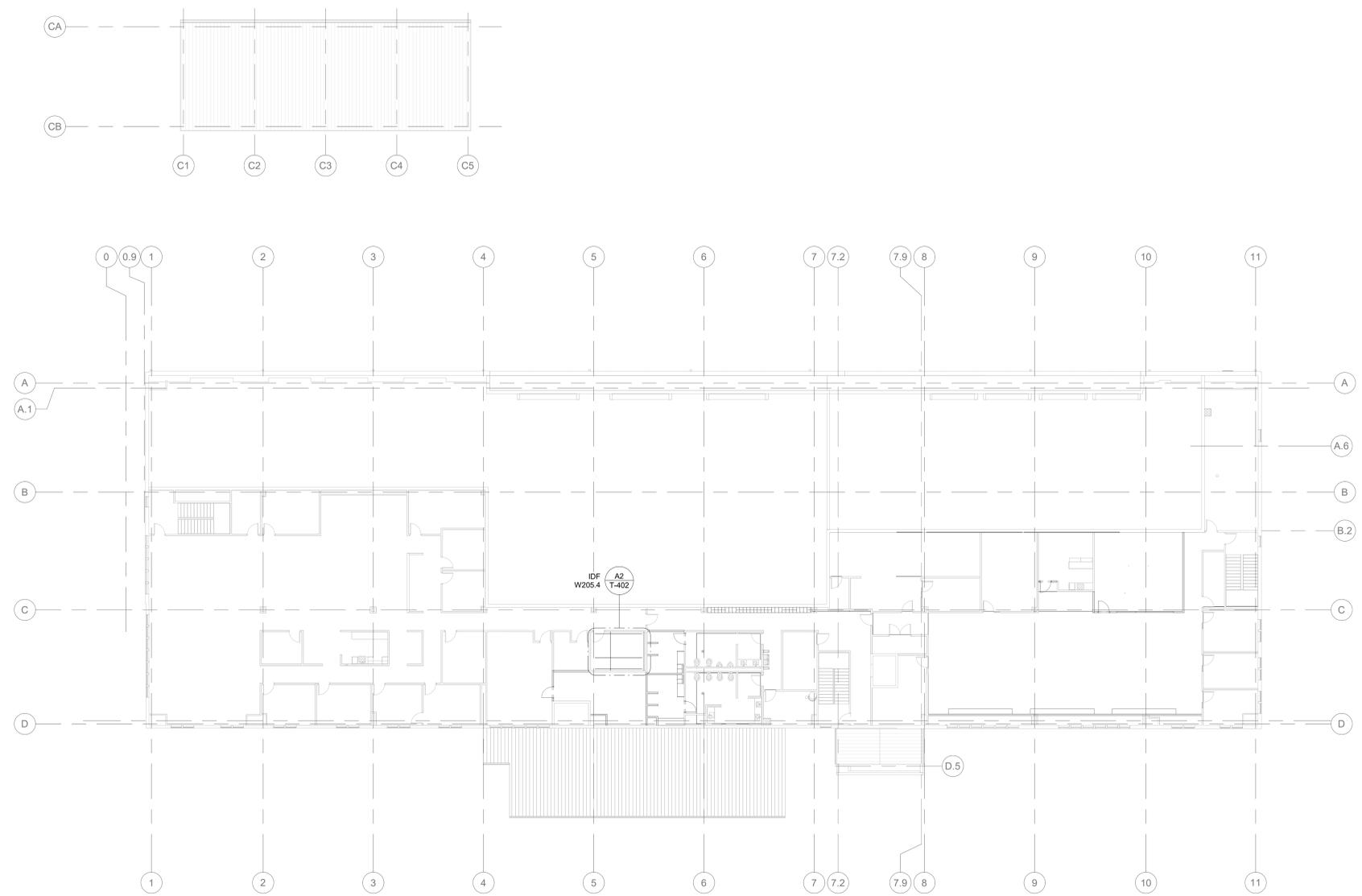
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Drawing Status
IFB
 ISSUE FOR BID



SHEET NAME:
LEVEL 2 TELECOMMUNICATIONS PLAN - OVERALL
 SHEET No. **T-214** SCALE: **1/16" = 1'-0"**

SHEET SIZE: **30"x42" ARCH E1**



A1) LEVEL 2 COMMUNICATIONS PLAN - OVERALL
 1/16" = 1'-0"



GENERAL SERVICES FACILITY
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C.O.H. No. **N/A** D.O.A. No. **N/A**
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PROJECT STATUS: **IFB**

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DESIGN BY: **PGA**
DRAWN BY: **PGA**
CHECKED BY: **PGA**
ISSUE DATE: **06/08/2023**
APPROVED BY: **RDRL**
APPROVAL DATE: **06/08/2023**

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of
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Drawing Status
IFB
ISSUE FOR BID



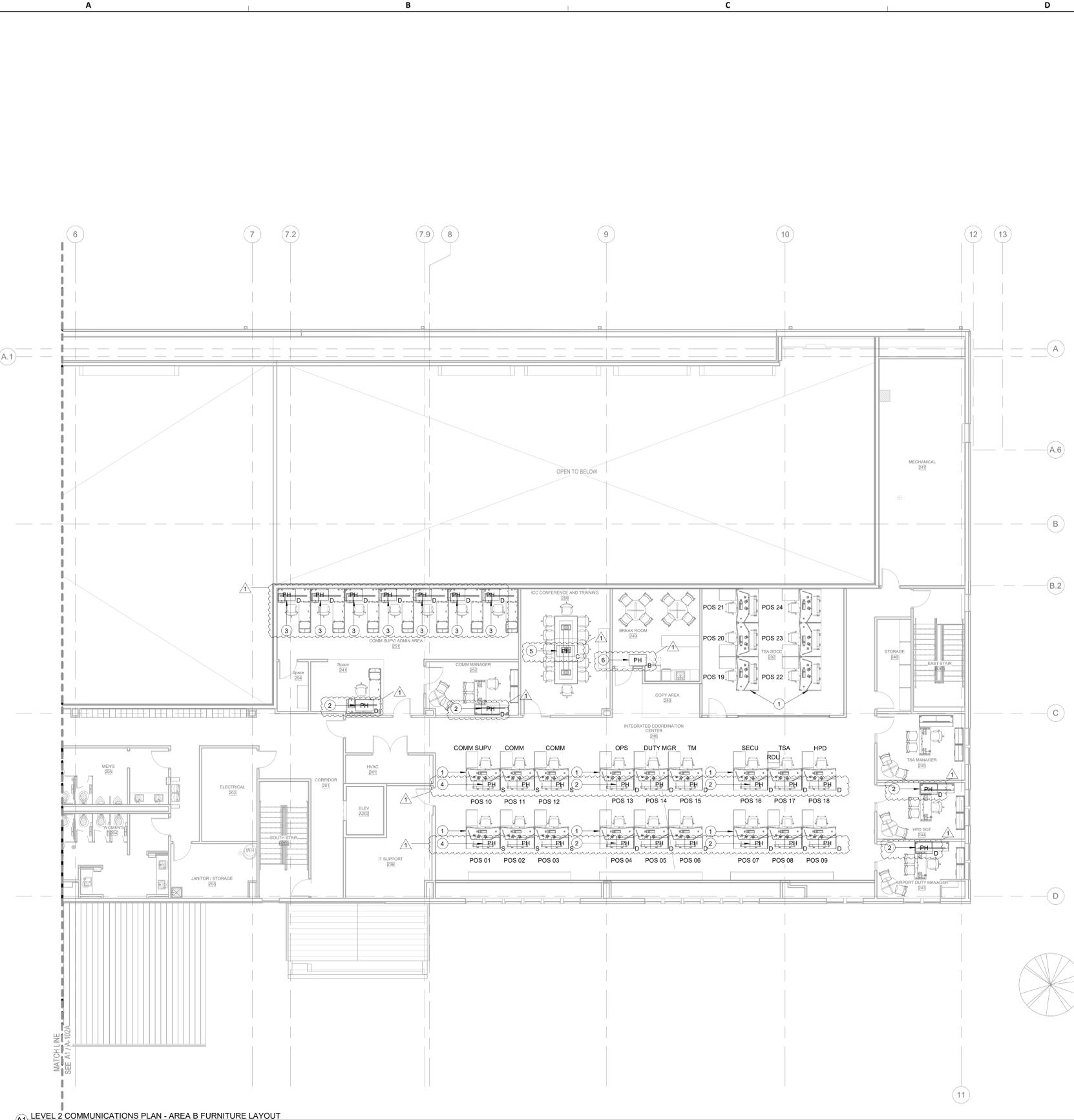
SHEET NAME:
LEVEL 2 TELECOMMUNICATIONS - AREA B FURNITURE LAYOUT

SHEET No. **T-216A** SCALE: **1/8" = 1'-0"**

SHEET SIZE: **30"x42" ARCH E1**

- GENERAL SHEET NOTES:**
- REFER TO GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS SHEETS FOR ADDITIONAL INFORMATION.
 - SCREENED DEVICES DENOTE EXISTING.
 - COORDINATE EQUIPMENT INSTALLATION INSIDE IDF ROOMS WITH HAS IT PROJECT MANAGER.
 - ALL LOW VOLTAGE CABLING SHALL BE INSTALLED IN ACCORDANCE WITH DIVISION 27 SPECIFICATIONS.

- KEY NOTES:**
- REFERENCE SCHEDULES ON T-701 FOR EQUIPMENT TYPES/QUANTITIES.
 - CISCO POE DESKPHONE. HEADSET PROVIDED BY PROJECT.
 - CISCO POE DESKPHONE. USER TO BRING OLD HEADSET.
 - NON-PHYSICAL SOFTWARE BASED PHONE STILL REQUIRES A DEDICATED LICENSE PER INSTANCE.
 - CISCO POE TABLE PHONE.
 - CISCO POE BASIC PHONE.



A1 LEVEL 2 COMMUNICATIONS PLAN - AREA B FURNITURE LAYOUT
1/8" = 1'-0"

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HAS FILE:

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PLOT DATE:



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HUMBLE, TEXAS 77396

IAH INTEGRATED COORDINATION CENTER

C.I.P. No. PN793 A.I.P. No. N/A
C.O.H. No. N/A D.O.A. No. N/A
B.S.G. No. 856-2022-257-IAH T.I.P. No. TIP-22-219-IAH



DESIGNER PROJECT No.: 2022.013
PROJECT STATUS: IFB

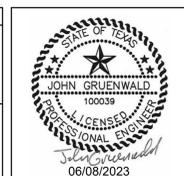
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DESIGN BY: PGA
DRAWN BY: PGA
CHECKED BY: PGA
ISSUE DATE: 06/08/2023
APPROVED BY: RDRL
APPROVAL DATE: 06/08/2023

DIRECTOR
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Drawing Status
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ISSUE FOR BID

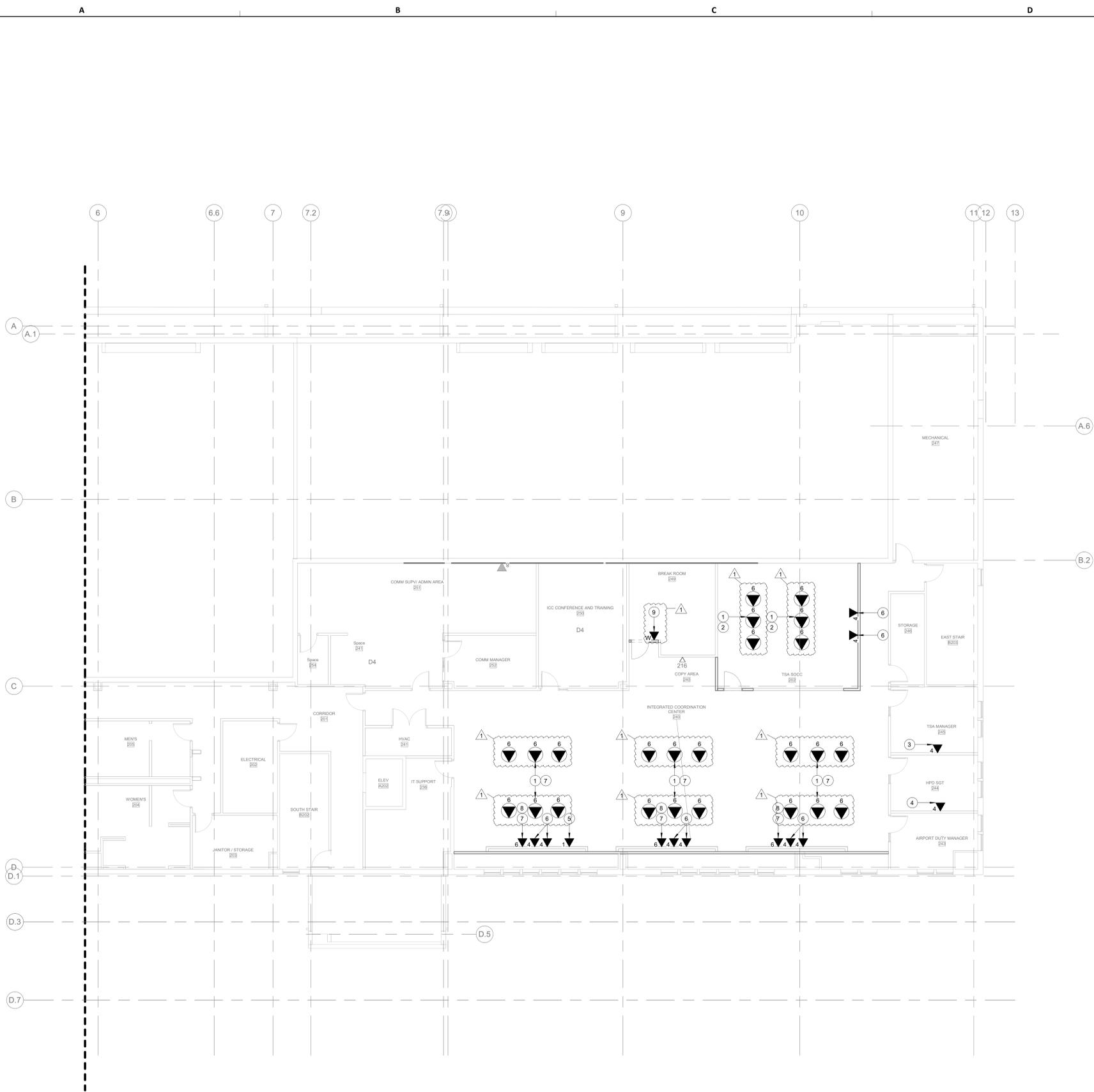


SHEET NAME:
LEVEL 2 TELECOMMUNICATIONS - AREA B
SHEET No. T-216B SCALE: 1/8" = 1'-0"

SHEET SIZE: 30"x42" ARCH E1

- GENERAL SHEET NOTES:**
- REFER TO GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS SHEETS FOR ADDITIONAL INFORMATION.
 - SCREENED DEVICES DENOTE EXISTING.
 - COORDINATE EQUIPMENT INSTALLATION INSIDE IDF ROOMS WITH HAS IT PROJECT MANAGER.
 - ALL LOW VOLTAGE CABLING SHALL BE INSTALLED IN ACCORDANCE WITH DIVISION 27 SPECIFICATIONS.

- KEY NOTES:**
- POKE THRU TO SUPPORT 2-120V ELECTRICAL CIRCUITS PER CONSOLE. 6-CAT6 CABLES PER CONSOLE. COORDINATE TERMINATION WITH FURNITURE INSTALLER. PROVIDE ALL TERMINATION INSERTS AND MISCELLANEOUS JACKS, PLATES, ETC. FOR A 100% COMPLETE INSTALLATION. TYPICAL FOR ALL 24 CONSOLE POSITIONS.
 - 12 CAT6 TO HAS IT CABINET 05, 6 CAT6 TO TSA NETWORK CABINET 04. BOTH CABINETS IN IDF W205.4
 - 2 CAT6 TO HAS IT CABINET 05, 2 CAT6 TO TSA NETWORK CABINET 04. BOTH CABINETS IN IDF W205.4
 - 2 CAT6 TO HAS IT CABINET 05, 2 CAT6 TO HPD NETWORK CABINET 03. BOTH CABINETS IN IDF W205.4
 - 1 CAT6 TO HAS IT CABINET IN IDF W205.4, DEDICATED PORT FOR QSC PA MICROPHONE PAGING STATION.
 - 4 CAT6 IN WALL BACK BOX TO HAS IT CABINET IN IDF W205.4. INSTALL BEHIND VIDEO WALL.
 - CAT6 TO HAS IT CABINET 02 IN MDF. QUANTITY AS INDICATED. TYPICAL FOR ALL 24 CONSOLE POSITIONS.
 - INSTALL JACK INSIDE MILL WORK.
 - 1 CAT 6 WITH PLATE FOR WALL MOUNTED PHONE. 487A.F.F.



A) LEVEL 2 COMMUNICATIONS PLAN - AREA B
1/8" = 1'-0"

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OLD DOA No. :
PLOT DATE:

FILE PATH: Autodesk Docs://1425.13 IAH ICC/CC - T & Tr.rvt
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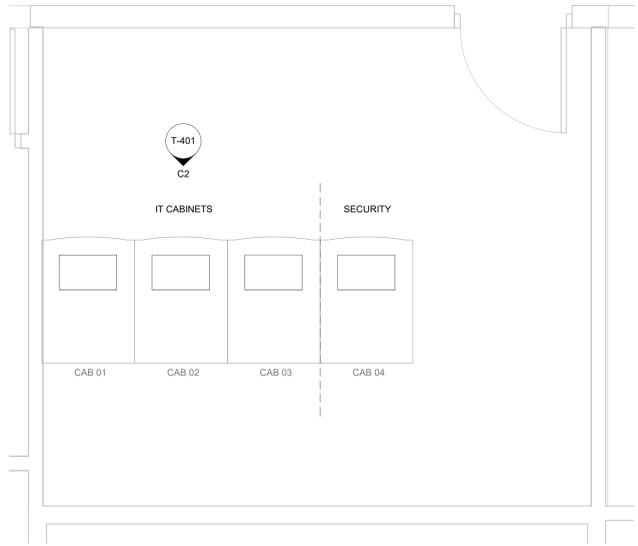
A

B

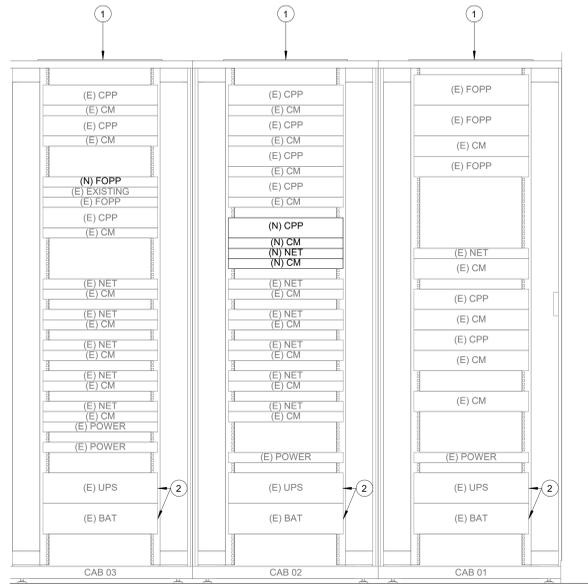
C

D

E



A2 ENLARGED PLAN AT MDF
 1/2" = 1'-0"



C2 RACK ELEVATION AT MDF
 1" = 1'-0"

GENERAL SHEET NOTES:

- REFER TO GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS SHEETS FOR ADDITIONAL INFORMATION.
- SCREENED DEVICES DENOTE EXISTING. (E) DENOTE EXISTING. (N) DENOTE NEW. (OF) DENOTE OWNER FURNISHED.
- COORDINATE EQUIPMENT INSTALLATION INSIDE IDF ROOMS WITH HAS IT PROJECT MANAGER.
- ALL LOW VOLTAGE CABLING SHALL BE INSTALLED IN ACCORDANCE WITH DIVISION 27 SPECIFICATIONS.

KEY NOTES:

- STANDARD NETWORK CABINET. (E)
- REMOVE UPS AND RETURN TO HAS IT AFTER NEW ICC UPS IS INSTALLED AND COMMISSIONED.



GENERAL SERVICES FACILITY
 4551 WILL CLAYTON PKWY,
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IAH INTEGRATED COORDINATION CENTER

C.I.P. No. PN793 A.I.P. No. N/A
 C.O.H. No. N/A D.O.A. No. N/A
 B.S.G. No. 856-2022-257-IAH T.I.P. No. TIP-22-219-IAH



DESIGNER PROJECT No.: 2022.013
 PROJECT STATUS: IFB

REVISIONS

No.	DESCRIPTION	DATE	BY
	ISSUE FOR PERMIT	10/06/2022	
1	PERMIT COMMENTS 1	10/26/2022	
2	PERMIT COMMENTS 2	11/11/2022	
3	ISSUE FOR BID & CONSTRUCTION	05/05/2023	
4	ISSUE FOR BID	06/08/2023	

DESIGN BY: PGA
 DRAWN BY: PGA
 CHECKED BY: PGA
 ISSUE DATE: 06/08/2023
 APPROVED BY: RDRL
 APPROVAL DATE: 06/08/2023

DIRECTOR
 of
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Drawing Status

IFB
 ISSUE FOR BID



SHEET NAME:
 TELECOMMUNICATIONS ENLARGED PLAN AT MDF

SHEET No. T-401 SCALE: As indicated
 SHEET SIZE: 30"x42" ARCH E1



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C.O.H. No. **N/A** D.O.A. No. **N/A**
B.S.G. No. **856-2022-257-IAH** T.I.P. No. **TIP-22-219-IAH**



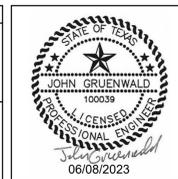
DESIGNER PROJECT No.: **2022.013**
PROJECT STATUS: **IFB**

REVISIONS			
No.	DESCRIPTION	DATE	BY
	ISSUE FOR PERMIT	10/06/2022	
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DESIGN BY: **PGA**
DRAWN BY: **PGA**
CHECKED BY: **PGA**
ISSUE DATE: **06/08/2023**
APPROVED BY: **RDLR**
APPROVAL DATE: **06/08/2023**

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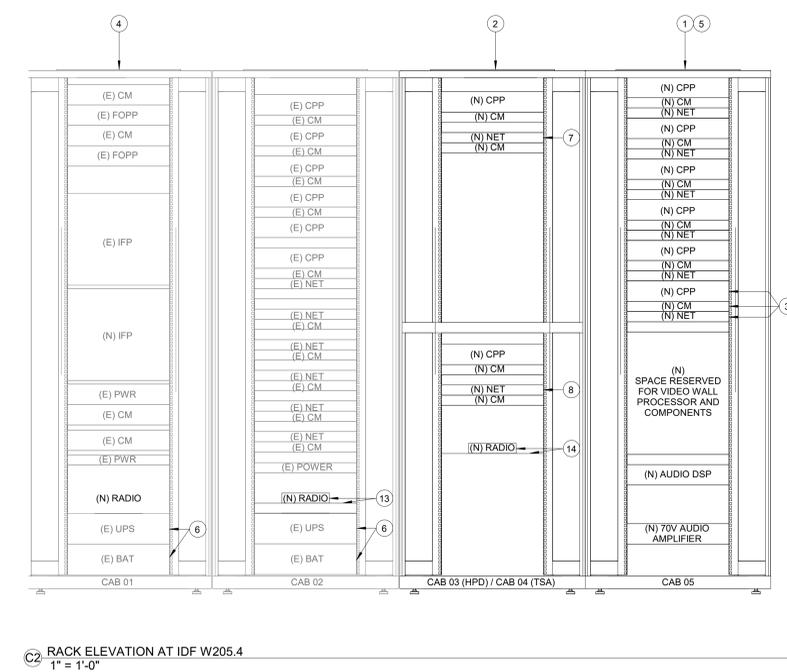
Drawing Status
IFB
ISSUE FOR BID



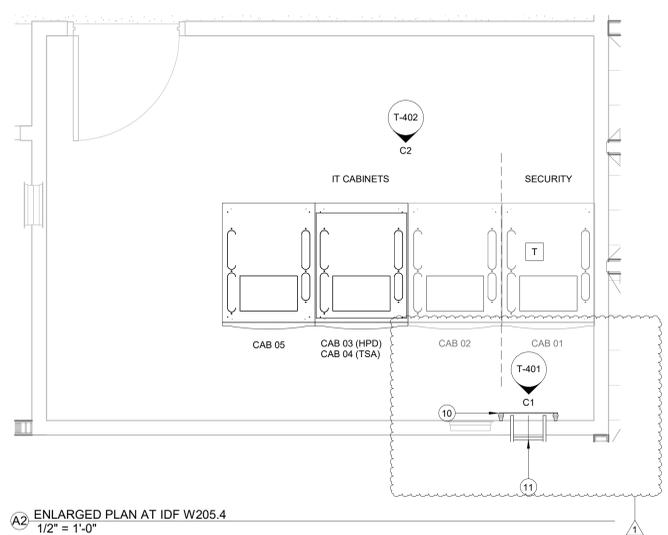
SHEET NAME:
TELECOMMUNICATIONS ENLARGED PLAN AT IDF W205.4
SHEET No. **T-402** SCALE: **As indicated**

