HVAC Upgrades & Interior Renovations - Phase #2 Greenwood Lake Public Library 79 Waterstone Road Greenwood Lake, NY 10925 NYSED #: 44-21-11-02-6-008-005

Abbreviations

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&	AND	INFO	INFORMATION
L	ANGLE	INSUL	INSULATION
@	AT	IN	INCH
د م		INT	
		JAN	
ACM	ABESTOS CONTAINING MATERIAI	JT	JOINT
ACT	ACOUSTIC CEILING TILE	KIT	KITCHEN
AD	AREA DRAIN	LAM	LAMINATE
ADD	ADDITIONAL	LAV	LAVATORY
ADJ		LB	
	ABOVE FINISHED GRADE	LG MATI	MATERIAI
ALUM	ALUMINUM	MAX	MAXIMUM
APPROX	APPROXIMATE	MB	MARKER-BOARD
ARCH	ARCHITECTURAL	MC	MECHANICAL CONTRACTOR
BC	BRICK COURSE	MECH	
BK2H BD	BOOKSHELE	MANUE	MECHANICAL ELECTRICAL PLUMBING MANUEACTURER
BLDG	BUILDING	MIN	MINIMUM
BLK	BLOCK	MISC	MISCELLANEOUS
BLKG	BLOCKING	MO	MASONRY OPENING
B/O	BY OTHERS	MTD	MOUNTED
BOT	BOTTOM		
BUR	BUILT UP ROOF	NIC	NOT IN CONTRACT
CT	CERAMIC TILE	NO	NUMBER
CI	CAST IRON	NOM	NOMINAL
CJ	CONTROL JOINT	NTS	NOT TO SCALE
CL	CLOSET		
		OD OH	
	CLEAR	OPG	OPENING
CMU	CONCRETE MASONRY UNIT	OPP	OPPOSITE
COL	COLUMN	OTA	OPEN TO ABOVE
CONC	CONCRETE	PL	PLATE
CONSTR	CONSTRUCTION	PLAM	
			PLYWOOD PANFI
CORR	CORRIDOR	PNT. PTD	PAINT(ED)
CPT	CARPET	PROP	PROPOSED
CS	CAST STONE	PSF	POUNDS PER SQUARE FOOT
CTR	COUNTER(TOP)	PT	PRESSURE TREATED
CW		PV	
		R	RISER
DF	DRINKING FOUNTAIN	RAD	RADIUS
DTL	DETAIL	RCP	REFLECTED CEILING PLAN(S)
DIA	DIAMETER	RD	ROOF DRAIN
DIM	DIMENSION	REF	REFERENCE
	DOOR		
DWG	DRAWING	REQD	REQUIREMENTS REQUIRED
EA	EACH	RES	RESILIENT
EC	ELECTRICAL CONTRACTOR	REV	REVERSE
EF	EXHAUST FAN	RM	ROOM
	EXTERIOR INSULATING FINISHING SYSTEM	RU	
	ELEVATION	SCHED	SCHEDULE
ELEC	ELECTRICAL	SECT	SECTION
EMER	EMERGENCY	SF	SQUARE FEET
ENGR		SHWR	SHOWER
	ELECTRICAL PANEL-BOARD	SIM	SIMILAR
	FOLIIPMENT	SOG	SLOPE SLAB ON GRADE
ETR	EXISTING TO REMAIN	SPEC	SPECIFICATION
EXIST, EX	EXISTING	SQ	SQUARE
EXP	EXPANSION	SS	STAINLESS STEEL
		SID	
FD	FLOOR DRAIN	STOR	STORAGE
FDTN	FOUNDATION	STRUCT	STRUCTURAL
FE	FIRE EXTINGUISHER	SUSP	SUSPENDED
FEC	FIRE EXTINGUISHER CABINET	T	TREAD
FIN	FINISH	IB	IACK-BOARD
FLK FLASH	FLOOR FLASHING		TOILET
FP	FIREPROOF	T.O.	TOP OF
FRTW	FIRE RETARDANT TREATED WOOD	тос	TOP OF CONCRETE
FT	FOOT OR FEET	T.O.S.	TOP OF STEEL
FTG	FOOTING	T.O.W.	
	FURKING FIELD VERIEV		Ι ΕLEVISIUN ΤΥΡΙΟΔΙ
GA	GAUGE	UNO	UNLESS NOTED OTHERWISE
GALV	GALVANIZED	VB	VAPOR BARRIER
GC	GENERAL CONTRACTOR	VCT	VINYL COMPOSITION TILE
GL	GLASS	VERT	VERTICAL
GND	GROUND	VEST	
GK		V ⊟ I \/I⊑	
GWB	GYPSUM WALLBOARD	VWB	VINYL WALL BASE
HDWE	HARDWARE	W/	WITH
HM	HOLLOW METAL	WB	WHITE BOARD
HOL	HOLLOW	WC	WATER CLOSET
HORIZ	HURIZUNTAL	WD	
		WP	WATERPROOF
HW	HOT WATER	WT	WEIGHT
ID	INSIDE DIAMETER	WWF	WELDED WIRE FABRIC
IG	INSULATING GLASS	WWM	WELDED WIRE MESH

General Note

•	ALL WORK SHALL CONFORI ORDINANCES, ETC. FOR NE
2.	CONTRACTOR SHALL BE RE AND SCOPE OF THE WORK
5.	CONTRACTOR SHALL BE SO REQUIREMENTS ESTABLISH STRINGENT REQUIREMENT STRUCTURES.
ι.	THE CONTRACTOR SHALL E INCLUDING SAFETY. CONS PUBLIC ARE PROTECTED FI SCAFFOLDING, UNDERPINN CAUSED DURING OR RESUL COST TO THE OWNER.
5.	THE CONTRACTOR SHALL M REMOVALS SHALL BE CONT AVOID CREATION OF A NUIS
j.	CONTRACTOR SHALL SECU WORK AND SHALL SECURE
	CONTRACTOR SHALL BE RE OWNER SHALL BE CONSUL PROJECT.
5.	UPON COMPLETION OF WO LEFT CLEAN TO THE OWNE
).	ALL WORK SHALL BE SCHEI CONSTRUCTION SCHEDULE
0.	CONTRACTOR SHALL FURN IN A SAFE AND ORDERLY M
1.	THE CONTRACTOR SHALL E ENCOUNTERED DURING TH
2.	THE CONTRACTOR SHALL F TO COMMENCING WORK. T ARCHITECT, IN WRITING, PF
3.	THE CONTRACTOR SHALL E
4.	THE CONTRACTOR SHALL N PRECEDENCE OVER THE DI
5.	THE CONTRACTOR SHALL S APPROVAL PRIOR TO THE S
6.	THE CONTRACTOR SHALL F THE WORK.
7.	THE CONTRACTOR SHALL E
8.	ALL MANUFACTURER'S MAT ACCORDANCE WITH MANUF MANUFACTURED PRODUCT SPECIFICATIONS MAY BE SI NAMES OR SPECIFIC PROD FOR THE PURPOSE OF ILLU NO WAY PRECLUDES THE O ADVANCE TO BE OF LIKE AN
9.	ALL CHANGES SHALL BE RE OWNER PRIOR TO ANY CHA

- 20. THE ARCHITECT HAS THE STANDARD, UNAUTHORIZ SHALL BE REPLACED, RE
- 21. THE CONTRACTOR SHAL YEAR AFTER RECEIVING PERIOD AT THE CONTRAC
- 22. IN NO EVENT SHALL STRU STRUCTURAL ENGINEER
- 23. THE CONTRACTOR SHAL BEING CARRIED ON. WO DANGER TO HEALTH AND
- 24. THE CONTRACTOR SHAL HYDRANTS, FIRE ALARM
- 25. BI-WEEKLY PROGRESS M 26. UPON PROJECT COMPLE
- MSDS SHEETS, OPERATION 27. WHERE SPECIFIC PRODU
- THE BASIS OF DESIGN, A THAT THE SUBSTITUTION MEETS OR EXCEEDS THE BASIS OF DESIGN.

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ORM TO THE 2015 INTERNATIONAL BUILDING CODE AND ALL OTHER APPLICABLE CODES, NEW YORK STATE AND THE LOCAL AUTHORITY HAVING JURISDICTION.
RESPONSIBLE FOR VISITING THE SITE AND FAMILIARIZING HIMSELF WITH THE EXISTING CONDITIONS RK PRIOR TO SUBMITTING BIDS AND COMMENCING WORK. COORDINATE SITE ACCESS WITH OWNER.
SOLELY RESPONSIBLE FOR ALL SAFE WORKING CONDITIONS AND SHALL OBSERVE ALL SAFETY ISHED BY JURISDICTIONAL AGENCIES AND THE OWNER. WHERE CONFLICTS EXIST, THE MORE INT SHALL APPLY. CARE SHALL BE EXERCISED TO AVOID ENDANGERING PERSONNEL OR
L BE RESPONSIBLE FOR CONSTRUCTION METHODS, PROCEDURES AND JOB SITE CONDITIONS, NSTRUCTION SHALL BE PERFORMED IN SUCH A MANNER THAT WORKMEN, OCCUPANTS AND THE O FROM INJURY AND ADJOINING PROPERTY SHALL BE PROTECTED FROM DAMAGE BY USE OF INNING OR OTHER APPROVED METHOD. THE CONTRACTOR SHALL REPAIR ANY AND ALL DAMAGE SULTING FROM HIS OPERATIONS IN KIND TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL
L MAINTAIN THE JOB SITE IN A CLEAN, DEBRIS FREE CONDITION. THE DUST RESULTING FROM ONTROLLED SO AS TO PREVENT ITS SPREAD TO OCCUPIED PORTIONS OF THE BUILDING AND TO IUISANCE IN THE SURROUNDING AREA.
CURE AND PAY FOR ALL REQUIRED PERMITS, FEES, APPROVALS, ETC. PRIOR TO COMMENCING RE CERTIFICATE OF OCCUPANCY UPON COMPLETION OF WORK.
RESPONSIBLE TO DISPOSE OF ALL DEMOLISHED MATERIAL OFF SITE IN AN APPROVED MANNER. THE ULTED PRIOR TO DISPOSAL OF ANY SALVAGED OR EXCESS MATERIALS AT THE COMPLETION OF THE
VORK, ALL EXCESS MATERIAL, DEBRIS, ETC. SHALL BE REMOVED AND THE WORK AREA SHALL BE NER'S SATISFACTION.
HEDULED ACCORDING TO THE OWNER'S REQUIREMENTS. CONTRACTOR TO COORDINATE JLE WITH OWNER.
RNISH ALL MATERIALS AND EQUIPMENT THAT MAY BE REQUIRED TO PERFORM THE WORK INDICATED Y MANNER, UNLESS OTHERWISE NOTED ON THE CONTRACT DOCUMENTS.
L BE RESPONSIBLE FOR THE RELOCATION AND TEMPORARY SUPPORT OF ANY UTILITIES THE COURSE OF HIS WORK AND TO ENSURE THE OWNER'S FACILITY TO BE OPERATIONAL.
L REVIEW ALL DRAWINGS AND FIELD VERIFY ALL DIMENSIONS, CONDITIONS AND ELEVATIONS PRIOR X. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES AND ADDRESS ALL QUESTIONS TO PRIOR TO COMMENCING WORK.
L BE RESPONSIBLE FOR CUTTING, PATCHING, FILLING AND CLEANING UPON COMPLETION OF WORK.
L NOT SCALE DRAWINGS FOR DIMENSIONS. ALL WRITTEN OR DIMENSIONED INFORMATION TAKES DRAWING.
L SUBMIT WHERE REQUIRED, SHOP DRAWINGS, SAMPLES AND MOCK-UPS TO THE ARCHITECT FOR IE START OF FABRICATION OF THOSE ITEMS.
L PROVIDE THE OWNER AND ARCHITECT WITH CERTIFICATES OF INSURANCE PRIOR TO STARTING
L BE RESPONSIBLE FOR SHORING AND BRACING OF EXISTING STRUCTURES AS NEEDED TO DRK.
ATERIALS, COMPONENTS, FASTENERS, ASSEMBLIES, ETC. SHALL BE HANDLED AND INSTALLED IN NUFACTURERS SPECIFIC INSTRUCTIONS AND RECOMMENDATIONS. WHERE BRAND NAMES AND ICTS ARE CALLED FOR, APPROVED EQUALS WHICH MEET APPLICABLE STANDARDS AND E SUBSTITUTED WITH WRITTEN PERMISSION OF THE ARCHITECT AND THE OWNER. WHENEVER BRAND ODUCT SYSTEMS ARE INDICATED IT SHALL BE CLEARLY UNDERSTOOD THAT SUCH IDENTIFICATION IS LUSTRATING THE TYPE OF PRODUCT AND DEGREE OF QUALITY DESIRED. SUCH IDENTIFICATION IN E CONTRACTOR FROM USING PRODUCTS OF OTHER MANUFACTURERS WHICH CAN BE SHOWN IN E AND OF EQUAL QUALITY.
REQUESTED IN WRITING AND MAY ONLY BE APPROVED IN WRITING BY THE ARCHITECT AND THE CHANGES BEING MADE.
E RIGHT TO REJECT ANY PORTION OF WORK THAT IS POORLY INSTALLED, DOES NOT MEET INDUSTRY ZED OR WORK DONE CONTRARY TO THE THE INTENT OF THE CONTRACT DOCUMENTS. SUCH WORK EPAIRED OR REMOVED AT THE CONTRACTOR'S EXPENSE.
L GUARANTEE ALL HIS WORK AND THE WORK OF HIS SUBCONTRACTORS FOR A PERIOD OF ONE FINAL ACCEPTANCE AND DO ALL REPAIR WORK AND REPLACEMENT AS NECESSARY DURING THAT CTOR'S EXPENSE.
UCTURAL MEMBERS BE CUT OR DRILLED WITHOUT THE WRITTEN APPROVAL OF A LICENSED
L PROVIDE SAFE AND SANITARY CONDITIONS WHERE DEMOLITION AND WRECKING OPERATIONS ARE RK SHALL BE EXECUTED IN SUCH A MANNER THAT HAZARD FROM FIRE, POSSIBILITY OF INJURY, D CONDITIONS WHICH MAY CONSTITUTE A PUBLIC NUISANCE SHALL BE MINIMIZED.
L MAINTAIN UNOBSTRUCTED ACCESS TO ALL UTILITIES AND PUBLIC FACILITIES INCLUDING FIRE BOXES, POLICE CALL BOXES, STREET LIGHTS, MANHOLES, AMONG OTHERS DURING DEMOLITION.
VEETINGS SHALL BE HELD ON SITE DURING THE COURSE OF CONSTRUCTION UNTIL COMPLETION.
TION, CONTRACTOR SHALL PROVIDE CLOSE OUT DOCUMENTS INCLUDING, BUT NOT LIMITED TO: ALL ONS AND MAINTENANCE MANUALS, WARRANTIES, AND AS BUILT DRAWINGS.
JCTS OR MANUFACTURERS ARE INDICATED, IT IS TO BE UNDERSTOOD THAT THIS IS CONSIDERED ND "EQUALS" WILL BE APPROVED BY THE ARCHITECT OR ENGINEER UPON SATISFACTORY EVIDENCE

28. COLOR OF ALL FINISH MATERIALS SHALL BE SELECTED BY OWNER.

Building Code Analysis

SECTION 504: ALTERATION LEVEL 2

OCCUPANT LOAD

PER THE 2015 INTERNATIONAL EXISTING BUILDING CODE (IEBC)

PER THE 2015 INTERNATIONAL BUILDING CODE (IBC) U.N.O.

USE GROUP CLASSIFICATION "A": ASSEMBLY (A-3)

SECTION 1004.1.2 - AREAS WITHOUT FIXED SEATING

DCCUPANCY LOADS WERE CALCULATED USING THE MAXIN DCCUPANT AS INDICATED IN TABLE 1004.1.2.	NUN	-LOOR A
AXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT		
STORAGE & MECHANICAL ROOMS	300	GROSS
ASSEMBLY:		
ASSEMBLY WITH FIXED SEATS	SEC	TION 10
CONCENTRATED (CHAIRS ONLY)	7	NET
STANDING SPACE	5	NET
UNCONCENTRATED (TABLES & CHAIRS)	15	NET
BUSINESS AREAS (OFFICES)	100	GROSS
EDUCATIONAL:		
CLASSROOMS	20	NET
SHOPS OR VOCATIONAL ROOMS	50	NET
LIBRARY		
READING ROOM	50	NET
STACKS	100	GROSS

SECTION 1004.4 - FIXED SEATING

FOR AREAS HAVING FIXED SEATS AND AISLES, THE OCCUPANT LOAD SHALL BE DETERMINED BY THE NUMBER OF FIXED SEATS INSTALLED THEREIN.

MEANS OF EGRESS SIZING

SECTION 1005 1005.3 REQUIRED CAPACITY BASED ON OCCUPANT LOAD

1005.3.1 STAIRWAYS

CALCULATED BY MULTIPLYING THE OCCUPANT LOAD SERVED BY SUCH STAIRWAYS BY A MEANS OF EGRESS CAPACITY FACTOR OF 0.3 INCH PER OCCUPANT.

1005.3.2 OTHER EGRESS COMPONENTS

MEANS OF EGRESS COMPONENTS OTHER THAN STAIRWAYS SHALL BE CALCULATED BY MULTIPLYING THE OCCUPANT LOAD SERVED BY EACH COMPONENT BY A MEANS OF EGRESS CAPACITY FACTOR OF 0.2 INCH PER OCCUPANT.

NUMBER OF EXITS AND EXIT ACCESS DOORWAYS

SECTION 1006 1006.2.1 EGRESS BASED ON OCCUPANT LOAD AND COMMON PATH OF EGRESS TRAVEL

DISTANCE. TWO EXITS OR EXIT ACCESS DOORWAYS FROM ANY SPACE SHALL BE PROVIDED WHERE THE

- DESIGN OCCUPANT LOAD OR THE COMMON PATH OF EGRESS TRAVEL DISTANCE EXCEEDS THE VALUES LISTED IN TABLE 1006.2.1
- "A-3" OCCUPANCY:
- 49 MAX OCCUPANT LOAD
- 75' MAX COMMON PATH OF EGRESS TRAVEL DISTANCE

EXIT ACCESS

SECTION 1016 1016.2 EGRESS THROUGH INTERVENING SPACE

EGRESS FROM A ROOM OR SPACE SHALL NOT PASS THROUGH ADJOINING OR INTERVENING ROOMS OR AREAS, EXCEPT WHERE SUCH ADJOINING ROOMS OR AREAS AND THE AREA SERVED ARE ACCESSORY TO ONE OR THE OTHER.

EGRESS SHALL NOT PASS THROUGH KITCHENS, STORAGE ROOMS, CLOSETS OR SPACES USED FOR SIMILAR PURPOSES.

