

DIFFUSER, REGISTER AND GRILLE SCHEDULE								
MARK	DESCRIPTION	MANUFAC	MODEL #	MATERIAL	FRAME	FACE	DAMPER	FINISH
CD-1	CEILING DIFFUSER	TITUS	TDC	STEEL	SURFACE	SQUARE BLADE	DBD	WHITE
SR-1	SPIRAL DUCT GRILLE	TITUS	S300FL	ALUM	SURFACE	DBL DEFLECT	DBD	MILL
SR-2	SUPPLY REGISTER	TITUS	300RS	STEEL	SURFACE	DBL DEFLECT	DBD	WHITE
RG-1	RETURN GRILLE	TITUS	350RL	STEEL	SURFACE	BAR TYPE	ND	WHITE
ADD ALTERNATE:								
SR-2	4-WAY SUPPLY REGISTER	RUSKIN	SOD-24	ALUM	DUCT	DBL DEFLECT	DBD	MILL
NOTES: 1) ALL BLOW PATTERN ARE FOUR WAY UNLESS NOTED OTHERWISE. 2) CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR COORDINATION OF ALL CEILING FRAMES. 3) COORDINATE PAINTING OF AIR DISTRIBUTION WITH ARCHITECT AND GENERAL CONTRACTOR.								

OUTSIDE AIR CALCULATION

PER 2024 I.M.C. SECTION 409.3 AND TABLE 409.3.1

RETAIL AREA:

R_p = 7.5 CFM/PERSON
P_z = 15 PEOPLE/1000 SQ. FT. = 53 PEOPLE
R_a = 0.12 CFM/SQ. FT.
A_z = 3490 SQ. FT.
V = RP x PZ + RA x AZ = 816.3 CFM OSA
E_z = 0.8
816.3 / 0.8 (ZONE EFFECTIVENESS) = 1020 CFM OF OUTSIDE AIR IS REQUIRED.

STORAGE ROOMS (DRY MATERIALS):

R_p = 5 CFM/PERSON
P_z = 2 PEOPLE/1000 SQ. FT. = 1 PEOPLE
R_a = 0.06 CFM/SQ. FT.
A_z = 99 SQ. FT.
V = RP x PZ + RA x AZ = 10.94 CFM OSA
E_z = 0.8
10.94 / 0.8 (ZONE EFFECTIVENESS) = 14 CFM OF OUTSIDE AIR IS REQUIRED.

1034 TOTAL CFM OF OUTSIDE AIR IS REQUIRED.

1050 CFM OF OUTSIDE AIR IS PROVIDED.

SEE SHEET M100 FOR OSA VALUES OF EACH UNIT.