SHEET SIZE: **30"x42" ARCH E1**

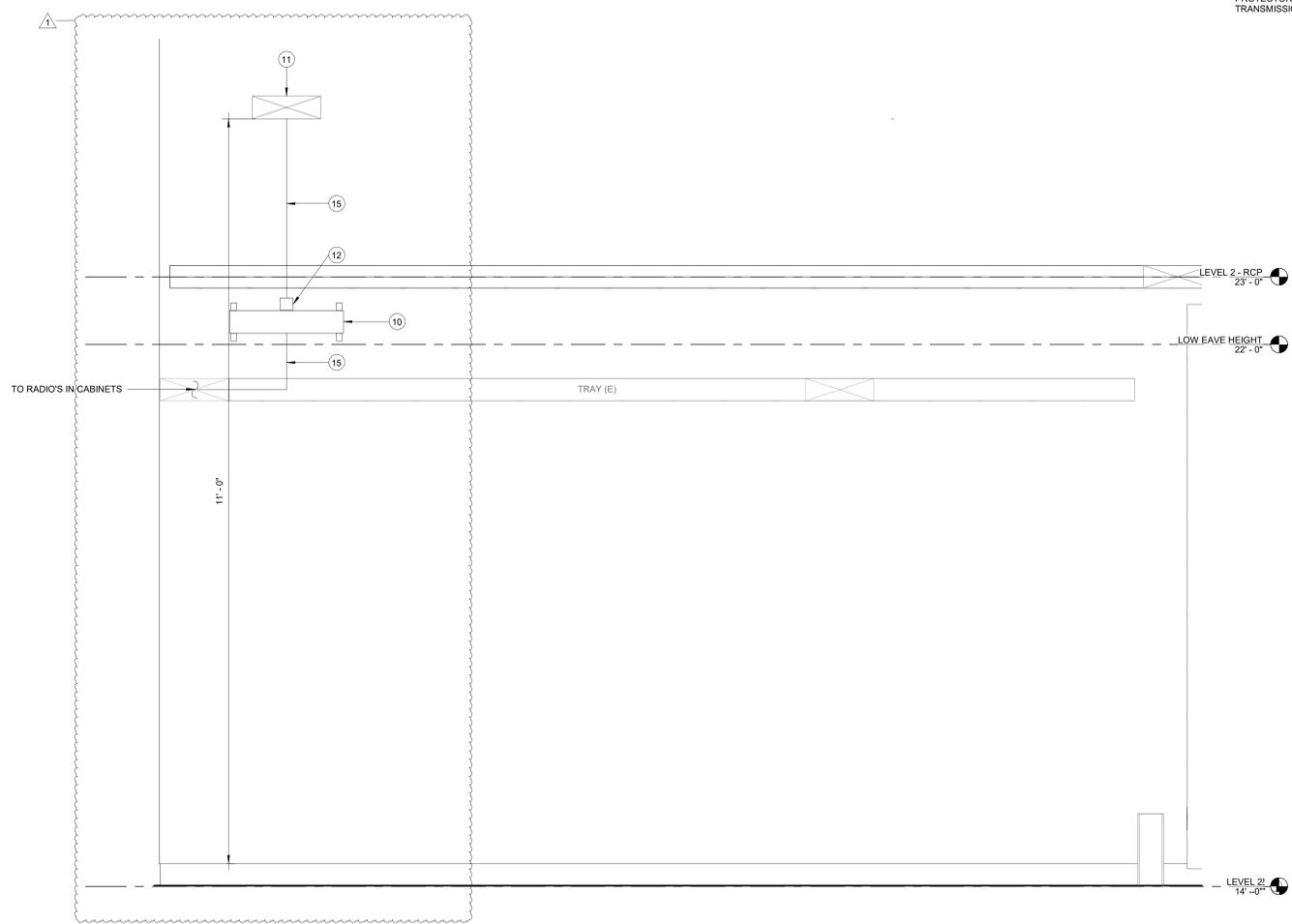
- GENERAL SHEET NOTES:**
- REFER TO GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS SHEETS FOR ADDITIONAL INFORMATION.
 - SCREENED DEVICES DENOTE EXISTING. (E) DENOTE EXISTING. (N) DENOTE NEW.
 - COORDINATE EQUIPMENT INSTALLATION INSIDE IDF ROOMS WITH HAS IT PROJECT MANAGER.
 - ALL LOW VOLTAGE CABLING SHALL BE INSTALLED IN ACCORDANCE WITH DIVISION 27 SPECIFICATIONS.
- KEY NOTES:**
- STANDARD NETWORK CABINET.
 - TWO COMPARTMENT, LOCKABLE CO-LOCATE CABINET.
 - NETWORK SWITCH, CABLE MANAGEMENT, AND PATCH PANEL DEDICATED TO SECURITY DEVICES.
 - REFERENCE SECURITY "TY" DRAWINGS.
 - REFERENCE AV "TA" DRAWINGS.
 - REMOVE RACK MOUNT UPS AND RETURN TO HAS IT AFTER NEW ICC UPS IN INSTALLED AND COMMISSIONED.
 - NETWORK SWITCH BY HPD.
 - NETWORK SWITCH BY TSA.
 - ROXTEC CABLE ENTRY PORTAL WITH COMPRESSIBLE CUSHIONS.
 - GROUNDING BUS BAR. BOND TO EXISTING TGB IN ROOM WITH #2/0 BONDING CONDUCTOR. PROVIDE EXOTHERMIC BOND AT EACH BUSBAR.
 - CABLE TRAY. 12"W X 4"D CABLE TRAY FROM CABLE ENTRY TO IDF W205.4 ROUTED ABOVE DUCTWORK. SEAL WALL PENETRATIONS WITH APPROVED FIRESTOP PILLOWS.
 - TRANSIENT VOLTAGE SURGE PROTECTOR. BOND TO TGB WITH #6 AWG BONDING CONDUCTOR.
 - SATELLITE PHONE INDOOR UNIT (IDU) ON RACK TRAY.
 - RADIO BY TSA ON RACK TRAY.
 - RF TRANSMISSION LINE FROM ROOF. TERMINATE AT SURGE PROTECTOR BONDED TO TGB. TRANSITION TO INDOOR TRANSMISSION LINE FROM SURGE PROTECTOR TO RADIOS. TYPICAL FOR ALL RF TRANSMISSION LINES.



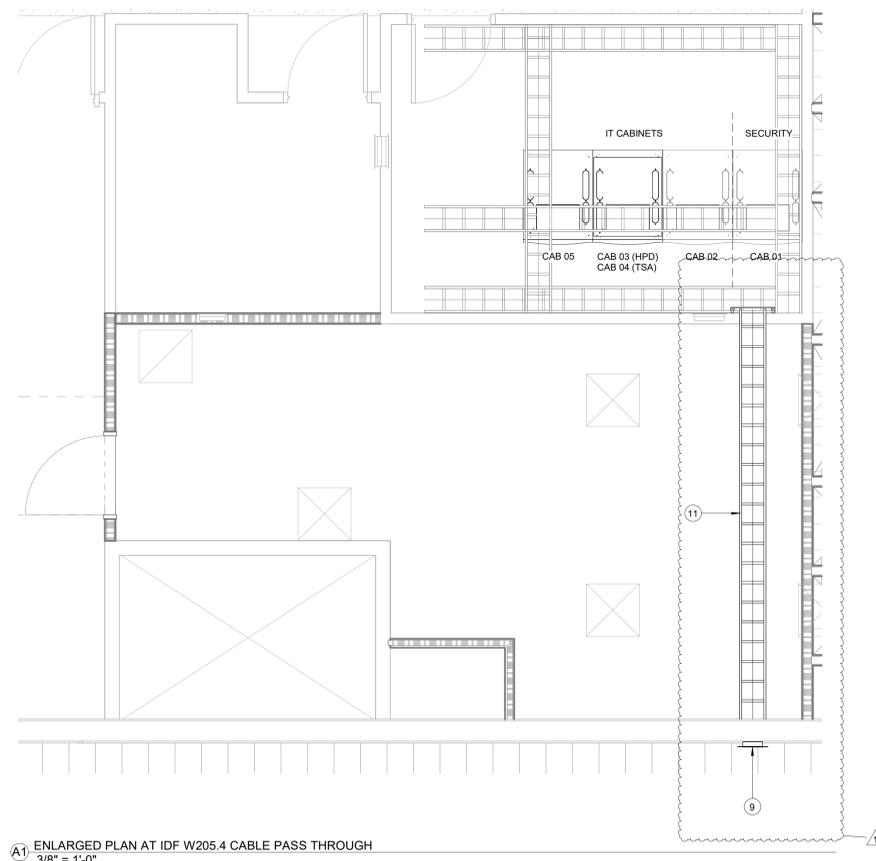
C2 RACK ELEVATION AT IDF W205.4
1" = 1'-0"



A2 ENLARGED PLAN AT IDF W205.4
1/2" = 1'-0"



C1 WALL ELEVATION AT IDF W205.4
1" = 1'-0"



A1 ENLARGED PLAN AT IDF W205.4 CABLE PASS THROUGH
3/8" = 1'-0"

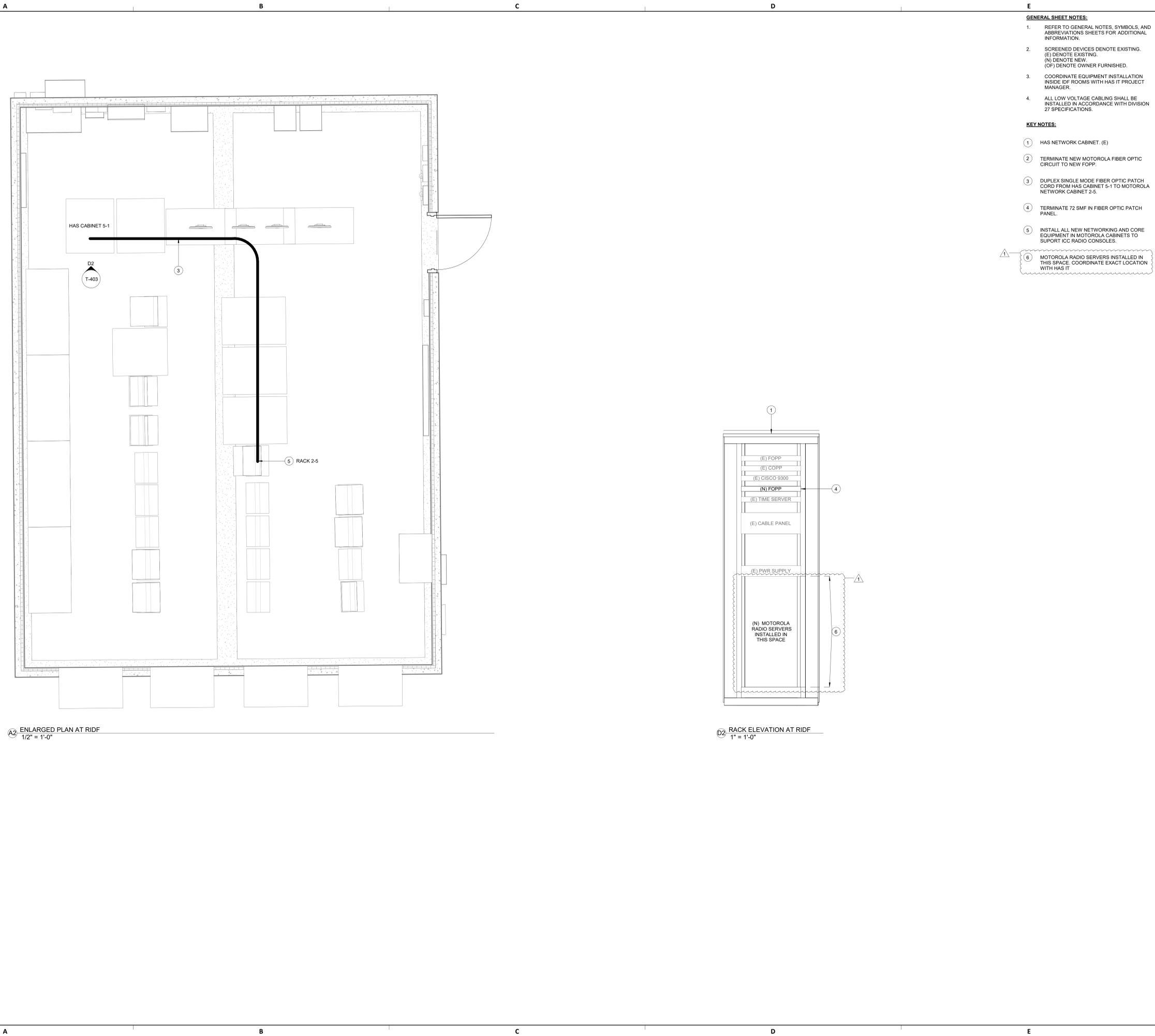
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PLOT DATE:

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 PLOT DATE:

FILE PATH: Autodesk Docs://1425.13 IAH ICC/ICC - T & T.rvt
 HAS FILE:



A2 ENLARGED PLAN AT RIDF
 1/2" = 1'-0"

D2 RACK ELEVATION AT RIDF
 1" = 1'-0"

- GENERAL SHEET NOTES:**
- REFER TO GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS SHEETS FOR ADDITIONAL INFORMATION.
 - SCREENED DEVICES DENOTE EXISTING. (E) DENOTE EXISTING. (N) DENOTE NEW. (OF) DENOTE OWNER FURNISHED.
 - COORDINATE EQUIPMENT INSTALLATION INSIDE IDF ROOMS WITH HAS IT PROJECT MANAGER.
 - ALL LOW VOLTAGE CABLING SHALL BE INSTALLED IN ACCORDANCE WITH DIVISION 27 SPECIFICATIONS.
- KEY NOTES:**
- HAS NETWORK CABINET. (E)
 - TERMINATE NEW MOTOROLA FIBER OPTIC CIRCUIT TO NEW FOPP.
 - DUPLEX SINGLE MODE FIBER OPTIC PATCH CORD FROM HAS CABINET 5-1 TO MOTOROLA NETWORK CABINET 2-5.
 - TERMINATE 72 SMF IN FIBER OPTIC PATCH PANEL.
 - INSTALL ALL NEW NETWORKING AND CORE EQUIPMENT IN MOTOROLA CABINETS TO SUPPORT ICC RADIO CONSOLES.
 - MOTOROLA RADIO SERVERS INSTALLED IN THIS SPACE. COORDINATE EXACT LOCATION WITH HAS IT

HOUSTON AIRPORTS
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 B.S.G. No. **856-2022-257-IAH** T.I.P. No. **TIP-22-219-IAH**

RDLR

PGA
 ENGINEERS, INC.
 3820 N. Sam Houston Pkwy E., Ste. 600
 Houston, TX 77062
 (281) 412-2210
 pgaengineers.com
 TWP# P008 #12693

DESIGNER PROJECT No.: **2022.013**
 PROJECT STATUS: **IFB**

REVISIONS

No.	DESCRIPTION	DATE	BY
	ISSUE FOR PERMIT	10/06/2022	
1	PERMIT COMMENTS 1	10/26/2022	
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3	ISSUE FOR BID & CONSTRUCTION	05/05/2023	
4	ISSUE FOR BID	06/08/2023	

DESIGN BY: **PGA**
 DRAWN BY: **PGA**
 CHECKED BY: **PGA**
 ISSUE DATE: **06/08/2023**
 APPROVED BY: **RDLR**
 APPROVAL DATE: **06/08/2023**

DIRECTOR
 of
HOUSTON AIRPORT SYSTEM

Drawing Status
IFB
 ISSUE FOR BID

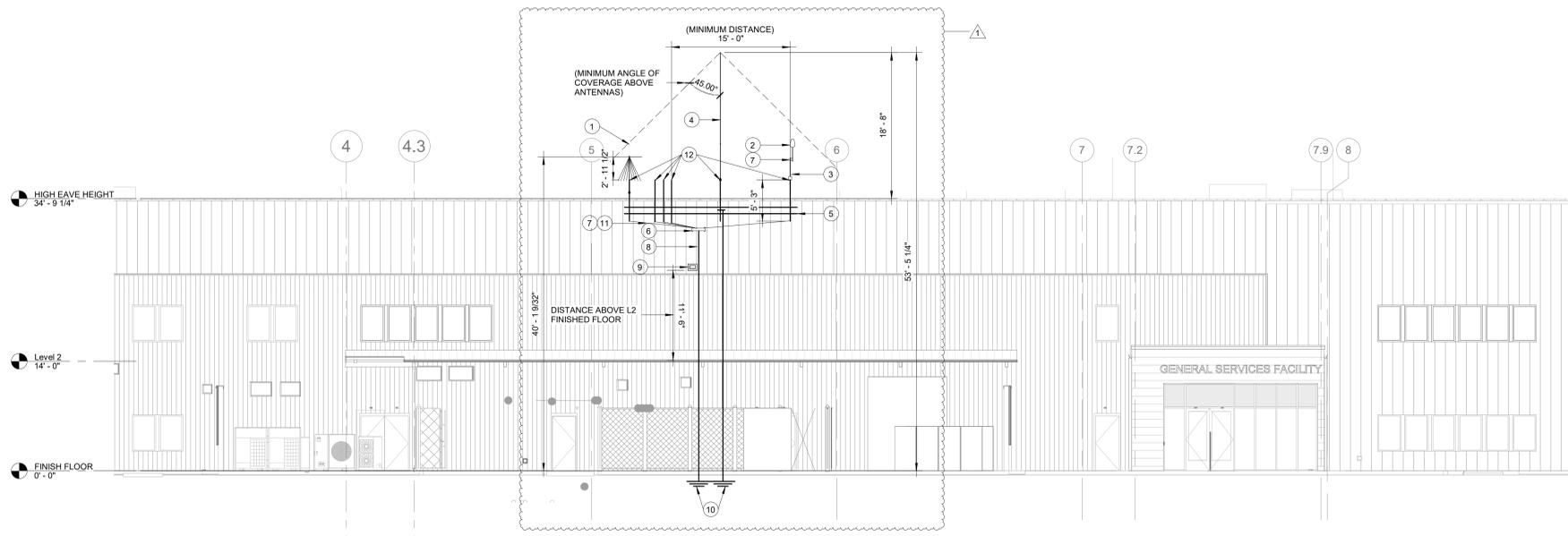
Professional Engineer Seal:
 JOHN GRUENWALD
 100036
 06/08/2023

SHEET NAME: **ENLARGED PLAN AT RIDF**
 SHEET No. **T-403** SCALE: **As indicated**
 SHEET SIZE: **30"x42" ARCH E1**

PLOT DATE: 6/7/2023 5:03:59 PM
 DOA DWG FILE:
 OLD DOA No. :
 PLOT DATE:

FILE PATH: Autodesk Docs://1429.13 IAH ICC/ICC - T & Ty.rvt

HAS FILE:



A3 ELEVATION - SOUTH - AREA B - TELECOMMUNICATIONS
 1/8" = 1'-0"

GENERAL SHEET NOTES:

1. THESE DRAWINGS ARE TO SHOW GENERAL SCOPING INFORMATION. FINAL DESIGN TO PROVIDE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, STRUCTURAL DETAILS.
2. REFERENCE E, T, TA, TY DRAWINGS FOR ADDITIONAL TECHNOLOGY SCOPING.

KEY NOTES:

1. TSA TRI-BAND ANTENNA.
2. SAT PHONE ANTENNA.
3. SAT PHONE OUTDOOR UNIT (ODU) TRANSCIEVER.
4. LIGHTNING AIR TERMINAL MOUNTED AT HEIGHT TO PROVIDE 45 DEG PROTECTION CONE OVER OTHER ANTENNAS.
5. 20' WALL MOUNT ANTENNA FRAME. BOND TO EARTH GROUND AND BUILDING STEEL. PROVIDE BLOCKING ON INTERIOR WALL AT 16" INTERVALS FOR ADDITIONAL SUPPORT.
6. TELECOMMUNICATIONS GROUNDING BUSBAR (TGB), BOND TO TGB IN IDF W205.4, BUILDING GROUND LOOP, LPS, AND BUILDING STEEL. SIZE 24" x 4" x 1/4" #4/0 BONDING CONDUCTOR.
7. TRANSMISSION LINE GROUND KIT. BOND TO TGB AND SEAL WITH WATER PROOF TAPE. TYPICAL FOR EACH TRANSMISSION LINE INSTALLED.
8. #4/0 BONDING CONDUCTOR IN A 1.5" CONDUIT. BOND SHALL BE EXOTHERMIC WELDED TO BUILDING GROUND RING. ALSO BOND TO EXISTING LPS ON ROOF AND TGB.
9. ROXTEC CABLE ENTRY PORTAL WITH COMPRESSIBLE CUSHIONS. LOCATE ABOVE CEILING AND HVAC APPROXIMATELY 11" ABOVE LEVEL 2 FINISHED FLOOR.
10. GROUND ROD.
11. #6AWG BONDING CONDUCTOR
12. 2-3/8" OD X 5' SCHEDULE 40 PIPE USED FOR ANTENNA ATTACHMENT. 6 TOTAL. INCLUDE MOUNTING HARDWARE AND 4 U-BOLTS PER PIPE. 2 FOR FRAME ATTACHMENT, 2 FOR ANTENNA ATTACHMENT.



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C.O.H. No.	N/A	D.O.A. No.	N/A
B.S.G. No.	85G-2022-257-IAH	T.I.P. No.	TIP-22-219-IAH

RDLR



DESIGNER PROJECT No.: 2022.013
 PROJECT STATUS: IFB

REVISIONS

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DESIGN BY: PGA
 DRAWN BY: PGA
 CHECKED BY: PGA
 ISSUE DATE: 06/08/2023
 APPROVED BY: RDLR
 APPROVAL DATE: 06/08/2023

DIRECTOR
 of
 HOUSTON AIRPORT SYSTEM

Drawing Status
IFB
 ISSUE FOR BID



SHEET NAME: TELECOMMUNICATIONS ELEVATIONS

SHEET No. T-411 SCALE: 1/8" = 1'-0"

SHEET SIZE: 30"x42" ARCH E1

IAH INTEGRATED COORDINATION CENTER

C.I.P. No. PN793 A.I.P. No. N/A
C.O.H. No. N/A D.O.A. No. N/A
B.S.G. No. 85G-2022-257-IAH T.I.P. No. TIP-22-219-IAH



DESIGNER PROJECT No.: 2022.013
PROJECT STATUS: IFB

REVISIONS

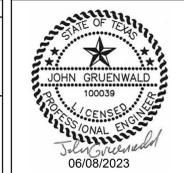
No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
2	PERMIT COMMENTS 1	10/26/2022	
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5	ISSUE FOR BID	06/08/2023	

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DRAWN BY: PGA
CHECKED BY: PGA
ISSUE DATE: 06/08/2023
APPROVED BY: RDLR
APPROVAL DATE: 06/08/2023

DIRECTOR of HOUSTON AIRPORT SYSTEM

Drawing Status

IFB
ISSUE FOR BID



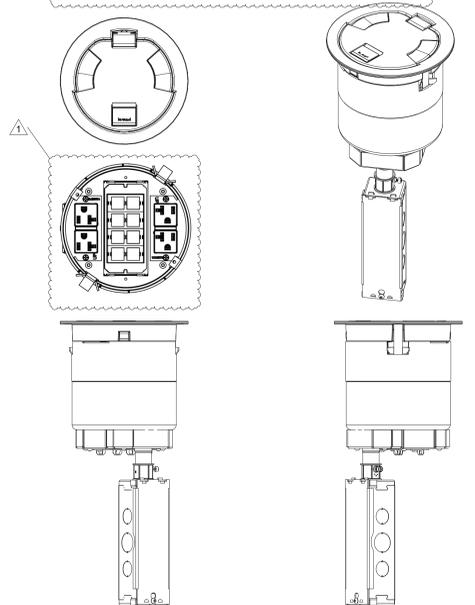
SHEET NAME: TELECOMMUNICATIONS DETAILS

SHEET No. T-501 SCALE: As indicated

SHEET SIZE: 30"x42" ARCH E1

- DETAIL NOTES:**
1. REFERENCE FLOOR PLANS FOR REQUIRED FLOOR CONNECTIONS.
 2. COORDINATE COVER AND FINISH WITH ARCHITECT.
 3. DATA BY TELECOM (DIV. 27), POWER BY ELECTRICAL (DIV. 26)

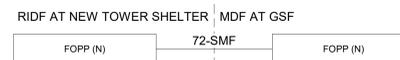
4. POKE THRU TO SUPPORT UP TO 6 CAT6 FOR ICC CONSOLES (EACH CONSOLE TO GET 6 CAT6) AND TWO DEDICATED ELECTRICAL CIRCUITS PER CONSOLE.
5. LEGRAND 68STOP POKE THRU WITH 6ACT8A DATA INSERT PLATE. SUBMIT PRODUCT DATA FOR APPROVAL PRIOR TO PROCUREMENT AND INSTALLATION.



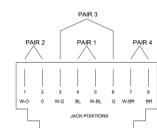
A3 POKE THRU
3" = 1'-0"



B3 NETWORK DIAGRAM
NTS

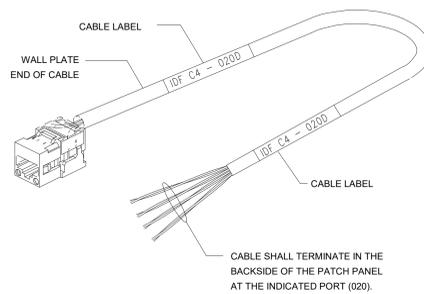


D3 FIBER OPTIC BACKBONE
NTS

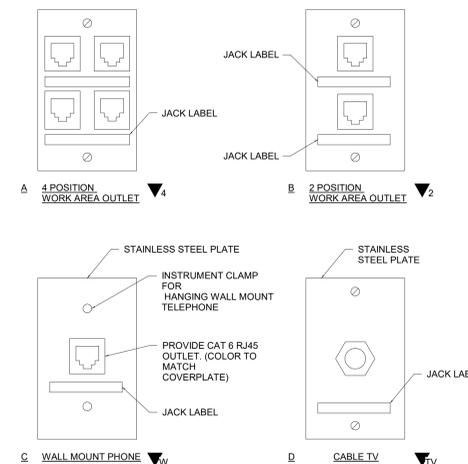


NOTE:
ALL DEVICES WIRED T568B AS SHOWN.