EXIT ACCESS TRAVEL DISTANCE

SECTION 1017 "A-3" OCCUPANCY: NOT TO EXCEED 200 FEET WITHOUT SPRINKLER SYSTEM

CORRIDORS

- SECTION 1020 1020.1 CORRIDOR FIRE-RESISTANCE RATING:
- "A-3" OCCUPANCY
- 1 HOUR WITHOUT A SPRINKLER SYSTEM





















Finish Legend			INTE					RIOR		
ABBREVIATIONS	DESCRIPTIONS									
CPT	CARPET: REFER TO FLOOR FINISH LEGEND ON SHEET A9.01 AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.	M NO.	ROOM NAME	LOOR	K FINISH	SE	HEIGHT	H WALL		
VCT	VINYL COMPOSITION FLOOR TILE: REFER TO FLOOR FINISH LEGEND ON SHEET A9.01 AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.	ROO		FLOOF	B	BASE	NORTI			
PFT	PORCELAIN FLOOR TILE: REFER TO FLOOR FINISH LEGEND ON SHEET A9.01 AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.									
ETR	EXISTING TO REMAIN			1				1	—	
VB	VINYL BASE	103	ADULT LIBRARY	CONC.	CPT	VB	6"	PNT		
СВ	CERAMIC BASE	104	FOYER	CONC.	VCT	VB	6"	PNT		
PNT	PAINT (INTERIOR): REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.	105	VESTIBULE	CONC.	VCT	VB	6"	PNT		
GWB	GYPSUM WALL BOARD: REPAIR EXISTING (SPACKLE, SAND, PRIME) GYP. BD. OR INSTALL	106	CIRCULATION SPACE	CONC	СРТ	VB	6"	PNT		
	NEW, REFER TO PLANS AND WALL TYPE FOR ADDITIONAL INFORMATION	107	TOILET ROOM	WOOD	ETR	ETR	ETR	PNT		
FRP	FIBERGLASS REINFORCED PLASTIC	108	MEDIA 2		СРТ	VB	6"	PNT		
CT-x	CEILING TYPE, REFER TO " CEILING TYPES" LEGEND ON SHEET A5.01	109	STORAGE		ETR	ETR	ETR	ETR		
		110	VESTIBULE		ETR	ETR	ETR	ETR		
		111	OFFICE		СРТ	VB	6"	PNT		
		112	STAFF WORKROOM		СРТ	VB	6"	PNT		
		113	TOILET ROOM		ETR	ETR	ETR	PNT		
		114	TOILET ROOM		PFT	VB	6"	PNT		
\	- Equip. Support, Typ.	115	YOUNG ADULT		СРТ	VB	6"	PNT		
	NEOPRENE PAD CAP FLASHING	116	CHILDRENS LIBRARY		CPT	VB	6"	PNT		
	- WOOD NAILER	117	JANITORS		PFT	СВ	6"	GWB/ PNT		
	- NEW 'PATE' EQUIPMENT SUPPORT. OR	118	FAMILY TOILET	WOOD	PFT	СВ	6"	GWB/ PNT		
	APPROVED EQUAL. INSTALL AS PER MANUFACTURER'S SPECIFIC INSTRUCTIONS.	119	VESTIBULE	CONC.	ETR	ETR	ETR	PNT		
	FASTENERS, 8" O.C., STAGGERED. PENETRATE INTO EXISTING WOOD ROOF DECK.	120	PROGRAM ROOM	CONC.	ETR/ CPT	VB	6"	PNT		
	FLUID APPLIED FLASHING INSTALLED OVER EXISTING FLUID	121	TOILET ROOM	CONC.	ETR	ETR	ETR	PNT		
	APPLIED ROOFING. LAP MIN. 12" IN ALL DIRECTIONS. INSTALL	122	STORAGE	CONC.	ETR	ETR	ETR	PNT		
	STRICTLY PER MANUFACTURER'S SPECIFICATIONS, TYPICAL.	123	PANTRY	CONC.	VCT	VB	6"	PNT		
		124	CORRIDOR	CONC.	СРТ	VB	6"	PNT		
		125	CONFERENCE ROOM	CONC.	СРТ	VB	6"	PNT		
	EXISTING WOOD DECK AND TAPERED INSULATION TO REMAIN.	127	DIRECTORS OFFICE	CONC.	СРТ	VB	6"	GWB/ PNT		
rb Deta	ail	128	MDF	CONC.	VCT	VB	6"	PNT		
	ACC CURB RAIL	129	BASEMENT STAIR		ETR	ETR	ETR	ETR		



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Floor	Finish	Legen

		Floor Finish Legend	
SYMBOL	ABBREVIATIONS	DESCRIPTIONS	
	PFT	8" x 8" PORCELAIN FLOOR TILE, 'PORCEALTO BY 'DALTILE.' TILE COLOR & GROUT COLOR TO BE SELECTED BY OWNER FROM MANUFACTURER'S FULL RANGE OF OPTIONS. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.	
(COLOR 1) (COLOR 2)	СРТ	<u>CARPET:</u> MULTI-LEVEL PATTERN LOOP MODULAR CARPET WITH PADDING 'MID-CENTURY MAD' BY 'PATCRAFT' (BASIS OF DESIGN). INSTALL PER MANUFACTURER'S INSTRUCTIONS. (3) COLORS TO BE SELECTED BY OWNER FROM FULL RANGE OF MANUFACTURER'S OPTIONS. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.	
	VCT	VINYL COMPOSITION TILE: 12"x12"x1/8" BY 'TARKETT' OR APPROVED EQUAL. COLOR SELECTED FROM 'AZTERRA', 'TARKETT VCT' OR 'COLOR ESSENCE.' SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.	
	ETR	EXISTING TO REMAIN	
	AS	ADA ALUMINUM SADDLE	
	VS	ADA VINYL SADDLE TRANSITION STRIP	



FROM THIS CONTRACT.

MJM

GENERAL NOTES	HVAC GE
1. ALL WORK SHALL CONFORM TO THE LATEST EDITIONS OF THE NEW YORK STATE ENERGY CODE, INTERNATIONAL MECHANICAL CODE, ASHRAE GUIDELINES, SMACNA, COUNTY GUIDELINES, NEC, PLUMBING CODE, AND ALL OTHER APPLICABLE CODES, ORDINANCES, ETC. FOR NEW YORK STATE AND THE LOCAL AUTHORITY HAVING JURISDICTION	 PROCURE AND PAY ALL NECESSARY THE WORK SHOWN. OBTAIN AND PAY COMPLY WITH ALL EEDERAL STATE
 CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE AND FAMILIARIZING HIMSELF WITH THE EXISTING CONDITIONS AND SCOPE OF THE WORK PRIOR TO SUBMITTING BIDS AND COMMENCING WORK, AND INCLUDE ALL SUCH NECESSARY WORK BASED ON THIS SITE FAMILIARIZATION IN THIS RID. 	 COMPLET WITH ALL FEDERAL, STATE RULES AND REGULATIONS OF HEAL OR LIMITING THE METHODS, MATERIA GUARANTEE HVAC SYSTEM FOR ACCEPTANCE TO BE EBEE FROM DE
 CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL SAFE WORKING CONDITIONS AND SHALL OBSERVE ALL SAFETY REQUIREMENTS ESTABLISHED BY JURISDICTIONAL AGENCIES AND THE OWNER. WHERE CONFLICTS EXIST, THE MORE STRINGENT REQUIREMENT SHALL APPLY. CARE 	 4. MECHANICAL CONTRACTOR SHALL BE 5. DAL ANOS HIMAO OVOTEM TO QUANTIT
 SHALL BE EXERCISED TO AVOID ENDANGERING PERSONNEL OR STRUCTURES. 4. CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION METHODS, PROCEDURES AND JOB 	5. BALANCE HVAC SYSTEM TO QUANTIT SETS OF AIR AND UNIT BALANCING ACCEPTANCE OF THE SYSTEM.
SITE CONDITIONS INCLUDING SAFETY. CONSTRUCTION SHALL BE PERFORMED IN SUCH A MANNER TO PROTECT WORKMEN, OCCUPANTS AND THE PUBLIC FROM INJURY AND ADJOINING PROPERTY SHALL BE PROTECTED FROM DAMAGE BY USE OF SCAFFOLDING, UNDERPINNING OR OTHER APPROVED METHOD. THE CONTRACTOR SHALL REPAIR ANY AND ALL DAMAGE CAUSED DURING OR RESULTING FROM HIS OPERATIONS IN KIND TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST TO THE OWNER.	6. BIDDERS FOR THIS WORK SHALL VI EXISTING CONDITIONS BEFORE SUBN BEEN IDENTIFIED ON DRAWINGS. DISCREPANCIES PRIOR TO SUBMITTIN
5. CONTRACTOR SHALL MAINTAIN THE JOB SITE IN A CLEAN, DEBRIS FREE CONDITION. THE DUST RESULTING FROM REMOVALS SHALL BE CONTROLLED SO AS TO PREVENT ITS SPREAD TO OCCUPIED PORTIONS OF THE BUILDING AND TO AVOID CREATION OF A NUISANCE IN THE SURROLINDING AREA	 ALL BIDDERS SHALL ALSO FAMILIAR AND EXIT AT THE PROPERTY AND AL CARRY OUT THE WORK. THE CONTRACTOR SHALL, WITH THE
 CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS, FEES, APPROVALS, ETC. PRIOR TO COMMENCING WORK AND SHALL SECURE CERTIFICATE OF OCCUPANCY UPON COMPLETION OF WORK. 	ADDITIONAL COST TO THE OWNER, M TO LOCATIONS AS MAY BE NECESSA THE PROPER AND CONVENIENTLY A SYSTEM.
7. CONTRACTOR SHALL BE RESPONSIBLE TO DISPOSE OF ALL DEMOLISHED MATERIAL OFF SITE IN AN APPROVED MANNER. THE OWNER SHALL BE CONSULTED PRIOR TO DISPOSAL OF ANY SALVAGED OR EXCESS MATERIALS AT THE COMPLETION OF THE PROJECT.	9. SMALL DETAILS ARE NOT USUALLY PROPER INSTALLATION AND OPERATI AT NO ADDITIONAL COST.
8. UPON COMPLETION OF WORK, ALL EXCESS MATERIAL, DEBRIS, ETC. SHALL BE REMOVED AND THE WORK AREA SHALL BE LEFT CLEAN TO THE OWNER'S SATISFACTION.	10. THE CONTRACTOR SHALL NOTE THAT TRUE POSITIONS. EACH BIDDER IS CA CONDITIONS.
 ALL WORK SHALL BE SCHEDULED IN COMPLIANCE WITH THE OWNER'S REQUIREMENTS FOR THE USE OF THE EXISTING FACILITY. 	11. CONTRACTOR SHALL CHECK FOR INT FABRICATION OR INSTALLATION OF PI
 CONTRACTOR SHALL FURNISH ALL EQUIPMENT THAT MAY BE REQUIRED TO PERFORM THE WORK INDICATED IN A SAFE AND ORDERLY MANNER, AND AS NECESSARY FOR A PROPER OPERATIONAL SYSTEM. CONTRACTOR SHALL BE RESPONSIBLE FOR THE RELOCATION AND TEMPORARY SUPPORT OF ANY 	12. IF AN ITEM OF EQUIPMENT OTHER CONTRACTOR SHALL BE RESPONSI ADDITIONAL OR CHANGED GENERAL TO ACCOMMODATE THE SUBSTITUTED
UTILITIES ENCOUNTERED DURING THE COURSE OF HIS WORK AND TO ENSURE THE OWNER'S FACILITY TO BE OPERATIONAL.	13. ALL EQUIPMENT INSTALLATION SHA DIRECTIONS AND RECOMMENDATIONS
12. CONTRACTOR SHALL REVIEW DRAWINGS AND FIELD VERIFY ALL DIMENSIONS, CONDITIONS AND ELEVATIONS PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES AND ADDRESS ALL QUESTIONS TO ENGINEER PRIOR TO COMMENCING WORK.	14. PROVIDE TWO (2) SETS OF SPARE FIL EQUIPMENT.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING, PATCHING, FILLING AND CLEANING UPON COMPLETION OF WORK.	15. PROVIDE TWO-YEARS PREVENTIVE INSTALLED HVAC SYSTEM. THIS INCL
 CONTRACTOR SHALL NOT SCALE DRAWINGS FOR DIMENSIONS. ALL WRITTEN OR DIMENSIONED INFORMATION TAKES PRECEDENCE OVER THE DRAWING. CONTRACTOR SHALL SUBMIT, WHERE REQUIRED BY THE ARCH/ENGR, SHOP DRAWINGS AND 	ANY ADDITIONAL VISITS REQUIRED ALIGNMENTS, PROPER REFRIGERANT DDC CONTROLS, ETC. IS INCLUDED IN
SUBMITTALS FOR APPROVAL PRIOR TO THE START OF FABRICATION OF THOSE ITEMS. THIS INCLUDES ALL EQUIPMENT, SCHEMATIC DUCTWORK AND PIPING LAYOUT, ETC. CONTRACTOR IS RESPONSIBLE FOR ENSURING ALL EQUIPMENT ETC WILL FIT (WITH PROPER MAINTENANCE CLEARANCES) AT ALL LOCATIONS. REVIEW OF SHOP DRAWINGS/SUBMITTALS BY THE ARCH/ENGR DOES NOT RELIEVE THE CONTRACTOR FROM PROVIDING THE CURRENT MODEL NUMBERS. TYPE &	16. PROVIDE FIRE DAMPERS/ACCESS I CORRIDORS, SLABS AND OTHER RAT INDICATED ON THE DRAWINGS OR NO
FEATURES OF ALL EQUIPMENT'S & MATERIALS.	18. MECHANICAL CONTRACTOR IS RESPO
17. THE CONTRACTOR SHALL SHALL BE RESPONSIBLE FOR SHORING AND BRACING OF EXISTING	AREAS OF MECHANICAL REMOVALS. 19. CONTRACTOR IS RESPONSIBLE FOR
STRUCTURES AS NEEDED TO COMPLETE THE NEW WORK. 18. ALL MANUFACTURER'S MATERIALS, COMPONENTS, FASTENERS, ASSEMBLIES, ETC. SHALL BE	LABOR TO KEEP THE BUILDING FREE (20. CONTRACTOR TO PROVIDE TWO (2
HANDLED AND INSTALLED IN ACCORDANCE TO WITH MANUFACTURERS INSTRUCTIONS AND RECOMMENDATIONS. WHERE BRAND NAMES AND MANUFACTURED PRODUCTS ARE CALLED FOR, APPROVED EQUALS WHICH MEET APPLICABLE STANDARDS AND SPECIFICATIONS MAY BE SUBSTITUTED WITH WRITTEN PERMISSION OF THE ENGINEER AND THE OWNER. WHENEVER	APART) ON PROPER OPERATION & CONTROLS. 21. CONTRACTOR TO NOTE THAT BOTH I
UNDERSTOOD THAT SUCH IDENTIFICATION IS FOR THE PURPOSE OF ILLUSTRATING THE TYPE OF PRODUCT AND DEGREE OF QUALITY DESIRED. SUCH IDENTIFICATION IN NO WAY PRECLUDES THE CONTRACTOR FROM USING PRODUCTS OF OTHER MANUFACTURERS WHICH CAN BE SHOWN IN ADVANCE TO BE OF LIKE AND OF EQUAL OR BETTER QUALITY.	22. CONTRACTOR TO SUBMIT FOUR (4) INCLUDING A SUMMARY SHEET OF
19. ALL CHANGES SHALL BE REQUESTED IN WRITING AND MAY ONLY BE APPROVED IN WRITING BY THE ARCHITECT AND THE OWNER PRIOR TO ANY CHANGES BEING MADE.	#'S, SHOP DRAWING SUBMITTALS, W INFORMATION, CONTACT DETAILS & A
20. THE ARCHITECT/ENGINEER HAS THE RIGHT TO REJECT ANY PORTION OF WORK THAT IS POORLY INSTALLED, DOES NOT MEET INDUSTRY STANDARD, UNAUTHORIZED, OR WORK DONE CONTRARY TO THE THE INTENT OF THE CONTRACT DOCUMENTS. SUCH WORK SHALL BE REPLACED, REPAIRED OR REMOVED AT THE CONTRACTOR'S EXPENSE.	CENEDAL CONS
21. CONTRACTOR SHALL GUARANTEE ALL HIS WORK AND THE WORK OF HIS SUBCONTRACTORS FOR A PERIOD OF ONE YEAR AFTER RECEIVING FINAL ACCEPTANCE AND DO ALL REPAIR WORK AND REPLACEMENT AS NECESSARY DURING THAT PERIOD AT THE CONTRACTOR'S EXPENSE.	1. CONTRACTOR IS RESPONSIBLE TO CO FOR ALL PIPE & DUCT PENETRATIONS
22. IN NO EVENT SHALL STRUCTURAL MEMBERS BE CUT OR DRILLED WITHOUT THE WRITTEN APPROVAL OF A LICENSED STRUCTURAL ENGINEER.	SEE DRAWINGS FOR APPROXIMATE LC 2. CONTRACTOR TO REFER TO MECHA
23. CONTRACTOR SHALL PROVIDE SAFE AND SANITARY CONDITIONS WHERE DEMOLITION AND WRECKING OPERATIONS ARE BEING CARRIED ON. WORK SHALL BE EXECUTED IN SUCH A MANNER THAT HAZARD FROM FIRE, POSSIBILITY OF INJURY, DANGER TO HEALTH AND CONDITIONS WHICH MAY CONSTITUTE A PUBLIC NUISANCE SHALL BE MINIMIZED.	 INSTALLING ACCESS PANELS, CUTOUT 3. ELECTRICAL SUBCONTRACTOR SHALL EXISTING ELECTRICAL, FIRE ALARM D NEW HVAC FOUIPMENT, PIPING & DUC
24. ENGINEER/OWNER MAY ASK THE CONTRACTOR TO PROVIDE DETAILED SHOP DRAWINGS & SUBMITTALS OF ANY/ALL PARTS OF THIS PROJECT WHICH THE ENGINEER/OWNER DEEMS NECESSARY FOR.	4. GENERAL CONTRACTOR SHALL REMO ACCOMMODATE THE INSTALLATION O CEILING TILES BACK TO MATCH EXIS CEILING GRID. CHECK IN FIELD.

