ELECTRICAL GENERAL NOTES:

I. GENERAL REQUIREMENTS

. GENERAL CONDITIONS: ALL CONDITIONS AND REQUIREMENTS UNDER THE GENERAL CONDITIONS", THE "SUPPLEMENTARY GENERAL CONDITIONS", THE "SPECIAL CONDITIONS" SHALL BECOME A PART OF THIS SPECIFICATION. AND BIDDERS WILL EXAMINE ALL DRAWINGS AND READ ALL PARTS OF THE SPECIFICATIONS TO AVOID OMISSIONS, DUPLICATIONS AND TO INSURE COMPLETE EXECUTION OF ALL WORK FOR ELECTRICAL.

2. GENERAL: THE WORK UNDER THIS SECTION SHALL INCLUDE ALL LABOR, MATERIALS AND EQUIPMENT AND INCIDENTAL COSTS NECESSARY TO FURNISH AND INSTALL ALL ELECTRICAL WORK, EQUIPMENT, LAMPS, ETC. INDICATED ON THE DRAWINGS, AS SPECIFIED HEREIN, OR BOTH.

3. THE GENERAL CONTRACTOR AND/OR HIS ELECTRICAL SUBCONTRACTOR IS TO VERIFY ALL EQUIPMENT SPECIFICATIONS AND REQUIREMENTS WITH THE OWNER OR THE OWNER'S CONSTRUCTION REPRESENTATIVE PRIOR TO START OF CONSTRUCTION. THIS CONTRACTOR TO VERIFY AMPERAGE AND VOLTAGE SPECIFICATIONS AND REQUIREMENTS (SERVICE AND PANEL SPECIFICATION) WITH THE ELECTRICAL SUBCONTRACTOR IN COORDINATION WITH EQUIPMENT SPECIFICATIONS FOR EQUIPMENT SUPPLIED BY THE OWNER, THE CONTRACTORS OR OTHER SOURCES (AS SPECIFIED BY THE ARCHITECT) AS A DOUBLE CHECK TO ASCERTAIN PROPER INSTALLATION OF EQUIPMENT AT THE CORRECT VOLTAGE/AMPERAGE.

4. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR OBTAINING APPROVAL FROM THE BUILDING AND ELECTRICAL INSPECTORS FOR ALL CONCEALED WORK PRIOR TO CLOSING UP WALLS, FLOORS AND CEILINGS.

5. GENERAL CONTRACTOR SHALL BRING IN ALL ADDITIONAL SERVICES, ADEQUATE FOR OWNER'S NEEDS AS REQUIRED, INCLUDING BUT NOT LIMITED TO ELECTRIC. SPRINKLER, SOIL (WASTE), DOMESTIC WATER LINES, OUTSIDE TOILET EXHAUST AIR AND FIRE ALARM.

6. SCOPE: FURNISH LABOR, MATERIALS, TOOLS, EQUIPMENT, ETC., REQUIRED FOR A COMPLETE INSTALLATION OF ELECTRICAL SYSTEMS AND WORK, IN ACCORDANCE WITH LOCAL CODES AND GOVERNING BODIES HAVING JURISDICTION, AS SHOWN ON DRAWINGS. AND AS SPECIFIED. INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

A. EXISTING SERVICE -- CONTRACTOR IS TO REUSE EXISTING ELECTRICAL SERVICE WIRE, CONDUIT AND ELECTRICAL EQUIPMENT; CUT AND EXTEND TO POINT OF NEW ELECTRICAL EQUIPMENT. ALL EXISTING ELECTRICAL EQUIPMENT WHICH IS REUSED TO BE BROUGHT UP TO "LIKE NEW" CONDITION AND THE LATEST N.E.C. STANDARD. SINCE SPACE MAY OR MAY NOT BE MEASURED OR REVIEWED BY OWNER'S ARCHITECT, THE ACTUAL LOCATION OF SERVICE AND PANEL LOCATIONS MAY NOT BE KNOWN. THE ELECTRICAL SUBCONTRACTOR. IN REVIEW OF THE PREMISES IS REQUIRED TO INSTALL PANELS IN LOCATION AS NOTED ON DRAWINGS AND MUST INCLUDE IN HIS BID ANY EXTENSION OF CONDUIT AND WIRE, NEW DISCONNECTS, RELOCATION OR INSTALLATION OF PANELS, TROUGHS, WIREWAYS, ETC. TO MAKE SYSTEM WHOLE AND TO UPGRADE AS NECESSARY TO MEET CODE REQUIREMENTS INSTALL NEW SERVICE INCLUDING CONDUIT AND WIRE FROM DEMISED PREMISES TO OWNER'S ELECTRICAL ROOM IF THE EXISTING SERVICE NEEDS TO BE UPGRADED FROM WHAT OWNER WAS ORIGINALLY TOLD SERVICE WOULD BE. OR THE SERVICE NEEDS TO BE MOVED BECAUSE IT'S EITHER SHOWN TO BE MOVED OR IS EXISTING NOW IN THE PATH OF FUTURE PARTITION OR OTHER SERVICES. IF SERVICE IS ADEQUATE BUT MUST BE RELOCATED, CUT AND EXTEND EXISTING WIRE AND CONDUIT TO POINT OF ALL NEW PANELS, DISCONNECTS, TROUGHS, TIME CLOCKS, ETC.

B. POWER DISTRIBUTION SYSTEMS.

C. LIGHTING SYSTEMS (ALSO SEE REFLECTED CEILING PLAN). D. ELECTRICAL ENERGIZING - MISCELLANEOUS FAN AND MOTOR.

E MOTOR POWER WIRING SYSTEM.

F. TELEPHONE EMPTY CONDUIT SYSTEM (INCLUDING TERMINAL BOXES AND OUTLETS). G. CONVENIENCE RECEPTACLE SYSTEM, DOOR ALARM / ENTRY SYSTEM / SECURITY. H. EMERGENCY LIGHT SYSTEM AND BATTERIES FURNISHED AND INSTALLED BY THIS CONTRACTOR.

I. GROUNDING IN ACCORDANCE WITH NATIONAL ELECTRIC CODE AND ALL MALL

J. NIGHT LIGHT CIRCUITING THROUGHOUT PREMISES AS PER CODE WHETHER SHOWN OR NOT ON DRAWINGS.

K. LOCK OUTS FOR EXIT / EMERGENCY LIGHTING, ALARM SYSTEMS, GRILLE AT ENTRY (IF APPLICABLE) AS REQUIRED. SEE PANEL SCHEDULE FOR CIRCUITS.

L. SMOKE DETECTORS FURNISHED AND INSTALLED TO INCLUDE LOCATIONS AND INTERNAL / EXTERNAL WIRING IF REQUIRED BY OWNER OR FIRE MARSHAL.

M. ELECTRICAL SUBCONTRACTOR, WHEN BIDDING THIS WORK, TO CHECK TO MAKE SURE THAT SERVICE WIRE, CONDUIT, DISCONNECTS, ETC., ARE ADEQUATE FOR OWNER'S NEEDS -- IF ADDITIONAL SERVICE IS REQUIRED. INCLUDE NEW CONDUIT AND SERVICE FEED OR DISCONNECTS, METER BASE AND METER (IF APPLICABLE), ETC., TO BRING SUCH SERVICE UP TO OWNER'S NEEDS.

N. FURNISH AND INSTALL ALL CONDUIT AND WIRING, DISCONNECTS, BREAKERS BALANCING OF LOADS, ETC. FOR HOOKUP OF ALL H.V.A.C. EQUIPMENT, UNIT(S), OR INLINE HEATERS WHETHER SUCH HEATERS OR EQUIPMENT / UNITS ARE SHOWN OR

O. ALL ELECTRICAL ROUGH-IN TO BE NEW AND THE ORIGINAL SERVICES TO THE DEMISED PREMISES TO BE REUSED; CUT AND EXTEND TO POINT OF ALL NEW ELECTRICAL EQUIPMENT (IF ANY EQUIPMENT IS REUSED, UPGRADE SAME TO "LIKE NEW" CONDITION AND THE LATEST N.E.C. STANDARDS) BY THE OWNER'S CONTRACTOR UNLESS NOTED OTHERWISE ON DRAWINGS. OWNER'S GENERAL CONTRACTOR TO FIELD VERIFY THAT ALL UTILITY LINES ARE AT OR ADJACENT TO OWNER'S SPACE AS NOTED AND AT THE SIZE SPECIFIED. IF THE UTILITIES ARE NOT IN LOCATIONS AS NOTED ON THE DRAWINGS OR OF A SIZE LARGER OR SMALLER THAN NOTED, THIS CONTRACTOR IS TO NOTIFY THE OWNER'S ARCHITECT IMMEDIATELY. P. THE ELECTRICAL SUBCONTRACTOR IS TO PROVIDE A NEW CIRCUIT DIRECTORY(S)

WITH PROPER PHASING AND BALANCING, WHICH IS TO CONFORM TO THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND UNDERWRITER'S CODE. 7. THE GENERAL CONTRACTOR AND / OR ELECTRICAL SUBCONTRACTOR IS TO INSTALL

EMERGENCY AND EXIT LIGHTING, AS REQUIRED BY LOCAL CODE OR AGENCIES HAVING JURISDICTION OVER THE PROJECT. THE EXIT / EMERGENCY LIGHTING SHOULD BE PROPERLY LABELED AND APPROVED TYPE LOCKOUTS INSTALLED.

8. SUBSTITUTIONS: CATALOG AND MANUFACTURER'S NUMBERS IN THIS SECTION AND ON THE DRAWINGS ARE FOR THE PURPOSE OF ESTABLISHING STANDARDS OF QUALITY AND TYPE OF MATERIALS TO BE USED. PRODUCTS OR OTHER MANUFACTURERS MAY BE USED IF SIMILAR AND EQUAL IN QUALITY AND DESIGN IN THE OPINION OF THE OWNER OR OWNER'S ARCHITECT AND ARE SPECIFICALLY APPROVED BY THE OWNER OR OWNER'S ARCHITECT. IN WRITING, PRIOR TO CLOSE OF BIDDING. REQUESTS FOR APPROVAL OF SUBSTITUTIONS SHALL BE IN WRITING, AND SHALL INCLUDE REPORTS OF TESTS, PERFORMANCE DATA OR OTHER PROOF OF EQUALITY TO THE ITEM SPECIFIED.

9. SHOP DRAWINGS: PRIOR TO THE COMMENCEMENT OF WORK, SUBMIT ONE (1) SET OF THE FOLLOWING ITEMS TO THE OWNER'S ARCHITECT IN THE FORM OF SHOP DRAWINGS, DETAILS OR CATALOG CUTS FOR THE RECORD: LIGHTING AND POWER PANELS, WIRING DEVICES, SAFETY SWITCHES, TRANSFORMER, TIME CLOCKS AND ANY OTHER ITEMS AS REQUESTED BY THE OWNER OR THE OWNER'S ARCHITECT. 10. WORKMANSHIP:

A. USE EXPERIENCED, WELL QUALIFIED CRAFTSMEN, IN GOOD STANDING WITH THEIR RESPECTIVE LABOR UNIONS.

B. USE CAPABLE AND EXPERIENCED SUPERINTENDENTS, AUTHORIZED BY THE CONTRACTOR TO INSTRUCT WORK MAKE JOB DECISIONS AND ACT FOR THE CONTRACTOR IN ALL MATTERS PERTAINING TO THE CONTRACT.

11. PERMITS, TESTS AND INSPECTIONS:

A. APPLY FOR, SECURE AND PAY FOR ALL REQUIRED PERMITS, FEES, LICENSES AND ROYALTIES TO ACCOMPLISH THE WORK.

B. APPLY FOR, SECURE AND PAY FOR ALL REQUIRED TESTS AND INSPECTIONS TO ACCOMPLISH THE WORK IN CONFORMANCE WITH ALL CODES AND JURISDICTIONS. C. FURNISH SIGNED CERTIFIED AND ACCEPTABLE COPIES OF ALL ITEMS COVERED IN (A) AND (B) ABOVE TO THE OWNER FOR HIS RECORDS.

D. COMPLY WITH RULES AND REGULATIONS OF JURISDICTIONAL AUTHORITIES AND MALL OR LEASE SPECIFICATIONS (IF APPLICABLE) AND REPORT ANY DEVIATIONS ON DRAWINGS TO OWNER.

12. CODES, RULES AND REGULATION: INCLUDE IN ELECTRICAL BID ANY ADDITIONAL MATERIALS AND LABOR THAT MAY BE REQUIRED FOR COMPLIANCE WITH ALL GOVERNING LAWS, RULES AND REGULATIONS, EVEN THOUGH THE WORK IS NOT MENTIONED IN THESE SPECIFICATIONS OR SHOWN ON THE DRAWINGS. NOTHING IN THE PLANS OR SPECIFICATIONS SHALL BE DEEMED AS AUTHORITY TO VIOLATE ANY GOVERNING CODE.

13. ACCURACY OF DATA:

A. THE DATA GIVEN HEREIN AND ON THE DRAWINGS ARE AS EXACT AS COULD BE SECURED, BUT THEIR ABSOLUTE ACCURACY IS NOT GUARANTEED. THE SPECIFICATIONS AND DRAWINGS ARE FOR THE ASSISTANCE AND GUIDANCE OF THE CONTRACTOR. EXACT LOCATIONS, DISTANCES, LEVELS, ETC., WILL BE GOVERNED BY THE BUILDING AND THE CONTRACTOR SHALL USE THE DATA CONTAINED HEREIN WITH THIS UNDERSTANDING.

B. THE EXACT LOCATION OF EACH AND EVERY OUTLET OF EACH WIRING SYSTEM, NOT DIMENSIONED ON THE DRAWINGS, SHALL BE AS DIRECTED BY THE OWNER, THE OWNER'S ARCHITECT OR HIS SELECTED REPRESENTATIVE.

14. CLEANUP: REMOVE ALL SURPLUS MATERIAL, EQUIPMENT AND DEBRIS INCIDENTAL TO THIS WORK AND LEAVE THE PREMISES IN A CONDITION ACCEPTABLE TO THE

15. GUARANTEE: FURNISH A WRITTEN CERTIFIED GUARANTEE, IN ACCEPTABLE FORM TO THE OWNER, AGAINST ANY DEFECTIVE WORKMANSHIP, MATERIAL AND OPERATING EQUIPMENT. THIS GUARANTEE SHALL BE IN FULL FORCE AND EFFECTIVE FOR A PERIOD OF ONE (1) YEAR AFTER ACCEPTANCE OF THE INSTALLATION

16. <u>STRUCTURAL CONDITIONS:</u> NOTCHING AND BORING OF STRUCTURAL MEMBERS WILL NOT BE PERMITTED. IF CONDUIT, BOXES, ETC. NEED TO BE HUNG FROM STRUCTURAL STEEL. ONLY HANG FROM TOP FLANGE OF BEAMS AND TOP CHORDS AND ONLY AT PANEL POINTS OF JOISTS / TRUSSES.

18. COOPERATION WITH OTHER CONTRACTORS: THIS CONTRACTOR SHALL COOPERATE WITH ALL OTHER CONTRACTORS FURNISHING LABOR MATERIALS AND ALL WORK, SO THAT THE WORK AS A WHOLE SHALL BE EXECUTED AND COMPLETED WITHOUT CONFLICT OR DELAY. IN THE EVENT OF ANY MECHANICAL OBSTRUCTION, AS PLUMBING OR AIR CONDITIONING DUCTS IN WAY OF ELECTRICAL EQUIPMENT, IT IS THE RESPONSIBILITY OF THIS CONTRACTOR TO NOTIFY THE OWNER'S ARCHITECT BEFORE COMMENCING ANY WORK.

II. BASIC MATERIALS AND METHODS

1. RACEWAYS AND BOXES

A. WHERE SIZES OF RACEWAY OR BOXES ARE NOT INDICATED, THE CONTRACTOR SHALL SIZE THESE ITEMS AS REQUIRED FOR THE INSTALLATION.

B. FLEXIBLE METAL CONDUIT AS ALLOWABLE BY CODE SHALL BE USED FOR FINAL CONNECTION OF LIGHTING FIXTURES AND WIRING DEVICES TO BE INSTALLED IN HUNG

C. WORK INSTALLED IN METAL PARTITIONS SHALL BE RUN IN CONCEALED ELECTRIC METALLIC TUBING OR FLEXIBLE CONDUIT AS REQUIRED BY GOVERNING CODE AND

D. BRANCH CIRCUIT WORK CHASED INTO EXISTING CONSTRUCTION FOR CONCEALMENT UNDER PATCHED FINISHES, MAY BE INSTALLED IN RIGID CONDUIT, OR

E. CONDUITS THAT RUN EXPOSED ON EXTERIOR OF BUILDING SHALL BE RIGID CONDUIT WITH WEATHER TIGHT, CORROSION RESISTANT FITTINGS.

F. FLEXIBLE STEEL CONDUITS SHALL BE USED IN MAKING UP SHORT, FLEXIBLE CONNECTIONS TO ROTATING OR VIBRATING MACHINERY, MINIMUM 12" LENGTH AND FOR CONNECTIONS BETWEEN JUNCTION BOXES IN HUNG OR FURRED CEILING

G. ALL INTERIOR FEEDERS OR EXPOSED FEEDERS TO THE PUBLIC'S EYE, SHALL BE INSTALLED IN RIGID CONDUIT OR EMT. H. MINIMUM SIZE CONDUIT SHALL BE 3/4" TRADE SIZE UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

I. ALL WORK RUN IN UNEXCAVATED AREAS, CRAWL SPACES, TUNNELS, OR UNDERGROUND SHALL BE INSTALLED IN RIGID CONDUIT.

J. ALL WORK RUN EXPOSED WITHIN THE BUILDING MAY BE INSTALLED IN RIGID STEEL CONDUIT OR ELECTRICAL METALLIC TUBING. K. ALL WORK RUN CONCEALED WITHIN HUNG OR FURRED CEILINGS, METAL STUD PARTITIONS AND THE LIKE, MAY BE INSTALLED IN RIGID STEEL CONDUIT, ELECTRIC

L. GALVANIZED PRESSED STEEL OUTLET BOXES OF PROPER SIZE AND TYPE AS REQUIRED BY THE BUILDING CONDITIONS SHALL BE PROVIDED FOR ALL INTERIOR OUTLETS FOR LIGHTING, SWITCHES, RECEPTACLES, CLOCKS, SIGNALS, AND THE LIKE.

METALLIC TUBING EXCEPT THAT WIRING IN OR THROUGH SLABS SHALL BE IN RIGID

M. PROVIDE GALVANIZED FITTINGS FOR EXPOSED WORK, THREADED FOR CONDUIT CONNECTIONS AND PROVIDE WITH SUITABLE COVERS. N. THE OUTLETS FOR LOCAL SWITCHES SHALL BE INSTALLED ADJACENT TO THE TRIM

ON THE STRIKING SIDE OF THE DOOR, REGARDLESS OF THE LOCATIONS INDICATED ON THE DRAWINGS; THEREFORE, CHECK ALL DOOR SWINGS BEFORE INSTALLATION CONDUIT AND OUTLETS.

A. ALL MAJOR PARTS NOT CARRYING CURRENT, INCLUDING THE FOLLOWING ITEMS,

3. SAFETY SWITCHES:

SHALL BE PROPERLY GROUNDED. 1. SECONDARY FEEDER CONDUIT AND EQUIPMENT ENCLOSURES 2. PANEL BOARD ENCLOSURES, PULL AND JUNCTION BOXES, CABLE TROUGHS. ALL CONDUITS, METAL MOLDING AND OUTLETS BOXES. 4. FAN AND EQUIPMENT HOUSINGS EXPOSED ON THE STRUCTURE OR ON GRADE.

PROVIDE WHERE SHOWN OR AS REQUIRED, HEAVY-DUTY, METAL ENCLOSED, EXTERNALLY OPERATED FUSED, OR UNFUSED, SAFETY SWITCHES, OF SUCH TYPE AND SIZE AS REQUIRED TO PROPERLY PROTECT OR DISCONNECT THE LOAD FOR WHICH THEY ARE INTENDED. THE OPERATING MECHANISM SHALL BE SO DESIGNED THAT THE SWITCHES MAY BE LOCKED IN THE "ON" OR "OFF" POSITIONS. WHERE "WEATHERPROOF" SAFETY SWITCHES ARE INDICATED OR REQUIRED, THESE SHALL BE AS SPECIFIED ABOVE EXCEPT ENCLOSURES SHALL BE NEMA III, RAINTIGHT. 4. MOTOR AND OTHER WIRING:

A. PROVIDE ALL REQUIRED CONDUIT, WIRING AND SAFETY SWITCHES FOR ALL MOTORS, AND ANY OTHER ELECTRICAL EQUIPMENT INSTALLED OR CONNECTED UNDER THIS DIVISION.

B. ALL MOTORS WILL BE FURNISHED AND SET UNDER OTHER DIVISION, THE WORK OF THIS DIVISION SHALL INCLUDE PROVIDING ALL CONNECTIONS SO AS TO BE COMPLETI C. ALL STARTING DEVICES, MOTOR CONTROLLERS, FLOAT SWITCHES, LEVEL SENSORS, ALARM DEVICES, REMOTE CONTROL PUSH BUTTONS, ETC., WILL BE FURNISHED BY THE VARIOUS CONTRACTORS. UNLESS OTHERWISE NOTED HEREIN. BUT THIS CONTRACTOR SHALL SET THESE DEVICES AND PROVIDE ALL CONNECTIONS. D. FOR EACH THERMOSTAT (BY H.V.A.C.), PROVIDE 4" X 4" OUTLET BOX WITH 3/4"

EMPTY CONDUIT STUBBED UP INTO CEILING AND BUSHED. PROVIDE STEEL DRAG WIRING DEVICES:

COMPUTER RECEPTACLES SHALL BE HUBBELL #IG5262, COMPUTER GRADE WITH "ISOLATED" GROUND LUGS.

B. ALL RECEPTACLES INSTALLED IN THIS BUILDING SHALL BE OF THE GROUNDING TYPE, WITH GROUNDING PIN SLOT CONNECTED TO DEVICE GROUND SCREW FOR GROUND WIRE CONNECTION TO CONDUIT SYSTEM.

C. ALL WIRING DEVICES INSTALLED IN THIS BUILDING SHALL BE "SPECIFIED GRADE." MANUFACTURED BY ARROW, HART AND HEGEMAN, HUBBELL, GENERAL ELECTRIC,

D. WIRELESS CONTROLLED RECEPTACLES SHALL BE LUTRON #CAR2S-15, SPLIT OR

E. USB OUTLETS SHALL BE LUTRON #CAR-15-UNTR-WH. F. LOCAL SWITCHES SHALL BE TOGGLE TYPE, A.C. RATED 20 AMPERES, 125 VOLTS, QUIET-TYPE WITH SILENT OPERATING MECHANISM, TOTAL CLOSED IN A MOLDED COMPOSITION BASE. SWITCHES SHALL BE SINGLE POLE, THREE OR FOUR-WAY AS INDICATED. WHERE LOCK TYPE LOCAL SWITCHES ARE INDICATED, THESE SHALL BE SIMILAR TO ABOVE SPECIFICATION WITH KEY OPERATOR; PROVIDE TO OWNER TWO (2)

G. STAND ALONE OCCUPANCY SWITCHES SHALL BE LUTRON #MS-OPS6M2.

H. STAND ALONE DIMMING OCCUPANCY SWITCHES SHALL BE LUTRON #MS-Z101 I. WIRED TOUCH SCREEN WALL SWITCH SHALL BE ACUITY CONTROLS NLIGHT #

WIRED DIMMING LOAD CONTROLLERS SHALL BE ACUITY CONTROLS NLIGHT

WIRED DIMMING REMOTES SHALL BE ACUITY CONTROLS NLIGHT # NPODMA 2P

WIRED CEILING OCCUPANCY SENSORS SHALL BE ACUITY CONTROLS NLIGHT

6. WIRES AND CABLES:

DUPLEX AS REQUIRED.

KEYS FOR EACH SWITCH INSTALLED.

A. ALL WIRE FOR LIGHT AND POWER INSTALLATIONS SHALL BE HIGH CONDUCTIVITY COPPER, 600 VOLT INSULATED IN ACCORDANCE WITH THE NATIONAL BOARD OF FIRE UNDERWRITERS STANDARDS FOR TYPE "THW" WIRES. EXCEPT AS NOTED ON THE DRAWINGS OR OTHERWISE SPECIFIED HEREIN.

B. THIS CONTRACTOR SHALL CAREFULLY REVIEW ALL DRAWINGS INCLUDED IN THE CONSTRUCTION DOCUMENTS. CONTRACTOR SHALL FURNISH AND INSTALL PLENUM

RATED CABLING IN ALL AREAS BEING UTILIZED AS A RETURN AIR PLENUM. C. NO WIRE SHALL BE SMALLER THAN ON. 12 A.W.G. ALL WIRE NO. 8 AND LARGER

SHALL BE STRANDED. D. WIRES SHALL BE COLOR CODED.

E. ALL WIRES SHALL BE POLARIZED.

F. CIRCUIT WORK BETWEEN OUTLET BOXES AND EACH RECESSED LIGHTING FIXTURE SHALL BE TYPE 'AF' WIRE.

G. HOME RUNS AND BRANCH WIRING FOR 120 VOLT CIRCUITS SHALL BE AS FOLLOWS: HOME RUN WIRE SIZE CIRCUIT WIRE SIZE

50' TO 100'

7. LIGHTING AND POWER PANELS (IF APPLICABLE):

A. PANELS SHALL BE CIRCUIT BREAKER TYPE INSTALLED IN CODE GAUGE GALVANIZED SHEET STEEL CABINETS, FLUSH OR SURFACE MOUNTED AS INDICATED ON THE DRAWINGS. THE PANEL SECTIONS SHALL BE MOUNTED AWAY FROM THE BACK OF THE CABINETS IN SUCH A MANNER THAT THERE WILL BE NO SPACE BETWEEN THE CABINET TRIMS AND FRAMES. THE GUTTER SPACES ON ALL SIDES, TOPS AND BOTTOMS SHALL BE OF SUFFICIENT SIZE TO PREVENT OVERCROWDING OF WIRES AND CABLES AND TO PROVIDE SUFFICIENT VENTILATION TO PREVENT OVERHEATING OF THE CIRCUIT BREAKERS. EACH CABINET SHALL BE COMPLETE WITH HINGED DOORS, CYLINDER LOCK DIRECTORY FRAME AND NEATLY TYPED DIRECTORY CHARTS. ALL PANELS SHALL BE KEYED ALIKE. INSTALL AN ANGLE PIECE ON INSIDE OF EACH TRIM FOR EASE

B. THE BRANCH CIRCUIT BREAKERS, IN GENERAL, SHALL BE MOLDED CASE, BOLT-ON TYPE, RATED 10,000 AIC ON 120/208V, 100 AMPERE FRAME, THERMAL MAGNETIC TRIP SINGLE, TWO OR THREE POLE AS SHOWN ON THE DRAWINGS, ALL MULTIPLE POLE BREAKERS FOR PANELS WHERE INDICATED ON THE DRAWING SCHEDULES. MAIN BREAKER CHARACTERISTICS SHALL BE AS INDICATED ON THE DRAWINGS. MAIN BUSS WORK OF ALL PANELS SHALL, AS A MINIMUM, BE DESIGNED TO CARRY THE FULL RATING OF THE FEEDER SWITCH SUPPLYING THE PANEL, AT A CIRCUIT DENSITY OF 800 AMPERES PER SQUARE INCH OF CROSS SECTION. BUSS WORK SHALL BE HIGH CONDUCTIVITY COPPER. (277/480V CIRCUIT BREAKERS SHALL BE RATED 14,000 A.I.C.)

C. PANEL SECTIONS SHALL BE SUCH THAT NO LIVE PARTS ARE EXPOSED AFTER INSTALLATION. THEY SHALL BE SO ARRANGED THAT EACH BREAKER IS READILY REMOVABLE FROM THE PANEL WITHOUT DISTURBING ADJACENT BREAKERS. ELECTRICAL CONTRACTOR TO PROVIDE TYPED BREAKER LIST.

D. PHASE LEGS SHALL BE ALTERNATELY BUSSED TO EACH CIRCUIT BREAKER IN A MANNER TO AFFECT BALANCING THE BRANCH CIRCUIT CONNECTIONS AS NEARLY AS POSSIBLE OVER EACH PHASE.

8. <u>LIGHTING FIXTURES</u>:

A. ALL LIGHTING FIXTURES AND LAMPS SHALL BE SUPPLIED BY THE ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED, AND SHALL BE DELIVERED HANDLED, ASSEMBLED AND INSTALLED AT THE SITE BY THE ELECTRICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE UNLOADING. STORAGE AND PROTECTION OF ALL ITEMS FOUND TO BE DEFECTIVE AND SHALL BE REPLACED BY THE ELECTRICAL CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

B. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL THE NECESSARY LABOR AND MATERIALS FOR THE COMPLETE INSTALLATION OF THE LIGHTING FIXTURES AS INDICATED ON THE DRAWINGS. C. ALL LED, FLUORESCENT, AND INCANDESCENT LAMPS SHALL BE AS NOTED ON

PLANS AND SPECIFICATIONS AND SHALL BE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. D. SEE ELECTRICAL DRAWING FOR LIGHTING FIXTURE DESCRIPTIONS.

III. SPECIFIC ELECTRICAL SPECIFICATIONS:

OWNER'S CRITERIA THE ELECTRICAL CONTRACTOR IS TO BECOME FAMILIARIZED WITH OWNER'S CRITERIA FOR THIS LOCATION AND INCLUDE ANY WORK REQUIRED OF THIS CRITERIA, WHICH IS NOT SPECIFICALLY NOTED IN THESE DRAWINGS AND SPECIFICATIONS.