A1 568B WIRING DIAGRAM
NTS



B1 COMMUNICATIONS CABLE LABELING
NTS



D1 COVERPLATE DETAILS
NTS

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C.O.H. No.	N/A	D.O.A. No.	N/A
B.S.G. No.	85G-2022-257-IAH	T.I.P. No.	TIP-22-219-IAH



3830 N. Sam Houston Pkwy. E., Ste. 800
Houston, TX 77062
Tel: 281.221.1211
pga@engineers.com
TYPE PERM #12693

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PROJECT STATUS: IFB

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DIRECTOR
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HOUSTON AIRPORT SYSTEM

Drawing Status
IFB
ISSUE FOR BID

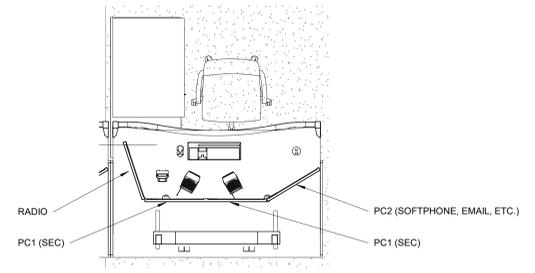


	PROPRIETARY		OPEN SPEC		SPECIFICATION
	CP/OI	OP/OI	CP/OI	OP/OI	
HAS Network Switches	X	X	X	X	272100
Structured Cabling	X	X	X	X	271300, 271500
Motorola Radio Consoles	X	X	X	X	276300
Radio Phone Combiners	X	X	X	X	-
Nice Logger for all Communications	X	X	X	X	276300
HAS Workstations	X	X	X	X	272200
HAS Workstations LED	X	X	X	X	272200
IP Phone	X	X	X	X	272100
Wireless Access Points	X	X	X	X	272100
Integrated Crash Phone	X	X	X	X	272100
Integrated TSA Breach Phone	X	X	X	X	272100
Integrated Elevator Phone	X	X	X	X	272100
Integrated TSA Direct Line	X	X	X	X	272100
Sat Phone	X	X	X	X	276100
Sat Phone, Docking Station, Antenna, Transmission Line	X	X	X	X	
TSA Network Switch	X	X	X	X	
TSA Workstation	X	X	X	X	
TSA Workstations LED	X	X	X	X	
TSA Radio	X	X	X	X	276100
TSA Antenna and Transmission Line	X	X	X	X	
HPD Network Switch	X	X	X	X	
HPD Radio	X	X	X	X	276100
HPD Antenna and Transmission Line	X	X	X	X	
HPD Workstation	X	X	X	X	
HPD Workstations LED	X	X	X	X	DIVISION 26
Floor Boxes, Poke Thrus	X	X	X	X	

A3 RESPONSIBILITY MATRIX - TELECOM NTS

POS SPEC	HAS RADIO CONSOLE	HAS RADIO PC	TSA RADIO	WORKSTATION	SOFTPHONE	SOFTPHONE HEADSET	CRASH / BREACH...	MONITORS
	273600 CP/CI	273600 CP/CI	276100 OP/OI	272200 CP/CI	272100 CP/OI	272100 CP/OI	272100 CP/OI	272200 CP/CI
1	1	1	0	2	1	1	1	4
2	1	1	0	3	1	1	0	4
3	1	1	0	2	1	1	0	4
4	1	1	0	3	1	1	0	4
5	1	1	0	2	1	1	0	4
6	1	1	0	2	1	1	0	4
7	1	1	0	2	1	1	0	4
8	1	1	0	2	1	1	0	4
9	1	1	0	3	1	1	0	4
10	1	1	0	3	1	1	1	4
11	1	1	0	2	1	1	0	4
12	1	1	0	2	1	1	1	4
13	1	1	0	2	1	1	0	4
14	1	1	0	3	1	1	0	4
15	1	1	0	2	1	1	0	4
16	1	1	0	3	1	1	0	4
17	1	1	0	2	1	1	0	4
18	1	1	0	2	1	1	0	4
TOT	18	18	0	42	18	18	3	72

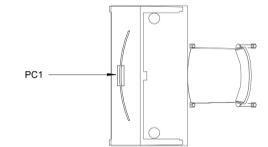
B3 FURNITURE BOM ICC NTS



D3 FURNITURE DETAIL ICC 1/2" = 1'-0"

POS SPEC	POWER	USB	MONITORS	NOTES
	DIV 26 CP/CI	DIV 27 CP/CI	272200 CP/CI	
1	1	1	1	POWER AND USB BY ELECTRICAL
2	1	1	1	POWER AND USB BY ELECTRICAL
3	1	1	1	POWER AND USB BY ELECTRICAL
4	1	1	1	POWER AND USB BY ELECTRICAL
5	1	1	1	POWER AND USB BY ELECTRICAL
6	1	1	1	POWER AND USB BY ELECTRICAL
7	1	1	1	POWER AND USB BY ELECTRICAL
8	1	1	1	POWER AND USB BY ELECTRICAL
9	1	1	1	POWER AND USB BY ELECTRICAL
10	1	1	1	POWER AND USB BY ELECTRICAL
11	1	1	1	POWER AND USB BY ELECTRICAL
12	1	1	1	POWER AND USB BY ELECTRICAL
13	1	1	0	EOC TABLE: POWER AND USB BY ELECTRICAL
TOT	13	13	12	

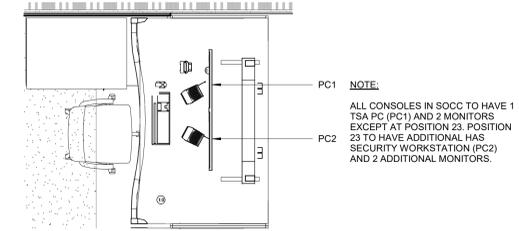
C2 FURNITURE BOM EOC NTS



D2 FURNITURE DETAIL EOC 1/2" = 1'-0"

POS SPEC	HAS RADIO CONSOLE	HAS RADIO PC	TSA RDU.MCD5000 BY TSA	HAS WORKSTATION	TSA WORKSTATION BY TSA	INT TSA BREACH PHONE	TSA VOIP PHONE BY TSA	HAS PHONE	MONITORS 2 PROJECT, 2 TSA	TSA VOIP, OP/OI
	276300 CP/CI	272200 CP/CI	276200 CP/CI	272200 CP/CI	OP/OI	272100 OP/OI (HAS)	OP/OI	272100 OP/OI (HAS)	272200 CP/CI (HAS) OP/OI (TSA)	OP/OI
19	0	0	1	1	1	1	1	1	2	1
20	0	0	0	1	1	0	1	0	2	0
21	0	0	0	1	1	0	1	0	2	0
22	0	0	1	1	1	0	1	0	2	0
23	0	0	0	1	1	0	1	0	4	0
24	0	0	0	1	1	0	1	0	2	0
TOT	0	0	2	6	6	1	6	1	14	1

A1 FURNITURE BOM SOCC NTS



D1 FURNITURE DETAIL SOCC 1/2" = 1'-0"

NOTE:
ALL CONSOLES IN SOCC TO HAVE 1 TSA PC (PC1) AND 2 MONITORS EXCEPT AT POSITION 23. POSITION 23 TO HAVE ADDITIONAL HAS SECURITY WORKSTATION (PC2) AND 2 ADDITIONAL MONITORS.



GENERAL SERVICES FACILITY
4551 WILL CLAYTON PKWY,
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IAH INTEGRATED COORDINATION CENTER

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C.O.H. No. N/A D.O.A. No. N/A
B.S.G. No. 856-2022-257-IAH T.I.P. No. TIP-22-219-IAH



PGA

ENGINEERS, INC.
3820 N. Loop West Houston, TX 77027
Houston, TX
PGAENGINEERS.COM
TYPE: P&ID #10493

DESIGNER PROJECT No.: 2022.013

PROJECT STATUS: IFB

REVISIONS

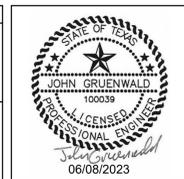
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4	ISSUE FOR BID	06/08/2023	

DESIGN BY: PGA
DRAWN BY: PGA
CHECKED BY: PGA
ISSUE DATE: 06/08/2023
APPROVED BY: RDLR
APPROVAL DATE: 06/08/2023

DIRECTOR
of
HOUSTON AIRPORT SYSTEM

Drawing Status

IFB
ISSUE FOR BID



SHEET NAME: TELECOMMUNICATIONS RADIO ONE LINES

SHEET No. T-701 SCALE: As indicated

SHEET SIZE: 30"x42" ARCH E1

ABBREVIATIONS:

FILTER - BAND PASS FILTER
GG/GA - GROUND-TO-GROUND/ GROUND-TO-AIR
NF - "N" TYPE CONNECTOR, FEMALE
NM - "N" TYPE CONNECTOR, MALE
RDU - REMOTE DESKTOP UNIT
ROIP - RADIO OVER INTERNET PROTOCOL ENCODER
VHF - VERY HIGH FREQUENCY RADIO

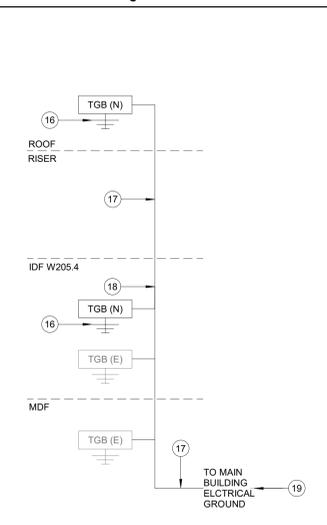
GENERAL SHEET NOTES:

- REFER TO GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS SHEETS FOR ADDITIONAL INFORMATION.
- SCREENED DEVICES DENOTE EXISTING.
- COORDINATE EQUIPMENT INSTALLATION INSIDE IDF ROOMS WITH HAS IT PROJECT MANAGER.
- ALL LOW VOLTAGE CABLING SHALL BE INSTALLED IN ACCORDANCE WITH DIVISION 27 SPECIFICATIONS.

KEY NOTES:

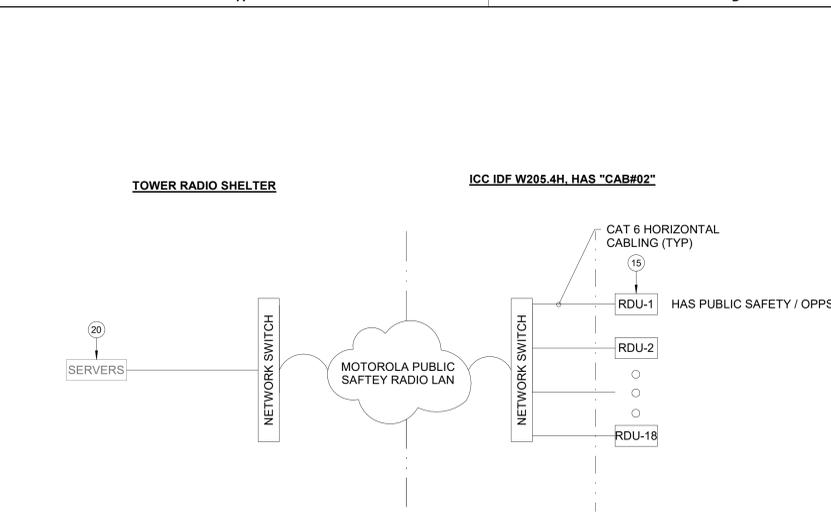
- TSA TRI-BAND ANTENNA, IOAK-DC-ANT-N.
- CAT6 INDOOR OUTDOOR RISER CMR. TERMINATE WITH RJ45 CONNECTORS. OUTDOOR ENDS SHALL BE PROTECTED WITH WEATHERPROOF SEALS.
- SAT ANTENNA, BLUE SKY NETWORK SKYLINK.
- 50 OHM COAXIAL TRANSMISSION LINE. TIMES MICROWAVE LMR-600-FR INDOOR/OUTDOOR RISER CMR. TERMINATE WITH TNC MALE CONNECTORS. BOTH ENDS SHALL BE PROTECTED WITH WEATHERPROOF SEALS. GROUND KIT SHALL BE INSTALLED CLOSE TO ANTENNA AS PRACTICAL.
- 50 OHM COAXIAL TRANSMISSION LINE. TIMES MICROWAVE LMR-600-FR. TRANSMISSION LINES FROM IDF TO ANTENNA FARM. TERMINATE WITH "N" TYPE FEMALE CONNECTOR AT ANTENNA FARM, AND "N" MALE TYPE CONNECTOR IN IDF. ALL UNUSED CABLES SHALL INCLUDE A 50 OHM TERMINATOR ON BOTH ENDS AND WEATHER SEAL TREATMENT AT ANTENNA FARM ON ROOFTOP.
- TELECOMMUNICATIONS GROUNDING BUS BAR.
- GROUND KIT WITH BONDING CONDUCTOR, COMMSCOPE 5G78-12B2U.
- GROUND KIT WITH BONDING CONDUCTOR, COMMSCOPE 5G78-12B2U.
- SURGE PROTECTOR, POLYPHASER IS-B50LN-C2-MA.
- SURGE PROTECTOR, POLYPHASER GT-NFF-AL.
- .200" INNERCONNECT (PLENUM), TIMES MICROWAVE LMR-200-LLPX.
- TSA TRANCEIVER PROVIDED BY TSA.
- TSA RADIO OVER IP GATEWAY, PROVIDED BY PROJECT.
- TSA REMOTE DESKTOP UNIT. PROVIDED BY PROJECT.
- CAT 6 HORIZONTAL CABLING.
- TSA REMOTE DESKTOP UNIT. PROVIDED BY PROJECT.
- BOND TGB TO BUILDING STEEL WITH A #2/0 AWG BONDING CONDUCTOR. BONDING CONDUCTOR TO BE ROUTED THROUGH A 1" CONDUIT. BOND SHALL BE EXOTHERMIC WELD.
- #4/0 BONDING CONDUCTOR IN A 1" CONDUIT. BOND SHALL BE EXOTHERMIC WELD.
- #2/0 BONDING CONDUCTOR IN A 1" CONDUIT. BOND SHALL BE EXOTHERMIC WELD.
- REFERENCE TK AND EP DRAWINGS FOR MORE INFORMATION.
- MOTOROLA RADIOS, SERVERS, ROUTERS, ETC. REFERENCE 276300
- CAT6 SURGE PROTECTOR 1G ETHERNET POLYPHASER IXG05.
- IDU ROIP INDOOR SAT PHONE UNIT.
- OUTDOOR RATED, 50 OHM COAXIAL CABLE JUMPER. SEAL ALL CONNECTIONS WITH WATERPROOF TAPE.
- REMOTE DESKTOP UNIT FOR SAT PHONES.

TELECOMMUNICATION BONDING BACKBONE (TBB)

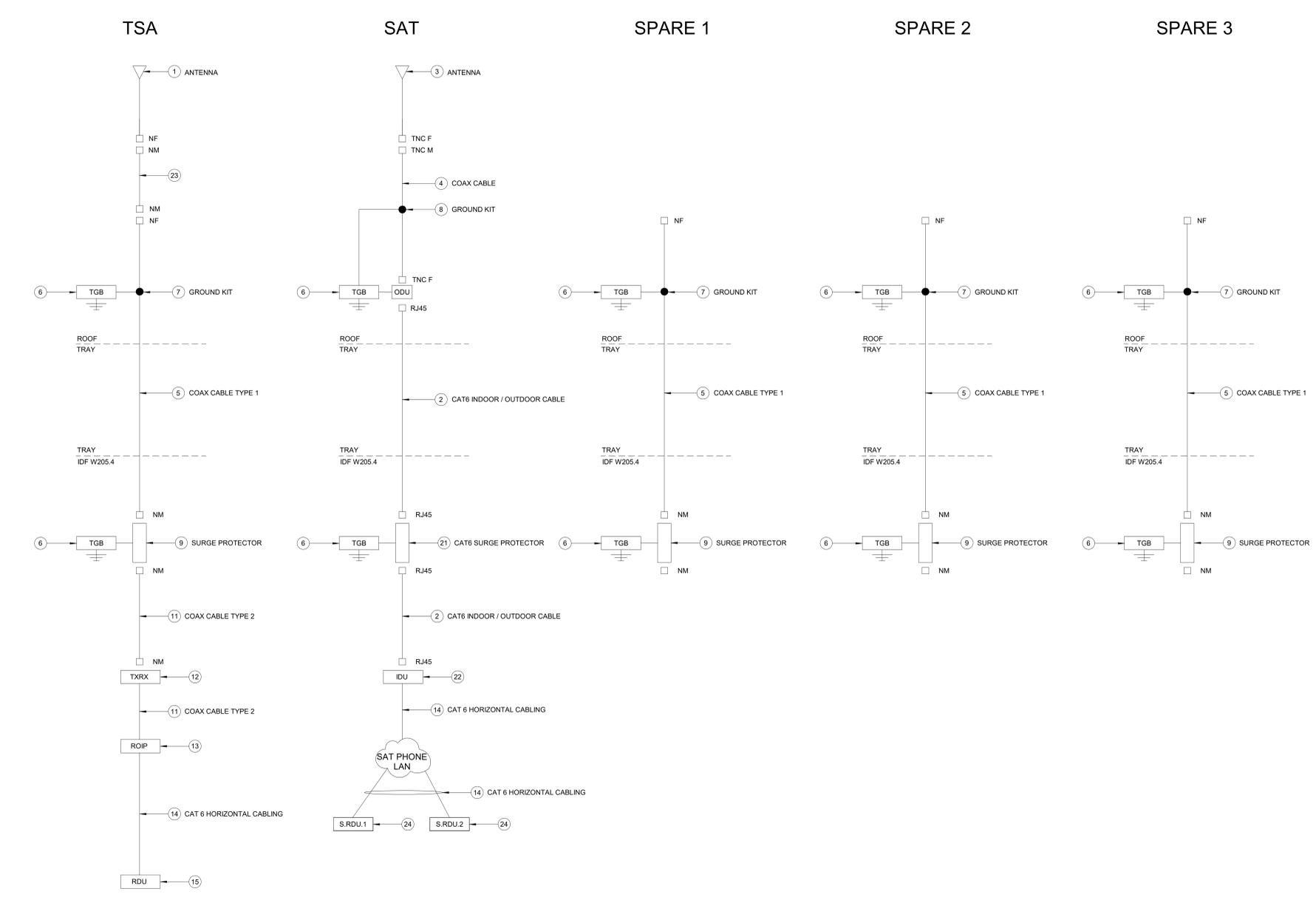


A4 TELECOMMUNICATION BONDING BACKBONE (TBB) NTS

ONE LINE DIAGRAM - HAS PUBLIC SAFETY / OPSS



A4 ONE LINE DIAGRAM - HAS PUBLIC SAFETY / OPSS NTS



A1 INTER CONNECTION DIAGRAM - MDF TO ANTENNA FARM NTS

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DESIGNER PROJECT No.: 2022.013

PROJECT STATUS: IFB

REVISIONS

No.	DESCRIPTION	DATE	BY
	ISSUE FOR PERMIT	10/06/2022	
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CHECKED BY: PGA
ISSUE DATE: 06/08/2023
APPROVED BY: RDLR
APPROVAL DATE: 06/08/2023

DIRECTOR of HOUSTON AIRPORT SYSTEM

Drawing Status: IFB ISSUE FOR BID. Professional Engineer seal for JOHN GRUENWALD, No. 100036, State of Texas, dated 06/08/2023.

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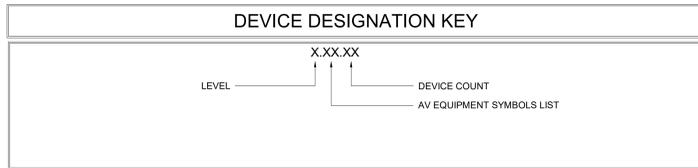
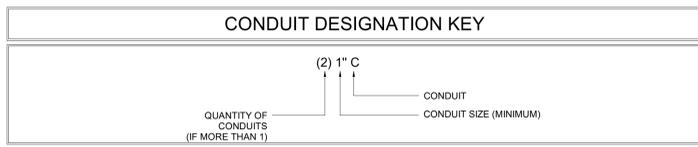
SHEET NAME: AV LEGEND AND NOTES
SHEET No. TA-001 SCALE: 12" = 1'-0"

SHEET SIZE: 30"x42" ARCH E1

SHEET NO.	DESCRIPTION
TA-001	AV LEGEND AND NOTES
TA-211	LEVEL 1 AV PLAN - OVERALL
TA-213	LEVEL 1 AV PLAN - AREA B
TA-214	LEVEL 2 AV PLAN - OVERALL
TA-216	LEVEL 2 AV PLAN - AREA B
TA-401	AUDIO ENLARGED PLAN AT IDF W205.4
TA-402	AUDIO ENLARGED PLAN AT STORAGE 144
TA-411	AV ELEVATIONS
TA-501	AV DETAILS
TA-601	AV SCHEDULES
TA-701	AV ONE LINE DIAGRAM

ROOM NO.	DESCRIPTION
EOC E.	TRAINING ROOM WITH 4 X 2 NARROW BEZEL VIDEO WALL.
EOC W.	LARGE CONFERENCE ROOM WITH 4 X 2 NARROW BEZEL VIDEO WALL.
SOCC	TSA ROOM WITH 2 X 2 FLAT PANEL DISPLAY VIDEO WALL.
ICC	LARGE AREA ROOM WITH THREE FLOOR MOUNTED 4 X 2 NARROW BEZEL VIDEO WALLS.

- ### GENERAL NOTES
- FOLLOW TELECOM STANDARDS AND PRACTICES. SEE DIVISION 27 SPECIFICATIONS AND DRAWINGS.
 - REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) SUPERVISOR SHALL REVIEW, APPROVE AND STAMP ALL SHOP DRAWINGS, COORDINATE DRAWINGS AND RECORD DRAWINGS.
 - ALL WALL PENETRATIONS SHALL BE SEALED WITH APPROVED FIRE STOPPING.
 - REFER TO THE ELECTRICAL FLOOR PLAN DRAWINGS FOR ADDITIONAL ROUGH-IN REQUIREMENTS. WHERE THERE ARE DRAWING DISCREPANCIES, THE CONTRACTOR SHALL INSTALL THE GREATER QUANTITY OF DEVICES.
 - REFER TO THE SITE PLAN ON AND RISER DIAGRAM FOR TELECOMMUNICATION BACKBONE CONDUITS/CABLES. FIELD COORDINATE EXACT ROUTING WITH OTHER TRADES.
 - ALL COMMUNICATIONS EQUIPMENT SHOWN SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE.
 - BOND ALL COMMUNICATIONS CABINETS, RELAY RACKS, CABLE TRAYS, AND OTHER METALLIC SUPPORTING DEVICES TO TELECOMMUNICATIONS GROUND BUSBAR INSIDE COMMUNICATIONS ROOM. BOND WITH A #6 GROUND CONDUCTOR.
 - ALL HORIZONTAL VOICE AND DATA CABLES SHALL BE DISTRIBUTED VIA MINIMUM 1" CONDUIT AND/OR CABLE TRAY. NO EXCEPTIONS.
 - SINGLE LINE DIAGRAMS, SCHEMATICS, DETAILS AND CONDUIT PATHS SHOWN HEREIN ARE CONCEPTUAL AND ILLUSTRATE ONLY THE FUNCTIONAL RELATIONSHIPS BETWEEN COMPONENTS OF THE SYSTEM. ACCORDINGLY, FULL SHOP DRAWING DEVELOPMENT IS REQUIRED TO REALIZE THE SPECIFIED FUNCTIONS.
 - DEVICE LOCATIONS ON PLANS ARE CONCEPTUAL. LOCATE AS SITE CONDITIONS REQUIRE AND AS APPROVED BY GC.
 - REFER TO THE BID SPECIFICATION FOR ADDITIONAL REQUIREMENTS REGARDING THIS WORK.
 - PAINTING, PATCHING AND FINISHES FOR DEVICES LOCATED IN EXISTING AREAS SHALL MATCH EXISTING FINISHES AS APPROVED BY GC.
 - FINISHES OF DEVICES IN NEW/REMODEL AREAS SHALL BE APPROVED BY GC.
 - WORK AND MATERIALS SHALL CONFORM TO THE MOST CURRENT UNIFORM STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION AS FURNISHED BY GC. WORK AND MATERIALS NOT IN CONFORMANCE WITH THESE SPECIFICATIONS AND DETAILS ARE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
 - IN SOME INSTANCES THE IDF MAY BE OVER 90 METERS FROM THE IP DEVICE DUE TO LEGACY DESIGN STANDARDS WHEN THE BUILDING WAS CONSTRUCTED. IF TESTED CABLE DOES NOT PASS CERTIFICATION, CONTRACTOR MUST USE MIDSPAN EXTENDER INSTALLED INSIDE OF ENCLOSURE. REFERENCE DETAIL SHEETS FOR INSTALLATION DIAGRAM.
 - ALL TELECOMMUNICATIONS BACKBONE CONDUIT SHALL HAVE MESH INNER DUCT IN QUANTITIES AS LISTED: 2" - 3 CELL, 4" - (2) 3 CELL



RESPONSIBILITY MATRIX - AV

AUDIO VIDEO EQUIP	AUDIO VIDEO RESPONSIBILITY MATRIX				
	PROPRIETARY OPEN SPEC (BY TRADE)	OWNER PROVIDED BY GC	CP/CL FOR INSTALLED OWNER PROVIDED	CP/CL FOR INSTALLED CONTRACTOR PROVIDED	SPECIFICATION
Wall Mount Flat Panel Displays	X		X		271400
Video Conference Cameras	X		X		271400
ICC/EDC Video Walls	X		X		271400
AV INPUT Workstations	X		X		271400
HAS Workstations LED	X		X		272200
Ceiling Speakers	X		X		271400
Conferencing Microphones	X		X		271400
iPTV (Phonoscope)	X		X		271400

ABBREVIATION

AUDIO		INDUSTRY TERMS	
AA	AUDIO AMPLIFIER	ADA	AMERICANS WITH DISABILITIES ACT
AEC	AUTO ECHO CANCELLATION	AFF	ABOVE FINISHED FLOOR
ALD	ASSISTIVE LISTENING DEVICE	ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
DSP	DIGITAL SOUND PROCESSOR	ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
MIC	MICROPHONE	AVCS	AUDIO VIDEO CONTROL SYSTEM
PA	POWER AMPLIFIER	AVI	AUDIO VISUAL INTEGRATOR
SP	SPEAKER	BIM	BUILDING INFORMATION MODELING
WMS	WIRELESS MICROPHONE SYSTEM	CAD	COMPUTER AIDED DESIGN
VIDEO		CADD	COMPUTER AIDED DESIGN AND DRAFTING
CCTV	CLOSED CIRCUIT TELEVISION	CEA	CONSUMER ELECTRONICS ASSOCIATION
CAM	CAMERA	CEDIA	CUSTOM ELECTRONIC DESIGN AND INSTALLATION ASSOCIATION
CCU	CAMERA CONTROL UNIT	CSI	CONSTRUCTION SPECIFICATIONS INSTITUTE
DA	DISTRIBUTION AMPLIFIER	ISO	INTERNATIONAL ORGANIZATION FOR STANDARDIZATION
EDID	EXTENDED DISPLAY IDENTIFICATION DATA	NCS	NATIONAL CAD STANDARD
FP	FLAT PANEL DISPLAY	NEC	NATIONAL ELECTRIC CODE
HDBT	HDBASET (VIDEO STANDARD)	NEM	NATIONAL EQUIPMENT MANUFACTURER'S ASSOCIATION
HDCP	HIGH-BANDWIDTH DIGITAL CONTENT PROTECTION	NIBS	NATIONAL INSTITUTE OF BUILDING SCIENCES
HDMI	HIGH-DEFINITION MULTIMEDIA INTERFACE	RCP	REFLECTED CEILING PLAN
LEN	CAMERA LENS	SIA	SECURITY INDUSTRY ASSOCIATION
TUN	TUNER	UDS	UNIFORM DRAWING SYSTEM
VS	VIDEO MATRIX SWITCHER	NETWORK	
EQUIPMENT HARDWARE		AVLAN	AUDIO VISUAL LOCAL AREA NETWORK
ANT	ANTENNA	BLAN	BUSINESS LOCAL AREA NETWORK
AVC	A/V EQUIPMENT CABINET	CAT	PHYSICAL LAYER CATEGORY NETWORK CABLE
FBM	FLAT PANEL MOUNT	DANTE	DIGITAL AUDIO NETWORK THROUGH ETHERNET
IDF	INTERMEDIATE DISTRIBUTION FRAME	LAN	LOCAL AREA NETWORK
LEC	LECTERN	POE	POWER OVER ETHERNET
PMT	PROJECTOR MOUNT	VLAN	VIRTUAL LOCAL AREA NETWORK
RU	RACK UNIT (1.75") OF VERTICAL SPACE IN AN AV RACK	VOIP	VOICE OVER INTERNET PROTOCOL
UPS	UNINTERRUPTIBLE POWER SUPPLY	WAN	WIDE AREA NETWORK
WRK	WALL RACK		