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		·			·	·		Date Checked Drawn	3/1/21 TW MAM
								1	
		.NALO		STWDULS	NOT TO SCALE		DDILLVIATIONS		
Y PERMITS AND LICENSES REQUIRED TO CARRY OUT Y FOR ALL FEES. TE AND MUNICIPAL LAWS AND CODES, ORDINANCES.	EQUIPMENT: REFER TO SCHEDULES FOR UNIT MANUFACTUR	ER, SIZE, AND CAPACITY DATA.	\bigcirc	= ROUND SUPPLY AIR CEILING NECK SIZE AND AND CFM IN	G DIFFUSER (SAD) WITH NDICATED ON PLANS.	& @ ø	= AND = AT = DIAMETER OR ROUND	Y I	
LTH, PUBLIC OR OTHER AUTHORITIES CONTROLLING IALS TO BE USED OR ACTIONS OF THOSE EMPLOYED.	DUCTWORK: • INDOOR AIR DUCTWORK SHALL BE GALVANIZ	ED STEEL CONSTRUCTION. WEIGHTS	\bowtie	= 4-WAY SUPPLY AIR CEILING NECK SIZE AND AND CFM IN	G DIFFUSER (CD) WITH NDICATED ON PLANS.	AC ACCU AD	 AIR CONDITIONING UNIT AIR COOLED CONDENSING UNIT ACCESS DOOR 	A A	22257-1
R A PERIOD OF <u>ONE (1) YEAR</u> FROM OWNER'S DEFECTS AND REPAIR OR REPLACE, AT NO COST TO	AND CONSTRUCTION DETAIL SHALL BE IN ACC GUIDE AND/OR SMACNA STANDARDS. MIN. 24 FOR THE PROJECT.	ORDANCE WITH THE LATEST ASHRAE GAUGE DUCTWORK SHALL BE USED	- \-	= RETURN AIR REGISTER (RA SIZE AND CFM INDICATED C	R) WITH NECK DN PLANS.	ADD'L AFF ALT	 ADDITIONAL ABOVE FINISHED FLOOR ALTERNATE 	VER	ense No. <i>(</i>)
BE RESPONSIBLE FOR REMOVING ALL HIS DEBRIS.	ALL ROUND DUCTWORK SHALL BE DOUBLE-W THICK 3-LBS DENSITY INSULATION).	ALL SPIRAL DUCTWORK (SOLID W/ 1"	- \- -	= EXHAUST AIR REGISTER (E/ AND CFM INDICATED ON PL	AR) WITH NECK SIZE ANS.	BDD BLDG BMS	 BACK DRAFT DAMPER BUILDING BUILDING MANAGEMENT SYSTEM 	l log	
NG REPORT TO ENGINEER/OWNER PRIOR TO FINAL	 FLEXIBLE DUCTWORK: SHALL NOT EXCEED HORIZONTAL FLEX DUCT BRANCH TO A CEILING MAINTAIN A LONG RADIUS ELBOW TO TH "FLEXRIGHT" OR APPROVAL FOUAL MANUFACTURE 	FOUR (4) FEET IN LENGTH. FOR ANY G DIFFUSER, FURNISH A 90° BRACE TO IE DIFFUSER (TITUS MAKE, MODEL JRERS).		= SUPPLY AIR CEILING REGIS NECK SIZE AND CFM INDICA	STER/GRILLE (SAR) WITH ATED ON PLANS.	CAV CDP CEM	 CONSTANT AIR VOLUME CONDENSATE DRAIN PUMP CUBIC FEET PER MINUTE 	Wc	1
BMITTING BIDS. NOT ALL EXISTING CONDITIONS HAVE CONTRACTOR SHALL NOTIFY ENGINEER. OF ALL TING BID.	FIRE DAMPER: PHILLIPS SERIES 2 U.L. LABELED	DAMPER OR APPROVED EQUAL.	_\ <u>_</u>	= RETURN AIR REGISTER (RA	R) WITH NECK SIZE	CLG	= CEILING = DIRECT DIGITAL CONTROL	」 「	ARCHITEC
ARIZE THEMSELVES WITH THE MEANS OF ENTRANCE ALL OTHER INFORMATION NECESSARY TO PROPERLY	 AIR DEVICES: CD - TITUS MAKE, MODEL TMS (24"x24" OR 12"x1; RAR - TITUS MAKE, MODEL 350-R. 	" MODULE WITH ROUND NECK).		AND CFM INDICATED ON PL	AN	DIA DN DSD DWG	 DIAMETER DOWN DUCT SMOKE DETECTOR DRAWING 	CHAI	CISTERED
THE APPROVAL OF THE ENGINEER AND WITHOUT MAKE ALL NECESSARY CHANGES OR MODIFICATIONS	 EAR - TITUS MAKE, MODEL 355-R. GRG - TITUS MAKE, MODEL 350-R SD - TITUS MAKE, MODEL 250 SD - TITUS MAKE, MODEL 250 			= POINT OF CONNECTION OF TO EXISTING	NEW PIPING/DUCTWORK	EA EAR	= EACH = EXHAUST AIR REGISTER	Ň	Title RE
ACCESSIBLE LOCATIONS OF ALL PARTS OF EACH	• SR - TITUS MAKE, MODEL 250			= POINT OF DISCONNECTION TO EXISTING	OF NEW PIPING/DUCTWORK	EAT EF ET EXIST	= ENTERING AIR TEMPERATURE = EXHAUST FAN = EXPANSION TANK = EXISTING		ISIONS: SUE FOR BID
Y SHOWN OR SPECIFIED BUT NECESSARY FOR THE TION OR WORK SHALL BE FURNISHED AND INSTALLED	 ALL CEILING DIFFUSERS LOCATED IN GYPSU CEILINGS SHALL BE PROVIDED WITH FRAME PROVIDE FACTORY INSTALLED 90° BLANK DIFFUSERS 	M BOARD AND/OR CONCEALED SPLINE TYPE FOR SURFACE MOUNTING. OFF PLATE(S) IN ALL 2 AND 3 WAY	W" × D"	= INDICATES HARD DUCT WIT (DIMENSIONS ARE INSIDE C	TH INTERNAL LINING CLEAR WIDTH & DEPTH).	FAI FC	 FRESH AIR INTAKE FLEXIBLE CONNECTION 		10/2021
AT ALL SERVICE CONNECTIONS MAY NOT BE SHOWN IN CAUTIONED, THEREFORE, TO VERIFY SAME WITH FIELD	 COLOR OF NEW AIR INLETS & OUTLETS SHAL NC RATING OF ALL CDs SHALL NOT EXCED SHALL NOT EXCEED 22. 	L MATCH THE CEILING COLOR. ED 20. NC RATING OF ALL RARS/EARS		- INDICATES HARD DUCT (DIN	MENSIONS ARE INSIDE	FD FPT HVAC	 FIRE DAMPER FUNCTIONAL PERFORMANCE TEST HEAT/VENTILATION/AIR CONDITIONING 		
ITERFERENCE AND VERIFY ALL DIMENSIONS PRIOR TO	PIPING:			CLEAR WIDTH & DEPTH).		ID	= INSIDE DIAMETER (DIM)		
R THAN THE ITEM(S) SPECIFIED IS APPROVED, THE	REFRIGERANT PIPING SHALL BE HARD COPPER	TYPE "K" WITH BRAZED FITTINGS.		= DUCT TURN UP (SUPPLY, RI EXHAUST)	ETURN,	IN INFO	= INCH = INFORMATION		
SIBLE FOR ALL ADDITIONAL COST ARISING OUT OF L CONSTRUCTION AND MECHANICAL WORK REQUIRED ED EQUIPMENT.	CONDENSATE DRAIN PIPING SHALL BE HARE COPPER SOLDERED FITTINGS. REFER TO PLUM INSULATION ¹) COPPER TYPE "L" WITH WROUGHT BING DRAWINGS.		= DUCT TURN DOWN (SUPPL) EXHAUST)	Y, RETURN,	LAT LDB LSD LWB	 LEAVING AIR TEMPERATURE LEAVING DRY BULB LINEAR SLOT DIFFUSER LEAVING WET BUILB 		
HALL BE IN ACCORDANCE WITH MANUFACTURERS NS.	EXTERNAL DUCT INSULATION: 1" THICK, MIN. DUCT INSULATION WITH REINFORCED FOIL FA	.5 LB. DENSITY FLEXIBLE FIBERGLASS CED FLAME RESISTANT KRAFT VAPOR	dsd/ad	= DUCT SMOKE DETECTOR W ACCESS DOOR	VITH	MAF MAX	 MAKEUP AIR SUPPLY FAN MAXIMUM 		
ILTERS FOR THE INSTALLED RTUS, HVAC & OTHER	BARRIER, ADHERED TO DUCT W/ SEALED L/ UN-LINED S.A./R.A. DUCTWORK & E.A. DUCTWOR	APS AND TAPED JOINTS. (TYP. FOR KABOVE CLG.).	FD/AD	= FIRE/DAMPER WITH ACCES	SDOOR	MECH MFR MIN	= MECHANICAL = MANUFACTURER = MINIMUM		
CLUDES A MINIMUM OF THREE (3) PERIODIC SERVICE ST & CHECK ALL COMPONENTS OF HVAC UNITS AND D IF ANY HVAC UNIT FAILS. ALL NECESSARY BELT	 INTERNALLY LINED DUCT. I THICK, MIN. 2 LB. TO DUCT. DUCTS WIDER THAN 12" TO HAVE DIMENSIONS AS INDICATED ARE CLEAR INSID DWGS.) 	WELDED PINS AND WASHERS. DUCT E DUCT DIMENSIONS. (AS NOTED ON	VD	= VOLUME DAMPER		NK NTS	= NECK SIZE = NOT TO SCALE	UNAUTHORIZE ADDITIONS TO A VIOLATION C THE NEW YOR LAW THESE	ED ALTERATIONS OR) THIS DOCUMENT IS OF SECTION 7209 OF RK STATE EDUCATION DOCUMENTS REMAIN
NT CHARGE, PROPER OPERATIONS OF ALL DAMPERS, IN THIS SCOPE OF WORK.	NOTES: 1 ALL SUPPLY & RETURN AIR DUCTWORK SHAL		BDD 🖵	= BACK DRAFT DAMPER		OA OD	OUTSIDE AIROUTSIDE DIAMETER	THE EXCLUSIVI ENGINEER, ANL FOR ANY PUI WITHOUT THE	E PROPERTY OF THE D MAY NOT BE USED JRPOSE WHATSOEVER E WRITTEN CONSENT
DOORS AT ALL DUCT PENETRATIONS THROUGH ATED PARTITIONS, IRRESPECTIVE OF WHETHER IT IS IOT.	25' TO AND FROM ANY RTUS. ALL MA UNI ONLY AVOID INTERNALLY LINING.	S SHALL BE EXTERNALLY INSULATED	(T)	= INDICATES NEW ROOM THE	RMOSTAT	RA RAR RL	RETURN AIRRETURN AIR REGISTERREFRIGERANT LIQUID LINE		IE ENGINEER.
O ALL OPENINGS FOR DUCT, PIPING, CONDUIT, ETC. DRS, SLABS AND OTHER RATED PARTITIONS.	DUCT INSULATION NOTE: PROVIDE A MININ INSULATION ENDS AND EXTERNAL INSULATION ERESH AIR INTAKE AND EXPOSED DUCT:	1UM 6" OVERLAP WHERE INTERNAL BEGINS.		= ROOM NAME ROOM NUMBER		RS RTU	 REFRIGERANT SUCTION LINE ROOFTOP HVAC UNIT SUDDLY AID 	()	/eying :-0350
PONSIBLE FOR ALL DEMOLITION AND RESTORATION OF	FIBERGLASS DUCT INSULATION WITH FOIL FAC WELDED CLIPS, CEMENTED JOINTS WITH ALUMI	NUM TAPE.		= REVISION		SA SAD SAR SD	 SUPPLY AIR DIFFUSER SUPPLY AIR REGISTER SPLITTER DAMPER 		SUN
R PROVIDING DUMPSTER/CONTAINER SERVICES AND E OF DEBRIS.	 INTERIOR REFRIGERANT SUCTION & HOT GAS WITH 1" THICK FLEXIBLE ELASTOMERIC INSUL OR APPROVED EQUAL). 	BYPASS PIPING SHALL BE INSULATED ATION (AP ARMAFLEX BLACK LAPSEAL		PIPE TURN DOWN		SPEC SS	 SPECIFICATION STAINLESS STEEL 		t ure
& TROUBLESHOOTING OF NEW HVAC SYSTEM &	 EXTERIOR REFRIGERANT SUCTION, LIQUID & INSULATED WITH 1" THICK FLEXIBLE ELASTOME LAPSEAL OR APPROVED EQUAL) & BE PROVIDE 	HOT GAS BYPASS PIPING SHALL BE RIC INSULATION (AP ARMAFLEX BLACK D WITH MIN. 30 MIL PVC FILED APPLIED		DIFFUSER LABEL LEGEND AIR DEVICE TYPE		TAB TYP VAV	 TESTING, ADJUSTING & BALANCING TYPICAL VARIABLE AIR VOLUME 		ChiteC
I DWGS. & SPECS. ARE COLLECTIVELY A PART OF BID IFFERENCES BETWEEN VARIOUS DWGS. OR BETWEEN ENT REQUIREMENT WILL PREVAIL.	JACKETS.		DIFFUSER NECK —	8"ø 130 1 - N	IUMBER OF DIFFUSERS	VD VFD	 VOLUME DAMPER VARIABLE FREQUENCY DRIVE 	၂ တို့	NEW Y
4) SETS OF OPERATION & MAINTENANCE MANUALS, FALL EQUIPMENT MANUFACTURERS/MODEL'S/SERIAL WARRANTY INFORMATION, O&M MANUALS, PROJECT AS-BUILT DRAWINGS.			(CO ₂)	CUBIC FEET P	PER MINUTE (CFM) E SENSOR	W/	= WITH	AS S	planning
) SETS AND AN ELECTRONIC COPY OF AS-BUILT								Z	ring ● street
STRUCTION NOTES									MAIN

CORE DRILL ALL WALLS, FLOORS, CEILING, ROOF ETC. NS. SEAL OPENING WITH 2-HOUR FIRE BARRIER CAULK. LOCATIONS OF PIPE, DUCT, ETC ROUTING.

HANICAL DRAWINGS FOR PAINTING, FURNISHING AND OUT LOCATIONS, ETC.

IALL BE RESPONSIBLE FOR REMOVING & RELOCATING M DEVICES, ETC. TO ACCOMMODATE INSTALLATION OF UCTWORK. CHECK IN FIELD.

EMOVE EXISTING CEILING TILES AND CEILING GRID TO N OF NEW UNITS, PIPING & DUCTWORK. RE-INSTALL ALL XISTING. REMOVE & REPLACE ALL DAMAGED TILES &

		ASSOOI/ Planning • architecture
		engineering •
	OJECT # 44-21-11-02-6-008-005	MECHANICAL NOTES, ABBREV.,& SYMBOLS HVAC UPGRADES & INTERIOR RENOVATIONS, PHASE 2 GREENWOOD LAKE PUBLIC LIBRARY 79 WATERSTONE ROAD GREENWOOD LAKE, NEW YORK 10925
	PRC	Job No. 41361.04
Г	J L L	File No. 4136104M101
	SEI	M0.01



	MECHANICAL DEMO. K
	EXISTING FURNACE LOCATED IN BSMT. SPA REMOVE COMPLETE DUCTWORK, VOLUME AND ELECTRICAL PER LATEST N.E.C.
2	EXISTING DUCTWORK, DIFFUSERS, GRILLE
3	EXISTING NAT. GAS PIPING TO BE DEMOLIS
4	EXISTING 8" FLUE TO BE DEMOLISHED. PAT BSMT. PENETRATION. REFER TO ARCHITEC
5	EXISTING CONDENSING SERVING AIR HANI AREA TO REMAIN.
6	EXISTING AHU W/ FURNACE DUCTWORK LC BE DEMOLISHED. COMPLETE DEMOLITION DRAIN, EXHAUST FLUE, DUCTWORK, AND E NEC.
$\langle 7 \rangle$	EXISTING DUCTWORK, FRESH AIR INTAKE, I DAMPERS AND CONDENSATE DRAIN TO TO
8	EXISTING CONDENSING UNIT LOCATED ON COMPLETE DEMOLITION WITH REFRIGERAN PAD, & ELECTRICALS PER LATEST NEC
9	EXISTING CONDENSING UNIT LOCATED ON TO REMAIN.
10	FA. INTAKE LOUVER TO BE DEMOLISHED. C DAMPERS, FLEX CONNECTIONS AND DUCT
	EXISTING 16"x12" LOUVER, DAMPER, AND IN DEMOLISHED. PATCH WALL TO MATCH EXIS DWGS.
12	EXISTING NAT. GAS PIPING TO REMAIN.
13	EXISTING FLOOR DIFFUSERS AND GRILLES TO BE PATCH AND SEALED. REFER TO ARC
14	EXISTING THRU WALL AC UNIT TO BE DEMO OPENINGS. REFER TO ARCHITECTURAL FO



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						Date Checked	3/1/21 TW MAM
						Drawn	
	Not In Contract					MICHAEL J. McGOVERN, R.A.	Title REGISTERED ARCHITECT License No. 022257-1
	MECHANICA	L KEY NOTES					
	INSTALL AH UNIT IN PLENU UNIT OUTLET AND INLET.	JM SPACE. INSTALL FLEX	IBLE CONNECTION AT				
$\langle 2 \rangle$	RE-BALANCE AIR FLOW TO	THE SHOWN CFM				UNAUTHORIZED ADDITIONS TO T	ALTERATIONS OR THIS DOCUMENT IS
$\frac{\checkmark}{\langle 3 \rangle}$	PROVIDE AND INSTALL 4"	CONCENTRIC VENT FROM	1 AH UNIT THRU ROOF.			A VIOLATION OF THE NEW YORK LAW. THESE DO THE EXCLUSIVE ENGINEER, AND	SECTION 7209 OF STATE EDUCATION DCUMENTS REMAIN PROPERTY OF THE MAY NOT BE USED
$\frac{\checkmark}{4}$	RUN REFRIGERANT PIPINO	G AS HIGH AS POSIBLE TO) THE STRUCTURE.			FOR ANY PURP WITHOUT THE W OF THE	OSE WHATSOEVER VRITTEN CONSENT ENGINEER.
$\langle 5 \rangle$	PROVIDE MOTORIZED DAM PENETRATE THE ROOF AN	IPER AT 18x18 DUCT RISE	R. DUCTWORK SHALL NECK TRANSITION.			Ś	ມີ ດີ
	BALANCE FOR 2000 CFM M UNIT SHALL BE PROVIDED CONTROLS TO VARY O.A. PPM (ADJUSTABLE) BETW	IAX FOR ECONOMIZER AN W/ CO2 DEMAND CONTR TO MAINTAIN CONSTANT EEN RETURN AIR & OUTD	ID 385 CFM MIN. OLLED VENTILATION DIFFERENTIAL OF 600 OOR AIR.			Ш	Survey 45)615-03
$\frac{1}{2}$	PROVIDE AND INSTALL SI	NOKE DETECTOR W/ ACCE	ESS DOOR.			M	UT⊖ ● 24 (8,
$\frac{\langle 8 \rangle}{\langle 0 \rangle}$						O	itect
<u> </u>		.ILLE AND LOUVER TO BE				O O	arch W YOR
(11)	PROVIDE 10x10 DUCT RISE INTAKE . TERMINATE 36" A BALANCE FOR 190 CFM.	ER PENETRATION THRU R ABOVE ROOF W/ GOOSE N	OOF FOR FRESH AIR IECK TRANSITION.			NS A	unning ● Oshen, Ne
	PROVIDE 16x12 " FAI RUSH DAMPER, BIRD & INSECT S	(IN ESD-403" F.A. LOUVER SCREEN. BALANCE TO 145	W/ BACKDRAFT 5 CFM.			1	• ріа сет, со
13	CEILING MOUNTED EXHAU TERMINATE WITH A GOOS	JST FAN. ROUTE 4"Ø PIPE ENECK TRANSITION.	UP THRU ROOF &			AN	Jering Ain stre
14	PROVIDE (N) CONDENSING MOUNTED ON (N) EQUIPM	3 UNITS ON ROOF. EQUIP ENT SUPPORT RAILS.	MENT SHALL BE				angin 252 M
15	(N) 7/8 " SUCTION, 3/8" LIQ PORTAL THRU ROOF TO A	UID, & INTERCONNECTED \H-1.	WIRING DN. IN PIPE				
	TERMINATE 10"Ø FRESH A GOOSENECK TRANSITION	AIR INTAKE DUCT 36" ABO	VE FINISHED ROOF W/		05	AN ASE 2	
	SUCTION & LIQUID PIPING INSULATION. (TYP.)	SHALL BE INSULATED. PF	ROVIDE JACKET AROUND		8-0	R PL S. PH	ARY 2925
18	PROVIDE SUCTION & LIQU ON ROOF. CONSULT MFR ROUTING.	ID UP IN CURB MOUNTED REP FOR REFRIGERANT F	PIPE PORTAL TO ACC PIPE SIZES AND		-02-6-00	SED FLOC	PUBLIC LIBR. ONE ROAD NEW YORK 1
	ADD ALTERNATE #1: Cor and all appurtenances nece section 011000 for addition ADD ALTERNATE #2: Cor and all appurtenances nece section 011000 for addition	Itractor shall provide and insta ssary for a complete and funct al information. Itractor shall provide and insta ssary for a complete and funct al information.	all air handling unit AH-1, air co tional installation per the conti all air handling unit AH-3, air co tional installation per the conti	onditioning condensing unit ACC-1 ract documents. See specification onditioning condensing unit ACC-3 ract documents. See specification	CT # 44-21-11	CHANICAL PROPC	GREENWOOD LAKE 79 WATERS1 GREENWOOD LAKE,

NOTE: SHADED AREA DENOTES WORK THAT IS EXCLUDED FROM THIS CONTRACT.

