# CHASE ( JP MORGAN CHASE, N.A. NORTH AVE. (NEW ROCHELLE)

270 NORTH AVE. NEW ROCHELLE, NY 10804 CHASE OVP#48100R003097

### PROJECT DIRECTORY

#### OWNER J.P. MORGAN CHASE

50 GRAND AVE. ENGLEWOOD, NJ 07631

#### TENANT

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#### STRUCTURAL ENGINEER

CORESTATES, INC. 201 SOUTH MAPLE AVE, STE 300 AMBLER, PA 19001 CONTACT: DAVID BALMA PHONE: 215.809.2125 EMAIL: dbalma@core-states.com

### **CODE INFORMATION**

JURISDICTION CITY OF NEW ROCHELLE 515 NORTH AVE. NEW ROCHELLE, NY 10801 (914) 654-2035 WWW.NEWROCHELLENY.COM

APPLICABLE CODES

### BUILDING CODE: EXISTING BUILDING CODE:

MECHANICAL CODE:

ENERGY CONSERVATION CODE:

ELECTRICAL CODE:

PLUMBING CODE:

FIRE CODE:

LIFE SAFETY CODE:

2017 NEW YORK STATE ELECTRICAL CODE W/ NFPA 70, 2017 AMENDMENTS 2020 NEW YORK STATE FIRE CODE W/ 2018 INTERNATIONAL FIRE CODE (IFC) AMENDMENTS 2020 NEW YORK STATE FIRE CODE W/ 2018 INTERNATIONAL FIRE CODE (IFC) AMENDMENTS

ACCESSIBILITY CODE: 2010 ADA STANDARDS

SCOPE OF WORK

REPLACING EXISTING UTILITIES OF EXISTING PARKING GARAGE. THE SCOPE INCLUDES CIVIL, STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL. CIVIL SCOPE SUBMITTED UNDER SEPARATE COVER.



BID SET- 2024.03.01

2020 NEW YORK STATE BUILDING CODE W/ 2018 INTERNATIONAL BUILDING CODE (IBC) AMENDMENTS

2020 NEW YORK STATE EXISTING BUILDING CODE W/ 2018 INTERNATIONAL BUILDING CODE (IEBC) AMENDMENTS

2020 NEW YORK STATE MECHANICAL CODE W/ 2018 INTERNATIONAL MECHANICAL CODE (IMC) AMENDMENTS

2020 NEW YORK STATE PLUMBING CODE W/ 2018 INTERNATIONAL PLUMBING CODE (IPC) AMENDMENTS

2020 NEW YORK STATE ENERGY CODE W/ 2018 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) AMENDMENTS W/ REVISION W/O REVISION O NOT ISSUED

SHEET INDEX

ARCHITECTURAL

COVER SHEET STRUCTURAL GENERAL STRUCTURAL NOTES STRUCTURAL SPECIAL INSPECTIONS SECOND FLOOR SUPPORT STRUCTURE ROOF DUNNAGE PLAN SECTIONS AND DETAILS MECHANICAL MECHANICAL LEGENDS AND GENERAL N MECHANICAL FLOOR PLAN MECHANICAL PIPING PLAN MECHANICAL ROOF PLAN MECHANICAL SCHEDULES MECHANICAL DETAILS MECHANICAL DETAILS ELECTRICAL LEGEND, ABBREVIATIONS AND NOTES POWER PLAN ROOF POWER PLAN POWER DETAILS AND SCHEDULES

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	U Y A A A A A A A A A A A A A A A A A A
	ISSUE DATE DESCRIPTION SUBJECT DESCRIPTION DATE DESCRIPTION DESCRIP
	2024.03.01       BID SET         2024.03.01       General         2025.01       General         2025.01       General         2025.01       General         2025.01       General         2025.01       General         2025.01       General         2026.01       General

			GENERAL 5	IRUCIU	IRAL NUTES
GENERAL NO1.CONTRACDETAILSIMMEDIAT2.DETAILSOTHERWOTHERW3.CONTRACBUILDINGBUILDING4.THE STRUARCHITETHE CONCASE OFS.5.ALL DIMEMANUFACARCHITEDIMENSICGOVERNING E1.RISK CA2.MINIMUNA.UNB.CCC.IMIJ.ROOF DE4.MINIMUN	TES CTOR IS RESPONSIBLE FOR A BEFORE PROCEEDING WITH IE ATTENTION OF THE ARCH SHOWN IN ANY SECTION API ISE. CTOR SHALL FULLY BRACE A G IS COMPLETED. JCTURAL DRAWINGS SHALL CTURAL AND MECHANICAL D TRACTOR'S RESPONSIBILITY CONFLICT THE MOST STRIN CONFLICT THE MOST STRIN CONFLICE CONFLICT CONFLICT STRINGS.	AND SHALL VERIFY AND COORDII WORK. ANY DISCREPANCIES SH ITECT AND ENGINEERS. PLY TO ALL SIMILAR SECTIONS AN ND OTHERWISE PROTECT ALL W BE USED IN CONJUNCTION WITH PRAWINGS. IF THERE IS A DISCRE 'TO NOTIFY THE ARCHITECT PRI GENT CONDITION SHALL APPLY. ATED WITH ARCHITECTURAL DRA A, AIR HANDLER, ETC.). CONTRAC OF ANY CONFLICT. <u>REFER TO AF</u> URAL DRAWINGS.	CEINERAL S GEINERAL S NATE ALL DIMENSIONS AND ALL BE BROUGHT TO THE ND CONDITIONS UNLESS NOTED VORK IN PROGRESS UNTIL THE THE SPECIFICATIONS AND THE EPANCY BETWEEN DRAWINGS, IT IS OR TO PERFORMING WORK. IN WINGS AND WITH EQUIPMENT TOR MUST OBTAIN AN CHITECTURAL DRAWINGS FOR 100 PSF = 2000 LB = N/A = 25 PSF = 20 PSF	SH         2.         3.         4.         5.         6.         7.	OP DRAWING SUBMITTALS         THE DEFERRED SUBMITTAL ITEL         RECORD WHO SHALL REVIEW A         WITH A NOTATION INDICATING T         AND APPROVED AND THAT THE         DESIGN OF THE BUILDING. THE         DESIGN AND SUBMITTAL DOCUM         AMPLE TIME FOR THE BUILDING         REFER TO PROJECT SPECIFICAT         SHOP DRAWINGS AND SUBMITT         FOR CONFORMANCE WITH INFC         CONTRACT DOCUMENTS.         SUBMITTAL REVIEW WILL NOT B         AND COMPLETENESS OF OTHEF         OR FOR SUBSTANTIATING INSTIS         SYSTEMS DESIGNED BY THE CC         CONTRACTOR.         REVIEW SHALL NOT CONSTITUT         MEANS, METHODS, TECHNIQUE         APPROVAL OF A SPECIFIC ITEM         ITEM IS A COMPONENT.         SHOP DRAWINGS AND/OR PROI         THE ASTRUCTURAL ENGINEER FOR
5. ROOF SI A. SN B. GF C. FL D. SN E. TH F. DR	NOW DATA: IOW IMPORTANCE FACTOR, ROUND SNOW LOAD, Pg AT ROOF SNOW LOAD, Pf IOW EXPOSURE FACTOR, Ce IERMAL FACTOR, Ct RIFT LOAD DATA INDICATED (	IS DN ROOF FRAMING PLAN	= 1.00 = 20 PSF = 20 PSF = 1.0 = 1.0	8. 9.	SHOP DRAWINGS ARE TO BE DIS INITIALED REVIEW STAMP AND A CLEARLY INDICATES THE DRAW SHOP DRAWINGS AND/OR PROE THE STRUCTURAL ENGINEER FO CONFORMANCE WITH DESIGN A DOCUMENTS AND THE INTERFA STRUCTURE THIS DEV/JEW/AWI
6. WIND DE A. WI B. UL NC C. WI D. IN E. WI	SIGN DATA: ND IMPORTANCE FACTOR, N TIMATE DESIGN WIND SPEE MINAL DESIGN WIND SPEED ND EXPOSURE CATEGORY FERNAL PRESSURE COEFFIC ND DESIGN PRESSURES PEI DESIGN DATA	V D (3 SECOND GUST), Vult , Vasd CIENTS R ASCE 7-10	= 1.0 = 116 MPH = 90 MPH = B = ±0.18		STRUCTURE. THIS REVIEW WILL IMPARTED ONTO THE BUILDING BUILDING STRUCTURE. THE MAI RESPONSIBLE FOR THE DESIGN RESPONSIBILITIES FOR THE DES STRUCTURE. A. STRUCTURAL STEEL
7. SEISMIC A. SE B. MA C. SI <sup>T</sup> D. DE E. SE 8. FOUNDA A. AL	E DESIGN DATA: EISMIC IMPORTANCE FACTOR APPED SPECTRAL RESPONSI SS S1 TE CLASS ESIGN SPECTRAL RESPONSE SDS SD1 EISMIC DESIGN CATEGORY TION DESIGN DATA LOWABLE BEARING PRESSL	R, le E COEFFICIENTS COEFFICIENTS IRE	= 1.00 = 0.289 = 0.060 = D (ASSUMED) = 0.303 = 0.097 = B = 1500 PSF (ASSUMED)	10. 11. 12.	NO WORK ON STRUCTURAL ELE UNLESS THE REVIEW STAMP CL THE STRUCTURAL ENGINEER. CONCRETE IS A PRE-ENGINEER AND PERFORMANCE CRITERIAS SHALL BE IN CONFORMANCE WI INDEPENDENT TESTING LAB WIT REVIEW AND APPROVAL. SUBMI ARCHITECT/ENGINEER FOR REV MANY VARIABLES, INCLUDING M
9. FLOOD E 10. SPECIAL <b>STRUCTURAL</b> 1. THE USE STATES V STANDAF NOT MEE CONSTRU 2. ALL STRU LATEST A 3. STRUCTU	NIMUM FROST DEPTH DESIGN DATA: . LOADS: OF ROLLED STEEL SECTION WILL REQUIRE VERIFICATION RDS. MILL CERTIFICATES WII TING THE ASTM SPECIFICAT JCTION MANUAL TABLE 2-4 V JCTURAL STEEL WORK SHAL A.I.S.C. SPECIFICATIONS. JRAL STEEL SHALL CONFOR	S AND/OR BOLTS MANUFACTURE I THAT THE PRODUCTS COMPLY L BE REQUIRED FOR ALL STEEL IONS FOR ROLLED SHAPES LISTE VILL REQUIRE TESTING BY AN AP L BE FABRICATED AND ERECTED	= 36" N/A N/A ED OUTSIDE THE UNITED WITH APPLICABLE ASTM . STRUCTURAL STEEL GRADES ED IN AISC STEEL PROVED LABORATORY. ) IN ACCORDANCE WITH THE	13.	GENERAL CONTRACTOR SHALL ENGINEER FOR REVIEW. ALL SU THE GENERAL CONTRACTOR SHALL ENGINEER FOR REVIEW. ALL SU THE GENERAL CONTRACTOR. S CONTRACTOR WILL BE RETURN DELAY. GENERAL CONTRACTOR SHALL REQUIRED TO ALLOW REASONA TEAM. THIS SHALL INCLUDE A M ENGINEER'S PROCESSING AND RESUBMISSION AND SUBSEQUE
<ul> <li>WIDE FLA SHAPES ( STRUCTL STEEL PII ANCHOR FRAMING SHEAR S' WELDING</li> <li>4. ALL HIGH PROVIDE</li> <li>5. INSTALLA "SPECIFIC</li> <li>6. SHOP CO DIAMETEI SHOWN C</li> <li>7. ALL WELI SHALL BE</li> <li>8. CUTS, HC OTHER TI IN THE SI</li> <li>9. BURNING PERMITTI</li> <li>10. ALL STEE GALVANIZ</li> <li>11. FOR MISC</li> <li>12. ANY STEI OF THEIR SHALL BE</li> <li>13. SEE SPEC MARKS S</li> <li>14. ALL CONI OTHERW CONNEC</li> <li>15. DESIGN C</li> </ul>	ANGE (WF) (L,T,C,PL) JRAL TUBE (HSS) PE (HSS) BOLTS BOLTS TUDS ELECTRODES I STRENGTH BOLTS SHALL C D WITH HARDENED WASHER TION AND TIGHTENING OF A CATION FOR STRUCTURAL JO NNECTIONS MAY BE WELDE R MINIMUM. ALL CONNECTION ON THE PLANS UNLESS SPECT DING SHALL CONFORM TO THE E PERFORMED USING ETOXX DLES, COPINGS, ETC. REQUING RADES SHALL BE SHOWN IN 10P. HOLES SHALL BE REINF OF HOLES, CUTS, ETC. IN S ED, EXCEPT WITH THE SPECT L MEMBERS REQUIRED BY E EQUIPMENT, WHICH ARE NO E E ALL BOLTS TO BE 3/4" M TIONS MAY BE WELDED OR E CONNECTIONS FOR THE MAX BLE UNIFORM LOADS IN KIPS	ASTM A992 (50 KSI) ASTM A36 ASTM A500 (46 KSI) ASTM A500 (42 KSI) ASTM F1553 (36 KSI) U.N.O. ASTM A325 OR A490 ASTM A108 E70XX ONFORM TO ASTM SPECIFICATIONS SUNDER THE TURNED ELEMENT LL HIGH STRENGTH BOLTS SHALL DINTS USING ASTM A325 OR A490 D OR HIGH STRENGTH BOLTED. A NS SHALL CONFORM TO THE TYPE CIFICALLY APPROVED BY THE END HE AMERICAN WELDING SOCIETY U.N.O. RED IN STRUCTURAL STEEL MEM THE STRUCTURAL STEEL SHOP I FORCED AS REQUIRED BY THE END FORCED AS REQUIRED BY THE END FORCED AS REQUIRED BY THE END CIFIC APPROVAL OF THE ENGINEE (EATHER (SUCH AS LINTELS, DOC CHITECTURAL DRAWINGS. THE ELECTRICAL OR MECHANICA DT SHOWN ON ARCHITECTURAL OR EQUIRING SUCH SUPPORT. DF STRUCTURAL STEEL. ALL FAB FIELD TOUCH-UP PAINTING. NGLE FRAMED BEAM CONNECTION INIMUM DIAMETER UNLESS NOTE BOLTED. WELDS ARE TO BE EQUA IMUM SHEAR (V IN KIPS) LISTED S FOR BEAMS LATERALLY SUPPORT	ON A325 AND SHALL BE (NUT OR BOLT HEAD). L CONFORM TO THE BOLTS". ALL BOLTS SHALL BE 3/4" PICAL CONNECTION DETAILS GINEER. CODE, ANSO1.1, ALL WELDING BERS FOR THE WORK OF DRAWINGS AND SHALL BE MADE NGINEER. THE FIELD WILL NOT BE R. DR JAMBS, ETC.) SHALL BE AL TRADES FOR THE SUPPORT OR STRUCTURAL DRAWINGS, RICATION AND ERECTION ON PER AISC UNLESS NOTED ED OTHERWISE. SHOP AL IN STRENGTH TO BOLTS. IN THE TABLES FOR ORTED" AT THE BOTTOM OF	15.	SHORTER REVIEW PERIODS WIL ENGINEER. THESE ACCELERATE NEGOTIATED WITH THE ENGINE THE USE OF REPRODUCTIONS OF ELECTRONIC FILES, BY ANY CON MATERIAL SUPPLIER IN LIEU OF HIS ACCEPTANCE OF ALL INFOR ANY JOB EXPENSE, REAL OR IM SUCH USE OF REPRODUCTIONS WITHOUT PRIOR CONSENT FRO WHEN USING ELECTRONIC FOR PRINTED HARD COPY FOR ENGI ENGINEER FOR PRINTING COST
"ALLOWA EACH PAG AISC "MA CALCULA 16. A REGIST BOLTING WEIGHT I 17. ALL STEE FABRICA TO EREC	BLE UNIFORM LOADS IN KIPS GE IN THE "PROPERTIES AND NUAL OF STEEL CONSTRUC TIONS BY A PROFESSIONAL ERED PROFESSIONAL ENGI OF STRUCTURAL STEEL FRA MATERIAL SYSTEMS, AND ME L MEMBERS SHALL BE MADE TOR SHALL SUBMIT THE CER TION.	S FOR BEAMS LATERALLY SUPPO D REACTION VALUES", PART 2 OF FION". PROVIDE SIGNED AND SEA ENGINEER. NEER SHALL INSPECT THE WELD MING AND WELDING, BOLTING A ETAL SIDINGS OF BUILDING. E IN AN APPROVED FABRICATOR' TIFICATE OF COMPLIANCE TO TH	ORTED" AT THE BOTTOM OF THE LATEST EDITION OF THE ALED DRAWINGS AND ING AND HIGH-STRENGTH ND FASTENING OF LIGHT S SHOP; THE APPROVED HE BUILDING INSPECTOR PRIOR		

### CENEDAL OTDUCTUDAL NOTEO

EMS SHALL BE SUBMITTED TO THE ARCHITECT OR ENGINEER OF AND APPROVE THEM, AND FORWARD THEM TO THE BUILDING OFFICIAL THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED EY HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE WITH THE E DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THEIR IMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL. PROVIDE G OFFICIAL TO REVIEW THE DOCUMENTS.