MECHANICAL EQUIPMENT SCHEDULE

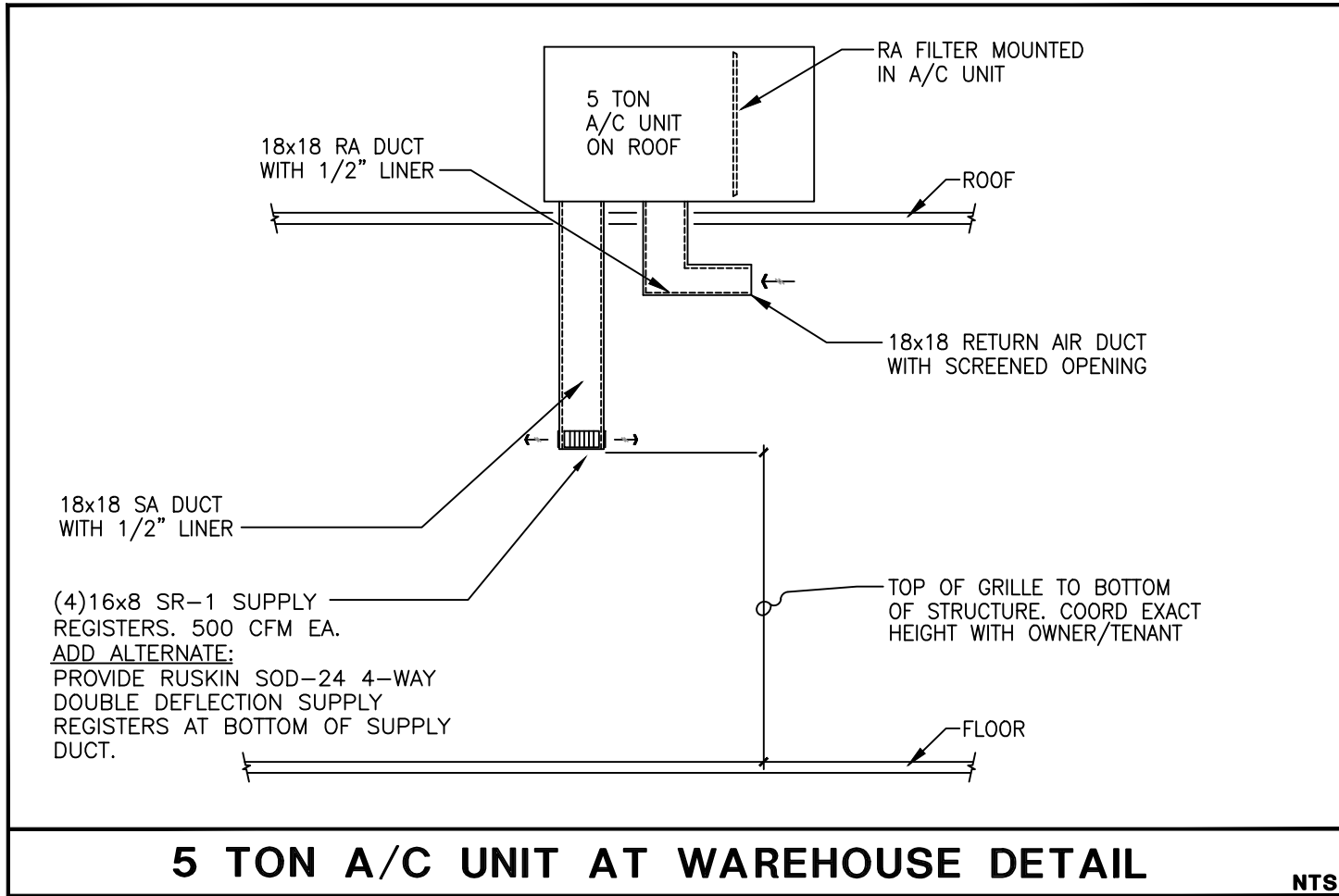
MECHANICAL CONTRACTOR SHALL COORDINATE AMPERAGE, VOLTAGE AND PHASE OF ALL EQUIPMENT WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING ANY EQUIPMENT.

EXHAUST FANS

EF-1 CEILING MOUNTED CENTRIFUGAL/100 CFM @ .25" ESP/0.62 AMP MOTOR/120V SINGLE PHASE/GREENHECK #SP-A125 w/ 6"Ø DUCT & BDD.

EF-2 CEILING MOUNTED CENTRIFUGAL/200 CFM @ .25" ESP/0.43 AMP MOTOR/120V SINGLE PHASE/GREENHECK #SP-A200 w/ 8"Ø DUCT & BDD.

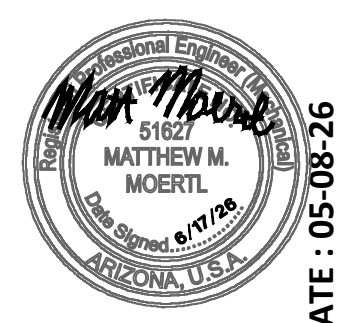
NOTES: 1. EF-1 SHALL BE TIED INTO RESTROOM LIGHTING - COORD. W/ELECTRICAL
2. EF-2 SHALL BE PROVIDED WITH LINE VOLTAGE THERMOSTAT MTD. 48" A.F.F.



