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**Building #17**  
Campus Expansion Child  
Day-care Center

899 Old Saw Mill River Road  
Mount Pleasant, NY 10591

Project No. B17-DAYCARE

Architect

**GenSLER**

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MEP / IT / Security Engineer

Cosentini Associates  
498 Seventh Avenue  
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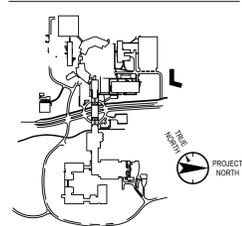
Civil Engineer

JMC  
120 Bedford Road  
Armonk, NY 10504  
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Landscape Architect

Langan  
21 Penn Plaza, 360 West 31st Street, 8th Floor  
New York, NY 10001  
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Key Plan



No.	Date	Description
0	05/20/2022	ISSUED FOR PERMIT
1	06/22/2022	100% CONSTRUCTION DOCUMENTS
2	07/01/2022	100% CONSTRUCTION DOCUMENTS-1

Plot Date: 07/01/2022

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Professional Seal and Signature

Vendor Name: COSENTINI  
Vendor Project No.: 210104  
Discipline: Mechanical Drawn By: BC

**MECHANICAL**  
SYMBOLS,  
ABBREVIATIONS, AND  
DRAWING LIST

Scale: NTS Floor:

**M-000**

**KEY OF SYMBOLS AND ABBREVIATIONS**

NOTE: THE KEY OF SYMBOLS INDICATED IS FOR CONVENIENCE ONLY AND ITEMS INDICATED ARE NOT NECESSARILY WITHIN THE SCOPE OF THE WORK.

FLANGED CONNECTION UNION FITTING VALVED CAPPED OUTLET REDUCER PIPE UP PIPE DN PIPE BOTTOM CONNECTION PIPE TOP CONNECTION PIPE STUB UP FLOW DIRECTION PIPE PITCH UP OR DOWN CONDENSATE DRAIN REFRIGERANT LIQUID LINE REFRIGERANT SUCTION LINE	SQUARE INCHES SQUARE FEET CAPPED OUTLET LEAK DETECTOR SHEET NOTE STATIC PRESSURE  TERMINAL NUMBER CEILING DIFFUSER RETURN GRILLE /REGISTER SUPPLY AIR RETURN/EXHAUST AIR AIR QUANTITY (200 CFM)	THERMOSTAT DUCT MOUNTED SMOKE DETECTOR TEMPERATURE SENSOR CARBON DIOXIDE SENSOR UNDER-CUT DOOR LOUVERED DOOR SEE DETAIL NO. 1 ON DRAWING M-101 SEE SECTION NO. 1 ON DRAWING M-101	AIR CONDITIONING UNIT ACCESS DOOR AUTOMATIC LOUVER DAMPER ABOVE FINISHED FLOOR AIR FLOW MEASURING STATION AIR HANDLING UNIT ACOUSTICAL LINING AUTOMATIC LOUVERED DAMPER ALUMINUM LOUVER AND ALUMINUM WIRE MESH SCREEN ACCESS PANEL BACKDRAFT DAMPER BLIND FLANGE BOTTOM GRILLE BREAK HORSEPOWER BOTTOM GRILLE BLANK OFF BOTTOM REGISTER BOTTOM OF STEEL BRITISH THERMAL UNIT COOLING COIL CEILING DIFFUSER CONDENSATE DRAIN CUBIC FEET PER MINUTE CEILING GRILLE CONDENSING UNIT CABINET UNIT HEATER CAPPED OUTLET CLEAN OUT DOOR CONDENSATE PUMP CEILING REGISTER DOWN DIFFERENTIAL PRESSURE SWITCH ELECTRIC HEATER ENTERING AIR TEMPERATURE EXHAUST FAN FILTER FACE AREA FLEXIBLE CONNECTION	FLOOR DRAIN GENERAL EXHAUST GENERAL EXHAUST FAN VOLUME DAMPER UNLESS OTHERWISE NOTED GALLONS PER MINUTE HEATING COIL HORSEPOWER KILOWATT LEAVING AIR TEMPERATURE LINEAR DIFFUSER LINEAR FEET 1000 BTU PER HOUR NORMALLY CLOSED NET FREE AREA NORMALLY OPEN OUTSIDE AIR OUTSIDE AIR INTAKE OUTLET VELOCITY PRE-HEAT COIL PHASE PRESSURE INDEPENDENT MODULE PLUGGED OUTLET RETURN AIR RETURN FAN RETURN GRILLE RE-HEAT COIL RELATIVE HUMIDITY SPLITTER DAMPER SQUARE SQUARE FEET STATIC PRESSURE SOUND TRAP TRANSFER FAN TOP CONNECTION TOP GRILLE TOP REGISTER TRANSFER OPENING TRANSFER GRILLE UNDERWRITER'S LABORATORY UNIT HEATER VIBRATION ISOLATOR VERIFY IN FIELD WIRE MESH SCREEN
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SHEET NUMBER	SHEET NAME
M-700	MECHANICAL RISER DIAGRAM
M-701	MECHANICAL VRF DIAGRAM SHEET 1
M-702	MECHANICAL VRF DIAGRAM SHEET 2
M-703	MECHANICAL VRF DIAGRAM SHEET 3
M-704	MECHANICAL CONTROL DIAGRAM SHEET 1
M-705	MECHANICAL CONTROL DIAGRAM SHEET 2
E-001	ELECTRICAL SYMBOLS AND DRAWING LIST
E-051	ELECTRICAL SITE PLAN
E-052	ELECTRICAL SITE LIGHTING PLAN
E-100	ELECTRICAL POWER PLAN - 1ST FLOOR
E-110	ELECTRICAL EQUIPMENT POWER PLAN - 1ST FLOOR
E-111	ELECTRICAL EQUIPMENT POWER PLAN - ROOF
E-121	ELECTRICAL LIGHTNING PROTECTION PLAN
E-150	ELECTRICAL LIGHTING PLAN - 1ST FLOOR
E-400	ELECTRICAL ENLARGED VIEWS - SHEET 1
E-500	ELECTRICAL DETAIL SHEET 1
E-501	ELECTRICAL DETAIL SHEET 2