IV. TELEPHONE / DATA:

1. PROVIDE 3/4" EMT IN WALLS WITH DRAG STRING AT EACH LOCATION.

V. MISCELLANEOUS: 1. ALUMINUM WIRE IS STRICTLY PROHIBITED FOR THIS PROJECT.

2. DURING DEMOLITION, ANY ELECTRICAL EQUIPMENT, FIXTURE SYSTEMS, CONDUIT

STANDARD NOTES, DETAILS, LEGEND, AND ABBREVIATIONS SHOWN ON THIS SHEET ARE INTENDED TO BE GENERAL AND MAY NOT BE SPECIFIC

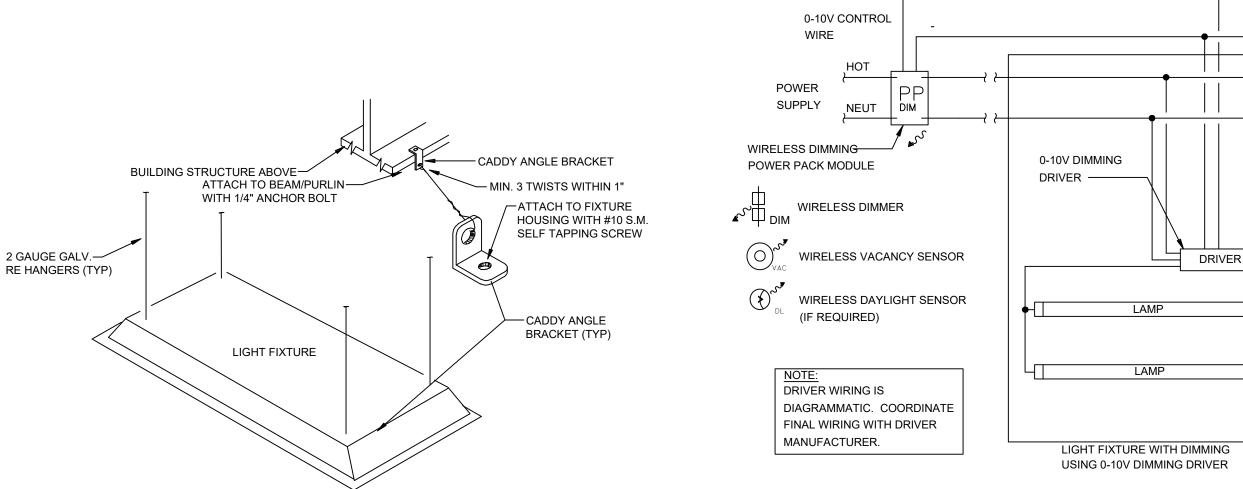
OR APPLICABLE TO THIS PROJECT.

AND WIRE TO BE REMOVED AND NOT REUSED - THIS EQUIPMENT. FIXTURING SYSTEMS, CONDUIT, AND WIRE MAY NOT BE ABANDONED AND LEFT WITHIN THE SPACE. IT MUST BE REMOVED TO AN APPROVED DISPOSAL SITE.

SYMBOL **DESCRIPTION** SYMBOL DESCRIPTION IXTURE DESCRIPTION: 2/2 BACKLITE LED PANEL LIGHT FIXTURE DESCRIPTION: LED PENDANT LINEAR LIGHT MANUFACTURER / MODEL: DAY-O-LITE / PRFL-24-D-FL-35-SO-5-PD-W MANUFACTURER / MODEL: LIRON LIGHTING / PLB2-2X2UW-3CCT WATTS PER FIXTURE: 40 WATTS WATTS PER FIXTURE: 7 WATTS / FOOT MOUNTING HEIGHT: REFER TO ARCHITECTURAL DRAWINGS MOUNTING HEIGHT: CEILING FIXTURE DESCRIPTION: 6" LED DOWN LIGHT FIXTURE DESCRIPTION: LED COVE LIGHT MANUFACTURER / MODEL: LITON / CH6C20ICAUE-D10 / CR6LC40SW-B60-T35 MANUFACTURER / MODEL: INTERLUX / WG-MBC-SW-S-P1-927-E1-SSD-W WATTS PER FIXTURE: 30 WATTS WATTS PER FIXTURE: 3 WATTS / FOOT MOUNTING HEIGHT: REFER TO ARCHITECTURAL DRAWINGS MOUNTING HEIGHT: CEILING FIXTURE DESCRIPTION: 4" LED DOWN LIGHT FIXTURE DESCRIPTION: LED CHANDLER LIGHT MANUFACTURER / MODEL: LITON / CH4C20ICAUE-D10 / CR4LC30SW-B60-T35 MANUFACTURER / MODEL: ALORA LIGHTING / TAGLIATO LP302004MBBG WATTS PER FIXTURE: 42 WATTS
MOUNTING HEIGHT: REFER TO ARCHITECTURAL DRAWINGS WATTS PER FIXTURE: 30 WATTS MOUNTING HEIGHT: CEILING FIXTURE DESCRIPTION: DECORATIVE LED PENDANT LIGHT FIXTURE DESCRIPTION: HAUS LED WALL SCONCE MANUFACTURER / MODEL: KUZCO LIGHTING / PD62014-BK/CH MANUFACTURER / MODEL: ACCESS WATTS PER FIXTURE: 20 WATTS WATTS PER FIXTURE: 25 WATTS MOUNTING HEIGHT: REFER TO ARCHITECTURAL DRAWINGS MOUNTING HEIGHT: REFER TO ARCHITECTURAL DRAWINGS FIXTURE DESCRIPTION: DECORATIVE LED PENDANT LIGHT MANUFACTURER / MODEL: ELKSDUT / B0B6RN536L FIXTURE DESCRIPTION: CHIASSO 1-LIGHT 7.25-IN WARM BRASS MANUFACTURER / MODEL: CASCADIA / T0587 WATTS PER FIXTURE: 20 WATTS
MOUNTING HEIGHT: REFER TO ARCHITECTURAL DRAWINGS WATTS PER FIXTURE: 25 WATTS
MOUNTING HEIGHT: REFER TO ARCHITECTURAL DRAWINGS FIXTURE DESCRIPTION: LED TRACK LIGHT FIXTURE DESCRIPTION: EMERG. EXIT SIGN MANUFACTURER / MODEL: LIGHTALARMS / GRANN-NEXRF-R-W MANUFACTURER / MODEL: LITON / LP-02-W / LTD8321B-TS27 WATTS PER FIXTURE: 18 WATTS / HEAD WATTS PER FIXTURE: 3.3 WATTS MOUNTING HEIGHT: AS PER CODE MOUNTING HEIGHT: CEILING NOTES: PROVIDE CURRENT LIMITING DEVICE NOTES: 90 MIN. BATTERY BACK-UP PACK, W/ DIRECTIONAL ARROWS AS REQ. FIXTURE DESCRIPTION: EMERG. LIGHT / EXIT COMBO SIGN FIXTURE DESCRIPTION: DECORATIVE LED SCONCE MANUFACTURER / MODEL: VAXCEL LIGHTING / T0588 MANUFACTURER / MODEL: LIGHTALARMS / GR1224H-R-U-W-2-LD10-NEXRF LAMPS: (2) L.E.D. LAMPS WATTS PER FIXTURE: 60 WATTS WATTS PER FIXTURE: 40 WATTS
NOTES: 90 MIN. BATTERY BACK-UP PACK, W/ DIRECTIONAL ARROWS AND REMOTE
HEADS AS REQ. MOUNTING HEIGHT PER CODE. MOUNTING HEIGHT: REFER TO ARCHITECTURAL DRAWINGS FIXTURE DESCRIPTION: EMERG. LIGHT MANUFACTURER / MODEL: LIGHTALARMS / 2M12N2/DR130-LD10-M-NEXRF FIXTURE DESCRIPTION: LED VANITY LIGHT MANUFACTURER / MODEL: ONESTO LIGHTING / HLXWL2135-GLD-MILK-LED WATTS PER FIXTURE: 60 WATTS LAMPS: (2) L.E.D. LAMPS WATTS PER FIXTURE: 36 WATTS MOUNTING HEIGHT: REFER TO ARCHITECTURAL DRAWINGS MOUNTING HEIGHT: AS PER CODE NOTES: 90 MIN. BATTERY BACK-UP PACK FIXTURE DESCRIPTION: MOISTURE RESISTANT INDUSTRIAL STRIP LIGHT 4-OWS-LED-5000L-DIM10-MVOLT-40K-85_IESNA2002 WATTS PER FIXTURE: 38 WATTS MOUNTING HEIGHT: CEILING

LIGHT FIXTURE LEGEND

REFER TO ARCHITECTURE DRAWINGS FOR ALL NEW LIGHTING SPECIFICATIONS. CONTRACTOR TO COORDINATE UNSPECIFIED LIGHT FIXTURES MANUFACTURERS AND MODELS WITH ARCHITECT AND/OR OWNER PRIOR TO BID NIGHT LIGHTING FIXTURES DESIGNATED BY "NL" EMERGENCY BATTERY BACK UP FIXTURES DESIGNATED BY "EM".
DIMMABLE FIXTURES DESIGNATED WITH "DIM".
FIXTURES FURNISHED WITH INTEGRAL OCCUPANCY SENSOR DESIGNATED WITH "OCC".

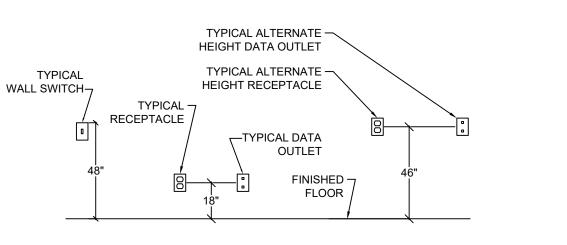


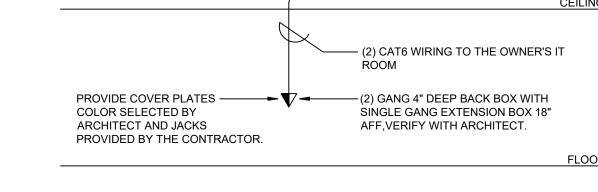
FIXTURES FURNISHED WITH INTEGRAL DAYLIGHT SENSORS DESIGNATED WITH "DL"

MOUNTING DETAIL TYPICAL 2'X2' AND 2'X4' LIGHTING FIXTURE NOT TO SCALE

FOR LIGHT SWITCH

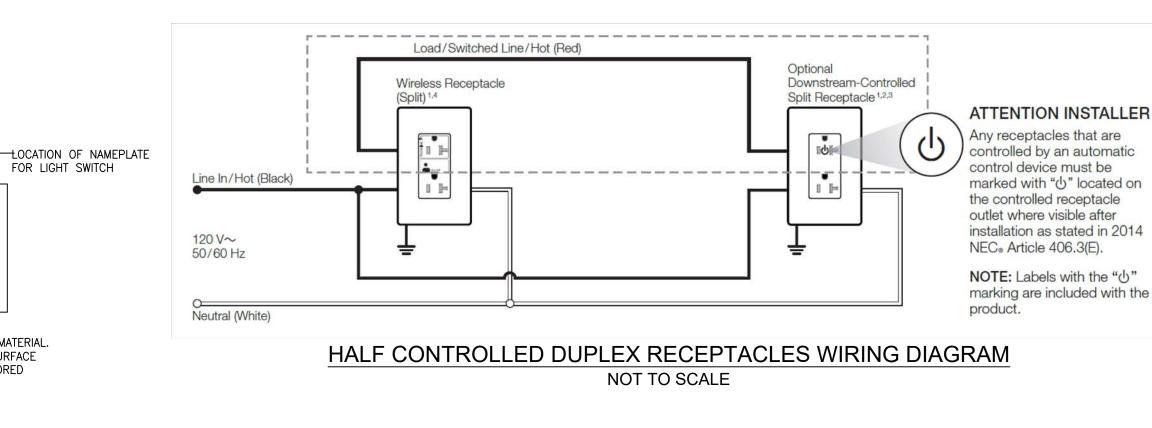
CONFERENCE ROOM AND OFFICE LIGHT FIXTURE WIRING DIAGRAM NOT TO SCALE

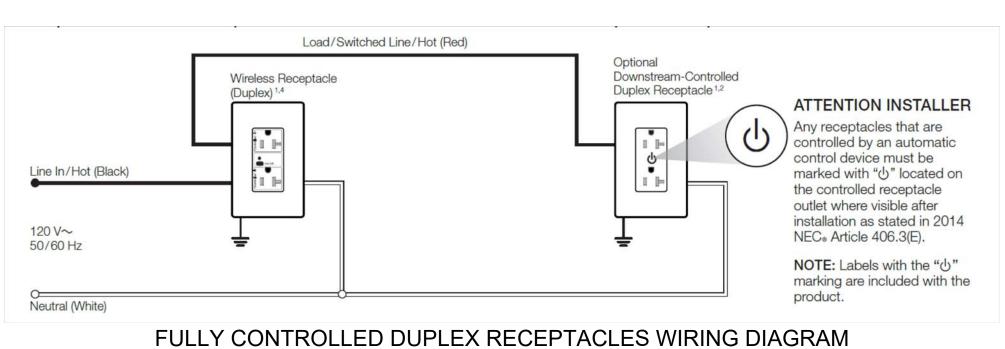




STANDARD WIRED DEVICE MOUNTING HEIGHTS NOT TO SCALE

TYPICAL WHEN ANY OF THE FOLLOWING SYMBOLS♥,▼, AND ♥ ARE SHOWN ON PLAN. PROVIDE AS ILLUSTRATED ABOVE. TELEPHONE/DATA RISER DETAIL





NOT TO SCALE

2 GENERAL ELECTRICAL DETAILS

DYMO-TAPE OR APPROVED EQUAL.

LOCATION OF NAMEPLATE

SUB-LAYER.

NAMEPLATES ARE REQUIRED ON ALL OUTLETS AND LIGHT SWITCHES

USE ELECTRONIC LABELER BROTHER P-TOUCH, MODEL PT-20/25,

OUTLET/SWITCH NAMEPLATE DETAIL

NOT TO SCALE

 $-rac{1}{16}$ " THICK PLASTIC LAMINATED MATERIAL.

— CIRCUIT #

SOURCE PANEL DESIGNATION

ENGRAVE THROUGH COLORED SURFACE

MATERIAL TO CONTRASTING COLORED

FOR RECEPTACLE

All drawings and written material appearing herein constitute original and unpublished work of the architect and may not be duplicated used or disclosed without written consent of the architect. 2023 REN HORTEN All Rights Reserved

Issues and Revisions 05/17/24 | ISSUED FOR PERMIT

Registration and Signature

Computer File:

PROJECT

PROJECT LOCATION

LOT:

CONSULTANT

TO NEXT LIGHT

FIXTURE

HOT

NEUT

Norwescap

Old Sullivan Building

Remodeling Project

371 S Main Street

Phillipsburg, NJ 08865

Warren County

NORWESCAP

350 Marshall Street

Phillipsburg, NJ 08865

PO Box 612, Budd Lake, NJ 07828

Tel/Fax: 973-527-7691

www.frontier-es.com

architecture & design

312 State Route 10, Randolph, NJ 07869

Tel: 973.442.5880 Fax: 973.442.5886

BLOCK:

MICHAEL J. SCHLICK, P.E. N.J. LICENSE NUMBER: 24GE04904300 C.O.A. NUMBER: 24GA28244900

ELECTRICAL - GENERAL NOTES AND DETAI

1 ELECTRICAL GENERAL NOTES

- 1 VERIFY EXACT LOCATION OF ELECTRICAL REQUIREMENTS WITH ELEVATOR VENDOR PRIOR TO INSTALLATION.
- (2) NEW 60A / 40A FUSED DISCONNECT SWITCH.
- 3 NEW 30A / 30A FUSED DISCONNECT SWITCH.
- 4 NEW 30A / 20A FUSED DISCONNECT SWITCH.
- CONTRACTOR SHALL REMOVE THE EXISTING PANEL 'C'. FURNISH AND INSTALL NEW PANEL 'C' IN THE NEW LOCATION SHOWN. CONTRACTOR SHALL RELOCATE ANY CIRCUITS FROM THE FORMER PANEL TO THE NEW PANEL. EXTEND EXISTING WIRING AS REQUIRED. VERIFY EXISTING CONDITIONS PRIOR TO BID.

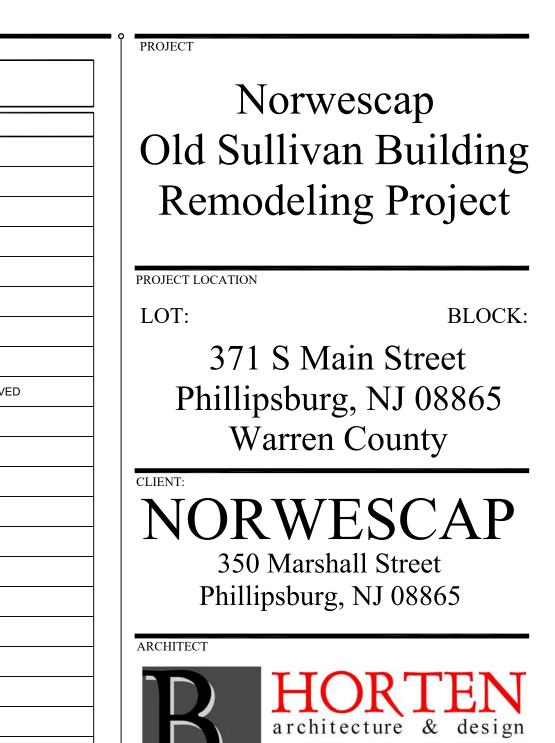
1 ELECTRICAL POWER BASEMENT PLAN
SCALE: 1/4" = 1'-0"

| | ELECTRICAL POWER LEGEND | | | | |
|--------------|---------------------------------------|--------------------|---|--|--|
| SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION | | |
| *** | HOME RUN | ₩P | WEATHERPROOF DUPLEX RECEPTACLE | | |
| | LOW VOLTAGE CONTROL WIRE | - O iG | ISOLATED GROUND DUPLEX RECEPTACLE | | |
| | ELECTRICAL PANEL | # | QUADRUPLEX RECEPTACLE | | |
| | FUSED DISCONNECT | - U GFI | GROUND FAULT QUADRUPLEX RECEPTACLE | | |
| \$ | SINGLE POLE SWITCH | # | FLOOR MOUNT QUADRUPLEX RECEPTACLE | | |
| ₽PP | POWER PAK SWITCHING MODULE | IJ | JUNCTION BOX | | |
| ⊕r• | WIRELESS CONTROLLED DUPLEX RECEPTACLE | ◀ | DATA JACK - DOUBLE | | |
| + | DUPLEX RECEPTACLE | ◁ | TELEPHONE JACK - DOUBLE | | |
| GFI | GROUND FAULT DUPLEX RECEPTACLE | 4 | TELEPHONE/DATA JACK - SINGLE/SINGLE | | |
| \ominus | DEDICATED DUPLEX RECEPTACLE | 4 | FLOOR MOUNT DATA JACK - DOUBLE | | |
| \bigoplus | CEILING MOUNT DUPLEX RECEPTACLE | | FLOOR MOUNT TELEPHONE JACK - DOUBLE | | |
| = | FLOOR MOUNT DUPLEX RECEPTACLE | | FLOOR MOUNT DATA/TELEPHONE JACK - SINGLE/SINGLE | | |

| ABBREVIATIONS | | | |
|---------------|---|--|--|
| ABBR. | DESCRIPTION | | |
| Α | AMP | | |
| AC | ABOVE CEILING | | |
| AFF | ABOVE FINISHED FLOOR | | |
| AHU | AIR HANDLING UNIT | | |
| AWG | AMERICAN WIRE GAUGE | | |
| С | CONDUIT | | |
| CATV | CABLE TV | | |
| СН | COUNTER HEIGHT | | |
| D | EXISTING EQUIPMENT/DEVICE TO BE REMOVED | | |
| EF | EXHAUST FAN | | |
| EM | EMERGENCY | | |
| EX | EXISTING EQUIPMENT/DEVICE TO REMAIN | | |
| F | FUSED | | |
| FA | FIRE ALARM | | |
| FD | FIRE DAMPER | | |
| GFI | GROUND FAULT CIRCUIT INTERRUPTER | | |
| IG | ISOLATED GROUND | | |
| MD | MOTORIZED DAMPER | | |
| N | NEW EQUIPMENT/DEVICE | | |
| NL | NIGHT LIGHT | | |
| PP | POWER POLE | | |
| RE | RELOCATE EXISTING EQUIPMENT/DEVICE | | |
| RTU | ROOF TOP UNIT | | |
| SD | SMOKE DAMPER | | |
| TEL | TELEPHONE | | |
| UC | UNDER CABINET | | |
| UG | UNDERGROUND | | |
| UL | UNDERWRITERS LABORATORIES INC. | | |
| UPS | UNINTERRUPTIBLE POWER SUPPLY | | |
| W | WATT | | |
| WH | WATER HEATER | | |

STANDARD LEGEND AND ABBREVIATIONS SHOWN ON THIS SHEET ARE INTENDED TO BE GENERAL AND MAY NOT BE SPECIFIC OR APPLICABLE TO THIS PROJECT.

WP WEATHERPROOF



CONSULTANT

BLOCK:

312 State Route 10, Randolph, NJ 07869 Tel: 973.442.5880 Fax: 973.442.5886

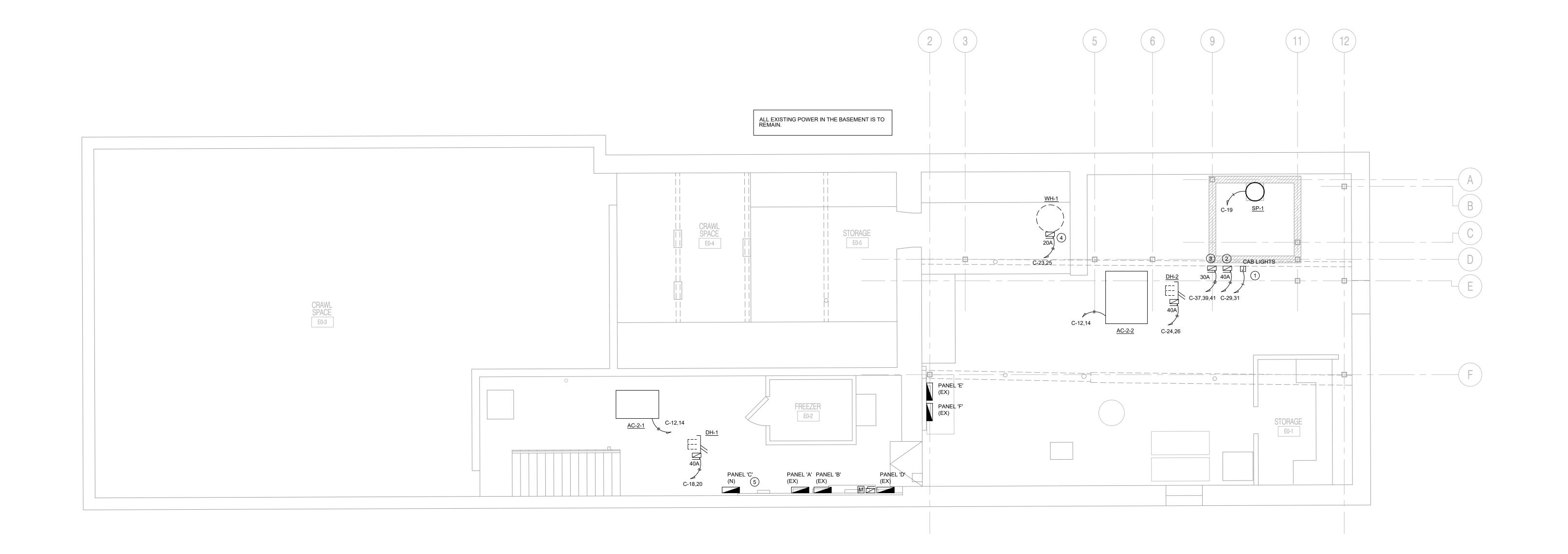
PO Box 612, Budd Lake, NJ 07828 Tel/Fax: 973-527-7691 www.frontier-es.com

Issues and Revisions

No. Date Issues and Revisions

1. 05/17/24 ISSUED FOR PERMIT N.J. LICENSE NUMBER: 24GE04904300

C.O.A. NUMBER: 24GA28244900 ELECTRICAL - PLAN



KEY NOTES CONTRACTOR SHALL RELOCATE THE EXISTING BAR CIRCUITS. FURNISH AND INSTALL NEW RECEPTACLES IN THE NEW LOCATIONS SHOWN. VERIFY EXISTING CONDITIONS PRIOR TO BID.

OPEN OFFICE
OCCUPANT ENTERS: ALL LIGHTS TURN ON AUTOMATICALLY TO 50%. CONTROLLED RECEPTACLES AUTOMATICALLY REGAIN POWER WHEN OCCUPANT ENTERS.
WHEN OCCUPIED: OVERHEAD LIGHTS AUTOMATICALLY DIM / BRIGHTEN BASED ON AVAILABLE DAYLIGHT. OCCUPANT MAY MANUALLY DIM / BRIGHTEN OR TURN OFF ALL LIGHTS AT THE SWITCH / REMOTE.
OCCUPANT EXITS: ALL LIGHTS AND CONTROLLED RECEPTACLES AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT.

LIGHTING/RECEPT CONTROL FUNCTIONALITY

PRIVATE OFFICE

OCCUPANT ENTERS: LIGHTS DO NOT TURN ON AUTOMATICALLY. LIGHTS MAY BE TURNED ON BY THE OCCUPANT AT THE SWITCH / REMOTE. CONTROLLED RECEPTACLES AUTOMATICALLY REGAIN POWER WHEN OCCUPANT ENTERS.
WHEN OCCUPIED: OCCUPANT MAY MANUALLY DIM / BRIGHTEN OR TURN OFF ALL LIGHTS AT THE SWITCH / REMOTE.
OCCUPANT EXITS: ALL LIGHTS AND CONTROLLED RECEPTACLES AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT.

CONFERENCE ROOM
OCCUPANT ENTERS: LIGHTS DO NOT TURN ON AUTOMATICALLY. LIGHTS MAY BE TURNED ON BY THE OCCUPANT AT THE SWITCH / REMOTE. CONTROLLED RECEPTACLES AUTOMATICALLY REGAIN POWER WHEN OCCUPANT ENTERS.
WHEN OCCUPIED: OCCUPANT MAY MANUALLY DIM / BRIGHTEN OR TURN OFF ALL LIGHTS AT THE SWITCH / REMOTE.
OCCUPANT EXITS: ALL LIGHTS AND CONTROLLED RECEPTACLES AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT.

BREAK ROOM
OCCUPANT ENTERS: ALL LIGHTS TURN ON AUTOMATICALLY. CONTROLLED RECEPTACLES AUTOMATICALLY REGAIN POWER WHEN OCCUPANT ENTERS.
WHEN OCCUPIED: OCCUPANT MAY MANUALLY DIM / BRIGHTEN ALL LIGHTS AT THE SWITCH / REMOTE. MANUAL CONTROL CAN NOT FULLY SHUT OFF LIGHTS.
OCCUPANT EXITS: ALL LIGHTS AND CONTROLLED RECEPTACLES AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT.

5 TOILET ROOM NO RECEPTACLE CONTROL

6 CORRIDOR
• NO RECEPTACLE CONTROL. NOTE: WIRELESSLY CONTROLLED RECEPTACLE IN EACH ROOM TO BE LINKED TO APPROPRIATE 7 STORAGE ROOM
• NO RECEPTACLE CONTROL. LIGHTING OCC OR VAC SENSOR IN THAT ROOM. IF AN APPROPRIATE LIGHTING SENSOR IS NOT 8 RESTAURANT
• NO RECEPTACLE CONTROL. AVAILABLE, E.C. WILL INSTALL AN ADDITIONAL SENSOR FOR RECEPTACLE CONTROL.

ELECTRICAL POWER LEGEND SYMBOL DESCRIPTION SYMBOL DESCRIPTION ₩P WEATHERPROOF DUPLEX RECEPTACLE HOME RUN LOW VOLTAGE CONTROL WIRE ISOLATED GROUND DUPLEX RECEPTACLE ELECTRICAL PANEL QUADRUPLEX RECEPTACLE FUSED DISCONNECT GROUND FAULT QUADRUPLEX RECEPTACLE \$ | SINGLE POLE SWITCH FLOOR MOUNT QUADRUPLEX RECEPTACLE PP POWER PAK SWITCHING MODULE J JUNCTION BOX WIRELESS CONTROLLED DUPLEX RECEPTACLE ■ DATA JACK - DOUBLE DUPLEX RECEPTACLE GROUND FAULT DUPLEX RECEPTACLE ▼ TELEPHONE/DATA JACK - SINGLE/SINGLE FLOOR MOUNT DATA JACK - DOUBLE DEDICATED DUPLEX RECEPTACLE FLOOR MOUNT TELEPHONE JACK - DOUBLE CEILING MOUNT DUPLEX RECEPTACLE FLOOR MOUNT DATA/TELEPHONE JACK - SINGLE/SINGL FLOOR MOUNT DUPLEX RECEPTACLE

| | ABBREVIATIONS | |
|-----|---------------|---|
| | ABBR. | DESCRIPTION |
| | А | AMP |
| | AC | ABOVE CEILING |
| | AFF | ABOVE FINISHED FLOOR |
| | AHU | AIR HANDLING UNIT |
| | AWG | AMERICAN WIRE GAUGE |
| | С | CONDUIT |
| | CATV | CABLE TV |
| | СН | COUNTER HEIGHT |
| | D | EXISTING EQUIPMENT/DEVICE TO BE REMOVED |
| | EF | EXHAUST FAN |
| | EM | EMERGENCY |
| SLE | EX | EXISTING EQUIPMENT/DEVICE TO REMAIN |
| | F | FUSED |
| | FΔ | FIRE ALARM |

GFI GROUND FAULT CIRCUIT INTERRUPTER

RE RELOCATE EXISTING EQUIPMENT/DEVICE

UNDERWRITERS LABORATORIES INC.

UPS UNINTERRUPTIBLE POWER SUPPLY

IG ISOLATED GROUND

MD MOTORIZED DAMPER

NL NIGHT LIGHT

PP POWER POLE

RTU ROOF TOP UNIT

SD SMOKE DAMPER

UC UNDER CABINET

UG UNDERGROUND

WH WATER HEATER

WP WEATHERPROOF

TEL TELEPHONE

W WATT

TO THIS PROJECT.