Job No. 41361.04

File No. 4136104M2.C

M2.01

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1																				Date 3/1/. Checked TW	<u>21</u>
	<u></u>				Require		TION SCHEI														
	Unit	Poom	Eleor	Required	d O A For	No. of	Required	Required	Total	Zone Air	Zone	Design	n								1
	Comred	Neme	Area (Sq.	Sa Et	Space	People	Dereen	Occupant	Required	Effectivene	Required	O.A.	E.A.		—— Shaded Area						1
2	(E) AH	103 ADULT LIBRARY	958	0.06	57.5	11	Person5	5 5	112	0.80	141	145		marks	Not In Contract					A.	1
	RTU-1	103 ADULT LIBRARY	1.186	0.06	71.2	10	5	50	121	0.80	151	155								J, R.	1
		(NORTH-WING) 103 ADULT LIBRARY	1 237	0.06	74.2	10	5	50	124	0.80	155	155			—— Phase #2 - Base						1
	(E) AH	(MID-SECTION)	91	0.06	5.5		0	0	124 <u>5</u>	0.80	7	10		NOT SERVING	Bid Work —— Shaded Area						
	AH-1	105 VESTIBULE	172	0.06	10.3	0	0	0	10	0.80	13	15			Not In Contract					4CG	1
3	AH-1 AH-1	107 TOILET ROOM 108 MEDIA 2	382	0.06	22.9	7	5	0 35	- 58	0.80	0 72	- 75	50	50 CFM PER W.C.							
	AH-1	109 STORAGE	140	0.12	16.8	0	0	0	17	0.80	21	25			Phase #2 - Base					FL .	1
	AH-1 AH-1	111 OFFICE	129	0.06	7.7	2	5	10	18	0.80	22	25		NOT SERVING	Bid Work					HAL	1
	AH-1 AH-1	112 STAFF WORKROOM 113 TOILET ROOM	281 75	0.06	16.9 0	3 0	5 0	15 0	32 -	0.80	40 0	40 0	50								
4	AH-1	114 TOILET ROOM	26	0	0	0	0	0		0	0	0	50							Revisions:	
	AH-2 AH-2	115 YOUNG ADULT 116 CHILDRENS LIBRARY	300 979	0.12	36.0 117.5	15 10	5 5	75 50	111 167	0.80	139 209	140 210		ł	Shaded Area Not In Contract					ISSUE FOR BID 03/10/2021	
	AH-2	A117 JANITOR CLOSET	32	1.00	32	0	0	0	32	0	32	35	100								
	Ан-2 Ан-3	119 VESTIBULE	120	0.06	7.2	0	0	0	7	0.80	9	10			—— Phase #2 - Base						
	(E')AH/DOAS -1	120 PROGRAM ROOM	1,335	0.06	80.1	90	5	450	530	0.80	663	1,200			Bid Work						
5	AH-3	121 TOILET ROOM	45	0	0	0	0	0	-	0	0	-	50	0.3 CFM/FT ²	Shaded Area Not In Contract						
	AH-3	122 PANTRY	59	0.3	17.7	0	0	0	18	0.80	22		400 K C	TITCHENETTES, 400	Phase #2 - Base						
	АН-3 АН-3	123 CONFERENCE ROOM	117	0.06	7.0	8	5	40	47	0.80	59 20	60			Bid Work						
	AC-1	126 MDF	21	0					0	0	0				—— Shaded Area						
6	L	TOTAL	8,074		594	167		835	1,429		1,775.1	2,320	700		Not In Contract					UNAUTHORIZED ALTERATIONS ADDITIONS TO THIS DOCUMENT	OR T IS
								roo Not In (Contract		•									A VIOLATION OF SECTION 7209 THE NEW YORK STATE EDUCAT LAW. THESE DOCUMENTS REM THE EXCLUSIVE PROPERTY OF	OF ION AIN THE
			_ Phas	se #2 - Base Bid V	Nork			Alea NUL III V	Contract											ENGINEER, AND MAY NOT BE U FOR ANY PURPOSE WHATSOEN WITHOUT THE WRITTEN CONSE OF THE ENGINEER.	SED ER NT
			ΔΙ			SCHED						LOW	V-HIGH (ALDATA DIMEN	SCREDULE		(<u>DAIKIN</u> AS STANDARD)		0
		MIN. SUPPLY ESP COOLING	HEATING	ELECTRIC DATA				REMARKS				REA SERVED (C	CFM) TMBH	EADB EAWB EER T	TYPE RS RL COND. V - Ph - Hz	MCA MOP (L x W x	x H) (In.) WEIGHT (Lbs)				5-00
7	AH-1 1400	OFM HP IN TMBH SMBH 190 1 0.7 55.5 38.3	EER MBH AFUE 11.7 110 80	NG PRESS VOLT - PH - HZ 7" 208 - 3 - 60	CH33-50		/IDE FILTER, DX COOLING COI	L, NAT. GAS FURNAC	E AND DISCONNE	CT SWITCH.	AC-1	IT ROOM 727	7-890 31.4	80 67 17.5/10 R	R-410A 5/8 1/4 5/8 208-230/60/1	0.37 15 47 x 13 x	x 10 40 FT	TX30NVJU DAIKIN	SEE NOTE(S) BELOW		45)01
							IDE FILTER, DX CODEING COI IACE, ECONOMIZER W/ ENTHA	L, DISCONNECT SWI ALPY CONTROL, CO2	TCH, SMOKE DETE DEMAND CONTRO	CTOR, NAT. GAS	NOTES: 1. AC-1 WALL 2. PROVIDE W	MOUNTED UNIT SI	HALL BE PROVI REMOTE CONTI	IDED A CONDENSATE LIFT PUN ROLLER	MP FROM THE UNIT MANUFACTURER AND FIELD) INSTALLED.			i		ر) 24 رر
	AH-2 2000			7 ² 208 - 3 - 60			ILATION TO VARY O.A. TO MA JSTABLE) BETWEEN RETURN.	INTAIN CONSTANT D AIR & OUTDOOR AIR	IFFERENTIAL OF 6	00 PPM	3. PROVIDE W	// PROPER REFRIGE	ERANT CHARGE	E TO THE SYSTEM.							Υ ζ
	AH-3 810	90 1 0.7 21.6 17.5	11.2 80 80	7" 208 - 3 - 60	CH35-30			L, NAT. GAS FURNAC	E AND DISCONNE	CT SWITCH.				OUTD	OOR AIR-COOLED	CONDENSI	NG UNIT SCH		DAIKIN AS STANDARD)	arch O	۲ ک ۲
8			$_{ m \Gamma}$ Phas	e #2 - Base Bid V	Nork						MARK No.	LOCATION U	INIT(S) COOL ERVED (TMB	ING AMBIENT SUCTION BH) TEMP. (°F) TEMP. (°F) V	ELECTRICAL MC	DEL & APPROX. ACTURER (LBS)	UNIT DIM. H x W x D (IN) EER IEER	REMARKS			Z Z
		AIR	R-COOLED	CONDENS	ING UI	NIT SCH	EDULE				ACC-IT	ROOF A	.C - 1 31.4	4 95 45 208-2	-230 1 60 17 20 DAIKIN RI	(20NMVJU 135 28-1	5/16 x 34-1/4 x 12-5/8 10 17.5	PROVIDE LOW TEMP KIT, 0°F LOW AMBIEN DISCONNECT SWITCH, GFI CONVENIENCE	T WIND BAFFLE, OUTLET.	annir	GOSHL
	MARK No. A	AMBIENT SUCTION COOLING ELEC		S. COND./FAN MCA MOP	MODEL & MA	NUFACTURER	REMARKS)				EXHAUS	T FAN SCHEDULE						REE I,
	ACC-1 g	95°F 45°F 55.5 20	08 - 3 - 60 1 -	- 1 – 22.4A 35A	SSB060HE	LENNOX LO	OW AMBIENT CONTROL, DISCO	ONNECT SWITCH, & F	IOT-GAS BYPASS		MARK No.	CFM S.P.	HP(Watts) RF		MODEL & MANUFACTURER	REMARKS		Shaded Area			ī N Z
	ACC-2 g	95°F 45°F 41 55.5 20	08 - 3 - 60 2 -	2 - 30.5A 50A	GSX13060	LENNOX LC	W AMBIENT CONTROL, DISCO	ONNECT SWITCH & H	OT-GAS BYPASS	į	EF-1	325 1/2	1/4 123	30 115-1-60	GB-80 GREENHECK W/ CURB ADAPT	ER, VIBRATION ISOLATOR, SCR DNNECT SWITCH.	REEN, BACKDRAFT	Not In Contract			52 <u>7</u> 7
9	ACC-3	95°F 45°F 21.6 20	08 - 3 - 60 1 -	· 1 - 16.2A 25A	SSB036H4	LENNOX LC	W AMBIENT CONTROL, DISCC	ONNECT SWITCH & H	OT-GAS BYPASS		EF-2	65 1/4	(54.3) 90	00 115-1-60	SP-B80 GREENHECK W/ LIGHT, CEILIN	G RADIATOR DAMPER, BACKDI	RAFT DAMPER.				Ń
										-	╚═╤╤┲═╧									Е 7 С	_
						DEDICA	TED OUTSI	DE AIR S	SYSTEM	/ W/ HE	EAT REC	OVERY	Y SCH	EDULE				(TRANE AS STANDARD)		PHAS	125
				ROSS GROSS NET OLING SENSIBLE TOTAL	NET SENSIBLE E	AT DB°F/ LAT DE	°F/ LAT DB°F/ ARI EER	REFRIG. HEATING	INPUT OUTI HEATING HEAT	PUT TING FAT °F	AT °F HEATING		GAS ESSURE	ENE	ERGY RECOVERY WHEEL	TER A	PPROX. UNIT E	ELECTRICAL		L ES TIONS,	< 109
10	SERVEI	D WIGH. WODE NO. (CFM)	(CFM)	PACITY CAPACITY CAPACITY MBH MBH MBH	CAPACITY MBH	WB°F/ WB°I	^{F/} (REHEAT)	TYPE TYPE	CAPACITY CAPA MBH ME		STAGES		NCHES TO W.C.	TAL CAP. SENSIBLE CAP. MBH MBH	2. LATENT CAP. TOTAL CAP. SENSIE MBH MBH M	LE CAP. LATENT CAP. BH MBH	(LBS) (LxWxH) (IN.) V/PH		9-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0	EDUI NOVAT	YOKK
	DOAS-1 PRGM.R	RM TRANE 0ABD048A3 1200 1.0	0 1200 1.0 5	50.5 33.5 48.2	31.2	79.2/67 53.9/53 5. PROVIDE MODU	2 81/64 20.3 I LATING HOT GAS BYPASS HGI	R-410A NAT. GAS	150 120) 62.2 9. PR	154 MODULATIN	IG 80 7" T	ГО 14" <u></u> СН.	51.04 22.07	22.07 57.67 37	19.69	2,100 161 x 52 x 55 208/3	3/60 38.5 50 SEE NOTES		SCH SCH DR RE FUB TONE	NEW
	1. PROVIDE FAC 2. UNIT TO BE P 3. ALL MOTORS	CTORY DOWN/HORIZONTAL DISCHARGE PAINTED GALVANIZED STEEL W/ 2" THICK S SHALL BE PREMIUM EFFICIENCY TYPE.	E FOR BOTH SUPPLY AND K ANTIMICROBIAL INSULA	D RETURN OPENINGS. ATION.		 STAINLESS STE PROVIDE UNIT C PROVIDE POWE 	EL FURNACE 150 MBH 10:1 TU CONTROL TRANE UC600 SINGL R EXHAUST	RNDOWN MODULATI E ZONE VAV CONTR	ON. OL W/BACCNET.	10. PR 11. PF	OVIDE 18" ROOF CL ROVIDE CONDENSER	JRB. R HAILGUARD					۰			CAL NTERIG LAKE	LAKE,
	4. UNIT TO BE P	PROVIDED W/ EXTRA SET OF FILTERS 2"	MERV 8																	HAN S & L W00D 79 W/	, <i>000</i> ,
		PAC		DX GAS FIRE	ED AIR	CONDI	TIONING UN	IT SCH	EDULE								L	Shaded Area		AEC SRADE: REENI	EENW
11	TAG No. CFM	MIN. SUPPLY SUPPLY ESP COOL O.A. BHP HP IN. TMBH	Image: Mean of the second se	LOW GAS PRESSURE ELECTR CFH) IN. WC VOLT - F	RIC DATA COMF PM - HZ No.	RESSOR COND. FAN RLA No. HP	MODEL & MANUFACTURER	UNIT UNIT MCA MOP			RKS		+	Phase #2	2 - Base		1	Not In Contract			Gr
	RTU-1 4000	310 2.7 3.0 1.0 124	89 180 180	7 208 - 3	3 - 60 1	32.0 2 2.4 E	A LGH120H4M LENNOX	52 60 W/ EC	FUSED DISCONNECT S					BIG VVOLK						TANH TANK	
																			20	Job No. 41361.04 File No. 4136104M6.0	21
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REMARKS
COOLING COIL, NAT. GAS FURNACE AND DISCONNECT SWITCH.
COOLING COIL, DISCONNECT SWITCH, SMOKE DETECTOR, NAT. GAS ZER W/ ENTHALPY CONTROL, CO2 DEMAND CONTROLLED RY O.A. TO MAINTAIN CONSTANT DIFFERENTIAL OF 600 PPM EEN BETURN AIR & OUTDOOR AIR.

NUFACTURER UNIT UNIT MCA MOP	REMARKS
LENNOX 52 60 N	W ECONOMIZER, BAROMETRIC RELIEF DAMPER, SMOKE DETECTOR, CONDENSER COIL GUARDS, NON-FUSED DISCONNECT SWITCH, GFI CONVENIENCE OUTLET, ROOM THERMOSTAT.