ATIONS FOR SUBMITTAL REQUIREMENTS.

TALS WILL BE REVIEWED FOR THE LIMITED PURPOSE OF CHECKING ORMATION GIVEN AND THE DESIGN CONCEPT EXPRESSED IN THE

BE CONDUCTED FOR THE PURPOSE OF DETERMINING THE ACCURACY ER DETAILED INFORMATION SUCH AS DIMENSIONS AND QUANTITIES, RUCTIONS FOR INSTALLATION OR PERFORMANCE OF EQUIPMENT OR CONTRACTOR. ALL OF THIS REMAINS THE RESPONSIBILITY OF THE

ITE APPROVAL OF SAFETY PRECAUTIONS OR OF ANY CONSTRUCTION ES, SEQUENCES OR PROCEDURES.

I SHALL NOT INDICATE APPROVAL OF AN ASSEMBLY OF WHICH THE

DOUCT DATA FOR THE FOLLOWING ITEMS ARE TO BE SUBMITTED TO FOR REVIEW AND APPROVAL:

ISTRIBUTED ONLY FROM RETURNED SUBMITTALS BEARING AN WORK ON THESE ITEMS SHALL NOT PROCEED UNLESS THE STAMP NINGS ARE "APPROVED" OR "APPROVED AS NOTED."

DOUCT DATA FOR THE FOLLOWING ITEMS ARE TO BE SUBMITTED TO FOR REVIEW. THE ENGINEER'S REVIEW WILL BE LIMITED TO AND PERFORMANCE CRITERIA SPECIFIED IN THE CONSTRUCTION ACE BETWEEN THESE ITEMS/SYSTEMS AND THE BUILDING L CHECK THE COMPATIBILITY OF LOADS AND POSITIONS OF LOADS G STRUCTURE, AND COMPATIBILITY OF CONNECTIONS WITH THE ANUFACTURER/SUPPLIER AND IT'S SPECIALTY STRUCTURAL ENGINEER N OF THE ITEM/SYSTEM WILL RETAIN ALL RIGHTS AND ESIGN OF THE PRODUCT AND THE CONNECTIONS TO THE BUILDING

EMENTS SUPPORTING OR RELATED TO THESE ITEMS IS TO PROCEED LEARLY INDICATES "REVIEWED" OR "REVIEWED, SEE COMMENTS" BY

RED MATERIAL DESIGNED BY THE SUPPLIER TO MEET THE STRENGTH SPECIFIED IN THE CONTRACT DOCUMENTS. CONCRETE MIX DESIGNS VITH ACI 318, CHAPTER 5, AND SHALL BE SUBMITTED TO THE ITH APPROPRIATE HISTORICAL TEST DATA AND ANALYSIS FOR IT MIX DESIGNS AND THE TESTING LAB REVIEW TO THE EVIEW.

MIX COMPONENTS AND ENVIRONMENTAL CONDITIONS AFFECT THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING VARIABLES AND ONS AND SHALL BE SOLELY RESPONSIBLE FOR THE QUALITY OF ACED ON THE SITE.

L PRE-CHECK ALL SHOP DRAWINGS BEFORE SUBMISSION TO THE UBMITTAL MATERIALS MUST BEAR AN INITIALED REVIEW STAMP OF SUBMITTALS WITHOUT THE REVIEW STAMP OF THE GENERAL NED WITHOUT REVIEW AND SHALL NOT BE CAUSE FOR CLAIMS OF

L SCHEDULE SUBMITTALS SUFFICIENTLY IN ADVANCE OF THE DATE ABLE TIME FOR DELIVERY, PROCESSING AND REVIEW BY THE DESIGN MINIMUM OF TEN WORKING DAYS, EXCLUDING DELIVERY TIME, FOR REVIEW OF SHOP DRAWINGS. INCLUDE TIME FOR CONTRACTOR'S ENT REVIEW IF NECESSARY.

ILL ONLY BE HONORED WITH PRIOR WRITTEN CONSENT FROM THE ED SERVICES, AND APPROPRIATE COMPENSATION, MUST BE IEER AND ARCHITECT IN ADVANCE.

OF THESE CONTRACT DRAWINGS, INCLUDING THE USE OF ONTRACTOR, SUBCONTRACTOR, ERECTOR, FABRICATOR, OR THE INDEPENDENT PREPARATION OF SHOP DRAWINGS, SIGNIFIES RMATION SHOWN HEREON AS CORRECT AND OBLIGATES HIMSELF TO MPLIED, ARISING DUE TO ANY ERRORS THAT MAY OCCUR HEREON. S OF THESE CONTRACT DOCUMENTS WILL NOT BE ALLOWED OM THE ENGINEER.

RMAT FOR SUBMITTALS, THE CONTRACTOR SHALL PROVIDE ONE GINEER REVIEW OR EXECUTE AN AGREEMENT FOR REIMBURSING THE STS FOR ONE COPY.



### STRUCTURAL SPECIAL INS

1. SPECIAL INSPECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 1705 OF THE 2020

- NEW YORK STATE BUILDING CODE (2018 IBC)
- 2. THE OWNER WILL EMPLOY THE SERVICES OF ONE OR MORE SPECIAL INSPECTORS TO PROVIDE SPECIAL INSPECTIONS DURING CONSTRUCTION FOR THE REQUIRED SPECIAL INSPECTION ITEMS. 3. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL
- RESPONSIBLE FOR THE DESIGN OF THE STRUCTURE, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.
- 4. DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR:
- A. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED FOR CONFORMANCE WITH THE APPROVED DESIGN DRAWINGS AND SPECIFICATIONS. THE INSPECTOR MAY NOT ALTER, MODIFY, ENLARGE OR WAVE ANY OF THE REQUIREMENTS OF THE DOCUMENTS.
- B. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, THE PROFESSIONAL-OF-RECORD, AND THE CONTRACTOR. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, THEN, IF UNCORRECTED, SUBMIT A COMPLETE LIST OF ALL OUTSTANDING DISCREPANCIES ON A WEEKLY BASIS TO THE OWNER, THE BUILDING OFFICIAL, AND THE PROFESSIONAL-OF-RECORD, UNTIL ALL CORRECTIONS HAVE BEEN COMPLETED.
- C. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THE APPLICABLE
- WORKMANSHIP PROVISIONS OF THE BUILDING CODE. 5. STRUCTURAL OBSERVATION (AS DEFINED IN CHAPTER 17 OF THE BUILDING CODE) IS NOT REQUIRED, UNLESS SPECIFICALLY REQUIRED BY THE BUILDING OFFICIAL. 6. THE FOLLOWING AREAS OF WORK REQUIRE SPECIAL INSPECTIONS IN ACCORDANCE WITH THE
- LISTED SECTIONS/LOCATIONS:

A. STEEL CONSTRUCTION (STRUCTURAL STEEL) - SECTION 1705.2.1

			URAL STEEL C	CONSTRUC	
SPECIAL		FREQUENCY	OF INSPECTION	REFEREN	ICE FOR CRITERIA
INSPECTION REQUIRED Y/N	VERIFICATION AND INSPECTION	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED	IBC SECTION	REFERENCED STANDARD
	PRIOR TO	WELDING			
Y	1. QUALIFIED WELDER		Х	1705.2.1	N5.4-1, AISC 360-16
Y	2. VERIFY WELDING PROCEDURES (WPS) AND CONSUMABLE CERTIFICATES	x		1705.2.1	N5.4-1, AISC 360-16
Y	3. MATERIAL IDENTIFICATION		Х	1705.2.1	N5.4-1, AISC 360-16
Y	4. WELDER IDENTIFICATION		Х	1705.2.1	N5.4-1, AISC 360-16
Y	5. FIT-UP GROOVE WELDS		Х	1705.2.1	N5.4-1, AISC 360-16
Y	6. FIT-UP OF CJP GROOVE WELDS		Х	1705.2.1	N5.4-1, AISC 360-16
Y	7. ACCESS HOLES		х	1705.2.1	N5.4-1, AISC 360-16
Y	8. FIT-UP OF FILLET WELDS		Х	1705.2.1	N5.4-1, AISC 360-16
	DURING	WELDING			
Y	1. CONTROL AND HANDLING OF WELDING CONSUMABLES		Х	1705.2.1	N5.4-2, AISC 360-16
Y	2. CRACKED TACK WELDS		Х	1705.2.1	N5.4-2, AISC 360-16
Y	3. ENVIRONMENTAL CONITIONS		х	1705.2.1	N5.4-2, AISC 360-16
Y	4. WPS FOLLOWED		х	1705.2.1	N5.4-2, AISC 360-16
Y	5. WELDING TECHNIQUES		Х	1705.2.1	N5.4-2, AISC 360-16
Y	6. STEEL HEADED ANCHORS	х		1705.2.1	N5.4-2, AISC 360-16
	AFTER V	VELDING			
Y	1. WELD IS CLEANED		Х	1705.2.1	N5.4-3, AISC 360-16
Y	2. SIZE, LENGTH AND LOCATION OF WELDS	х		1705.2.1	N5.4-3, AISC 360-16
Y	3. WELDS MEET VISUAL ACCEPTANCE CRITERIA	x		1705.2.1	N5.4-3, AISC 360-16
Y	4. ARC STRIKES	x		1705.2.1	N5.4-3, AISC 360-16
Y	5. K-AREA	x		1705.2.1	N5.4-3, AISC 360-16
Y	6. WELD ACCESS HOLES	x		1705.2.1	N5.4-3, AISC 360-16
Y	7. BACKING AND WELD TABS REMOVED	x		1705.2.1	N5.4-3, AISC 360-16
Y	8. REPAIR ACTIVITIES	х		1705.2.1	N5.4-3, AISC 360-16
Y	9. DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT/NUMBER	x		1705.2.1	N5.4-3, AISC 360-16
Y	10. NO PROHIBITED WELDS		Х	1705.2.1	N5.4-3, AISC 360-16
	NON-DESTRUC		NG		
N	1. CJP WELDS (RISK CAT. II)		Х	1705.2.1	N5.5, AISC 360-16
N	2. CJP WELDS (RISK CAT. III OR IV)	x		1705.2.1	N5.5, AISC 360-16
Ν	3. WELDED JOINTS SUBJECT TO FATIGUE	x		1705.2.1	N5.5, AISC 360-16

Α.	STEEL CO
S INS RE	PECIAL PECTION QUIRED Y/N
	Y
	Y
	Y
	Y
	Y
	Y
	Y
	Y
	Ν
	Y
	Ν
	Y
	Y
	Y

SPECTIONS				
ONSTRUCTION (STRUCTURAL STEEL) - SECTION 1705	.2.1 (CONTINUE	D)		
SPECIAL INSPECTION AND VERIFICATION	OF STRUCT	URAL STEEL C	ONSTRUC	CTION
	FREQUENCY	OF INSPECTION	REFEREN	
VERIFICATION AND INSPECTION	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED	IBC SECTION	REFERENCED STANDARD
PRIOR TO	BOLTING			
1. CERTIFICATIONS OF FASTENERS	x		1705.2.1	N5.6-1, AISC 360-16
2. FASTENERS MARKED		Х	1705.2.1	N5.6-1, AISC 360-16
3. PROPER FASTENERS FOR JOINT		Х	1705.2.1	N5.6-1, AISC 360-16
4. PROPER BOLTING PROCEDURE		Х	1705.2.1	N5.6-1, AISC 360-16
5. CONNECTING ELEMENTS		Х	1705.2.1	N5.6-1, AISC 360-16
6. PRE-INSTALLED VERIFICATION TESTING		x	1705.2.1	N5.6-1, AISC 360-16
7. PROPER STORAGE		Х	1705.2.1	N5.6-1, AISC 360-16
DURING	BOLTING			
1. FASTENER ASSEMBLIES		х	1705.2.1	N5.6-2, AISC 360-16
2. SNUG TIGHT PRIOR TO PRE-TENSIONING		х	1705.2.1	N5.6-2, AISC 360-16
3. FASTENER COMPONENT		х	1705.2.1	N5.6-2, AISC 360-16
3. PRE-TENSIONED FASTENERS		х	1705.2.1	N5.6-2, AISC 360-16
AFTER E	BOLTING			
1. DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	х		1705.2.1	N5.6-3, AISC 360-16
OTHER STEEL	INSPECTION	NS		
1. STRUCTURAL STEEL DETAILS		Х	1705.2.1	N5.8, AISC 360-16
2. ANCHOR RODS AND OTHER EMBEDMENTS SUPPORTING STRUCTURAL STEEL		x	1705.2.1	N5.8, AISC 360-16





				CHELLE) A. A. CHELLE)
				<b>GAN CHA</b> <b>AVE. (NEW ROC</b> 270 NORTH AVE. EW ROCHELLE, NY 10804 LASE OVP#48100R003097
(E) STEEL BEAM, V.I.F.	(E) STEEL BEAM, V.I.F.			
				46 East Main Street Suite 201 Somerville, NJ 08876 908.462.9700 core-states.com ENGINEER OF RECORD
			>	THESE DRAWINGS ARE NOT COMPLETE WITHOUT THE SEPARATE TYPE WRITTEN SPECIFICATIONS MANUAL WHICH ARE PART OF THE CONTRACT DOCUMENTS.
				ISSUE         DATE         DESCRIPTION           2023.09.08         PERMIT SET           2024.03.01         BID SET           2024.03.01         BID SET           2024.03.01         BID SET
				PROJECT INFORMATION         PROJECT NO:       JPM.36475.BAU         DATE:       AS NOTED         PROTOTYPE:       20.5         DRAWN BY:       J.PEREZ         CHECKED BY:       E.SCALGIONE         VERSION:       DE_1.00         SHEET TITLE
*				SECOND-FLOOR SUPPORT STRUCTURE
SECO	ND-FLOOR SUPPORT ST	TRUCTURE   SCALE   1/4"=1'-0"	1	S1.0

 <u>ENGINEER'S NOTE:</u>
 CONDITIONS SHOWN ARE BASED ON A LIMITED SURVEY. GENERAL CONTRACTOR TO VERIFY EXISTING CONDITIONS AND REPORT DEVIATIONS TO THE BELOW PLAN TO THE ENGINEER OF RECORD IMMEDIATELY UPON DISCOVERY. REVISIONS TO THE PLANS AND DETAILS MAY BE REQUIRED BASED ON THE VERIFIED CONDITIONS. GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY SHORING REQUIRED DURING DEMOLITION AND CONSTRUCTION. \*