MECHANICAL NOTES	
(ALL WORK DONE TO BE IN COMPLIANCE WITH 2024 INTERNATIONAL MECHANICAL CODE, 2024 IECC AND LOCAL AMENDMENTS).	
GENERAL 1) SUITE IS IN EXISTING SINGLE STORY BUILDING. 2) FURNISH ALL LABOR, MATERIALS, TOOLS EQUIPMENT, FEES, PERMITS, CERTIFICATE OF INSPECTION, ETC. NECESSARY OR REASONABLY REQUIRED FOR THE COMPLETE INSTALLATION OF ALL AIR CONDITIONING WORK. THE WORK SHALL BE IN STRICT ACCORDANCE WITH THE ASHRAE GUIDE, AND ALL LOCAL AND STATE CODES, ORDINANCES AND REGULATIONS. 3) COORDINATE ALL MECHANICAL WORK WITH ARCHITECT AND OTHER TRADES PRIOR TO WORK. 4) EXHAUST DUCTS MUST TERMINATE 10 FEET HORIZONTALLY FROM OR 3 FEET ABOVE ALL AIR INTAKES. 5) SUBMITTALS SHALL BE PROVIDED FOR ALL MECHANICAL EQUIPMENT. 6) CONTRACTOR SHALL VERIFY SCALE OF DRAWINGS WITH ARCHITECTURAL DRAWINGS BEFORE SUBMITTING ANY BID. 7) MECHANICAL CONTRACTOR SHALL VERIFY AND COORDINATE SIZE AND LOCATION OF ALL EXISTING HVAC EQUIPMENT. EXISTING EQUIPMENT AND DUCTWORK SHALL BE CLEANED AND SERVICED. CONTRACTOR SHALL REPLACE ALL WORK OR DEFECTIVE PARTS AND RETURN ALL EXISTING EQUIPMENT AND REUSED DUCTS TO GOOD WORKING CONDITION. INFORM OWNER/LANDLORD OF MAJOR REPAIRS REQUIRED TO MAKE EXISTING UNITS OPERATIONAL. REMOVE EXISTING DUCT AND HVAC MATERIALS NOT UTILIZED WITH WRITTEN APPROVAL OF THE OWNER/LANDLORD. EXISTING CONDITIONS SHALL BE VERIFIED PRIOR TO SUBMITTING BID. 8) FIELD COORDINATE THAT EXISTING AIR CONDITIONING UNITS ARE EQUIPPED WITH FACTORY FILTER RACKS - IF NONE EXIST, FURNISH AND INSTALL FILTER RACKS.	
EQUIPMENT 1) MECHANICAL CONTRACTOR TO VERIFY AND COORDINATE AVAILABLE VOLTAGE WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT. 2) ALL NEW MECHANICAL EQUIPMENT LOCATION TO COMPLY WITH THE 2024 I. M. C. 3) SET A/C UNITS TO OUTSIDE AIR QUANTITIES AS SPECIFIED ON FLOOR PLAN. 4) ALL NEW HVAC EQUIPMENT (A/C UNITS, EXHAUST FANS, ETC.) SHALL BE U.L. LISTED. 5) CONTRACTOR SHALL MOUNT ALL MECHANICAL EQUIPMENT LEVEL IN CONFORMANCE WITH MANUFACTURER'S INSTRUCTIONS, MAINTAINING ALL MINIMUM RECOMMENDED CLEARANCES. 6) PROVIDE ONE SET OF FARR 30-30 THROWAWAY FILTERS AND ONE SET OF FINAL FILTERS, FRAMES, MOUNTING HARDWARE AND ACCESSORIES. PROVIDE ONE SET OF THROWAWAY FILTERS FOR USE DURING THE CONSTRUCTION PERIOD. REMOVE THE FIRST SET OF THROWAWAY FILTERS AFTER THE CONSTRUCTION PERIOD AND INSTALL THE SECOND SET OF FINAL FILTERS (PRIOR TO BALANCING THE SYSTEM).	
DUCTWORK 1) PROVIDE SPIN-IN BALANCING DAMPERS AT ALL BRANCH CONNECTIONS. 2) THE MAXIMUM LENGTH OF ANY FLEX DUCT SHALL NOT EXCEED 8 FEET. 3) ALL BRANCH CONNECTIONS SHALL BE A MINIMUM OF 2 FEET AWAY FROM ANY ELBOW. 4) ALL DUCTS SHALL BE GALVANIZED SHEET METAL. ALL NEW DUCTWORK TO BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH ASHRAE GUIDELINES, THE LATEST SMACNA STANDARDS, THE 2024 I.E.C.C. AND CHAPTER 6 OF THE 2024 INTERNATIONAL MECHANICAL CODE FOR LOW PRESSURE DESIGN. 5) ALL FLEX DUCTS SHALL BE THERMAFLEX TYPE KM MIN R-6 VALUE OR APPROVED EQUAL CONFORMING TO UL 181, NFPA 90A AND 90B. 6) MECHANICAL CONTRACTOR SHALL VERIFY THAT ALL DUCTWORK WILL FIT WHERE INDICATED WITHOUT INTERFERENCES. 7) DUCTS SHALL CONFORM TO DIMENSIONS ON THE DRAWINGS UNLESS LOCATION OF STRUCTURAL MEMBERS PROHIBIT. IN CASE OF A CHANGE IN DIMENSIONS, CROSS SECTIONAL AREAS SHALL BE MAINTAINED. 8) ALL DUCTS SHALL BE SUBSTANTIALLY SUPPORTED WITH HANGERS TO THE STRUCTURE. PLACING SUPPORTS NOT OVER 8 FEET APART ALONG THE LENGTH OF THE DUCT. SHEET METAL SHALL BE IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: UP TO 12" WIDTH 26 GAUGE STEEL 13" TO 30" WIDTH 24 GAUGE STEEL 9) EXHAUST DUCTS SHALL BE MINIMUM 26 GAUGE GALVANIZED STEEL - SEE MECH EQUIPMENT SCHEDULE OR FLOOR PLAN FOR SIZE & TERMINATION POINTS. 