N NEW EQUIPMENT/DEVICE

FA FIRE ALARM FD FIRE DAMPER

NORWESCAP 350 Marshall Street Phillipsburg, NJ 08865

Norwescap

Old Sullivan Building

Remodeling Project

371 S Main Street

Phillipsburg, NJ 08865

Warren County

BLOCK:

PROJECT LOCATION

LOT:

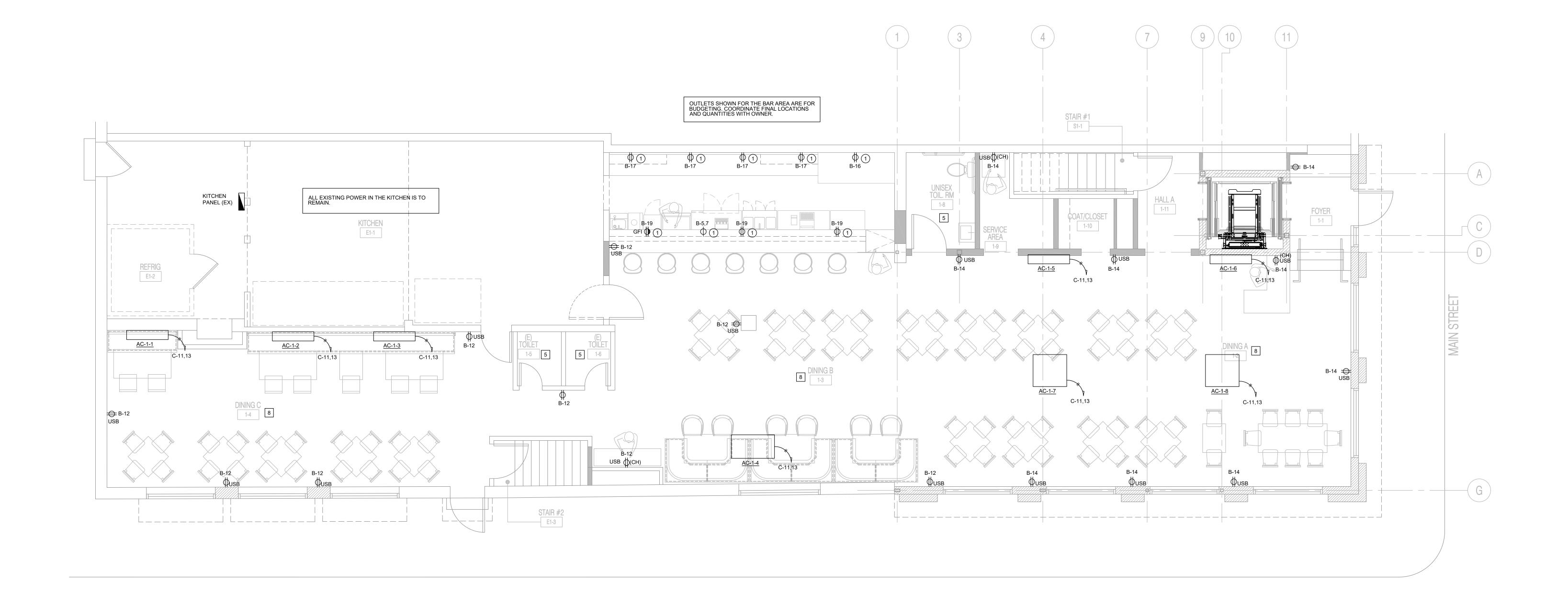


CONSULTANT



www.frontier-es.com

STANDARD LEGEND AND ABBREVIATIONS SHOWN ON THIS SHEET ARE INTENDED TO BE GENERAL AND MAY NOT BE SPECIFIC OR APPLICABLE



Issues and Revisions 1. 05/17/24 ISSUED FOR PERMIT

> MICHAEL J. SCHLICK, P.E. N.J. LICENSE NUMBER: 24GE04904300 C.O.A. NUMBER: 24GA28244900

> > ELECTRICAL - PLAN

KEY NOTES 1) NEW 60A / 60A FUSED WEATHER PROOF DISCONNECT SWITCH. (2) NEW 60A / 50A FUSED WEATHER PROOF DISCONNECT SWITCH. (3) NEW 60A / 40A FUSED WEATHER PROOF DISCONNECT SWITCH. (4) VERIFY MOUNTING HEIGHT OF TELEVISION PRIOR TO INSTALLATION. 5 VERIFY POWER REQUIREMENTS FOR POWER FURNITURE WITH FURNITURE VENDOR PRIOR TO INSTALLATION.

| L | IGHTING/RECEPT CONTROL FUNCTIONALITY |
|---|---|
| | REF: 2017 ASHRAE 90.1 |
| | OPEN OFFICE OCCUPANT ENTERS: ALL LIGHTS TURN ON AUTOMATICALLY TO 50%. CONTROLLED |
| | RECEPTACLES AUTOMATICALLY REGAIN POWER WHEN OCCUPANT ENTERS. WHEN OCCUPIED: OVERHEAD LIGHTS AUTOMATICALLY DIM / BRIGHTEN BASED ON |
| | AVAILABLE DAYLIGHT. OCCUPANT MAY MANUALLY DIM / BRIGHTEN OR TURN OFF ALL LIGHTS AT THE SWITCH / REMOTE. |
| | OCCUPANT EXITS: ALL LIGHTS AND CONTROLLED RECEPTACLES AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT. |
| 2 | PRIVATE OFFICE |
| | OCCUPANT ENTERS: LIGHTS DO NOT TURN ON AUTOMATICALLY. LIGHTS MAY BE TURNED ON BY THE OCCUPANT AT THE SWITCH / REMOTE. CONTROLLED |
| | RECEPTACLES AUTOMATICALLY REGAIN POWER WHEN OCCUPANT ENTERS. WHEN OCCUPIED: OCCUPANT MAY MANUALLY DIM / BRIGHTEN OR TURN OFF ALL |
| | LIGHTS AT THE SWITCH / REMOTE. OCCUPANT EXITS: ALL LIGHTS AND CONTROLLED RECEPTACLES AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT. |
| 3 | CONFERENCE ROOM |
| | OCCUPANT ENTERS: LIGHTS DO NOT TURN ON AUTOMATICALLY. LIGHTS MAY BE TURNED ON BY THE OCCUPANT AT THE SWITCH / REMOTE. CONTROLLED |
| | RECEPTACLES AUTOMATICALLY REGAIN POWER WHEN OCCUPANT ENTERS. WHEN OCCUPIED: OCCUPANT MAY MANUALLY DIM / BRIGHTEN OR TURN OFF ALL |
| | LIGHTS AT THE SWITCH / REMOTE. OCCUPANT EXITS: ALL LIGHTS AND CONTROLLED RECEPTACLES AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT. |
| 4 | BREAK ROOM |
| | OCCUPANT ENTERS: ALL LIGHTS TURN ON AUTOMATICALLY. CONTROLLED RECEPTACLES AUTOMATICALLY REGAIN POWER WHEN OCCUPANT ENTERS. |
| | WHEN OCCUPIED: OCCUPANT MAY MANUALLY DIM / BRIGHTEN ALL LIGHTS AT THE SWITCH / REMOTE. MANUAL CONTROL CAN NOT FULLY SHUT OFF LIGHTS. |
| | OCCUPANT EXITS: ALL LIGHTS AND CONTROLLED RECEPTACLES AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT. |
| | |

NOTE: WIRELESSLY CONTROLLED RECEPTACLE IN EACH ROOM TO BE LINKED TO APPROPRIATE

LIGHTING OCC OR VAC SENSOR IN THAT ROOM.

IF AN APPROPRIATE LIGHTING SENSOR IS NOT

AVAILABLE, E.C. WILL INSTALL AN ADDITIONAL SENSOR FOR RECEPTACLE CONTROL.

5 TOILET ROOM NO RECEPTACLE CONTROL

7 STORAGE ROOM
• NO RECEPTACLE CONTROL.

8 RESTAURANT
• NO RECEPTACLE CONTROL.

| SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION |
|-------------------|---------------------------------------|-----------------|---|
| / | HOME RUN | - ₩P | WEATHERPROOF DUPLEX RECEPTACLE |
| | LOW VOLTAGE CONTROL WIRE | - G | ISOLATED GROUND DUPLEX RECEPTACLE |
| | ELECTRICAL PANEL | # | QUADRUPLEX RECEPTACLE |
| 5 | FUSED DISCONNECT | GFI | GROUND FAULT QUADRUPLEX RECEPTACLE |
| \$ | SINGLE POLE SWITCH | # | FLOOR MOUNT QUADRUPLEX RECEPTACLE |
| _k PP | POWER PAK SWITCHING MODULE | IJ | JUNCTION BOX |
| ⊕r• | WIRELESS CONTROLLED DUPLEX RECEPTACLE | • | DATA JACK - DOUBLE |
| + | DUPLEX RECEPTACLE | ◁ | TELEPHONE JACK - DOUBLE |
| GFI | GROUND FAULT DUPLEX RECEPTACLE | 4 | TELEPHONE/DATA JACK - SINGLE/SINGLE |
| \leftrightarrow | DEDICATED DUPLEX RECEPTACLE | • | FLOOR MOUNT DATA JACK - DOUBLE |
| \bigoplus | CEILING MOUNT DUPLEX RECEPTACLE | | FLOOR MOUNT TELEPHONE JACK - DOUBLE |
| | FLOOR MOUNT DUPLEX RECEPTACLE | | FLOOR MOUNT DATA/TELEPHONE JACK - SINGLE/SING |

| | ABBREVIATIONS | Norwescap |
|-------|---|--|
| ABBR. | DESCRIPTION | |
| Α | AMP | Old Sullivan Building |
| AC | ABOVE CEILING | |
| AFF | ABOVE FINISHED FLOOR | Remodeling Project |
| AHU | AIR HANDLING UNIT | |
| AWG | AMERICAN WIRE GAUGE | PROJECT LOCATION |
| С | CONDUIT | |
| CATV | CABLE TV | LOT: BLOCK: |
| СН | COUNTER HEIGHT | 371 S Main Street |
| D | EXISTING EQUIPMENT/DEVICE TO BE REMOVED | Phillipsburg, NJ 08865 |
| EF | EXHAUST FAN | |
| EM | EMERGENCY | Warren County |
| EX | EXISTING EQUIPMENT/DEVICE TO REMAIN | CLIENT: |
| F | FUSED | NORWESCAP |
| FA | FIRE ALARM | |
| FD | FIRE DAMPER | 350 Marshall Street |
| GFI | GROUND FAULT CIRCUIT INTERRUPTER | Phillipsburg, NJ 08865 |
| IG | ISOLATED GROUND | A D CHATTE CIT |
| MD | MOTORIZED DAMPER | ARCHITECT |
| N | NEW EQUIPMENT/DEVICE | HORTEN |
| NL | NIGHT LIGHT | architecture & design |
| PP | POWER POLE | 312 State Route 10, Randolph, NJ 07869 |
| RE | RELOCATE EXISTING EQUIPMENT/DEVICE | Tel: 973.442.5880 Fax: 973.442.5886 |
| RTU | ROOF TOP UNIT | CONSULTANT |
| SD | SMOKE DAMPER | |
| TEL | TELEPHONE | |
| UC | UNDER CABINET | |
| UG | UNDERGROUND | ENGINEERING SERVICES, LLC |
| UL | UNDERWRITERS LABORATORIES INC. | PO Box 612, Budd Lake, NJ 07828 |
| UPS | UNINTERRUPTIBLE POWER SUPPLY | Tel/Fax: 973-527-7691 www.frontier-es.com |
| W | WATT | |
| WH | WATER HEATER | |
| WP | WEATHERPROOF | |

STANDARD LEGEND AND ABBREVIATIONS SHOWN ON THIS SHEET ARE INTENDED TO BE GENERAL AND MAY NOT BE SPECIFIC OR APPLICABLE TO THIS PROJECT.

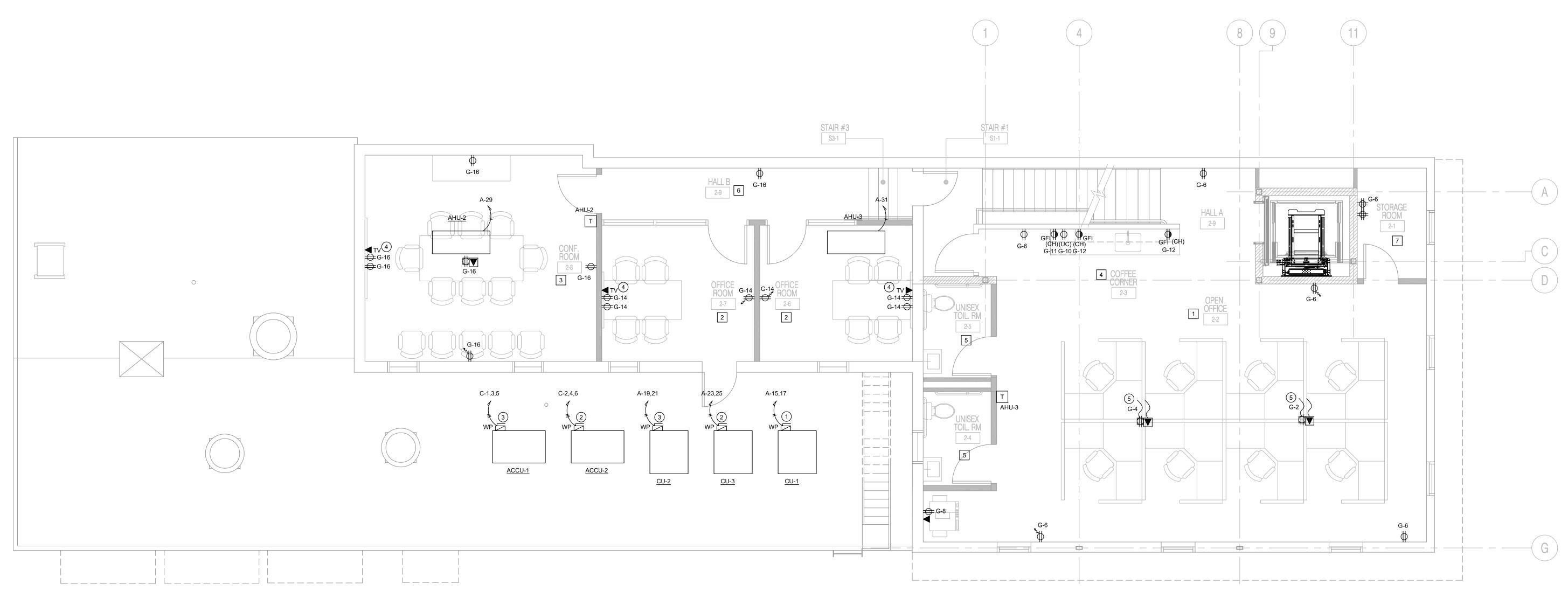
Issues and Revisions

No. Date Issues and Revisions

1. 05/17/24 ISSUED FOR PERMIT

MICHAEL J. SCHLICK, P.E.
N.J. LICENSE NUMBER: 24GE04904300 C.O.A. NUMBER: 24GA28244900

ELECTRICAL - PLAN



LIGHTING/RECEPT CONTROL FUNCTIONALITY **KEY NOTES** ELECTRICAL POWER LEGEND SYMBOL DESCRIPTION SYMBOL DESCRIPTION OPEN OFFICE

OCCUPANT ENTERS: ALL LIGHTS TURN ON AUTOMATICALLY TO 50%. CONTROLLED RECEPTACLES AUTOMATICALLY REGAIN POWER WHEN OCCUPANT ENTERS.
WHEN OCCUPIED: OVERHEAD LIGHTS AUTOMATICALLY DIM / BRIGHTEN BASED ON AVAILABLE DAYLIGHT. OCCUPANT MAY MANUALLY DIM / BRIGHTEN OR TURN OFF ALL LIGHTS AT THE SWITCH / REMOTE.
OCCUPANT EXITS: ALL LIGHTS AND CONTROLLED RECEPTACLES AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT. WEATHERPROOF DUPLEX RECEPTACLE HOME RUN 1) VERIFY MOUNTING HEIGHT OF TELEVISION PRIOR TO INSTALLATION. CONTRACTOR SHALL REMOVE THE EXISTING PANEL IN THIS LOCATION. CONTRACTOR SHALL FURNISH AND INSTALL NEW PANEL 'G' AND CONNECT TO EXISTING WIRING FROM THE BASEMENT. VERIFY THAT THE EXISTING FED IS 120/240V 100A. VERIFY EXISTING CONDITIONS PRIOR TO BID. LOW VOLTAGE CONTROL WIRE ISOLATED GROUND DUPLEX RECEPTACLE ELECTRICAL PANEL QUADRUPLEX RECEPTACLE PRIVATE OFFICE

OCCUPANT ENTERS: LIGHTS DO NOT TURN ON AUTOMATICALLY. LIGHTS MAY BE TURNED ON BY THE OCCUPANT AT THE SWITCH / REMOTE. CONTROLLED RECEPTACLES AUTOMATICALLY REGAIN POWER WHEN OCCUPANT ENTERS.
WHEN OCCUPIED: OCCUPANT MAY MANUALLY DIM / BRIGHTEN OR TURN OFF ALL LIGHTS AT THE SWITCH / REMOTE.
OCCUPANT EXITS: ALL LIGHTS AND CONTROLLED RECEPTACLES AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT. FUSED DISCONNECT GROUND FAULT QUADRUPLEX RECEPTACLE FLOOR MOUNT QUADRUPLEX RECEPTACLE \$ SINGLE POLE SWITCH PP POWER PAK SWITCHING MODULE J JUNCTION BOX CONFERENCE ROOM

COCUPANT ENTERS: LIGHTS DO NOT TURN ON AUTOMATICALLY. LIGHTS MAY BE TURNED ON BY THE OCCUPANT AT THE SWITCH / REMOTE. CONTROLLED RECEPTACLES AUTOMATICALLY REGAIN POWER WHEN OCCUPANT ENTERS.
WHEN OCCUPIED: OCCUPANT MAY MANUALLY DIM / BRIGHTEN OR TURN OFF ALL LIGHTS AT THE SWITCH / REMOTE.
OCCUPANT EXITS: ALL LIGHTS AND CONTROLLED RECEPTACLES AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT. ₩IRELESS CONTROLLED DUPLEX RECEPTACLE ■ DATA JACK - DOUBLE DUPLEX RECEPTACLE GROUND FAULT DUPLEX RECEPTACLE ▼ TELEPHONE/DATA JACK - SINGLE/SINGLE BREAK ROOM

OCCUPANT ENTERS: ALL LIGHTS TURN ON AUTOMATICALLY. CONTROLLED RECEPTACLES AUTOMATICALLY REGAIN POWER WHEN OCCUPANT ENTERS.
WHEN OCCUPIED: OCCUPANT MAY MANUALLY DIM / BRIGHTEN ALL LIGHTS AT THE SWITCH / REMOTE. MANUAL CONTROL CAN NOT FULLY SHUT OFF LIGHTS.
OCCUPANT EXITS: ALL LIGHTS AND CONTROLLED RECEPTACLES AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT. FLOOR MOUNT DATA JACK - DOUBLE DEDICATED DUPLEX RECEPTACLE CEILING MOUNT DUPLEX RECEPTACLE FLOOR MOUNT TELEPHONE JACK - DOUBLE FLOOR MOUNT DATA/TELEPHONE JACK - SINGLE/SINGLE FLOOR MOUNT DUPLEX RECEPTACLE 5 TOILET ROOM NO RECEPTACLE CONTROL 6 CORRIDOR
• NO RECEPTACLE CONTROL. NOTE: WIRELESSLY CONTROLLED RECEPTACLE IN EACH ROOM TO BE LINKED TO APPROPRIATE 7 STORAGE ROOM
• NO RECEPTACLE CONTROL. LIGHTING OCC OR VAC SENSOR IN THAT ROOM. IF AN APPROPRIATE LIGHTING SENSOR IS NOT 8 RESTAURANT
• NO RECEPTACLE CONTROL. AVAILABLE, E.C. WILL INSTALL AN ADDITIONAL SENSOR FOR RECEPTACLE CONTROL. UPS UNINTERRUPTIBLE POWER SUPPLY

| ABBREVIATIONS | | |
|---------------|---|--|
| ABBR. | DESCRIPTION | |
| А | AMP | |
| AC | AC ABOVE CEILING | |
| AFF | AFF ABOVE FINISHED FLOOR | |
| AHU | AIR HANDLING UNIT | |
| AWG | AMERICAN WIRE GAUGE | |
| С | C CONDUIT | |
| CATV | CABLE TV | |
| СН | COUNTER HEIGHT | |
| D | EXISTING EQUIPMENT/DEVICE TO BE REMOVED | |
| EF | EXHAUST FAN | |
| EM | EMERGENCY | |
| EX | EXISTING EQUIPMENT/DEVICE TO REMAIN | |
| F | FUSED | |
| FA | FIRE ALARM | |
| FD | FIRE DAMPER | |
| GFI | GROUND FAULT CIRCUIT INTERRUPTER | |
| IG | ISOLATED GROUND | |
| MD | MOTORIZED DAMPER | |
| N | NEW EQUIPMENT/DEVICE | |
| NL | NIGHT LIGHT | |
| PP | POWER POLE | |
| RE | RELOCATE EXISTING EQUIPMENT/DEVICE | |
| RTU | ROOF TOP UNIT | |
| SD | SMOKE DAMPER | |
| TEL | TELEPHONE | |
| UC | UNDER CABINET | |
| UG | UNDERGROUND | |
| UL | UNDERWRITERS LABORATORIES INC. | |

STANDARD LEGEND AND ABBREVIATIONS SHOWN ON THIS SHEET ARE INTENDED TO BE GENERAL AND MAY NOT BE SPECIFIC OR APPLICABLE TO THIS PROJECT.

W WATT

WH WATER HEATER

WP WEATHERPROOF

Norwescap Old Sullivan Building Remodeling Project PROJECT LOCATION LOT: BLOCK: 371 S Main Street Phillipsburg, NJ 08865

NORWESCAP

350 Marshall Street Phillipsburg, NJ 08865

Warren County



architecture & design 312 State Route 10, Randolph, NJ 07869 Tel: 973.442.5880 Fax: 973.442.5886

CONSULTANT

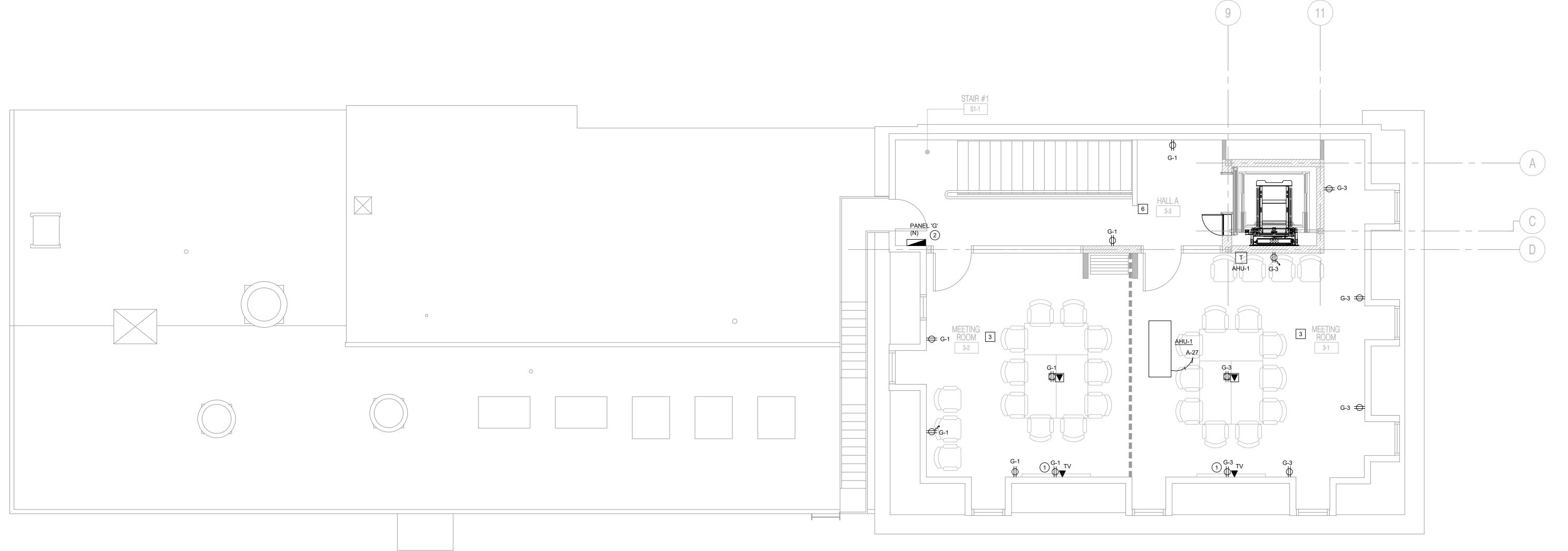


PO Box 612, Budd Lake, NJ 07828 Tel/Fax: 973-527-7691 www.frontier-es.com

| No. | Date | Issues and Revisions | Ву | Check |
|-----|----------|----------------------|----|-------|
| 1. | 05/17/24 | ISSUED FOR PERMIT | MS | MS |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

MICHAEL J. SCHLICK, P.E. N.J. LICENSE NUMBER: 24GE04904300 C.O.A. NUMBER: 24GA28244900

ELECTRICAL - PLAN



CONNECT NEW LIGHTING FIXTURES TO EXISTING LOCAL LIGHTING CIRCUIT. VERIFY EXISTING CONDITIONS PRIOR TO BID.

1 ELECTRICAL LIGHTING BASEMENT PLAN
SCALE: 1/4" = 1'-0"

LIGHTING NOTE: NEC SECTION 700.12 (F)

ALL UNIT EQUIPMENT (EMERGENCY LIGHTING) SHALL BE WIRED AHEAD OF SWITCH OR CONTROL OF NORMAL LIGHTING CIRCUIT SERVING THAT AREA. THE BRANCH CIRCUIT FEEDING THE UNIT EQUIPMENT SHALL BE THE SAME BRANCH CIRCUIT AS THAT SERVING THE NORMAL LIGHTING IN THE AREA AND CONNECTED AHEAD OF ANY LOCAL SWITCHES. THE BRANCH CIRCUIT THAT FEEDS UNIT EQUIPMENT SHALL BE CLEARLY IDENTIFIED AT THE DISTRIBUTION PANEL. IN A SEPARATE AND UNINTERRUPTED AREA SUPPLIED BY A MINIMUM OF THREE NORMAL LIGHTING CIRCUITS, A SEPARATE BRANCH CIRCUIT FOR UNIT EQUIPMENT SHALL BE FROM THE SAME PANELBOARD AS THAT OF THE NORMAL LIGHTING CIRCUITS AND PROVIDED WITH A LOCK-ON FEATURE.

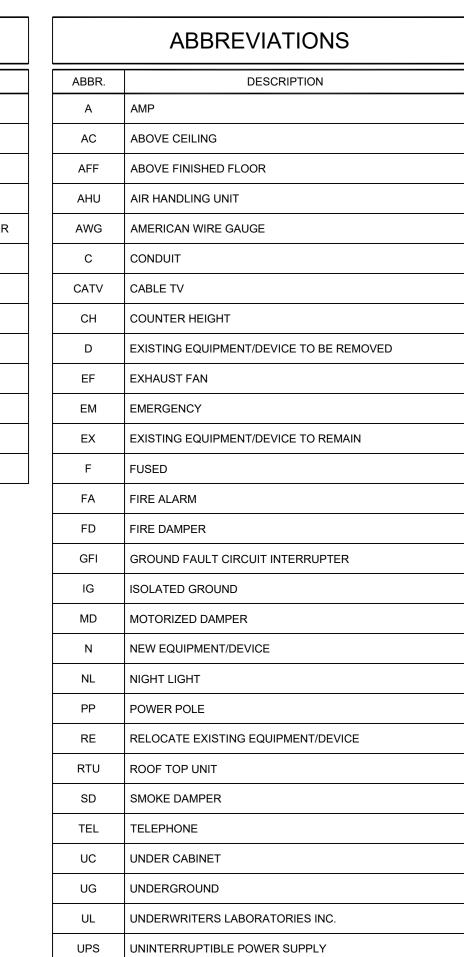
ELECTRICAL POWER LEGEND SYMBOL DESCRIPTION (STAND ALONE SWITCHING) SYMBOL DESCRIPTION (WIRELESS SWITCHING) LINE VOLTAGE HOME RUN LOW VOLTAGE CONTROL WIRE \$ SINGLE POLE SWITCH wireless load controller switch \$₃ 3-way switch WIRELESS 0-10V DIMMER LOAD CONTROLLER SWITCH \$₄ 4-way switch wireless vacancy load controller switch \$_{DIM} 0-10V DIMMER SWITCH WIRELESS 0-10V DIMMER / VACANCY LOAD CONTROLLER \$_{vac} VACANCY SENSOR SWITCH WIRELESS REMOTE - 2 BUTTON ₩IRELESS REMOTE - 2 BUTTON WITH DIMMING \$_{occ} OCCUPANCY SENSOR SWITCH \$ DIMMER VACANCY SENSOR SWITCH POWER PAK SWITCHING MODULE \$ DIMMER OCCUPANCY SENSOR SWITCH PPDIM POWER PAK 0-10V DIMMING MODULE \$ DUAL CIRCUIT VACANCY SENSOR SWITCH WIRELESS VACANCY SENSOR \$_T TIMER SWITCH WIRELESS OCCUPANCY SENSOR \$_{MC} | MOMENTARY CONTACT SWITCH WIRELESS DAYLIGHT SENSOR \$_{PR} PROJECTOR SCREEN SWITCH TOUCH SCREEN WALL SWITCH

STANDARD LEGEND AND ABBREVIATIONS SHOWN ON THIS SHEET ARE INTENDED TO BE GENERAL AND MAY NOT BE SPECIFIC OR APPLICABLE TO THIS PROJECT.