	A		B C			D	E	F
1		E	Electrical General Notes					
		<u>P</u> 1. 2. 3.	<u>Project Information:</u> Unless specifically noted otherwise, it shall be understood that when the words "Own these drawings they are interchangeable an all refer to Greenwood Lake Library. Wherever in the documents the word "utility" is stated, Orange & Rockland Utilities, Ir The utility representative is Ms. Ana Dunn, Major Accounts Engineer, telephone num Unless specifically noted otherwise, it shall be understood that when the words "Arch	er" or "Client" are used in 36 nc. ("O&R") is implied. ber (845) 782-5546 37 itect", "Engineer", or "A/E"	6. V <u>Wo</u> 7. (ceiling and floor information and minor architectur Where conflicts exist, provide in the bid proposal <u>rk/Trade Coordination</u> Coordinate work with other trades to avoid conflic equipment furnished under trades that require ele	ral differences in each room. the more costly alternative. et and to provide correct rough in and connect ectrical connections. Inform Contractors of oth	ion for er trades of tr
2		4. 5.	are used in these drawings they are interchangeable an all refer to LAN Associates, I Architecture Surveying ("LAN"). Unless specifically noted otherwise, it shall be understood that when the word "Contra Electrical (E#.##) drawings and/or Electrical Specification sections it refers to the Elec Where any device or part of equipment is referred to in these drawings in the singula switch", "the receptacle"), this reference shall be deemed to apply to as many such d	Engineering, Planning, actor" is used in the 38 ctrical Contractor. r number (e.g., "the 38 evices as are required to	1 8 i 9. <i>1</i>	required access to and clearances around electric compliance. The electrical contractor shall verify the size and installation of feeder and branch circuit conductor AC and Refrigeration Equipment Nameplate Rations shall not exceed the manufacturer's values market	cal equipment to maintain serviceability and c rating of all approved mechanical equipment p rs and overcurrent protection devices. ng: Short circuit and ground fault protection de ed on the equipment.	ode prior to the evice rating
		6. <u>C</u> 7.	complete the installation as shown on the drawings. Health, safety and critical operating equipment shall not be compromised without owr Schedule shutdown during off hours and implement and maintain a temporary operat <u>Code & Standards Compliance:</u> Code compliance is mandatory. Nothing in these Drawings and Specifications permit these codes. Where work is shown to exceed minimum code requirements, comply w	4(iner's authorization. tional plan. 4 s work not conforming to vith drawings and 42	·0. (((·1. [·1.]	Sequence, coordinate and integrate installations of Give particular attention to large equipment requir cutting and patching of building components to ac materials. Provide coordination drawings for all required acc for coordination. The Contractor shall coordinate work with the oth	of electrical materials and equipment for effici ring positioning prior to closing in the building. ccommodated installation of the electrical equ cess panel locations in gypsum ceiling to arch er trades to ensure the minimum safe working	ent flow of wo Coordinate th ipment and itect/engineer
3	-	8.	specifications. When differences in utility specifications or standards, governmental or occur, the more stringent requirements shall govern the installation. The electric installation shall be in accordance with the currently enforced edition of the Code (NEC), National Electrical Safety Code (NESC), American Electricians' Handber Code (IBC), Americans with Disabilities Act (ADA), NFPA 55 & 99 ASHRAE 90.1 and installation. Wherever in the documents the word "code" is stated, the more stringent	ordinances or codes he National Electrical bok, International Building d NEC Standard of of the above referenced	; 	around electrical equipment and to ensure access motors, controls, instruments, panels, lights, valve be sufficient for an adult to perform maintenance conform to NEC requirements (i.e., 110.26 & 110 maintenance shall be relocated at the Contractor	s to equipment requiring calibration or maintenes, filters, and VAV boxes). Working space an safely without straddling or removing obstruct .34). Work that encroaches on working space is expense.	nance (includi d access sha ions and shal or that impec
		9. 10. 11.	All contractor supplied materials/equipment shall be new and UL Listed or approved l Recognized Testing Laboratory (NRTL). The contractor shall pay for and obtain all permits and inspections required by the bu and ordinances, and the rules and regulations of any legal body having jurisdiction. P shall be include in the base bid and shall not be cause for an extra. Contractor shall confirm to all safety rules and other regulations, etc. pertaining to con client's premises. Contractor shall be responsible to ensure that all rules and regulation coordinate this work with responsible client's personnel.	by another Nationally 43 ilding and safety codes Permit and inspections Instruction work on the ons have been met and 44	- <u>insi</u> -3. (-1 -4. [Grounding shall be installed in accordance with the requirements for service, equipment and enclosure raceway or conduit. Size equipment ground cond and the frames and enclosures of motors, breake grounding system. Precaution shall be taken to entraceway. Provide a separate neutral conductor for each circular switch boxes. Multiple circuits shall not share a constructor.	he NEC in accordance with electrode, groundi res. Install an insulated equipment ground cor uctor in accordance with NEC Table 250.122. ers, switches, and other electrical equipment to nsure adequate ground continuity along the c cuit. Install neutral conductors and ground cor pommon neutral. Neutral shall be sized as large	ng and bondi aductor in eac Bond racewa the building onduit or aductors into a e as the phas
4		12.	All electrical equiphent and raceways permanently attached to structures, including s attachments to non-building structures, shall be anchored for seismic loading to resis in any direction. Contractor shall provide seismic restraints for all conduits larger than Provide sway braces for conduit and equipment suspended from the overhead. Provi and wall mounted equipment. The installation shall meet the requirements of Internat as it applies to electrical equipment for Earthquake Loads. Contractor shall review code compliance drawings and identify all penetrations throug floor and roofs. Patch compromised partitions to match fire/smoke resistance rating a compliance drawings.	45 t a horizontal force action a 2½" trade diameter. de anchor bolts for floor tional Building Code (IBC) 47 gh fire/smoke partitions, as stated on code	-5. / -6	Arrange connections for single phase circuits to a phase load current. Ungrounded conductors using The electrical contractor is responsible for mainta electric loads. Phase rotation check: on multi-phase equipment, equipment. Use Knopp K-3 or equivalent device w connected to phase B, and blue or "C" lead connect documentation with device used, manner connect	achieve three phase load balance within 20% of g a common neutral must originate from differ ining proper phase rotation with all existing the perform a phase rotation check prior to energy with red or "A" lead connected to phase A, whe ected to phase C. Note the phase rotation and ted, rotation observed, date of test, and name	of the average ent phases. ree (3) phase jizing the ite or "B" lead annotate tes of craftsman
5	-	<u>G</u> 14. 15. 16.	Seneral Procedures: All equipment shall be as indicated by the Engineer/Architect. The cost incurred by the acceptance of substitutions shall be borne by the contractor the substitutions shall be by the contractor and differences shall be enumerated with without the differences noted can be grounds for rejection without review. Electrical components, including but not limited to, conductor size, overcurrent protect disconnect switches are based on the power requirements of the equipment shown of	48 . Proof for the equality of the submittal. Submission 49 stion device and on the contract	8. (8. (9 9	Do not energize equipment unless observed rotat Contractor shall supply all labor, power cables, co and miscellaneous items for a complete electrical except that the provision for owner supplied equip elsewhere on the drawings. The Contractor/Installer shall use a calibrated torque torque numeric values identified on the electrical eq connector or the equipment manufacturer's recomm	tion matches the requirements of the equipments onduit boxes, fittings, wiring materials, hardward i installation and connection of the electrical w oment shall be only be completed to the point e tool to achieve the indicated torque value when uipment or in the installation instructions. In the uended torque values, the tables in Informative A	nt ire, supports, ork required, indicated n the tightenin absence of innex I may be
		17. 18. 19.	documents. All costs (including additional design fees if required) associated with char requirements shall be the responsibility of the contractor making the change. Obtain shop drawings and wiring diagrams for the proper installation of related electric The contractor shall remove and reinstall ceiling systems as required for the installati and replace in kind, any components damaged by personnel or equipment during per Electrical Contractor shall be responsible for the removal of debris generated by his w end of each working day and for general good housekeeping by his workers. Electricat provide required refuse containers.	ical work. 50 on of new electrical work rformance of the work. work and workers at the al Contractor shall	10. 1 1 1 1	used to correctly tighten screw-type connections for 'Recommended Tightening Torque Tables from UL All cables, not within conduit (ex., MC type, fire al using Bridle rings, J-hooks, or other appropriate n fastened to existing electrical conduits, steam pip fashion as to obstruct access hatches, doors, utili and shall not be routed through fire doors, ventila a. Unless otherwise provided, MC cables shall	power and lighting circuits. Informative Annex I Standard 486A-B." larm, PA), routed within the ceiling cavity mus neans. The cable must not lay on dropped cei les, sprinkler pipes, insulated pipes, or be rout ity access panels, mechanical service work ar ting shafts, or grates. I be secured at intervals not exceeding 6'. Cal	represents the t be secured ling panels, b red in such a eas or fittings bles containin
6	-	20. <u>S</u> 21.	Unless otherwise indicated on the mechanical schedules/drawings, the electrical cont install all disconnect switches for all mechanical equipment (i.e., roof top HVAC units, air volume devices, etc.) <u>Site Conditions/Drawing Coordination:</u> These drawings and specifications illustrate the work to be performed. The Engineer means, methods, techniques, sequences, and procedures used to do the work, or the constructions, and nothing on these drawings expressed or implied changes this con-	tractor shall provide and , exhaust fans, variable is not responsible for the e safety aspects of dition. Prior to bidding 5 ^r	1.	 four or fewer conductors sized no larger tha fitting, or other cable termination. b. Type MC cable shall be permitted to be uns points through concealed spaces in finished Is not more than 6' in length from the last po or other electrical equipment and the cable MC cable fittings shall be permitted as a me All cable trays and electrical conduits shall be ind 	an 10 AWG shall be secured within 12" of even supported where the cable: (a) Is fished betwee d buildings or structures and supporting is imp point of cable support to the point of connection and point of connection are within an accessi eans of cable support. lependently supported and braced independent	ry box, cabine een access ractical; or (b to luminaires ble ceiling. Ty ntly of the
7	-	22.	and/or starting work the contractor shall visit the project site to determine the condition is to be performed and shall be responsible for knowing how they affect the work. Sch client's representatives. Additionally, the contractor shall field verify all site dimension Submission of a bid to perform this work is an acknowledgement of these responsibil been fully considered in planning of the work, and the bid price. No claims or extra ch conditions will be forthcoming. The client will occupy the site and existing building during the entire construction peri client during construction operations to avoid any conflicts. Perform the work so as no	ons under which the work hedule site visit with 52 as and room layouts. ities, and that they have harges due to these od. Cooperate with the 53 ot to interfere with the	(2.) 1 (1 (3.)	ceiling. All new wiring is to be run concealed wherever por raceway in public spaces or metallic conduit in uti cavities. Any locations that do not have accessibl metallic raceways. Provide pull-boxes (size per co cable may be installed. Surface mounted metallic raceway shall meet the a. Install in accordance with manufacturer's inst	ossible. All conductors shall be in a surface m ility locations when not routed concealed in th e or dropped ceilings will require the use of su ode) and locate in conduit runs as required. N following criteria: structions for system components and approv	ounted metall e ceiling/wall urface mounte o exposed ed shop
		23. 24.	client's operations. Schedule all power outages with client's approval for overtime on no additional cost to the client. Existing project conditions indicated are based on field observations; existing design/ and existing record documents and are intended to indicate the scope of the work aff Drawings shall not be scaled. Drawings indicate the general arrangement of systems work. Although size and location of equipment is drawn to scale wherever possible, of of all data in all of the contract documents and verify information at the project site.	Sundays and Holidays at construction documents fected by this project. and requirements of the contractor shall make use		 drawings. Coordinate installation with adjact electrical hazards. b. Install in accordance with complete system c. Install enclosures to be mechanically contine mounting brackets, and cabinets, in accordated. Install enclosures to be electrically continue for proper grounding. 	ent work to ensure proper clearances and to p instruction sheets. nuous and connected to all electrical outlets, b ance with manufacturer's installation sheets. nus and bonded in accordance with the Nation	orevent oxes, device al Electric Co
8	-	25. 26. 27.	 The electrical contractor shall make his own takeoff on all quantities. It shall be his reinclude all equipment and material in order to comply with the intent of the drawings. The circuit numbers are for identification only. The contractor shall be responsible for circuits in panels. Existing Circuit Designations: a. All reference to existing circuit designations is based on previous project docum shall consult the engineer in the event that actual conditions do not coincide with re-distribution or other use of existing circuits as herein indicated. 	sponsibility, at his cost, to correctly phasing the nentation. The contractor th the indicated		 e. Mechanical Security: Raceway systems sha outlets, boxes, device mounting brackets, a sheets. f. Electrical Security: Metal raceway shall be National Electric Code for proper grounding g. Raceway Support: Raceway shall be suppor accordance with manufacturer's installation h. Accessories: Provide accessories as required 	all be mechanically continuous and connected ind cabinets, in accordance with manufacturer electrically continuous and bonded in accorda l. orted by 2-hole straps at intervals not exceedir sheets. red for a complete installation, including insula	to all electric 's installation nce with the ng 5 feet or in ted bushings
		28.	 b. The total connected load for any general purpose (protected at 20A) branch cirras as a part of this project shall not exceed 13A. c. Any deviation, as may be directed by the engineer, from the indicated circuit str drawing set will require both verification by the contractor that the total connected supply conductors is within the above specified limit and documentation in the prodrawings. The electrical installation shown is represented diagrammatically and indicates the get systems and work. The locations and arrangements of equipment, devices, switchbox 	cuit which is re-distributed ructure specified in this 54 ed load on the associated project record (as-built) 55 eneral arrangement of ards, panelboards,	4. 1 5. 1 9	and inserts where required by manufactured i. Unused Openings: Close unused raceway of Where PVC raceway is indicated to be installed ef be installed to meet the requirements of NEC 352 All openings and penetrations shall be sealed up spread of smoke and fire through openings. Seal walls and floor separating areas to restore original penetrations through roof and exterior walls to ma	r. openings using manufacturer's recommended exposed in an external environment, expansio 2.44. on completion of the electrical installation to p around conduit and raceway penetrations thr al fire rating; use a UL classified fire sealant. S ake waterproof. Request inspection of fire sea	accessories. n fittings shall revent the ough interior Geal Is by electrica
9	-	29.	partitions, openings, etc. are designed to show preferred configurations to suit known approximate and are subject to modifications caused by structural conditions and oth equipment. The locations are subject to such modifications as may be found necessa time of installation in order to accommodate field conditions and coordination requirer follow the intent of the drawings in "laying out" the work and coordinate the work with spacing conditions. Contractor shall determine roughing locations required to effect s electrical contractor shall coordinate all work and shall make such changes without ex The contract drawings depict the approximate location of all required equipment and	a conditions but are er existing or proposed ary or desirable at the 56 ments. Contractor shall other trades to verify such coordination. The xtra charge. if shown, the	i 6. [i i i	Inspector from authority having jurisdiction before be coordinated with the other trades to limit interfu- Limit the use of electrical metallic tubing (EMT) to Use intermediate metal conduit (IMC) or rigid galv in concrete or exposed to physical damage. Use in used for 20 amp general light and power circuits a used to connect light fixtures in suspended ceiling connection to equipment in mechanical rooms or	e and after placement of fire seal materials. All erence and obstruction. where it will not be subject to physical damage vanized steel conduit (RGS) where raceways minimum 3/4" conduit except as follows: 1/2" of and for control circuits; 3/8" flexible metal conduit gs. Use liquid tight flexible metal conduit for fle outdoors.	openings sha ge or corrosio are embedde conduit may b duit may be exible
			diagrammatic arrangement of piping, raceways, conduits, feeders, cables, etc, herein "conduit." Conduit runs, if shown, have been depicted with the intention of most clear routing. Actual runs may differ if kept within the requirements and provisions of these providing that that all modifications have been shown in the shop drawings. Contractor determine conduit runs and "clear" piping, ductwork, access doors, and other obstruct Contractor shall coordinate conduit with work of other trades and alter where necessa Submit for approval, prior to scaled installation drawings showing the location of all me be installed and indicating circuitry. Shop drawings shall include all wiring pull boxes	a fater referred to as 57 ly indicating the proposed specifications, and or responsible to 58 stions as applicable. 58 ary to avoid interference. ew equipment/devices to junction boxes fittings	7. 1 18. 1 19. 1	Where raceways contain insulated conductors 4 <i>J</i> be protected from abrasion during and after install surface, such as an insulating bushing as per NE Install outdoor equipment to be weatherproof (NE Wherever the length of the secondary conductors breaker or fused disconnect is required to be provaccordance with NEC Article 2401-2(C)(2). This campacity of the panel being served. If this occurs	AWG and larger that enter an enclosure, the or llation by a fitting that provides a smooth, rour C 300.4(G). MA 3R). Is of any transformer exceeds ten feet, and encount vided within ten feet of the transformer second overcurrent device shall have an ampacity ration and the panel is in the same room, the panel	conductors mu nded insulatin closed circuit lary terminals ng equal to th being fed ma
10		30.	wiring devices and dimensioned clearances from the structure and equipment. Coord other trades prior to submission. Before the relevant work proceeds, the Contractor shall prepare and submit five (5) c depicting the proposed conduit routing diagram and equipment layout. Specifically de the switchboard and related equipment in each electric room or electric closet. All equ drawn to scale and dimensioned. Shop drawings shall be a minimum of 1/8" = 1'-0" a dimensioned, showing construction, sizes, weights, arrangements, operating clearance characteristics and the necessary coordinating trades involved. Shop drawings will no	dinate shop drawings with for opies of shop drawings etailed shall be a layout of uipment layouts shall be ind preferably 1/4"=1'-0", ces, performance ot be accepted unless a 67	i0. // i i i i i i 1. l	be changed to main lug only. All penetrations through exterior walls shall be se raceways to seal the annular space between the conduit sealing bushings as manufactured by OZ install conduit sealing bushings as manufactured conductors inside the raceway. Coordinate submit type. Underground conduits shall be pitched to drain as	aled watertight. Furnish and install seals for c raceway and the building penetration. Furnish /Gendy type CSMI or CSMC or approved equal by OZ/Gendy type CSBG or approved equal ittal submission with conductor size, quantity a way for them building in manholes.	onduit and and install ual Furnish an to seal the and insulation
11		31.	complete list of deviations from architect's/engineer's proposed plans is included. Exa equipment will be determined in the field and the contractor must secure exact dimen layout of any work. Routing for feeders, instrumentation and control circuits is not shown on the plan draw floor plans, they express the intent of routing. Final location and routing shall be suite the building and established by the contractor based on the installation conditions and field. All feeder information, conduit types and installation requirements shall be in an specifications, electrical riser diagram and appropriate panel schedules.	act location of all 62 asional data before the wings. If indicated on the ed for the construction of 63 d shall be verified in the ccordance with the 65	2. / Util 3. (4. (55. (As per 1022.4 of the IBC, no conduit, piping, race enclosure. Conduit, piping, raceway etc. must ter ity <u>Guidelines:</u> Contractor shall obtain and adhere to the utilities Contractor pay for all utility company permits, fee and shall not be cause for an extra. Contractor shall submit to the utility company for all	eway etc. serving other areas may pass throug minate at the stair enclosure. latest installation and specification guidelines s, approvals, etc. These fees shall be included approval, the following: service entrance	gh the stair
		32. 33. 34.	Any cutting, patching, or finish repair work required for the electrical installation is the contractor. Where mounting heights are not detailed or dimensioned, install electrical services as provide maximum headroom possible. Connect equipment for ease of disconnecting interference with other installations. Provide temporary power and lighting as required during the entire duration of demoli utilizing the existing electrical system as a source. The Electrical Contractor shall rem	e responsibility of the nd overhead equipment to with minimum fition and construction nove all temporary power	1 <u>Wir</u> 6. 4 i	switchboard/panelboard, generator and transfer s the utility representative. <u>The Information:</u> All wiring shall be copper conductor, 600 volts in Indicated. Feeder and branch circuit wiring shall b and branch circuit wiring larger than #10 AWG sh	EMT raceway with approved fittings unless ot be minimum #12 AWG unless otherwise indicated all be stranded conductor: #10 AWG and small	requested by herwise ated. Feeder aller, shall be
		35.	and ingriting upon the completion of the project. Unless otherwise noted, refer to architectural drawings for elevations and relative pos	sitions of equipment, wall,		a. THHN/THWN insulation for #4 AWG and sr	naller	iotea otherwi