COMMON WIRE TYPES

TYPE	PART #	PLENUM	CONDUCTOR COUNT	SHIELD	WIRE GAUGE	NOTES
MIC/LINE	BELDEN 8428	NO	2	1	18	
MIC/LINE	BELDEN 8412P	YES	2	1	20	
SPEAKER	BELDEN 5200UE	NO	2	0	16	
SPEAKER	BELDEN 6000UE	YES	2	0	12	
CATEGORY	BELDEN 7883A	NO	8	0	24	PATCH CABLE
CATEGORY	BELDEN 2413	YES	8	0	23	2400
CATEGORY	BELDEN 4813	YES	8	0	23	4800
CATEGORY	BELDEN 7953A	NO	8	1	23	SHIELDED
M. FIBER	CORNING 024T88-33190-D3	YES	24	N/A	50 µM	(OM4)
S. FIBER	CORNING 024E88-33131-D3	YES	24	N/A	8.2 µM	(OS2)

AV EQUIPMENT SYMBOLS LIST

SYMBOL	TYPE
AA	AUDIO AMPLIFIER
ANT	WIRELESS VIDEO ANTENNA
AV1	AV FLOORBOX TYPE 1
AV2	AV FLOORBOX TYPE 2
AV	AUDIO VIDEO JACK: HDMI / DISPLAYPORT
AVC	AV CABINET
CC	CABLE CUBBY TYPE 1
CM	CEILING MICROPHONE
CP	CONTROL PROCESSOR
DSP	DIGITAL SIGNAL PROCESSOR
FP1	FLAT PANEL DISPLAY TYPE 1
FP2	FLAT PANEL DISPLAY TYPE 2
MIC	MICROPHONE
MS	MOTORIZED SCREEN
OP	OVERHEAD PROJECTOR
RS	ROOM SCHEDULER
SP1	CEILING SPEAKER TYPE 1
TP1	TOUCH PANEL TYPE 1
VC	VIDEO CONFERENCE CAMERA
VCB	VIDEO CONFERENCE A/V BRIDGE
VS	VIDEO SWITCHER MATRIX
VR	VIDEO RECEIVER
VT	VIDEO TRANSMITTER
VW	VIDEO WALL
WKM	WIRELESS KEYBOARD / MOUSE
PC1	TYPE 1 PC
PC2	TYPE 2 PC
UTX	USB EXTENDER
ENC	VIDEO OVER IP ENCODER
STB	DTV. SET TOP BOX
VCC	VIDEO CONFERENCING CODEC
QSC	PA MICROPHONE STATION

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B.S.G. No. 85G-2022-257-IAH T.I.P. No. TIP-22-219-IAH



DESIGNER PROJECT No.: 2022.013
PROJECT STATUS: IFB

REVISIONS

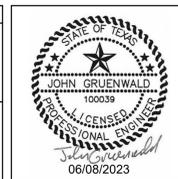
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DESIGN BY: PGA
DRAWN BY: PGA
CHECKED BY: PGA
ISSUE DATE: 06/08/2023
APPROVED BY: RDLR
APPROVAL DATE: 06/08/2023

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Drawing Status

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ISSUE FOR BID

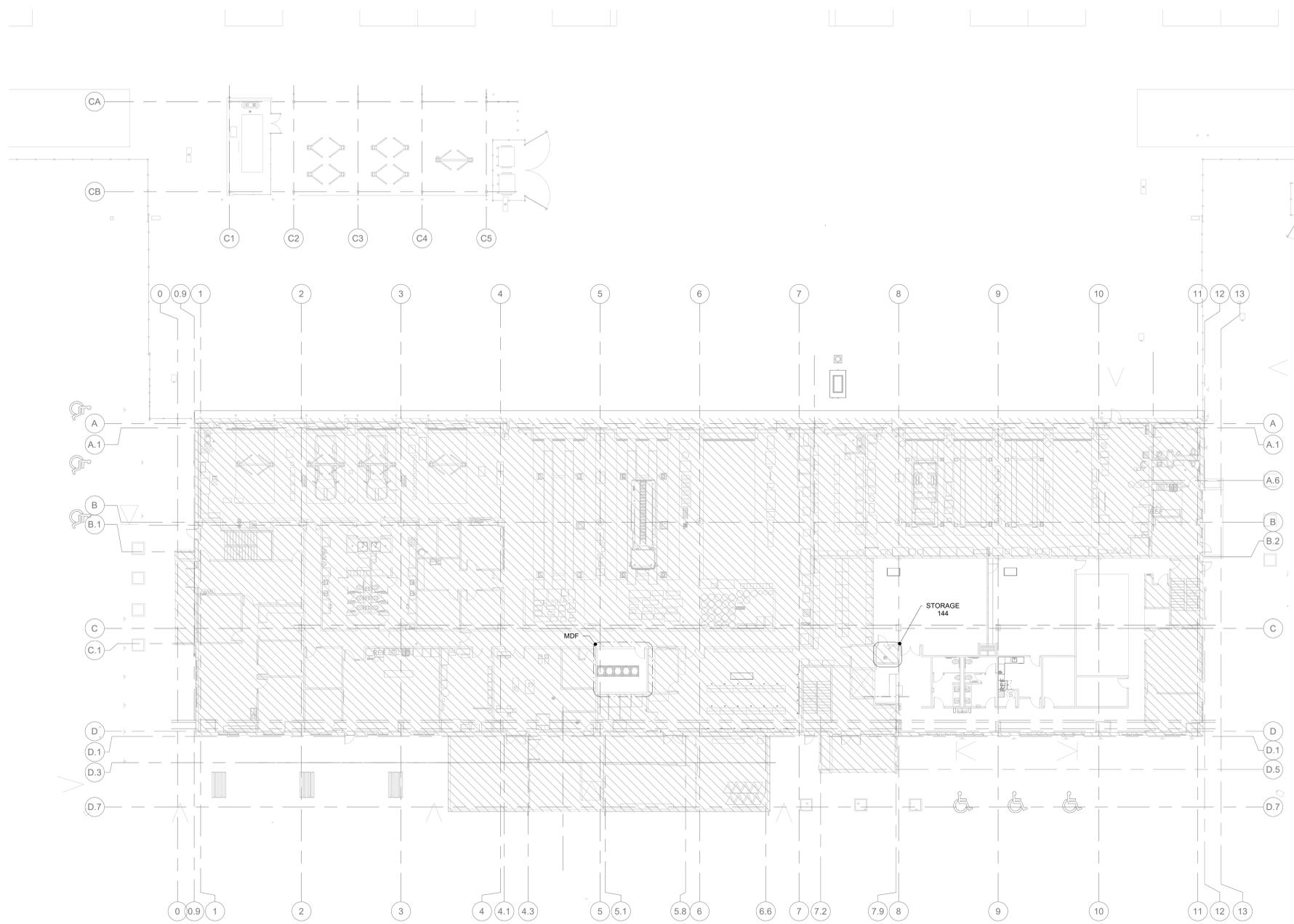


SHEET NAME: LEVEL 1 AV PLAN - OVERALL

SHEET No. TA-211 SCALE: 1/16" = 1'-0"

SHEET SIZE: 30"x42" ARCH E1

- GENERAL SHEET NOTES:**
- REFER TO GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS SHEETS FOR ADDITIONAL INFORMATION.
 - SCREENED DEVICES DENOTE EXISTING.



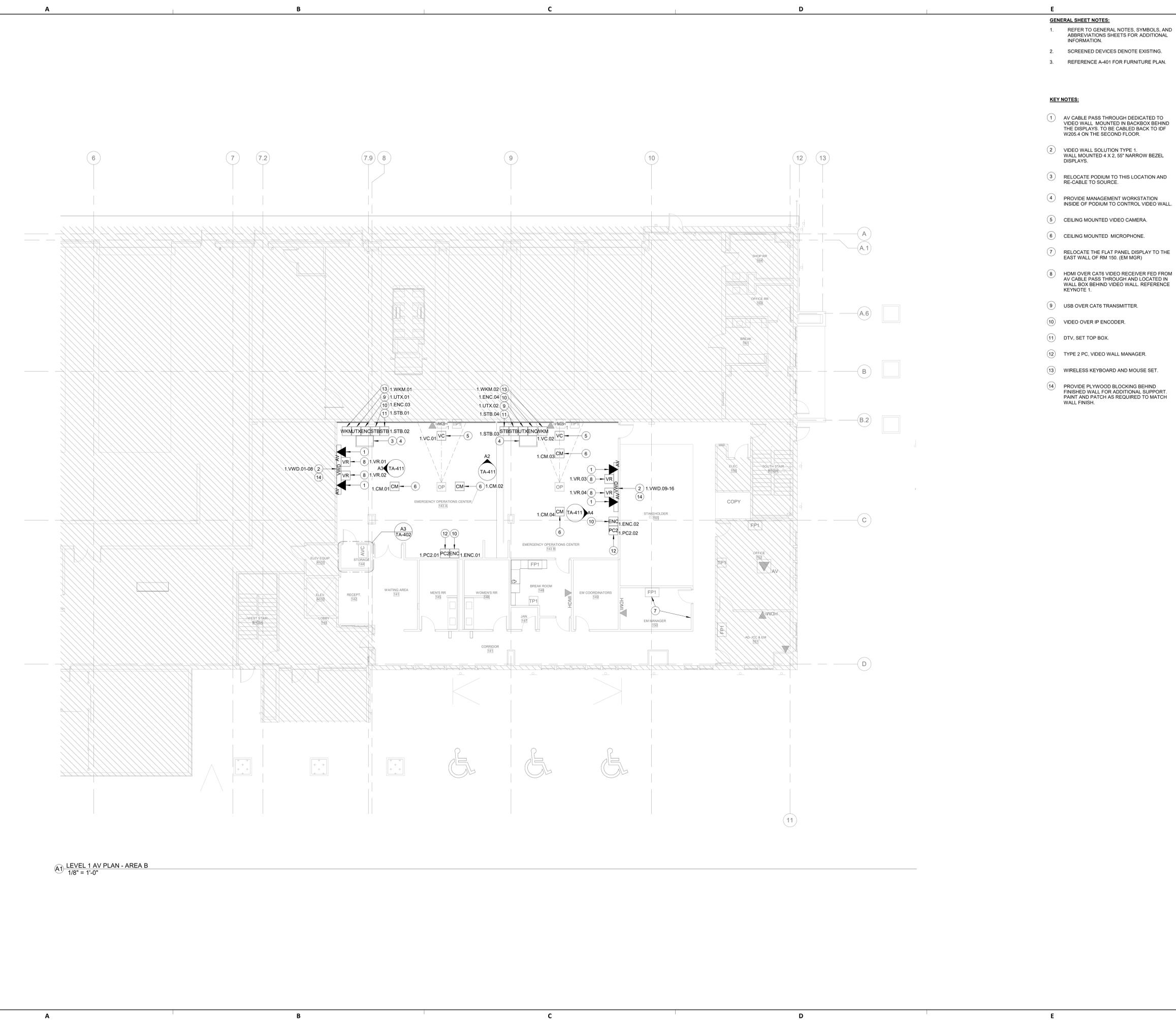
A1 LEVEL 1 AV PLAN - OVERALL
1/16" = 1'-0"

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 OLD DOA No. :
 PLOT DATE:

FILE PATH: Autodesk Docs://1425.13 IAH ICC/ICC - T & TR.rvt

HAS FILE:



(A) LEVEL 1 AV PLAN - AREA B
 1/8" = 1'-0"

- GENERAL SHEET NOTES:**
- REFER TO GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS SHEETS FOR ADDITIONAL INFORMATION.
 - SCREENED DEVICES DENOTE EXISTING.
 - REFERENCE A-401 FOR FURNITURE PLAN.
- KEY NOTES:**
- AV CABLE PASS THROUGH DEDICATED TO VIDEO WALL. MOUNTED IN BACKBOX BEHIND THE DISPLAYS. TO BE CABLED BACK TO IDF W205.4 ON THE SECOND FLOOR.
 - VIDEO WALL SOLUTION TYPE 1: WALL MOUNTED 4' X 2.55" NARROW BEZEL DISPLAYS.
 - RELOCATE PODIUM TO THIS LOCATION AND RE-CABLE TO SOURCE.
 - PROVIDE MANAGEMENT WORKSTATION INSIDE OF PODIUM TO CONTROL VIDEO WALL.
 - CEILING MOUNTED VIDEO CAMERA.
 - CEILING MOUNTED MICROPHONE.
 - RELOCATE THE FLAT PANEL DISPLAY TO THE EAST WALL OF RM 150. (EM MGR)
 - HDMI OVER CAT6 VIDEO RECEIVER FED FROM AV CABLE PASS THROUGH AND LOCATED IN WALL BOX BEHIND VIDEO WALL. REFERENCE KEYNOTE 1.
 - USB OVER CAT6 TRANSMITTER.
 - VIDEO OVER IP ENCODER.
 - DTV, SET TOP BOX.
 - TYPE 2 PC, VIDEO WALL MANAGER.
 - WIRELESS KEYBOARD AND MOUSE SET.
 - PROVIDE PLYWOOD BLOCKING BEHIND FINISHED WALL FOR ADDITIONAL SUPPORT. PAINT AND PATCH AS REQUIRED TO MATCH WALL FINISH.



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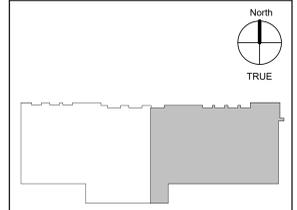
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 DRAWN BY: PGA
 CHECKED BY: PGA
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 APPROVED BY: RDLR
 APPROVAL DATE: 06/08/2023

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Drawing Status: IFB
 ISSUE FOR BID



SHEET NAME: LEVEL 1 AV PLAN - AREA B
 SHEET No. TA-213 SCALE: 1/8" = 1'-0"
 SHEET SIZE: 30"x42" ARCH E1

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- GENERAL SHEET NOTES:**
1. REFER TO GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS SHEETS FOR ADDITIONAL INFORMATION.
 2. SCREENED DEVICES DENOTE EXISTING.



GENERAL SERVICES FACILITY
 4551 WILL CLAYTON PKWY,
 HUMBLE, TEXAS 77396

IAH INTEGRATED COORDINATION CENTER

C.I.P. No. **PN793** A.I.P. No. **N/A**
 C.G.H. No. **N/A** D.O.A. No. **N/A**
 B.S.G. No. **85G-2022-257-IAH** T.I.P. No. **TIP-22-219-IAH**



DESIGNER PROJECT No.: **2022.013**
 PROJECT STATUS: **IFB**

REVISIONS

No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
2	PERMIT COMMENTS 1	10/26/2022	
3	PERMIT COMMENTS 2	11/11/2022	
4	ISSUE FOR BID & CONSTRUCTION	05/05/2023	
5	ISSUE FOR BID	06/08/2023	

DESIGN BY: **PGA**
 DRAWN BY: **PGA**
 CHECKED BY: **PGA**
 ISSUE DATE: **06/08/2023**
 APPROVED BY: **RDRL**
 APPROVAL DATE: **06/08/2023**

DIRECTOR
 of
HOUSTON AIRPORT SYSTEM

Drawing Status

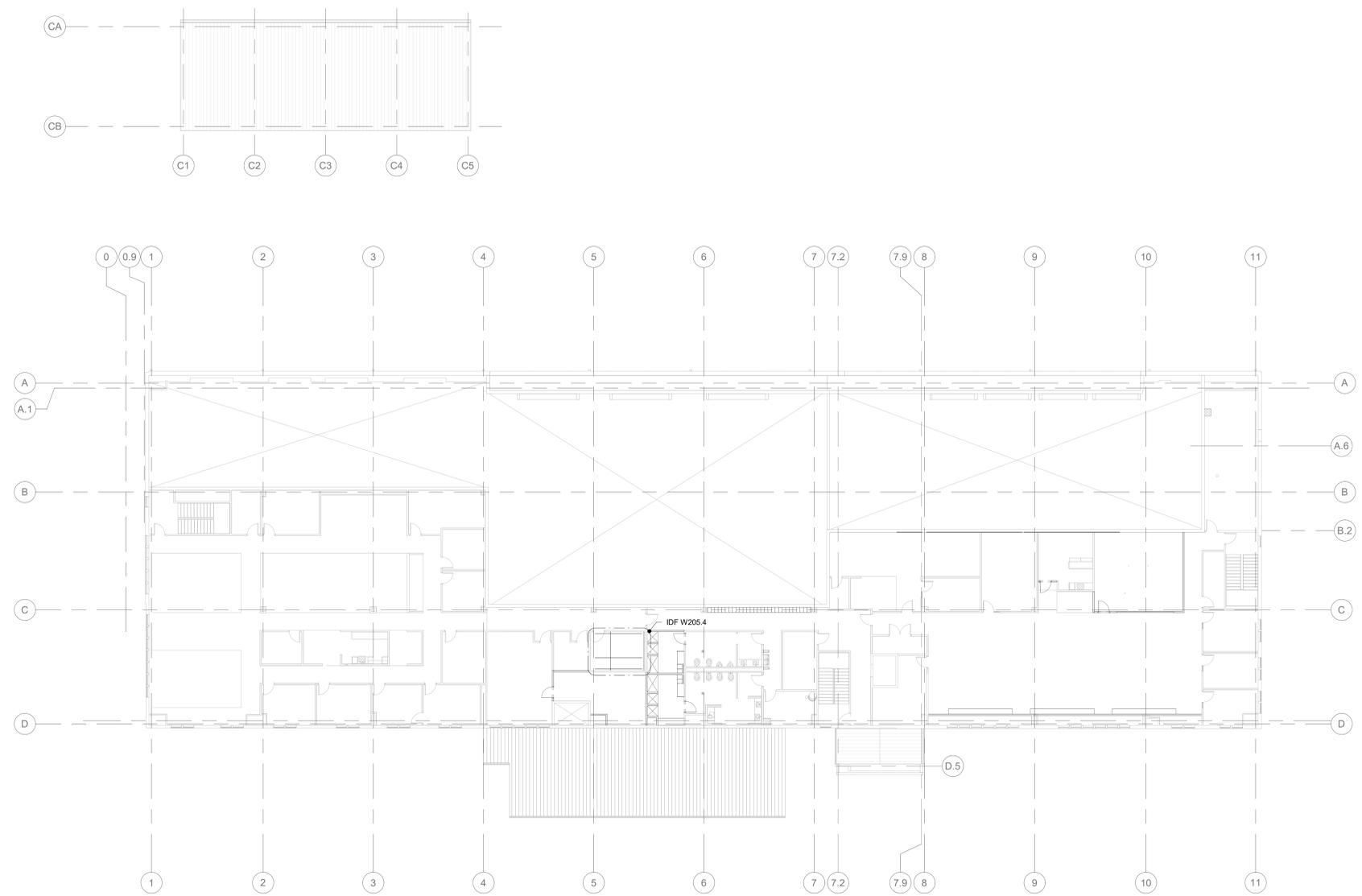
IFB
 ISSUE FOR BID



SHEET NAME: **LEVEL 2 AV PLAN - OVERALL**

SHEET No. **TA-214** SCALE: **1/16" = 1'-0"**

SHEET SIZE: **30"x42" ARCH E1**



A1) LEVEL 2 AV PLAN - OVERALL
 1/16" = 1'-0"



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B.S.G. No. **856-2022-257-IAH** T.I.P. No. **TIP-22-219-IAH**



DESIGNER PROJECT No.: **2022.013**
PROJECT STATUS: **IFB**

REVISIONS

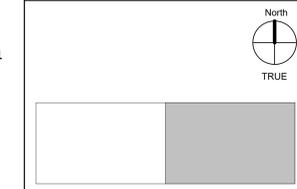
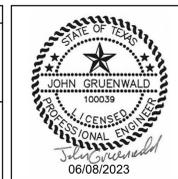
No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
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DESIGN BY: **PGA**
DRAWN BY: **PGA**
CHECKED BY: **PGA**
ISSUE DATE: **06/08/2023**
APPROVED BY: **RDLR**
APPROVAL DATE: **06/08/2023**

DIRECTOR
of
HOUSTON AIRPORT SYSTEM

Drawing Status

IFB
ISSUE FOR BID

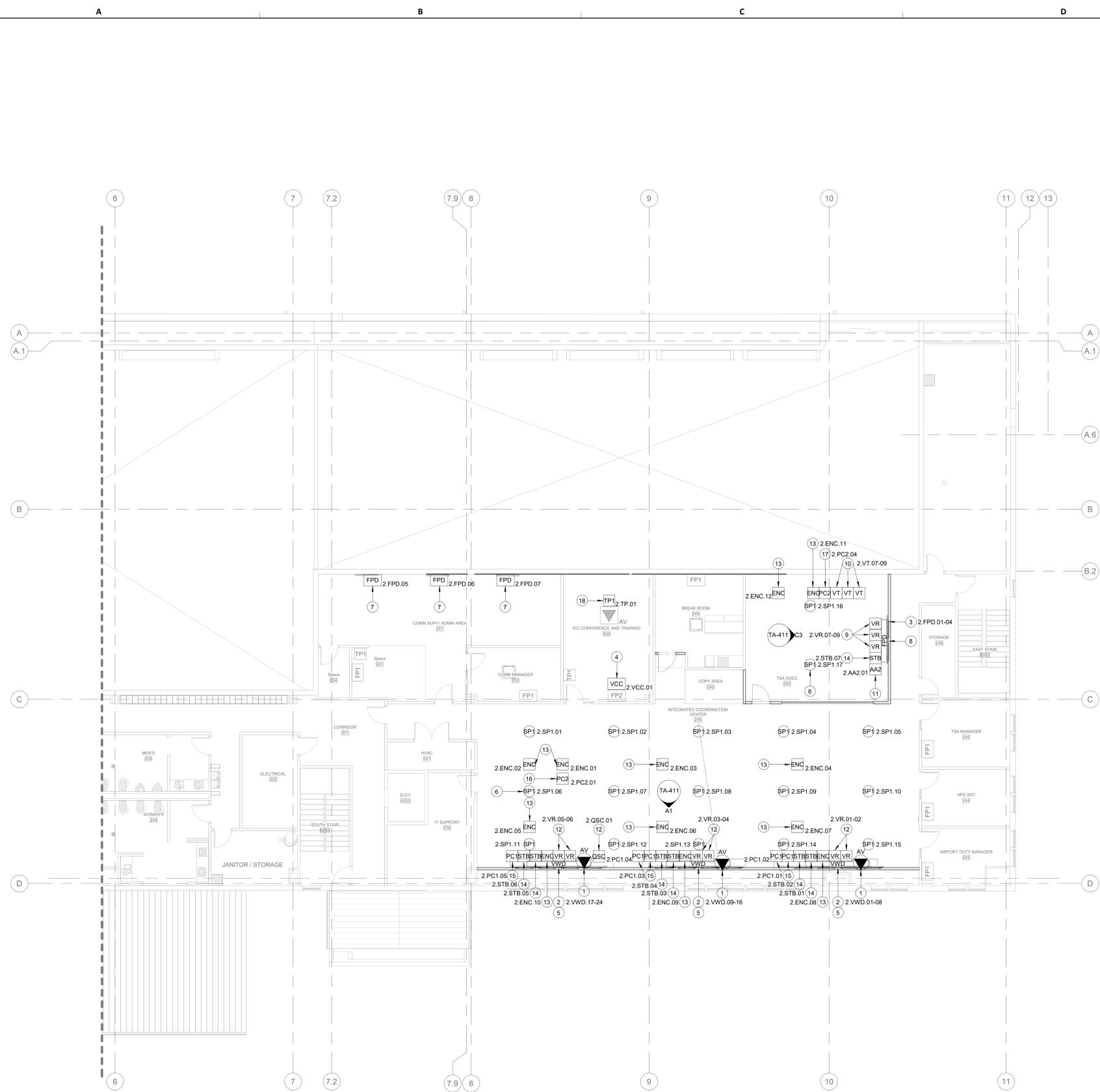


SHEET NAME: **LEVEL 2 AV PLAN - AREA B**

SHEET No. **TA-216** SCALE: **1/8" = 1'-0"**

SHEET SIZE: **30"x42" ARCH E1**

- GENERAL SHEET NOTES:**
- REFER TO GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS SHEETS FOR ADDITIONAL INFORMATION.
 - SCREENED DEVICES DENOTE EXISTING J INSIDE IDF ROOMS WITH HAS IT PROJECT MANAGER.
 - ALL LOW VOLTAGE CABLING SHALL BE INSTALLED IN ACCORDANCE WITH DIVISION 27 SPECIFICATIONS.
 - REFERENCE A-421 FOR FURNITURE PLAN
- KEY NOTES:**
- REFERENCE T-216B FOR DATA CABLING TO SUPPORT AV DEVICES. REFERENCE ELECTRICAL FOR POWER.
 - VIDEO WALL SOLUTION TYPE. WALL MOUNTED 4 X 2. 55" NARROW BEZEL DISPLAYS.
 - VIDEO WALL SOLUTION TYPE 2. WALL MOUNTED 2 X 2. 55" FLAT PANEL DISPLAYS. DISPLAYS 1, 3, & 4 DEDICATED TO SECURITY PC. DISPLAY 2 GETS SET TOP BOX.
 - ALL IN ONE VIDEO CONFERENCING BAR.
 - PROVIDE PLYWOOD BLOCKING BEHIND FINISHED WALL FOR ADDITIONAL SUPPORT. PAINT AND PATCH AS REQUIRED TO MATCH WALL FINISH.
 - CEILING MOUNTED 70 VOLT SPEAKER.
 - 55" FLAT PANEL DISPLAY.
 - AV BACKBOX. CHIEF PAC 526. REFERENCE B3TA-501.
 - HDMI OVER CAT6 VIDEO RECEIVER
 - HDMI OVER CAT6 VIDEO TRANSMITTER
 - SMALL FORM FACTOR 70V AMPLIFIER.
 - TERMINAL PA MICROPHONE PAGING STATION. TO BE INTERGRATED WITH IAH CORE Q-SYS NETWORK. REFERENCE T-DRAWINGS.
 - VIDEO OVER IP ENCODER.
 - DTV, SET TOP BOX.
 - TYPE 1 PC.
 - TYPE 2 PC. VIDEO WALL MANAGER.
 - TYPE 2 PC. TSA SECURITY.
 - VIDEO CONFERENCING BAR TOUCH PANEL