W WATT

WH WATER HEATER

WP WEATHERPROOF



Issues and Revisions

No. Date Issues and Revisions By Check

1. 05/17/24 ISSUED FOR PERMIT MS MS

Norwescap
Old Sullivan Building
Remodeling Project

371 S Main Street

Phillipsburg, NJ 08865

Warren County

NORWESCAP

350 Marshall Street

Phillipsburg, NJ 08865

PO Box 612, Budd Lake, NJ 07828 Tel/Fax: 973-527-7691

www.frontier-es.com

architecture & design

312 State Route 10, Randolph, NJ 07869 Tel: 973.442.5880 Fax: 973.442.5886

BLOCK:

PROJECT LOCATION

LOT:

CONSULTANT

Registration and Signature

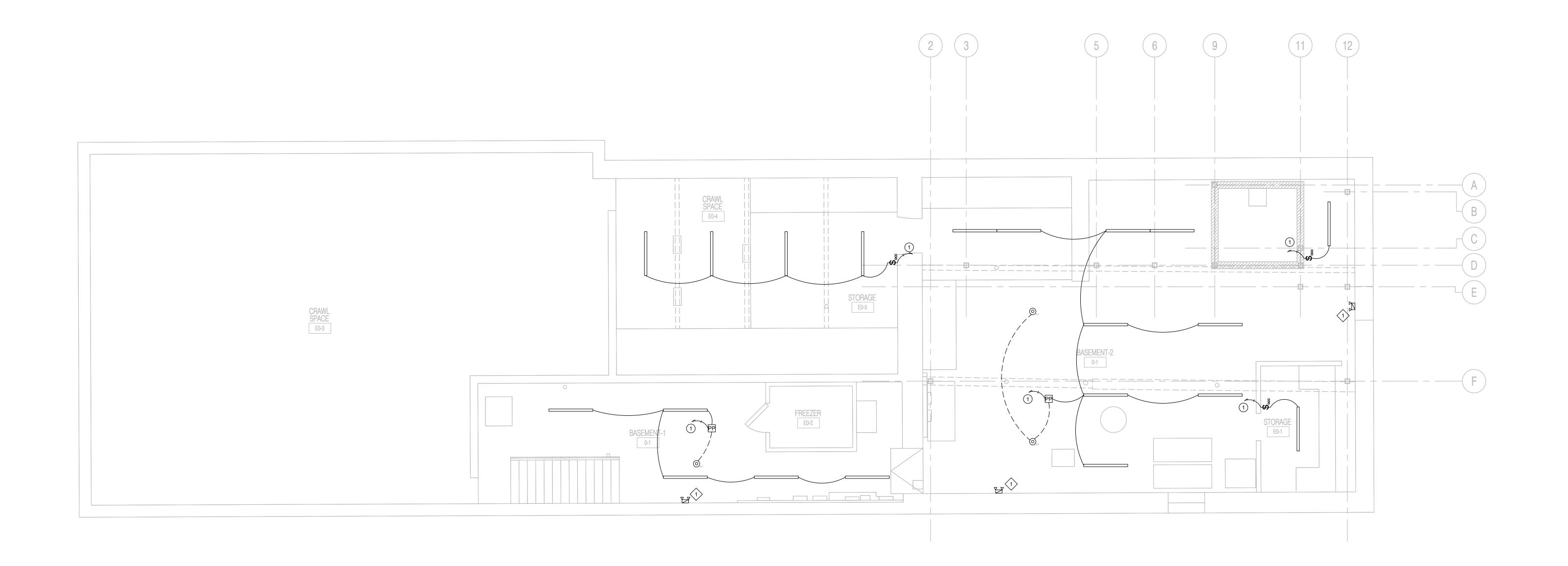
MICHAEL J. SCHLICK, P.E. N.J. LICENSE NUMBER: 24GE04904300 C.O.A. NUMBER: 24GA28244900

wing Description:

ELECTRICAL - PLAN

Computer File:

E2.0



- 1 POWER NEW LIGHT FIXTURES THROUGH EXISTING CIRCUIT. VERIFY EXISTING CONDITIONS PRIOR TO BID.
- (2) POWER TO EXISTING EXHAUST FAN. VERIFY EXISTING CONDITIONS PRIOR TO BID.
- 3 NEW OUTDOOR LIGHTING TO BE CONTROLLED BY NEW PHOTOCELL.

LIGHTING NOTE: NEC SECTION 700.12 (F)

ALL UNIT EQUIPMENT (EMERGENCY LIGHTING) SHALL BE WIRED AHEAD OF SWITCH OR CONTROL OF NORMAL LIGHTING CIRCUIT SERVING THAT AREA. THE BRANCH CIRCUIT FEEDING THE UNIT EQUIPMENT SHALL BE THE SAME BRANCH CIRCUIT AS THAT SERVING THE NORMAL LIGHTING IN THE AREA AND CONNECTED AHEAD OF ANY LOCAL SWITCHES. THE BRANCH CIRCUIT THAT FEEDS UNIT EQUIPMENT SHALL BE CLEARLY IDENTIFIED AT THE DISTRIBUTION PANEL. IN A SEPARATE AND UNINTERRUPTED AREA SUPPLIED BY A MINIMUM OF THREE NORMAL LIGHTING CIRCUITS, A SEPARATE BRANCH CIRCUIT FOR UNIT EQUIPMENT SHALL BE FROM THE SAME PANELBOARD AS THAT OF THE NORMAL LIGHTING

CIRCUITS AND PROVIDED WITH A LOCK-ON FEATURE.

REF: 2017 ASHRAE 90.1

OPEN OFFICE

OCCUPANT ENTERS: ALL LIGHTS TURN ON AUTOMATICALLY TO 50%. CONTROLLED RECEPTACLES AUTOMATICALLY REGAIN POWER WHEN OCCUPANT ENTERS.

WHEN OCCUPIED: OVERHEAD LIGHTS AUTOMATICALLY DIM / BRIGHTEN BASED ON AVAILABLE DAYLIGHT. OCCUPANT MAY MANUALLY DIM / BRIGHTEN OR TURN OFF ALL LIGHTS AT THE SWITCH / REMOTE.

OCCUPANT EXITS: ALL LIGHTS AND CONTROLLED RECEPTACLES AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT.

LIGHTING CONTROL FUNCTIONALITY

- PRIVATE OFFICE

 OCCUPANT ENTERS: LIGHTS DO NOT TURN ON AUTOMATICALLY. LIGHTS MAY BE TURNED ON BY THE OCCUPANT AT THE SWITCH / REMOTE. CONTROLLED RECEPTACLES AUTOMATICALLY REGAIN POWER WHEN OCCUPANT ENTERS.

 WHEN OCCUPIED: OCCUPANT MAY MANUALLY DIM / BRIGHTEN OR TURN OFF ALL LIGHTS AT THE SWITCH / REMOTE.

 OCCUPANT EXITS: ALL LIGHTS AND CONTROLLED RECEPTACLES AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT.
- CONFERENCE ROOM
 OCCUPANT ENTERS: LIGHTS DO NOT TURN ON AUTOMATICALLY. LIGHTS MAY BE TURNED ON BY THE OCCUPANT AT THE SWITCH / REMOTE. CONTROLLED RECEPTACLES AUTOMATICALLY REGAIN POWER WHEN OCCUPANT ENTERS.
 WHEN OCCUPIED: OCCUPANT MAY MANUALLY DIM / BRIGHTEN OR TURN OFF ALL LIGHTS AT THE SWITCH / REMOTE.
 OCCUPANT EXITS: ALL LIGHTS AND CONTROLLED RECEPTACLES AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT.
- BREAK ROOM

 OCCUPANT ENTERS: ALL LIGHTS TURN ON AUTOMATICALLY. CONTROLLED RECEPTACLES AUTOMATICALLY REGAIN POWER WHEN OCCUPANT ENTERS.
 WHEN OCCUPIED: OCCUPANT MAY MANUALLY DIM / BRIGHTEN ALL LIGHTS AT THE SWITCH / REMOTE. MANUAL CONTROL CAN NOT FULLY SHUT OFF LIGHTS.
 OCCUPANT EXITS: ALL LIGHTS AND CONTROLLED RECEPTACLES AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT.
- TOILET ROOM
 OCCUPANT ENTERS: ALL LIGHTS TURN ON AUTOMATICALLY.
 WHEN OCCUPIED: OCCUPANT MAY MANUALLY TURN OFF ALL LIGHTS AT THE SWITCH / REMOTE.
 OCCUPANT EXITS: ALL LIGHTS AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT.
- 6 CORRIDOR

 OCCUPANT ENTERS: ALL LIGHTS TURN ON AUTOMATICALLY.

 WHEN OCCUPIED: MANUAL CONTROL CAN NOT FULLY SHUT OFF LIGHTS.

 OCCUPANT EXITS: ALL LIGHTS AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT.
- STORAGE ROOM
 OCCUPANT ENTERS: LIGHTS DO NOT TURN ON AUTOMATICALLY. LIGHTS MAY BE TURNED ON BY THE OCCUPANT AT THE SWITCH / REMOTE.
 WHEN OCCUPIED: OCCUPANT MAY MANUALLY TURN OFF ALL LIGHTS AT THE SWITCH / REMOTE.
 OCCUPANT EXITS: ALL LIGHTS AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT.
- RESTAURANT
 OCCUPANT ENTERS: ALL LIGHTS TURN ON AUTOMATICALLY.
 WHEN OCCUPIED: OCCUPANT MAY MANUALLY DIM / BRIGHTEN ALL LIGHTS AT THE SWITCH / REMOTE. MANUAL CONTROL CAN NOT FULLY SHUT OFF LIGHTS.
 OCCUPANT EXITS: ALL LIGHTS AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT.

| | ELECTRICAL POWER LEGEND | | | | |
|--------------------------|-------------------------------------|------------------|--|--|--|
| SYMBOL | DESCRIPTION (STAND ALONE SWITCHING) | SYMBOL | DESCRIPTION (WIRELESS SWITCHING) | | |
| | LINE VOLTAGE HOME RUN | | LOW VOLTAGE CONTROL WIRE | | |
| \$ | SINGLE POLE SWITCH | ~ \$ | WIRELESS LOAD CONTROLLER SWITCH | | |
| \$ ₃ | 3-WAY SWITCH | ~\$ □™ | WIRELESS 0-10V DIMMER LOAD CONTROLLER SWITCH | | |
| \$4 | 4-WAY SWITCH | ₽ \$\vac | WIRELESS VACANCY LOAD CONTROLLER SWITCH | | |
| \$ _{DIM} | 0-10V DIMMER SWITCH | r\$ DIM | WIRELESS 0-10V DIMMER / VACANCY LOAD CONTROLLE | | |
| \$ _{vac} | VACANCY SENSOR SWITCH | ₽ ₽₩ | WIRELESS REMOTE - 2 BUTTON | | |
| \$ _{occ} | OCCUPANCY SENSOR SWITCH | ₽ V⊞ DIM | WIRELESS REMOTE - 2 BUTTON WITH DIMMING | | |
| \$ ^{DIM} | DIMMER VACANCY SENSOR SWITCH | _g €PP | POWER PAK SWITCHING MODULE | | |
| \$ occ | DIMMER OCCUPANCY SENSOR SWITCH | PPDIM | POWER PAK 0-10V DIMMING MODULE | | |
| \$ DUAL VAC | DUAL CIRCUIT VACANCY SENSOR SWITCH | O _{NAC} | WIRELESS VACANCY SENSOR | | |
| \$ _T | TIMER SWITCH | O _{cc} | WIRELESS OCCUPANCY SENSOR | | |
| \$ _{MC} | MOMENTARY CONTACT SWITCH | 3 , or □ | WIRELESS DAYLIGHT SENSOR | | |
| \$ _{PR} | PROJECTOR SCREEN SWITCH | TWS | TOUCH SCREEN WALL SWITCH | | |

| | ABBREVIATIONS | | |
|---|---------------|---|--|
| | ABBR. | DESCRIPTION | |
| | А | AMP | |
| | AC | ABOVE CEILING | |
| | AFF | ABOVE FINISHED FLOOR | |
| | AHU | AIR HANDLING UNIT | |
| R | AWG | AMERICAN WIRE GAUGE | |
| | С | CONDUIT | |
| | CATV | CABLE TV | |
| | СН | COUNTER HEIGHT | |
| | D | EXISTING EQUIPMENT/DEVICE TO BE REMOVED | |
| | EF | EXHAUST FAN | |
| | EM | EMERGENCY | |
| | EX | EXISTING EQUIPMENT/DEVICE TO REMAIN | |
| | F | FUSED | |
| | FA | FIRE ALARM | |
| | FD | FIRE DAMPER | |
| | GFI | GROUND FAULT CIRCUIT INTERRUPTER | |
| | IG | ISOLATED GROUND | |
| | - | | |

MD MOTORIZED DAMPER

NL NIGHT LIGHT

PP POWER POLE

RTU ROOF TOP UNIT

SD SMOKE DAMPER

UC UNDER CABINET

UG UNDERGROUND

WH WATER HEATER

WP WEATHERPROOF

TEL TELEPHONE

W WATT

N NEW EQUIPMENT/DEVICE

RE RELOCATE EXISTING EQUIPMENT/DEVICE

HORTEN
architecture & design
312 State Route 10, Randolph, NJ 07869
Tel: 973.442.5880 Fax: 973.442.5886

Norwescap

Old Sullivan Building

Remodeling Project

371 S Main Street

Phillipsburg, NJ 08865

Warren County

350 Marshall Street

Phillipsburg, NJ 08865

BLOCK:

CONSULTANT

PROJECT LOCATION

LOT:

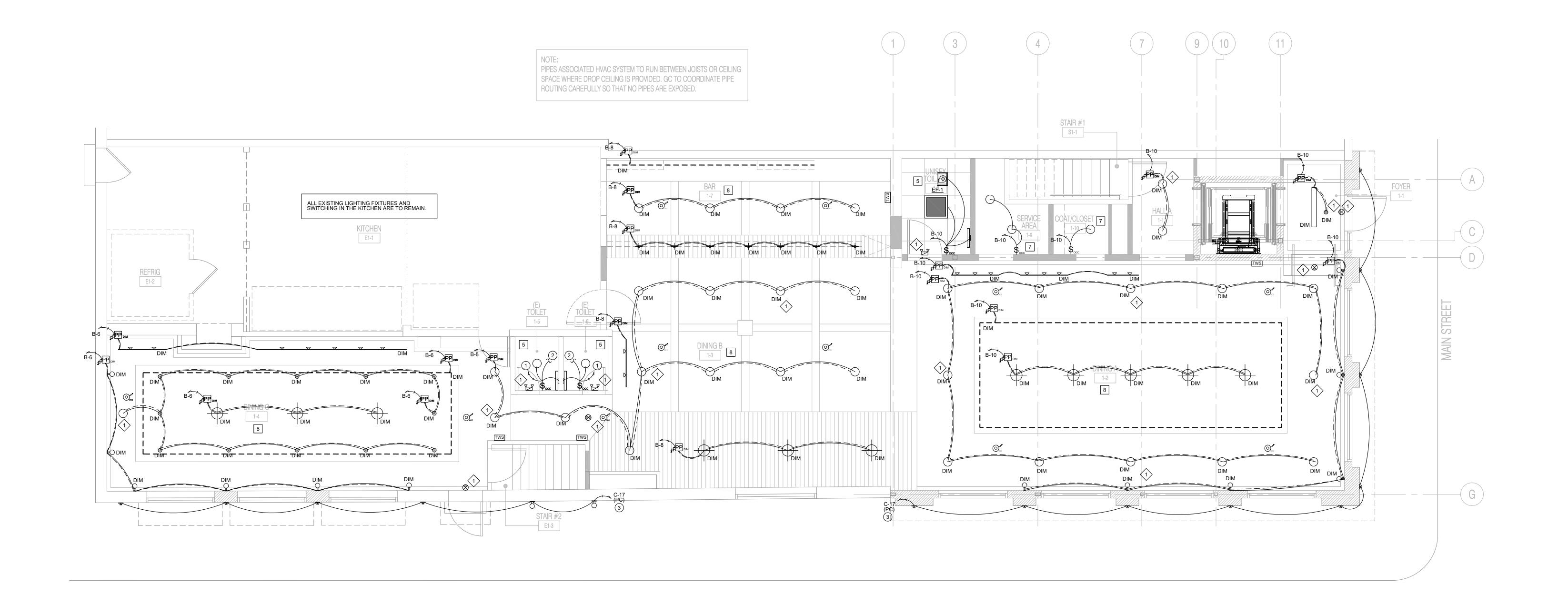
CRONTIER

PO Box 612, Budd Lake, NJ 07828 Tel/Fax: 973-527-7691 www.frontier-es.com

STANDARD LEGEND AND ABBREVIATIONS SHOWN ON THIS SHEET ARE INTENDED TO BE GENERAL AND MAY NOT BE SPECIFIC OR APPLICABLE TO THIS PROJECT.

UNDERWRITERS LABORATORIES INC.

UPS UNINTERRUPTIBLE POWER SUPPLY



Issues and Revisions

No. Date Issues and Revisions By Check

1. 05/17/24 ISSUED FOR PERMIT MS MS

MS

Registration and Signature

MICHAEL J. SCHLICK, P.E. N.J. LICENSE NUMBER: 24GE04904300 C.O.A. NUMBER: 24GA28244900

Drawing Description:

ELECTRICAL - PLAN

Computer File:

E2.′

LIGHTING NOTE: NEC SECTION 700.12 (F)

ALL UNIT EQUIPMENT (EMERGENCY LIGHTING) SHALL BE WIRED AHEAD OF SWITCH OR CONTROL OF NORMAL LIGHTING CIRCUIT SERVING THAT AREA. THE BRANCH CIRCUIT FEEDING THE UNIT EQUIPMENT SHALL BE THE SAME BRANCH CIRCUIT AS THAT SERVING THE NORMAL LIGHTING IN THE AREA AND CONNECTED AHEAD OF ANY LOCAL SWITCHES. THE BRANCH CIRCUIT THAT FEEDS UNIT EQUIPMENT SHALL BE CLEARLY IDENTIFIED AT THE DISTRIBUTION PANEL. IN A SEPARATE AND UNINTERRUPTED AREA SUPPLIED BY A MINIMUM OF THREE NORMAL LIGHTING CIRCUITS, A SEPARATE BRANCH CIRCUIT FOR UNIT EQUIPMENT SHALL BE FROM THE SAME PANELBOARD AS THAT OF THE NORMAL LIGHTING CIRCUITS AND PROVIDED WITH A LOCK-ON FEATURE.

| LIGHTING CONTROL FUNCTIONALITY |
|---|
| REF: 2017 ASHRAE 90.1 |
| OPEN OFFICE OCCUPANT ENTERS: ALL LIGHTS TURN ON AUTOMATICALLY TO 50%. CONTROLLED RECEPTACLES AUTOMATICALLY REGAIN POWER WHEN OCCUPANT ENTERS. WHEN OCCUPIED: OVERHEAD LIGHTS AUTOMATICALLY DIM / BRIGHTEN BASED ON AVAILABLE DAYLIGHT. OCCUPANT MAY MANUALLY DIM / BRIGHTEN OR TURN OFF ALL LIGHTS AT THE SWITCH / REMOTE. OCCUPANT EXITS: ALL LIGHTS AND CONTROLLED RECEPTACLES AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT. |
| PRIVATE OFFICE OCCUPANT ENTERS: LIGHTS DO NOT TURN ON AUTOMATICALLY. LIGHTS MAY BE TURNED ON BY THE OCCUPANT AT THE SWITCH / REMOTE. CONTROLLED RECEPTACLES AUTOMATICALLY REGAIN POWER WHEN OCCUPANT ENTERS. WHEN OCCUPIED: OCCUPANT MAY MANUALLY DIM / BRIGHTEN OR TURN OFF ALL LIGHTS AT THE SWITCH / REMOTE. OCCUPANT EXITS: ALL LIGHTS AND CONTROLLED RECEPTACLES AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT. |
| CONFERENCE ROOM OCCUPANT ENTERS: LIGHTS DO NOT TURN ON AUTOMATICALLY. LIGHTS MAY BE TURNED ON BY THE OCCUPANT AT THE SWITCH / REMOTE. CONTROLLED RECEPTACLES AUTOMATICALLY REGAIN POWER WHEN OCCUPANT ENTERS. WHEN OCCUPIED: OCCUPANT MAY MANUALLY DIM / BRIGHTEN OR TURN OFF ALL LIGHTS AT THE SWITCH / REMOTE. OCCUPANT EXITS: ALL LIGHTS AND CONTROLLED RECEPTACLES AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT. |
| BREAK ROOM OCCUPANT ENTERS: ALL LIGHTS TURN ON AUTOMATICALLY. CONTROLLED RECEPTACLES AUTOMATICALLY REGAIN POWER WHEN OCCUPANT ENTERS. WHEN OCCUPIED: OCCUPANT MAY MANUALLY DIM / BRIGHTEN ALL LIGHTS AT THE SWITCH / REMOTE. MANUAL CONTROL CAN NOT FULLY SHUT OFF LIGHTS. OCCUPANT EXITS: ALL LIGHTS AND CONTROLLED RECEPTACLES AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT. |
| TOILET ROOM OCCUPANT ENTERS: ALL LIGHTS TURN ON AUTOMATICALLY. WHEN OCCUPIED: OCCUPANT MAY MANUALLY TURN OFF ALL LIGHTS AT THE SWITCH / REMOTE. OCCUPANT EXITS: ALL LIGHTS AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT. |
| 6 CORRIDOR OCCUPANT ENTERS: ALL LIGHTS TURN ON AUTOMATICALLY. WHEN OCCUPIED: MANUAL CONTROL CAN NOT FULLY SHUT OFF LIGHTS. OCCUPANT EXITS: ALL LIGHTS AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT. |
| STORAGE ROOM OCCUPANT ENTERS: LIGHTS DO NOT TURN ON AUTOMATICALLY. LIGHTS MAY BE TURNED ON BY THE OCCUPANT AT THE SWITCH / REMOTE. WHEN OCCUPIED: OCCUPANT MAY MANUALLY TURN OFF ALL LIGHTS AT THE SWITCH / REMOTE. OCCUPANT EXITS: ALL LIGHTS AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT. |
| RESTAURANT OCCUPANT ENTERS: ALL LIGHTS TURN ON AUTOMATICALLY. WHEN OCCUPIED: OCCUPANT MAY MANUALLY DIM / BRIGHTEN ALL LIGHTS AT THE SWITCH / REMOTE. MANUAL CONTROL CAN NOT FULLY SHUT OFF LIGHTS. OCCUPANT EXITS: ALL LIGHTS AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT. |

| ELECTRICAL POWER LEGEND | | | | |
|-------------------------|-------------------------------------|-----------------------------|---|--|
| SYMBOL | DESCRIPTION (STAND ALONE SWITCHING) | SYMBOL | DESCRIPTION (WIRELESS SWITCHING) | |
| | LINE VOLTAGE HOME RUN | | LOW VOLTAGE CONTROL WIRE | |
| \$ | SINGLE POLE SWITCH | ~ \$ | WIRELESS LOAD CONTROLLER SWITCH | |
| \$ ₃ | 3-WAY SWITCH | ~ \$ | WIRELESS 0-10V DIMMER LOAD CONTROLLER SWITCH | |
| \$4 | 4-WAY SWITCH | " r\$ _{vac} | WIRELESS VACANCY LOAD CONTROLLER SWITCH | |
| \$ _{DIM} | 0-10V DIMMER SWITCH | r \$ dim √AC | WIRELESS 0-10V DIMMER / VACANCY LOAD CONTROLLER | |
| \$ _{vac} | VACANCY SENSOR SWITCH | <u></u> | WIRELESS REMOTE - 2 BUTTON | |
| \$ _{occ} | OCCUPANCY SENSOR SWITCH | DIM DIM | WIRELESS REMOTE - 2 BUTTON WITH DIMMING | |
| \$DIM VAC | DIMMER VACANCY SENSOR SWITCH | g\$PP | POWER PAK SWITCHING MODULE | |
| \$DIM OCC | DIMMER OCCUPANCY SENSOR SWITCH | PPDIM | POWER PAK 0-10V DIMMING MODULE | |
| \$DUAL VAC | DUAL CIRCUIT VACANCY SENSOR SWITCH | O _{VAC} | WIRELESS VACANCY SENSOR | |
| \$ _T | TIMER SWITCH | O.c. | WIRELESS OCCUPANCY SENSOR | |
| \$ _{MC} | MOMENTARY CONTACT SWITCH | (B) DL | WIRELESS DAYLIGHT SENSOR | |
| \$ _{PR} | PROJECTOR SCREEN SWITCH | TWS | TOUCH SCREEN WALL SWITCH | |

| | ABBREVIATIONS |
|-------|---|
| ABBR. | DESCRIPTION |
| Α | AMP |
| AC | ABOVE CEILING |
| AFF | ABOVE FINISHED FLOOR |
| AHU | AIR HANDLING UNIT |
| AWG | AMERICAN WIRE GAUGE |
| С | CONDUIT |
| CATV | CABLE TV |
| СН | COUNTER HEIGHT |
| D | EXISTING EQUIPMENT/DEVICE TO BE REMOVED |
| EF | EXHAUST FAN |
| EM | EMERGENCY |
| EX | EXISTING EQUIPMENT/DEVICE TO REMAIN |
| F | FUSED |
| FA | FIRE ALARM |
| FD | FIRE DAMPER |
| GFI | GROUND FAULT CIRCUIT INTERRUPTER |
| IG | ISOLATED GROUND |
| MD | MOTORIZED DAMPER |
| N | NEW EQUIPMENT/DEVICE |
| NL | NIGHT LIGHT |
| PP | POWER POLE |
| RE | RELOCATE EXISTING EQUIPMENT/DEVICE |
| RTU | ROOF TOP UNIT |
| SD | SMOKE DAMPER |
| TEL | TELEPHONE |

INTENDED TO BE GENERAL AND MAY NOT BE SPECIFIC OR APPLICABLE TO THIS PROJECT.