ROOF DUNNAGE PLAN SCALE 1/4"=1'-0"	SHEET NUMBER
	ROOF DUNNAGE PLAN
	PROJECT NO:JPM.36475.BAUDATE:AS NOTEDPROTOTYPE:20.5DRAWN BY:J.PEREZCHECKED BY:E.SCALGIONEVERSION:DE_1.00SHEET TITLE
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	46 East Main Street Suite 201 Somerville, NJ 08876 908.462,9700 core-states.com ENGINEER OF RECORD
	<b>CORE STATES</b>
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		JP MORGAN CHASE, N.A. JP MORGAN CHASE, N.A. NORTH AVE. (NEW ROCHELLE) 270 NORTH AVE. NEW ROCHELLE, NY 10804 CHASE OVP#48100R003097
EXERCISE MATERIAL SATE AND COMPLEX MILLING AND AND ANY EXSTING REAR ACCOUNT RESIDENCE CAN BE AND AND ANY EXSTING REAR ACCOUNT RESIDENCE CAN BE AND AND ANY EXSTING REAR ACCOUNT RESIDENCE CAN BE AND AND ANY EXSTING REAR ACCOUNT RESIDENCE CAN BE AND AND ANY EXSTING REAR ACCOUNT RESIDENCE CAN BE AND AND ANY EXSTING REAR ACCOUNT RESIDENCE CAN BE AND AND ANY EXSTING REAR ACCOUNT RESIDENCE CAN BE AND AND ANY EXSTING REAR ACCOUNT RESIDENCE CAN BE AND AND ANY EXSTING REAR ACCOUNT RESIDENCE RECOMMENDATION OF ANY ACCOUNT RESIDENCE RECOMMENDATION		CORPORTS AND A CONSTANT OF A C
ENCINEER'S NOTE: CONTRACTOR TO XRAY OR RADAR REBAR AND/OR TENSION TENDONS DURING INSTALLATION OF NEW HANGER RODS. PROVIDE 1/2 DIA HILTI HDI+ DROP-IN ANCHORS W 2* EMBEDMENT INTO EXIST. CONCRETE SLAB PROJECT INFORMATION PROJECT IN		THESE DRAWINGS ARE NOT COMPLETE WITHOUT THE SEPARATE TYPE WRITTEN SPECIFICATIONS MANUAL WHICH ARE PART OF THE CONTRACT DOCUMENTS.         ISSUE       DATE         DESCRIPTION         2023.09.08       PERMIT SET         2024.03.01       BID SET         ISSUE       Image: Second Sec
V MECHANICAL UNIT,	ENGINEER'S NOTE: CONTRACTOR TO X-RAY OR RADAR STRING SLAB AND AVIOD ANY EXISTING REBAR AND/OR TENSION TENDONS DURING INSTALLATION OF NEW HANGER RODS.	PROJECT INFORMATION PROJECT NO: JPM.36475.BAU DATE: AS NOTED PROTOTYPE: 20.5 DRAWN BY: J.PEREZ CHECKED BY: E.SCALGIONE VERSION: DE_1.00 SHEET TITLE SECTIONS AND DETAILS
MECHANICAL UNIT SUPPORT DETAIL SCALE 1 5	MECHANICAL UNIT,	SHEET NUMBER

1.	HVAC WORK CONSISTS OF PROVIDING AIR CONDITIONING SYSTEMS FOR A COMPLETE OPERATING SYSTEM AS INDICATED ON THE DRAWINGS. ALL WORK SHALL COMPLY WITH 2020 NEW YORK STATE MECHANICAL CODE AND ALL OTHER APPLICABLE CODES IN SPECIFICATIONS. IT IS THE INTENTION OF THE CONTRACT DRAWINGS AND SPECIFICATION TO CALL
2.	AN AIR BALANCE SHALL BE PERFORMED BY AN APPROVED INDEPENDENT THIRD PARTY AIR BALANCE CONTRACTOR IN ACCORDANCE WITH THE LATEST EDITION OF STANDARDS PUBLISHED BY THE ASSOCIATED AIR BALANCE COUNCIL (AABC THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB), OR THE TESTING, ADJUSTING, AND BALANCING BUREAU
	(TABB). BALANCE EACH SUPPLY, RETURN, EXHAUST AND OUTSIDE AIR DEVICE WITHIN 5% OF REQUIREMENTS AND FURNISH REPORT TO THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD AS AN OFFICIAL SUBMITTAL DURING THE CONSTRUCTION ADMINISTRATIVE PHASE. THE ENTIRE HVAC SYSTEM MUST BE FULLY OPERABLE, BALANCED, AND APPROVI BY THE OWNER'S REPRESENTATIVE.
3.	ALL DUCT SIZES SHOWN ARE FREE AREA SIZES AND DO NOT ACCOUNT FOR INSULATION. INSULATE ALL DUCTWORK, EXCE EXHAUST DUCTWORK, WITH 2" FIBERGLASS DUCT WRAP INSTALLED TO A MINIMUM R VALUE OF 6. PROVIDE WITH VAPOR BARRIER AND TAPE ALL JOINTS. PROVIDE 1" THICK DUCT LINER WHERE INDICATED ON PLANS.
4. 5.	PROVIDE SPIN-IN FITTINGS AT ALL FLEXIBLE DUCT RUN OUTS TO DIFFUSERS (NO EXTRACTOR) AND DAMPER. MAXIMUM LENGTH OF FLEX DUCT IS LIMITED TO 5'-0''.
6.	ALL PIPING SUBJECT TO THERMAL EXPANSION AND/OR CONTRACTION THAT PENETRATES A SMOKE, FIRE, OR FIRE/SMOKE WALL, PARTITION, OR FLOOR SLAB SHALL BE SUITABLY SLEEVED AND FIRE-SAFED.
7.	METAL DUCTS WHICH PENETRATE 1 HOUR RATED FIRE WALLS AND ARE LESS THAN 100 SQUARE INCHES SHALL EXTEND A MINIMUM OF 5 FEET ON BOTH SIDES OF THE WALL WITHOUT AN OPENING (TO PRECLUDE THE REQUIREMENT OF A FIRE DAMPER). DUCTWORK SHALL IN NO CASE BE LIGHTER THAN 24 GAUGE STEEL.
8. 9.	PROVIDE IDENTIFICATION OF THE LOCATION OF ALL FIRE AND BALANCING DAMPERS. IDENTIFICATION TAGS SHALL BE AFFIXED TO THE WALLS OR CEILINGS AND SHALL BE VISIBLE FROM THE OCCUPIED SPACE. PROVIDE ORANGE TAGS ON ALL VOLUME AND BALANCING DAMPERS ABOVE THE CEILING. TAGS AND DAMPER HANDL
10.	ALL PIPING SHALL BE SUPPORTED WITH COMMERCIAL MANUFACTURED CLAMPS. PROVIDE ISOLATION SLEEVES TO PREVE CONTACT OF DISSIMILAR METALS.
11. 12	INSTALL ALL EQUIPMENT IN STRICT ACCORDANCE WITH THE MANUFACTURERS' INSTRUCTIONS AND RECOMMENDATIONS.
13.	ALL INSULATION SHALL BE FIRE RATED IN ACCORDANCE WITH NFPA 90A 50/25 SMOKE DEVELOPMENT AND FLAME SPREA REQUIREMENTS. INSULATION "R" VALUES SHALL COMPLY WITH APPLICABLE ENERGY CODE.
14.	MOUNT CENTER OF THERMOSTATS AT 44" ABOVE THE FINISHED FLOOR UNLESS OTHERWISE NOTED. MOUNT REMOTE TEMPERATURE SENSORS AT 60" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. COORDINATE WITH ADJACENT
15.	INSTALL DUCT MOUNTED SMOKE DETECTORS (FURNISHED BY DIVISION 26) IN SUPPLY AND/OR RETURN AIR DUCTWORK WHERE REQUIRED AND IN ACCORDANCE WITH APPLICABLE CODE. WIRE DUCT MOUNTED SMOKE DETECTORS SUCH THA ACTIVATION WILL DE-ENERGIZE AIR HANDLING UNIT FAN. LOCATE DUCT MOUNTED SMOKE DETECTORS THE REQUIRED DISTANCE DOWNSTREAM FROM BENDS OR INLETS AS RECOMMENDED BY THE MANUFACTURER.
16. 17	SEE ELECTRICAL DRAWINGS FOR ELECTRICAL CHARACTERISTICS OF MECHANICAL EQUIPMENT.
18.	COORDINATE ELEVATION AND LOCATION WITH RAIN LEADERS, WATER PIPING, PLUMBING VENTS, AND MAJOR ELECTRIC CONDUITS OR CABLE TRAY. PROVIDE DRAIN P-TRAPS IN THE CONDENSATE LINES AT ALL AIR HANDLING UNITS. SIZE PER MANUFACTURERS
19.	CONTRACTOR SHALL NOT ATTACH SUPPORTS OR HANGERS DIRECTLY TO THE DECK, CEILING SUPPORT SYSTEM, OR DUCTWORK ABOVE. HANGERS, SUPPORTS, FASTENING DEVICES, ETC. SHALL BE FASTENED TO TOP CHORD OF THE JOIST
20.	AND/OR FLANGE OF THE BEAMS ABOVE. THE ENGINEER HAS MADE AN EXTENSIVE EFFORT TO IDENTIFY ABOVE CEILING CONFLICTS. THE CONTRACTOR IS RESPONSIBLE TO CHECK FIELD CONDITIONS PRIOR TO COMMENCING WORK AND REPORT ANY PROBLEMS/CONFLICTS T THE ENGINEER WITHIN 2 DAYS OF DISCOVERY. ANY CHANGES RESULTING FROM CONDITIONS ARISING IN THE FIELD WHIC WERE NOT BROUGHT TO THE ENGINEER'S ATTENTION ARE TO BE MADE BY THIS CONTRACTOR WITH NO ADDITIONAL COS
21.	TO THE OWNER. THE WORK INDICATED ON THESE DRAWINGS IS GENERALLY DIAGRAMMATIC AND IS INTENDED TO CONVEY THE SCOPE OF WORK AND FOUND CATE THE CENERAL APPANIC EMENT OF DUICTWORK AND FOUNDATENT.
22.	ALL WORK IS TO BE FREE OF DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE. ALL DEFECTS WHICH DEVELOP OR ARE DISCOVERED WITHIN THIS PERIOD SHALL BE REPAIRED BY THE
23.	CONTRACTOR TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST TO THE OWNER. UPON COMPLETION OF THE WORK UNDER THIS CONTRACT, THE CONTRACTOR SHALL REMOVE ALL TOOLS, APPLIANCES, SURPLUS MATERIALS, AND SCRAP. ALL IDENTIFIED EXISTING EQUIPMENT TO BE REMOVED SHALL BE TURNED OVER TO THE
24.	WHEN CONFLICTS OCCUR IN SPECIFICATIONS OR IN THE DRAWINGS, OR BETWEEN EITHER, THE ITEMS OF GREATER QUANTITY OR HIGHER COST SHALL BE PROVIDED.
25. 26.	THE CONTRACTOR SHALL COORDINATE WORK WITH OTHER TRADES IN ORDER TO AVOID CONFLICTS.
27.	ALL DUCTWORK INSTALLED ON THIS PROJECT SHALL BE OF SHEET METAL CONSTRUCTION. DUCTWORK SHALL BE FABRICATED AND CONSTRUCTED IN ACCORDANCE WITH SMACNA REQUIREMENTS.
28.	MECHANICAL CONTRACTOR SHALL PROVIDE NAMEPLATE INFO TO THE FACILITY MANAGER FOR ALL MECHANICAL EQUIPMENT, INCLUDING BUT NOT LIMITED TO, FAN COILS, CONDENSING UNITS, RTU'S, AND EXHAUST FANS.
29. 30.	ALL REFRIGERANT SHALL BE R-410A. NO R-22 SHALL BE USED. ALL PROVISIONS FOR LINE VOLTAGE WIRING SHALL BE BY THE ELECTRICAL CONTRACTOR. ALL PROVISIONS FOR LOW VOLTAGE WIRING SHALL BE BY THE MECHANICAL CONTRACTOR. FINAL CONNECTIONS SHALL BE BY THE MECHANICAL CONTRACTOR FOR LOW VOLTAGE WIRING UNLESS PROHIBITED BY LOCAL JURISDICTION, IN SUCH CASE THE MECHANICAL
31.	ROUTE FULL SIZE PVC DRAIN PIPE FROM EACH RTU (1" MIN) DRAIN PAN AND FROM EACH FCU (3/4" MIN)TO RESPECTIVE FLOOR DRAIN OR TO DAYLIGHT WITH AIR GAP. INSULATE WITH 3/4" ARMSTRONG "ARMAFLEX" INSULATION.
32.	ALL MATERIALS WITHIN RETURN AIR PLENUMS OR EXPOSED WITHIN DUCTS SHALL BE NONCOMBUSTIBLE AND/OR SHALL HAVE A FLAME SPREAD INDEX NOT GREATER THAN 25 AND A SMOKE DEVELOPED INDEX NOT GREATER THAN 50 WHEN
	TESTED IN ACCORDANCE WITH ASTME 84.

# ABBREVIATIONS

AC

ACH

AD

AFF

AHU

AP

BD

BFF

BHP

BOT

BTUH

CFM

CHWR

CHWS

CLG

CT

CU

CWR

CWS

DB

DDC

DG

DN

DP

DX

ΕA

EAT

EDH

EER

EF

ET

EL

EQUIP

EWT

EXIST

ESP

FD

FCU

FD

FL

FPM

FSD

G

GPH

GPM

Н

НC

ΗX

ΗP

HWR

HWS

KW LAT

LWT

MD

MAX

MIN

NC

NIC

NO

ОA

OAI OS&Y

PD

RA

RD

RG

RL

RLA

RPM

RTU

SD

SA

SP

SYS

UC

UG

UL

UON

VAV

VD

VFD

VSD

WB

Т TYP

PRESS

CD

AIR CONE AIR CHAN ACCESS ABOVE F AIR HAND ACCESS BYPASS D BELOW F BRAKE HC BOTTOM BRITISH TH CONDEN CUBIC FE CHILLED CHILLED CEILING COOLING CONDEN CONDEN CONDEN DRY BULB DIRECT D DOOR GR DOWN DEW POI DIRECT E EXHAUST ENTERINC ELECTRIC ENERGY EXHAUST EXPANSIC ELEVATIO EQUIPME ENTERING EXISTING EXTERNAL FIRE DAM FAN COIL FLOOR DI FLOOR FEET PER FIRE/SMC NATURAL GALLONS GALLONS HUMIDITY HEATING HEAT EXC HORSE PC HOT WATE HOT WAT KILOWAT LEAVING LEAVING MOTORIZ MAXIMUN MINIMUM NORMAL NOT IN C NORMAL OUTSIDE OUTSIDE OUTSIDE PRESSURE PRESSURE RETURN A ROOF DRA REFRIGER RAIN LEAI RUNNING REVOLUTI ROOF TOF SMOKE D SUPPLY AI STATIC PR SYSTEM TEMPERA TYPICAL UNDERC UNDERGR UNDERWI UNLESS O VARIABLI VOLUME VARIABLE WET BULB

DITIONING NGES PER HOUR DOOR
INISHED FLOOR DLING UNIT PANEL DAMPER
INISHED FLOOR ORSE POWER
HERMAL UNIT PER HOUR ISATE DRAIN ET PER MINUTE WATER RETURN WATER SUPPLY
G TOWER ISING UNIT ISER WATER RETURN ISER WATER SUPPLY
, IGITAL CONTROL RILLE
NT XPANSION AIR
G AIR TEMPERATURE DUCT HEATER EFFICIENCY RATIO FAN
ON TANK DN :NT
G WATER TEMPERATURE
L STATIC PRESSURE IPER L UNIT RAIN
MINUTE
dke damper . GAS S PER HOUR
S PER MINUTE
COIL Changer Ower
ER RETURN ER SUPPLY
AIR TEMPERATURE WATER TEMPERATURE CED DAMPER
M 1 LY CLOSED CONTRACT
LY OPEN AIR
SCREW & YOKE E DROP
- NR 2AIN
ANT DER SLOAD AMPS
IONS PER MINUTE
ietector Ir ressure
TURE
UT ROUND
RITERS LABORATORY DTHERWISE NOTED E AIR VOLUME