10) ALL "FACTORY MADE" DUCT MUST BE CLASS "0" OR CLASS "1". 11) PROVIDE FULL RADIUS ELBOWS, TURNING VANES, AND SPLITTER DAMPERS IN BRANCHES AND EXTRACTORS WHERE APPLICABLE. 12) DUCT SIZES SHOWN ARE "CLEAR INSIDE" DIMENSIONS. 13) ALL SUPPLY AND RETURN DUCTS LOCATED IN UNCONDITIONED SPACES SHALL HAVE A MINIMUM OF R-6 INSULATION. 14) ALL JOINTS, LONGITUDINAL AND TRANSVERSE SEAMS AND CONNECTIONS IN DUCTWORK, SHALL BE SECURELY FASTENED AND SEALED WITH WELDS, GASKETS, MASTICS (ADHESIVES), PLU-EMBEDD-FABRIC SYSTEMS OR TAPES. TAPES AND MASTICS USED TO SEAL DUCTWORK SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 181A AND SHALL BE MARKED 181A-FX FOR PRESSURE SENSITIVE TAPE, TAPES AND MASTICS USED TO SEAL FLEXIBLE AIR AIR DUCT AND FLEXIBLE CONNECTORS SHALL COMPLY WITH UL 181B AND SHALL BE MARKED 181B-FX FOR PRESSURE SENSITIVE TAPE OR 181M FOR MASTIC. DUCT CONNECTION TO FLANGES OF AIR DISTRIBUTION SYSTEM EQUIPMENT SHALL BE SEALED AND MECHANICALLY FASTENED. UNLISTED DUCT TAPE IS NOT PERMITTED AS SEALANT ON ANY METAL DUCTS.	
EXPOSED DUCTWORK 1) EXPOSED DUCTS AND FITTINGS SHALL BE ROUND SPIRAL LOCK SEAM GALVANIZED SHEET METAL. 2) DUCTS SHALL BE SINGLE WALL ACoustically LINED FACTORY FABRICATED DUCT AND FACTORY FABRICATED FITTINGS AS MANUFACTURED BY MCGILL AIRFLOW OR APPROVED. 3) ALL DUCTWORK SHALL BE ACoustically LINED THE FULL LENGTH OF THE DUCT, SUPPLY AND RETURN. 4) ALL DIMENSIONS FOR LINED DUCTWORK ARE TO THE INSIDE OF THE LINER. 5) ACoustical DUCT LINER SHALL BE 1 INCH THICK 3 LB DENSITY, EPA REGISTERED ANTIMICROBIAL EROSION-RESISTANT AIR SIDE COATING.	
OUTLETS 1) THE MECHANICAL CONTRACTOR SHALL COORDINATE EXACT DIFFUSER AND GRILLE LOCATIONS WITH ELECTRICAL CONTRACTOR AND ALL OTHER TRADES AND ALSO COORDINATE SPACE AVAILABILITY FOR DUCTWORK ABOVE RECESSED LIGHTING TO AVOID RELOCATING DUCTWORK AT THE MECHANICAL CONTRACTORS EXPENSE.	
CONTROLS 1) THERMOSTATS SHALL BE AUTOMATIC SETBACK TO 55°(HEAT) AND 85°(COOL); 7-DAY PROGRAMMABLE, 2-HOUR OCCUPANT OVERRIDE, 10 HOUR BACKUP. 2) CONTRACTOR AND TENANT TO COORDINATE EXACT T-STAT LOCATIONS. 3) THERMOSTATS ARE EXISTING. RELOCATE AS INDICATED ON FLOOR PLAN.	
PIPING 1) HANGERS AND SUPPORTS: CLEVIS HANGERS ADJUSTABLE HEIGHT, MAXIMUM 10' C., 3/8" ROD UP TO 5' PIPE, 5/8" ROD FOR 6" AND LARGER. WHERE EXTRA HANGER SUPPORTS ARE REQUIRED, THEY SHALL BE PROVIDED BY CONTRACTOR. TRAPZE HANGERS WITH ROLLERS MAY BE USED FOR MULTIPLE LINES OR WHERE SPACE IS LIMITED. 2) DRAINS 1) CONDENSATE DRAINS ARE EXISTING - COORDINATE LOCATION AND TERMINATION.	
INSULATION 1) ALL INSULATION, MATERIAL, COVERINGS, ADHESIVES, VAPOR-BARRIERS AND TAPES SHALL CONFORM TO NFPA 790A, FLAME SPREAD CLASSIFICATION NOT TO EXCEED 25 AND SMOKE DEVELOPMENT NOT TO EXCEED 50. 2) PROVIDE 1/2" LINER IN SUPPLY AND RETURN DUCTWORK OF AIR CONDITIONING SYSTEMS WITHIN 15 FEET OF AHU AND/OR A/C UNIT. 3) INSULATE ALL SHEET METAL DUCTWORK FOR AIR CONDITIONING SYSTEMS WITH A MINIMUM VALUE OF R-6, 3/4 LB. DENSITY EXTERIOR INSULATION, WITH FSK JACKET AND VAPOR BARRIER WITHIN THE BUILDING ENVELOPE AND R-8 OUTSIDE OF BUILDING ENVELOPE.	
TESTING 1) TEST AND BALANCE ALL AIR SYSTEMS PER AABC OR NEBB LATEST STANDARDS. SUBMIT REPORT TO ENGINEER WITHIN 10 DAYS OF COMPLETING TEST AND BALANCE. 2) COPY OF THE AIR BALANCE REPORT SHALL BE PROVIDED TO THE MECHANICAL INSPECTOR FOR FINAL APPROVAL. REPORT SHALL BE SEALED AND WET SIGNED.	