UC UNDER CABINET UG UNDERGROUND UL UNDERWRITERS LABORATORIES INC. UPS UNINTERRUPTIBLE POWER SUPPLY WH WATER HEATER WP WEATHERPROOF STANDARD LEGEND AND ABBREVIATIONS SHOWN ON THIS SHEET ARE

Issues and Revisions

No. Date Issues and Revisions

1. 05/17/24 ISSUED FOR PERMIT

Norwescap
Old Sullivan Building
Remodeling Project

371 S Main Street

Phillipsburg, NJ 08865

Warren County

NORWESCAP

350 Marshall Street

Phillipsburg, NJ 08865

PO Box 612, Budd Lake, NJ 07828 Tel/Fax: 973-527-7691

www.frontier-es.com

architecture & design

312 State Route 10, Randolph, NJ 07869 Tel: 973.442.5880 Fax: 973.442.5886

BLOCK:

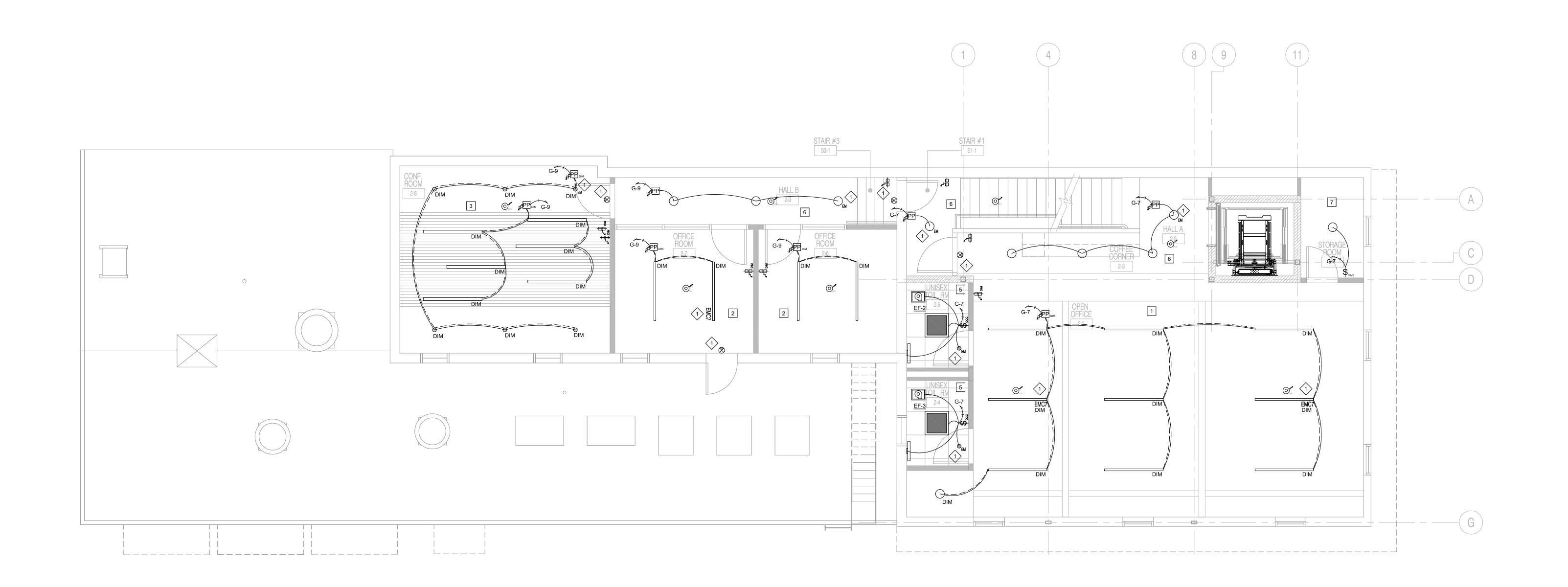
PROJECT LOCATION

LOT:

CONSULTANT

MICHAEL J. SCHLICK, P.E.
N.J. LICENSE NUMBER: 24GE04904300 C.O.A. NUMBER: 24GA28244900

ELECTRICAL - PLAN



LIGHTING NOTE: NEC SECTION 700.12 (F) ALL UNIT EQUIPMENT (EMERGENCY LIGHTING) SHALL BE WIRED AHEAD OF SWITCH OR CONTROL OF NORMAL LIGHTING CIRCUIT SERVING THAT AREA. THE BRANCH CIRCUIT FEEDING THE UNIT EQUIPMENT SHALL BE THE SAME BRANCH CIRCUIT AS THAT SERVING THE NORMAL LIGHTING IN THE AREA AND CONNECTED AHEAD OF ANY LOCAL SWITCHES. THE BRANCH CIRCUIT THAT FEEDS UNIT EQUIPMENT SHALL BE CLEARLY IDENTIFIED AT THE DISTRIBUTION PANEL. IN A SEPARATE AND UNINTERRUPTED AREA SUPPLIED BY A MINIMUM OF THREE NORMAL LIGHTING CIRCUITS, A SEPARATE BRANCH CIRCUIT FOR UNIT EQUIPMENT SHALL BE FROM THE SAME PANELBOARD AS THAT OF THE NORMAL LIGHTING CIRCUITS AND PROVIDED WITH A LOCK-ON FEATURE.

| | LIGHTING CONTROL FUNCTIONALITY |
|---|---|
| 1 | REF: 2017 ASHRAE 90.1 OPEN OFFICE OCCUPANT ENTERS: ALL LIGHTS TURN ON AUTOMATICALLY TO 50%. CONTROLLED RECEPTACLES AUTOMATICALLY REGAIN POWER WHEN OCCUPANT ENTERS. WHEN OCCUPIED: OVERHEAD LIGHTS AUTOMATICALLY DIM / BRIGHTEN BASED ON AVAILABLE DAYLIGHT. OCCUPANT MAY MANUALLY DIM / BRIGHTEN OR TURN OFF ALL LIGHTS AT THE SWITCH / REMOTE. OCCUPANT EXITS: ALL LIGHTS AND CONTROLLED RECEPTACLES AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT. |
| 2 | PRIVATE OFFICE OCCUPANT ENTERS: LIGHTS DO NOT TURN ON AUTOMATICALLY. LIGHTS MAY BE TURNED ON BY THE OCCUPANT AT THE SWITCH / REMOTE. CONTROLLED RECEPTACLES AUTOMATICALLY REGAIN POWER WHEN OCCUPANT ENTERS. WHEN OCCUPIED: OCCUPANT MAY MANUALLY DIM / BRIGHTEN OR TURN OFF ALL LIGHTS AT THE SWITCH / REMOTE. OCCUPANT EXITS: ALL LIGHTS AND CONTROLLED RECEPTACLES AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT. |
| 3 | CONFERENCE ROOM OCCUPANT ENTERS: LIGHTS DO NOT TURN ON AUTOMATICALLY. LIGHTS MAY BE TURNED ON BY THE OCCUPANT AT THE SWITCH / REMOTE. CONTROLLED RECEPTACLES AUTOMATICALLY REGAIN POWER WHEN OCCUPANT ENTERS. WHEN OCCUPIED: OCCUPANT MAY MANUALLY DIM / BRIGHTEN OR TURN OFF ALL LIGHTS AT THE SWITCH / REMOTE. OCCUPANT EXITS: ALL LIGHTS AND CONTROLLED RECEPTACLES AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT. |
| 4 | BREAK ROOM OCCUPANT ENTERS: ALL LIGHTS TURN ON AUTOMATICALLY. CONTROLLED RECEPTACLES AUTOMATICALLY REGAIN POWER WHEN OCCUPANT ENTERS. WHEN OCCUPIED: OCCUPANT MAY MANUALLY DIM / BRIGHTEN ALL LIGHTS AT THE SWITCH / REMOTE. MANUAL CONTROL CAN NOT FULLY SHUT OFF LIGHTS. OCCUPANT EXITS: ALL LIGHTS AND CONTROLLED RECEPTACLES AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT. |
| 5 | TOILET ROOM OCCUPANT ENTERS: ALL LIGHTS TURN ON AUTOMATICALLY. WHEN OCCUPIED: OCCUPANT MAY MANUALLY TURN OFF ALL LIGHTS AT THE SWITCH / REMOTE. OCCUPANT EXITS: ALL LIGHTS AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT. |
| 6 | CORRIDOR OCCUPANT ENTERS: ALL LIGHTS TURN ON AUTOMATICALLY. WHEN OCCUPIED: MANUAL CONTROL CAN NOT FULLY SHUT OFF LIGHTS. OCCUPANT EXITS: ALL LIGHTS AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT. |
| 7 | STORAGE ROOM OCCUPANT ENTERS: LIGHTS DO NOT TURN ON AUTOMATICALLY. LIGHTS MAY BE TURNED ON BY THE OCCUPANT AT THE SWITCH / REMOTE. WHEN OCCUPIED: OCCUPANT MAY MANUALLY TURN OFF ALL LIGHTS AT THE SWITCH / REMOTE. OCCUPANT EXITS: ALL LIGHTS AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT. |
| | PECTAURANT |

RESTAURANT
OCCUPANT ENTERS: ALL LIGHTS TURN ON AUTOMATICALLY.

WHEN OCCUPIED: OCCUPANT MAY MANUALLY DIM / BRIGHTEN ALL LIGHTS AT THE SWITCH / REMOTE. MANUAL CONTROL CAN NOT FULLY SHUT OFF LIGHTS.
OCCUPANT EXITS: ALL LIGHTS AUTOMATICALLY TURN OFF 15 MINUTES AFTER ALL OCCUPANTS EXIT.

| SYMBOL | DESCRIPTION (STAND ALONE SWITCHING) | SYMBOL | DESCRIPTION (WIRELESS SWITCHING) |
|--------------------------|-------------------------------------|--------------------|---|
| | LINE VOLTAGE HOME RUN | | LOW VOLTAGE CONTROL WIRE |
| \$ | SINGLE POLE SWITCH | <u></u> | WIRELESS LOAD CONTROLLER SWITCH |
| \$ ₃ | 3-WAY SWITCH | ~ \$ DIM | WIRELESS 0-10V DIMMER LOAD CONTROLLER SWITCH |
| \$4 | 4-WAY SWITCH | r\$ _{vac} | WIRELESS VACANCY LOAD CONTROLLER SWITCH |
| \$ _{DIM} | 0-10V DIMMER SWITCH | r\$ DIM VAC | WIRELESS 0-10V DIMMER / VACANCY LOAD CONTROLLER |
| \$ _{vac} | VACANCY SENSOR SWITCH | <u>~</u> | WIRELESS REMOTE - 2 BUTTON |
| \$ _{occ} | OCCUPANCY SENSOR SWITCH | ₽ S □ DIM | WIRELESS REMOTE - 2 BUTTON WITH DIMMING |
| \$ ^{dim} | DIMMER VACANCY SENSOR SWITCH | _k PP | POWER PAK SWITCHING MODULE |
| \$ occ | DIMMER OCCUPANCY SENSOR SWITCH | PP DIM | POWER PAK 0-10V DIMMING MODULE |
| \$DUAL VAC | DUAL CIRCUIT VACANCY SENSOR SWITCH | O _{NAC} | WIRELESS VACANCY SENSOR |
| \$ _T | TIMER SWITCH | ⊙ _{occ} | WIRELESS OCCUPANCY SENSOR |
| \$ _{MC} | MOMENTARY CONTACT SWITCH | ⊕ | WIRELESS DAYLIGHT SENSOR |
| \$ _{PR} | PROJECTOR SCREEN SWITCH | TWS | TOUCH SCREEN WALL SWITCH |

| | ABBREVIATIONS |
|-------|---|
| ABBR. | DESCRIPTION |
| Α | AMP |
| AC | ABOVE CEILING |
| AFF | ABOVE FINISHED FLOOR |
| AHU | AIR HANDLING UNIT |
| AWG | AMERICAN WIRE GAUGE |
| С | CONDUIT |
| CATV | CABLE TV |
| СН | COUNTER HEIGHT |
| D | EXISTING EQUIPMENT/DEVICE TO BE REMOVED |
| EF | EXHAUST FAN |
| EM | EMERGENCY |
| EX | EXISTING EQUIPMENT/DEVICE TO REMAIN |
| F | FUSED |
| FA | FIRE ALARM |
| FD | FIRE DAMPER |
| GFI | GROUND FAULT CIRCUIT INTERRUPTER |
| IG | ISOLATED GROUND |
| MD | MOTORIZED DAMPER |
| N | NEW EQUIPMENT/DEVICE |
| NL | NIGHT LIGHT |

STANDARD LEGEND AND ABBREVIATIONS SHOWN ON THIS SHEET ARE INTENDED TO BE GENERAL AND MAY NOT BE SPECIFIC OR APPLICABLE TO THIS PROJECT.

NL NIGHT LIGHT PP POWER POLE RE RELOCATE EXISTING EQUIPMENT/DEVICE RTU ROOF TOP UNIT SD SMOKE DAMPER TEL TELEPHONE UC UNDER CABINET UG UNDERGROUND UL UNDERWRITERS LABORATORIES INC. UPS UNINTERRUPTIBLE POWER SUPPLY W WATT WH WATER HEATER WP WEATHERPROOF

1. 05/17/24 ISSUED FOR PERMIT

Norwescap
Old Sullivan Building
Remodeling Project

371 S Main Street

Phillipsburg, NJ 08865

Warren County

NORWESCAP

350 Marshall Street

Phillipsburg, NJ 08865

PO Box 612, Budd Lake, NJ 07828 Tel/Fax: 973-527-7691

www.frontier-es.com

architecture & design

312 State Route 10, Randolph, NJ 07869 Tel: 973.442.5880 Fax: 973.442.5886

BLOCK:

PROJECT LOCATION

LOT:

CONSULTANT

MICHAEL J. SCHLICK, P.E.

N.J. LICENSE NUMBER: 24GE04904300 C.O.A. NUMBER: 24GA28244900

ELECTRICAL - PLAN

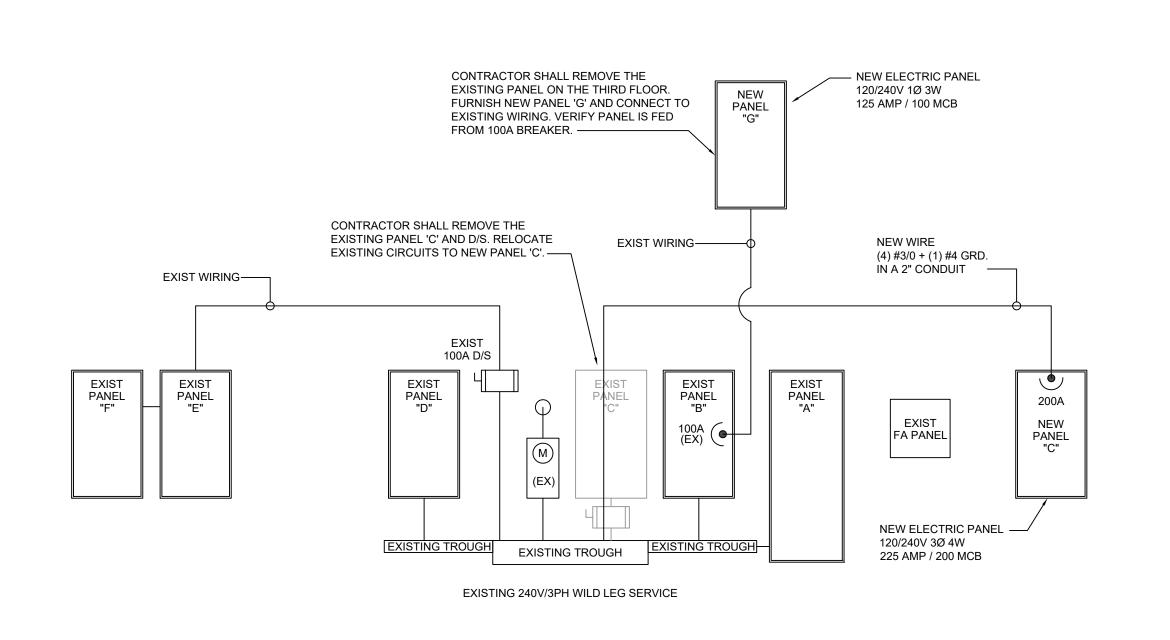
| PANE | LBOA | RD | Α | VOLTA | GE | 120 | 240 | PHASE | | 1 | | WIRE | | 3 | |
|-----------|-------|-----------------|--------|--------|----------|------|-------|--------|-------|-------|--------|--------|-------------------|---------|-----|
| | L TYP | | EXIST | MAINS | _ | 200 | | BUS RA | TING | EXIST | | AIC RA | TING | EXIST | |
| | | ENCLOSURE | EXIST | MOUNT | | SURF | ACE | OPTION | | | | NOTE | | | |
| CKT. | | DESCRIPTION | | POLE | WIRE | BKR. | TOTAL | PHASE | TOTAL | BKR. | WIRE | POLE | DESCRIPTION | | СКТ |
| NO. | | | | | SIZE | SIZE | WATTS | | WATTS | SIZE | SIZE | | | | NO. |
| 1 | | | | 1_ | | | 1,400 | Α | 1,400 | | | _ | | | 2 |
| 3 | · | FREEZER (EX) | | 2 | | 20 | 1,400 | В | 1,400 | 20 | | 2 | EXISTING LOAD | | 4 |
| 5 | | AO DINUNO (EV) | | | | | | Α | 1,400 | | | | TO A OTED (EV) | | 6 |
| 7 | | AC DINING (EX) | | 2 | | 20 | | В | 1,400 | 20 | | 2 | TOASTER (EX) | | 8 |
| 9 | | EVICTING LOAD | | 1 | | 20 | 1,400 | Α | 1,400 | 20 | | _ | EVICTING LOAD | | 10 |
| 11 | | EXISTING LOAD | | 2 | | 20 | 1,400 | В | 1,400 | 20 | | 2 | EXISTING LOAD | | 12 |
| 13 | | EXISTING LOAD | | 1 | | 20 | 1,650 | Α | 1,650 | 20 | | 1 | EXISTING LOAD | | 14 |
| 15 | (4) | AC 4 (NI) | | 1 | 4 | 60 | 4,243 | В | 1,200 | 20 | | 1 | DISHWASHER (EX |) | 16 |
| 17 | (1) | AC-1 (N) | | 2 | * | 60 | 4,243 | Α | 1,200 | 20 | | 1 | MIRCOWAVE (EX) | | 18 |
| 19 | (1) | AC-2 (N) | | 2 | 8 | 40 | 2,538 | В | 500 | 20 | | 1 | SMOKE DETECTOR | RS (EX) | 20 |
| 21 | (1) | AC-2 (N) | | | 0 | 40 | 2,538 | Α | 1,400 | 20 | | 2 | EXISTING LOAD | | 22 |
| 23 | (1) | AC-3 (N) | | 2 | 6 | 50 | 3,266 | В | 1,400 |] 20 | | | EXISTING LOAD | | 24 |
| 25 | (1) | A0-3 (N) | | | | 30 | 3,266 | Α | 500 | 20 | | 1 | FIRE ALARM (EX) | | 26 |
| 27 | (1) | AHU-1 (N) | | 1 | 12 | 20 | 1,776 | В | | | | | | | 28 |
| 29 | (1) | AHU-2 (N) | | 1 | 12 | 15 | 1,164 | Α | | | | | | | 30 |
| 31 | (1) | AHU-3 (N) | | 1 | 12 | 20 | 1,164 | В | | | | | | | 32 |
| 33 | | | | | | | | Α | | | | | | | 34 |
| 35 | | | | | | | | В | | | | | | | 36 |
| 37 | | | | | | | | Α | | | | | | | 38 |
| 39 | | | | | | | | В | | | | | | | 40 |
| 41 | | | | | | | | Α | | | | | | | 42 |
| | HASE | S TO BE BALANCE | | IIN 7% | | | | | | | | | | | |
| Δ= | | 24,611 | WATTS | | | | | | (1) | | | | LL FURNISH AND II | | |
| B= | | 23,087 | WATTS | | | | | | | BREA | KER IN | THE EX | KISTING SPACE(S). | | |
| TOTA | CON | INECTED LOAD | 47,698 | WATTS | <u> </u> | | 198.7 | AMPS | | | | | | | |
| | | IAND LOAD | 47,698 | WATTS | | | 198.7 | AMPS | | | | | | | |

| PANE | BOA | RD | В | VOLTA | GE | 120 | 240 | PHASE | | 1 | | WIRE | | 3 | | |
|-------|-------|-----------------|---------|--------|------|------|--------|--------|----------|-------|--------|---------|-------------------|-----------|-----|----|
| PANE | _ TYP | E | EXIST | MAINS | | 200 | | BUS RA | TING | EXIST | | AIC RA | TING | EXIST | | |
| NEMA | TYPE | ENCLOSURE | EXIST | MOUNT | ΓING | SURF | ACE | OPTION | S | | | NOTE | | | | |
| CKT. | | DESCRIPTION | | POLE | WIRE | BKR. | TOTAL | PHASE | TOTAL | BKR. | WIRE | POLE | DESCRIPTION | | | CK |
| NO. | | | | | SIZE | SIZE | WATTS | | WATTS | SIZE | SIZE | | | | | NC |
| 1 | | EXISTING LOAD | - | 2 | | 30 | 2,184 | Α | 1,680 | 20 | | 1 | EXISTING LOAD | | | 2 |
| 3 | | EXISTING LOAD | | 2 | | 30 | 2,184 | В | 1,680 | 20 | | 1 | EXISTING LOAD | | | 4 |
| 5 | (2) | OUTLET BAR (EV) | | 2 | 10 | 30 | 1,125 | Α | 1,150 | 20 | 12 | 1 | BACK DINING LIGH | T (N) | (1) | 6 |
| 7 | (2) | OUTLET BAR (EX) | | 2 | 10 | 30 | 1,125 | В | 1,300 | 20 | 12 | 1 | BAR LIGHTS (N) | | (1) | 8 |
| 9 | | EXISTING LOAD | | 1 | | 20 | 1,680 | Α | 1,200 | 20 | 12 | 1 | FRONT DINING LIG | HT (N) | (1) | 10 |
| 11 | | EXIT SIGNS (EX) | | 1 | | 20 | 500 | В | 1,620 | 20 | 12 | 1 | BACK DINING RECE | EPT (N) | (1) | 12 |
| 13 | (3) | PANEL 'G' (RE) | | 2 | | 100 | 10,370 | Α | 1,620 | 20 | 12 | 1 | FRONT DINING REC | CEPT (N) | (1) | 14 |
| 15 | (3) | PANEL G (RE) | | 2 | | 100 | 9,710 | В | 1,500 | 20 | 12 | 1 | BAR REFRIGERATO | OR (N) | (1) | 10 |
| 17 | (2) | BAR OUTLETS (EX | () | 1 | 12 | 20 | 1,500 | Α | | | | | | | | 18 |
| 19 | (2) | BAR OUTLETS (EX | () | 1 | 12 | 20 | 1,500 | В | | | | | | | | 2 |
| 21 | | EXISTING LOAD | | 1 | | 20 | 1,680 | Α | | | | | | | | 2 |
| 23 | | EXISTING LOAD | | 1 | | 20 | 1,680 | В | | | | | | | | 24 |
| 25 | | EXISTING LOAD | | 1 | | 20 | 1,680 | Α | | | | | | | | 20 |
| 27 | | | | | | | | В | | | | | | | | 2 |
| 29 | | | | | | | | Α | | | | | | | | 3 |
| 31 | | | | | | | | В | | | | | | | | 3 |
| 33 | | | | | | | | Α | | | | | | | | 3 |
| 35 | | | | | | | | В | | | | | | | | 30 |
| 37 | | | | | | | | Α | | | | | | | | 38 |
| 39 | | | | | | | | В | | | | | | | | 40 |
| 41 | | | | | | | | Α | <u> </u> | | | | | | | 42 |
| ALL P | HASE | S TO BE BALANCE | TO WITH | IIN 7% | | | | | | | | | | | | |
| A= | | 25,869 | WATTS | | | | | | (1) | CONT | RACTO | R SHA | LL FURNISH AND IN | STALL NE | W | |
| B= | | 22,799 | WATTS | | | | | | | BREA | KER IN | THE EX | (ISTING SPACE(S). | | | |
| | | | | | | | | | (2) | RELO | CATE | EXISTSI | NG CIRCUIT TO NEV | N LOCATI | ON | |
| TOTA | CON | NECTED LOAD | 48,668 | WATTS | 3 | | 202.8 | AMPS | (3) | VERIF | Y 100A | BREAK | KER FEDS PANEL O | N 3RD FLC | OR | |
| TOTA | _ DEM | AND LOAD | 45,521 | WATTS | 3 | | 189.7 | AMPS | | | | | | | | |

| PANELBO | DARD | С | VOLTA | GE | 120 | /240 | PHASE | | 3 | | WIRE | | 4 | |
|---------|---------------------------|------------------|--------|------|------|----------------|--------------|-------|------|------|--------|------------------|------------|----|
| PANEL T | | NQOD | MAINS | | 200 | 72.0 | BUS RA | ΓING | 225 | | AIC RA | TING | 25,000 | |
| | PE ENCLOSURE | NEMA1 | MOUNT | | SURF | ACE | OPTION | | | | NOTE | - | ., | |
| СКТ. | DESCRIPTION | | POLE | WIRE | BKR. | TOTAL | PHASE | TOTAL | BKR. | WIRE | POLE | DESCRIPTION | | СК |
| NO. | | | | SIZE | SIZE | WATTS | | WATTS | SIZE | SIZE | | | | N |
| 1 | | | | | | 4,378 | Α | 5,733 | | | | | | |
| 3 | ACCU-1 | | 3 | 8 | 40 | 4,378 | В | 5,733 | 50 | 6 | 3 | ACCU-2 | | |
| 5 | | | | | | 4,378 | С | 5,733 | | | | | | |
| 7 | SPARE | | 1 | | 20 | | Α | | 20 | | 1 | SPARE | | |
| 9 | | | | | | | В | | | | | | | 1 |
| 11 | AC-1-1,2,3,4,5,6,7 | 2.0 | 2 | 12 | 15 | 426 | С | 749 | 15 | 12 | 2 | AC-2-1&2 | | 1 |
| 13 | AC-1-1,2,3,4,5,6,7 | 3 0 | | 12 | 15 | 426 | Α | 749 | 15 | 12 | 2 | AC-2-102 | | 1 |
| 15 | | | | | | | В | | | | | | | 1 |
| 17 | OUTDOOR LIGHT | ING | 1 | 12 | 20 | 750 | С | 3,500 | 40 | 8 | 2 | DH-1 | | 1 |
| 19 | SUMP PUMP | | 1 | 12 | 20 | 1,176 | Α | 3,500 | 40 | " | 2 | DI1-1 | | 2 |
| 21 | | | | | | | В | | | | | | | 2 |
| 23 | WH-1 | | 2 | 12 | 20 | 1,498 | С | 3,500 | 40 | 8 | 2 | DH-2 | | |
| 25 | 1 | | | | | 1,498 | Α | 3,500 | 70 | | _ | 511-2 | | 2 |
| 27 | | | | | | | В | | | | | | | 2 |
| 29 | ELEVATOR | | 2 | 8 | 40 | 3,640 | С | | 15 | | 1 | EXISTING LOAD | | 3 |
| 31 | ZZZV///OK | | | Ŭ | 10 | 3,640 | Α | | 15 | | 1 | EXISTING LOAD | | |
| 33 | | | | | | | В | | | | | | | |
| 35 | CAB LIGHTS | | 1 | 12 | 20 | 500 | С | | 15 | | 1 | EXISTING LOAD | | 3 |
| 37 | | | | | | 3,466 | Α | | | | | | | 3 |
| 39 | ELEVATOR | | 3 | 10 | 30 | 3,466 | В | | 30 | | 3 | 3 PH STEAMER (E) | K) | 4 |
| 41 | | | | | | 3,466 | С | | | | | | | 4 |
| | SES TO BE BALANCE | | IIN 7% | | | | | | | | | | | |
| A= | 28,066 | WATTS | | | | | | | | | | | | |
| B= | 13,577 | WATTS | | | | | | | | | | | | |
| C= | 28,140 | WATTS | | | | | | | | | | | | |
| | ONNECTED LOAD EMAND LOAD | 69,783 70,096 | WATTS | | | 193.8 194.7 | AMPS AMPS | | | | | | | |

| NEW | PANEL | E | LEC | CTI | RIC | ALF | PAN | EL S | CH | 1E[| DUL | .E | | |
|--------|--------------------|-----------|----------|----------|------|-------|--------|-------|------|------|--------|-----------------|-----------|----|
| PANELE | BOARD | G | VOLTA | GE | 120 | 240 | PHASE | | 1 | | WIRE | | 3 | |
| PANEL | TYPE | NQOD | MAINS | | 100 | | BUS RA | TING | 125 | | AIC RA | TING | 10,000 | |
| NEMA T | YPE ENCLOSURE | NEMA1 | моинт | ING | SURF | ACE | OPTION | S | | | NOTE | VERIFY E | XIST FEED | |
| CKT. | DESCRIPTION | | POLE | WIRE | BKR. | TOTAL | PHASE | TOTAL | BKR. | WIRE | POLE | DESCRIPTION | | СК |
| NO. | | | | SIZE | SIZE | WATTS | | WATTS | SIZE | SIZE | | | | NO |
| 1 | 3RD CONF RM RE | CEPT | 1 | 12 | 20 | 1,080 | Α | 1,800 | 20 | 12 | 1 | WORKSTATIONS | | 2 |
| 3 | 3RD CONF RM RE | CEPT | 1 | 12 | 20 | 900 | В | 1,800 | 20 | 12 | 1 | WORKSTATIONS | | 4 |
| 5 | 3RD CONF RM LIG | SHTS | 1 | 12 | 20 | 1,800 | Α | 720 | 20 | 12 | 1 | 2ND OPEN OFF RE | CEPT | 6 |
| 7 | 2ND OPEN OFF LI | GHTS | 1 | 12 | 20 | 950 | В | 1,200 | 20 | 12 | 1 | 2ND COPIER | | 8 |
| 9 | 2ND CONF RM LIG | SHTS | 1 | 12 | 20 | 950 | Α | 1,200 | 20 | 12 | 1 | 2ND REFRIG | | 10 |
| 11 | 2ND MICROWAVE | | 1 | 12 | 20 | 1,200 | В | 1,200 | 20 | 12 | 1 | 2ND BREAK RECE | PT | 12 |
| 13 | SPARE | | 1 | | 20 | | Α | 1,080 | 20 | 12 | 1 | 2ND CONF RM REC | CEPT | 14 |
| 15 | SPARE | | 1 | | 20 | | В | 1,080 | 20 | 12 | 1 | 3RD CONF RM REC | CEPT | 16 |
| 17 | SPARE | | 1 | | 20 | | Α | | 20 | | 1 | SPARE | | 18 |
| 19 | SPARE | | 1 | | 20 | | В | | 20 | | 1 | SPARE | | 20 |
| ALL DU | ASES TO DE DALANCE | D TO WITH | IIII 70/ | | | | | | | | | | | |
| | ASES TO BE BALANCE | | IIN 7% | | | | | | | | | | | |
| A= | 8,630 | WATTS | | | | | | | | | | | | |
| B= | 8,330 | WATTS | | | | | | | | | | | | |
| TOTAL | CONNECTED LOAD | 16960 | WATTS | <u> </u> | | 70.7 | AMPS | | | | | | | |
| TOTAL | DEMAND LOAD | 14820 | WATTS | ; | | 61.7 | AMPS | | | | | | | |

2 ELECTRICAL PANEL SCHEDULES & LOAD SUMMARY
SCALE: NONE



1 POWER RISER DIAGRAM SCALE: NTS

Norwescap Old Sullivan Building Remodeling Project

PROJECT LOCATION

LOT:

BLOCK:

371 S Main Street Phillipsburg, NJ 08865 Warren County

NORWESCAP

350 Marshall Street Phillipsburg, NJ 08865



CONSULTANT



| Issu | es and Revi | sions | | |
|------|-------------|----------------------|----|--|
| No. | Date | Issues and Revisions | Ву | Check |
| 1. | 05/17/24 | ISSUED FOR PERMIT | MS | MS |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | - |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Registration and Signature

MICHAEL J. SCHLICK, P.E. N.J. LICENSE NUMBER: 24GE04904300 C.O.A. NUMBER: 24GA28244900

ELECTRICAL - PANEL SCHEDULES, LOAD CALCULATION, AND RISER

FIRE ALARM SYSTEM NOTES: 1. ALL FIRE ALARM WORK SHOWN ON THIS DRAWING MUST BE INSTALLED BY THE FIRE ALARM CONTRACTOR AT THE GENERAL CONTRACTOR'S EXPENSE. A BUILDING PERMIT FOR THIS WORK MUST BE SECURED AT THIS CONTRACTOR'S EXPENSE. 2. ALL FIRE ALARM DEVICES HAVE BEEN SELECTED AND POSITIONED PER NFPA 72 AND THE AMERICAN'S WITH DISABILITIES ACT GUIDELINES FOR LIGHT INTENSITY AND AUDIBILITY. ANY CHANGES TO DEVICE TYPES OR LOCATIONS SHOWN ON THIS PLAN MUST BE APPROVED BY THE ARCHITECT. SUCH CHANGES ARE ALSO SUBJECT TO REVIEW AND APPROVAL BY THE LOCAL FIRE DEPARTMENT, AT THEIR DISCRETION. IT IS STILL THE FIRE ALARM CONTRACTOR'S RESPONSIBILITY TO INSTALL CORRECT QUANTITY AND IN PROPER LOCATIONS. THE OVERALL FIRE ALARM INSTALLATION, INCLUDING ANNUNCIATION AND EMERGENCY NOTIFICATION, MUST COMPLY WITH THE OWNER'S "CONSTRUCTION AND DESIGN" MANUAL, IF APPLICABLE, AND THE LEASE AGREEMENT BETWEEN LANDLORD AND TENANT. IF ANY. ANY CONFLICTS BETWEEN THIS DESIGN AND THE LEASE AGREEMENTS MUST BE BROUGHT TO THE ARCHITECT'S ATTENTION PRIOR TO INSTALLATION, OR REMEDIAL MEASURES WILL BE PER THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. 3. ALL WIRING FOR FIRE ALARM DEVICES SHALL BE IN RIGID STEEL WIRE FOR HORN/STROBE CIRCUITS, TO BE CALCULATED BY THIS

THREADED CONDUIT AND SHALL BE PLENUM APPROVED LOW VOLTAGE WIRING AND BE COMPATIBLE WITH THE BUILDING FIRE ALARM SYSTEM, IF APPLICABLE. FIRE ALARM SYSTEM SHALL BE HARD WIRED. USE SIZES OF CONTRACTOR TO MEET ALL CODE ISSUES.