A) LEVEL 2 - AV PLAN - AREA B
1/8" = 1'-0"

PLOT DATE: 6/7/2023 5:15:31 PM
DOA DWG FILE:
OLD DOA No. :
PLOT DATE:

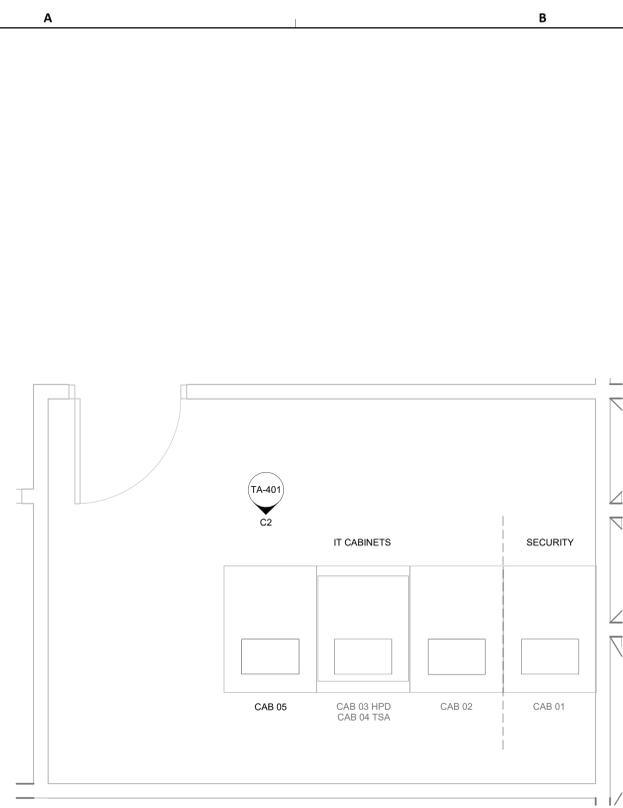
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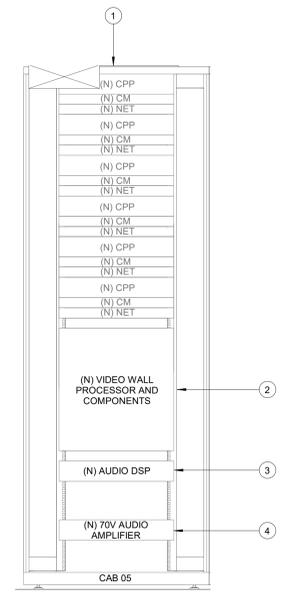
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 OLD DOA No. :
 PLOT DATE:

FILE PATH: Autodesk Docs://1425.13 IAH ICC/ICC - T & Ty.rvt

HAS FILE:



A2 ENLARGED PLAN AT IDF W205.4
 1/2" = 1'-0"



C2 RACK ELEVATION AT IDF W205.4
 1" = 1'-0"

- GENERAL SHEET NOTES:**
- REFER TO GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS SHEETS FOR ADDITIONAL INFORMATION.
 - SCREENED DEVICES DENOTE EXISTING OR DEVICES FROM ANOTHER DISCIPLINE. (E) DENOTE EXISTING. (N) DENOTE NEW. (OF) DENOTE OWNER FURNISHED.
 - COORDINATE EQUIPMENT INSTALLATION INSIDE IDF ROOMS WITH HAS IT PROJECT MANAGER.
 - ALL LOW VOLTAGE CABLING SHALL BE INSTALLED IN ACCORDANCE WITH DIVISION 27 SPECIFICATIONS.

- KEY NOTES:**
- STANDARD NETWORK CABINET.
 - SPACE RESERVED FOR VIDEO WALL PROCESSOR AND COMPONENTS. CONTRACTOR TO SUBMIT SHOP DRAWINGS WITH BILL OF MATERIAL FOR APPROVAL PRIOR TO INSTALLATION.
 - AUDIO MATRIX DSP.
 - 70V AMPLIFIER.



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 B.S.G. No. **85G-2022-257-IAH** T.I.P. No. **TIP-22-219-IAH**



DESIGNER PROJECT No.: **2022.013**
 PROJECT STATUS: **IFB**

REVISIONS

No.	DESCRIPTION	DATE	BY
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4	ISSUE FOR BID	06/08/2023	

DESIGN BY: **PGA**
 DRAWN BY: **PGA**
 CHECKED BY: **PGA**
 ISSUE DATE: **06/08/2023**
 APPROVED BY: **RDRL**
 APPROVAL DATE: **06/08/2023**

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Drawing Status: **IFB**
 ISSUE FOR BID



SHEET NAME:
AUDIO ENLARGED PLAN AT IDF W205.4

SHEET No. **TA-401** SCALE: **As indicated**

SHEET SIZE: 30"x42" ARCH E1



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DESIGNER PROJECT No.: **2022.013**
PROJECT STATUS: **IFB**

REVISIONS

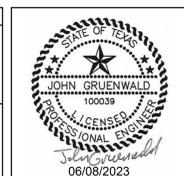
No.	DESCRIPTION	DATE	BY
	ISSUE FOR PERMIT	10/06/2022	
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APPROVED BY: **RDLR**
APPROVAL DATE: **06/08/2023**

DIRECTOR
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Drawing Status

IFB
ISSUE FOR BID



SHEET NAME:
AUDIO ENLARGED PLAN AT STORAGE 144

SHEET No. **TA-402** SCALE: **As indicated**

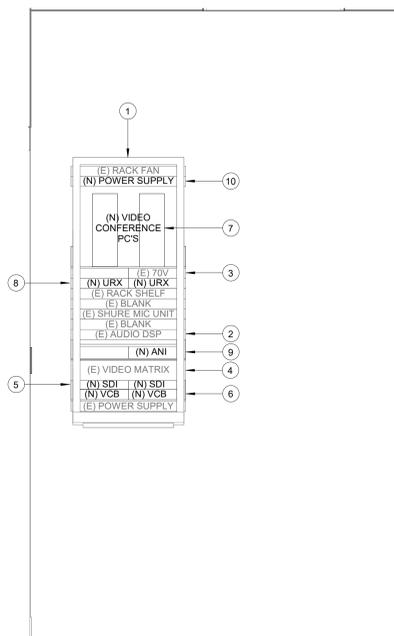
SHEET SIZE: **30"x42" ARCH E1**

GENERAL SHEET NOTES:

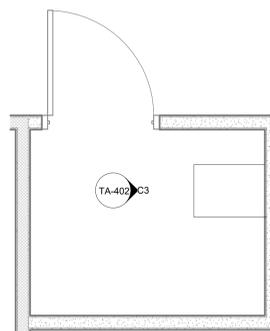
- REFER TO GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS SHEETS FOR ADDITIONAL INFORMATION.
- SCREENED DEVICES DENOTE EXISTING OR DEVICES FROM ANOTHER DISCIPLINE. (E) DENOTE EXISTING. (N) DENOTE NEW. (OF) DENOTE OWNER FURNISHED.
- COORDINATE EQUIPMENT INSTALLATION INSIDE IDF ROOMS WITH HAS IT PROJECT MANAGER.
- ALL LOW VOLTAGE CABLING SHALL BE INSTALLED IN ACCORDANCE WITH DIVISION 27 SPECIFICATIONS.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INTEGRATE THE EXISTING CONTROL SYSTEM AND DSP WITH THE ADDITIONS TO THE EOC FOR VIDEO CONFERENCING.

KEY NOTES:

- 24 RU AV WALL RACK. (E)
- AUDIO MATRIX DSP. (E)
- 70V AMPLIFIER. (E)
- VIDEO MATRIX SWITCHER. (E)
- SDI TO HDMI MEDIA CONVERTER.
- VIDEO CONFERENCE BRIDGE.
- VIDEO CONFERENCE PC'S.
- USB EXTENDER RECEIVER.
- DANTE AUDIO NETWORK INTERFACE.
- HORIZONTAL POWER SUPPLY.



C3 RACK ELEVATION AT STORAGE 144
1" = 1'-0"



A3 ENLARGED AUDIO PLAN AT STORAGE 144
1/2" = 1'-0"

FILE PATH: Autodesk Docs://1429.13 IAH ICC/ICC - T & Ty.txt

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DOA DWG FILE:
OLD DOA No. :
PLOT DATE:



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C.G.H. No. N/A D.O.A. No. N/A
B.S.G. No. 85G-2022-257-IAH T.I.P. No. TIP-22-219-IAH



PGA

ENGINEERS, INC
3820 N. Sam Houston Pkwy. E., Ste. 800
Houston, TX 77062
866.812.2818
pgaengineers.com
TYPE: P&ID #12493

DESIGNER PROJECT No.: 2022.013
PROJECT STATUS: IFB

REVISIONS

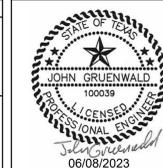
No.	DESCRIPTION	DATE	BY
	ISSUE FOR PERMIT	10/06/2022	
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DESIGN BY: PGA
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ISSUE DATE: 06/08/2023
APPROVED BY: RDRL
APPROVAL DATE: 06/08/2023

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ISSUE FOR BID



SHEET NAME: AV ELEVATIONS

SHEET No. TA-411 SCALE: 3/8" = 1'-0"

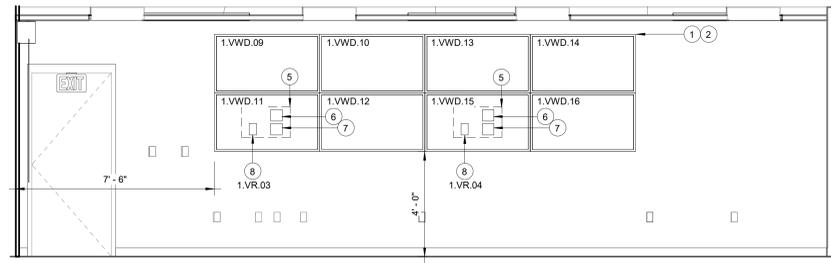
SHEET SIZE: 30"x42" ARCH E1

GENERAL SHEET NOTES:

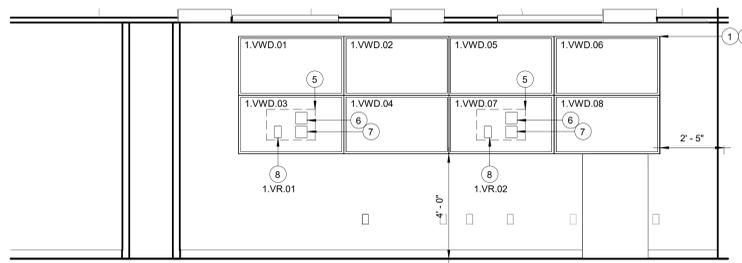
- REFER TO GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS SHEETS FOR ADDITIONAL INFORMATION.
- SCREENED DEVICES DENOTE EXISTING.
- COORDINATE EQUIPMENT INSTALLATION INSIDE IDF ROOMS WITH HAS IT PROJECT MANAGER.
- ALL LOW VOLTAGE CABLING SHALL BE INSTALLED IN ACCORDANCE WITH DIVISION 27 SPECIFICATIONS.

KEY NOTES:

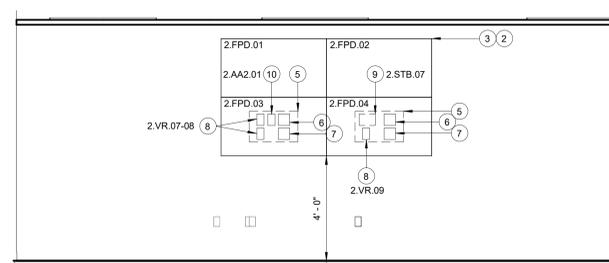
- VIDEO WALL SOLUTION TYPE 1. WALL MOUNTED 4 X 2, 55" NARROW BEZEL DISPLAYS.
- PROVIDE PLYWOOD BLOCKING BEHIND FINISHED WALL FOR ADDITIONAL SUPPORT. PAINT AND PATCH AS REQUIRED TO MATCH WALL FINISH.
- VIDEO WALL SOLUTION TYPE 2. WALL MOUNTED 2 X 2, 55" NARROW BEZEL DISPLAYS.
- CEILING MOUNTED PTZ VIDEO CONFERENCE CAMERA.
- AV WALL BACK BOX. CHIEF 526. REFERENCE B3/TA-501
- QUAD DATA RECEPTACLE. REFERENCE T DRAWINGS.
- QUAD POWER RECEPTACLE. REFERENCE E DRAWINGS.
- VIDEO OVER CAT6 RECEIVER.
- DTV. SET TOP BOX CONNECTED TO TOP RIGHT DISPLAY. REFERENCE TA-701.
- TYPE 2 70V AUDIO AMPLIFIER.



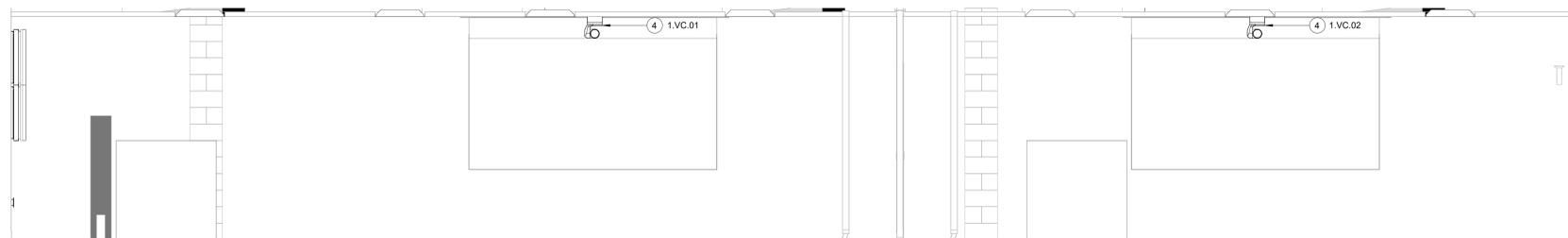
A4 EOC EAST VIDEO WALL
3/8" = 1'-0"



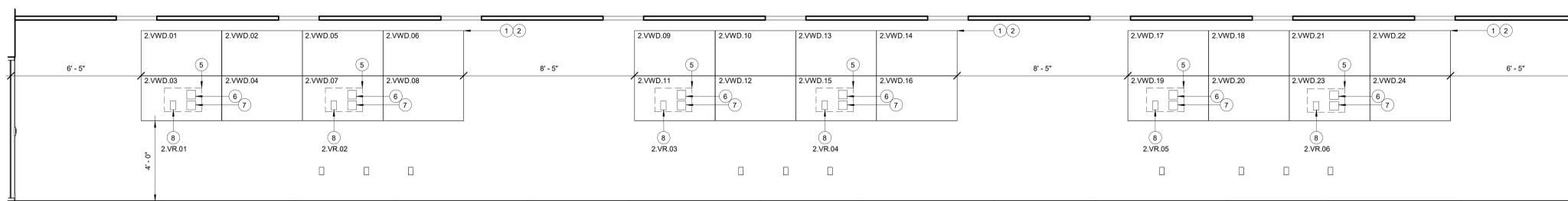
A3 EOC WEST VIDEO WALL
3/8" = 1'-0"



C3 SOCC VIDEO WALL
3/8" = 1'-0"



A2 EOC NORTH WALL
3/8" = 1'-0"



A1 ICC VIDEO WALL
3/8" = 1'-0"

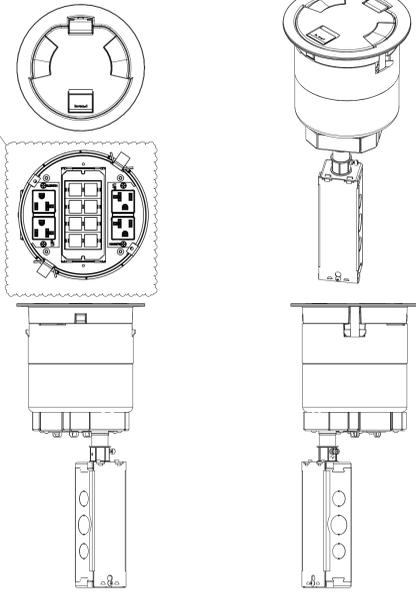
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OLD DOA No. :
PLOT DATE:

DETAIL NOTES:

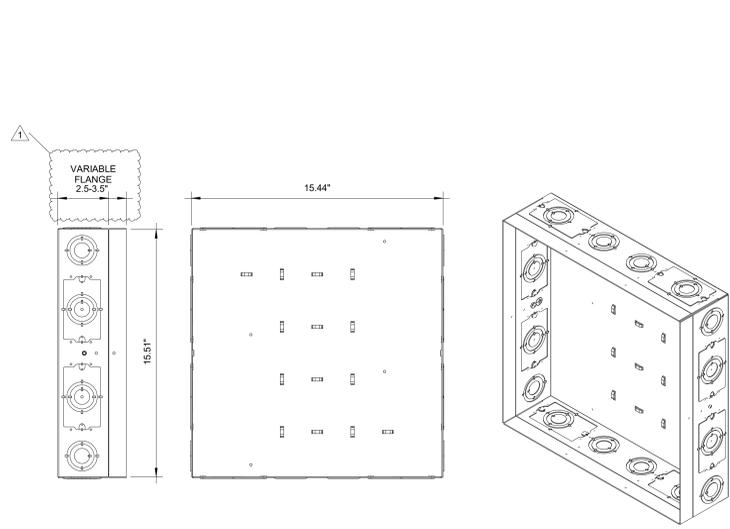
1. REFERENCE FLOOR PLANS FOR REQUIRED FLOOR CONNECTIONS.
2. COORDINATE COVER AND FINISH WITH ARCHITECT.
3. DATA BY TELECOM (DIV. 27), POWER BY ELECTRICAL (DIV. 26)
4. POKE THROUGH TO SUPPORT UP TO 6 CAT6 FOR ICC CONSOLES (EACH CONSOLE TO GET 6 CAT6) AND TWO DEDICATED ELECTRICAL CIRCUITS PER CONSOLE
5. LEGRAND 85TOP POKE THRU WITH 6ACT8A DATA INSERT PLATE. SUBMIT PRODUCT DATA FOR APPROVAL PRIOR TO PROCUREMENT AND INSTALLATION.



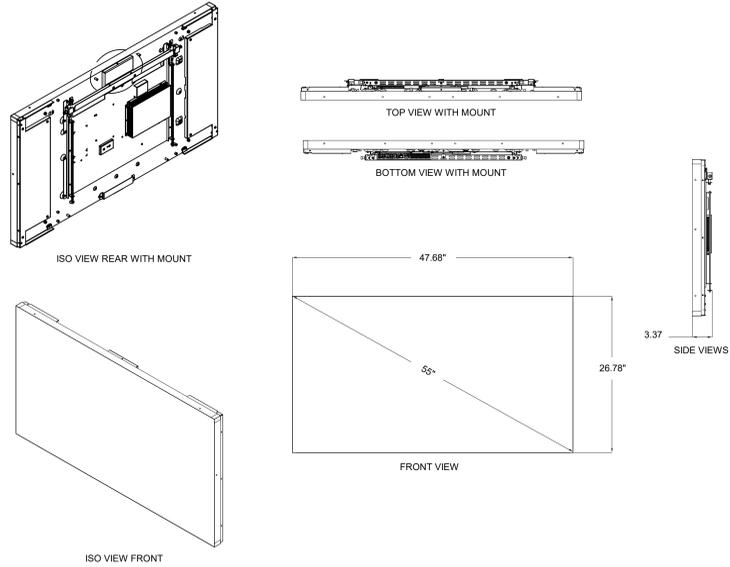
A3 POKE THRU
NTS

DETAIL NOTES:

1. REFERENCE FLOOR PLANS FOR REQUIRED WALL BOX CONNECTIONS.
2. COORDINATE COVER AND FINISH WITH ARCHITECT.
3. AV DEVICES BY AUDIO VIDEO SYSTEMS (DIV. 27), DATA BY TELECOM (DIV. 27), POWER BY ELECTRICAL (DIV. 26)
4. SUBMIT PRODUCT DATA FOR APPROVAL PRIOR TO PROCUREMENT AND INSTALLATION.



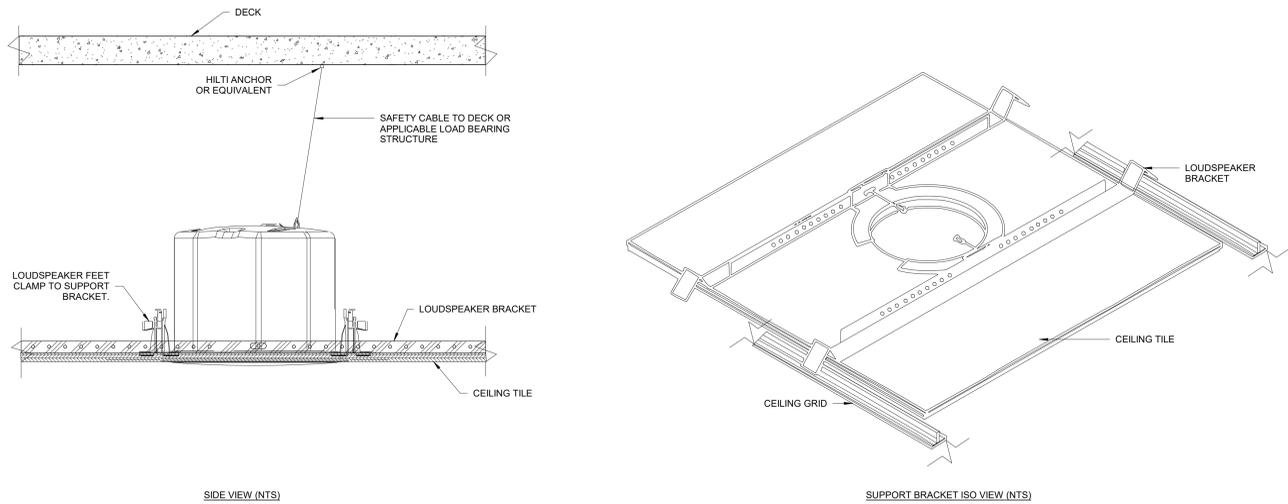
B3 DETAILS - WALL BOX
NTS



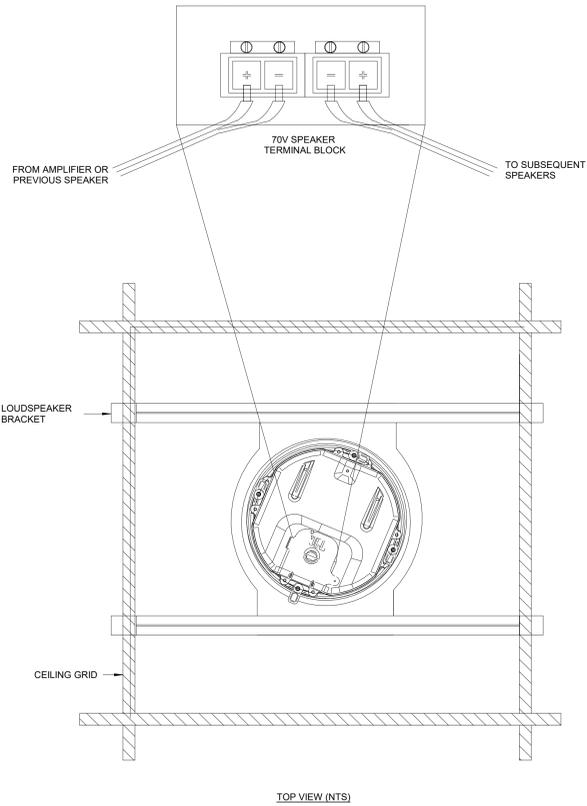
D3 VIDEO WALL MOUNT PANEL
NTS

DETAIL NOTES:

1. CUT CEILING TILE. PROVIDED BY OTHERS. USING THE TEMPLATE PROVIDED WITH SPEAKER.
2. DAISY CHAIN 70V SPEAKERS FROM THE AMPLIFIER TO TO EACH SPEAKER USING 18 GAUGE PLENUM RATED WIRE.
3. REMOVABLE LOCKING CONNECTOR IS PROVIDED WITH THE SPEAKER. PEEL BACK SPEAKER WIRE INSULATION 3/16 INCH. USE APPROPRIATE CRIMP TOOL FOR TERMINATING CABLE ENDS WITH FERRULES. INSERT WIRES AND TIGHTEN HOLD DOWN SCREW WITH FLATHEAD SCREWDRIVER BEFORE INSERTING INTO THE SPEAKER'S TERMINAL CUP.
4. TIGHTEN THE STRAIN RELIEF FITTING AND CLOSE TERMINAL COVER.