# VARIABLE SPEED DRIVE

### PIPING

£+++++++++++++++++++++++++++++++	PIPING AND/OR EQUIPMENT TO BE REMOVED
⊱₹	EXISTING PIPING TO REMAIN
<b>۲</b> →۰۰۰ CWS	CONDENSER WATER SUPPLY
<b>ک</b> – – – CWR – – – ۲	Condenser water return
Zeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee	CHILLED WATER SUPPLY
۲CHWR۲	CHILLED WATER RETURN
<b>۲</b> CD <b>۲</b>	CONDENSATE LINE
<u>۲</u>	REFRIGERANT PIPING
<b>۲</b> HWS۲	HOT WATER SUPPLY
۲۲ HWR۲	HOT WATER RETURN
è— – — – — ₹	DOMESTIC WATER
	GATE VALVE
·کم	GLOBE VALVE
× • • • • • • • • • • • • • • • • • • •	CHECK VALVE
ss	BALL VALVE
<b>≀</b> ₹	PLUG VALVE
	BUTTERFLY VALVE
·	PRESSURE REDUCING VALVE
<hr/>	
	SAFELT OR PRESSURE RELIEF VALVE
	VALVE IN RISER
	VALVE IN RISER DIRECTION OF FLOW
	VALVE IN RISER DIRECTION OF FLOW REDUCER OR INCREASER
	VALVE IN RISER DIRECTION OF FLOW REDUCER OR INCREASER ECCENTRIC REDUCER
	VALVE IN RISER DIRECTION OF FLOW REDUCER OR INCREASER ECCENTRIC REDUCER TOP CONNECTION, 45 OR 90 DEG.
	SAFETY OR PRESSURE RELIEF VALVE         VALVE IN RISER         DIRECTION OF FLOW         REDUCER OR INCREASER         ECCENTRIC REDUCER         TOP CONNECTION, 45 OR 90 DEG.         BOTTOM CONNECTION, 45 OR 90 DEG.
	SAFETY OR PRESSURE RELIEF VALVEVALVE IN RISERDIRECTION OF FLOWREDUCER OR INCREASERECCENTRIC REDUCERTOP CONNECTION, 45 OR 90 DEG.BOTTOM CONNECTION, 45 OR 90 DEG.SIDE CONNECTION
	SAFETY OR PRESSURE RELIEF VALVEVALVE IN RISERDIRECTION OF FLOWREDUCER OR INCREASERECCENTRIC REDUCERTOP CONNECTION, 45 OR 90 DEG.BOTTOM CONNECTION, 45 OR 90 DEG.SIDE CONNECTIONCAPPED OUTLET
	<ul> <li>SAFETY OR PRESSURE RELIEF VALVE</li> <li>VALVE IN RISER</li> <li>DIRECTION OF FLOW</li> <li>REDUCER OR INCREASER</li> <li>ECCENTRIC REDUCER</li> <li>TOP CONNECTION, 45 OR 90 DEG.</li> <li>BOTTOM CONNECTION, 45 OR 90 DEG.</li> <li>SIDE CONNECTION</li> <li>CAPPED OUTLET</li> <li>DROP IN PIPING</li> </ul>
	<ul> <li>SAFETY OR PRESSURE RELIEF VALVE</li> <li>VALVE IN RISER</li> <li>DIRECTION OF FLOW</li> <li>REDUCER OR INCREASER</li> <li>ECCENTRIC REDUCER</li> <li>TOP CONNECTION, 45 OR 90 DEG.</li> <li>BOTTOM CONNECTION, 45 OR 90 DEG.</li> <li>SIDE CONNECTION</li> <li>CAPPED OUTLET</li> <li>DROP IN PIPING</li> <li>RISE IN PIPING</li> </ul>
	SAFETY OR PRESSURE RELIEF VALVEVALVE IN RISERDIRECTION OF FLOWREDUCER OR INCREASERECCENTRIC REDUCERTOP CONNECTION, 45 OR 90 DEG.BOTTOM CONNECTION, 45 OR 90 DEG.SIDE CONNECTIONCAPPED OUTLETDROP IN PIPINGRISE IN PIPINGUNION
	<ul> <li>SAFETY OR PRESSURE RELIEF VALVE</li> <li>VALVE IN RISER</li> <li>DIRECTION OF FLOW</li> <li>REDUCER OR INCREASER</li> <li>ECCENTRIC REDUCER</li> <li>TOP CONNECTION, 45 OR 90 DEG.</li> <li>BOTTOM CONNECTION, 45 OR 90 DEG.</li> <li>SIDE CONNECTION</li> <li>CAPPED OUTLET</li> <li>DROP IN PIPING</li> <li>RISE IN PIPING</li> <li>UNION</li> <li>OUTSIDE SCREW &amp; YOKE (O S &amp; Y)</li> </ul>
	SAFETT OR PRESSURE RELIEF VALVE         VALVE IN RISER         DIRECTION OF FLOW         REDUCER OR INCREASER         ECCENTRIC REDUCER         TOP CONNECTION, 45 OR 90 DEG.         BOTTOM CONNECTION, 45 OR 90 DEG.         SIDE CONNECTION         CAPPED OUTLET         DROP IN PIPING         RISE IN PIPING         UNION         OUTSIDE SCREW & YOKE (O S & Y)         FLEXIBLE CONNECTION
	SAFEIT OR PRESSURE RELIEF VALVEVALVE IN RISERDIRECTION OF FLOWREDUCER OR INCREASERECCENTRIC REDUCERTOP CONNECTION, 45 OR 90 DEG.BOTTOM CONNECTION, 45 OR 90 DEG.SIDE CONNECTIONCAPPED OUTLETDROP IN PIPINGRISE IN PIPINGUNIONOUTSIDE SCREW & YOKE (O S & Y)FLEXIBLE CONNECTIONPRESSURE GAUGE
	SAFEIT OR PRESSURE RELIEF VALVE VALVE IN RISER DIRECTION OF FLOW REDUCER OR INCREASER ECCENTRIC REDUCER TOP CONNECTION, 45 OR 90 DEG. BOTTOM CONNECTION, 45 OR 90 DEG. SIDE CONNECTION CAPPED OUTLET DROP IN PIPING RISE IN PIPING UNION OUTSIDE SCREW & YOKE (O S & Y) FLEXIBLE CONNECTION PRESSURE GAUGE THERMOMETER
	SAFETY OR PRESSURE RELIEF VALVE VALVE IN RISER DIRECTION OF FLOW REDUCER OR INCREASER ECCENTRIC REDUCER TOP CONNECTION, 45 OR 90 DEG. BOTTOM CONNECTION, 45 OR 90 DEG. SIDE CONNECTION, 45 OR 90 DEG. SIDE CONNECTION CAPPED OUTLET DROP IN PIPING RISE IN PIPING UNION OUTSIDE SCREW & YOKE (O S & Y) FLEXIBLE CONNECTION PRESSURE GAUGE THERMOMETER STRAINER WITH BALL VALVE

# GENERAL CONTROL DEVICES

<u>(</u>)/(  $\mathbb{H}/\mathbb{O}$ 

THERMOSTAT / TEMPERATURE SENSOR HUMIDITY SENSOR / CARBON DIOXIDE SENSOR SMOKE DETECTOR (DUCT MOUNTED) PROVIDED BY DIV. 16 INSTALLED BY DIV. 15

# CONTROL DEVICES

((( \_\_\_\_\_\_ MANUFACTURER WIRELESS THERMOSTAT

- TS WIRED REMOTE TEMP. SENSOR (WALL MOUNT)
- L DUCT WIRED DUCT TEMP. SENSOR

### NOTE:

THESE ARE STANDARD SYMBOLS AND GENERAL NOTES AND MAY NOT ALL APPEAR ON THE PROJECT DRAWINGS; HOWEVER WHEREVER THE SYMBOL APPEARS ON THE PROJECT DRAWINGS, THE ITEM SHALL BE PROVIDED AND INSTALLED.



# DUCTWORK

UP [ ] DN	EXHAUST DUCT (UP & DOWN)
	RETURN AIR DUCT (UP & DOWN)
	CEILING DIFFUSERS/GRILLES (DOUBLE LINE)
	CEILING DIFFUSERS/GRILLES (SINGLE LINE)
-+>	SIDE WALL REGISTER OR GRILLE (DOUBLE LINE)
<	SIDE WALL REGISTER OR GRILLE (SINGLE LINE)
ł	WIRE MESH SCREEN (DOUBLE LINE)
	WIRE MESH SCREEN (SINGLE LINE)
10x8	NEW DUCT - WIDTH x DEPTH (DOUBLE LINE)
بــــــــــــــــــــــــــــــــــــ	NEW DUCT - WIDTH x DEPTH (SINGLE LINE)
<b>↓</b>	EXISTING DUCT TO REMAIN (DOUBLE LINE)
⊢ ⊱	EXISTING DUCT TO REMAIN (SINGLE LINE)
	EXISTING DUCT TO BE REMOVED (DOUBLE LINE)
X+H+H+H+H+H+H+A X+H+H+H+H+H+A	EXISTING DUCT TO BE REMOVED (SINGLE LINE)
	DUCT TRANSITION - CONCENTRIC (SINGLE LINE)
	DUCT TRANSITION - ECCENTRIC (DOUBLE LINE)
	DUCT TRANSITION - ECCENTRIC (SINGLE LINE)
	DUCT TRANSITION - RECT. TO RND (DOUBLE LINE)
	DUCT TRANSITION - RECT. TO RND (SINGLE LINE)
	MANUAL VOLUME DAMPER (DOUBLE LINE)
	MANUAL VOLUME DAMPER (SINGLE LINE)
	MOTOR OPERATED DAMPER
	BACK DRAFT DAMPER
	INCLINED RISE, IN DIRECTION OF AIR FLOW (DOUBLE LINE)
	INCLINED RISE, IN DIRECTION OF AIR FLOW (SINGLE LINE)
	INCLINED DROP, IN DIRECTION OF AIR FLOW (DOUBLE LINE)
	INCLINED DROP, IN DIRECTION OF AIR FLOW (SINGLE LINE)
	FLEXIBLE CONNECTION (DOUBLE LINE)
<b>≀</b>	FLEXIBLE CONNECTION (SINGLE LINE)
	SMORE DELECTOR (DUCT MOUNTED)
	DUCT MOUNTED COIL/HEATER (DOUBLE LINE)
2	DUCT MOUNTED COIL/HEATER (SINGLE LINE)
(cc	VANED ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH TURNING VANES EVEN IF SYMBOL IS MISSING)
	VANED RADIUS ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH TURNING VANES EVEN IF SYMBOL IS MISSING)
	VANED RADIUS ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH TURNING VANES EVEN IF SYMBOL IS MISSING) ACOUSTICALLY LINED DUCT
	VANED RADIUS ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH TURNING VANES EVEN IF SYMBOL IS MISSING) ACOUSTICALLY LINED DUCT VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF
	VANED RADIUS ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH TURNING VANES EVEN IF SYMBOL IS MISSING) ACOUSTICALLY LINED DUCT VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (DOUBLE LINE)
	VANED RADIUS ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH TURNING VANES EVEN IF SYMBOL IS MISSING) ACOUSTICALLY LINED DUCT VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (DOUBLE LINE) VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (SINGLE LINE)
	VANED RADIUS ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH TURNING VANES EVEN IF SYMBOL IS MISSING) ACOUSTICALLY LINED DUCT VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (DOUBLE LINE) VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (SINGLE LINE) – AIR FLOW CFM
	VANED RADIUS ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH TURNING VANES EVEN IF SYMBOL IS MISSING) ACOUSTICALLY LINED DUCT VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (DOUBLE LINE) VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (SINGLE LINE) – AIR FLOW CFM – AIR FLOW CFM
	VANED RADIUS ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH TURNING VANES EVEN IF SYMBOL IS MISSING) ACOUSTICALLY LINED DUCT VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (DOUBLE LINE) VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (SINGLE LINE) – AIR FLOW CFM – AIR FLOW CFM – AIR DEVICE TYPE (EX = Existing) – AIR DEVICE NECK SIZE
AIR DEVICES	VANED RADIUS ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH TURNING VANES EVEN IF SYMBOL IS MISSING) ACOUSTICALLY LINED DUCT VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (DOUBLE LINE) VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (SINGLE LINE) – AIR FLOW CFM – AIR FLOW CFM – AIR DEVICE TYPE (EX = Existing) – AIR DEVICE NECK SIZE
AIR DEVICES 2-WAY AIR	VANED RADIUS ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH TURNING VANES EVEN IF SYMBOL IS MISSING) ACOUSTICALLY LINED DUCT VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (DOUBLE LINE) VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (SINGLE LINE) – AIR FLOW CFM – AIR FLOW CFM – AIR DEVICE TYPE (EX = Existing) – AIR DEVICE NECK SIZE
AIR DEVICES 2-WAY AIR 1-WAY AIR	VANED RADIUS ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH TURNING VANES EVEN IF SYMBOL IS MISSING) ACOUSTICALLY LINED DUCT VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (DOUBLE LINE) VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (SINGLE LINE) – AIR FLOW CFM – AIR DEVICE TYPE (EX = Existing) – AIR DEVICE NECK SIZE
AIR DEVICES 2-WAY AIR 1-WAY AIR	VANED RADIUS ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH TURNING VANES EVEN IF SYMBOL IS MISSING) ACOUSTICALLY LINED DUCT VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (DOUBLE LINE) VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (SINGLE LINE) – AIR FLOW CFM – AIR DEVICE TYPE (EX = Existing) – AIR DEVICE NECK SIZE FLOW A AWAY AIR FLOW FLOW 3-WAY AIR FLOW - SUPPLY PLENUM
AIR DEVICES AIR DEVICES 2-WAY AIR 1-WAY AIR X'-X''	VANED RADIUS ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH TURNING VANES EVEN IF SYMBOL IS MISSING) ACOUSTICALLY LINED DUCT VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (DOUBLE LINE) VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (SINGLE LINE) - AIR FLOW CFM - AIR DEVICE TYPE (EX = Existing) - AIR DEVICE NECK SIZE FLOW A WAY AIR FLOW FLOW 3-WAY AIR FLOW - SUPPLY PLENUM - RETURN HOOD/PLENUM
AIR DEVICES 2-WAY AIR X'-X" TOTAL LEN	VANED RADIUS ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH TURNING VANES EVEN IF SYMBOL IS MISSING) ACOUSTICALLY LINED DUCT VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (DOUBLE LINE) VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (SINGLE LINE) – AIR FLOW CFM – AIR DEVICE TYPE (EX = Existing) – AIR DEVICE NECK SIZE FLOW A WAY AIR FLOW FLOW S-WAY AIR FLOW S-WAY AIR FLOW - SUPPLY PLENUM AGTH OF LINEAR DIFFUSER
AIR DEVICES AIR DEVICES AIR DEVICES 2-WAY AIR 1-WAY AIR X'-X" TOTAL LEP CRAWING SY	VANED RADIUS ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH TURNING VANES EVEN IF SYMBOL IS MISSING) ACOUSTICALLY LINED DUCT VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (DOUBLE LINE) VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (SINGLE LINE) – AIR FLOW CFM – AIR DEVICE TYPE (EX = Existing) – AIR DEVICE NECK SIZE FLOW A-WAY AIR FLOW FLOW A-WAY AIR FLOW GTH OF LINEAR DIFFUSER ARTURN HOOD/PLENUM
AIR DEVICES 2-WAY AIR X'-X" TOTAL LEP CRAWING SY	VANED RADIUS ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH TURNING VANES EVEN IF SYMBOL IS MISSING) ACOUSTICALLY LINED DUCT VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (DOUBLE LINE) VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (SINGLE LINE) - AIR FLOW CFM - AIR DEVICE TYPE (EX = Existing) - AIR DEVICE NECK SIZE FLOW A AWAY AIR FLOW FLOW A AWAY AIR FLOW CONTINUOUS LINEAR DIFFUSER. BLANK-OFF UNUSED PORTIONS - RETURN HOOD/PLENUM NGTH OF LINEAR DIFFUSER
AIR DEVICES 100 6"@A TYP. AIR DEVICES 2-WAY AIR 1-WAY AIR X'-X" TOTAL LEP DRAWING SY	VANED RADIUS ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH TURNING VANES EVEN IF SYMBOL IS MISSING) ACOUSTICALLY LINED DUCT VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (DOUBLE LINE) VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (SINGLE LINE) AIR FLOW CFM AIR DEVICE TYPE (EX = Existing) AIR DEVICE NECK SIZE FLOW A var AIR FLOW FLOW A sway AIR FLOW CONTINUOUS LINEAR DIFFUSER. BLANK-OFF UNUSED PORTIONS RETURN HOOD/PLENUM AGTH OF LINEAR DIFFUSER SECTION NUMBER
AIR DEVICES 100 6"0 AIR DEVICES 2-WAY AIR 1-WAY AIR X'-X" TOTAL LEP DRAWING SY	VANED RADIUS ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH TURNING VANES EVEN IF SYMBOL IS MISSING) ACOUSTICALLY LINED DUCT VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (DOUBLE LINE) VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (SINGLE LINE) – AIR FLOW CFM – AIR DEVICE TYPE (EX = Existing) – AIR DEVICE NECK SIZE FLOW 4-WAY AIR FLOW FLOW 3-WAY AIR FLOW SUPPLY PLENUM GTH OF LINEAR DIFFUSER CONTINUOUS LINEAR DIFFUSER. BLANK-OFF UNUSED PORTIONS FLOW ACTION NUMBER MBOLLS SECTION NUMBER DRAWING NUMBER WHERE DRAWN DRAWING NUMBER WHERE DRAWN DRAWING NUMBER WHEPE CUT
AIR DEVICES $AIR DEVICES$ $AIR DEVICES$ $2-WAY AIR$ $1-WAY AIR$ $1-WAY AIR$ $X'-X''$ TOTAL LEP $CRAWING SY$	VANED RADIUS ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH TURNING VANES EVEN IF SYMBOL IS MISSING) ACOUSTICALLY LINED DUCT VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (DOUBLE LINE) VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (SINGLE LINE) - AIR FLOW CFM - AIR DEVICE TYPE (EX = Existing) - AIR DEVICE NECK SIZE FLOW 4-WAY AIR FLOW FLOW 3-WAY AIR FLOW CONTINUOUS LINEAR DIFFUSER. BLANK-OFF UNUSED PORTIONS RETURN HOOD/PLENUM VGTH OF LINEAR DIFFUSER SECTION NUMBER DRAWING NUMBER WHERE DRAWN DRAWING NUMBER WHERE CUT POINT OF CONNECTION
$\frac{106}{6^{\circ}}$	VANED RADIUS ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH TURNING VANES EVEN IF SYMBOL IS MISSING) ACOUSTICALLY LINED DUCT VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (DOUBLE LINE) VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (SINGLE LINE) - AIR FLOW CFM - AIR DEVICE TYPE (EX = Existing) - AIR DEVICE NECK SIZE FLOW A WAY AIR FLOW FLOW 3.WAY AIR FLOW CONTINUOUS LINEAR DIFFUSER. BLANK-OFF UNUSED PORTIONS - RETURN HOOD/PLENUM AGTH OF LINEAR DIFFUSER SECTION NUMBER DRAWING NUMBER WHERE DRAWN DRAWING NUMBER WHERE CUT POINT OF CONNECTION POINT OF CONNECTION
$\frac{1}{2}$	VANED RADIUS ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH TURNING VANES EVEN IF SYMBOL IS MISSING) ACOUSTICALLY LINED DUCT VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (DOUBLE LINE) VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (SINGLE LINE) - AIR FLOW CFM - AIR DEVICE TYPE (EX = Existing) - AIR DEVICE NECK SIZE FLOW A WAY AIR FLOW - SUPPLY PLENUM - SUPPLY PLENUM - SUPPLY PLENUM - CONTINUOUS LINEAR DIFFUSER. - BLANK-OFF UNUSED PORTIONS - RETURN HOOD/PLENUM - RETURN HOOD/PLENUM - SUPPLY PLENUM - SU
$\frac{1}{2}$	VANED RADIUS ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH TURNING VANES EVEN IF SYMBOL IS MISSING) ACOUSTICALLY LINED DUCT VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (DOUBLE LINE) VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (SINGLE LINE) - AIR FLOW CFM - AIR DEVICE TYPE (EX = Existing) - AIR DEVICE NECK SIZE FLOW FLOW VANY AIR FLOW - AIR DEVICE NECK SIZE - SUPPLY PLENUM - SUPPLY PLENUM - RETURN HOOD/PLENUM AGTH OF LINEAR DIFFUSER - RETURN HOOD/PLENUM AGTH OF LINEAR DIFFUSER - SECTION NUMBER DRAWING NUMBER WHERE DRAWN DRAWING NUMBER WHERE CUT POINT OF CONNECTION POINT OF DISCONNECTION KEYED NOTES
$\frac{100}{6^{\circ}}$	VANED RADIUS ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH TURNING VANES EVEN IF SYMBOL IS MISSING) ACOUSTICALLY LINED DUCT VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (DOUBLE LINE) VANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF (SINGLE LINE) AIR TEOW CFM AIR DEVICE TYPE (EX = Existing) AIR DEVICE NECK SIZE FLOW A-WAY AIR FLOW SUPPLY PLENUM CONTINUOUS LINEAR DIFFUSER. BLANK-OFF UNUSED PORTIONS CONTINUOUS LINEAR DIFFUSER. BLANK-OFF UNUSED PORTIONS CONTINUOUS LINEAR DIFFUSER. SUPPLY PLENUM AGTH OF LINEAR DIFFUSER SECTION NUMBER DRAWING NUMBER WHERE DRAWN DRAWING NUMBER WHERE DRAWN DRAWING NUMBER WHERE DRAWN POINT OF CONNECTION POINT OF DISCONNECTION KEYED NOTES