	A B C	D E F	G H J	К. L. М. N. О. Р	
1	Electrical General Notes			Application of Raceways	Date 3/1/21 Checked BH Drawn DN
	Project Information: 1. Unless specifically noted otherwise, it shall be understood that when the words "Owner" or "Client" are used in 3.	ceiling and floor information and minor architectural differences in each room. 36. Where conflicts exist, provide in the bid proposal the more costly alternative.	 b. THW or THHN/THWN insulation for #2 AWG and larger c. THW used for all panel feeder and service conductors 	RACEWAY TYPE APPLICATION Rigid Steel Conduit Where exposed to mechanical injury, where specifically required, indoors where exposed to moisture, where	
	 these drawings they are interchangeable an all refer to Greenwood Lake Library. Wherever in the documents the word "utility" is stated, Orange & Rockland Utilities, Inc. ("O&R") is implied. The utility representative is Ms. Ana Dunn, Major Accounts Engineer, telephone number (845) 782-5546 Unless specifically noted otherwise, it shall be understood that when the words "Architect", "Engineer", or "A/E" 	Work/Trade Coordination 37. Coordinate work with other trades to avoid conflict and to provide correct rough in and connection for equipment furnished under trades that require electrical connections. Inform Contractors of other trades of the	 d. XHHW-2 insulation type shall be used where conductors are installed in conduits exposed to the weather. i7. Use the following conductor color codes: 208Y/120V 480Y/277V 	I.M.C. Where exposed to mechanical injury, where specifically required, indoors where exposed to moisture, where required by codes and for all circuits in excess of 600 volts.	
2	 are used in these drawings they are interchangeable an all refer to LAN Associates, Engineering, Planning, Architecture Surveying ("LAN"). Unless specifically noted otherwise, it shall be understood that when the word "Contractor" is used in the Electrical (F# ##) drawings and/or Electrical Specification sections it refers to the Electrical Contractor 	 required access to and clearances around electrical equipment to maintain serviceability and code compliance. 38. The electrical contractor shall verify the size and rating of all approved mechanical equipment prior to the installation of feeder and branch circuit conductors and overcurrent protection devices 	Phase A Black Brown Phase B Red Orange Phase C Blue Yellow Neutral White Gray	E.M.T Use in every instance except where another material is not specified. Flexible Metal Clad Cables Lighting and receptacle branch circuits concealed in hollow spaces of building. May not be used in corridors, places of assembly, or where prohibited by Code.	Y.
	 5. Where any device or part of equipment is referred to in these drawings in the singular number (e.g., "the switch", "the receptacle"), this reference shall be deemed to apply to as many such devices as are required to complete the installation as shown on the drawings. 	 39. AC and Refrigeration Equipment Nameplate Rating: Short circuit and ground fault protection device rating shall not exceed the manufacturer's values marked on the equipment. 40. Sequence, coordinate and integrate installations of electrical materials and equipment for efficient flow of work. 	Equip. GroundGreen Green Circuit Breakers:	Type MC Flexible Steel Use in dry areas for connections to lighting fixtures in hung ceilings, connections to equipment installed in removable panels of hung ceilings. At all transformer or equipment raceway connections where sound and vibration isolation is required.	X H
	6. Health, safety and critical operating equipment shall not be compromised without owner's authorization. Schedule shutdown during off hours and implement and maintain a temporary operational plan. <u>Code & Standards Compliance:</u>	Give particular attention to large equipment requiring positioning prior to closing in the building. Coordinate the cutting and patching of building components to accommodated installation of the electrical equipment and materials. 41. Provide coordination drawings for all required access panel locations in gypsum ceiling to architect/engineer	 Use 600 VAC circuit breakers in 480V and 480Y/277V switchboards, panelboards and motor control centers. Provide circuit breakers with UL listed interrupting rating (RMS symmetrical amperes) greater than the available fault current shown on the electrical one-line diagram. "Series rated" equipment shall not be accepted. 	Liquid-Tight Flexible Conduit Use in areas subject to moisture where flexible steel is unacceptable, at connections to all motors, and all raised floor areas. Non-Metallic Conduit 1. Schedule 40 - Where raceways are in slab in below grade levels, for raceway duct banks.	
	7. Code compliance is mandatory. Nothing in these Drawings and Specifications permits work not conforming to these codes. Where work is shown to exceed minimum code requirements, comply with drawings and specifications. When differences in utility specifications or standards, governmental ordinances or codes occur, the more stringent requirements shall govern the installation.	for coordination. 42. The Contractor shall coordinate work with the other trades to ensure the minimum safe working clearances around electrical equipment and to ensure access to equipment requiring calibration or maintenance (including motors controls instruments pagels lights values filters and VAV boxes). Working space and access shall	0. Install UL Listed circuit breaker padlocking devices for service and maintenance personnel on all over current protection devices at the main building panel (MDP or equivalent). The device must have provisions for placement of a lock on it to secure the device in the off position. The lock-out device must be part of the disconnect assembly and must remain in place after the padlock is removed, whether it is a fused disconnect.	2. Schedule 80 - For underground raceways outside of building which are not encased in concrete. Also for secondary conductors of cold cathode lighting systems. Wireways and Aux Gutters Where indicated on the Drawings and as otherwise specifically required.	
3	 The electric installation shall be in accordance with the currently enforced edition of the National Electrical Code (NEC), National Electrical Safety Code (NESC), American Electricians' Handbook, International Building Code (IBC), Americans with Disabilities Act (ADA), NFPA 55 & 99 ASHRAE 90.1 and NEC Standard of 	be sufficient for an adult to perform maintenance safely without straddling or removing obstructions and shall conform to NEC requirements (i.e., 110.26 & 110.34). Work that encroaches on working space or that impedes maintenance shall be relocated at the Contractor's expense.	switch, a single circuit breaker, or a circuit breaker in a panelboard. A device that is attached to the circuit breaker handle by a set screw is not an acceptable means to serve as a safe method of locking the device in the off position.		J. M
	 Installation. Wherever in the documents the word "code" is stated, the more stringent of the above referenced codes is implied. 9. All contractor supplied materials/equipment shall be new and UL Listed or approved by another Nationally Recognized Testing Laboratory (NRTL). 	 <u>Installation:</u> Grounding shall be installed in accordance with the NEC in accordance with electrode, grounding and bonding requirements for service, equipment and enclosures. Install an insulated equipment ground conductor in each 	 All circuit breakers shall be molded case thermal magnetic and rated for available short circuit current. Circuit breakers used as switches shall be UL listed for switching duty and marked "SWD" per NEC 240-83(D). All 120V, 1φ, 15A and/or 20A branch circuits supplying outlets installed in dwelling units, (as defined by NEC Article 100), family rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation 	Electrical Grounding Requirements	AEL ARCHII
	 The contractor shall pay for and obtain all permits and inspections required by the building and safety codes and ordinances, and the rules and regulations of any legal body having jurisdiction. Permit and inspections shall be include in the base bid and shall not be cause for an extra. Contractor shall confirm to all safety rules and other regulations, etc. pertaining to construction work on the 	raceway or conduit. Size equipment ground conductor in accordance with NEC Table 250.122. Bond raceways and the frames and enclosures of motors, breakers, switches, and other electrical equipment to the building grounding system. Precaution shall be taken to ensure adequate ground continuity along the conduit or raceway.	rooms, closets, hallways, or similar rooms or areas shall be protected by a listed arc-fault circuit interrupter (AFCI), combination type, installed to provide protection of the branch circuit.	Rating or Setting of Automatic Overcurrent Size (AWG or kcmil) Rating or Setting of Size (AWG or kcmil) Size (AWG or kcmil) Rating or Setting of Size (AWG or kcmil)	ICH
4	 client's premises. Contractor shall be responsible to ensure that all rules and regulations have been met and coordinate this work with responsible client's personnel. All electrical equipment and raceways permanently attached to structures, including supporting structures and 	 Provide a separate neutral conductor for each circuit. Install neutral conductors and ground conductors into all switch boxes. Multiple circuits shall not share a common neutral. Neutral shall be sized as large as the phase conductors. Neutral conductors shall not be reduced in size. 	 4. Receptacles and communications outlets shown on drawings shall be mounted 8" apart on center horizontally. Contractor shall coordinate exact location of all boxes in two hour or less rated assemblies such that area of box per wall area and outlets on opposite side wall horizontally spacing comply with state building code 	Device in Circuit Ahead of Aluminum or Equipment, Conduit, etc., Not Copper-Clad Exceeding (Amperes) Copper Aluminum* Device in Circuit Ahead of Aluminum* Device in Circuit Ahead of Aluminum* Copper-Clad Aluminum* Copper	
	attachments to non-building structures, shall be anchored for seismic loading to resist a horizontal force action 4 in any direction. Contractor shall provide seismic restraints for all conduits larger than 2½" trade diameter. Provide sway braces for conduit and equipment suspended from the overhead. Provide anchor bolts for floor 4 and wall mounted equipment. The installation shall meet the requirements of International Building Code (IBC)	 45. Arrange connections for single phase circuits to achieve three phase load balance within 20% of the average phase load current. Ungrounded conductors using a common neutral must originate from different phases. 46. The electrical contractor is responsible for maintaining proper phase rotation with all existing three (3) phase electric loads. 	 regarding fire resistant construction. 5. In all areas specified in NEC 210.52, all 125-volt, 15- and 20-ampere receptacles shall be listed tamper-resistant receptacles. 6. All 120-volt, single phase, 15- and 20-ampere branch circuits supplying outlets installed in dwelling unit, (as 	15 14 12 300 4 2 1600 4/0 350 20 12 10 400 3 1 2000 250 400 30 10 8 500 2 1/0 2500 350 600	ISSUE FOR BID 03/10/2021
	 as it applies to electrical equipment for Earthquake Loads. 13. Contractor shall review code compliance drawings and identify all penetrations through fire/smoke partitions, floor and roofs. Patch compromised partitions to match fire/smoke resistance rating as stated on code compliance drawings. 	47. Phase rotation check: on multi-phase equipment, perform a phase rotation check prior to energizing the equipment. Use Knopp K-3 or equivalent device with red or "A" lead connected to phase A, white or "B" lead connected to phase B, and blue or "C" lead connected to phase C. Note the phase rotation and annotate test documentation with device used memory connected, rotation observed, date of test, and pame of craftman	defined by NEC Article 100), family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, or similar rooms or areas shall be protected by a listed arc-fault circuit interrupter, combination-type, installed to provide protection of the branch circuit.	40 10 8 600 1 2/0 3000 400 600 60 10 8 800 1/0 3/0 4000 500 800 100 8 6 1000 2/0 4/0 5000 700 1200	
	General Procedures: 4 14. All equipment shall be as indicated by the Engineer/Architect. 4	 Do not energize equipment unless observed rotation matches the requirements of the equipment 48. Contractor shall supply all labor, power cables, conduit boxes, fittings, wiring materials, hardware, supports, and miscellaneous items for a complete electrical installation and connection of the electrical work required, 	 energy code requirements, they shall be permanently marked with the symbol indicated in NEC Figure 406.3(E) and the word "controlled". 8. All outdoor receptacles shall be mounted 42" above the finished grade, unless noted otherwise. The outdoor receptacles shall be mounted 42" above the finished grade, unless noted otherwise. The outdoor 	200 6 4 1200 3/0 250 6000 800 1200 Note: Where necessary to comply with NEC 250.4(A)(5) or (B)(4), the equipment grounding conductor shall be sized larger than given in this table. Where ungrounded conductors are increased in size, equipment grounding conductors, where installed, shall be increased in size proportionately according to the circular mil area Image: Conductors are increased in size, equipment grounding conductors, where installed, shall be increased in size proportionately according to the circular mil area	
5	 15. The cost incurred by the acceptance of substitutions shall be borne by the contractor. Proof for the equality of the substitutions shall be by the contractor and differences shall be enumerated with the submittal. Submission without the differences noted can be grounds for rejection without review. 16. Electrical components, including but not limited to, conductor size, overcurrent protection device and 	 except that the provision for owner supplied equipment shall be only be completed to the point indicated elsewhere on the drawings. 49. The Contractor/Installer shall use a calibrated torque tool to achieve the indicated torque value when the tightening torque numeric values identified on the electrical equipment or in the installation instructions. In the absence of 	receptacles shall be GFCI type with a weatherproof enclosure. The weatherproof enclosure shall have a gasketed hinged outlet cover/enclosure which is suitable for wet locations while in use and UL listed as manufactured by TayMac or approved equal.	*See installation restrictions in NEC 250.120	
	 disconnect switches are based on the power requirements of the equipment shown on the contract documents. All costs (including additional design fees if required) associated with changes to these power requirements shall be the responsibility of the contractor making the change. 17 Obtain shop drawings and wiring diagrams for the proper installation of related electrical work 	connector or the equipment manufacturer's recommended torque values, the tables in Informative Annex I may be used to correctly tighten screw-type connections for power and lighting circuits. Informative Annex I represents the "Recommended Tightening Torque Tables from UL Standard 486A-B."	 <u>Labeling:</u> All switchboards, panelboards, industrial control panels and motor control centers that are in other than dwelling occupancies and are likely to require examination, adjustment, servicing or maintenance while energized shall be field marked to warn qualified persons of potential electric arc flash bazards. The marking 	Arc Flash Label Requrements	
	 The contractor shall remove and reinstall ceiling systems as required for the installation of new electrical work and replace in kind, any components damaged by personnel or equipment during performance of the work. Electrical Contractor shall be responsible for the removal of debris generated by his work and workers at the 	using Bridle rings, J-hooks, or other appropriate means. The cable must not lay on dropped ceiling panels, be fastened to existing electrical conduits, steam pipes, sprinkler pipes, insulated pipes, or be routed in such a fashion as to obstruct access hatches, doors, utility access panels, mechanical service work areas or fittings	shall be located so as to be clearly visible to qualified persons before examination, adjustment, servicing or maintenance or the equipment. Marking shall be self adhesive, commercial label conforming to NEC 110.16 and ANSI Z535.4. Arc Flash Label shall be Brady (bradyid.com) catalog No. 102308 or equal.	ALL EQUIPMENT WHERE THE RISK OF ARC FLASH EXISTS, i.e.,: SWITCHBOARDS, PANELBOARDS, INDUSTRIAL CONTROL PANELS, MOTOR CONTROL CENTERS,	
	 end of each working day and for general good housekeeping by his workers. Electrical Contractor shall provide required refuse containers. 20. Unless otherwise indicated on the mechanical schedules/drawings, the electrical contractor shall provide and install all disconnect switches for all mechanical equipment (i.e., roof top HVAC units, exhaust fans, variable 	and shall not be routed through fire doors, ventilating shafts, or grates. a. Unless otherwise provided, MC cables shall be secured at intervals not exceeding 6'. Cables containing four or fewer conductors sized no larger than 10 AWG shall be secured within 12" of every box, cabinet, fitting, or other cable termination.	O. Provide identification tags for all new wiring and install at each end and in all intermediate pull/junction boxes, cabinets, housings, etc. Indicate on tags, legibly minimum ¼" high letters, the points of origin and termination of each conduit and conduit run. Label all receptacles and switch covers with panelboard and circuit number. For interior equipment, use Brother P-touch 3 label maker with TC-10 label cartridge or equal. For exterior	DISCONNECT SWITCHES, HVAC EQUIPMENT, ETC., SHALL BE FIELD MARKED WITH LABELS PER NFPA 70E FOR MINIMUM PPE REQUIREMENTS.	
6	air volume devices, etc.) Site Conditions/Drawing Coordination: These drawings and specifications illustrate the work to be performed. The Engineer is not responsible for the	 b. Type MC cable shall be permitted to be unsupported where the cable: (a) Is fished between access points through concealed spaces in finished buildings or structures and supporting is impractical; or (b) Is not more than 6' in length from the last point of cable support to the point of connection to luminaires or other electrical equipment and the cable and point of connection are within an accessible ceiling. Type 	 equipment, use aluminum dymo half-inch tape label with embossed lettering. Abbreviate lettering to provide necessary information with minimum label size (i.e., Panelboard PP1, Circuit 23 should read PP1-23). Label all switchgear, panelboards, and separately-mounted equipment with feeder source and circuit number. Each interior equipment, provide white Micrata plate with quarter-inch block lettering. For exterior equipment. 	ADANGER	UNAUTHORIZED ALTERATIONS OR ADDITIONS TO THIS DOCUMENT IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW. THESE DOCUMENTS REMAIN THE EXCLUSIVE DROPERTY OF THE
	means, methods, techniques, sequences, and procedures used to do the work, or the safety aspects of constructions, and nothing on these drawings expressed or implied changes this condition. Prior to bidding and/or starting work the contractor shall visit the project site to determine the conditions under which the work	MC cable fittings shall be permitted as a means of cable support. 51. All cable trays and electrical conduits shall be independently supported and braced independently of the ceiling.	provide anodized aluminum plate with quarter-inch embossed block lettering. Attach to equipment using contact cement in a clear space on the upper portion of the equipment cover approximately 66" AFF. Abbreviate lettering or adjust letter size to provide necessary information with minimum label size, (i.e.,	Arc Flash Hazard Appropriate PPF Required	FOR ANY PURPOSE WHATSOEVER WITHOUT THE WRITTEN CONSENT OF THE ENGINEER.
	is to be performed and shall be responsible for knowing how they affect the work. Schedule site visit with client's representatives. Additionally, the contractor shall field verify all site dimensions and room layouts. Submission of a bid to perform this work is an acknowledgement of these responsibilities, and that they have been fully considered in planning of the work, and the bid price. No claims or extra charges due to these	52. All new wiring is to be run concealed wherever possible. All conductors shall be in a surface mounted metallic raceway in public spaces or metallic conduit in utility locations when not routed concealed in the ceiling/wall cavities. Any locations that do not have accessible or dropped ceilings will require the use of surface mounted metallic raceways. Provide pull-boxes (size per code) and locate in conduit runs as required. No exposed	 227/480V PANEL PP1 FROM MDP CKT 3 or P-1 20 HP PUMP FROM PP1 CKT 3). All panels shall have typed, completed directories indicating equipment served and room number (as indicated on the final building signage) of equipment location, or spare, or space. Identify the purpose of individual circuit breakers, safety switches and motor starters by means of nameplates as indicated. Update directories 	Do not operate controls or open covers	
7	 conditions will be forthcoming. 22. The client will occupy the site and existing building during the entire construction period. Cooperate with the client during construction operations to avoid any conflicts. Perform the work so as not to interfere with the client's operations. Schedule all power outages with client's approval for overtime on Sundays and Holidays at the client's operations. 	cable may be installed. 53. Surface mounted metallic raceway shall meet the following criteria: a. Install in accordance with manufacturer's instructions for system components and approved shop drawings. Coordinate installation with adjacent work to ensure proper clearances and to prevent	 as panels are altered. Circuit changes shall be reflected on "as-built" drawings. All circuits and circuit modifications must be legibly identified as to their clear, evident, and specific purpose. The identification must include sufficient detail to allow each circuit to be distinguished from all others, and the identification must be on a circuit directory located on the face or inside of the door of a panelboard. Circuit 	equipment. Failure to comply may result in injury or	
	 no additional cost to the client. 23. Existing project conditions indicated are based on field observations; existing design/construction documents and existing record documents and are intended to indicate the scope of the work affected by this project. 	electrical hazards. b. Install in accordance with complete system instruction sheets. c. Install enclosures to be mechanically continuous and connected to all electrical outlets, boxes, device	directories containing multiple entries with only ``lights" or ``outlets" do not provide the sufficient detail required by the NEC.	death! Image: Contract of the second secon	
	 24. Drawings shall not be scaled. Drawings indicate the general arrangement of systems and requirements of the work. Although size and location of equipment is drawn to scale wherever possible, contractor shall make use of all data in all of the contract documents and verify information at the project site. 25. The electrical contractor shall make his own takeoff on all quantities. It shall be his responsibility, at his cost, to 	 d. Install enclosures to be electrically continuous and bonded in accordance with the National Electric Code for proper grounding. e. Mechanical Security: Raceway systems shall be mechanically continuous and connected to all electrical 	<u>Lignung:</u> <u>All</u> indoor fluorescent luminaires (lighting fixtures) in other than dwelling units that utilize double-ended lamps and contain ballast(s) that can be serviced in place shall have a disconnecting means either internal or external to each luminaire (fixture), to disconnect simultaneously from the source of supply all conductors of	LABEL BASED ON BRADY CATALOG No. 99453 (www.bradyid.com)	
	 include all equipment and material in order to comply with the intent of the drawings. 26. The circuit numbers are for identification only. The contractor shall be responsible for correctly phasing the circuits in panels. 27. Existing Circuit Designations: 	outlets, boxes, device mounting brackets, and cabinets, in accordance with manufacturer's installation sheets. f. Electrical Security: Metal raceway shall be electrically continuous and bonded in accordance with the National Electric Code for proper grounding.	the ballast, including the grounded conductor, if any. The line side terminals of the disconnecting means shall be guarded. The disconnecting means shall be located so as to be accessible to qualified persons before servicing or maintaining the ballast. Approved luminaire disconnect shall be comply with the National Electrical Code 410.130(G) and UL 2459 for non-residential fluorescent luminaires.		
8	 a. All reference to existing circuit designations is based on previous project documentation. The contractor shall consult the engineer in the event that actual conditions do not coincide with the indicated re-distribution or other use of existing circuits as herein indicated. b. The total connected load for any general purpose (protected at 20A) branch circuit which is re-distributed 	 g. Raceway Support: Raceway shall be supported by 2-hole straps at intervals not exceeding 5 feet or in accordance with manufacturer's installation sheets. h. Accessories: Provide accessories as required for a complete installation, including insulated bushings and inserts where required by manufacturer. 	 Support for light fixtures in or on grid-type suspended ceilings: A Seismic Fixture Clamp (SFC) shall be installed as a metal clip to attach recessed fluorescent light fixtures (luminaries) to framing members of metal suspension systems for acoustical and lay-in panel ceilings. One clamp is required at each of the four corners. In mechanical areas, the contractor shall verify locations and make adjustments percessary to clear. 	Device Mounting Heights	SHEN,
	 as a part of this project shall not exceed 13A. c. Any deviation, as may be directed by the engineer, from the indicated circuit structure specified in this drawing set will require both verification by the contractor that the total connected load on the associated 	 i. Unused Openings: Close unused raceway openings using manufacturer's recommended accessories. 54. Where PVC raceway is indicated to be installed exposed in an external environment, expansion fittings shall be installed to meet the requirements of NEC 352.44. 	 obstructions and required to suit field conditions. "Wiring" to battery operated exit or emergency luminaries shall be as per the Manufacturer's instructions and in conformance with the UL Listing of the equipment. As per NEC 700-12(F), connect the emergency battery to the emergency battery to be the transmission of the equipment. 	GENERAL NOTES: 12" FOR CEILINGS 1. Mounting heights to center of outlets unless \$11'-0". OTHERWISE 12" ABOVE DOOR FINICHED CENTRO	REET, GO
	 supply conductors is within the above specified limit and documentation in the project record (as-built) drawings. 28. The electrical installation shown is represented diagrammatically and indicates the general arrangement of systems and work. The locations and arrangements of equipment, devices, switchboards, panelboards, 	 An openings and penetrations shall be sealed upon completion of the electrical installation to prevent the spread of smoke and fire through openings. Seal around conduit and raceway penetrations through interior walls and floor separating areas to restore original fire rating; use a UL classified fire sealant. Seal penetrations through roof and exterior walls to make waterproof. Request inspection of fire seals by electrical 	 ane side, anead or the switch of the area lighting and clearly identify the circuit feeding the unit at the distribution panel. 8. Provide neutral for all lighting circuits. 9. Gang switches together under one faceplate. 	a content wise noted. In masonry construction the nounting heights shall be used for reference to nearest block or brick coursing. 2. The mounting heights shall be adhered to unless	AN STR STR
9	partitions, openings, etc. are designed to show preferred configurations to suit known conditions but are approximate and are subject to modifications caused by structural conditions and other existing or proposed equipment. The locations are subject to such modifications as may be found necessary or desirable at the time of installation in order to accommodate field conditions and coordination requirements. Contractor shall	 inspector from authority having jurisdiction before and after placement of fire seal materials. All openings shall be coordinated with the other trades to limit interference and obstruction. Limit the use of electrical metallic tubing (EMT) to where it will not be subject to physical damage or corrosion. Use intermediate metal conduit (IMC) or rigid galvanized steel conduit (RGS) where raceways are embedded 	 Por installation of light fixtures in areas without a ceiling, contractor shall determine method of support using hanger fittings, threaded rod, and "Unistrut" as applicable. These costs shall be included with the base bid. Where indicated on the drawings for dual levels of lighting, lamps within fixture shall be wired with the outermost lamp at both sides of the fixture on the same ballast, the next inward pair on another ballast and so 	specifically noted or detailed otherwise on the drawings or specifications. 3. A "CTR" designation beside a device indicates device mounted above counter or casework. Refer	engin 252 ₹
	follow the intent of the drawings in "laying out" the work and coordinate the work with other trades to verify spacing conditions. Contractor shall determine roughing locations required to effect such coordination. The electrical contractor shall coordinate all work and shall make such changes without extra charge.	in concrete or exposed to physical damage. Use minimum 3/4" conduit except as follows: 1/2" conduit may be used for 20 amp general light and power circuits and for control circuits; 3/8" flexible metal conduit may be used to connect light fixtures in suspended ceilings. Use liquid tight flexible metal conduit for flexible	 on to the innermost lamp (or pair of lamps). Within a given room, each switch shall uniformly control the same corresponding lamp (or lamp pairs) in all fixture units that are being controlled. Lighting controls factory startup: The contractor, with the assistance of the lighting control system manufacturer or representative, and lighting. 	to architectural and casework details for actual elevation. Receptacles above counters shall be horizontally mounted 6" above counter or 4" above backsplash. Coordinate exact location in field	
	diagrammatic arrangement of piping, raceways, conduits, feeders, cables, etc, herein after referred to as "conduit." Conduit runs, if shown, have been depicted with the intention of most clearly indicating the proposed routing. Actual runs may differ if kept within the requirements and provisions of these specifications, and	 57. Where raceways contain insulated conductors 4 AWG and larger that enter an enclosure, the conductors must be protected from abrasion during and after installation by a fitting that provides a smooth, rounded insulating surface, such as an insulating bushing as per NEC 300.4(G). 	designer shall program and verify the system performs per the manufacturer's instructions and the lighting designer's intent, sequences of operations, plans, and specifications. This includes properly locating the daylight sensor in the room(s), setting the dimming curves, setting occupancy sensor shut-off delays, setting	4. A "+" symbol beside a device indicates the O Z NOTIFICATION 5. All devices indicated to be installed at different O Z	. PHASI 825
	broviding that that all modifications have been shown in the shop drawings. Contractor responsible to determine conduit runs and "clear" piping, ductwork, access doors, and other obstructions as applicable. Contractor shall coordinate conduit with work of other trades and alter where necessary to avoid interference. Submit for approval, prior to scaled installation drawings showing the location of all new equipment/devices to	 58. Install outdoor equipment to be weatherproor (NEMA 3R). 59. Wherever the length of the secondary conductors of any transformer exceeds ten feet, and enclosed circuit breaker or fused disconnect is required to be provided within ten feet of the transformer secondary terminals in accordance with NEC Article 2401-2(C)(2). This overcurrent device shall have an ampacity rating equal to the 	 4. As part of the base bid, the contractor shall hire a 3rd party testing company responsible for the functional testing of the lighting control devices and control systems as per ASHRAE 90.1-2010, 9.4.4. 5. As part of the close out documents, the contractor shall prove lighting equipment manuals that contain the 	mounting heights and located within one stud H H H H H H H H H H H H H H H H H H H	3-008 ATIONS LIBRA AD IRK 10
10	 be installed and indicating circuitry. Shop drawings shall include all wiring, pull boxes, junction boxes, fittings, wiring devices and dimensioned clearances from the structure and equipment. Coordinate shop drawings with other trades prior to submission. 30. Before the relevant work proceeds, the Contractor shall prepare and submit five (5) copies of shop drawings 	 ampacity of the panel being served. If this occurs and the panel is in the same room, the panel being fed may be changed to main lug only. 60. All penetrations through exterior walls shall be sealed watertight. Furnish and install seals for conduit and raceways to seal the annular space between the raceway and the building penetration. Furnish and install 	 following: a. Submittal data indicating all selected options for each piece of lighting equipment and lighting controls. b. Operation and maintenance manuals for each piece of lighting equipment and lighting controls with routine maintenance clearly identified including, as a minimum, a recommended relamping program and 	A ABOVE BACK SPLASH OR 6" ABOVE COUNTER BOVE COUNTER B	-02-(PUBLIC DNE RC NEW YC
	depicting the proposed conduit routing diagram and equipment layout. Specifically detailed shall be a layout of the switchboard and related equipment in each electric room or electric closet. All equipment layouts shall be drawn to scale and dimensioned. Shop drawings shall be a minimum of 1/8" = 1'-0" and preferably 1/4"=1'-0", dimensioned showing construction sizes weights arrangements operating clearances performance	conduit sealing bushings as manufactured by OZ/Gendy type CSMI or CSMC or approved equal Furnish and install conduit sealing bushings as manufactured by OZ/Gendy type CSBG or approved equal to seal the conductors inside the raceway. Coordinate submittal submission with conductor size, quantity and insulation type.	a schedule for inspecting and recalibrating all lighting controls.c. A complete narrative of how each lighting control systems is intended to operate including recommended settings.	O SWITCH SWITCH Larger. H FIRE ALARM SMALLER. Image: Solution of the second secon	1-11 ILAKE LAKE ATERSTG ATERSTG
	characteristics and the necessary coordinating trades involved. Shop drawings will not be accepted unless a complete list of deviations from architect's/engineer's proposed plans is included. Exact location of all equipment will be determined in the field and the contractor must secure exact dimensional data before the	 61. Underground conduits shall be pitched to drain away for them building in manholes. 62. As per 1022.4 of the IBC, no conduit, piping, raceway etc. serving other areas may pass through the stair enclosure. Conduit, piping, raceway etc. must terminate at the stair enclosure. 	 <u>Inspections/Warranty:</u> No work shall be concealed until after inspection and approval by proper authorities. If work is concealed without inspection and approval, the Contractor shall be responsible for all work required to both open and reaction the concealed entry is a different share with the concealed entry. 		44-2 FAL 1 NW00D 79 W/ W00D 1
#	 ayout of any work. 31. Routing for feeders, instrumentation and control circuits is not shown on the plan drawings. If indicated on the floor plans, they express the intent of routing. Final location and routing shall be suited for the construction of the building and established by the contractor based on the installation conditions and shall be verified in the 	Utility Guidelines: 63. Contractor shall obtain and adhere to the utilities latest installation and specification guidelines. 64. Contractor pay for all utility company permits, fees, approvals, etc. These fees shall be included in the base bid	 restore the concealed areas in addition to any required modifications. 7. The contractor shall make a final inspection of all electrical equipment to ensure that there are no loose electrical connections or electrical circuits subject to electrical break down due to the presence of foreign material. This shall include inspection of all connections made under this contract. 		CENE GENE GREEN GREEN
	field. All feeder information, conduit types and installation requirements shall be in accordance with the specifications, electrical riser diagram and appropriate panel schedules. 6 32. Any cutting, patching, or finish repair work required for the electrical installation is the responsibility of the contractor. 6	and shall not be cause for an extra. 65. Contractor shall submit to the utility company for approval, the following: service entrance switchboard/panelboard, generator and transfer switch, as applicable, and all other information requested by the utility representative.	 8. The contractor shall contract with an electrical underwriter to provide third-party electrical inspection services (both "rough" and "final") for issuance of a "Certificate of Completion". All fees and costs shall be the responsibility of the contractor. 9. The contractor shall deliver certificates of electrical and other inspections or copies thereof. to the client at the 		DJEC HVAC
	 33. Where mounting heights are not detailed or dimensioned, install electrical services and overhead equipment to provide maximum headroom possible. Connect equipment for ease of disconnecting with minimum interference with other installations. 34. Provide temporary power and lighting as required during the entire duration of demolition and construction. 	<u>Wire Information:</u> 66. All wiring shall be copper conductor, 600 volts in EMT raceway with approved fittings unless otherwise indicated. Fooder	 completion of the project with copies to the Engineer/architect. 00. The contractor shall guarantee all work in writing to the client against any and all defects in material and workmanship for a period of one year, or as indicated in the specification, from date of acceptance and perform all corrective work at no cost to the client 		Job No. 41361.04 File No. 4136104E001
	 utilizing the existing electrical system as a source. The Electrical Contractor shall remove all temporary power and lighting upon the completion of the project. 35. Unless otherwise noted, refer to architectural drawings for elevations and relative positions of equipment, wall, 	and branch circuit wiring larger than #10 AWG shall be stranded conductor: #10 AWG and smaller, shall be solid conductor. Control wiring shall be #18 AWG THWN. Type of insulation as follows unless noted otherwise: a. THHN/THWN insulation for #4 AWG and smaller			F0.01