**HVAC GENERAL NOTES:**

- CONTRACTOR, WITH OWNER, SHALL PAY ALL FEES AND OBTAIN ALL PERMITS REQUIRED BY LOCAL AND STATES CODES.
- WHERE PIPING, LIGHTS AND DUCTWORK CONFLICT, DUCTWORK SHALL BE COORDINATED IN THE FIELD TO SUIT CONDITIONS.
- ALL DUCTWORK TO BE KEPT AS HIGH AS POSSIBLE SO AS TO MAINTAIN CEILING HEIGHTS SHOWN ON ARCHITECTURAL DRAWINGS.
- ACCESS IS REQUIRED BELOW ALL DAMPERS, VALVES, AND EQUIPMENT. ACCESS DOORS TO BE PROVIDED IN GYPSUM CEILINGS AS REQUIRED.
- FOR EXACT LOCATION OF CEILING DIFFUSERS AND REGISTERS REFER TO THE ARCHITECTURAL REFLECTED CEILING PLAN.
- FOR EXACT LOCATION AND ARRANGEMENT OF ROOM THERMOSTATS AND EXHAUST FAN SWITCHES, SEE THE ARCHITECT'S DRAWINGS. IF NONE IS SHOWN, THERMOSTAT/SWITCH SHALL BE NEXT TO THE LIGHT SWITCH, MAINTAINING A DISTANCE FROM THE LIGHT SWITCHES.
- DUCT SIZES SHOWN ARE CLEAR INSIDE DIMENSIONS.
- DUCTWORK SHALL BE CONSTRUCTED AND INSTALLED PER LATEST EDITION OF THE SMACNA DUCT CONSTRUCTION STANDARDS.
- MOUNT THERMOSTAT ABOVE FINISHED FLOOR PER ARCHITECT. PROVIDE THERMOSTAT WITH HEAVY GUARDS OR LOCKABLE COVER APPROVED BY ARCH-ENGINEER IN COMMON PUBLIC OR UNSUPERVISED AREA.
- FOR EXACT LOCATION OF THERMOSTATS, GRILLES, AND DIFFUSERS REFER TO ARCHITECT DRAWINGS. ALL GRILLES AND DIFFUSERS PAINTED TO MATCH ADJACENT COLORS. COLORS TO BE APPROVED BY ARCH-ENGINEER.
- ALL SUPPLY, RETURN, EXHAUST AND OUTSIDE AIR DUCTWORK SHALL BE GALV. SHEET METAL UNLESS OTHERWISE SPECIFIED IN THE SPECS OR DWGS. WHERE BRANCH DUCTS ARE SERVING "WET" AREAS, ALUMINUM DUCT MATERIAL SHALL BE PROVIDED.
- ALL STRAP HANGER & SUPPORTS FOR FLEXIBLE DUCTWORK SHALL BE SIZES & INSTALLED IN ACCORDANCE W/SMACNA STANDARDS, BUT NOT LESS THAN 1-1/2" WIDE.
- PROVIDE MINIMUM OF R-6 ON DUCTWORK ABOVE CEILING. ALL FLEXIBLE DUCTWORK SHALL BE ALL METAL CONSTRUCTION CONSISTING OF A CORE STANDARD TRIPLE LOCK METAL FLEXIBLE DUCTING FOR STRENGTH AND AIRTIGHTNESS.
- UNITS OVER 2,000 CFM SHALL HAVE SMOKE DETECTORS ON THE SUPPLY AND RETURN DUCTWORK PER MECHS CODE SECTION 606.2.
- ALL EXTERIOR INSULATED DUCTWORK SHALL HAVE POLYISOCYANURATE BOARD WITH EPDM COVER ON DUCTWORK.
- PROVIDE VOLUME DAMPERS IN LOW PRESSURE DUCTWORK FOR ALL SUPPLY, RETURN, AND EXHAUST OUTLETS. PROVIDE VOLUME DAMPERS (VD) AT EVERY DUCTWORK BRANCH, TAP AND SPLIT. DO NOT INSTALL VOLUME DAMPERS ON MEDIUM PRESSURE DUCTWORK.
- PROVIDE ACCESS DOORS IN DUCTWORK WHERE INDICATED OR REQUIRED FOR ACCESS TO SYSTEM COMPONENTS INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:
  - AUTOMATIC DAMPERS
- PROVIDE INSULATED CONDENSATE DRAIN TO NEAREST FLOOR DRAIN FOR ALL AC UNITS. PROVIDE CONDENSATE PUMP WITH A MIN.CAPACITY OF 2070H@200GPH, 115/1/60, 67 FLUID IN. RESERVOIR, COMPLETE VALVE PACKAGE AND ACCESSORIES IF THE CONDENSATE CAN NOT BE DRAINED BY GRAVITY.
- ALL MOTOR STARTERS LOCATED OUTDOORS OR EXPOSED TO WET OR DAMP CONDITIONS SHALL BE NEMA TYPE 4.
- ALL COILS AND FILTERS SHALL BE INSTALLED ON TRACKS FOR EASY REMOVAL. INSTALLATIONS THAT REQUIRE DISASSEMBLY OF THE UNIT OR FLENUM FOR COIL REMOVAL ARE NOT ACCEPTABLE.