P:V.P. Margan Chase\New Rochelle, NY (270 North Ave - HVAC)-JPM.36475.BAU\Design Files\Mechanical-Plumbing\M10\_New Rochelle, NY\_JPM.36475.BAU\_Mechanical Ductwork Pl

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1.	CONTRACTOR TO PROVIDE AND INSTALL NEW IN-LINE DUCT HEATER IN OUTSIDE AIR DUCTWORK. FIELD VERIFY EXACT LOCATION TO ENSURE NO CONFLICT WITH EQUIPMENT AND ENSURE LOCATION PROVIDES ADEQUATE SPACE FOR SERVICING.
2.	CONTRACTOR TO INSTALL NEW MANUFACTURER PROGRAMMABLE THERMOSTATS SERVING FCU-1,2,3,4,5,6,&7. THERMOSTATS SHALL BE WIRED FOR CONTROL OF RESPECTIVE FAN COIL UNIT WITH REMOTE SENSOR INPUT. MOUNT THE THERMOSTATS IN TWO ROWS WITH FOUR THERMOSTATS ON THE TOP ROW. TOP ROW SHALL BE AT 48" ABOVE FINISHED FLOOR AND BOTTOM ROW SHALL BE AT 42" ABOVE FINISHED FLOOR. REFER TO HVAC CONTROLS TABLE ON SHEET M2.0 FOR ADDITIONAL INFORMATION
3.	CONTRACTOR TO PROVIDE NEW INLINE SUPPLY FAN CONNECTED TO OUTDOOR AIR DUCTWORK. INSTALL IN ACCESSIBLE LOCATION AND MAINTAIN ALL MANUFACTURER REQUIRED CLEARANCES.
4.	MOUNT NEW 120V DUCT MOUNTED SMOKE DETECTOR (FURNISHED AND WIRED BY DIV 26) IN MAIN RETURN AIR DUCT. DETECTORS SHALL BE INTERLOCKED BY ELECTRICAL CONTRACTOR TO SHUT DOWN FAN COIL UNITS UPON DETECTION OF SMOKE.
5.	EXISTING STEAM BASE HEATERS TO REMAIN AND BE REUSED. CONTRACTOR TO CLEAN AND ENSURE HEATERS ARE FULLY OPERATIONAL.
6.	CONTRACTOR TO INSTALL STANDARD WIRED REMOTE TEMPERATURE SENSOR WITH WIRELESS SENSOR ADAPTOR (WSA) SERVING. MOUNT ON WALL 60" ABOVE FINISHED FLOOR AND COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER. REFER TO HVAC CONTROLS TABLE ON SHEET M2.0 FOR ADDITIONAL INFORMATION.
7.	DUCTED FAN COIL UNIT LOCATED JUST ABOVE CEILING. SUSPEND UNIT FROM STRUCTURE AND INSTALL UNIT SUCH THAT ALL MAINTENANCE PANELS ARE IN AN ACCESSIBLE LOCATION. PROVIDE CONDENSATE PUMP. AUXILIARY DRAIN PAN, AND WATER LEVEL DETECTION DEVICE. SEE PLUMBING PLANS FOR CONDENSATE ROUTING.
8.	CONTRACTOR TO INSTALL WIRED DUCT TEMPERATURE SENSOR WITH WIRELESS SENSOR ADAPTOR IN SUPPLY DUCT.
9.	CONTRACTOR TO PROVIDE AND INSTALL SOUND ATTENUATION BOOT ON RETURN GRILLE. REFER TO DETAIL ON SHEET M3.0 FOR MORE INFORMATION. DUCT SIZE SHALL MATCH SIZE INDICATED ON DIFFUSER TAG.
10.	EXISTING SUPPLY DIFFUSERS TO REMAIN AND BE REUSED. CONTRACTOR TO TRANSITION AND CONNECT NEW DUCTWORK TO EXISTING DIFFUSER NECK.
11.	EXISTING RETURN GRILLE TO REMAIN AND BE REUSED. CONTRACTOR TO CLEAN AND CONFIRM GRILLE IS FREE OF ANY OBSTRUCTIONS.
12.	EXISTING EXHAUST FAN TO REMAIN AND BE REUSED.
13.	NEW 14x14 OUTDOOR AIR LOUVER TO BE INSTALLED IN BRICK WALL. CONTRACTOR TO COORDINATE PENETRATION WITH LANDLORD. ROUTE DUCTWORK TIGHT TO UNDER STRUCTURE OF PARKING GARAGE BEFORE ENTERING THE BANK. PROVIDE WITH SPRING RETURN BACK DRAFT DAMPER







P:\J.P. Morgan Chase\New Rochelle, NY (270 North Ave - HVAC)-JPM 36475.BAU\Design Files\Mechanical-Plumbing\M11\_New Rochelle, NY\_JPM.36475.BAU\_Mechanical Piping Plan.c Thursday. September 7. 2023 3:25:59 PM

### MECHANICAL NOTES:







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THESE DRAWINGS ARE NOT COMPLETE WITHOU SEPARATE TYPE WRITTEN SPECIFICATIONS MAN WHICH ARE PART OF THE CONTRACT DOCUME

SHEET NUMBER

M1.1



### MECHANICAL NOTES:



ROOF MOUNTED CONDENSING UNIT DOWN THRU ROOF TO ASSOCIATED EVAPORATOR COILS. PROVIDE WITH PIPE PORTAL AND 3/4" INSULATION. PROVIDE ALL EXPOSED PIPING INSULATION WITH ULTRA-VIOLET RESISTANT PVC JACKET.

3. PROVIDE PIPE PORTAL BY RPS ACCESSORIES M# RC-2A. ROUTE REFRIGERANT PIPING AND POWER THROUGH PIPE PORTAL.

### PIPE INSULATION

FINAL DESIGN	INSULATION COND	UCTIVITY	NOMINAL PIPE SIZE (INCH)					
TEMPERATURE	CONDUCTIVITY	MEAN TEMP	<1	1-1 1/2	1 1/2 TO 4			
(°F)	F) BTU in/(h ft2 x °F)			ESS (IN)				
40-60	0.21-0.27	75	0.5	0.5	1.0			
<40	<40 0.20-0.26		0.5	1.0	1.0			

ωш NEW CHAS **CORE STATES** GROUP 201 S. Maple Avenue Suite 300 Ambler, PA 19002 215.809.2125 core-states.com CORESTATESTATIES ARCHITECTURE AND ENGINEERING P.C. ARCHITECTURE AND ENGINEERING P.C. NEW YORK CERTIFICATE OF AUTHORIZATION No. 0013579 ENGINEER OF RECORD **ISSUED FOR BID** THESE DRAWINGS ARE NOT COMPLETE WITHOUT THE SEPARATE TYPE WRITTEN SPECIFICATIONS MANUAL WHICH ARE PART OF THE CONTRACT DOCUMENTS. ISSUE DATE DESCRIPTION 2023.09.08 PERMIT SET 2024.03.01 BID SET PROJECT INFORMATION PROJECT NO: JPM.36475.BAU AS NOTED DATE: PROTOTYPE: 20.5 A.MATRISCIANO DRAWN BY: R.MOYER CHECKED BY: VERSION: DE\_1.00 SHEET TITLE MECHANICAL ROOF PLAN





### DIFFUSER, GRILLE, AND REGISTER SCHEDULE

TAG	LOCATION	TYPE	MATERIAL	PATTERN	FACE SIZE	MANUFACTURER & MODEL NO.	GENERAL	REMARKS	ZONE	ROOM	OCCUPANCY	AREA (SQ. FT.)	NUMBER OF OCCUPANTS	PEOPLE OUTDOOR AIRFLOW RATE (CFM/ OCC.)	AREA OUTDOOR AIRFLOW RATE (CFM/SQ, FT.)	REQUIRED OUTDOOR AIRFLOW RATE (CFM)	OUTSIDE AIRFLOW RATE (CFM)	SYSTEM OUTDOOR AIRFLOW RATE (CFM)	PROVIDED EXHAUST AIRFLOW RATE (CFM)
	CEILING	SUPPLY	STEEL	4-WAY	24x24	TITUS OMNI-NT	LAY-IN W/ DAMPER	1,2,3,4,5		TRANSACTION VESTIBULE	UNOCCUPIED SPACE	205	0	0	0	0	0		-
B	CEILING	RETURN	ALUMINUM	-	24x24	TITUS PAR	LAY-IN, OBD AG-15	1,2,3,6	FCU-1	WEATHER VESTIBULE	UNOCCUPIED SPACE	77	0	0	0	0	0	0	-
< <u>c</u> >	CEILING	SUPPLY	EXISTING	-	EXISTING	-	LAY-IN	7		CASH	UNOCCUPIED SPACE	233	0	0	0	0	0		-
REMA	RKS:								FCU-2	EXTERIOR OFFICES	OFFICE SPACE	460	12	5	0.06	110	115	170	-
1. ( 2. (	COORDINATE WITH LIGHTS FOR EXACT LOCATIONS OF ALL AIR DEVICES. COORDINATE FRAME STYLES WITH CEILING OR WALL SYSTEM.									INTERIOR OFFICES	OFFICE SPACE	185	6	5	0.06	51	55		-
3. 1 4. F	I.C. VALUE	s for diff ACK side c	USERS, GRILLE DF SUPPLY AIR	es and regis devices wit	TERS SHALL NC H FACTORY INS	DT EXCEED 30, WITH A STALLED R-6 INSULATIC	ROOM ABSORPTION RATE OF 10db. DN BLANKET.		FCU-3	LARGE OFFICE	OFFICE SPACE	175	5	5	0.06	44	45	70	-
5. H 6. /	LL LAY-IN	amper at Return Gr	iake-off to Rilles Shall B	DEVICE E FULL-FACE .	AND PROVIDE	D WITH MAXIMUM NEG	CK SIZE. CONTRACTOR TO THEN TRANSIT	EN TRANSITION MAXIMUM		BANK/PRINT	OFFICE SPACE	298	0	5	0.06	22	25		-
۲ ۲. E	ieck size t Xisting su	) return i PPLY diffu	duct size ine Isers. conni	DICATED ON F	°LANS. RK TO DIFFUSE	r and transition as	NECESSARY.		FCU-4	BANKING FLOOR	OFFICE SPACE	980	7	5	0.06	117	120	120	-
										TELLER	OFFICE SPACE	476	5	5	0.06	67	70		-
										LOUNGE	LOBBIES	135	2	5	0.06	23	25	105	-
										STORAGE	LOBBIES	94	0	5	0.06	7	10		-
															TOTALS	441	465	465	-

## DESIGN SUMMER CONDITIONS: 92.1°F D.B. / 74.4°F W.B. DESIGN WINTER CONDITIONS: 12.8°F D.B.

VRF-1	ROOF	LG	ARUM144BTE5	R-410A	144.0	12.1/23.0	162.0	3.52	208/3/60	51.
TAG	LOCATION	BASIS OF DESIGN MANUFACTURER	MODEL	REFRIGERANT TYPE	(MBH)	EER/IEER	(MBH)	СОР	POWER SUPPLY (V/PH/HZ)	мс
					COOLING	CAPACITY	HEATING	CAPACITY	ELECI	RICAL

REMARKS:

PROVIDE WITH LG MANUFACTURER'S CONTROLLER. 2. CONTRACTOR TO PROVIDE UNIT WITH DISCONNECT SWITCH.

				FA	N COIL	. UNIT S	SCHED	ULE						
							FA	N		ELEC1				
TAG	CONFIGURATION	BASIS OF DESIGN MANUFACTURER	MODEL	COOLING CAPACITY (MBH)	HEATING CAPACITY (MBH)	SUPPLY AIRFLOW (CFM)	OUTDOOR AIR (CFM)	MOTOR OUTPUT (W)	ESP. (IN W.C.)	POWER SUPPLY (V/PH/HZ)	МСА	моср	WEIGHT (LBS)	REMARKS
FCU-1	DUCTED HORIZTONAL	LG	ARNU243M1A4	24.0	27.0	700		350	0.5	208/1/60	1.6	15	69	1,2,3,4,5,6
FCU-2	DUCTED HORIZTONAL	LG	ARNU363M2A4	36.0	40.0	1,130	170	350	0.5	208/1/60	2.3	15	86	1,2,3,4,5,6
FCU-3	DUCTED HORIZTONAL	LG	ARNU363M2A4	36.0	40.0	1,130	70	350	0.5	208/1/60	2.3	15	86	1,2,3,4,5,6
FCU-4	DUCTED HORIZTONAL	LG	ARNU363M2A4	36.0	40.0	1,130	120	350	0.5	208/1/60	2.3	15	86	1,2,3,4,5,6
FCU-5	DUCTED HORIZTONAL	LG	ARNU243M1A4	24.0	27.0	700	105	350	0.5	208/1/60	1.6	15	69	1,2,3,4,5,6
DENANDA	/0.													