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RAISE AND SUPPORT PORT WI	 UNUSED ELECTRICAL EQUIP THE FOLLOWING CONDITION THE REMOVAL REQUIRES USE AN EXAMPLE IS CON THE COST OF REMOVAL RESTRICTED ACCESS. A ENGINEER. IF EITHER OF THE ABOVA ACCESSIBLE CEILINGS, TO THEM. CUT CONDUIT BEN SEAL THE REMAINING UN ENCLOSURES NOT REMOV INVENTORY EACH PANELBOVO CONSOLIDATE EXISTING CIR MAXIMIZE CAPACITY FOR SE MCONP OF CIRCUITS BREAK PREPARE A CURRENT DIRECTOR WHICH THE FINAL DIRECTOR WHICH THE FINAL DIRECTOR WHICH THE FINAL DIRECTOR EXTENSION/CONTINUITY: 	MENT AND MATERIAL SHOULD ONLY BE I SET STISTE THE DEMOLITION OF OTHER STRUCTURE DUIT EMBEDDED IN WALLS OR DUCTBAN AL IS EXCESSIVE DUE TO HAZARDS FINAL DETERMINATION FOR THIS CO THE POINT THAT BUILDING CONSTRU- EATH OR FLUSH WITH BUILDING CONSTRU- EATH OR FLUSH WITH BUILDING CONSTRU- COUTS WITHIN EACH PANELBOARD WITH REVICE TO THE PROJECT AREA BY INCLU TO THE POINT THAT BUILDING CONSTRU- COUTS WITHIN EACH PANELBOARD WITH REVICE TO THE PROJECT AREA BY INCLU TERS TO BE DISCONNECTED AS A RESULT CTORY, POST DEMOLITION, FOR EACH PA REMOVED, LEAVE THEM CONNECTED AN ACENT STRUCTURE REMAINING. NT CONNECTIONS USING MATERIALS AN ALLATION AND IDENTIFIED IN THE ELECTFING DEVICE TO REMAIN, REROUTE/MODIFY TH ITY. 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CI DEMOLISHED PANELS AND/OR CIRCUITS AF AS REQUIRED TO REMAIN, BUT ARE INDIC/ WIDE TEMPORARY POWER AS REQUIRED DUF DIDETEMPORARY POWER A	LEFT IN PLACE IF ONE OR MORE OF RES OR EQUIPMENT THAT IS STILL I IKS. 3, CONSTRUCTION METHODS, O INDITION SHALL BE MADE BY TH ONDUITS, INCLUDING THOSE ABOV CTION, EARTH, OR PAVING COVER RUCTION OR PAVING. PLUG, CAP, O ERS FOR ABANDONED BOXES AN O BE REUSED. SEQUENTIALLY REGARD TO AREA SERVED. DING EXISTING SPARES WITH THE T OF THIS SELECTIVE DEMOLITION. INELBOARD AS THE BASE UPON THAT THEY ARE RELOCATED. IF ID EITHER TUCK THEM INTO THE D METHODS COMPATIBLE WITH TH RICAL SPECIFICATIONS. RUPTS THE CONTINUITY OF A HE CIRCUIT AS REQUIRED TO JULBOXES, RACEWAYS, WIRING, OARD, THE ELECTRICAL IRD OF SAME VOLTAGE W CIRCUIT BREAKERS OR UTILIZE BOX REMAINS FOR CIRCUIT ATERIAL AND FINISH TO MATCH TH CIRCUIT IS INTERRUPTED (OPEN), /OR DESTRUCTION OF ELECTRICAL TO PRECLUDE THE INTERRUPTION AREAS NOT INCLUDED IN INUITY OF ALL SERVICES IN JLL TIMES. MAINTAIN SERVICE BY FFETED BY DEMOLITION. PROVIDE RCUITS IN NON-DEMOLITION AREAS SHALL BE RE-CIRCUITED TO THE RING CHANGE-OVER TO MAINTAIN OCATED CIRCUITS AS REQUIRED TO ATED WITH NEW CIRCUITRY IT, WIRING, ETC., NECESSARY T AME CIRCUIT THAT ARE NOT TO B		Checked Drawn ICHAEL J. MCGOVERN, R.A. Bevis OSTION	DN Tite KEGISIEKED AKCHITECI FORBID SO21
EMECHANICAL EQUIPMENT DEMOLITION WITH TH OLITION PLANS AND GENERAL CONSTRUCTION D ARCHITECTURAL DEMOLITION PLANS FOR ALL ME FOR ELECTRICAL DEMOLITION PLANS FOR ALL ME FOR ELECTRICAL DEMOLITION PLANS FOR ALL ME FOR ELECTRICAL DEMOLITION PLANS FOR ALL CAUPMENT LEFT AFTER WALL DEMOLITION, DOES OR ANY OTHER TELEPHONE OR ELECTRIC 3 AT PANELS AND REMOVE OLD WIRING FROM AS REQUIRED TO ACCOMMODATE THE R CONSTRUCTION MUST BE KEPT OPERATIONAL OVIDE THE NECESSARY TEMPORARY ELECTRICAL OMPLETION OF THE PROJECT. RACTOR SHALL PROVIDE TEMPORARY ELECTRIC S OF ALL PROJECT DIVISIONS. ALL TEMPORARY S PROTECTED BY GROUND FAULT CIRCUIT ALL BE IN ACCORDANCE WITH NEC ARTICLE 590. DN OR DEVICES AVAILABLE IN A SPECIFIC AREA THE AE. IF DIRECTED BY THE AE, THE CONTRACT TION OR CONNECTION DEVICES REQUIRED UNE RACTOR SHALL PROVIDE TEMPORARY LIGHTING AND TASK ILLUMINATION FOR THE GENERAL FOR ALL SUB-CONTRACTORS FOR THE DURATION ARE TO BE IN COMPLIANCE WITH APPLICABLE NG SHALL BE SUPPLIED BY CIRCUITS PROTECTED RY LIGHTING SHALL BE IN ACCORDANCE WITH NEI ND/OR LIGHTING QUALITY IN A SPECIFIC AREA THE AE. IF DIRECTED BY THE AE, THE CONTRACT OR ADDITIONAL DISTRIBUTION WIRING REQUIRED VITIES REMOVE ALL WIRING, BOTH EXPOSED AND D POWER DISTRIBUTION. VICES AND WIRING (I.E., DISTRIBUTION EQUIPMEN BACK TO THE SOURCE PANELBOARD, CLOSET, OR CABINET. ABANDONED WIRING AND UDE THE FOLLOWING: URE USE FOR THE EXISTING CIRCUIT OR RACEW	 b. PROVIDE NEW WIRING DE c. RECIRCUIT DEVICES AS IN <u>PATCHING/REPAIRING</u>: 1. RESTORE THE ORIGINAL FIR DEMOLITION USING A UL CL/ EXCEPT FOR AREAS WHERE CONDITION IN AREA OF DIST RESULT OF CONTRACTOR'S UPON COMPLETION OF THE LEFT BROOM CLEAN. FURNISH AND INSTALL KNOO OPENINGS CREATED BY THE 5. WHERE AN EXISTING ELECTI WALL AND THAT WALL IS TO SATISFACTION. HAZARDOUS MATERIAL DISPOSAL DISCONNECT AND REMOVE / WITH A FEDERALLY APPROV COMPONENTS FOR RECYCLI DOCUMENTATION SHALL BE CONTRACTOR SHALL MAINT/ OF 2. REMOVE ALL MERCURY-CON APPROVED LAMP RECYCLIN BY REQUIRED AND PACKAGE, S FACILITY TO INSURE MINIMU SHIPPED INTACT. CONTRACT OR HAZARDOUS WASTE INCLUD AT MANIFEST WITH THE STATE / SHALL BE PROVIDED TO THE REQUIREMENTS OF STATE L OR HAZARDOUS WASTE INCLUD AT MANIFEST WITH THE STATE / SHALL BE PROVIDED TO THE REMOVE ALL SEALED LEAD/ MANUFACTURER OR TO A SI DISPOSAL. OBTAIN A RECEIP WHERE TRITIUM EXIT SIGNS T, FOLLOWING PROCEDURES: a. TAKE CARE TO NOT DROF b. DOCUMENT LOCATION SI CONDITION, AND REMOVA C. STORE THE SIGN IN A CEN (AT THE COMPLETION OF ' THE OWNER WITH A LIS' PACKING MATERIAL FROW 	ANDE AND PACEPLATE. NDICATED. ERATING OF FLOORS, WALLS, AND CEIL ASSIFIED FIRE SEALANT. PARTITIONS OR CEILINGS ARE TO BE DE C IS TO BE INSTALLED, CONTRACTOR SH. URBED CEILING. ANY WATER DAMAGED DEMOLITION SHALL ALSO BE REPLACED DEMOLITION WORK, THE CONTRACTOR S CKOUT PLUGS ON ALL EXISTING PANELS, EREMOVAL OR RELOCATION OF EXISTING RICAL DEVICE, EQUIPMENT, ETC., IS BEIN REMAIN CONTRACTOR SHALL PATCH EX	INGS AFTER ELECTRICAL EMOLISHED OR WHERE NEW AIR ALL REPLACE TO THE EXISTING OR BROKEN CEILING TILES AS THE SHALL PROVIDE THAT ALL AREAS B EQUIPMENT, AND OUTLET BOX G RACEWAYS. NG REMOVED FROM AN EXISTING (ISTING WALL TO ARCHITECTS HTT FIXTURES THAT DO NOT HAVE A ABEL (BALLAST MAY CONTAIN DPERLY DISPOSE OF CONTAINERS SHALL INVOLVE SEGREGATION OF TS. ALL DISPOSAL LETION OF THE PROJECT. OR EACH RUN. JSH. RETAIN SERVICES OF A STATE D9. COORDINATE PACKAGING ED BY THE SELECTED RECYCLING F LAMP MATERIAL MUST BE G AND PAPERWORK SPORTATION, AND DISPOSAL OF QUIRED PAPERWORK AND L DISPOSAL DOCUMENTATION :0JECT. IN TO THE BATTERY ING FACILITY FOR PROPER JT DOCUMENTS. CONTRACTOR SHALL USE THE AY. IMBER, MANUFACTURER, MODEL MPLETION. SIGNS OVER, IN THEIR ENTIRETY, T SNS BOXED UP IN THE LEFT OVE	= #, OR	UNAUTHORIZED ADDITIONS TO THA A VIOLATION OF THE NEW YORK UNTERSE DO, THE EXCLUSIVE F ENGINEER, AND M FOR ANY PURPO WITHOUT THE W OF THE UNTERSE DO, THE STATES DO STATES DO STA	engineeringplanningarchitectureSurveying252 MAIN STREET, GOSHEN, NEW YORK 10924 (845)615−0350
ALL WORK OUTSIDE OF IS REQUIRED TO COMPLIC CONSIDERED IN THE PH/ EXISTING LIGHTING TO B INSTALLATION OF NEW H DUCTWORK, SALVAGED PROPOSED LIGHTING FIR	THE PHASE 2 WORK AREA THAT ETE PHASE 2 WORK IS TO BE ASE 2 SCOPE OF WORK.		NOTE: SHADED AREA DENOTES WORK THAT IS EXCLUDED FROM THIS CONTRACT.	SED PROJECT # 44-21-11-02-6-008-005	The No. 4136 HVAC UPGRADES & INTERIOR RENOVATIONS, PHASE 2	GREENWOOD LAKE PUBLIC LIBRARY 79 WATERSTONE ROAD 101 101 101 101 1025