**COMMISSIONING NOTES**

OWNER SHALL ENGAGE A REGISTERED DESIGN PROFESSIONAL OR APPROVED AGENCY TO PROVIDE COMMISSIONING SERVICES IN COMPLIANCE WITH 2020 EECNYS. THE SPECIFICATIONS SHALL BE PROVIDED BY A COMMISSIONING AGENT TO BE SUBMITTED WITH DESIGN DOCUMENTS FOR BID.

SYSTEMS AND ASSOCIATED CONTROLS TO BE COMMISSIONED:

- HEATING, COOLING, AIR HANDLING AND DISTRIBUTION, VENTILATION, EXHAUST SYSTEMS, AND THEIR RELATED AIR QUALITY MONITORING SYSTEMS.
- AIR, WATER, AND OTHER ENERGY RECOVERY SYSTEMS.
- MANUAL OR AUTOMATIC CONTROLS, WHETHER LOCAL OR REMOTE, ON ENERGY USING SYSTEMS INCLUDING BUT NOT LIMITED TO TEMPERATURE CONTROLS, SETBACK SEQUENCES, AND OCCUPANCY BASED CONTROL, INCLUDING ENERGY MANAGEMENT FUNCTIONS OF THE BUILDING MANAGEMENT SYSTEM.
- PLUMBING, INCLUDING INSULATION OF PIPING AND ASSOCIATED VALVES, DOMESTIC AND PROCESS WATER PUMPING, AND MIXING SYSTEMS.
- MECHANICAL HEATING SYSTEMS AND SERVICE WATER HEATING SYSTEMS.
- REFRIGERATION SYSTEMS.
- RENEWABLE ENERGY AND ENERGY STORAGE SYSTEMS.
- OTHER SYSTEMS, EQUIPMENT AND COMPONENTS THAT ARE USED FOR HEATING, COOLING OR VENTILATION AND THAT AFFECT ENERGY USE.

COMMISSIONING PLAN SHALL FOLLOW ALL NECESSARY STEPS AS PER 2020 EECNYS.

TRAINING AND MANUALS:

UPON COMPLETION OF THE JOB, ALL APPLICABLE OPERATING AND SPECIFICATION MANUALS TO BE DELIVERED TO THE BUILDING STAFF. CONTRACTOR SHALL PROVIDE TRAINING FOR THE BUILDING MAINTENANCE STAFF TO ASSURE THAT THE SYSTEM IS MAINTAINED AND OPERATED PROPERLY.

**ENERGY CODE NOTES**

1. THE MAXIMUM AIR LEAKAGE RATE FOR ALL TYPES OF FENESTRATION ASSEMBLIES AND THEIR TEST PROCEDURE, FROM AN INDEPENDENT AND ACCREDITED LABORATORY, SHALL FOLLOW SECTION C402.5.2 AND TABLE 402.5.2 OF THE EECNYS.

TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2020 ENERGY CONSERVATION CODE OF NYS

This plan is approved only for work indicated on the application specification sheet. All other matters shown are not to be relied upon, or to be considered as either being approved or in accordance with applicable codes.

Alterations or additions to this engineering document by an unlicensed person is a violation of Chapter 16, Title VIII, Article 145 § 7209.2 of the New York State Education Law.