4. ALL SMOKE DETECTORS AS APPLICABLE, SHALL OPERATE ON "ALARM VERIFICATION." UPON VERIFICATION, A "FIRE ALARM" SIGNAL SHALL BE SENT TO A LOCALLY APPROVED OFF-SITE ALARM RECEIVING FACILITY. FIRE ALARM SIGNALS SHALL ALSO BE SENT UPON ACTIVATION OF WATERFLOW OR MANUAL STATION OPERATION. A "SUPERVISORY" SIGNAL SHALL BE SENT UPON VALVE TAMPER SWITCH ACTIVATION. A "TROUBLE" SIGNAL SHALL BE SENT IN THE EVENT OF CIRCUIT INTERRUPTION. IF THE SYSTEM IS HOOKED ONTO A LANDLORD PROVIDED JUNCTION BOX OR SYSTEM, THIS CONTRACTOR SHALL CONTACT LANDLORD REPRESENTATION TO REVIEW APPLICABLE LOCATIONS FOR SIGNALS, AND HOW AND WHERE THEY ARE TO

5. ALL DUCT DETECTORS INDICATED SHALL BE LOCATED DOWNSTREAM OF AIR FILTER AND AHEAD OF ANY BRANCH CONNECTIONS IN EACH AIR SUPPLY

6. INSTALL ALL HORN/STROBE UNITS WITH BOTTOM OF DEVICE AT 6'-8" ABOVE FLOOR OR SLIGHTLY HIGHER AS DICTATED BY WALL DECOR OR FIXTURING, ALL STROBE/SPEAKER DEVICES MUST BE SECURELY MOUNTED AND SHALL NOT BE SUBJECT TO ACCIDENTAL DISLODGING.

7. EACH FAN SHUT DOWN RELAY SHALL BE MANUALLY RESETTABLE AT THE CONTROL PANEL.

2 FIRE ALARM GENERAL NOTES

MANUFACTURER AS THE BUILDING SYSTEM, AS APPLICABLE

9. AN "AS-BUILT" DRAWING OF THE FIRE ALARM SYSTEM SHALL BE MAINTAINED IN THE TENANT SPACE AFTER INSTALLATION, WITH A COPY SENT TO THE ARCHITECT FOR RECORD PURPOSES ONLY.

10. ALTHOUGH FIRE ALARM NOTIFICATION DEVICES HAVE BEEN DESIGNED TO AFFORD THE MINIMUM REQUIRED DECIBEL LEVEL THROUGHOUT THE SPACE, THE PRESENCE OF FURNITURE AND FIXTURES HAVE AN EFFECT ON THE DECIBEL LEVEL UNPREDICTABLE AT THE TIME OF DESIGN. IN THE EVENT MINIMUM DECIBEL LEVELS ARE NOT 15 DBA ABOVE THE AMBIENT SOUND LEVEL FOR THE OPERATIONAL STORE. OR ACCEPTABLE TO THE LOCAL AUTHORITIES AT THE TIME OF FINAL INSPECTION, ADDITIONAL SPEAKER(S)

11. EACH AND ALL ITEMS OF THE FIRE ALARM SYSTEM SHALL BE LISTED AS A F. RESTORING THE VALVE TO THE NORMAL POSITION SHALL CAUSE THE PRODUCT OF A FIRE ALARM SYSTEM MANUFACTURER UNDER THE APPROPRIATE CATEGORY BY THE UNDERWRITERS' LABORATORIES, INC. (UL), AND SHALL BEAR THE "U.L." LABEL. ALL CONTROL EQUIPMENT SHALL BE LISTED UNDER UL CATEGORY UOJZ AS A SINGLE CONTROL UNIT. PARTIAL LISTING SHALL NOT BE ACCEPTABLE. IN ADDITION TO THE UL-UOJZ REQUIREMENT LISTED ABOVE, THE SYSTEM CONTROLS SHALL BE UL LISTED FOR POWER LIMITED APPLICATIONS PER NEC 760. ALL CIRCUITS MUST BE MARKED IN ACCORDANCE WITH NEC ARTICLE 760-23. FURNISH AND INSTALL A COMPLETE FIRE ALARM SYSTEM AS DESCRIBED HEREIN; TO BE WIRED, CONNECTED, AND LEFT IN FIRST CLASS OPERATING CONDITION. THE SYSTEM SHALL HAVE INDIVIDUAL ZONE SUPERVISION, INDIVIDUAL INDICATING APPLIANCE CIRCUIT SUPERVISION, INCOMING AND STANDBY POWER SUPERVISION. INCLUDE A CONTROL PANEL, MANUAL PULL STATIONS, AUTOMATIC FIRE DETECTORS, HORNS, FLASHING LIGHTS, ALL WIRING,

CONNECTIONS TO DEVICES, OUTLET BOXES, JUNCTION BOXES, AND ALL OTHER NECESSARY MATERIAL FOR A COMPLETE OPERATING SYSTEM. PROVIDE TELEPHONE LINE FOR OFF SITE MONITORING IF ONE IS NOT

A. THE SYSTEM ALARM OPERATION SUBSEQUENT TO THE ALARM ACTIVATION OF ANY MANUAL STATION, AUTOMATIC DETECTION DEVICE, OR SPRINKLER FLOW SWITCH SHALL BE AS FOLLOWS

i) THE APPROPRIATE INITIATING DEVICE CIRCUIT RED L.E.D. SHALL FLASH ON THE CONTROL PANEL UNTIL THE ALARM HAS BEEN SILENCED AT THE CONTROL PANEL . ONCE SILENCED, THIS SAME L.E.D. SHALL LATCH ON. A SUBSEQUENT ALARM RECEIVED AFTER SILENCING SHALL FLASH THE SUBSEQUENT ZONE ALARM L.E.D. ON THE CONTROL PANEL.

ii) A PULSING ALARM TONE SHALL OCCUR WITHIN THE CONTROL PANEL UNTIL

B. ALL ALARM INDICATING APPLIANCES SHALL SOUND IN A CONTINUOUS RINGING ALARM PATTERN UNTIL SILENCED BY THE ALARM SILENCE SWITCH DEDICATED CIRCUIT.

C. ALL VISUAL ALARM LAMPS SHALL OPERATE UNTIL SYSTEM IS RESET. D. IF A SPRINKLER SYSTEM IS EXISTING, THE ACTIVATION OF ANY STANDPIPE OR SPRINKLER TAMPER SWITCH SHALL ACTIVATE A DISTINCTIVE SYSTEM SUPERVISORY AUDIBLE SIGNAL AND ILLUMINATE A "SPRINKLER SUPERVISORY TAMPER" L.E.D. AT THE SYSTEM CONTROLS. THERE SHALL BE

GROUNDS ON FIRE ALARM INITIATION CIRCUIT WIRING. IF A SPRINKLER SYSTEM IS EXISTING, ACTIVATING THE TROUBLE SILENCE SWITCH WILL SILENCE THE SUPERVISORY AUDIBLE SIGNAL WHILE MAINTAINING THE "SPRINKLER SUPERVISORY TAMPER" L.E.D. INDICATING

THE TAMPER CONTACT IS STILL ACTIVATED.

AUDIBLE SIGNAL AND L.E.D. TO PULSE AT A MARCH TIME RATE. ACTIVATING THE TROUBLE SILENCE SWITCH WILL SILENCE THE SUPERVISORY AUDIBLE SIGNAL AND RESTORE THE SYSTEM TO NORMAL.

H. THE PANEL SHALL AUTOMATICALLY RESET ITSELF. ANY MOMENTARY OPENING OF AN INITIATING OR INDICATING

APPLIANCE CIRCUIT SHALL CAUSE THE AUDIBLE SIGNALS TO SOUND FOR 4 SECONDS TO INDICATE THE TROUBLE CONDITION.

A. THE SYSTEM SHALL CONTAIN CLASS 'B' INDEPENDENTLY SUPERVISED INITIATION CIRCUITS SO THAT A FAULT IN ANY ONE ZONE SHALL NOT AFFECT ANY OTHER ZONE. THE ALARM ACTIVATION OF ANY INITIATION CIRCUIT SHALL

NOT PREVENT THE SUBSEQUENT ALARM OPERATION OF ANY OTHER B. THERE SHALL BE 2 INDEPENDENTLY SUPERVISED AND INDEPENDENTLY

FUSED INDICATING APPLIANCE CIRCUITS FOR ALARM HORNS AND FLASHING ALARM LAMPS. EACH INDEPENDENTLY SUPERVISED CIRCUIT SHALL INCLUDE A DISCRETE AMBER "TROUBLE" L.E.D. TO INDICATE DISARRANGEMENT

CONDITIONS PER CIRCUIT.

14. POWER REQUIREMENTS:

THE INCOMING POWER TO THE SYSTEM SHALL BE SUPERVISED SO THAT ANY POWER FAILURE SHALL BE AUDIBLY AND VISUALLY INDICATED AT THE CONTROL PANEL. A GREEN "POWER ON" L.E.D. SHALL BE DISPLAYED CONTINUOUSLY WHILE INCOMING POWER IS PRESENT.

A. THE CONTROL PANEL SHALL RECEIVE 120V AC POWER VIA A

B. THE SYSTEM SHALL BE PROVIDED WITH SUFFICIENT BATTERY CAPACITY TO OPERATE THE ENTIRE SYSTEM UPON LOSS OF NORMAL 120 VAC POWER IN A NORMAL SUPERVISORY MODE FOR A PERIOD OF FOUR (4) HOURS WITH FIVE (5) MINUTES OF ALARM INDICATION AT THE END OF THIS PERIOD. THE SYSTEM SHALL AUTOMATICALLY TRANSFER TO THE STANDBY BATTERIES UPON POWER FAILURE. ALL BATTERY CHARGING AND RECHARGING OPERATIONS SHALL BE AUTOMATIC. BATTERIES, ONCE NO CONFUSION BETWEEN VALVE TAMPER ACTIVATION AND OPENS AND/OR DISCHARGED, SHALL RECHARGE AT A RATE TO PROVIDE A MINIMUM OF 70%

> CAPACITY IN 12 HOURS. ALL CIRCUITS REQUIRING SYSTEM OPERATING POWER SHALL BE 24VDC AND SHALL BE INDIVIDUALLY FUSED AT THE CONTROL PANEL.

15. EXECUTION: A. PROVIDE AND INSTALL THE SYSTEM IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ALL WIRING SHALL BE INSTALLED IN

STRICT COMPLIANCE WITH ALL THE PROVISIONS OF NEC - ARTICLE 760, POWER-LIMITED PROTECTIVE SIGNALING CIRCUITS.

INSTALLATION OF EQUIPMENT AND DEVICES THAT PERTAIN TO OTHER WORK IN THE CONTRACT SHALL BE CLOSELY COORDINATED WITH THE APPROPRIATE SUBCONTRACTORS.

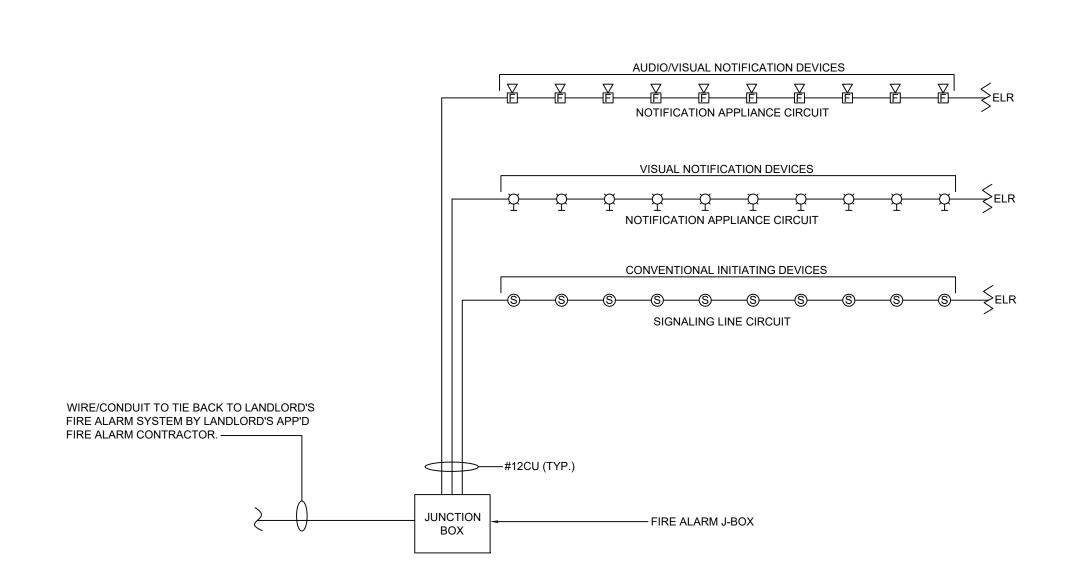
THE CONTRACTOR SHALL CLEAN ALL DIRT AND DEBRIS FROM THE INSIDE AND THE OUTSIDE OF THE FIRE ALARM EQUIPMENT AFTER COMPLETION OF INSTALLATION. THE MANUFACTURER'S AUTHORIZED REPRESENTATIVE SHALL PROVIDE

ON SITE SUPERVISION OF INSTALLATION. INSTALLER SHALL HAVE A NICET LEVEL III OR HIGHER CERTIFICATION AND A STATE LOW-VOLTAGE UNRESTRICTED LICENSE.

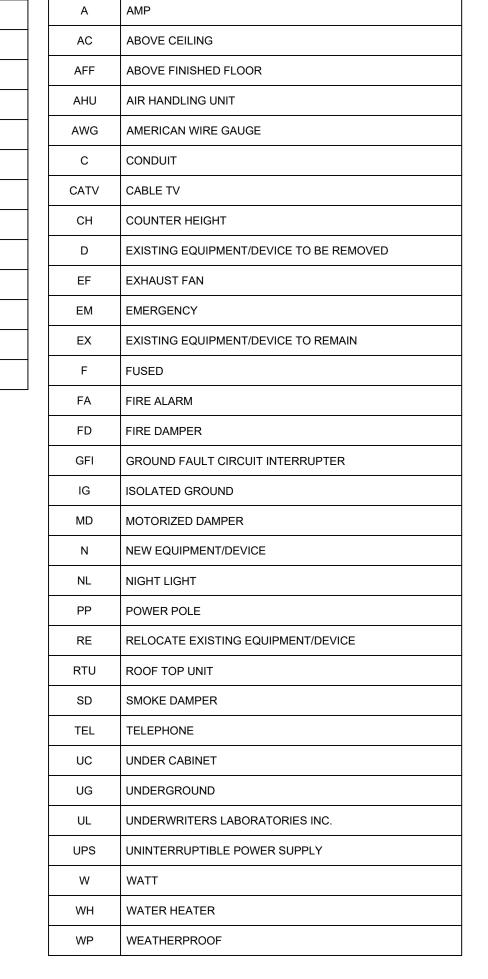
A. THE COMPLETED FIRE ALARM SYSTEM SHALL BE FULLY TESTED IN ACCORDANCE WITH NFPA 72H BY THE CONTRACTOR IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE AND THE LOCAL FIRE MARSHAL. UPON COMPLETION OF A SUCCESSFUL TEST, THE CONTRACTOR SHALL SO CERTIFY IN WRITING TO THE OWNER. 17 WARRANTY

A. THE CONTRACTOR SHALL WARRANT THE COMPLETED FIRE ALARM SYSTEM WIRING AND EQUIPMENT TO BE FREE FROM INHERENT MECHANICAL AND ELECTRICAL DEFECTS FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF THE COMPLETED AND CERTIFIED TEST OR FROM THE DATE OF FIRST

B. THE EQUIPMENT MANUFACTURER SHALL MAKE AVAILABLE TO THE OWNER A MAINTENANCE CONTRACT PROPOSAL TO PROVIDE A MINIMUM OF TWO (2) INSPECTIONS AND TESTS PER YEAR IN COMPLIANCE WITH NFPA-72H



THIS DIAGRAM IS CONCEPTUAL ONLY. REFER TO PLANS FOR ACTUAL COUNTS.



ABBREVIATIONS

DESCRIPTION

ABBR.

FIRE ALARM LEGEND

TS SPRINKLER TAMPER SWITCH WITH MONITOR MODULE

SPRINKLER FLOW SWITCH WITH MONITOR MODULE

HORN STROBE CEILING MOUNT

SMOKE DETECTOR

S₀ SMOKE DUCT DETECTOR

F MANUAL PULL STATION

HORN STROBE

SPEAKER STROBE

CO CARBON MONOXIDE DETECTOR

ANN REMOTE ANNUNCIATOR PANEL

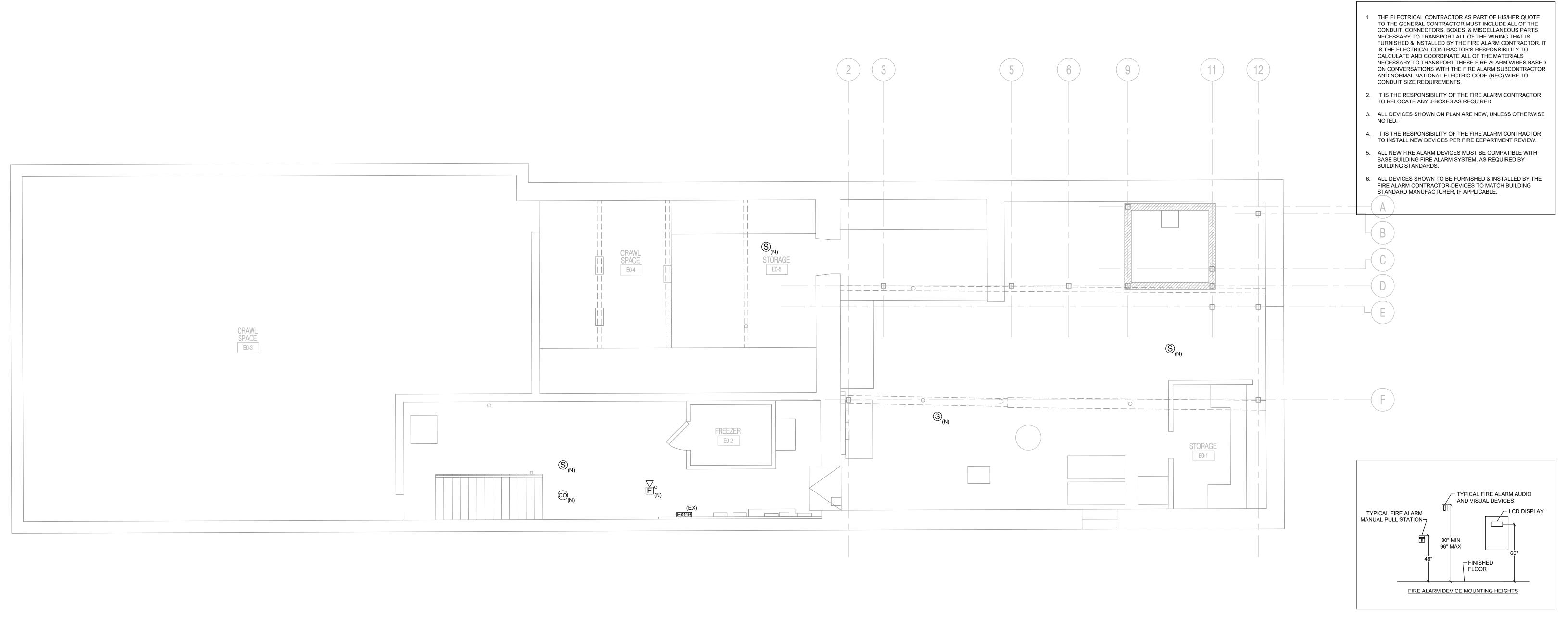
FACP FIRE ALARM CONTROL PANEL

⊕ HEAT DETECTOR

DESCRIPTION

SYMBOL

STANDARD LEGEND AND ABBREVIATIONS SHOWN ON THIS SHEET ARE INTENDED TO BE GENERAL AND MAY NOT BE SPECIFIC OR APPLICABLE TO THIS PROJECT.



3 FIRE ALARM RISER DIAGRAM

FIRE ALARM NOTES

Issues and Revisions 1. 05/17/24 ISSUED FOR PERMIT Registration and Signature

> MICHAEL J. SCHLICK, P.E. N.J. LICENSE NUMBER: 24GE04904300 C.O.A. NUMBER: 24GA28244900

Norwescap

Old Sullivan Building

Remodeling Project

371 S Main Street

Phillipsburg, NJ 08865

Warren County

NORWESCAP

350 Marshall Street

Phillipsburg, NJ 08865

PO Box 612, Budd Lake, NJ 07828

Tel/Fax: 973-527-7691

www.frontier-es.com

312 State Route 10, Randolph, NJ 07869

Tel: 973.442.5880 Fax: 973.442.5886

BLOCK:

PROJECT LOCATION

LOT:

CONSULTANT

4 MOUNTING HEIGHT DETAIL
SCALE: N.T.S.

FIRE ALARM - PLAN

All drawings and written material appearing herein constitute original and unpublished work of the architect and may not be duplicated, used or disclosed without written consent of the architect. ©2023 BEN HORTEN All Rights Reserved

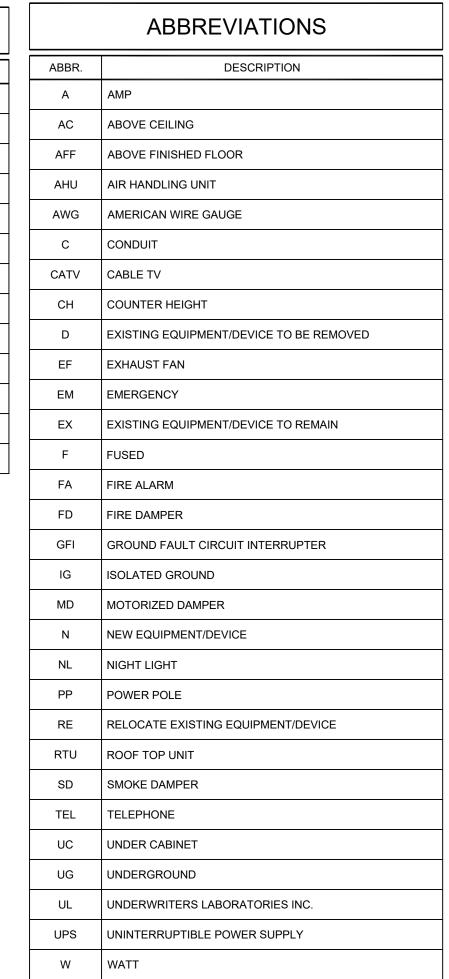
1 FIRE ALARM BASEMENT PLAN

| | FIRE ALARM LEGEND | | | | | | |
|----------|---|--|--|--|--|--|--|
| SYMBOL | DESCRIPTION | | | | | | |
| (S) | SMOKE DETECTOR | | | | | | |
| \$₀ | SMOKE DUCT DETECTOR | | | | | | |
| Θ | HEAT DETECTOR | | | | | | |
| E | MANUAL PULL STATION | | | | | | |
| TS | SPRINKLER TAMPER SWITCH WITH MONITOR MODULE | | | | | | |
| FS | SPRINKLER FLOW SWITCH WITH MONITOR MODULE | | | | | | |
| Ĕ | HORN STROBE | | | | | | |
| E° | HORN STROBE CEILING MOUNT | | | | | | |
| V S | SPEAKER STROBE | | | | | | |
| p | STROBE | | | | | | |
| <u>©</u> | CARBON MONOXIDE DETECTOR | | | | | | |
| ANN | REMOTE ANNUNCIATOR PANEL | | | | | | |
| FACP | FIRE ALARM CONTROL PANEL | | | | | | |

L _ _ _ _ _ _

| ABBR. | DESCRIPTION |
|-------|---|
| Α | AMP |
| AC | ABOVE CEILING |
| AFF | ABOVE FINISHED FLOOR |
| AHU | AIR HANDLING UNIT |
| AWG | AMERICAN WIRE GAUGE |
| С | CONDUIT |
| CATV | CABLE TV |
| СН | COUNTER HEIGHT |
| D | EXISTING EQUIPMENT/DEVICE TO BE REMOVED |
| EF | EXHAUST FAN |
| EM | EMERGENCY |
| EX | EXISTING EQUIPMENT/DEVICE TO REMAIN |
| F | FUSED |
| FA | FIRE ALARM |
| FD | FIRE DAMPER |
| GFI | GROUND FAULT CIRCUIT INTERRUPTER |
| IG | ISOLATED GROUND |
| MD | MOTORIZED DAMPER |
| N | NEW EQUIPMENT/DEVICE |
| NL | NIGHT LIGHT |
| PP | POWER POLE |
| RE | RELOCATE EXISTING EQUIPMENT/DEVICE |
| RTU | ROOF TOP UNIT |
| SD | SMOKE DAMPER |
| TEL | TELEPHONE |
| UC | UNDER CABINET |
| UG | UNDERGROUND |
| UL | UNDERWRITERS LABORATORIES INC. |
| UPS | UNINTERRUPTIBLE POWER SUPPLY |
| W | WATT |
| WH | WATER HEATER |
| WP | WEATHERPROOF |

STANDARD LEGEND AND ABBREVIATIONS SHOWN ON THIS SHEET ARE INTENDED TO BE GENERAL AND MAY NOT BE SPECIFIC OR APPLICABLE TO THIS PROJECT.



Issues and Revisions

No. Date Issues and Revisions 1. 05/17/24 ISSUED FOR PERMIT

C.O.A. NUMBER: 24GA28244900 FIRE ALARM - PLAN

and unpublished work of the architect and may not be duplicated,

used or disclosed without written consent of the architect.

©2023 BEN HORTEN All Rights Reserved

Norwescap

Old Sullivan Building

Remodeling Project

371 S Main Street

Phillipsburg, NJ 08865

Warren County

NORWESCAP

350 Marshall Street

Phillipsburg, NJ 08865

PO Box 612, Budd Lake, NJ 07828 Tel/Fax: 973-527-7691 www.frontier-es.com

HORTEN architecture & design

312 State Route 10, Randolph, NJ 07869 Tel: 973.442.5880 Fax: 973.442.5886

BLOCK:

PROJECT LOCATION

LOT:

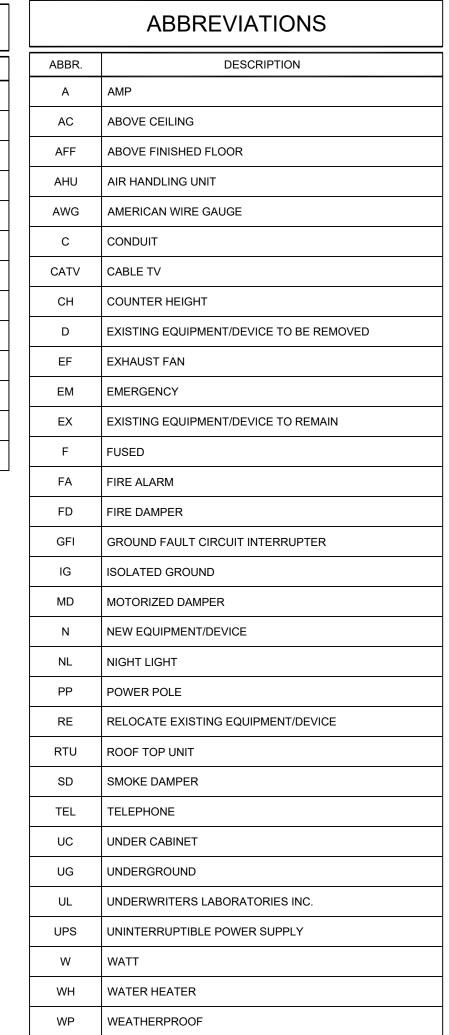
All drawings and written material appearing herein constitute original

ALL EXISTING FIRE ALARM DEVICES AND ANSUL SYSTEM IN THE KITCHEN ARE TO REMAIN.

| | FIRE ALARM LEGEND | | | | | | |
|----------|---|--|--|--|--|--|--|
| SYMBOL | DESCRIPTION | | | | | | |
| (S) | SMOKE DETECTOR | | | | | | |
| \$₀ | SMOKE DUCT DETECTOR | | | | | | |
| Θ | HEAT DETECTOR | | | | | | |
| E | MANUAL PULL STATION | | | | | | |
| TS | SPRINKLER TAMPER SWITCH WITH MONITOR MODULE | | | | | | |
| FS | SPRINKLER FLOW SWITCH WITH MONITOR MODULE | | | | | | |
| Ĕ | HORN STROBE | | | | | | |
| E° | HORN STROBE CEILING MOUNT | | | | | | |
| V S | SPEAKER STROBE | | | | | | |
| p | STROBE | | | | | | |
| <u>©</u> | CARBON MONOXIDE DETECTOR | | | | | | |
| ANN | REMOTE ANNUNCIATOR PANEL | | | | | | |
| FACP | FIRE ALARM CONTROL PANEL | | | | | | |

| | ABBREVIATIONS |
|-------|---|
| ABBR. | DESCRIPTION |
| Α | AMP |
| AC | ABOVE CEILING |
| AFF | ABOVE FINISHED FLOOR |
| AHU | AIR HANDLING UNIT |
| AWG | AMERICAN WIRE GAUGE |
| С | CONDUIT |
| CATV | CABLE TV |
| СН | COUNTER HEIGHT |
| D | EXISTING EQUIPMENT/DEVICE TO BE REMOVED |
| EF | EXHAUST FAN |
| EM | EMERGENCY |
| EX | EXISTING EQUIPMENT/DEVICE TO REMAIN |
| F | FUSED |
| FA | FIRE ALARM |
| FD | FIRE DAMPER |
| GFI | GROUND FAULT CIRCUIT INTERRUPTER |
| IG | ISOLATED GROUND |
| MD | MOTORIZED DAMPER |
| N | NEW EQUIPMENT/DEVICE |
| NL | NIGHT LIGHT |
| PP | POWER POLE |
| RE | RELOCATE EXISTING EQUIPMENT/DEVICE |
| RTU | ROOF TOP UNIT |
| SD | SMOKE DAMPER |
| TEL | TELEPHONE |
| UC | UNDER CABINET |
| UG | UNDERGROUND |
| UL | UNDERWRITERS LABORATORIES INC. |
| UPS | UNINTERRUPTIBLE POWER SUPPLY |
| W | WATT |
| WH | WATER HEATER |
| WP | WEATHERPROOF |

STANDARD LEGEND AND ABBREVIATIONS SHOWN ON THIS SHEET ARE INTENDED TO BE GENERAL AND MAY NOT BE SPECIFIC OR APPLICABLE TO THIS PROJECT.