VRV UNIT SCHEDULE

REMARKS:

1. INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.

2. UNIT TO BE CONTROLLED BY LG THERMOSTAT.

3. PROVIDE REFRIGERANT PIPING SIZED PER MANUFACTURER'S RECOMMENDATIONS. "ACR" COPPER ONLY. 4. PROVIDE WATER-LEVEL MONITORING DEVICE (FLOAT SWITCH). DEVICE SHALL BE INSTALLED INSIDE THE PRIMARY DRAIN PAN AND SHALL BE INTERLOCKED TO SHUT DOWN UNIT. EXTERNALLY INSTALLED DEVICES AND DEVICES INSTALLED IN THE DRAIN LINE SHALL NOT BE PERMITTED.

5. PROVIDE WITH CONDENSATE PUMP.

6. CONTRACTOR TO PROVIDE WITH MERV 13 FILTER KIT. CONTRACTOR TO COORDINATE FILTER KIT SIZE WITH FCU SIZE.

		HEA	AT REC	COVERY UN	III SCHEDI	ULE			
					ELECT	RICAL			
TAG	BASIS OF DESIGN MANUFACTURER	MODEL	PORT COUNT	RATED COOLING CAPACITY (MBH)	POWER SUPPLY (V/PH/HZ)	МСА	МОСР	WEIGHT (LBS)	REMARKS
HRU-1	LG	PRHR063A	6	60.0 PER PORT	208/1/60	0.7	15	49	1
REMAR 1. PR	RKS: POVIDE WITH CLOSEI	) PIPE KIT FOR I	unused pc	DRTS.					

### VENTILATION AIR SCHEDULE

TAG		SERVICE	
SF-1		SUPPLY	
REM 1. 2. 3. 4. 5.	A F F F F F F F F	RKS: PROVIDE W ROVIDE V PROVIDE V POSITION C PROVIDE W PROVIDE W	70 20 71 71

TAG DESCRIPTI DH-1 PREHEAT REMARKS:

WEIGHT CA MOCP (LBS) REMARKS 1.1 70 639 1,2

LG EQUIPMENT SELECTED BY KLIMANJ. LOCAL MANUFACTURER'S REPRESENTATIVE TO CONTACT PAUL DALEY AT 732.917.7412 OR PAULD@KLIMANJ.COM FOR EQUIPMENT DESIGN QUESTIONS.

	FAN SCHEDULE										
			ECD				ELECTR	ICAL		WEICHT	
OCATION	CFM	MANUF MODEL	(W.C)	DRIVE	TYPE	HP	V.	Ø	Hz	(LBS)	REMARKS
CEILING	465	GREENHECK- SQ-095-VG	0.7	DIRECT	CENT.	1/6	115	1	60	101	1,2,3,4,5

D-400 BACKDRAFT DAMPER. SCONNECT SWITCH MOUNTED ON FAN HOUSING.

ARIABLE SPEED CONTROLLER FOR ALL DIRECT DRIVE FANS. T & B CONTRACTOR SHALL MARK BALANCED ON CONTROLLER.

ITH VIBRATION ISOLATION KIT AND MOUNTING BRACKETS. ITH FILTER BOX AND MERV 8 FILTERS.

	DUCT HEATER SCHEDULE								
						electr	ICAL		
ION	MANUFACTURER	MODEL	DUCT SIZE	(CFM)	kW	V.	Ø	Hz	REMARKS
T	INDEECO	QUZ	10x10	465	10	208	3	60	1,2,3,4,5

1. PROVIDE WITH SCR HEATER CONTROL.

2. PROVIDE WITH ELECTRONIC AIRFLOW SWITCH.

3. PROVIDE WITH DOOR INTERLOCKING DISCONNECT SWITCH. 4. PROVIDE WITH TRANSFORMER.

5. PROVIDE WITH DUCT THERMOSTAT AND SET TO DISCHARGE 65°F.





ENGINEER OF RECORD

# **ISSUED FOR BID**

SEG	QUENCE OF OPERATIONS
000	CUPIED AND UNOCCUPIED OPERATION:
А.	THE TEMPERATURE CONTROL SYSTEM SHALL BE SET FOR OCCUPIE UNOCCUPIED HOURS.
В.	DURING THE OCCUPIED HOURS THE SPACE SHALL BE MAINTAINED (ADJ) IN THE COOLING MODE AND 70°F (ADJ) IN THE HEATING N
C.	DURING UNOCCUPIED PERIODS, THE SPACE TEMPERATURE SHALL 75°F (ADJ) IN THE COOLING MODE AND 65°F (ADJ) IN THE HEATI
VAR	ABLE REFRIGERANT VOLUME (VRF1 & FCU-1,2,3,4,&5):
A.	THE INDOOR UNITS CAN BE COMMANDED ON/OFF EITHER BY A S IN THE CENTRAL CONTROLLER OR AT THE REMOTE CONTROLLER. INDOOR UNITS ARE OFF, THE OUTDOOR UNIT SHALL TURN OFF.
В.	DURING COOLING MODE THE INDOOR UNIT SHALL MODULATE TO TEMPERATURE SET POINT.
C.	DURING MECHANICAL HEATING MODE THE INDOOR UNIT SHALL TO MAINTAIN TEMPERATURE SET POINT
D.	DURING NIGHT SETBACK (UNOCCUPIED MODE) THE SYSTEM SHAL ON DURING UNOCCUPIED PERIODS AS NEEDED TO MAINTAIN UN TEMPERATURE SET POINTS.
E.	IF THE SPACE TEMPERATURE IS BELOW THE OCCUPIED HEATING SI PRIOR TO SCHEDULED OCCUPANCY, A MORNING WARMUP MC BE ACTIVATED. MORNING WARM UP SHALL BE SCHEDULED IN AN APPROPRIATE TIMEFRAME TO ALLOW THE SPACE TO BE CONDITION TO THE SCHEDULED OCCUPANCY.
D.	IF THE SPACE TEMPERATURE IS ABOVE THE OCCUPIED COOLING PRIOR TO SCHEDULED OCCUPANCY, A MORNING PRE-COOL M BE ACTIVATED. MORNING PRE-COOL SHALL BE SCHEDULED IN AN APPROPRIATE TIMEFRAME TO ALLOW THE SPACE TO BE CONDITION TO THE SCHEDULED OCCUPANCY.
SUPF	2LY FAN (SF-1):

A. FAN TO SUPPLY VENTILATION TO FAN COIL UNITS. BALANCE AIRFLOW TO REQUIRED AIRFLOW RATE LISTED IN EQUIPMENT SCHEDULE. DURING OCCUPIED HOURS THE SUPPLY FAN SHALL OPERATE CONTINUOUSLY. UNIT SHALL BE INTERLOCKED WITH ASSOCIATED SPRING RETURN BACKDRAFT DAMPER THROUGH DIGITAL OUTPUT FROM VARI-GREEN CONTROLLER. DURING UNOCCUPIED HOURS THE FAN SHALL BE DE-ENERGIZED AND ASSOCIATED SPRING RETURN BACKDRAFT DAMPER SHALL BE CLOSED.

SEPAR. WHICH	ATE TYPE WRIT	TEN SPECIFICATIONS MANUAL THE CONTRACT DOCUMENTS.
ISSUE	DATE	DESCRIPTION
	2023.09.08	PERMIT SET
	2024.03.01	BID SET
PRO	JECT INFO	
PR	OJECT NO:	JPM.36475.BA
DA	JE:	AS NOTE
PR	OTOTYPE:	20.
SHEFT	TITI F	
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	MECI SCF	hanical 1edules

SHEET NUMBER



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- ED AT 72°F MODE.

L MAINTAIN ING MODE.

- SCHEDULE . IF ALL
- TO MAINTAIN
- MODULATE
- ALL CYCLE INOCCUPIED
- Setpoint ode shall IONED PRIOR
  - SETPOINT 10DE SHALL IONED PRIOR



# Note :

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Power wiring, breaker size, and disconnects should follow local code and NEC. Multi-frame outdoor units require a separate power connection for each frame. Refer to the most up-to-date submittal sheets for applicable electrical data.

PRHR063A

RLA: 0.09

Ŧ

ΑB

 Power line(Outdoor unit)
 Power line(Indoor unit / HR unit)
 Communication line (ODU-IDU / ODU-ODU) : Twisted, Stranded and shielded AWG 18 x 2C
 Communication line (ODU-CEN) : Twisted, Stranded and shielded AWG 18 x 2C
 Communication line(Remote controller): Twisted and stranded AWG 22 x 3C
Ground shield wire at ODU only
Note : Polarity matters: Always connect 'A' to 'A' and 'B' to 'B'

ARNU243M1A4

A B (#FCU-1)(-) CN-CC



MCA : 51.1 MOP : 70 V,Hz: 3/208~230/60

Total RLA : 10.19





RLA : 1.60 D.C : PDRYCB320

VRF WIRING SCHEMATICS

1

ARUM144BTE5 (136.92 kBtu/h) (173.90 kBtu/h) Additional Refrigerant : 10.04 lbs (Precharged Refrigerant : 26.50 lbs) -9.8ft PRHR063A 1/2:7/8:1-1/8 9.8 ft(0) -9.8ft ARNU243M1A4 #FCU-1 3/8:5/8 9.8 ft(0) -9.8ft ARNU363M2A4 #FCU-2 3/8:5/8 9.8 ft(0) (31.20 / 23.75 kBtu/h) (41.96 kBtu/h) -9.8ft ARNU363M2A4 #FCU-3 3/8:5/8 9.8 ft(0) (31.20 / 23.75 kBtu/h) (41.96 kBtu/h) -9.8ft -9.8ft -9.8ft -9.8ft -9.8ft -9.8ft -9.8ft (31.20 / 23.75 kBtu/h) (41.96 kBtu/h) (31.20 / 23.75 kBtu/h) (41.96 kBtu/h) (31.20 / 23.75 kBtu/h) (28.22 kBtu/h) 3/8:5/8 9.8 ft(0) 3/8:5/8 9.8 ft(0) (20.87 / 15.71 kBtu/h) (28.22 kBtu/h) #1

(20.87 / 15.71 kBtu/h) (28.22 kBtu/h) Room Room (31.20 / 23.75 kBtu/h) (41.96 kBtu/h) Room

\_\_\_\_ End Cap

VRF PIPING SCHEMATIC

-- ( 0 %) / -- ( 0 %) kBtu/h-- ( 0 %) kBtu/h --(0%) / --(0%) kBtu/h--(0%) kBtu/h -- ( 0 %) / -- ( 0 %) kBtu/h-- ( 0 %) kBtu/h Room ] --( 0 %) / --( 0 %) kBtu/h--( 0 %) kBtu/h -- ( 0 %) / -- ( 0 %) kBtu/h-- ( 0 %) kBtu/h

2

0804 0309] õ ωш NEW CHAS  $\mathcal{O}$ Η  $\sim$  $\boldsymbol{<}$  $\square$ **CORE STATES** GROUP 201 S. Maple Avenue Suite 300 Ambler, PA 19002 215.809.2125 core-states.com CORES DATESTANES ARCHITECTURE AND ENGINEERING P.C. NEW YORK CERTIFICATE OF AUTHORIZATION No. 0013579 ENGINEER OF RECORD **ISSUED FOR BID** THESE DRAWINGS ARE NOT COMPLETE WITHOUT THE SEPARATE TYPE WRITTEN SPECIFICATIONS MANUAL WHICH ARE PART OF THE CONTRACT DOCUMENTS. ISSUE DATE DESCRIPTION 2023.09.08 PERMIT SET 2024.03.01 BID SET PROJECT INFORMATION PROJECT NO: JPM.36475.BAU AS NOTED DATE: PROTOTYPE: 20.5 DRAWN BY: A.MATRISCIANO R.MOYER CHECKED BY: VERSION: DE\_1.00 SHEET TITLE MECHANICAL DETAILS

SHEET NUMBER

M3.1

BBREVIATIONS								
A	Ampere							
AFF	Above finished f							
AHU	Air handling un							
ATS	Automatic trans							
AWG	American wire c							
C	CONDUIT							
CB	CIRCUIT BREAKER							
CKT	CIRCUIT							
CLG	CEILING							
CT	CURRENT TRANSFO							
CU	COPPER							
DWG	DRAWING							
E EB E.C. EF EM EMT ENCL EWC EWH	EXISTING EQUIPMENT BOAR ELECTRICAL CONT EXHAUST FAN EMERGENCY ELECTRICAL META ENCLOSURE ELECTRIC WATER F							
F	FUSE							
FA	FIRE ALARM							
FATC	FIRE ALARM TERMI							
FACP	FIRE ALARM CONT							
GFI, GFCI	GROUND FAULT C							
GND,G	GROUND							
HACR	HEATING/AIR CON							
HD	HAND DRYER							
HP	HORSEPOWER							
IG								
J KCMIL KVA KW	THOUSAND CIRCU KILOVOLT AMPERE KILOWATT							
MCB	MAIN CIRCUIT BRE							
MDP	MAIN DISTRIBUTIOI							
MLO	MAIN LUGS ONLY							
MTS	MANUAL TRANSFE							
NC	NORMALLY CLOSE							
NEC	NATIONAL ELECTR							
NEMA	NATIONAL ELECTR							
NF	NON-FUSED							
NFPA	NATIONAL FIRE PR							
NL	NIGHT LIGHT							
PNL PVC Ref	PANEL POLYVINYL CHLOF							
SPD	SURGE PROTECTIV							
SW	SWITCH							
SWBD	SWITCHBOARD							
TS	TIME SWITCH							
TYP	TYPICAI							
UG	UNDERGROUND							
UH	UNIT HEATER							
UON	UNLESS OTHERWISI							
UPS	UNINTERRUPTIBLE F							
V	VOLT							
VAV	VARIABLE AIR VOL							
VFD	VARIABLE FREQUE							
WP	WEATHER PROOF							
WR	WEATHER RESISTAN							
XFMR	TRANSFORMER							

NOT ALL ABBREVIATIONS

DOR
ER SWITCH
RMER
ACTOR
IC TUBING
DOLER ATER
AL CABINET
OL PANEL CUIT INTERRUPTER
DITIONING-RATED
AR MILS
KER PANEL
SWITCH
AL CODE AL MANUFACTURERS ASSOCIATION
TECTION ASSOCIATION
DE CONDUIT
DEVICE
NOTED DWER SUPPLY
ME CY DRIVE

;	WILL	ΒE	USED.	USED	FOR	REFER	ENCE	PURP	OSES	ONL	ŕ.

### GENERAL INFORMATION

- 1. NUMBERS SHOWN ON PLANS ADJACENT TO WIRING DEVICES INDICATE BRANCH CIRCUIT NUMBER.
- 2. STANDARD SYMBOLS SHOWN ON LEGEND MAY NOT APPEAR ON ALL PLANS. WHERE SYMBOL APPEARS ON PLANS FURNISH AND INSTALL AS SPECIFIED.

### POWER & COMMUNICATIONS LEGEND

REFERENCE ARCHITECTURAL ELEVATION PLANS FOR DEVICE MOUNTING HEIGHT UNLESS OTHERWISE NOTED (UON).