A1 DETAILS - CEILING MOUNT SPEAKER
NTS



TOP VIEW (NTS)



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C.O.H. No.	N/A	D.O.A. No.	N/A
B.S.G. No.	85G-2022-257-IAH	T.I.P. No.	TIP-22-219-IAH



DESIGNER PROJECT No.: 2022.013
PROJECT STATUS: IFB

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DESIGN BY: PGA
DRAWN BY: PGA
CHECKED BY: PGA
ISSUE DATE: 06/08/2023
APPROVED BY: RDLR
APPROVAL DATE: 06/08/2023

DIRECTOR
of
HOUSTON AIRPORT SYSTEM

Drawing Status

IFB
ISSUE FOR BID



SHEET NAME: AV DETAILS

SHEET No. TA-501 SCALE: As indicated

SHEET SIZE: 30"x42" ARCH E1



HOUSTON AIRPORTS
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PGA
ENGINEERS, INC.
3820 N. Sam Houston Pkwy. E., Ste. 900
Houston, TX 77062
PHONE: 281.241.1111
www.pgaengineers.com
TYPE: PERMITS

DESIGNER PROJECT No.: **2022.013**
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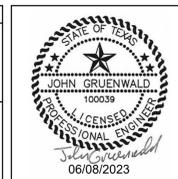
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ISSUE DATE: **06/08/2023**
APPROVED BY: **RDLR**
APPROVAL DATE: **06/08/2023**

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of
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Drawing Status
IFB
ISSUE FOR BID



SHEET NAME: **AV SCHEDULES**
SHEET No. **TA-601** SCALE: **NTS**

SHEET SIZE: 30"x42" ARCH E1

ROOM NO.	DEVICE NO.	DESCRIPTION	NOTES
EOC 143A	1.CM.01	CEILING MICROPHONE	RECOMMEND "DANTE" VLAN
EOC 143A	1.CM.02	CEILING MICROPHONE	RECOMMEND "DANTE" VLAN
EOC 143B	1.CM.03	CEILING MICROPHONE	RECOMMEND "DANTE" VLAN
EOC 143B	1.CM.04	CEILING MICROPHONE	RECOMMEND "DANTE" VLAN
EOC 143A	1.ENC.01	VIDEO OVER IP ENCODER	RECOMMEND "IP STREAM" VLAN
EOC 143B	1.ENC.02	VIDEO OVER IP ENCODER	RECOMMEND "IP STREAM" VLAN
EOC 143A	1.ENC.03	VIDEO OVER IP ENCODER	RECOMMEND "IP STREAM" VLAN
EOC 143B	1.ENC.04	VIDEO OVER IP ENCODER	RECOMMEND "IP STREAM" VLAN
EOC 143A	1.SDI.01	SDI TO HDMI MEDIA CONVERTER	
EOC 143B	1.SDI.02	SDI TO HDMI MEDIA CONVERTER	
EOC 143A	1.PC.1.01	PC TYPE 1, VIDEO CONFERENCE PC	
EOC 143B	1.PC.1.02	PC TYPE 1, VIDEO CONFERENCE PC	
EOC 143A	1.PC2.01	PC TYPE 2, MANGEMENT PC1	
EOC 143B	1.PC2.02	PC TYPE 2, MANGEMENT PC2	
EOC 143A	1.STB.01	SET TOP BOX	
EOC 143A	1.STB.02	SET TOP BOX	
EOC 143B	1.STB.03	SET TOP BOX	
EOC 143B	1.STB.04	SET TOP BOX	
EOC 143A	1.URX.01	USB OVER CAT6 RECEIVER	
EOC 143B	1.URX.02	USB OVER CAT6 RECEIVER	
EOC 143A	1.UTX.01	USB OVER CAT6 TRANSMITTER	FOR WIRELESS KEYBOARD / MOUSE
EOC 143B	1.UTX.02	USB OVER CAT6 TRANSMITTER	FOR WIRELESS KEYBOARD / MOUSE
EOC 143A	1.VC.01	PTZ VIDEO CAMERA	
EOC 143B	1.VC.02	PTZ VIDEO CAMERA	
EOC 143A	1.VCB.01	VIDEO CONFERENCE BRIDGE	
EOC 143B	1.VCB.02	VIDEO CONFERENCE BRIDGE	
EOC 143A	1.VR.01	HDMI OVER CAT6 VIDEO RECEIVER	
EOC 143A	1.VR.02	HDMI OVER CAT6 VIDEO RECEIVER	
EOC 143B	1.VR.03	HDMI OVER CAT6 VIDEO RECEIVER	
EOC 143B	1.VR.04	HDMI OVER CAT6 VIDEO RECEIVER	
EOC 143A	1.VWD.01	VIDEO WALL DISPLAY	
EOC 143A	1.VWD.02	VIDEO WALL DISPLAY	
EOC 143A	1.VWD.03	VIDEO WALL DISPLAY	
EOC 143A	1.VWD.04	VIDEO WALL DISPLAY	
EOC 143A	1.VWD.05	VIDEO WALL DISPLAY	
EOC 143A	1.VWD.06	VIDEO WALL DISPLAY	
EOC 143A	1.VWD.07	VIDEO WALL DISPLAY	
EOC 143A	1.VWD.08	VIDEO WALL DISPLAY	
EOC 143B	1.VWD.09	VIDEO WALL DISPLAY	
EOC 143B	1.VWD.10	VIDEO WALL DISPLAY	
EOC 143B	1.VWD.11	VIDEO WALL DISPLAY	
EOC 143B	1.VWD.12	VIDEO WALL DISPLAY	
EOC 143B	1.VWD.13	VIDEO WALL DISPLAY	
EOC 143B	1.VWD.14	VIDEO WALL DISPLAY	
EOC 143B	1.VWD.15	VIDEO WALL DISPLAY	
EOC 143B	1.VWD.16	VIDEO WALL DISPLAY	
EOC 143A	1.WKB.01	WIRELESS KEYBOARD / MOUSE COMBO	
EOC 143B	1.WKB.02	WIRELESS KEYBOARD / MOUSE COMBO	

A3 LEVEL 1 AV EQUIPMENT SCHEDULE.
NTS

ROOM NO.	DEVICE NO.	DESCRIPTION	NOTES
250	2.TP1.01	VIDEO CONFERENCE BAR TOUCH PANEL	
250	2.VCC.01	VIDEO CONFERENCE CODEC / BAR	
251	2.FPD.05	FLAT PANEL DISPLAY, 55"	
251	2.FPD.06	FLAT PANEL DISPLAY, 55"	
251	2.FPD.07	FLAT PANEL DISPLAY, 55"	
ICC	2.ENC.01	VIDEO OVER IP ENCODER	RECOMMEND "IP STREAM" VLAN
ICC	2.ENC.02	VIDEO OVER IP ENCODER	RECOMMEND "IP STREAM" VLAN
ICC	2.ENC.03	VIDEO OVER IP ENCODER	RECOMMEND "IP STREAM" VLAN
ICC	2.ENC.04	VIDEO OVER IP ENCODER	RECOMMEND "IP STREAM" VLAN
ICC	2.ENC.05	VIDEO OVER IP ENCODER	RECOMMEND "IP STREAM" VLAN
ICC	2.ENC.06	VIDEO OVER IP ENCODER	RECOMMEND "IP STREAM" VLAN
ICC	2.ENC.07	VIDEO OVER IP ENCODER	RECOMMEND "IP STREAM" VLAN
ICC	2.ENC.08	VIDEO OVER IP ENCODER	RECOMMEND "IP STREAM" VLAN
ICC	2.ENC.09	VIDEO OVER IP ENCODER	RECOMMEND "IP STREAM" VLAN
ICC	2.ENC.10	VIDEO OVER IP ENCODER	RECOMMEND "IP STREAM" VLAN
ICC	2.PC1.01	PC TYPE 1, HAS Metrics Dashboard (1)	
ICC	2.PC1.02	PC TYPE 1, HAS Metrics Dashboard (2)	
ICC	2.PC1.03	PC TYPE 1, HAS SECURITY	
ICC	2.PC1.04	PC TYPE 1, HAS CLOCK	
ICC	2.PC1.05	PC TYPE 1, WEATHER	
ICC	2.PC2.03	PC TYPE 2, MANGEMENT PC3	
ICC	2.SP1.01	70V CEILING SPEAKER	RECOMMEND 15W TAP
ICC	2.SP1.02	70V CEILING SPEAKER	RECOMMEND 15W TAP
ICC	2.SP1.03	70V CEILING SPEAKER	RECOMMEND 15W TAP
ICC	2.SP1.04	70V CEILING SPEAKER	RECOMMEND 15W TAP
ICC	2.SP1.05	70V CEILING SPEAKER	RECOMMEND 15W TAP
ICC	2.SP1.06	70V CEILING SPEAKER	RECOMMEND 15W TAP
ICC	2.SP1.07	70V CEILING SPEAKER	RECOMMEND 15W TAP
ICC	2.SP1.08	70V CEILING SPEAKER	RECOMMEND 15W TAP
ICC	2.SP1.09	70V CEILING SPEAKER	RECOMMEND 15W TAP
ICC	2.SP1.10	70V CEILING SPEAKER	RECOMMEND 15W TAP
ICC	2.SP1.11	70V CEILING SPEAKER	RECOMMEND 15W TAP
ICC	2.SP1.12	70V CEILING SPEAKER	RECOMMEND 15W TAP
ICC	2.SP1.13	70V CEILING SPEAKER	RECOMMEND 15W TAP
ICC	2.SP1.14	70V CEILING SPEAKER	RECOMMEND 15W TAP
ICC	2.SP1.15	70V CEILING SPEAKER	RECOMMEND 15W TAP
ICC	2.STB.01	SET TOP BOX	
ICC	2.STB.02	SET TOP BOX	
ICC	2.STB.03	SET TOP BOX	
ICC	2.STB.04	SET TOP BOX	
ICC	2.STB.05	SET TOP BOX	
ICC	2.STB.06	SET TOP BOX	
ICC	2.VWD.01	VIDEO WALL DISPLAY	
ICC	2.VWD.02	VIDEO WALL DISPLAY	
ICC	2.VWD.03	VIDEO WALL DISPLAY	
ICC	2.VWD.04	VIDEO WALL DISPLAY	
ICC	2.VWD.05	VIDEO WALL DISPLAY	
ICC	2.VWD.06	VIDEO WALL DISPLAY	
ICC	2.VWD.07	VIDEO WALL DISPLAY	
ICC	2.VWD.08	VIDEO WALL DISPLAY	
ICC	2.VWD.09	VIDEO WALL DISPLAY	
ICC	2.VWD.10	VIDEO WALL DISPLAY	
ICC	2.VWD.11	VIDEO WALL DISPLAY	
ICC	2.VWD.12	VIDEO WALL DISPLAY	
ICC	2.VWD.13	VIDEO WALL DISPLAY	
ICC	2.VWD.14	VIDEO WALL DISPLAY	
ICC	2.VWD.15	VIDEO WALL DISPLAY	
ICC	2.VWD.16	VIDEO WALL DISPLAY	
ICC	2.VWD.17	VIDEO WALL DISPLAY	
ICC	2.VWD.18	VIDEO WALL DISPLAY	
ICC	2.VWD.19	VIDEO WALL DISPLAY	
ICC	2.VWD.20	VIDEO WALL DISPLAY	
ICC	2.VWD.21	VIDEO WALL DISPLAY	
ICC	2.VWD.22	VIDEO WALL DISPLAY	
ICC	2.VWD.23	VIDEO WALL DISPLAY	
ICC	2.VWD.24	VIDEO WALL DISPLAY	
SOCC	2.AA2.01	70V AUDIO AMPLIFIER TYPE 2	MAINTAIN 20% HEADROOM
SOCC	2.ENC.011	VIDEO OVER IP ENCODER	RECOMMEND "IP STREAM" VLAN
SOCC	2.ENC.012	VIDEO OVER IP ENCODER	RECOMMEND "IP STREAM" VLAN
SOCC	2.FPD.01	FLAT PANEL DISPLAY, 55"	
SOCC	2.FPD.02	FLAT PANEL DISPLAY, 55"	
SOCC	2.FPD.03	FLAT PANEL DISPLAY, 55"	
SOCC	2.FPD.04	FLAT PANEL DISPLAY, 55"	
SOCC	2.PC2.04	PC, TSA SECURITY	
SOCC	2.SP1.16	70V CEILING SPEAKER	RECOMMEND 15W TAP
SOCC	2.SP1.17	70V CEILING SPEAKER	RECOMMEND 15W TAP
SOCC	2.STB.07	SET TOP BOX	
SOCC	2.VT.05	HDMI OVER CAT6 VIDEO TRANSMITTER	
SOCC	2.VT.06	HDMI OVER CAT6 VIDEO TRANSMITTER	
SOCC	2.VT.07	HDMI OVER CAT6 VIDEO TRANSMITTER	
TERMINAL D	2.FCT.01	FIBER MEDIA CONVERTER TRANSMITTER	FIBER CIRCUIT FROM TER D TO ICC BY HAS
W205.4	2.AA1.01	70V AUDIO AMPLIFIER TYPE 1	MAINTAIN 20% HEADROOM
W205.4	2.ADC.01	AUDIO OVER IP DECODER	RECOMMEND "IP STREAM" VLAN
W205.4	2.ADC.02	AUDIO OVER IP DECODER	RECOMMEND "IP STREAM" VLAN
W205.4	2.ADC.03	AUDIO OVER IP DECODER	RECOMMEND "IP STREAM" VLAN
W205.4	2.DEC.01	VIDEO OVER IP DECODER CARD	RECOMMEND "IP STREAM" VLAN
W205.4	2.DEC.02	VIDEO OVER IP DECODER CARD	RECOMMEND "IP STREAM" VLAN
W205.4	2.DEC.03	VIDEO OVER IP DECODER CARD	RECOMMEND "IP STREAM" VLAN
W205.4	2.DEC.04	VIDEO OVER IP DECODER CARD	RECOMMEND "IP STREAM" VLAN
W205.4	2.DEC.05	VIDEO OVER IP DECODER CARD	RECOMMEND "IP STREAM" VLAN
W205.4	2.DSP.01	DIGITAL SIGNAL PROCESSOR	
W205.4	2.FCR.01	FIBER MEDIA CONVERTER RECEIVER	FIBER CIRCUIT FROM TER D TO ICC BY HAS
W205.4	2.OUT.01	VIDEO OUTPUT CARD	
W205.4	2.OUT.02	VIDEO OUTPUT CARD	
W205.4	2.VGW	VOIP GATEWAY FOR CRASH PHONE	
W205.4	2.VR.01	HDMI OVER CAT6 VIDEO RECEIVER	
W205.4	2.VR.02	HDMI OVER CAT6 VIDEO RECEIVER	
W205.4	2.VR.03	HDMI OVER CAT6 VIDEO RECEIVER	
W205.4	2.VR.04	HDMI OVER CAT6 VIDEO RECEIVER	
W205.4	2.VR.05	HDMI OVER CAT6 VIDEO RECEIVER	
W205.4	2.VR.06	HDMI OVER CAT6 VIDEO RECEIVER	
W205.4	2.VR.07	HDMI OVER CAT6 VIDEO RECEIVER	
W205.4	2.VS1.01	VIDEO WALL MATRIX SWITCHER	
W205.4	2.VT.01	HDMI OVER CAT6 VIDEO TRANSMITTER	
W205.4	2.VT.02	HDMI OVER CAT6 VIDEO TRANSMITTER	
W205.4	2.VT.03	HDMI OVER CAT6 VIDEO TRANSMITTER	
W205.4	2.VT.04	HDMI OVER CAT6 VIDEO TRANSMITTER	
W205.4	2.VT.05	HDMI OVER CAT6 VIDEO TRANSMITTER	
W205.4	2.VT.06	HDMI OVER CAT6 VIDEO TRANSMITTER	
W205.4	2.VT.07	HDMI OVER CAT6 VIDEO TRANSMITTER	
W205.4	2.VT.08	HDMI OVER CAT6 VIDEO TRANSMITTER	
W205.4	2.VT.09	HDMI OVER CAT6 VIDEO TRANSMITTER	
W205.4	2.VT.10	HDMI OVER CAT6 VIDEO TRANSMITTER	

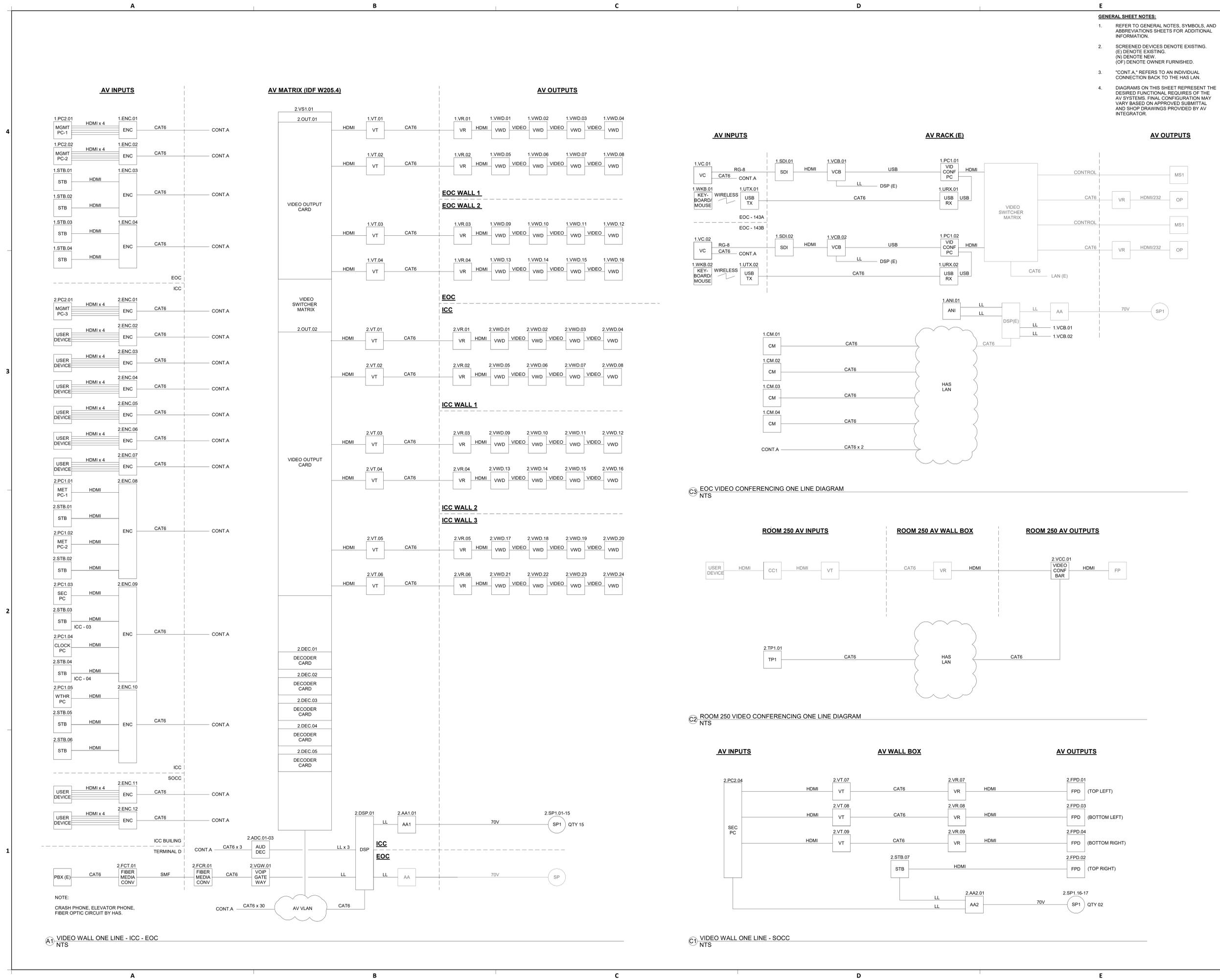
C1 LEVEL 2 AV EQUIPMENT SCHEDULE.
NTS

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PLOT DATE:
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HAS FILE:

PLOT DATE: 6/7/2023 5:16:06 PM
 DOA DWG FILE:
 OLD DOA No. :
 PLOT DATE:

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HAS FILE:



GENERAL SHEET NOTES:

- REFER TO GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS SHEETS FOR ADDITIONAL INFORMATION.
- SCREENED DEVICES DENOTE EXISTING. (E) DENOTE EXISTING. (N) DENOTE NEW. (OF) DENOTE OWNER FURNISHED.
- "CONT. A" REFERS TO AN INDIVIDUAL CONNECTION BACK TO THE HAS LAN.
- DIAGRAMS ON THIS SHEET REPRESENT THE DESIRED FUNCTIONAL REQUIREMENTS OF THE AV SYSTEMS. FINAL CONFIGURATION MAY VARY BASED ON APPROVED SUBMITTAL AND SHOP DRAWINGS PROVIDED BY AV INTEGRATOR.

HOUSTON AIRPORTS

GENERAL SERVICES FACILITY
 4551 WILL CLAYTON PKWY,
 HUMBLE, TEXAS 77396

IAH INTEGRATED COORDINATION CENTER

C.I.P. No. **PN793** A.I.P. No. **N/A**
 C.O.H. No. **N/A** D.O.A. No. **N/A**
 B.S.G. No. **856-2022-257-IAH** T.I.P. No. **TIP-22-219-IAH**

RDLR

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 TYPED PAPER #10493

DESIGNER PROJECT No.: **2022.013**
 PROJECT STATUS: **IFB**

REVISIONS

No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
2	PERMIT COMMENTS 1	10/26/2022	
3	PERMIT COMMENTS 2	11/11/2022	
4	ISSUE FOR BID & CONSTRUCTION	05/05/2023	
5	ISSUE FOR BID	06/08/2023	

DESIGN BY: **PGA**
 DRAWN BY: **PGA**
 CHECKED BY: **PGA**
 ISSUE DATE: **06/08/2023**
 APPROVED BY: **RDLR**
 APPROVAL DATE: **06/08/2023**

DIRECTOR of HOUSTON AIRPORT SYSTEM

Drawing Status: **IFB**
 ISSUE FOR BID

JOHN GRUENWALD
 100039
 PROFESSIONAL ENGINEER
 06/08/2023

SHEET NAME: **AV ONE LINE DIAGRAM**
 SHEET No. **TA-701** SCALE: **NTS**

SHEET SIZE: 30"x42" ARCH E1

SECURITY EQUIPMENT SYMBOLS LIST	
SYMBOL	DESCRIPTION
	CARD READER
	INTERCOM SUBSTATION (VOIP) W/ CAMERA
	INTERCOM MASTER STATION (VOIP)
	360 IP CAMERA
	FIXED IP CAMERA
	PTZ HD IP CAMERA
	TAMPER SWITCH
	DOOR MOMENTARY RELEASE BUTTON (UNDER DESK/TABLE/COUNTER)
	ELECTRIC MORTISE LOCK W/ REX SWITCH (FAIL SECURE)
	PC TYPE 1
	PC TYPE 2

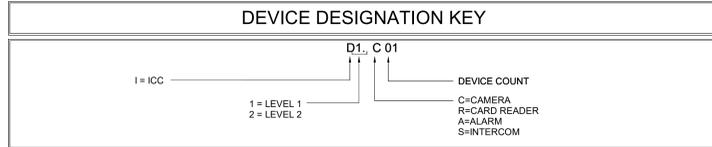
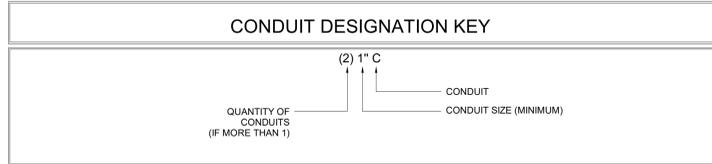
CCVS SYSTEM NOTES	
1.	ALL OUTDOOR CAMERAS, TERMINATION BOXES, AND PULLBOXES SHALL BE INSTALLED WITH WEATHER RESISTANT HARDWARE.
2.	PROVIDE ALL INTEGRATION WITH ALARM ACCESS CONTROL SYSTEM COMPONENTS.
3.	PROVIDE ALL COORDINATION WITH OTHER DISCIPLINES FOR INSTALLATION OF EQUIPMENT.
4.	COORDINATE ALL SITE WORK WITH OWNER'S REP.
5.	DRAWINGS INDICATE CAMERA 'HOME POSITIONS'. VERIFY FIELD OF VIEW WITH HOUSTON AIRPORT SYSTEM (HAS) REPRESENTATIVE AND DESIGN CONSULTANT DURING HAS SECURITY COMMISSIONING. SUBSTITUTION OF LENS TYPE & SIZE TO ACCOMPLISH INTENDED FIELD OF VIEW SHALL BE AT NO ADDITIONAL COST.
6.	CAMERAS MAY INCLUDE MULTIPLE TRANSMISSION METHODS. VERIFY EACH CAMERA PRIOR TO INSTALLATION.
7.	FIELD VERIFY ALL CAMERA LOCATIONS PRIOR TO INSTALLATION. CAMERA MAY BE RELOCATED WITHIN 25' OF LOCATION SHOWN ON FLOOR PLANS WITHOUT ADDITIONAL COST.

CAMERA SERVER AND DIGITAL STORAGE NOTES	
1.	PROVIDE DIGITAL STORAGE FOR THIS PROJECT IN THE HAS ADMIN BUILDING AS REQUIRED.
2.	THE EXISTING CAMERA SERVERS AND DIGITAL STORAGE ARE LOCATED AT THE HAS ADMINISTRATION BUILDING AND TERMINAL C. THEY ARE REDUNDANT.
3.	PROVIDE HONEYWELL MAXPRO CAMERA LICENSING AS REQUIRED AT THE HAS ADMINISTRATION BUILDING AND TERMINAL C TO SUPPORT ALL HAS CAMERAS INSTALLED AS PART OF THIS PROJECT.

ACS SYSTEM NOTES	
1.	ALL OUTDOOR MOUNTED CARD READERS SHALL BE INSTALLED WITH WEATHER RESISTANT AND TAMPER PROOF HARDWARE.
2.	CARD READER PEDESTALS SHALL BE SIZED FOR VOICE COMMUNICATIONS.
3.	PROVIDE ALL INTEGRATION WITH CLOSED CIRCUIT VIDEO SURVEILLANCE COMPONENTS.
4.	PROVIDE ALL COORDINATION WITH OTHER DISCIPLINES FOR INSTALLATION OF EQUIPMENT.
5.	COORDINATE ALL SITE WORK WITH OWNERS REP.
6.	PROVIDE ACCESS CONTROL LICENSES AS REQUIRED PART OF THIS PROJECT.

SECURITY CABLE DESIGNATION/TYPE *			
DESIGNATION	DESCRIPTION	USAGE	PART #
A	1 PAIR 22AWG SHIELDED	ALARM MONITORING	BELDEN 5500FE
B	2 PAIR 20AWG SHIELDED	MOTION DETECTOR, BEAM DETECTORS	BELDEN 5441FE
C	3 PAIR 22AWG SHIELDED	CARD READER	BELDEN 5542FE
D	2/C 18AWG	CAMERA PWR, PUSH BUTTON, LOCK PWR	BELDEN 5300UE
E	2 PAIR 22AWG SHIELDED	DATA, CCVS PTZ CONTROL	BELDEN 5541FE
F	2/C 18AWG SHIELDED	HORN	BELDEN 5300FE
G	COAXIAL W/2C POWER	VIDEO	
H	1 PAIR 20AWG TWISTED	INTERCOM	BELDEN 5400FE
J	1 PAIR TWISTED SH 18AWG PLUS 2/C 18AWG	EMERGENCY PHONE	BELDEN 5302GE
K	CAT6 UTP (PLENUM)	NETWORK AND CAMERA	SYSTEMAX 2071E
L	ACCESS CONTROL COMPOSITE CABLE, 4C 18AWG, 3PR 22 AWG, 4C 22 AWG	LOCK PWR, CR, DOOR CONTACT, REX, 1 SPARE YELLOW JACKET	WSECOMP-2835
M	OCTV COMPOSITE CABLE 2C 18AWG, UNSHIELDED, CABLE ETHERNET (PLENUM), R659 (PLENUM)	CAM PWR, UTP/IP VIDEO ANALOG VIDEO CONNECT K112	WSECOMP-2817
N	4 CONDUCTOR, 22 AWG, (7X30) STRANDED	DURESS BUTTON	WEST PENN 25241B

* THIS TABLE IS REFERENCED AND IS SHOWN AS AN EXAMPLE OF ACCEPTABLE CABLE DESIGNATIONS. CMAR SHALL UTILIZE CABLE DESIGNATION TABLE FOR SHOP DRAWING AND RECORD DRAWING SUBMITTALS.