RKAA
ARCHITECTS
2233 EAST THOMAS ROAD, PHOENIX, ARIZONA 85016
602-955-3900
rkaa.com

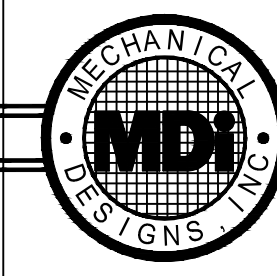


MECHANICAL NOTES & DETAILS

NOTICE OF ALTERNATE BILLING OR PAYMENT CYCLE:
THIS CONTRACT MAY ALLOW THE OWNER TO REQUIRE THE SUBMISSION OF BILLING OR ESTIMATES IN BILLING CYCLES OTHER THAN THIRTY DAYS. THIS CONTRACT MAY ALLOW THE OWNER TO MAKE PAYMENT IN 15 DAY BILLS. ALL BILLS SHALL BE PREPARED, CERTIFICATION AND APPROVAL OF BILLING AND ESTIMATES, A WRITTEN DISCRIPTION OF EACH BILLS BILLING CYCLE APPLICABLE TO THE PROJECT IS AVAILABLE FROM OWNER OR DESIGNATED AGENT.
NAME: _____
ADDRESS: _____
CONTACT: Name _____
PHONE: _____

BROOKLYN BEDDING
PAD 5B - SUITES 101 AND 102 AT PASEO LINDO SHOPPING CENTER
NEC OF ARIZONA AVE AND OCOTILLO RD.
CHANDLER, AZ

COPYRIGHT 2023. ALL RIGHTS RESERVED. THIS DRAWING IS AN INSTRUMENT OF SERVICE. IT IS THE PROPERTY OF RKAA ARCHITECTS, INC. AND MAY NOT BE REPRODUCED OR REPRODUCTION WITHOUT WRITTEN PERMISSION OF THE CORPORATION.



65635 E. Thomas Road Phoenix, AZ 85018
Job No: 21339
Consulting Engineers
Phone (602) 943-6608
Web: MechDesigns.com

design by: MB
drawn by: MB
checked by: JG

M200
project #: 26102.00