	HOMERUN TO PANEL INDICATED (CONCEALED). MINIMUM 3/4" CONDUIT. UNLESS OTHERWISE NOTED PROVIDE #12 CONDUCTORS AS REQUIRED BY THE NUMBER OF CIRCUITS SHOWN. INCLUDE #12 GROUND AND #12 NEUTRAL CONDUCTORS. FOR HOMERUNS EXCEEDING 100' IN LENGTH PROVIDE #10 CONDUCTORS. FOR HOMERUNS EXCEEDING 150' IN LENGTH PROVIDE #8 CONDUCTORS. THERE SHALL BE A MAXIMUM OF 2 BRANCH CIRCUITS FOR SINGLE PHASE AND 3 BRANCH CIRCUITS FOR THREE PHASE PER HOMERUN (AS INDICATED ON THE PLANS). TEXT SHOWN BY HOMERUN INDICATES PANELBOARD DESIGNATION AND CIRCUIT NUMBER(S).
	CONDUIT CONCEALED IN WALL OR ABOVE CEILING SPACE. UNLESS OTHERWISE NOTED PROVIDE #12 CONDUCTORS AS REQUIRED BY THE NUMBER OF CIRCUITS SHOWN. INCLUDE #12 GROUND AND #12 NEUTRAL. MINIMUM 1/2" CONDUIT.
	UNDERGROUND OR BELOW SLAB CONDUIT. UNLESS OTHERWISE NOTED PROVIDE #12 CONDUCTORS AS REQUIRED BY THE NUMBER OF CIRCUITS SHOWN. INCLUDE #12 GROUND AND #12 NEUTRAL. MINIMUM 3/4" CONDUIT.
U	CEILING OR WALL MOUNTED JUNCTION BOX - UON SIZE AS REQUIRED BY NEC
SPD	SURGE PROTECTIVE DEVICE AS INDICATED
	PANELBOARD - BRANCH CIRCUIT TYPE - 120/208V
	METER SOCKET
	NON-FUSIBLE DISCONNECT SWITCH - HEAVY DUTY - SEE SPECIFICATIONS - MOUNT TOP OF ENCLOSURE 66" AFF, (UON)
$\square$	FUSIBLE DISCONNECT SWITCH - HEAVY DUTY - FUSED AS INDICATED ON PLANS - SEE SPECIFICATIONS - MOUNT TOP OF ENCLOSURE 66" AFF, (UON)
$\mathbf{X}\!$	ENCLOSED CIRCUIT BREAKER - HEAVY DUTY - SEE SPECIFICATIONS - MOUNT TOP OF ENCLOSURE 66" AFF, (UON)

DUPLEX RECEPTACLE - 20A, 120V - CENTER MOUNTED 18" AFF, (UON)

### GENERAL NOTES:

REFER TO ARCHITECTURAL DRAWINGS FOR INTERIOR ELECTRICAL SYSTEM DEVICE AND FIXTURE LOCATIONS AND ADDITIONAL INFORMATION ON BUILDING ENVELOPE FIXTURES AND DEVICES.

ALL LINE- AND LOW-VOLTAGE WIRING SHALL BE INSTALLED IN CONDUIT SYSTEMS CONFORMING TO PROJECT MANUAL SPECIFICATIONS SECTION 260531. THE FOLLOWING CONDUITS ARE PERMITTED; • GALVANIZED RIGID CONDUIT (GRC): HOT DIPPED GALVANIZED RIGID STEEL WITH THREADED ENDS. MEET ASTM STANDARD A-153 GALVANIZED AFTER FABRICATION.

• INTERMEDIATE METAL CONDUIT (IMC): RIGID MILD STEEL TUBE WITH WELDED SEAMS, HOT DIPPED GALVANIZED WITH THREADED ENDS.

• THIN WALL: ELECTRO-GALVANIZED ELECTRICAL METALLIC TUBING (EMT). CONDUITS MUST ALSO BE;

• FLEXIBLE: ALLOWED WITH-IN 4'-0" FLEXIBLE CONNECTION ONLY. HOT DIPPED GALVANIZED MATERIAL OF MILD STEEL OF UNIFORM WIDTH AND THICKNESS. • FLEXIBLE LIQUID TIGHT: ALLOWED WITH-IN 4'-0" FLEXIBLE CONNECTION ONLY. HOT DIPPED

GALVANIZED MATERIAL OF MILD SHELL OF UNIFORM WIDTH AND THICKNESS WITH EXTRUDED MOISTURE AND OIL PROOF PVC JACKET.

ALL CONDUIT SYSTEMS CONFORMING TO PROJECT MANUAL SPECIFICATIONS SECTION 260531 MUST BE UTILIZED WITH APPROPRIATE CONDUIT FITTINGS;

• GRC CONDUIT: THREADED TYPE.

IMC CONDUIT: THREADED TYPE.

• THIN WALL OR EMT: RAIN-TIGHT AND CONCRETE-TIGHT, GLAND COMPRESSION TYPE, INSULATED NYLON THROAT WITH DIE-CAST BODY AND STEEL NUT, APPLETON TYPE 86T SERIES OR EQUAL. FOR CONDUIT SIZES 3" AND LARGER (WHERE NOT REQUIRED TO BE RAIN OR CONCRETE TIGHT) SET-SCREW TYPE IS ACCEPTABLE.

• FLEXIBLE CONDUIT: SINGLE OR TWO PIECE SQUEEZE TYPE.

• FLEXIBLE LIQUID TYPE: COMPRESSION TYPE. PREFERENCE IS FOR ALL LINE- AND LOW-VOLTAGE WIRING TO BE INSTALLED IN CONDUIT SYSTEMS CONFORMING TO PROJECT MANUAL SPECIFICATIONS SECTION 260531. TYPE MC METAL-SHEATHED CABLES WITH INSULATED GROUNDING CONDUCTORS MAY BE SUBSTITUTED FOR CONDUIT FOR LINE-

AND LOW-VOLTAGE WIRING WHERE SKILLED LABOR AVAILABILITY PREVENTS THE USE OF CONDUIT SYSTEMS, AND WHERE PERMITTED BY CODE. TYPE AC ARMORED CABLE WITH UNINSULATED GROUNDING CONDUCTORS ARE NOT PERMITTED. NON-METALLIC SHEATHED CABLES (GENERALLY "ROMEX"), TYPES NM, NMC AND NMS ARE NOT PERMITTED.

ALL ENDS OF CONDUIT SHALL HAVE BUSHING OR A COUPLING INSTALLED FOR THE PURPOSE OF PROVIDING PROTECTION OF CONDUCTORS. IN NO CASE ARE CONDUIT ENDS PERMITTED TO REMAIN OPEN.

ALL LOW VOLTAGE WIRING IN INACCESSIBLE AREAS SHALL BE INSTALLED IN METALLIC CONDUIT. CONDUIT SYSTEMS INSTALLED ON THE ROOF SHALL BE INSTALLED IN METALLIC CONDUIT AND SUPPORTED EVERY FIVE FEET.

ALL WIRING FOR THE PURPOSE OF EMERGENCY SYSTEMS SHALL BE INSTALLED IN A SEPARATE CONDUIT SYSTEM INDEPENDENT OF OTHER SYSTEMS.

COORDINATE WITH SPECIFICATION 260519 THAT LOW VOLTAGE CONDUCTOR AND CABLE IS COMPLIANT. SHALL CONTAIN A PROPERLY SIZED GREED GROUND CONDUCTOR AND SHALL NOT EXCEED SIX FEET (6') IN LENGTH.

ALL BRANCH CIRCUIT CONDUCTORS SHALL BE CONNECTED BY MEANS OF A SCREW TERMINAL. THE CONTINUITY OF ANY BRANCH CIRCUIT CONDUCTOR INCLUDING ANY IDENTIFIED GROUNDED CONDUCTOR SHALL NOT DEPEND UPON DEVICE CONNECTIONS, SUCH AS LAMPHOLDERS, RECEPTACLES, ETC., WHERE THE REMOVAL OF SUCH DEVICES WOULD INTERRUPT THE CONTINUITY. DE-RATING OF THE NEUTRAL IS PROHIBITED.

THE USE OF AUXILIARY GUTTERS, WIREWAYS, RACEWAYS, AS ENCLOSURES FOR SERVICE ENTRANCE OR TAPPING OF SERVICE ENTRANCE CONDUCTORS IS STRICTLY PROHIBITED. METAL IDENTIFICATION TAGS SHALL BE INSTALLED WHERE THE GROUNDING CONDUCTOR IS CONNECTED TO THE GROUNDING ELECTRODE.

ALL POWER, DATA AND SECURITY CONDUIT CONNECTIONS TO SYSTEMS FURNITURE PANELS SHALL BE BY THE ELECTRICAL CONTRACTOR. COORDINATE EXACT LOCATIONS AND CONNECTION REQUIREMENTS WITH OWNER'S SYSTEMS FURNITURE VENDOR PRIOR TO ROUGH-IN, INSTALL FLUSH JUNCTION BOXES AT 8" MIN. AFF AND PROVIDE FLEXIBLE CONDUIT TO PARTITIONS SYSTEM RACEWAY. REFER TO ARCHITECTURAL DRAWINGS FOR ORIENTATION OF POWER, DATA AND SECURITY SYSTEMS JUNCTION BOXES AND MUD RINGS.

REFER TO ARCHITECTURAL DRAWINGS FOR ELECTRICAL, DATA, AND SECURITY DEVICE AND COVER PLATE COLORS.

ISOLATED GROUND RECEPTACLES SHALL BE ORANGE.

PENETRATIONS OF FLOORS, ROOF, WALLS AND WALL MEMBRANES REQUIRED TO HAVE FIRE-RESISTANCE RATINGS SHALL BE PROTECTED WITH THROUGH-PENETRATION FIRE STOPS SUITABLE FOR THE METHOD OF PENETRATION. MAINTAIN ALL FIRE RATINGS. THROUGH-PENETRATIONS FIRE STOPS SHALL BE TESTED IN ACCORDANCE WITH UL AND BUILDING CODE REQUIREMENTS. ALL WORK SHALL BE IN ACCORDANCE WITH THE CURRENTLY ENFORCED NATIONAL ELECTRICAL CODE (NEC).

UNLESS OTHERWISE DICTATED BY APPLICABLE CODES OR THE AHJ, ALL MATERIALS WITHIN RETURN AIR PLENUM MUST BE NONCOMBUSTIBLE AND/OR HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX NOT MORE THAN 50 IN ACCORDANCE WITH ATSM E 84 TESTING.

THE ELECTRICAL/DATA ROOM MUST BE 100% COMPLETE AT A MINIMUM OF 45 DAYS PRIOR TO CONSTRUCTION COMPLETION/TURNOVER DATE.

UNLESS OTHERWISE NOTED, ALL RECEPTACLES SHALL BE MOUNTED AT 18" AFF. REFER TO ARCHITECTURAL ELEVATIONS FOR FINAL LOCATIONS AND MOUNTING HEIGHTS.

E.C. TO PROVIDE LABELS ON ALL RECEPTACLES (ELECTRICAL, DATA, AND SECURITY). COORDINATE LABEL NAMING CONVENTIONS WITH OWNER PRIOR TO INSTALLATION.

THE G.C./E.C. IS RESPONSIBLE FOR ALL CONDUIT AND JUNCTION BOX ROUGH-INS FOR TELECOMMUNICATIONS AND SECURITY. REFER TO TC SERIES DRAWINGS INCLUDED IN CONSTRUCTION DOCUMENTS SET FOR ROUGH-IN REQUIREMENTS AND FINAL LOCATIONS. THE OWNER'S FACILITY MANAGER IS REQUIRED TO BE INVITED TO MECHANICAL AND ELECTRICAL SUBCONTRACTOR KICKOFF MEETINGS, PERIODIC MEETINGS AND WALK-THROUGHS INVOLVING MECHANICAL AND ELECTRICAL WORK.

ALL GROUND-LEVEL ELECTRICAL EQUIPMENT ENCLOSURES ARE TO BE SPECIFIED WITH LOCK HASPS. PROVIDE KEYED-ALIKE PADLOCKS AT EACH ENCLOSURE.

WIRE SIZES ARE BASED ON THHW, THWN COPPER (CU) CONDUCTORS. FOR ALLOWABLE AMPACITIES, THE 60° CELSIUS COLUMN FOR BRANCH CIRCUITS RATED 100A OR LESS AND 75° CELSIUS COLUMN FOR FEEDERS RATED OVER 100A SHALL BE USED WHERE APPLICABLE. ELECTRICAL CONTRACTOR SHALL VERIFY ALL TERMINAL RATINGS AND CONFIRM ALLOWABLE AMPACITIES. IT IS ASSUMED ALL TERMINALS, EQUIPMENT, AND DEVICES ARE RATED FOR 75° CELSIUS. IF TERMINALS ARE RATED FOR OTHER THAN 75° CELSIUS, ELECTRICAL CONTRACTOR SHALL NOTIFY ENGINEER OF RECORD. WHERE THERE ARE MORE THAN THREE CURRENT-CARRYING CONDUCTORS INSTALLED IN A RACEWAY OR A CABLE, THE AMPACITY OF THE CONDUCTORS ARE TO BE DERATED PER THE REQUIREMENT OF NEC TABLE 310.15(B)(3)(a).





NEW YORK NEW YORK

No. 0013579 No. 0013579

CERTHERITATIC OFFACT HAD RHOADION 908,462,9700 core-states.com ENGINEER OF RECORD

Somerville, NJ 08876

# **ISSUED FOR BID**

THESE DRAWINGS ARE NOT COMPLETE WITHOUT THE SEPARATE TYPE WRITTEN SPECIFICATIONS MANUAL WHICH ARE PART OF THE CONTRACT DOCUMENTS.

> JOHN D. FERGUSON, P.E. NEW YORK LICENSE No. 085807

ISSUE DATE DESCRIPTION 2023.09.08 PERMIT SET 2024.03.01 BID SET

PRO.	JECT INFO	ORMATION
PR	OJECT NO:	JPM.36475.BAU
DA	TE:	AS NOTED
PRC	OTOTYPE:	20.5
DR.	AWN BY:	D. MULVANEY
CH	ECKED BY:	C. SACCO
VE	rsion:	DE_1.00
HEET	TITLE	



SHEET NUMBER





#### ELECTRICAL GENERAL NOTES: • ALL POWER CONNECTIONS TO FURNITURE (IF APPLICABLE) ARE TO BE BY THE ELECTRICAL CONTRACTOR. FINAL DATA/COMMUNICATION CABLING AND CONNECTIONS ARE TO BE BY OTHERS. COORDINATE EXACT LOCATIONS AND CONNECTION REQUIREMENTS WITH THE FURNITURE SUPPLIER/INSTALLER PRIOR TO ROUGH-IN. $\langle \# \rangle$ ELECTRICAL KEYNOTES: PROVIDE POWER TO MECHANICAL EQUIPMENT AS SHOWN. PROVIDE DISCONNECTING MEANS AS REQUIRED. COORDINATE FINAL LOCATION AND EXACT REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. 2. STANDALONE DUCT DETECTOR, INSTALLED IN DUCT BY HVAC CONTRACTOR, WIRING BY ELECTRICAL CONTRACTOR, SYSTEM SENSOR MODEL D4120 OR EQUIVALENT. COORDINATE WITH MECHANICAL CONTRACTOR FOR LOCATION. EXISTING DUCT HEATER TO BE REMOVED AND REPLACED WITH NEW. VERIFY EXISTING CONNECTION IN FIELD AND REMOVE ASSOCIATED WIRING AND CONDUIT FROM EXISTING UNIT BEING REMOVED BACK TO POWER SOURCE. PROVIDE POWER TO DUCT HEATER AS SHOWN. ELECTRIC DUCT HEATER PROVIDED WITH FACTORY MOUNTED DISCONNECT SWITCH. REFER TO MECHANICAL SCHEDULES FOR ADDITIONAL INFORMATION. MAINTAIN REQUIRED CLEARANCES FOR ALL ELECTRICAL PANELS PER THE NEC SECTION 110.26. REFER TO POWER RISER DIAGRAM LOCATED ON POWER DETAILS AND SCHEDULES SHEET FOR ADDITIONAL INFORMATION. DISCONNECT SWITCH IS BEING PROVIDED WITH EQUIPMENT. COORDINATE WITH MECHANICAL CONTRACTOR FOR INSTALLATION AND POWER CONNECTION. IF NO DISCONNECT WAS INCLUDED WITH SHIPMENT, COORDINATE WITH MECHANICAL CONTRACTOR AND PROVIDE AS REQUIRED. REMOTE DUCT MOUNTED SMOKE DETECTOR TEST SWITCH. PROVIDE SYSTEM SENSOR MODEL APA151 ANNUNCIATOR WITH PIEZO ALERT OR EQUIVALENT AND SYSTEM SENSOR MODEL RTS151 KEY TEST SWITCH OR EQUIVALENT. ACTIVATION OF A DUCT SMOKE DETECTOR SHALL INITIATE A VISIBLE AND AUDIBLE SUPERVISORY SIGNAL AT A CONSTANTLY ATTENDED LOCATION. REFER TO MECHANICAL PLANS FOR ADDITIONAL INFORMATION. COORDINATE FINAL LOCATION WITH

OWNER PRIOR TO INSTALLATION





-20 2 GFCI WP WR			
		ROOF POV	VER PLAN

### ELECTRICAL GENERAL NOTES:

 ALL POWER CONNECTIONS TO FURNITURE (IF APPLICABLE) ARE TO BE BY THE ELECTRICAL CONTRACTOR. FINAL DATA/COMMUNICATION CABLING AND CONNECTIONS ARE TO BE BY OTHERS. COORDINATE EXACT LOCATIONS AND CONNECTION REQUIREMENTS WITH THE FURNITURE SUPPLIER/INSTALLER PRIOR TO ROUGH-IN.