GENERAL NOTES	
1.	THE FOLLOWING GENERAL NOTES ARE APPLICABLE AS STATED BELOW, EXCEPT WHERE SPECIFICALLY INDICATED OTHERWISE, ON THE DRAWINGS OR IN THE BID SPECIFICATION.
2.	SINGLE LINE DIAGRAMS, SCHEMATICS, DETAILS AND CONDUIT PATHS SHOWN HEREIN ARE CONCEPTUAL AND ILLUSTRATE ONLY THE FUNCTIONAL RELATIONSHIPS BETWEEN COMPONENTS OF THE SYSTEM. ACCORDINGLY, FULL SHOP DRAWING DEVELOPMENT IS REQUIRED TO REALIZE THE SPECIFIED FUNCTIONS.
3.	DEVICE LOCATIONS ON PLANS ARE CONCEPTUAL. LOCATE AS SITE CONDITIONS REQUIRE AND AS APPROVED BY THE OWNER.
4.	REFER TO THE BID SPECIFICATION FOR ADDITIONAL REQUIREMENTS REGARDING THIS WORK.
5.	INSTALL WALL MOUNTED CARD READERS, PUSH BUTTON SWITCHES, KEYPADS, KEY SWITCHES AND OTHER WALL MOUNTED FIELD DEVICES, AT 48 INCHES MAXIMUM ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED. MOUNTING HEIGHT SHALL COMPLY WITH TEXAS ACCESSIBILITY STANDARD (TAS).
6.	PROVIDE PAINTING, PATCHING AND FINISHES, OF MATERIALS AND DEVICES, AS APPROVED BY THE OWNER.
7.	DOOR DETAILS ILLUSTRATE FUNCTIONAL RELATIONSHIPS. ACTUAL ARCHITECTURAL CONDITIONS (SUCH AS DIRECTION OF SWING AND HAND OF DOOR) MAY VARY.
8.	WORK AND MATERIALS TO CONFORM TO THE MOST CURRENT UNIFORM STANDARD SPECIFICATIONS, ASSOCIATED CODES REFERENCED BY THE (IAH) AUTHORITY HAVING JURISDICTION, AND DETAILS FOR CONSTRUCTION, AS FURNISHED BY THE OWNER. WORK AND MATERIALS, NOT IN CONFORMANCE WITH PROJECT SPECIFICATIONS AND DETAILS, ARE SUBJECT TO REMOVAL AND REPLACEMENT AT CMAR'S EXPENSE.
9.	FOR INFORMATION REGARDING FIRE RATINGS AND OCCUPANCY SEPARATIONS, REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS.
10.	NEW CONDUIT CONNECTIONS TO INCLUDE INTEGRAL PROTECTIVE BUSHINGS OR CHASE NIPPLES.
11.	NEW CONDUIT FOR FUTURE USE TO BE FILLED WITH 200 POUND STRENGTH PULL LINE. PROVIDE LABELING ON EACH END OF THE PULL LINE TO INDICATE LOCATION OF OTHER END.
12.	NEW CONDUITS SHALL BE CONCEALED WHENEVER POSSIBLE. SURFACE MOUNTED CONDUITS ARE PERMISSIBLE ONLY WHERE APPROVED. USE ONLY CONCEALED CONDUITS WITH FINISHED SPACES. THE ABOVE STANDARDS ALSO APPLY TO EXTERIOR SPACES. SEEK APPROVAL FROM THE OWNER FOR EACH AREA WHERE SURFACE CONDUIT IS NECESSARY.
13.	JUNCTION BOXES SHALL BE MINIMUM 4 INCH SQUARE DEEP STYLE. SIZED AS REQUIRED TO ACCOMMODATE CONDUITS UNLESS OTHERWISE NOTED. PROVIDE MOUNTING RING AS REQUIRED. PROVIDE A BLANK COVER PLATE FOR JUNCTION BOXES AND PULL BOXES WITH NO DEVICE.
14.	EXPOSED BOXES AND PANELS, MOUNTED IN OR ON EXTERIOR WALLS, TO BE NEMA 4.
15.	NEW CONDUIT TO BE 1 INCH EMT MINIMUM, UNLESS OTHERWISE NOTED. EXTERIOR CONDUIT TO BE RIGID.
16.	USE 120VAC CIRCUITS UNLESS OTHERWISE NOTED. VERIFY CURRENT LOAD ON EXISTING CIRCUITS BEFORE CONNECTING NEW LOADS. COORDINATE WITH OWNER IF ADDITIONAL CIRCUITS ARE REQUIRED.
17.	VERIFY CONDUIT AND PLENUM CABLE PATHS INDICATED ON THE DRAWINGS. MAY PROPOSE ALTERNATE ROUTING WHERE CONFLICTS ARE FOUND.
18.	BE RESPONSIBLE FOR CEILING INTEGRITY, THIS INCLUDES ROUTING ABOVE CONCEALED SPLINE INTERLOCKING TILES.
19.	OBTAIN RECERTIFICATION FOR FIRE RATED DOOR FRAME AND DOOR MODIFIED BY THIS PROJECT.
20.	ACCESS CONTROL LOW VOLTAGE WIRING TO BE PLENUM RATED.
21.	DO NOT EXCEED 180° IN AGGREGATE CONDUIT BENDS AND/OR 100' CONDUIT WITHOUT PULLBOX.
22.	PROVIDE GROUND BUSHING ON ALL CONDUIT END IN EQUIPMENT ROOM. BOND TO APPROVED BUILDING GROUND.
23.	LABEL CONDUIT EVERY 50' WITH DEVICE ID & EQUIPMENT ROOM ID WITH PERMANENT INK CABLE MADE WITH LASER CABLE MAKER. SECURE TO CONDUIT WITH CLEAR TAPE.
24.	ALL WALL AND FLOOR PENETRATIONS SHALL BE SEALED WITH APPROVED FIRE STOP.
25.	LOCATE DEVICES AS SITE CONDITIONS REQUIRE.
26.	FIELD VERIFY ALL DIMENSIONS.
27.	REFER TO THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS REGARDING THIS WORK. CMAR TO PREPARE PROPOSAL FOR EACH DISCIPLINE. PROVIDE COORDINATION BETWEEN DISCIPLINES FOR CONSTRUCTION.
28.	NOTIFY DESIGN CONSULTANT AND OWNER WHERE EXISTING CONDITIONS REQUIRE REPAIR PRIOR TO INSTALLATION.
29.	COORDINATE ALL WORK WITH CMAR.
30.	ALL CABLE PULLS WITHIN EXISTING AND NEW CONDUITS TO BE MADE AT SAME TIME.
31.	COORDINATE WITH FIRE ALARM CONTRACTOR TO MAKE CONNECTION TO ACCESS CONTROL SYSTEM FOR CARD READER CONTROLLER AND ELECTRONICALLY LOCK DOOR RELEASE. FIRE ALARM RELAY SHALL BE BY FIRE ALARM CONTRACTOR, CONNECTIVITY TO ACCESS CONTROL PANEL SHALL BE BY SECURITY CONTRACTOR
32.	DEFINITION: BY DIVISION 8 - EQUIPMENT PROVIDED AND INSTALLED BY DIVISION 8 CONTRACTOR.
33.	DEFINITION: BY DIVISION 26 - EQUIPMENT PROVIDED AND INSTALLED BY DIVISION 26 CONTRACTOR.
34.	DEFINITION: BY DIVISION 27 - EQUIPMENT PROVIDED AND INSTALLED BY DIVISION 27 CONTRACTOR.

SHEET INDEX	
SHEET NO.	DESCRIPTION
TY-001	SECURITY LEGEND AND NOTES
TY-211	LEVEL 1 SECURITY PLAN - OVERALL
TY-213	LEVEL 1 SECURITY PLAN - AREA B
TY-214	LEVEL 2 SECURITY PLAN - OVERALL
TY-216	LEVEL 2 SECURITY PLAN - AREA B
TY-401	SECURITY ENLARGED PLAN AT MDF
TY-402	SECURITY ENLARGED PLAN AT IDF W205.4
TY-601	SECURITY EQUIPMENT SCHEDULES
TY-601	SECURITY DETAILS

RESPONSIBILITY MATRIX - SECURITY						
SECURITY EQUIP	PROPRIETARY	OPEN SPEC (FOR INSTALL)	OWNER PROVIDED (BY/DATE) OWNER INSTALLED			SPECIFICATION
			BY/DATE	BY/DATE	BY/DATE	
ACS Intelligent Field Panels, Reader Boards, I/O Boards	X			X		281300
Card Reader and Electronic Locks	X			X		281300
IP Cameras	X			X		282300
Security Workstations	X			X		282300
Security Intercom	X			X		282300

WARNING: THIS DOCUMENT CONTAINS SENSITIVE SECURITY INFORMATION THAT IS CONTROLLED UNDER 48 CFR PART 1520. NO PART OF THIS DOCUMENT MAY BE RELEASED TO PERSONS WITHOUT A NEED TO KNOW, AS DEFINED IN 48 CFR 1520, EXCEPT WITH THE WRITTEN PERMISSION OF THE ADMINISTRATOR OF THE TRANSPORTATION SECURITY ADMINISTRATION, ARLINGTON, VA 22202. UNAUTHORIZED RELEASE MAY RESULT IN CIVIL PENALTY OR OTHER ACTION. FOR U.S. GOVERNMENT AGENCIES, PUBLIC AVAILABILITY IS GOVERNED BY 5 U.S.C. 552.

HOUSTON AIRPORTS
 GENERAL SERVICES FACILITY
 4551 WILL CLAYTON PKWY,
 HUMBLE, TEXAS 77396

IAH INTEGRATED COORDINATION CENTER

C.I.P. No. PN793 A.I.P. No. N/A
 C.O.H. No. N/A D.O.A. No. N/A
 B.S.G. No. 856-2022-257-IAH T.I.P. No. TIP-22-219-IAH

RDRL

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 TOLPE PERM #16493

DESIGNER PROJECT No.: 2022.013
 PROJECT STATUS: IFB

REVISIONS		
No.	DESCRIPTION	DATE
	ISSUE FOR PERMIT	10/06/2022
1	PERMIT COMMENTS 1	10/26/2022
2	PERMIT COMMENTS 2	11/11/2022
3	ISSUE FOR BID & CONSTRUCTION	05/05/2023
4	ISSUE FOR BID	06/08/2023

DESIGN BY: PGA
 DRAWN BY: PGA
 CHECKED BY: PGA
 ISSUE DATE: 06/08/2023
 APPROVED BY: RDRL
 APPROVAL DATE: 06/08/2023

DIRECTOR
 of
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Drawing Status: IFB
 ISSUE FOR BID

SHEET NAME: SECURITY LEGEND AND NOTES
 SHEET No. TY-001 SCALE: 12" = 1'-0"

SHEET SIZE: 30"x42" ARCH E1



GENERAL SERVICES FACILITY
4551 WILL CLAYTON PKWY,
HUMBLE, TEXAS 77396

IAH INTEGRATED COORDINATION CENTER

C.I.P. No. **PN793** A.I.P. No. **N/A**
C.G.H. No. **N/A** D.O.A. No. **N/A**
B.S.G. No. **85G-2022-257-IAH** T.I.P. No. **TIP-22-219-IAH**



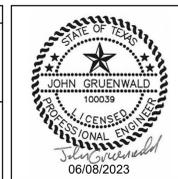
DESIGNER PROJECT No.: **2022.013**
PROJECT STATUS: **IFB**

REVISIONS		
No.	DESCRIPTION	DATE BY
	ISSUE FOR PERMIT	10/06/2022
1	PERMIT COMMENTS 1	10/26/2022
2	PERMIT COMMENTS 2	11/11/2022
3	ISSUE FOR BID & CONSTRUCTION	05/05/2023
4	ISSUE FOR BID	06/08/2023

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APPROVAL DATE: **06/08/2023**

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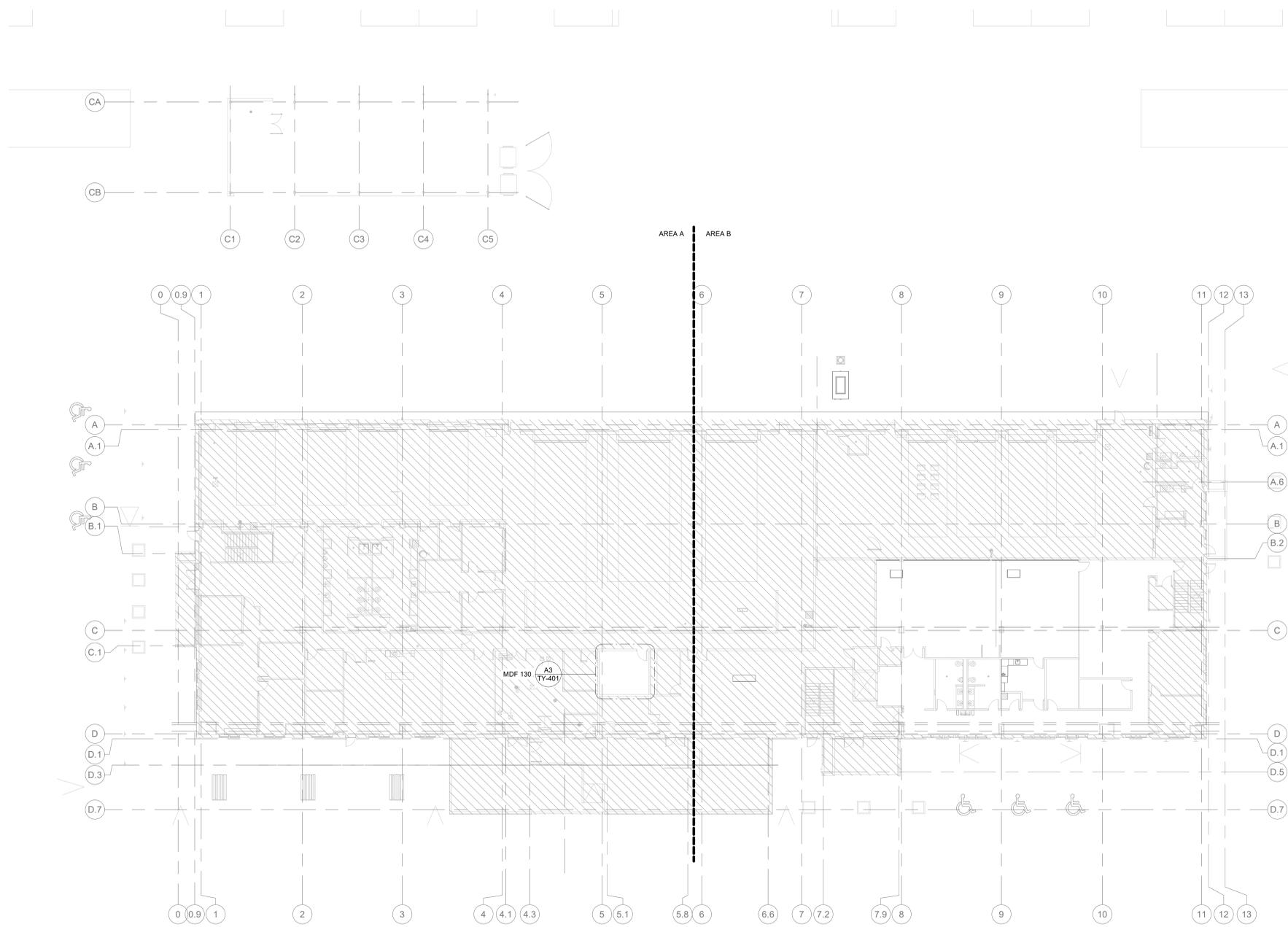
Drawing Status
IFB
ISSUE FOR BID



SHEET NAME: **LEVEL 1 SECURITY PLAN - OVERALL**
SHEET No. **TY-211** SCALE: **1/16" = 1'-0"**

SHEET SIZE: **30"x42" ARCH E1**

- GENERAL SHEET NOTES:**
- REFER TO GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS SHEETS FOR ADDITIONAL INFORMATION.
 - SCREENED DEVICES DENOTE EXISTING.



A1 LEVEL 1 SECURITY PLAN - OVERALL
1/16" = 1'-0"

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GENERAL SERVICES FACILITY
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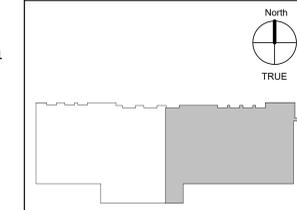
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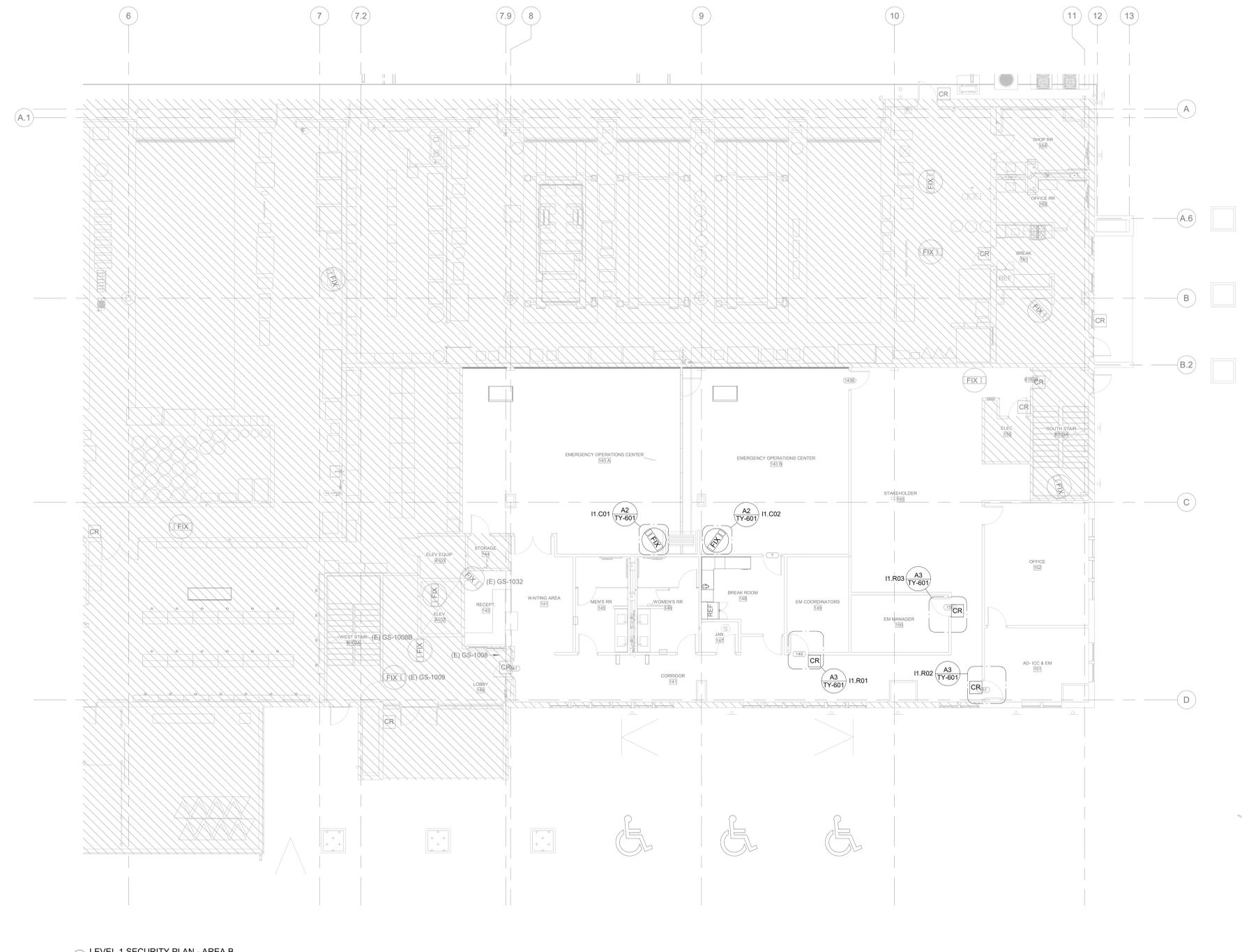
Drawing Status
IFB
ISSUE FOR BID



SHEET NAME: **LEVEL 1 SECURITY PLAN - AREA B**
SHEET No. **TY-213** SCALE: **1/8" = 1'-0"**

SHEET SIZE: **30"x42" ARCH E1**

- GENERAL SHEET NOTES:**
- REFER TO GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS SHEETS FOR ADDITIONAL INFORMATION.
 - SCREENED DEVICES DENOTE EXISTING.
 - DEVICES ON THIS SHEET SHALL TERMINATE IN THE MDF.



A1 LEVEL 1 SECURITY PLAN - AREA B
1/8" = 1'-0"

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HAS FILE:

- GENERAL SHEET NOTES:**
1. REFER TO GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS SHEETS FOR ADDITIONAL INFORMATION.
 2. SCREENED DEVICES DENOTE EXISTING.



GENERAL SERVICES FACILITY
 4551 WILL CLAYTON PKWY,
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DESIGNER PROJECT No.: **2022.013**
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DESIGN BY: **PGA**
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 CHECKED BY: **PGA**
 ISSUE DATE: **06/08/2023**
 APPROVED BY: **RDRL**
 APPROVAL DATE: **06/08/2023**

DIRECTOR
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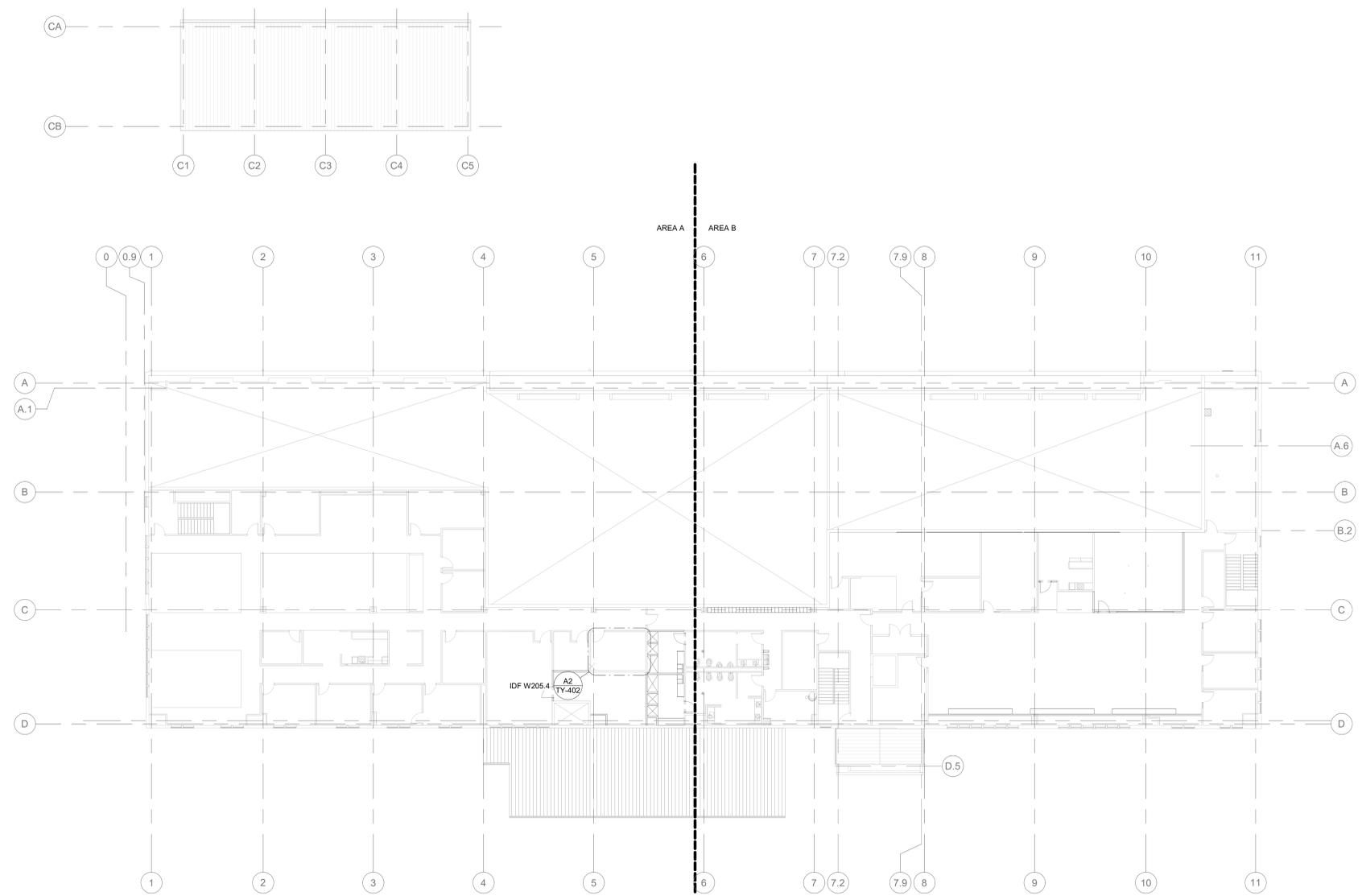
Drawing Status
IFB
 ISSUE FOR BID



SHEET NAME: **LEVEL 2 SECURITY PLAN - OVERALL**

SHEET No. **TY-214** SCALE: **1/16" = 1'-0"**

SHEET SIZE: **30"x42" ARCH E1**



A1) LEVEL 2 SECURITY PLAN - OVERALL
 1/16" = 1'-0"

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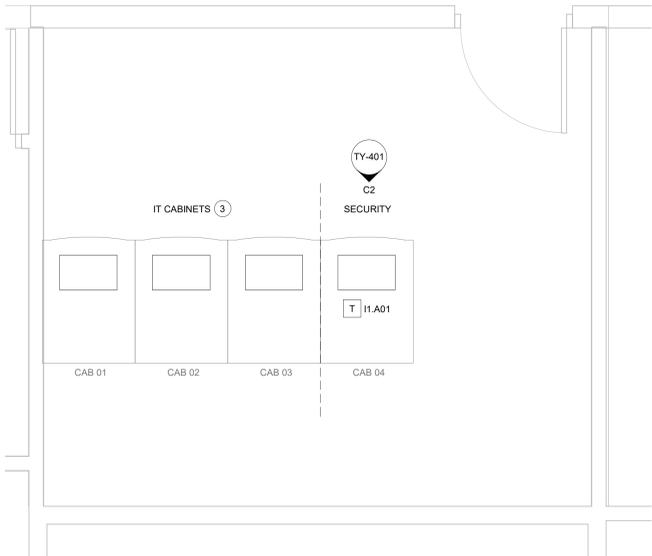
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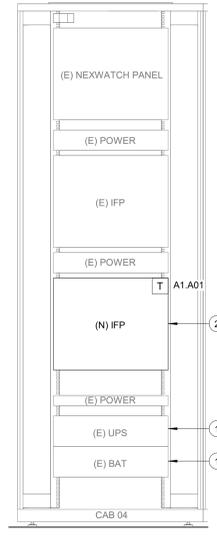
C

D

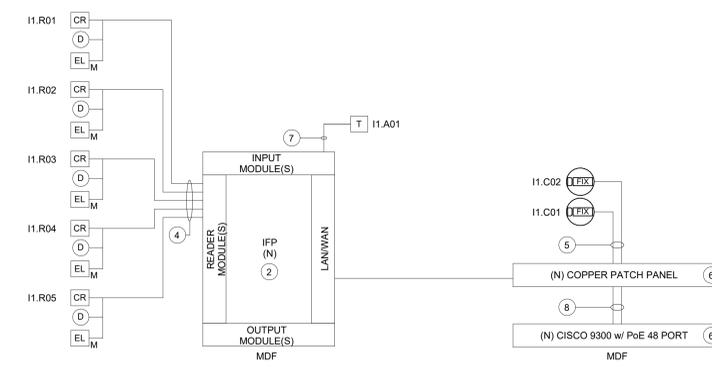
E



A3 ENLARGED SECURITY PLAN AT MDF
 1/2" = 1'-0"



C2 RACK ELEVATION AT MDF
 1" = 1'-0"



A1 SECURITY ONE LINE DIAGRAM - MDF
 NTS

GENERAL SHEET NOTES:

- REFER TO GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS SHEETS FOR ADDITIONAL INFORMATION.
- SCREENED DEVICES DENOTE EXISTING.
- ACCESS CONTROL CABLING SHALL COMPLY WITH SPECIFICATION SECTION 281300.
- DATA CABLING SHALL COMPLY WITH DIVISION 27 SPECIFICATION.