Issues and Revisions

No. Date Issues and Revisions

1. 05/17/24 ISSUED FOR PERMIT

Norwescap
Old Sullivan Building
Remodeling Project

371 S Main Street

Phillipsburg, NJ 08865

Warren County

NORWESCAP

350 Marshall Street

Phillipsburg, NJ 08865

PO Box 612, Budd Lake, NJ 07828 Tel/Fax: 973-527-7691 www.frontier-es.com

HORTEN architecture & design

312 State Route 10, Randolph, NJ 07869 Tel: 973.442.5880 Fax: 973.442.5886

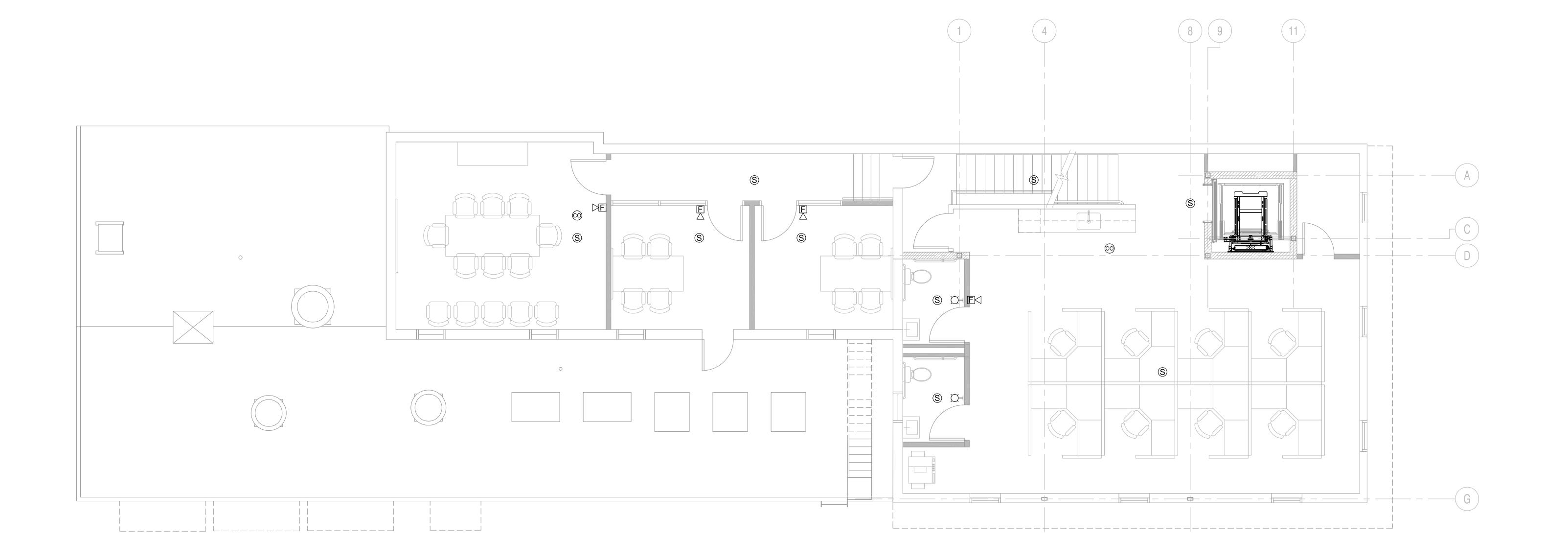
BLOCK:

PROJECT LOCATION

LOT:

MICHAEL J. SCHLICK, P.E.
N.J. LICENSE NUMBER: 24GE04904300
C.O.A. NUMBER: 24GA28244900

FIRE ALARM - PLAN



| | FIRE ALARM LEGEND | | | |
|---------------------------------------|---|---|-------|----|
| SYMBOL | DESCRIPTION | | ABBR. | T |
| (S) | SMOKE DETECTOR | | A | A |
| | SMOKE DUCT DETECTOR | | AC | Α |
| ————————————————————————————————————— | HEAT DETECTOR | | AFF | А |
| E | MANUAL PULL STATION | | AHU | Α |
| TS | SPRINKLER TAMPER SWITCH WITH MONITOR MODULE | | AWG | А |
| FS | SPRINKLER FLOW SWITCH WITH MONITOR MODULE | | С | С |
| | HORN STROBE | | CATV | С |
| | HORN STROBE CEILING MOUNT | | СН | С |
| <u>=</u> | SPEAKER STROBE | | D | Е |
| <u> </u> | STROBE | | EF | Е |
| <u>co</u> | CARBON MONOXIDE DETECTOR | | EM | Е |
| ANN | REMOTE ANNUNCIATOR PANEL | | EX | Е |
| FACP | FIRE ALARM CONTROL PANEL | | F | F |
| | | | FA | F |
| | | | FD | F |
| | | | GFI | G |
| | | | IG | IS |
| | | 1 | | |

| ABBR. | DESCRIPTION |
|-------|---|
| Α | AMP |
| AC | ABOVE CEILING |
| AFF | ABOVE FINISHED FLOOR |
| AHU | AIR HANDLING UNIT |
| AWG | AMERICAN WIRE GAUGE |
| С | CONDUIT |
| CATV | CABLE TV |
| СН | COUNTER HEIGHT |
| D | EXISTING EQUIPMENT/DEVICE TO BE REMOVED |
| EF | EXHAUST FAN |
| EM | EMERGENCY |
| EX | EXISTING EQUIPMENT/DEVICE TO REMAIN |
| F | FUSED |
| FA | FIRE ALARM |
| FD | FIRE DAMPER |
| GFI | GROUND FAULT CIRCUIT INTERRUPTER |
| IG | ISOLATED GROUND |
| MD | MOTORIZED DAMPER |
| N | NEW EQUIPMENT/DEVICE |
| NL | NIGHT LIGHT |
| PP | POWER POLE |
| RE | RELOCATE EXISTING EQUIPMENT/DEVICE |
| RTU | ROOF TOP UNIT |
| SD | SMOKE DAMPER |
| TEL | TELEPHONE |
| UC | UNDER CABINET |
| UG | UNDERGROUND |
| UL | UNDERWRITERS LABORATORIES INC. |
| UPS | UNINTERRUPTIBLE POWER SUPPLY |
| W | WATT |
| WH | WATER HEATER |
| WP | WEATHERPROOF |

STANDARD LEGEND AND ABBREVIATIONS SHOWN ON THIS SHEET ARE INTENDED TO BE GENERAL AND MAY NOT BE SPECIFIC OR APPLICABLE TO THIS PROJECT.

Norwescap
Old Sullivan Building
Remodeling Project PROJECT LOCATION LOT: 371 S Main Street Phillipsburg, NJ 08865 Warren County NORWESCAP 350 Marshall Street Phillipsburg, NJ 08865

BLOCK:

312 State Route 10, Randolph, NJ 07869 Tel: 973.442.5880 Fax: 973.442.5886

PO Box 612, Budd Lake, NJ 07828 Tel/Fax: 973-527-7691 www.frontier-es.com

| No. | Date | Issues and Revisions | Ву | Che |
|-----|----------|----------------------|----|-----|
| 1. | 05/17/24 | ISSUED FOR PERMIT | MS | MS |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

MICHAEL J. SCHLICK, P.E.
N.J. LICENSE NUMBER: 24GE04904300
C.O.A. NUMBER: 24GA28244900

FIRE ALARM - PLAN

All drawings and written material appearing herein constitute original and unpublished work of the architect and may not be duplicated, used or disclosed without written consent of the architect.

©2023 BEN HORTEN All Rights Reserved

1 FIRE ALARM THIRD FLOOR PLAN SCALE: 1/4" = 1'-0"

MECHANICAL GENERAL NOTES

A. GENERAL CONDITIONS

PART OF THE CONTRACT) ARE A PART OF THIS CONTRACT. 2. THE TERM "CONTRACTOR" SHALL MEAN THE "MECHANICAL CONTRACTOR HIRED TO COMPLETE THE WORK OUTLINED IN THESE PLANS AND SPECIFICATIONS" UNLESS OTHERWISE SPECIFIED.

DRAWINGS AND GENERAL PROVISIONS OF CONTRACT, INCLUDING GENERAL AND

SUPPLEMENTARY CONDITIONS AND ALL OTHER SPECIFICATION SECTIONS (IF PROVIDED AS

3. THE CONTRACTOR FOR THIS WORK IS REQUIRED TO REVIEW ALL DRAWINGS FOR ALL OTHER TRADES

5. BY SUBMITTING A QUOTATION OR PROPOSAL THE MECHANICAL CONTRACTOR

4 THE GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING ITS SUBCONTRACTORS. WITH A FULL SET OF BID DOCUMENTS INCLUDING SPECIFICATIONS AND MUST COORDINATE ITS WORK AND INSPECTIONS AND THE WORK AND INSPECTION OF THEIR SUBCONTRACTORS WITH ALL OTHER TRADES ON SITE TO CONFORM WITH THE GENERAL CONTRACTOR'S TIME SCHEDULE.

BEEN THOROUGHLY REVIEWED. CONTRACTOR HAS BECOME FAMILIARIZED WITH JOB SITE CONDITIONS AND IS TOTALLY QUALIFIED TO PERFORM ALL OF THE WORK REQUIRED. 6. BEFORE SUBMITTING A FINAL PROPOSAL THE CONTRACTOR SHALL EXAMINE THE SITE OF THE PROPOSED WORK TO DETERMINE THE EXISTING CONDITIONS THAT MAY AFFECT THE PROPOSAL. IF DISCREPANCIES ARE NOTED BETWEEN THE DOCUMENTS AND THE EXISTING CONDITIONS THE ARCHITECT SHALL BE NOTIFIED AND THE CONTRACTOR SHALL RECEIVE CLARIFICATION BEFORE SUBMITTING A BID. THE SUBMISSION OF A PROPOSAL SHALL INDICATE THAT ALL CHARGES AND COSTS MADE NECESSARY BY EXISTING

EXPRESSLY STATES AND WARRANTS THAT: ALL DRAWINGS AND SPECIFICATIONS HAVE

WILL BE FURNISHED AT THE PROPOSED COST 7 WHEN USED THE TERM "PROVIDED BY CONTRACTOR" SHALL BE INTERPRETED AS MEANING "FURNISHED AND INSTALLED BY CONTRACTOR" WITH THE EXCEPTION WHERE ITEMS ARE "PROVIDED BY OWNER" SHALL BE INTERPRETED AS MEANING "FURNISHED BY OWNER (INSTALLED BY CONTRACTOR)", EXCEPT WHERE NOTED OTHERWISE.

CONDITIONS ARE INCLUDED AND THAT THE COMPLETE SYSTEM AS DESCRIBED HEREIN

B. GENERAL REQUIREMENTS

1. THE MECHANICAL SUBCONTRACTORS QUOTING ON THEIR SPECIFIC SCOPE OF WORK/SERVICES TO CONTACT THE LOCAL BUILDING DEPARTMENT/AGENCY TO DISCUSS CODE ISSUES/IDIOSYNCRASIES REGARDING THEIR SERVICES AND THE QUOTE ASSOCIATED WITH THE SERVICES TO THE GENERAL CONTRACTOR FOR THIS PROJECT THIS CONTRACTOR TO BE FAMILIAR WITH THE SITE WHERE SUCH SERVICES/WORK WILL BE PERFORMED, THIS SPECIFIC USE AND THE IDIOSYNCRASIES ASSOCIATED WITH THE LIFE, SAFETY AND HEALTH ASSOCIATED WITH THIS WORK AND TO INDICATE ON THE QUOTE ANY ITEMS REQUIRED THAT ARE NOT NECESSARILY SHOWN ON THE DRAWINGS/SPECIFICATIONS.

2. THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, SERVICES, TOOLS TRANSPORTATION INCIDENTALS AND DETAILS NECESSARY TO PROVIDE COMPLETE AND FULLY FUNCTIONAL MECHANICAL SYSTEMS AS SHOWN ON THE DRAWINGS CALLED FOR IN THE SPECIFICATIONS (IF SUPPLIED) AND AS REQUIRED BY JOB CONDITIONS. ALL WORK NOT SPECIFICALLY NOTED AS BEING BY THE OWNER SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR. CLOSELY COORDINATE THE ENTIRE INSTALLATION WITH OWNER AS REQUIRED, FIELD VERIFY THE EXACT TYPE, SIZE, LOCATION, REQUIREMENTS. ETC. OF EXISTING EQUIPMENT, PIPE AND DUCTS SERVING THE OWNER SPACE PRIOR TO SUBMISSION OF BID.

3. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT EACH OTHER AND ANY MATERIAL OR LABOR CALLED FOR IN ONE SHALL BE PROVIDED EVEN THOUGH NOT SPECIFICALLY MENTIONED IN BOTH, ANY MATERIAL OR LABOR WHICH IS NEITHER SHOWN ON THE DRAWINGS NOR CALLED FOR IN THE SPECIFICATIONS. BUT WHICH IS NECESSARY TO COMPLETE THE WORK OR WHICH IS USUALLY INCLUDED IN WORK OF SIMILAR CHARACTER, SHALL BE PROVIDED AS PART OF THE CONTRACT.

4. WHERE THE DRAWINGS AND / OR SPECIFICATIONS CALL FOR ITEMS WHICH EXCEED CODES OR THE OWNER CRITERIA, THE CONTRACTOR IS STILL RESPONSIBLE FOR PROVIDING THE SYSTEM AS DESIGNED AND DESCRIBED ON THE DRAWINGS, UNLESS SPECIFICALLY NOTED OTHERWISE

5. THE CONTRACTOR SHALL OBTAIN AND COMPLY WITH DETAILED REQUIREMENTS OF LEASE AGREEMENTS FROM THE LANDLORD AND TENANT. IF APPLICABLE 6 COORDINATE LOCATIONS OF ALL AIR OUTLIETS WITH ALL WALLS LIGHTS SPRINKLER

HEADS, CEILING TILES AND DECORATIVE CEILING FIXTURES PRIOR TO INSTALLATION. 7. ALL MECHANICAL WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATION, SERVICE, MAINTENANCE AND REPAIR. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING SUFFICIENT ACCESS TO ALL EQUIPMENT FOR SERVICE.

8. THE CONTRACTOR SHALL PERFORM ALL CUTTING, CORE DRILLING, CHASING, OR CHANNELING AND PATCHING REQUIRED FOR ANY WORK UNDER THIS CONTRACT. CUTTING SHALL HAVE PRIOR APPROVAL BY THE OWNER'S CONSTRUCTION MANAGER AND THE OWNER OR OWNER'S REPRESENTATIVE. PATCHING SHALL MATCH FINISH OF SURROUNDING AREA

9. CONTRACTOR SHALL INSTALL ALL MECHANICAL EQUIPMENT AND APPLIANCES PURSUANT TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS, FINAL APPROVAL THAT THE MANUFACTURER'S INSTALLATION INSTRUCTIONS ARE ON THE JOB SITE FOR ALL MECHANICAL EQUIPMENT AND APPLIANCES RESTS WITH THE GOVERNING CODE

1 ALL WORK SHALL BE PERFORMED IN A NEAT AND PROFESSIONAL MANNER USING GOOD

CONSTRUCTION PRACTICES. ALL WORK SHALL CONFORM TO THE LATEST ADOPTED EDITION OF THE OWNER'S CRITERIA: STATE COUNTY AND LOCAL CODES AND ORDINANCES; THE LATEST EDITIONS OF ASHRAE STANDARDS, THE LIFE SAFETY CODE, THE APPLICABLE BUILDING CODE, UNDERWRITERS LABORATORIES, THE NATIONAL ELECTRICAL CODE, NFPA 70, 90A AND 96 AND ALL OTHER APPLICABLE CODES ENFORCED BY AUTHORITIES HAVING JURISDICTION. THE CHANGES REQUIRED BY ANY APPLICABLE CODES SHALL BE INCLUDED IN THE BID. AFTER THE CONTRACT IS ISSUED, NO ADDITIONAL COST DUE TO CODE ISSUES SHALL BE REIMBURSED BY THE OWNER TO THE CONTRACTOR. D. LICENSES, PERMITS, INSPECTIONS AND FEES

1. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL LICENSES, PERMITS, INSPECTIONS AND FEES REQUIRED OR RELATED TO THIS WORK

2. FURNISH TO THE OWNER'S CONSTRUCTION MANAGER ALL CERTIFICATES OF INSPECTION AND FINAL INSPECTION APPROVAL AT COMPLETION OF PROJECT.

1. DRAWINGS (PLANS AND SPECIFICATIONS) ARE DIAGRAMMATIC AND INDICATE THE GENERAL LOCATION AND INTENT OF THE MECHANICAL SYSTEMS. BECAUSE OF THE SCALE

OF THE DRAWINGS. IT IS NOT POSSIBLE TO INDICATE ALL DUCT AND PIPE OFFSETS. FITTINGS AND ACCESSORIES THAT MAY BE REQUIRED. THE MECHANICAL CONTRACTOR MUST OBTAIN APPROVED CONSTRUCTION DRAWINGS FROM THE GENERAL CONTRACTOR BEFORE BEGINNING ANY WORK.

2. THE LAYOUT SHOWN ON THE DRAWINGS IS BASED ON A PARTICULAR MAKE OF EQUIPMENT. IF ANOTHER MAKE OF EQUIPMENT IS USED WHICH REQUIRES MODIFICATION OR CHANGE OF ANY DESCRIPTION FROM THE DRAWINGS OR SPECIFICATIONS, TH CONTRACTOR SHALL BE RESPONSIBLE AS PART OF THIS WORK, FOR MAKING ALL SUCH MODIFICATIONS AND CHANGES, INCLUDING THOSE INVOLVING OTHER TRADES WITH THE ST THEREOF INCLUDED IN THE BID. IN SUCH CASE. CONTRACTOR SHALL SUBMIT DRAWINGS AND SPECIFICATIONS PRIOR TO STARTING WORK SHOWING ALL SUCH MODIFICATIONS AND CHANGES. THE PROPOSAL SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER'S CONSTRUCTION MANAGER. F. EXISTING SPACE CONDITIONS

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THE DEMOLITION OF EXISTING MECHANICAL WORK IN THE SPACE NOT SHOWN TO BE REUSED IN THE NEW SPACE.

2 THE CONTRACTOR SHALL INCLUDE AND WILL BE HELD RESPONSIBLE FOR. THE REMOVAL OF ALL EXISTING FIRE PROTECTION PLUMBING FIXTURES PIPING HVAC UNITS REFRIGERANT RECAPTURE, EXHAUST FANS, DUCTWORK, ETC, AND ASSOCIATED ROOF CURBS NOT TO BE REUSED ON THIS PROJECT, UNLESS SPECIFICALLY NOTED OTHERWISE CONTRACTOR MUST VERIFY WITH THE OWNER ALL PRESUMED ABANDONED EQUIPMENT, PIPES, DUCTWORK AND EQUIPMENT PRIOR TO REMOVAL, ROOF CURBS SHALL BE REMOVED AND THE ROOF PATCHED UNLESS NOTED FOR REUSE OR RECONFIGURATION ON PLANS. ROOF PATCHING SHALL BE PERFORMED AT THE CONTRACTOR'S EXPENSE BY A ROOFING CONTRACTOR APPROVED BY THE BUILDING OWNER. ALL EXTRANEOUS ITEMS IN THE SPACE OR ON THE ROOF (ABOVE THIS SPACE) NOT APPLICABLE TO THE NEW WORK OR PART OF THE OWNER'S ACTIVE SYSTEMS MUST BE REMOVED AND ROOF/WALL/FLOOR PATCHED/REPAIRED TO MATCH THE EXISTING STRUCTURE. EXISTING ABANDONED PIPES, DUCTS OR EQUIPMENT IN THE FLOOR, EMBEDDED IN CONCRETE OR OTHERWISE INACCESSIBLE ARE TO BE CUT OFF AND SEALED BELOW OR WITHIN FLOOR OR WALL LEVEL WHEN THEY ARE NOT REUSED IN THIS PROJECT

IF REQUIRED BY THE OWNER OR CODES, ABANDONED PIPING AND/OR DUCTWORK MUST BE REMOVED TO POINT OF ORIGIN. CONFIRM THE EXTENT OF DEMOLITION PRIOR TO BID AND INCLUDE IN BID PROPOSAL.

3 ACTIVE OWNER SERVICES ENCOUNTERED IN WORK SHALL BE PROTECTED AND SUPPORTED IF EXISTING SERVICES NOT ANTICIPATED REQUIRE RELOCATION CONTACT THE OWNER'S CONSTRUCTION MANAGER IMMEDIATELY ALL COSTS FOR REPAIR OF DAMAGES TO ACTIVE OWNER SERVICES DURING CONSTRUCTION SHALL BE PAID FOR BY

THE CONTRACTOR CAUSING THE DAMAGE.

WITH THE OWNER.

4. TIE-INS AND MODIFICATIONS TO EXISTING OWNER SERVICES MUST BE DONE WITH MINIMUM INTERRUPTION OF OWNER OPERATION AND DURING HOURS SPECIFIED BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING EXACT WORKING HOURS OF THIS WORK WITH THE OWNER PRIOR TO SUBMITTING THEIR BID. THE CONTRACTOR SHALL INCLUDE IN THEIR BID. ALL PREMIUM TIME REQUIRED TO PERFORM MODIFICATIONS DURING OTHER THAN NORMAL WORKING HOURS. ALL SUCH WORK MUST BE COORDINATED

5. EQUIPMENT AND MATERIALS IN TRANSIT SHALL UTILIZE FREIGHT ELEVATOR OR STAIRS. SAID EQUIPMENT OR MATERIALS SHALL BE DISASSEMBLED AS REQUIRED TO MEET THE RESTRICTIONS IMPOSED BY THE BUILDING OR ITS COMPONENT CONSTRAINTS AND THEN REASSEMBLED IN THE NEW WORK AREA.

6. ALL WORK SHALL BE DONE WITH A MINIMUM OF NOISE AND DISTURBANCE TO BUSINESS ROUTINE. ALL WORK SCHEDULES SHALL BE COORDINATED WITH AND APPROVED BY, THE OWNERS CONSTRUCTION MANAGER

7 ALL DELIVERIES WORKERS WORK OPERATORS ETC. REQUIRED BY THE CONTRACTOR

FOR WORK PERFORMED IN ANY AREA OR SITE BUILDING SHALL BE IN STRICT CONFORMANCE TO THE RULES AND REGULATIONS OF THE OWNER. 8 CONTRACTOR SHALL PROTECT THEIR WORK AND FOLIPMENT FROM DAMAGE VANDALS

ETC. ANY ITEM THAT IS DAMAGED, VANDALIZED OR STOLEN PRIOR TO ACCEPTANCE OF BUILDING BY OWNER AND ARCHITECT SHALL BE REPLACED BY RESPECTIVE CONTRACTOR AT NO CHARGE TO OWNER. 9. IT IS SPECIFICALLY THE INTENTION OF THIS SPECIFICATION TO HOLD THE CONTRACTOR

RESPONSIBLE FOR ALL DAMAGE DONE TO ANY EXISTING FACILITIES. EQUIPMENT PAINTING, OR ARCHITECTURAL AND STRUCTURAL FEATURES OF THE BUILDING, BY EITHER THEIR OWN WORKMEN OR BY ANY OF THEIR SUBCONTRACTORS. THE CONTRACTOR SHALL REPAIR ANY DAMAGE DONE BY THEIR OWN WORKMEN OR SUBCONTRACTORS AND THE OWNER AT THEIR DISCRETION, MAY WITHHOLD PAYMENTS EQUAL TO THE REASONABLE COST OF THE REPAIRS.

10. THIS CONTRACTOR OR THEIR WORKMEN SHALL NOT BE PERMITTED TO USE ANY PART OF THE EXISTING BUILDING AS A SHOP WITHOUT THE APPROVAL OF THE OWNER AND

11. WHERE THE WORK MAKES TEMPORARY SHUTDOWN OF SERVICES UNAVOIDABLE SHUTDOWN SHALL BE MADE AT NIGHT OR AT SUCH TIMES AS WILL CAUSE THE LEAST INTERFERENCE WITH THE ESTABLISHED OPERATING ROUTINE.

12. THIS CONTRACTOR SHALL ARRANGE THE WORK SO AS TO ASSURE THAT SERVICES WILL BE SHUT DOWN ONLY DURING THE TIME ACTUALLY REQUIRED TO MAKE THE NECESSARY CONNECTION TO THE EXISTING WORK. THIS CONTRACTOR SHALL GIVE AMPLE WRITTEN NOTICE IN ADVANCE TO THE OWNER OF ANY REQUIRED SHUT DOWN. 13. ALL MOTORS, FANS, CONTROLS, FIXTURES, HVAC UNIT, DUCTWORK AND OTHER

BOXING AS SOON AS DELIVERED TO THE SITE AND SHALL BE KEPT CLEAN AND DRY. THE MOTORS, UNITS, FIXTURES, FANS, DUCTWORK AND MOVING PARTS SHALL BE KEPT OVERED SO AS TO ELIMINATE DIRT, DUST AND OTHER MATERIALS ENTERING THE PARTS DURING ERECTION AND CONSTRUCTION WORK ON THE BUILDING. SHOULD IT BE FOUND THAT ANY PARTS ARE DAMAGED DUE TO CARELESSNESS ON THE PART OF THE CONTRACTOR IN NOT PROVIDING PROPER PROTECTION. SUCH PART OR PARTS SHALL BE REPLACED BY THE CONTRACTOR AT THEIR OWN COST AND EXPENSE. ALL OPENINGS IN DUCTS, PIPING, CONDUITS, ETC., SHALL BE PROPERLY PROTECTED WITH TEMPORARY CAPS OR PLUGS AT ALL TIMES.

WINGS (PLANS, SPECIFICATIONS AND DETAILS) ARE DIAGRAMMATIC AND INDICATE ENERAL LOCATION AND INTENT OF THE MECHANICAL SYSTEMS. WHERE DRAWING, NG SITE CONDITIONS, SPECIFICATIONS OR OTHER TRADES CONFLICT OR ARE AR, ADVISE THE GENERAL CONTRACTOR IN WRITING, PRIOR TO SUBMITTAL OF BID. HE GENERAL CONTRACTOR IS RESPONSIBLE TO ADVISE THE OWNER'S CONSTRUCTION ANAGER, IN WRITING, OF VARIATIONS TO THE CONTRACT DOCUMENTS PRIOR TO BMISSION OF BID. OTHERWISE, OWNER'S CONSTRUCTION MANAGER'S INTERPRETATION CONTRACT DOCUMENTS OR CONDITIONS SHALL BE FINAL WITH NO ADDITIONAL

H. TRADE NAMES AND MANUFACTURERS 1. WHERE TRADE NAMES AND MANUFACTURERS ARE USED ON THE DRAWINGS OR IN THE SPECIFICATIONS, THE EXACT EQUIPMENT SHALL BE USED AS A MINIMUM STANDARD FOR THE BASE BID. MANUFACTURERS CONSIDERED AS AN EQUIVALENT OR BETTER IN ALL ASPECTS TO THAT SPECIFIED WILL BE SUBJECT TO REVIEW IN WRITING BY THE OWNER'S CONSTRUCTION MANAGER PRIOR TO ACCEPTANCE. THE USE OF ANY UNAUTHORIZED EQUIPMENT SHALL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S

I. SHOP DRAWINGS

G. DISCREPANCIES IN DOCUMENTS

1. ELECTRONICALLY SUBMIT THREE COPIES OF MATERIAL LISTS AND SHOP DRAWINGS FOR ALL FOUIPMENT AND DUCT FABRICATION DRAWINGS TO THE OWNER'S CONSTRUCTION MANAGER FOR REVIEW PRIOR TO ORDERING EQUIPMENT. SUBMISSIONS MUST BE EARLY ENOUGH TO ALLOW THE OWNER'S CONSTRUCTION MANAGER EIGHT WORKING DAYS FOR REVIEW WITHOUT CAUSING DELAYS OR CONFLICTS TO THE JOB'S PROGRESS. SUBMITTALS SHALL BE IN ACCORDANCE WITH THE GENERAL CONDITIONS USING THE MANUFACTURER'S STED ON THE DRAWINGS. SHOP DRAWINGS SHALL INCLUDE ALL DATA THAT PERTAINS TO THE REQUIREMENTS SET FORTH ON THE DRAWINGS AND IN THE SPECIFICATIONS. THE DIGITAL SUBMITTAL SHALL INCLUDE BUT NOT BE LIMITED TO CUTS OR CATALOGS INCLUDING DESCRIPTIVE LITERATURE AND CHARACTERISTICS OF EQUIPMENT SHALL SHOW MAJOR DIMENSIONS, ROUGHING-IN DATA, CAPACITY, CURVES, PRESSURE DROPS, CODE COMPLIANCE, MOTOR AND DRIVE DATA AND ELECTRICAL DATA. OBSERVE SPECIAL INSTRUCTIONS WHEN REQUIRED. SUBMITTALS SHALL BEAR THE STAMP OF THE GENERAL AND SUBCONTRACTOR SHOWING THAT HE HAS REVIEWED AND CONFIRMED THAT THEY ARE IN CONFORMANCE WITH THE CONTRACT DOCUMENTS OR INDICATE WHERE EXCEPTIONS TAKE PLACE LACK OF SUCH CONTRACTOR'S REVIEW WILL BE CAUSE FOR REJECTION WITHOUT REVIEW BY OWNER'S CONSTRUCTION MANAGER ALL SHOP DRAWINGS MUST APPEAR IN THE OPERATION AND MAINTENANCE MANUALS LEFT ON SITE AT JOB COMPLETION.