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3-Phase Connection							
/oltage Drop % for 148 Feet is 1.33%	Current	Neutral	Ground				
Raceway: (2 sets) - 4 in. dia. PVC	(6) 600	(2) 600	(2) #1/0				
	kcmils	kcmils					
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A SET SCREW IS NOT AN METHOD OF LOCKING TH NECT MUST BE LABELED C 230.70(B). THE LABELED C 230.70(B). THE LABELED G 230.70(B). THE LABELE Maximum Available F CURRENT CALCULATION RKED ON THE SERVICE ED FROM 1/16" THICK P THROUGH THE COLORED SUB-LAYER. EXAMPLE: 10 SYMMETRICAL RMS A H PROTECTION. SWITCH TRIAL CONTROL PANELE OTOR CONTROL CENTER IES, WHICH ARE LIKELY MENT, SERVICING, OR I FIELD MARKED TO WAR RIC ARC FLASH HAZARD TOR CONTROL CENTER IS, WHICH ARE LIKELY MENT, SERVICING, OR I FIELD MARKED TO WAR RIC ARC FLASH HAZARD TOR CONTROL CENTER IS, WHICH ARE LIKELY MENT, SERVICING, OR I FIELD MARKED TO WAR RIC ARC FLASH HAZARD TO CONTROL CENTER IS WHICH ARE LIKELY MENT, SERVICING, OR I FIELD MARKED TO WAR RIC ARC FLASH HAZARD TO CONDUCTORS ARE R THE SAME LING TH STRICALLY JOINED AT B N CONDUCTORS ARE R T BE EVENLY DISTRIBUT ALLEL CONDUCTORS. TH JRING THAT ALL UNG RC DUCTOR OF A PARALLE THE SAME LENGTH. MADE OF THE SAME C COPPER/ALUMINUM). THE SAME SIZE IN CIR WG). SE THE SAME INSULATIO	N ACCEPTABLE MEANS HE DEVICE IN THE OFF D AS THE "SERVICE SHALL BE INATED MATERIAL. TO CONTRASTING AULT CURRENT AND N WAS PERFORMED EQUIPMENT. THE LABEL LASTIC LAMINATED D MATERIAL TO MAXIMUM AVAILABLE MPERES DATE 12/1/17. HBOARDS, S, METER SOCKET N OTHER THAN TO REQUIRE MAINTENANCE WHILE RN QUALIFIED PERSONS S*. THE MARKING SHALL TO TO REQUIRE MAINTENANCE WHILE RN QUALIFIED PERSONS S*. THE MARKING SHALL TO NOTES DED NEUTRAL CONDUCTORS SIZED DED NEUTRAL CONDUCTORS SIZED DINDED AND GROUNDED NEUTRAL COULAR MIL AREA (MINIMUM 1/0 ON MATERIAL (LIKE THHN). METHOD (SET SCREW VERSUS	LOCATED SO AS TO BE CLE FORE EXAMINATION, ADJUS THE EQUIPMENT." THE NEC Y ELECTRICAL EQUIPMENT E WARNING LABEL SHALL O ECIFIES COLORS AND SIGN IERE RACEWAYS CONTAIN TER AN ENCLOSURE, THE O OM ABRASION DURING AND AT PROVIDES A SMOOTH, R AN INSULATING BUSHING [PLASTIC BUSHING MUST B RMINATIONS IN ACCORDAN THE BOX, FITTING, OR ENC UIVALENT PROTECTION [34 000) = AVAILABLE 3¢ FAULT '] CIRCUIT LENGTH IN FEET. LCULATIONS ONLY. L EXTERIOR RACEWAYS TO ADE. O CHARACTERISTICS ANI IN EACH RACEWAY OR (UNGROUNDED CONDU CONDUCTOR, AREN'T F CHARACTERISTICS ANI IN EACH RACEWAY OR (UNGROUNDED CONDU CONDUCTOR, AREN'T F CHARACTERISTICS AS GROUNDED NEUTRAL O CIRCUITS IN PARALLEL LENGTH, MATERIAL, SIZ ADDITION, EACH RACE' EQUIPMENT GROUNDIN ACCORDANCE WITH 25 310.4 DOESN'T APPLY T CONDUCTORS [250.122 5. WHEN MORE THAN THE	ARLY VISIBLE TO QUALI TMENT, SERVICING, OR C LABELING REQUIREME INSTALLED OR MODIFIE COMPLY WITH ANSI Z535. AL WORDS TO BE USED. CONDUCTORS 4 AWG AN CONDUCTORS MUST BE F AFTER INSTALLATION B CONDUCTORS MUST BE F OUNDED INSULATING SU 300.4(F)]. FOR IMC AND R E INSTALLED ON CONDUC CE WITH 300.4(F), UNLES LOSURE IS SUCH AS TO 4.46 AND 342.46]. CURRENT (RMS, SYM AI (USED FOR SHORT CIRC BE INSTALLED BELOW F CURRENT (RMS, SYM AI (USED FOR SHORT CIRC BE INSTALLED BELOW F CABLE. CONDUCTORS F ICTOR) OR THE GROUND REQUIRED TO HAVE THE TOSE OF ANOTHER PHE CONDUCTOR TO ACHIEV INDING (BONDING) CONE MUST BE IDENTICAL TO Z, INSULATION, AND TEI WAY (WHERE REQUIRED IG (BONDING) CONDUCT 0.122. THE MINIMUM 1/0 / O EQUIPMENT GROUND (F)(1)]. REE CURRENT-CARRYING	FIED PERSONS MAINTENANCE NTS APPLY TO D AFTER 2002. 4, WHICH ND LARGER AND PROTECTED BY A FITTING URFACE, SUCH RMC, A METAL JIT THREADS AT SS THE DESIGN AFFORD MPS) CUIT FINISHED CUIT FINISHED FCONDUCTORS OR ONE PHASE DED NEUTRAL SAME PHYSICAL ASE OR E BALANCE. DUCTORS FOR EACH OTHER IN RMINATION. IN D) MUST HAVE AN OR SIZED IN AWG RULE OF ING (BONDING) CONDUCTORS		Checked Drown WICHAEL J. MCGOVERN, R.A. Revision ISSUE F DISSUE F DISSUE F DISSUE F DISSUE F	BH DN
	CABLES CONTAINING PARALLEL THE SAME PHYSICAL Symbol Legend LOW VOLTAGE, THERMAL MAGNETIC CI "FRAME" INDICATES FRAME SIZE "TRIP" INDICATES DRIP AMPERAGE RAT FEEDER AND/OR CIRCUIT INFORMATION • CONDUIT SIZE • QUANTITY AND SIZE OF PHASE & NEUT • QUANTITY AND SIZE OF PHASE & NEUT • QUANTITY AND SIZE OF EQUIPMENT G	RCUIT BREAKER	MENT FACTORS OF TAB	DETAILS AND		UNAUTHORIZED AL ADDITIONS TO THIS A VIOLATION OF SE THE NEW YORK SI	TERATIONS OR 5 DOCUMENT IS 5CTION 7209 OF 74TE EDUCATION
	ELECTRONIC METERING DEVICE & POTENTIAL TRANSFORMER WITH PRIMARY AND SECONDARY FUSES					LAW. THESE DOCU THE EXCLUSIVE PR ENGINEER, AND MA FOR ANY PURPOS WITHOUT THE WRI OF THE EN	MENTS REMAIN OPERTY OF THE Y NOT BE USED E WHATSOEVER TTEN CONSENT IGINEER.
	EQUIPMENT BUS & RATING DATA, INCLU BUS CONTINUOUS CURRENT RATING - V PHASES - No. OF WIRES - SHORT CIRCUI CURRENT RATING CAPACITY IN THOUSA ELECTRONIC TRIP DEVICE LONG/SHORT TIME & INSTANTANEOUS F KEY NOTE - REFER TO KEY NOTES FOR ADDITIONAL INFORMATION. UTILITY METERING COMPARTMENT	DING: OLTAGE(S) - No. OF T INTERRUPTING NDS OF AMPERES (KAIC) FUNCTIONS G= GROUND FAULT				CIATES	i itecture ● surveying :k 10924 (845)615-0350
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(XX,XXX)	AVAILABLE 3φ FAULT CURRENT (RMS, SYM AMPS)					¥	planni _{GOSHE}
N.I.C. <u>NOTE:</u> D PLANS FOR PHASING	OF CIRCUITS.					LAN	engineering • 252 Main Street,
. BPL			FED FROM MI	DP 208/120V	2	SE 2	
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			Voltage Drop %	for 100 Feet	is 0.94%		Current	Neutral	Ground				
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1	ABBRE	VIATIONS		END & SYMBOLS	PI LIMBING SYSTEM MATERIALS				
2	$\begin{array}{rcl} & & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & \\ & &$	ID = INSIDE DIAMETER (DIM) IN = INCH INFO = INFORMATION LAV = LAVATORY MAX = MAXIMUM MBH = 1000 BRITISH THERMAL UNITS MECH = MECHANICAL MIN = MINIMUM NTS = NOT TO SCALE OD = OUTSIDE DIAMETER RD = ROOF DRAIN RPZ = REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER SPEC = SPECIFICATION SS = STAINLESS STEEL STD = STANDARD T&P = TEMPERATURE & PRESSURE TMV = THERMOSTATIC MIXING VALVE TYP = TYPICAL	GASO O O	SANITARY WASTER PIPING SANITARY VENT PIPING ROOF LEADER PIPING DOMESTIC COLD WATER (DCW) PIPING DOMESTIC HOT WATER (DHW) PIPING DOMESTIC HOT WATER RETURN (DHWR) PIPING GAS PIPING CONDENSATE DRAIN PIPING PIPE TURN UP PIPE TURN UP	PIPING: WASTE & VENT PIPING BELOW GRADE SHALL BE SERVICE WEIGHT CAST IRON PIPE WITH GASKETS, ABOV SHALL BE NO-HUB SERVICE WEIGHT CAST IRON PIPE WITH STAINLESS STEEL SHIELDED COUPLINGS. DOMESTIC HOT AND COLD WATER PIPING ABOVE GRADE SHALL BE TYPE "L" COPPER WITH WROUGHT C FITTINGS (LEAD-FREE SOLDER). BELOW GRADE SHALL BE TYPE "K" COPPER WITHOUT FITTINGS. GAS PIPING ABOVE GRADE SHALL BE SCHEDULE 40 BLACK STEEL WITH MALLEABLE IRON SCREWED FIT PIPE SIZE) AND WELDED FITTINGS (PIPE SIZE 2-1/2" & LARGER). CONDENSATE DRAIN PIPING ABOVE GRADE SHALL BE TYPE "L" COPPER WITH WROUGHT COPPER SOLDE INSULATION: ALL DOMESTIC VALVE HOT AND COLD WATER PIPING SHALL BE INSULATED WITH FIBERGLASS GLASS F R-VALUE 5 PER INCH: 1" THICK INSULATION FOR PIPE SIZES 1-1/2" & SMALLER. ALL CONDENSATE DRAIN PIPING SHALL BE INSULATED WITH 1" THICK FLEXIBLE ELASTOMERIC I ARMAFLEX BLACK LAPSEAL OR APPROVED EQUAL). ALL ROOF LEADER PIPING SHALL BE INSULATED WITH 1" THICK FLEXIBLE ELASTOMERIC I ARMAFLEX BLACK LAPSEAL OR APPROVED EQUAL). ALL ROOF LEADER PIPING SHALL BE INSULATED WITH 1" THICK FLEXIBLE ELASTOMERIC I ARMAFLEX BLACK LAPSEAL OR APPROVED EQUAL). ALL ROOF LEADER PIPING SHALL BE INSULATION WITH 1" THICK FIBERGLASS PIPE INSULATION WITH ASJ CLEANOUTS: WALL: J.R. SMITH #4532S W/ ROUND STAINLESS STEEL TOP. PIPE INSULATION/COVERS: PROVIDE TRUEBRO "LAV GUARD 2" WASTE & SUPPLY PIPING COVERS FOR ALL LAVATORIES. VALVES & FITTINGS:	/E GRADE :OPPER SOLDI :TINGS (UP TO :R FITTINGS. PIPE INSULATION (JACKET.			
4	EA EXIST EOD=EACH EXISTING EMERG. OVERFLOW ROOF DRAINFD=FLOOR DRAINGPH=GALLON PER HOURHWH=DOMESTIC HOT WATER HEATER	VTR = VENT THROUGH ROOF W/ = WITH W/O = WITHOUT WC = WATER CLOSET WT = WEIGHT		PIPE TOP CONNECTION PIPE BOTTOM CONNECTION SHUTOFF BALL VALVE PRESSURE REGULATOR	ALL VALVES & FITTINGS FOR DOMESTIC WATER SYSTEM SHALL BE LEAD FREE TYPE IN COMPLIANCE W/ OF NSF/ANSI STANDARD 61. ALL BALL VALVES SHALL BE FULL-PORT TYPE. <u>PENETRATION FIRESTOPPING</u> : ALL PIPE PENETRATIONS (AT WALL, FLOOR, CHASE, ETC.) SHALL BE SEALED & CAULKED W/ 2 HR RATEE MATERIALS.	REQUIREMEN D FIRESTOPPI			
					GENERAL CONSTRUCTION NOTES				
5					 CONTRACTOR IS RESPONSIBLE FOR CUTTING OF ALL WALLS, FLOORS, CEILING ETC. FOR ALL PLUMBIN FLOOR PENETRATIONS. CONTRACTOR IS REQUIRED TO PATCH (TO MATCH EXISTING), IMMEDIATELY AFTER REMOVAL, ALL WALL OPENINGS WHERE EXISTING PIPE, ETC. ARE BEING REMOVED. SEAL OPENING WITH 2 HR RATED FIRE E SEE GENERAL LOCATIONS ON PLUMBING DEMOLITION PLANS. CONTRACTOR SHALL PROVIDE ROOFING PATCH WORK AND TIE-IN FOR ALL NEW CONDUIT THAT PENETR ROOF. 	NG PIPE WALL L, FLOOR & CL BARRIER CAUI RATES EXISTII			
6					4. WHERE A FIREPROOFING MATERIAL THAT IS INTEGRAL TO THE RATING OF AN EXISTING FIRE-RATE REMOVED OR DISTURBED, CONTRACTOR IS REQUIRED TO REPLACE THE MATERIAL TO PRESERVE THE	D ASSEMBLY RATING.			
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SANITARY WASTER PIPING PIPING: SANITARY VENT PIPING WASTE & VENT PIPING BELOW GRADE SHALL BE SERVICE WEIGHT CAST IRON PIPE WITH GASKETS, ABOVE GRADE ROOF LEADER PIPING DOMESTIC HOT AND COLD WATER PIPING ABOUT COPIENS SUL DOMESTIC COLD WATER (DOW) PIPING COMESTIC COLD WATER (DOW) PIPING DOMESTIC HOT WATER (DOW) PIPING COMESTIC HOT WATER (DOW) PIPING DOMESTIC HOT WATER (DOW) PIPING COMESTIC HOT WATER (DOW) PIPING DOMESTIC HOT WATER (DOW) PIPING COMESTIC HOT WATER (DOW) PIPING DOMESTIC HOT WATER (DOW) PIPING COMESTIC HOT WATER (DOW) PIPING DOMESTIC HOT WATER (DOW) PIPING COMESTIC HOT WATER (DOW) PIPING GAS PIPING QUAL QUAL DAVESTIC VALVE HOT AND COLD WATER PIPING SHALL BE INSULATED WITH FREERGLASS GLASS PIPE INSULATION RAUL DAVESTIC PARLY BEACK LAVESED ALL DAVESTIC DAVIN PIPING SHALL BE INSULATED. MARKER EDRAIN PIPING SHALL BE INSULATED WITH PIPING SHALL BE INSULATED. PIPE TURN UP PIPE TURN DOWN PIPE TURN DOWN PIPE TOP CONNECTION PIPE TOP CONNECTION </th <th>LEGEND & SYMBOLS</th> <th colspan="7">PLUMBING SYSTEM MATERIALS</th>	LEGEND & SYMBOLS	PLUMBING SYSTEM MATERIALS						
PRESSURE REGULATOR GENERAL CONSTRUCTION NOTES 1. CONTRACTOR IS RESPONSIBLE FOR CUTTING OF ALL WALLS, FLOORS, CEILING ETC. FOR ALL PLUMBING PIPE WAL FLOOR PENETRATIONS. 2. CONTRACTOR IS REQUIRED TO PATCH (TO MATCH EXISTING), IMMEDIATELY AFTER REMOVAL, ALL WALL, FLOOR & C OPENINGS WHERE EXISTING PIPE, ETC. ARE BEING REMOVED. SEAL OPENING WITH 2 HR RATED FIRE BARRIER CAU SEE GENERAL LOCATIONS ON PLUMBING DEMOLITION PLANS. 3. CONTRACTOR SHALL PROVIDE ROOFING PATCH WORK AND TIE-IN FOR ALL NEW CONDUIT THAT PENETRATES EXIST ROOF.	 SANITARY WASTER PIPING SANITARY VENT PIPING ROOF LEADER PIPING DOMESTIC COLD WATER (DCW) PIPING DOMESTIC HOT WATER (DHW) PIPING DOMESTIC HOT WATER RETURN (DHWR) PIPING GAS PIPING CONDENSATE DRAIN PIPING PIPE TURN UP PIPE TURN DOWN PIPE TOP CONNECTION PIPE BOTTOM CONNECTION SHUTOFF BALL VALVE 	PIPING: WASTE & VENT PIPING BELOW GRADE SHALL BE SERVICE WEIGHT CAST IRON PIPE WITH GASKETS, ABOVE GRADE SHALL BE NO-HUB SERVICE WEIGHT CAST IRON PIPE WITH STAINLESS STEEL SHIELDED COUPLINGS. DOMESTIC HOT AND COLD WATER PIPING ABOVE GRADE SHALL BE TYPE "L" COPPER WITH WROUGHT COPPER SOLDER FITTINGS (LEAD-FREE SOLDER). BELOW GRADE SHALL BE TYPE "C OPPER WITHOUT FITTINGS. GAS PIPING ABOVE GRADE SHALL BE SCHEDULE 40 BLACK STEEL WITH MALLEABLE IRON SCREWED FITTINGS (UP TO 2' PIPE SIZE) AND WELDED FITTINGS (PIPE SIZE 2-1/2'' & LARGER). CONDENSATE DRAIN PIPING ABOVE GRADE SHALL BE TYPE "L" COPPER WITH WROUGHT COPPER SOLDER FITTINGS. INSULATION: ALL DOMESTIC VALVE HOT AND COLD WATER PIPING SHALL BE INSULATED WITH FIBERGLASS GLASS PIPE INSULATION R-VALUE 5 PER INCH: 1'' THICK INSULATION FOR PIPE SIZES 1-1/2'' & SMALLER. ALL CONDENSATE DRAIN PIPING SHALL BE INSULATED WITH 1'' THICK FLEXIBLE ELASTOMERIC INSULATION (AF ARMAFLEX BLACK LAPSEAL OR APPROVED EQUAL). ALL ROOF LEADER PIPING SHALL BE INSULATION WITH 1'' THICK FIBERGLASS PIPE INSULATION WITH ASJ JACKET. CLEANOUTS: WALL: J.R. SMITH #4532S W/ ROUND STAINLESS STEEL TOP. PIPE INSULATION/COVERS: PROVIDE TRUEBRO "LAV GUARD 2'' WASTE & SUPPLY PIPING COVERS FOR ALL LAVATORIES. VALVES & FITTINGS FOR DOMESTIC WATER SYSTEM SHALL BE LEAD FREE TYPE IN COMPLIANCE W/ REQUIREMENTS OF NSF/ANSI STANDARD 61. ALL BALL VALVES SHALL BE FULL-PORT TYPE. PENETRATION FIRESTOPPING: ALL VALVES & FITTINGS FOR DOMESTIC WATER SYSTEM SHALL BE LEAD FREE TYPE IN COMP						
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Job No. 41361.04

File No. 4136104M2.(

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2	ROUT SINK

		PIPE	SIZES			anf	gpm	DELL	WSFU	J			
AT NO.	TRAP	WASTE	VENT	CW	HW	gpi							
OR ITED	INTEGRAL	4"	2"	1/2"	-	1.6	-	4	2.5	INCLUDE 5901.100 ELONGATED HEAVY DUTY BOWL. INSTALL ADA WATER CLOSETS TO MEET ADA HEIGHT REQUIREMENTS. WHITE COLOR.			
OR ITED	INTEGRAL	4"	2"	1/2"	-	1.6	-	4	2.5	INSTALL ADA WATER CLOSETS TO MEET ADA HEIGHT REQUIREMENTS. WHITE COLOR.			
UNTED	1-1/2"	1-1/2"	1-1/2"	1/2"	1/2"	-	2.2	1	1	INCLUDE 7385.000 RELIANT 3 FAUCET INSTALL ADA LAVATORIES TO MEET ADA HEIGHT REQUIREMENTS. WHITE COLOR.			
OR	3"	3"	2"	1/2"	1/2"	-	2.2	3	3	SINGLE COMPARTMENT, ENAMEL CAST IRON. DUAL HANDLE FAUCET MO. 8344.212 EXPLOSED YOKE WALL-MOUNT UTILITY FAUCET WITH TOP BRACE.			

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					Date Checked	3/1/21 BH
end		Key Notes	# SYMBOL INDICATES FIRE ALARM KEY NOTE		Drawn	TH
RIC SMOKE DETECTOR NOTIFICATION DEVICE AL NOTIFICATION ONLY) E STATION TEMP / ROR HEAT DETEC DETECTOR W/ RELAY FOR DXIDE DETECTOR W/ SOU DNTROL PANEL INUNCIATOR PANEL EMAIN	DEVICE CTOR R UNIT SHUTDOWN JNDER	I. CONTRACTOR TO FURNISH COMPATIBLE BASE AT LOCA RACEWAY & WIRE WHERE P DEVICE. EXTEND CONDUIT A SHALL BE UL CROSS LISTED PROVIDE MOUNTING HARDW 2. CONTRACTOR TO FURNISH FIRE ALARM DEVICE. PROV RACEWAY FOR NEW INSTAL COLOR WITH OWNER'S REP RACEWAY & WIRE WHERE P MOUNTING HEIGHTS. 3. CONTRACTOR TO INSTALL N CARBON MONOXIDE DETEC MOUNTING HARDWARE AS F 4. CONTRACTOR TO FURNISH REMOTE TEST STATION IN D MODULE FOR FAN SHUTDON LOCATION OF REMOTE TEST 5. CONTRACTOR TO FURNISH REUSE EXISTING WIRE WHE 6. DUCT SMOKE DETECTOR PF AND INSTALLED BY DIVISION EXACT L OCATION OF THE D	INSTALL NEW SMOKE DETECTOR W/ TION SHOWN. REUSE EXISTING OSSIBLE FOR INSTALLATION OF NEW ND WIRE AS REQUIRED. DETECTOR FOR USE WITH BASE BUILDING SYSTE VARE AS REQUIRED. AND INSTALL NEW UL CROSS LISTED DE SURFACE MOUNT WIREMOLD LATION. COORDINATE WIREMOLD RESENTATIVE. REUSE EXISTING OSSIBLE. REFER TO SHEET E0.01 FOR IEW UL CROSS LISTED HARD-WIRED TOR WITH SOUNDER BASE. PROVIDE REQUIRED. & INSTALL NEW DUCT DETECTOR WITH OUCT OF AHU #1. PROVIDE RELAY VN. COORDINATE EXACT MOUNTING I STATION IN FIELD. AND INSTALL NEW REPLACEMENT UL ND BASE AT EXISTING LOCATION. RE POSSIBLE. ROVIDED BY MECHANICAL CONTRACTION NO CORDINATE DETECTOR THE NO SHORE DETECTOR	I I DR	HAEL J. McGOVERN, R.A.	ISTERED ARCHITECT LICense No. 022257–1
		EXACT LOCATION OF THE D	JCT SMOKE DETECTOR.		MCI	e REGIS
		NOTE: CONTRACTOR T ON THREE (3) E2 SHALL SHUT DC	O FURNISH & INSTALL FAN SHUTDOWN (ISTING AIR HANDLING UNITS. UNITS WN ON FIRE ALARM CONDITION.	J	Revis Issue 03/10/	FI I Sions: FOR BID 2021
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FICE					UNAUTHORIZED	Alterations or
					ADDITIONS TO T A VIOLATION OF THE NEW YORK LAW. THESE DC THE EXCLUSIVE	HIS DOCUMENT IS SECTION 7209 OF STATE EDUCATION DCUMENTS REMAIN PROPERTY OF THE
	STORAGE	VEST.			ENGINEER, AND FOR ANY PURP WITHOUT THE V OF THE	MAY NOT BE USED 'OSE WHATSOEVER WRITTEN CONSENT ENGINEER.
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Bid Work

NORTH

DESK

NOTE: SHADED AREA DENOTES WORK THAT IS EXCLUDED FROM THIS CONTRACT.

1-02-6-008-0

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ROJECT

CLNG.

REFLECTE

ALARM & INTERIO

FIRE

SED

PRO

Job No. 41361.04

FA2.01

File No. 4136104FA20