KEY NOTES:

- REMOVE UPS AND RETURN TO HAS IT AFTER NEW ICC UPS IS INSTALLED AND COMMISSIONED.
- (N) IFP PROWATCH PANEL. REFER 4/TY-601 FOR DETAILS.
- REFERENCE T-401 FOR NEW SECURITY NETWORK SWITCH LOCATION.
- PROVIDE QTY 1 ACCESS CONTROL COMPOSITE CABLE TO EACH DOORS. ACCESS CONTROL CABLING SHALL COMPLY WITH SPECIFICATION SECTION 281300.
- PROVIDE QTY 1 CAT6 CABLE TO EACH CAMERAS (TYP.). DATA CABLING SHALL COMPLY WITH DIVISION 27 SPECIFICATION.
- EQUIPMENT BY DIVISION 27. REFER TO TELECOM DRAWING FOR MORE INFORMATION.
- PROVIDE QTY 1 1PR 22 AWG SHIELDED ALARM CABLE TO EACH ALARM POINTS (TYP.).
- CAT6 PATCHCORD CABLES.



GENERAL SERVICES FACILITY
 4551 WILL CLAYTON PKWY,
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IAH INTEGRATED COORDINATION CENTER

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C.O.H. No.	N/A	D.O.A. No.	N/A
B.S.G. No.	85G-2022-257-IAH	T.I.P. No.	TIP-22-219-IAH



DESIGNER PROJECT No.: 2022.013

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5	ISSUE FOR BID	06/08/2023	

DESIGN BY: PGA
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 APPROVED BY: RDRL
 APPROVAL DATE: 06/08/2023

DIRECTOR
 of
 HOUSTON AIRPORT SYSTEM

Drawing Status

IFB
 ISSUE FOR BID



SHEET NAME: SECURITY ENLARGED PLAN AT MDF

SHEET No. TY-401 SCALE: As indicated

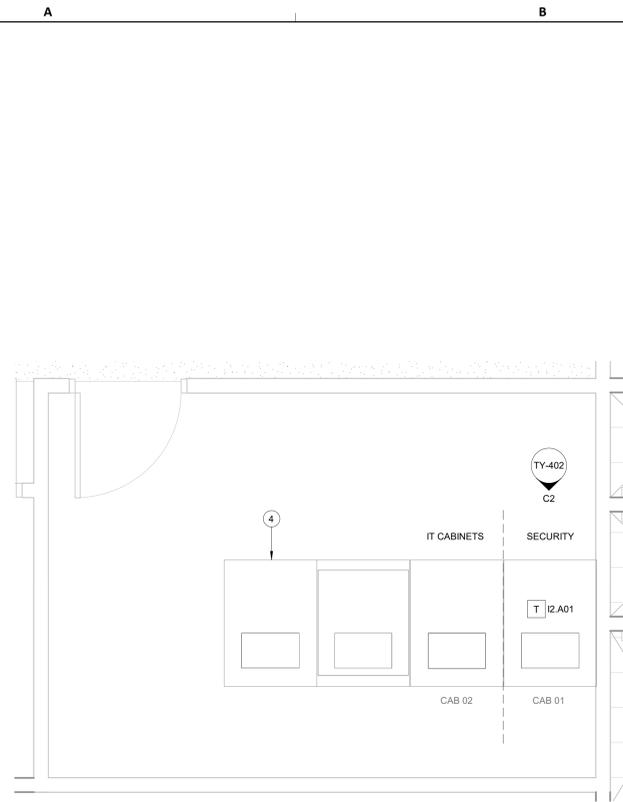
SHEET SIZE: 30"x42" ARCH E1

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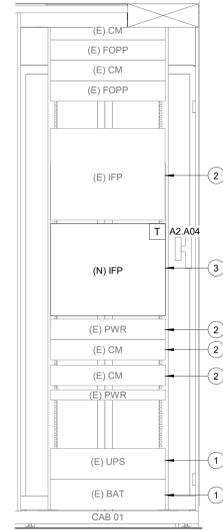
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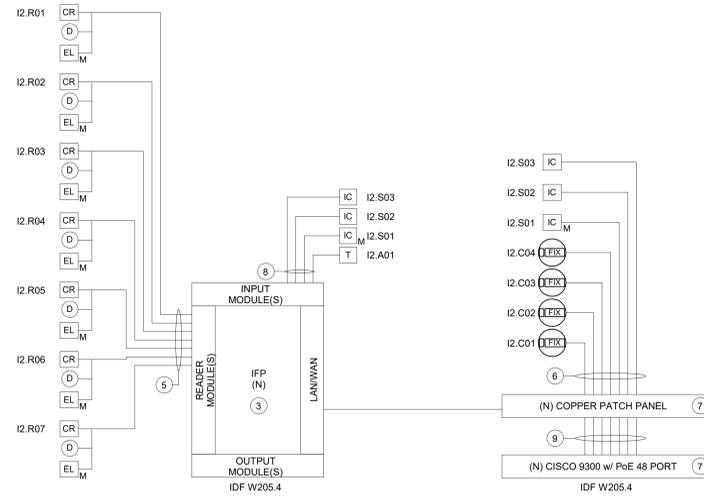
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A2 ENLARGED SECURITY PLAN AT IDF W205.4
 1/2" = 1'-0"



C2 RACK ELEVATION AT IDF W205.4
 1" = 1'-0"



A1 SECURITY ONE LINE DIAGRAM - IDF W205.4
 NTS

GENERAL SHEET NOTES:

- REFER TO GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS SHEETS FOR ADDITIONAL INFORMATION.
- SCREENED DEVICES DENOTE EXISTING.
- ACCESS CONTROL CABLING SHALL COMPLY WITH SPECIFICATION SECTION 281300.
- DATA CABLING SHALL COMPLY WITH DIVISION 27 SPECIFICATION.

KEY NOTES:

- REMOVE UPS AND RETURN TO HAS IT AFTER NEW ICC UPS IS INSTALLED AND COMMISSIONED.
- RE-ARRANGE (E) EQUIPMENT TO FIT (N) IFP.
- (N) IFP PROWATCH PANEL. REFER 4/TY-601 FOR DETAILS.
- REFERENCE T-402 FOR NEW SECURITY NETWORK SWITCH LOCATION.
- PROVIDE QTY 1 ACCESS CONTROL COMPOSITE CABLE TO EACH DOORS. ACCESS CONTROL CABLING SHALL COMPLY WITH SPECIFICATION SECTION 281300.
- PROVIDE QTY 1 CAT6 CABLE TO EACH CAMERAS AND CALL BOXES (TYP.). DATA CABLING SHALL COMPLY WITH DIVISION 27 SPECIFICATION.
- EQUIPMENT BY DIVISION 27. REFER TO TELECOM DRAWING FOR MORE INFORMATION.
- PROVIDE QTY 1 1PR 22 AWG SHIELDED ALARM CABLE TO EACH ALARM POINTS (TYP.).
- CAT6 PATCHCORD CABLES.

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GENERAL SERVICES FACILITY
 4551 WILL CLAYTON PKWY,
 HUMBLE, TEXAS 77396

IAH INTEGRATED COORDINATION CENTER

C.I.P. No.	PN793	A.I.P. No.	N/A
C.O.H. No.	N/A	D.O.A. No.	N/A
B.S.G. No.	85G-2022-257-IAH	T.I.P. No.	TIP-22-219-IAH



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DIRECTOR
 of
 HOUSTON AIRPORT SYSTEM

Drawing Status
IFB
 ISSUE FOR BID



SHEET NAME:
 SECURITY ENLARGED PLAN AT IDF W205.4

SHEET No. TY-402 SCALE: As indicated

SHEET SIZE: 30"x42" ARCH E1

ITEM	READER NO.	SHEET NO.	LEVEL	DOOR NO.	LOCATION	READER TYPE	MOUNT	DOOR HARDWARE (BY DIV. 8)	ASSOCIATED CAMERA	TERMINATING IDF	REFERENCE DOOR DETAIL
1	I1.R01	TY-213	LEVEL 1	149	CORRIDOR 141/EM COORDINATORS 149	PROX W/ KEYPAD	WALL	NOTE 2, 5, 6		MDF	1/TY-601
2	I1.R02	TY-213	LEVEL 1	151	CORRIDOR 141/AD-ICC & EM MGR 151	PROX W/ KEYPAD	WALL	NOTE 2, 5, 6		MDF	1/TY-601
3	I1.R03	TY-213	LEVEL 1	150	CORRIDOR 141/AD-ICC & EM MGR 150	PROX W/ KEYPAD	WALL	NOTE 2, 5, 6		MDF	1/TY-601
5	I2.R01	TY-216	LEVEL 2	240	CORRIDOR 201/ACC 240	PROX W/ KEYPAD	WALL	NOTE 2, 5, 6	I2.C01	IDF W205.4	1/TY-601
6	I2.R02	TY-216	LEVEL 2	251	ADC 240/COMM SUPV/ADMIN AREA 251	PROX W/ KEYPAD	WALL	NOTE 2, 5, 6		IDF W205.4	1/TY-601
7	I2.R03	TY-216	LEVEL 2	252	COMM SUPV/ADMIN AREA 251/COMM MANAGER 252	PROX W/ KEYPAD	WALL	NOTE 2, 5, 6		IDF W205.4	1/TY-601
8	I2.R04	TY-216	LEVEL 2	202	ADC 240/TSA SOCC 202	PROX W/ KEYPAD	WALL	NOTE 2, 5, 6	I2.C02	IDF W205.4	1/TY-601
9	I2.R05	TY-216	LEVEL 2	245	ADC 240/TSA MANAGER 245	PROX W/ KEYPAD	WALL	NOTE 2, 5, 6		IDF W205.4	1/TY-601
10	I2.R06	TY-216	LEVEL 2	244	ADC 240/HPO SGT 244	PROX W/ KEYPAD	WALL	NOTE 2, 5, 6		IDF W205.4	1/TY-601
11	I2.R07	TY-216	LEVEL 2	243	ADC 240/AIRPORT DUTY MANAGER 243	PROX W/ KEYPAD	WALL	NOTE 2, 5, 6		IDF W205.4	1/TY-601

A4 CARD READER SCHEDULE
NTS

ITEM	CAMERA NO.	SHEET NO.	LEVEL	CAMERA VIEW	CAMERA TYPE	CAMERA MOUNTING TYPE	TERMINATING IDF	REFERENCE MOUNTING DETAIL
1	I1.C01	TY-213	LEVEL 1	ACTIVITY AT EMERGENCY OPERATIONS CENTER 143A	HD FIXED	CEILING	MDF	3A/TY-601
2	I1.C02	TY-213	LEVEL 1	ACTIVITY AT EMERGENCY OPERATIONS CENTER 143B	HD FIXED	CEILING	MDF	3A/TY-601
3	I2.C01	TY-216	LEVEL 2	ACTIVITY AT DOOR 240	HD FIXED	CEILING	IDF W205.4	3A/TY-601
4	I2.C02	TY-216	LEVEL 2	ACTIVITY AT DOOR 202	HD FIXED	CEILING	IDF W205.4	3A/TY-601
5	I2.C03	TY-216	LEVEL 2	ACTIVITY AT INTEGRATED COORDINATION CENTER 240	HD FIXED	CEILING	IDF W205.4	3A/TY-601
6	I2.C04	TY-216	LEVEL 2	ACTIVITY AT INTEGRATED COORDINATION CENTER 240	HD FIXED	CEILING	IDF W205.4	3A/TY-601

A3 CAMERA SCHEDULE
NTS

ITEM	CAMERA NO.	SHEET NO.	LEVEL	LOCATION	ALARM TYPE	TERMINATING IDF	REFERENCE DETAIL
1	I1.A01	TY-401	LEVEL 1	MDF (N) IFP	TAMPER	MDF	-
2	I2.A01	TY-402	LEVEL 2	IDF 172 (N) IFP	TAMPER	IDF W205.4	-
3	I2.A02	TY-402	LEVEL 2	COMM SUPERVISOR DESK	DOOR MOMENTARY PUSH BUTTON	IDF W205.4	5/TY-601
4	I2.A03	TY-402	LEVEL 2	COMM SUPERVISOR DESK	DOOR MOMENTARY PUSH BUTTON	IDF W205.4	5/TY-601
5	I2.S01	TY-402	LEVEL 2	COMM SUPERVISOR DESK	INTERCOM MASTER STATION	IDF W205.4	-
6	I2.S02	TY-402	LEVEL 2	ICC WEST ENTRANCE	INTERCOM	IDF W205.4	-
7	I2.S03	TY-402	LEVEL 2	ICC EAST ENTRANCE	INTERCOM	IDF W205.4	-

A2 ALARM POINT SCHEDULE
NTS

NOTES:

- NOTE 1: COORDINATE EXACT MOUNTING LOCATION WITH HAS.
- NOTE 2: DOOR POSITION SWITCH, DPDT (FLUSH MOUNT).
- NOTE 3: DOOR POSITION SWITCH, DPDT (SURFACE MOUNT).
- NOTE 4: ELECTRIFIED EXIT PANIC BAR WITH REX SWITCH.
- NOTE 5: ELECTRIFIED MORTISE LOCK w/ REX SWITCH (FAIL SECURE).
- NOTE 6: ELECTRIC POWER TRANSFER.
- NOTE 7: ELECTROMAGNETIC LOCK (FAIL SAFE).
- NOTE 8: EXIT PUSH BUTTON (DPDT).



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DIRECTOR
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Drawing Status

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SHEET NAME: SECURITY EQUIPMENT SCHEDULES

SHEET No. TY-501 SCALE: NTS

SHEET SIZE: 30"x42" ARCH E1

PLOT DATE: 6/7/2023 5:09:02 PM
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FILE PATH: Autodesk Docs://1425.13 IAH ICC/ICC - T & Tr.rvt

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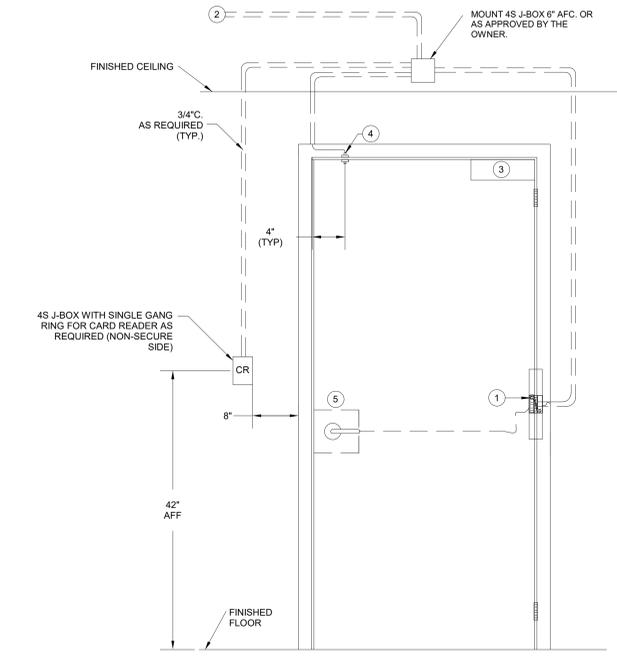
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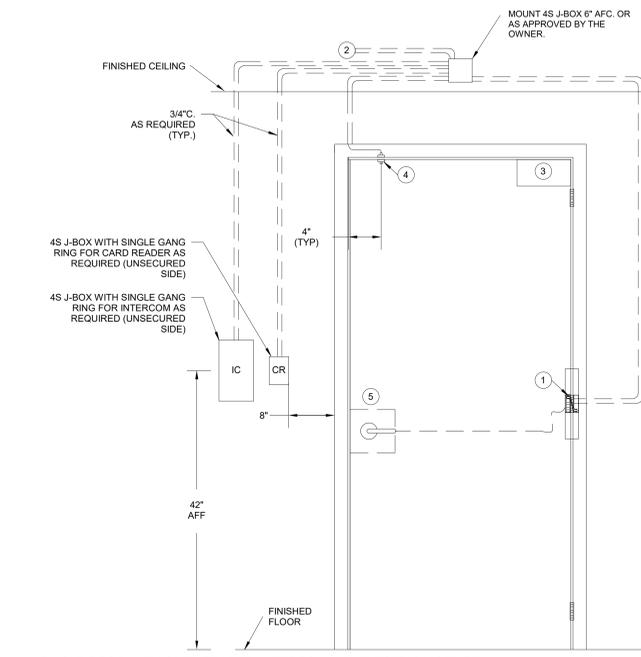
C

D

E



A3 SINGLE DOOR WITH CARD READER AND ELECTRIC MORTISE LOCK
 NTS



C3 SINGLE DOOR WITH CARD READER, INTERCOM AND ELECTRIC MORTISE LOCK
 NTS

GENERAL SHEET NOTES:

- VIEW SHOWN IS FROM SECURED SIDE OF PORTAL. CONDUIT, BOXES AND EQUIPMENT SHALL BE MOUNTED ON SECURED SIDE OF PORTAL, UNLESS OTHERWISE NOTED.
- CONDUITS MAY BE COMBINED, IF COMBINED, CONTRACTOR SHALL ENSURE CONDUIT IS SIZED TO ACCEPT REQUIRED CONDUCTORS PER NEC.
- COORDINATE MOUNTING LOCATIONS, ROUGH-IN AND FINISHES WITH THE OWNER.
- CONDUIT SHALL BE CONCEALED UNLESS OTHERWISE NOTED.
- DOOR HARDWARE SHOWN FOR REFERENCE ONLY. TYPE OF HARDWARE MAY VARY. ALL DOOR HARDWARE SHALL HAVE KEY CYLINDER UNLESS NOTED OTHERWISE.
- ALL SECURITY DOORS SHALL HAVE DOOR CLOSER.
- SECURITY DOOR DETAILS SHOWN ARE DIAGRAMMATIC FOR DESIGN PURPOSE. MEANS AND METHOD BY CONTRACTOR SHOP DRAWING REQUIRED PRIOR TO INSTALLATION.

KEY NOTES:

- ELECTRIC POWER TRANSFER (BY DIV. 8).
- 1" TO NEAREST IDF. TERMINATE CABLES IN IDF.
- DOOR CLOSER (BY DIV. 8).
- DOOR CONTACT (FLUSH MOUNT).
- ELECTRIFIED MORTISE LOCK WITH BUILT-IN REK (BY DIV. 8).
- EXIT PANIC DEVICE WITH ELECTRIFIED EXIT PANIC BAR AND REK SWITCH (BY DIV. 8).
- PROVIDE FIELD PANEL ENCLOSURE WITH POWER SUPPLY AND BATTERY BACK UP. THE FIRST FIELD PANEL SHALL HAVE THE INTELLIGENT CONTROLLED MOUNTED TO SLOT #1.
- BATTERY BACKUP SHALL BE SIZED TO CARRY FULL LOAD FOR FOUR (4) HOURS.
- DUAL READER MODULE: PROVIDE DUAL READER MODULES AS NECESSARY FOR THIS PROJECT.
- PROVIDE INPUT MODULE IN SLOT 8. QTY AS REQUIRED FOR PROJECT.
- PROVIDE OUTPUT MODULE IN SLOT 9. QTY AS REQUIRED FOR PROJECT.

HOUSTON AIRPORTS
 GENERAL SERVICES FACILITY
 4551 WILL CLAYTON PKWY,
 HUMBLE, TEXAS 77396

IAH INTEGRATED COORDINATION CENTER

C.I.P. No. **PN793** A.I.P. No. **N/A**
 C.O.H. No. **N/A** D.O.A. No. **N/A**
 B.S.G. No. **85G-2022-257-IAH** T.I.P. No. **TIP-22-219-IAH**



DESIGNER PROJECT No.: **2022.013**
 PROJECT STATUS: **IFB**

REVISIONS

No.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	10/06/2022	
2	PERMIT COMMENTS 1	10/26/2022	
3	PERMIT COMMENTS 2	11/11/2022	
4	ISSUE FOR BID & CONSTRUCTION	05/05/2023	
5	ISSUE FOR BID	06/08/2023	

DESIGN BY: **PGA**
 DRAWN BY: **PGA**
 CHECKED BY: **PGA**
 ISSUE DATE: **06/08/2023**
 APPROVED BY: **RDLR**
 APPROVAL DATE: **06/08/2023**

DIRECTOR
 of
HOUSTON AIRPORT SYSTEM

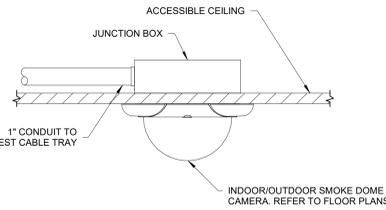
Drawing Status: **IFB**
 ISSUE FOR BID

JOHN GRUENWALD
 100036
 PROFESSIONAL ENGINEER
 06/08/2023

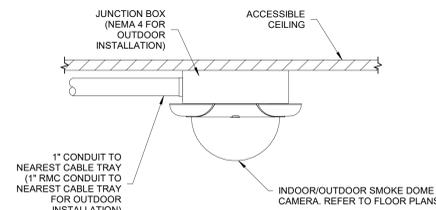
SHEET NAME: **SECURITY DETAILS**

SHEET No. **TY-601** SCALE: **As indicated**

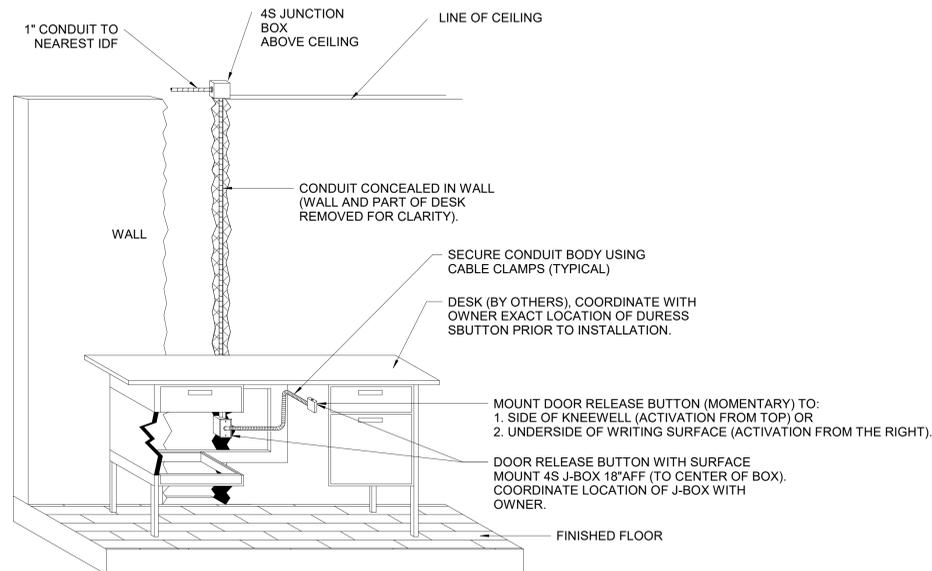
SHEET SIZE: **30"x42" ARCH E1**



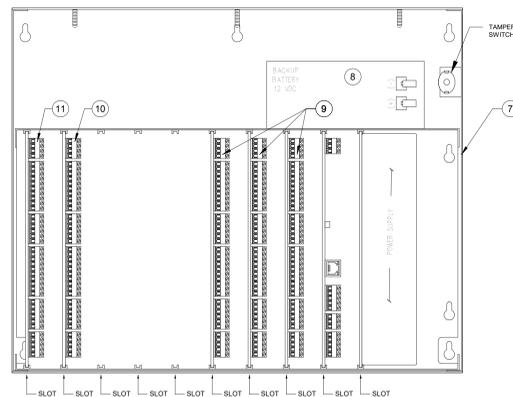
A2 TYPICAL CAMERA MOUNTING DETAIL - CEILING MOUNT
 NTS



B2 TYPICAL CAMERA MOUNTING DETAIL - SURFACE MOUNT
 NTS



C2 TYPICAL UNDER DESK MOUNTED DOOR RELEASE BUTTON DETAIL
 NTS



A1 TYPICAL INTELLIGENT FIELD PANEL DETAIL
 NTS

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