### $\langle \# \rangle$ ELECTRICAL KEYNOTES:

EXISTING ROOFTOP UNIT TO BE REMOVED AND REPLACED WITH VRF UNIT. PROVIDE POWER AND DISCONNECTING MEANS TO NEW VRF UNIT AS SHOWN. VERIFY EXISTING CONNECTION IN FIELD AND REMOVE ASSOCIATED WIRING AND CONDUIT FROM EXISTING UNIT BEING REMOVED BACK TO POWER SOURCE. COORDINATE FINAL LOCATION AND EXACT REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.

2. PROVIDE WEATHERPROOF, GFI PROTECTED, WEATHER RESISTANT ROOFTOP RECEPTACLE. OUTLET BOX HOODS SHALL BE IDENTIFIED AND LISTED AS EXTRA DUTY PER ARTICLE 406.9(B)(1). ELECTRICAL CONTRACTOR SHALL VERIFY EXISTING EXTERIOR RECEPTACLES IN FIELD AND MAINTAIN AS REQUIRED.

		JP MORGAN CHASE, N.A.	NORTH AVE. (NEW ROCHELLE)	270 NORTH AVE.	NEW ROCHELLE, NY 10804	CHASE OVP#48100R003097
CO	R	E S	TA	Ţ	E	S
46 East Mai Suite 201 Somerville, 908.462.970	in Street NJ 08876	ARCHI	CORE THECTURE ANN NEW ROHRIATE AND			JP TATES SPRCC. YORK
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IS:	SUE	ED F		<b>B</b>		)
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#### PANELBOARD: MDP-BANK (MODIFIED) (EXISTING)

VOLTS/DUASE: 208V/120V/ 2DU 4W/									
SEDVES: CHASE DANK									
LOCATION: BASEMENT ELECTRICAL	ROOM	NA			SURFA	CE			
				10. D					BEAABIDTIAN
CKI DESCRIPTION	VAVPHASE		BKR	Р	PBKR	WRE	VAVPHASE	-	DESCRIPTION
NO.	A B	C NO.	AMP		AMP	NO.	A B	С	
1	•	τ.						,	
3 roof sub-panel for signs	*	•	150	3	3 125		•	•	panel lpb - bank pan
5							•	000000000000000000000000000000000000000	
7							5,262	•	$\frown$
<b>9</b> panel lpn1 - in bank	*	•	100	3	3 60	4	4,334	•	2 PANEL LP
11	* *						•	4,801	
13	•	•					6,136	1	$\frown$
15 panel lpc - bank café	•	•	60	3	3 70	3	<u>6,136</u>	``	$\langle 3 \rangle$ VRV-
17							<b>``</b>	6,136	
SUBTOTAL							11,398 10,470	10,937	SUBTOTAL
TOTAL PHASE A - VA 11,398	LOAD	CONN. VA	DF	l	LOAD		CONN. VA	DF	
AMPS 95	COOLING	21,280	0	F	REFRIG	ERATIO	ON NC	1.00	
TOTAL PHASE B - VA 10,470	HEATING	31,425	1.00	\$	SIGN/DI	SPLAY	[	1.25	
AMPS 87	LIGHTING		1.25	ŀ	KITCHE	N		1.00	
TOTAL PHASE C - VA 10,937	RECEPTACLES	180	1.0/.5	E	EXISTIN	G		1.00	
AMPS 91	MOTORS	200	1.00	Ī	LARGE I	MOTOF	ર	1.25	TOTAL DEMAND ADDED
TOTAL PNLBD - VA 32,805	SUPP HEAT		1.00	3	SHOWV	MNDO	W	1.25	32,805 \
AMPS 91	MISC EQUIP	1,000	1.00	Ī	LTG TR/	ACK		1.00	91
						D			

UPPERCASE LETTERING INDICATES NEW CIRCUIT BREAKER & EQUIPMENT/LOAD LOWERCASE LETTERING INDICATES EXISTING TO REMAIN CIRCUIT BREAKER & EQUIPMENT/LOAD

BUS AMPS: 400A

PANELBOARD: LPN-1 (EXISTING)												
BUS AMPS: 225A SHOWN FOR REFERENCE ONLY												
VOLTS/PHASE: 208Y/120V. 3PH. 4W												
SERVES: CHASE BANK												
LOCATION: BASEMENT MOUNTING: SURFACE												
					D.	. 30 					- 1	DESCRIPTION
CKI DESCRIPTION	VAVPHAS	E	VIRE	BKK	Ρ	Р	BKK	VIRE	^	PHASE		DESCRIPTION
NO.	AB	C	NU.	AWP			AIVIP	NU.	A	В	C	
1 light behind teller + atm lights		1		20	1					<u>،</u>	•	
3 fax + computer + camera		1		20	1	3	60		1		1	sub panel feed for contactor
5 lights behind teller	• •			20	1				•	3		
7 receptacle		•		20	1	1	20			۱.	•	receptacle
9 receptacle	•	N		20	1	1	20		N		N	receptacle
11 receptacle	ч з			20	1	1	20		•	×		bathroom lights
13 receptacle		1		20	1	1	30			•	1	receptacle
15 atm lobby ceiling heater		•		20	2	1	20		•		•	receptacle
17	• *				ſ	1	20		•	x		receptacle
19 plugmold	•	1		20	1	1	20			•	N	lan duplex recep
21 plugmold	•	•		20	1	1	20		•		•	lan duplex recep
23 contactor sw, feed	· ·			20	1	1	20		,	,		receptacle
25 receptacle for phones		1		20	1	1	20			,	4	receptacle
<b>27</b> comp. 3,4,5	•	•		20	1	1	20		4		٩.	receptacle
29 lights				20	1	1	20		,	٠		receptacle
31 comp. 1+2	1	•		20	1	1	15			,	•	navco
33 spare	•	•		20	1	1	20		•		,	lan simplex receptacle
<b>35</b> comp. 6,7,8	, , ,			20	1				``	•		
37	X	•				3	30			,	•	ac compessor
39 atm panel	•	x		60	3				x		·····	
41	•					1	20		1	1		hi hats teller line + exit lights
SUBTOTAL				······				Γ				SUBTOTAL
TOTAL PHASE A - VA	LOAD	CONN. V	A	DF		LOA	Ð	<u> </u>	С	ONN. VA	DF	
AMPS	COOLING			1.00	Ē	REF	RIGE	RATIO	N		1.00	
TOTAL PHASE B - VA	HEATING			0	ľ	SIG	N/DIS	PLAY			1.25	
AMPS	LIGHTING			1.25	~	KIT	CHEN	J			1.00	
TOTAL PHASE C - VA	RECEPTACLES			1.0/.5	~	EXIS	STING	G			1.00	
AMPS	MOTORS	1		1.00		LAR	GE M	OTOR			1.25	TOTAL DEMAND
TOTAL PNLBD - VA	SUPP HEAT			1.00	~	SHO	DWW	INDOW	V		1.25	
AMPS	MISC EQUIP			1.00	m	LTG	TRA	CK			1.00	
											a second of the	

LOWERCASE LETTERING INDICATES EXISTING TO REMAIN CIRCUIT

BUS AMPS: 100A

### LOADCENTER: ATM PANEL (MODIFIED) (EXISTING)

SHOWN FOR REFERENCE ONLY

	MAIN SIZE/TYPE: MLO VOLTS/PHASE: 208Y/120V, 3PH SERVES: CHASE BANK LOCATION: FIRST FLOOR ATM F	, 4W ROOM				M	OUNTI	NG	SL	JRFAC	ε				
	CKT DESCRIPTION			VAVPHASE		WRE	BKR	Ρ	Ρ	BKR	WRE		VA/PHASE		DESCRIPTION
	NO.		A	В	C	NO.	AMP			AMP	NO.	A	В	С	
	1 new 30a server on wall twis	stlock		3	×		30	1	1	20			,	×	atm recept./server recept
$\left( \right)$	3 SPARE		*		•		20	2	1	20		*		*	cash recycler
4	5		•	•					1	20/20		•	٩		atm #3 / atm #2
$\left[ \right]$	7 SPARE			`			20	2	1	20			``	1	atm #4
\ <u>+</u> /	9		•						1	20			annaannaannaannaan	``	surround lobby Its + tele recept.
	11 alarm plugmold		*	<b>`</b>			30	1	1	20		``	X		panel recept. / basys control box
	SUBTOTAL					]									SUBTOTAL
	TOTAL PHASE A - VA		LOAD		CONN. \	/A	DF		LO	AD		C	CONN. VA	DF	
	AMPS		COOLIN	G			1.00		RE	FRIGE	RATIO	NC		1.00	
	TOTAL PHASE B - VA		HEATING	3			0		SIC	SN/DIS	PLAY			1.25	]
	AMPS		LIGHTIN	G			1.25		KIT	CHEN	J			1.00	
	TOTAL PHASE C - VA		RECEPT	ACLES			1.0/.5		EX	STINC	3			1.00	
	AMPS		MOTORS	3			1.00		LA	RGE M	10TOF	R		1.25	TOTAL DEMAND
	TOTAL PNLBD - VA		SUPP H	EAT			1.00		SH	OWN	INDO	W		1.25	
	AMPS		MISC EQ	UIP			1.00		LT(	<b>G TRA</b>	CK			1.00	

LOWERCASE LETTERING INDICATES EXISTING TO REMAIN CIRCUIT

UPPERCASE LETTERING INDICATES EXISTING LOAD/EQUIPMENT REMOVED AND BREAKER MADE SPARE

			DAN			חכ	<u>ьт</u>	DM	1 /1					
BUS AMPS: 60A MAIN SIZE/TYPE: MLO VOLTS/PHASE: 208Y/120V, 3PH, 4W SERVES: CHASE BANK		FAILEDOARD: LFIVI (INEVV) FAULT CURRENT: KAIC RATING TO MATCH OR EXCEED EXISTING EQUIPMENT $2$											EQUIPMENT GROUND BUS	
LOCA	TION: BASEMENT			MO	UNTIN	IG:	REC	ESS	ED					
CKT NO.	DESCRIPTION	VA/PH A E	HASE 3 C	MRE NO.	BKR AMP	Ρ	P E	3KR AMP	WRE NO.	A	VA/PHASE B	C	DESCRIPTION	CKT NO.
1 3	DH-1	3,333	33	8	35	3	2	15	12	354	354	•	FCU-2	2 4
5 7	FCU-1	187	3,333	12	15	2	2	15	12	, 354	*	354	FCU-4	6 8
9 11	FCU-3		37 <u>`</u> 354	12	15	2	2	15	12		73	, 73	HRU-1	10 12
13 15	FCU-5	354	37	12	15	2	1	15 15	12 12	500	200	,	DUCT SMOKE DETECTORS SF-1	14 16
17 19	SPACE		187			1	1	15 20	12 12	180	• •	500	CONDENSATE PUMPS ROOFTOP CONV. RECEPT	18 20
21 23	SPACE SPACE		,			1	1			•	•		SPACE SPACE	22 24
	SUBTOTAL	3,874 3,7	07 3,874	]						1,388	627	927	SUBTOTAL	
	TOTAL PHASE A - VA 5,262 AMPS 44	LOAD COOLING	CONN. \ 2,872	VA	DF 0	-	LOA REF	D RIGE	RATIO	C DN	ONN. VA	DF 1.00		
	TOTAL PHASE B - VA 4,334 AMPS 36	HEATING	13,017	'	1.00		SIGN	V/DIS	PLAY			1.25 1.00		
	TOTAL PHASE C - VA 4,801	RECEPTACLE	ES 180		1.0/.5		EXIS					1.00		1
	TOTAL PNLBD - VA 14,397	SUPP HEAT	200		1.00		SHO	WW	INDO	W		1.25	14,397 VA	
	AMPS 40	MISC EQUIP	1,000		1.00		LTG	TRA	CK			1.00	40 A	



	JP MORGAN CHASE () NORTH AVE. (NEW ROCHELLE) DORTH AVE. (NEW ROCHELLE) DORTH AVE. (NEW ROCHELLE) DIASE OVP#48100R003097 CHASE OVP#48100R003097
ELECTRICAL GENERAL NOTES:	A East Main Street Suite 201 Soute 201 Core-states.com Backet Suite 201 Core-states.com Backet Suite 201 Core-states.com Backet Suite 201 Core-states.com Backet Ba
<ul> <li>130.5(c) VOLTAGE DROP: THE MAXIMUM COMBINED VOLTAGE DROP ON BOTH INSTALLED FEEDER CONDUCTORS AND BRANCH CIRCUIT CONDUCTORS TO THE FARTHEST CONNECTED LOAD OR OUTLET SHALL NOT EXCEED 5 PERCENT.</li> <li>FOR ALL DEMOLITION ON PANELS SCOPE OF WORK, CONTRACTOR SHALL PROVIDE NEW CONDUIT AND WIRING AS REQUIRED.</li> <li>ALL EQUIPMENT SHOWN WITH LIGHTER/DASHED LINEWEIGHT IS EXISTING TO REMAIN. EQUIPMENT SHOWN WITH SOLID/DARKER LINEWEIGHT IS NEW.</li> <li><b># ELECTRICAL KEYNOTES:</b> <ul> <li>AS PER NEC 408.4, PROVIDE REQUIRED FIELD IDENTIFICATION. ALL SWITCHBOARDS, SWITCHGEAR, AND PANELBOARDS SHALL BE PERMANENTLY MARKED TO INDICATE EACH DEVICE OR EQUIPMENT WHERE THE POWER ORIGINATES. THE LABEL SHALL BE PERMANENTLY AFFIXED, OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED, AND NOT HANDWRITTEN.</li> </ul> </li> <li>ELECTRICAL CONTRACTOR SHALL REMOVE EXISTING 20A/3P BREAKER IN PANEL "MDP" FEEDING EXISTING BASEMENT AIR HANDLER BEING REMOVED AND REPLACE WITH NEW 60A/3P CIRCUIT BREAKER TO FFED NEW PANEI BOARD "I'PM" WITHIN CHASE BANK SPACE. VERIEY FXISTING FEED IN</li> </ul>	ISSUED FOR BID
<ul> <li>FIELD AND REMOVE ALL CORRESPONDING CONDUIT AND WIRING NO LONGER IN USE. PROVIDE NEW CONDUIT AND WIRING TO FEED NEW PANEL "LPM" AS REQUIRED. COORDINATE FINAL LOCATION OF NEW PANEL "LPM" WITH OWNER AS REQUIRED.</li> <li>ELECTRICAL CONTRACTOR SHALL REMOVE EXISTING 125A/3P BREAKER IN PANEL "MDP" FEEDING EXISTING ROOFTOP A/C UNIT AND REPLACE WITH NEW 70A/3P CIRCUIT BREAKER TO FEED NEW ROOFTOP VRF UNIT. VERIFY EXISTING FEED IN FIELD AND REMOVE ANY ASSOCIATED CONDUIT AND WIRING NO LONGER IN USE. PROVIDE NEW CONDUIT AND WIRING TO FEED NEW UNIT AS</li> </ul>	THESE DRAWINGS ARE NOT COMPLETE WITHOUT THE SEPARATE TYPE WRITTEN SPECIFICATIONS MANUAL WHICH ARE PART OF THE CONTRACT DOCUMENTS.
4.       CIRCUIT BREAKERS FOR EQUIPMENT BEING REMOVED PER SCOPE OF WORK TO BE MADE "SPARE". ELECTRICAL CONTRACTOR SHALL VERIFY ALL EXISTING FEEDS FOR EQUIPMENT BEING REMOVED PRIOR TO DEMOLITION AND REMOVE ALL CONDUIT AND WIRING BACK TO SOURCE AS REQUIRED.         5.       ELECTRICAL CONTRACTOR TO VERIFY GEC MEETS NEC AND LOCAL CODE REQUIREMENTS.	ISSUE DATE DESCRIPTION 2023.09.08 PERMIT SET 2024.03.01 BID SET
	PROJECT INFORMATION         PROJECT NO:         JPM.36475.BAU         DATE:         AS NOTED         PROTOTYPE:         20.5         DRAWN BY:         D. MULVANEY         CHECKED BY:         C. SACCO         VERSION:         DE_1.00
	POWER DETAILS AND SCHEDULES
	SHEET NUMBER