OWNER'S CONSTRUCTION MANAGER'S OR ARCHITECT'S REVIEW OF SHOP DRAWINGS OR SCHEDULES SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS. OMISSIONS OR OTHER DEFICIENCIES OR DEVIATIONS IN THE SHOP DRAWINGS FROM THE CONSTRUCTION DOCUMENTS.

B. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND / OR THEIR SUBCONTRACTORS TO FURNISH SHOP DRAWINGS AND SUBMITTALS ON ANY AND ALL EQUIPMENT, DUCT, DAMPERS, CONTROLS ETC. TO THE ARCHITECT FOR THEIR REVIEW PRIOR TO CONSTRUCTION.

J. RECORD DRAWINGS . THE CONTRACTOR SHALL MAINTAIN ONE COPY OF DRAWINGS AND SPECIFICATIONS ON THE JOB SITE TO RECORD DEVIATIONS FROM CONTRACT DRAWINGS, SUCH AS LOCATIONS OF CONCEALED PIPING VALVES AND DUCTS, REVISIONS, ADDENDUM'S AND CHANGE ORDERS, SIGNIFICANT DEVIATIONS MADE NECESSARY BY FIELD CONDITIONS, APPROVED FOUIPMENT SUBSTITUTIONS AND CONTRACTOR'S COORDINATION WITH OTHER TRADES AND EXACT ROUTING OF ALL SANITARY AND DOMESTIC WATER PIPING UNDER FLOOR. 2 AT COMPLETION OF THE PROJECT AND BEFORE FINAL APPROVAL. THE CONTRACTOR SHALL MAKE ANY FINAL CORRECTIONS TO DRAWINGS AND CERTIFY THE ACCURACY OF

EACH PRINT BY SIGNATURE THEREON. THE DRAWINGS ARE TO BE TURNED OVER TO THE

OWNER ELECTRONICALLY K. GUARANTEE, WARRANTY

. THE MECHANICAL CONTRACTOR SHALL INCLUDE IN THE PROPOSAL A ONE YEAR UARANTEE, WARRANTY ON ALL EQUIPMENT AND MATERIAL INSTALLED OR REFURBISHED. ALL MATERIALS AND WORK UNDER THE CONTRACT AND SHALL MAKE GOOD, REPAIR, OR REPLACE AT THEIR OWN EXPENSE ANY DEFECTIVE WORK MATERIAL OR FOLIPMENT WHICH MAY BE DISCOVERED WITHIN A PERIOD OF 12 MONTHS FROM THE DATE OF WRITTEN ACCEPTANCE OF THE INSTALLATION BY THE OWNER'S CONSTRUCTION MANAGER. IN CASE OF REPLACEMENT OR REPAIR OF EQUIPMENT DUE TO FAILURE WITHIN EXTENDED FOR A PERIOD OF 12 MONTHS FROM THE DATE OF SUCH REPLACEMENT OR REPAIR THIS GUARANTEE WARRANTY IS TO INCLUDE ALL LABOR MATERIAL PARTS ETC. NECESSARY TO MAINTAIN THE SYSTEM IN SATISFACTORY OPERATION FOR A PERIOD OF ONE YEAR STARTING FROM THE DATE OF ACCEPTANCE OF THE SYSTEM BY THE OWNER IT SHALL ALSO INCLUDE ONE SUMMER TO WINTER CHANGEOVER AND ONE WINTER TO SUMMER CHANGEOVER. A NEW SET OF FILTERS AT THE TIME OF STARTUP AND TWELVE (12) MONTHLY FILTER CHANGES DURING THE FIRST YEAR THE NORMAL PREVENTATIVE MAINTENANCE WORK SHALL BE PERFORMED AT THE TIME OF THE FILTER CHANGES. USE ONLY #40 PLEATED TYPE AIR FILTERS, UNLESS OTHERWISE NOTED.

1. ONE COPY OF EACH OPERATION AND MAINTENANCE MANUAL FOR ALL EQUIPMENT FURNISHED ON THE JOB SHALL BE PROVIDED TO THE OWNER ELECTRONICALLY. THE COPY SHALL INCLUDE BUT NOT BE LIMITED TO INSTALLATION. MAINTENANCE AND OPERATING INSTRUCTIONS PAMPHIETS OR BROCHURES REVIEWED SHOP DRAWINGS AND WARRANTIES OBTAINED FROM EACH MANUFACTURER OF PRINCIPAL ITEMS OF EQUIPMENT.

1. THE CONTRACTOR SHALL PROVIDE SLEEVES TO PROTECT EQUIPMENT OR FACILITIES IN THE INSTALLATION FACH SLEEVE SHALL EXTEND THROUGH ITS RESPECTIVE FLOOR WALL OR PARTITION AND SHALL BE CUT FLUSH WITH EACH SURFACE EXCEPT SLEEVES THAT PENETRATE THE FLOOR. WHICH SHALL EXTEND 2 INCHES ABOVE THE FLOOR. 2. ALL SLEEVES AND OPENINGS THROUGH FIRE RATED WALLS AND/OR FLOORS SHALL BE FIRE SEALED WITH APPROVED SEALANTS RATED FOR THE APPLICATION SO AS TO

MAINTAIN THE FIRE RATING OF THE ASSEMBLY. CONFORM TO THE U.L. ASSEMBLY RATING OF THE FLOOR OR WALL. 3. SLEEVES IN BEARING AND MASONRY WALLS, FLOORS AND PARTITIONS SHALL BE STANDARD WEIGHT STEEL PIPE FINISHED WITH SMOOTH EDGES. FOR OTHER THAN MASONRY PARTITIONS, THROUGH SUSPENDED CEILINGS OR FOR CONCEALED VERTICAL IPING, SLEEVES SHALL BE 22 GAUGE GALVANIZED STEEL MINIMUM.

4. DUCT SLEEVES SHALL BE MINIMUM 14 GAUGE STEEL

 HANGERS SHALL INCLUDE ALL MISCELLANEOUS STEEL SUCH AS ANGLE IRON, BANDS. C-CLAMPS WITH RETAINING CLIPS, CHANNELS, HANGER RODS, ETC. NECESSARY FOR THE INSTALLATION OF WORK

2. HANGERS SHALL BE FASTENED TO BUILDING STEEL, CONCRETE, OR MASONRY, BUT NOT TO PIPING OR DUCTWORK. DUCTWORK SHALL NOT BE SUPPORTED FROM ROOF DECKING AND/OR BRIDGING. BUT SHALL BE SUSPENDED FROM THE TOP CHORD OF BAR JOISTS. STEEL OR OTHER STRUCTURE. DUCTWORK SHALL CLEAR ALL SPRINKLERS AND OTHER OBSTACLES AND SHALL BE HUNG AS HIGH AS POSSIBLE IN WORK AND STORAGE AREAS WHERE INTERFERENCE'S OCCUR IN ORDER TO SUPPORT DUCTWORK OR PIPING THE CONTRACTOR MUST INSTALL TRAPEZE TYPE HANGERS OR SUPPORTS WHICH SHALL BE LOCATED WHERE THEY DO NOT INTERFERE WITH ACCESS TO FIRE DAMPERS, VALVES, ACCESS DOORS AND OTHER EQUIPMENT SERVICE REQUIREMENTS AND/OR OTHER TRADES. HANGER TYPES AND INSTALLATION METHODS ARE SUBJECT TO OWNER CRITERIA.

3. HANGERS FOR ALL INSULATED PIPING SHALL BE SIZED AND INSTALLED FOR THE OUTER DIAMETER OF INSULATION. INSTALL 6 INCH LONG SPLIT CIRCLE GALVANIZED SADDLE BETWEEN THE HANGER AND THE PIPE INSULATION.

4. HANGERS AND PIPING OF DISSIMILAR METALS SHALL BE DI-ELECTRICALLY SEPARATED P. ACCESS DOORS

1. FURNISH STEEL ACCESS DOORS AND FRAMES, MINIMUM 16 INCHES BY 20 INCHES OR AS REQUIRED FOR ADEQUATE ACCESS TO THE GENERAL CONTRACTOR FOR ALL LOCATIONS WHERE NECESSARY TO PROVIDE ACCESS TO CONCEALED VALVES AND OTHER EQUIPMENT REQUIRING SERVICE OR INSPECTION, LOCATION, TYPE, SIZE AND NUMBER WILL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE OWNER CONSTRUCTION MANAGER TO SUIT EQUIPMENT REQUIREMENTS. GENERAL CONTRACTOR WILL INSTALL

ACCESS DOORS AND FRAMES 2. ACCESS DOORS LOCATED IN FIRE-RATED WALLS, FLOORS, CEILING-FLOOR, OR CEILING-ROOF ASSEMBLIES SHALL BE FIRE RATED, U.L. LISTED AND LABELED.

3. ACCESS DOORS SHALL BE FLUSH TYPE, MANUFACTURED FROM 14 GAUGE STEEL

COMPLETE WITH FLUSH FLANGE TYPE FRAMES MANUFACTURED FROM 16 GAUGE STEEL PROVIDED WITH ANCHORS. ACCESS DOORS SHALL BE SUITABLE FOR INSTALLATION IN WALL OR CEILING MATERIALS SHOWN IN ROOM FINISH SCHEDULES. PROVIDE ACCESS DOORS FOR ALL CONCEALED VALVES, VENTS, DAMPERS, FIRE DAMPERS, EXPANSION JOINTS, PULL BOXES, SHOCK ABSORBERS, DRAINS, MOTORS, FANS, PUMPS AND AN' OTHER ITEM REQUIRING SERVICE, DOORS IN PLASTER OR CONCRETE SURFACES SHALL HAVE A RECESSED DOOR WITH CONCRETE OR PLASTER FACING, DOORS IN CARPETED OR TILED AREAS SHALL BE RECESSED WITH TILE FACING. NO ACCESS DOORS ARE REQUIRED IN 2' X 2' AND 2' X 4' LAY-IN ACOUSTIC TILE CEILING. PROVIDE COLORED PINS TO DENOTE ACCESS TILES. FURNISH FACTORY MADE METAL ACCESS DOORS. COMPLETELY FLUSH. "ALLAN HEAD" SCREWDRIVER OPERATED, WITH FRAMES AND CAM-TYPE CATCH WITH STAINLESS STEEL STUD. DOORS SHALL BE NOT LESS THAN 12" X 12" FOR HAND ACCESS. DOORS IN WALLS AND CEILING SHALL BE PRIME COATED CARBON STEEL FURNISH FIRE RATED DOORS FOR FIRE RATED CONSTRUCTION. RATING OF DOOR MUST BE SAME RATING AS CONSTRUCTION.

FURNISH, INSTALL AND ALIGN ALL MOTORS REQUIRED FOR THIS EQUIPMENT, UNLESS THEY ARE FACTORY INSTALLED ON THE UNIT. ALL STARTERS AND ASSOCIATED WIRING AND SAFETY SWITCHES FOR SUCH MOTORS SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. STARTERS SHALL MEET ALL REQUIREMENTS AS DEFINED IN

DESIGN, CONSTRUCTION AND PERFORMANCE CHARACTERISTICS OF MOTORS SHALL CONFORM TO ALL APPLICABLE PROVISIONS OF LATEST NEMA. ANSI, ISEE STANDARDS FOR ELECTRICAL EQUIPMENT. ALL MOTORS SHALL BE SUITABLE FOR OPERATION ON VOLTAGE VARIATION OF PLUS OR MINUS 10 PERCENT, 40 DEGREES C AMBIENT TEMPERATURE AND HAVE A SERVICE FACTOR OF NOT LESS THAN 1.15. R. LOW VOLTAGE (24 VOLT) WIRING

1. THE CONTRACTOR IS TO INSTALL ALL LOW VOLTAGE WIRING REQUIRED FOR THEIR EQUIPMENT. THIS WORK INCLUDES ALL TRANSFORMERS AND DEVICES TO MAKE THIS A COMPLETE FUNCTIONAL SYSTEM.

2. ALL WORK IS TO CONFORM TO THE ELECTRICAL SPECIFICATIONS AND THE REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION. 3. ANY CONDUIT REQUIRED BY CODE OR THE OWNER WILL BE INSTALLED BY THE

ELECTRICAL SUBCONTRACTOR. 4. SMOKE DETECTORS AND REMOTE TEST STATION i. PHOTO-TYPE ARE TO BE USED ON THE RETURN AND/OR SUPPLY SIDE OF THE AHU

LOCATED BEFORE THE FIRST TAKEOFF. ONCE ACTIVATED, THE SMOKE DETECTOR WILL ii. SMOKE DETECTORS SHALL HAVE THEIR OWN REMOTE KEY TEST STATION SYSTEM WITH AUDIBLE AND VISUAL ALARM, SIMPLEX MODEL 4098-9842 OR APPROVED FOUIVALENT ALARM TO HAVE CANDELA SETTING OF 75 AND A HIGH VOLUME HORN TONE SETTING.

ALARM SYSTEM MAY BE DELETED WHERE NOT REQUIRED BY OWNER OR BY LOCAL CODE. A. HEATING, VENTILATION AND AIR CONDITIONING

1. BEFORE STARTING WORK, THIS CONTRACTOR SHALL EXAMINE THE ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL PLANS AND SPECIFICATIONS TO SEQUENCE, COORDINATE AND INTEGRATE THE VARIOUS ELEMENTS OF THE HVAC SYSTEM, MATERIALS AND EQUIPMENT WITH OTHER CONTRACTORS TO AVOID INTERFERENCE'S AND CONFLICTS. B. HVAC EQUIPMENT (REFER TO PLANS FOR SCHEDULE OF EQUIPMENT)

1 PRIMARY HVAC LINITS ARE TO BE AS SCHEDULED, FOLIVALENTS MAY BE SUBSTITUTED.

WITH WRITTEN APPROVAL ONLY. ALL COMPRESSORS ARE TO INCLUDE A 5 YEAR EXTENDED 2. ALL EQUIPMENT SHALL BE COMPLETE IN EVERY RESPECT WITH ALL DEVICES APPURTENANCES AND ACCESSORIES PROVIDED TO MEET THE DESIGN INTENT AND

OPERATION OF THE SYSTEMS SHOWN ON THE DRAWINGS AND SPECIFIED. 3. EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. ALL AIR CONDITIONING EQUIPMENT MUST HAVE A CONDENSATE DRAIN AND BE TRAPPED IN ACCORDANCE WITH MANUFACTURER'S DATA. SEE DRAWINGS FOR ADDITIONAL DETAILS

4. SECONDARY DRAIN PANS ARE REQUIRED TO BE INSTALLED BENEATH ALL INDOOR AIR. CONDITIONING EQUIPMENT WITH THE EXCEPTION OF AIR TERMINAL BOXES. SECONDARY PANS ARE TO PROTECT ENTIRE UNIT. PROVIDE CONDENSATE PUMPS AS REQUIRED. CONDENSATE SHALL BE DIRECTED TO MOP SINK, LAVATORY TRAP OR OTHER APPROVED

5. ALL MECHANICAL EQUIPMENT AND APPLIANCES WHICH CONTAIN REFRIGERANT MUST COMPLY WITH AN APPLICABLE STANDARD (E.G. UL 207, 412, 471).

C. TOILET EXHAUST FANS 1 WHERE SHOWN ON DRAWINGS PROVIDE A TOILET EXHAUST FAN COMPLETE WITH GRAVITY BACKDRAFT DAMPER ALL DLICTWORK ROOF OPENINGS AND CAPS NECESSARY TO PROVIDE A COMPLETE EXHAUST SYSTEM SHALL BE PROVIDED BY THE CONTRACTOR. REFER TO PLANS FOR APPLICABILITY.

D. VIBRATION ISOLATION DEVICES 1. VIBRATION ISOLATION DEVICES SHALL BE PROVIDED IN ALL SUPPORTS BETWEEN VIBRATING EQUIPMENT (FANS, ROOFTOP UNITS, WATER SOURCE HEAT PUMPS, AIR HANDLERS, FAN POWERED VAV BOXES, ETC.) AND STRUCTURE.

2. VIBRATING EQUIPMENT HUNG FROM STRUCTURE SHALL BE ISOLATED WITH RUBBER AND

SPRING DEVICES. VIBRATING EQUIPMENT SUPPORTED FROM FLOOR OR DECK SHALL BE ISOLATED WITH HOUSED SPRING MOUNT DEVICES. 3. EXAMINE DEAD LOAD AND OPERATING LOAD CONDITIONS WHEN SELECTING DEVICES. ADJUST FOR PROPER ALIGNMENT AND LOADING. AVOID "GROUNDING" THE ISOLATOR.

4. CHECK HANGER ROD SIZE FOR ALLOWABLE LOADS AT THE ISOLATING DEVICE AND THE UPPER AND LOWER ATTACHMENTS TO STRUCTURES, DUCTS, EQUIPMENT, ETC. 5. CONSULT MANUFACTURER FOR APPLICATION DATA. E. CURBS AND STEEL FRAMING FOR SUPPORT

1. THIS CONTRACTOR WILL PROVIDE ALL NECESSARY CURBS AND STEEL FRAMING REQUIRED TO INSTALL ALL HVAC EQUIPMENT. CURBS SHALL BE A MINIMUM OF 14 INCHES HIGH AND OF THE SAME MANUFACTURER AS THE EQUIPMENT SUPPORTED. INSULATE UNDER THE COMPRESSOR SECTION TO PREVENT CONDENSATION. ALL CURBS MUST BE INSTALLED SO THAT THE TOP OF CURBS ARE "DEAD" LEVEL. ALL PENETRATIONS OF EXISTING STRUCTURE SHALL BE DONE IN ACCORDANCE WITH THE OWNER'S GUIDELINES AT THIS CONTRACTOR'S EXPENSE. ALL CONNECTIONS TO ROOFTOP EQUIPMENT SHALL BE INSIDE THE CURB (CONDENSATE DRAIN, POWER WIRING, CONTROL WIRING, ETC.). F. METAL DUCTWORK - NO FIBERGLASS DUCT ALLOWED

I. NO DUCTWORK SHALL BE FABRICATED PRIOR TO APPROVAL BY THE OWNER'S CONSTRUCTION MANAGER. DEVIATIONS FROM DESIGN MUST BE APPROVED BY OWNER'S CONSTRUCTION MANAGER PRIOR TO FABRICATION OR INSTALLATION. ALL CONCEALED DUCT MAINS ARE TO BE RECTANGULAR. ALL EXPOSED DUCT MAINS ARE TO BE ROUND

2. ALL DUCTWORK SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH SMACNA LOW VELOCITY AND "HVAC DUCT CONSTRUCTION STANDARDS MANUAL". LATEST EDITION AND ASHRAF USING PRIME SHEETS OF GAI VANIZED STEEL CONFORM TO THE REQUIREMENTS IN THE REFERENCED STANDARD FOR METAL THICKNESS REINFORCING TYPES AND INTERVALS. TIE ROD APPLICATIONS AND JOINT TYPES AND INTERVALS. ALL SQUARE ELBOWS SHALL BE PROVIDED WITH DOUBLE WALLED VANES ON MAXIMUM 3" CENTERS, PROVIDE SEAL CLASS "C" ON ALL TRAVERSE JOINTS UNLESS SUPERSEDED BY MORE STRINGENT LOCAL CODES. ALL DUCT CONNECTIONS ARE TO BE RIGID AND LEAK FREE ASSEMBLIES.

BE COMPLETELY SEALED UP OF ANY OPENINGS, EITHER AT THE BEGINNING OR END OF A DUCT RUN OR AT A BRANCH, COLLAR DIFFUSER OR REGISTER TO AVOID DIRT OR OTHER CONTAMINANTS FROM ENTERING THE SYSTEM. 4. EXCEPT WHERE OTHERWISE INDICATED, CONSTRUCT DUCT SYSTEMS TO 2 INCH WATER

GAUGE PRESSURE CLASSIFICATION (VERIFY WHETHER RETURN OR EXHAUST DUCT IS POSITIVE OR NEGATIVE PRESSURE). PRESSURE TEST DUCTS FOR LEAKAGE. REMAKE. LEAKING JOINTS AND APPLY SEALANTS AS REQUIRED TO FABRICATE A SYSTEM THAT DOES NOT EXCEED 5 PERCENT LEAKAGE OR LESS AS STATED BY PRESSURE CLASS RATINGS IN

5 AS A MINIMUM CROSSBREAK ALL FLAT SURFACES OR REINFORCE WITH A READ APPROXIMATELY 3/8 INCH WIDE BY 3/16 INCH DEEP ON 12 INCH CENTERS TO PREVENT

6 INSTALL RIGID ROUND AND RECTANGULAR METAL DUCT WITH SUPPORT SYSTEMS. INDICATED IN SMACNA STANDARDS, NO WOOD SHALL BE USED TO SUPPORT OR BRACE DUCTS. PROVIDE SWAY AND SEISMIC BRACING AS REQUIRED BY STATE AND LOCAL CODES

7. WHERE DUCTS PASS THROUGH ROOFS, FLOORS AND FIRE RATED PARTITIONS, PROVIDE AS MINIMUM 1-1/2 INCH BY 1-1/2 INCH BY 1/8 INCH STEEL ANGLE FRAMES AT EACH SIDE OF OPENING, THE ANNULAR SPACE BETWEEN DUCT AND ANGLE FRAMES SHALL BE CAULKED WITH SILICONE SEALANT OR FIREPROOFED AS REQUIRED BY THE ASSEMBLY FIRE RATING. CONTRACTOR TO PROVIDE FIRE OR COMBINATION FIRE / SMOKE DAMPERS AT EACH PENETRATION WHERE REQUIRED BY CODE.

WITH DAP CMC DUCT SEALER. JOINTS ALSO SHALL BE RIVETED OR CONNECTED WITH SHEET METAL SCREWS. 9. SOFT ELASTOMER BUTYL GASKETS WITH ADHESIVE BACKING SHALL BE USED TO SEAL FLANGED JOINTS.

8. ALL TRAVERSE JOINTS AND SEAMS IN SUPPLY AIR DUCT SHALL BE SEALED AIR TIGHT

10. DUCT TRANSITIONS SHALL NOT EXCEED 30 DEGREES SLOPE EXCEPT AS SPECIFICALLY NOTED OTHERWISE 11. PROVIDE ACCESS TO ALL MOTORIZED DAMPERS, FIRE DAMPERS, FIRE / SMOKE DAMPERS. CONTROLS AND OTHER ITEMS IN DUCTWORK THAT REQUIRE SERVICE OR INSPECTION. IF THE ACCESS PANEL LOCATION IS EXPOSED TO THE SPACE, IT MUST BE APPROVED BY THE OWNER'S CONSTRUCTION MANAGER PRIOR TO INSTALLATION. LAY-IN SUPPLY AND RETURN AIR DIFFUSERS, GRILLES AND REGISTERS WITH PLASTER FRAMES

MAY BE USED AS ACCESS LOCATIONS.

12. ALL BRANCHES AND TAKEOFFS SHALL BE EQUIPPED WITH MANUAL VOLUME CONTROLLING DEVICES HAVING AN INDICATING AND LOCKING DEVICE. 13. ALL TAPES AND MASTICS USED TO SEAL DUCTS MUST BE LISTED AND LABELED IN ACCORDANCE WITH UL 181A AND BE MARKED "181A-P" FOR PRESSURE SENSITIVE TAPE, "181A-M" FOR MASTIC, OR "181A-H" FOR HEAT-SENSITIVE TAPE. TAPES AND MASTICS USED TO SEAL FLEXIBLE AIR DUCTS AND CONNECTORS MUST COMPLY WITH UL 181B AND BE MARKED "181B-FX" FOR PRESSURE SENSITIVE TAPE OR "181B-M" FOR MASTIC. MECHANICAL FASTENERS USED WITH FLEXIBLE NONMETALLIC AIR DUCTS MUST COMPLY WITH UL 181B AND BE MARKED "181B-C".

1. FLEXIBLE COLLARS SHALL BE PROVIDED IN ALL CONNECTIONS BETWEEN VIBRATING EQUIPMENT (FANS, ROOFTOP UNITS, WATER SOURCE HEAT PUMPS, AIR HANDLERS, FAN POWERED VAV BOXES, ETC.) AND DUCTS OR CASINGS. ALSO PROVIDE FLEXIBLE CONNECTIONS WHERE DUCTS CROSS BUILDING EXPANSION JOINTS.

2. FLEXIBLE CONNECTIONS SHALL BE CONSTRUCTED OF NEOPRENE-COATED FLAMEPROOF FABRIC. PROVIDE ADEQUATE JOINT FLEXIBILITY TO ALLOW FOR MOVEMENT AND PREVENT

THE TRANSMISSION OF VIBRATION. 3. FLEXIBLE CONNECTIONS ARE TO BE RATED FOR THE OPERATING PRESSURE OF THE 4. FINAL CONNECTIONS TO FANS SHALL BE WITH A HEAVY AIRTIGHT ACID RESISTANT FIRE RETARDANT FIBERGLASSED NEOPRENE CONNECTOR, A MINIMUM OF SIX (6) INCHES IN LENGTH. THE CONNECTOR SHALL BE FASTENED TO EQUIPMENT AND DUCT WITH TWO

1 MOUNT THERMOSTATS 4'-0" (ADA COMPLYING) THERMOSTAT SENSORS 5'-0" ABOVE FINISHED FLOORS AND SET DATE, TIME, TEMPERATURE, ETC. TURN OVER OPERATING INSTRUCTIONS TO OWNER REPRESENTATIVE 2. THERMOSTATS SHALL BE PROVIDED WITH KEY OPERATED SECURITY COVERS AND

FLEXIBLE REMOVABLE BRASS STRAPS OR ALTERNATE APPROVED METHOD.

DESCRIPTIVE NAMEPLATES. I. FIRE DAMPERS, SMOKE DAMPERS 1. THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL FIRE DAMPERS AS REQUIRED BY OWNER CRITERIA AND / OR CODES HAVING JURISDICTION. ALL FIRE DAMPERS SHALL

COMPLY WITH THE REQUIREMENTS OF THE BOARD OF FIRE UNDERWRITERS, THE LOCAL

FIRE MARSHAL AND SHALL BE LABELED AND APPROVED BY UNDERWRITERS

INTERLOCK WITH FIRE ALARM SYSTEM.

J. FLEXIBLE AIR DUCT

FLEXIBLE DUCT

2. FIRE DAMPERS SHALL HAVE THE BLADES OUT OF THE AIR STREAM AND A 165 DEGREE F 3. PROVIDE ALL NECESSARY FRAMING AND SLEEVES FOR DAMPER MOUNTING PER UL AND CODE REQUIREMENTS.

4. PROVIDE DUCT ACCESS DOORS IN AN ACCESSIBLE LOCATION FOR ALL FIRE DAMPERS. DOOR IS TO BE 20 GAUGE GALVANIZED DOOR WITH QUICK-OPENING LATCH AND PIANO 5. WHERE REQUIRED BY LOCAL CODES, OWNER AND IF INDICATED ON DRAWINGS, PROVIDE UL555S SMOKE DAMPER WITH FIRE/HEAT/SMOKE SENSOR, REVERSIBLE MOTOR AND

1 FLEXIBLE DUCT FOR CONNECTIONS SHALL BE A FACTORY FABRICATED ASSEMBLY CONSISTING OF AN INNER SLEEVE, INSULATION AND AN OUTER MOISTURE BARRIER. THE INNER SLEEVE SHALL BE CONSTRUCTED OF A CONTINUOUS VINYL COATED SPRING STEE WIRE HELIX FUSED TO A CONTINUOUS LAYER OF FIBERGLASS IMPREGNATED AND COATED VINYL. A 1 1/4" THICK LAYER OF INSULATING BLANKET OF FIBERGLASS WOOL SHALL ENCASE THE INNER SLEEVE AND BE SHEATHED WITH AN OUTER MOISTURE BARRIER OF A BIDIRECTIONAL REINFORCED METALIZED VAPOR BARRIER. THE FLEXIBLE DUCT SHALL BE RATED FOR A MAXIMUM WORKING VELOCITY OF 6000 FPM AND SHALL BE LISTED BY THE UNDERWRITERS LABORATORIES UNDER THEIR UL-181 STANDARDS AS A CLASS 1 DUCT AND SHALL COMPLY WITH NFPA STANDARD - 90A. THE FLEXIBLE DUCT SHALL BE THERMAFLEX M-KC OR APPROVED EQUIVALENT. FLEXIBLE DUCT SHALL ROUTE FROM SHEET METAL DUCTWORK TO CEILING DIFFUSERS ONLY. THERE SHALL BE NO EXPOSED

2. FLEXIBLE AIR DUCT MAY ONLY BE USED IN VERTICAL APPLICATIONS WITH PRIOR APPROVAL FROM THE OWNER'S CONSTRUCTION MANAGER. FLEXIBLE DUCT SHALL NOT EXTEND OVER 5 FEET IN LENGTH AT ANY ONE LOCATION

K. SUPPLY AND RETURN AIR TAKEOFF FITTINGS

1. RECTANGULAR DUCT

2. SPIRAL DUCT

A. PROVIDE 45 DEGREE RECTANGULAR TAKEOFFS FROM MAIN DUCTWORK TO RECTANGULAR BRANCHES.

A. PROVIDE SADDLE OR DIRECT CONNECTION OF A BRANCH DUCT INTO A LARGER DUCT. THE DIAMETER OF THE BRANCH SHALL NOT EXCEED TWO THIRDS OF THE DIAMETER OF THE MAIN. PROTRUSIONS INTO THE MAIN ARE NOT ALLOWED.

1. PROVIDE MANUAL LOCKING QUADRANT VOLUME CONTROL DAMPERS WITH HANDLE OPERATORS IN EACH BRANCH DUCT AND AS SHOWN ON PLANS TO FACILITATE AIR

2. WHERE ACCESS TO BALANCING DAMPER IS RESTRICTED OR IN AREAS WITH SHEET ROCK CEILINGS, YOUNG REGULATORS SHALL BE USED 3. ALL RECTANGULAR DAMPERS IN OUTSIDE AIR AND RELIEF AIR DUCTS ARE TO BE OPPOSED BLADE TYPE. ALL RECTANGULAR DAMPERS IN RETURN AIR DUCTS TO BE PARALLEL BLADE TYPE. ALL OUTSIDE AIR DUCT DAMPERS MUST ALSO BE OF THE LOW

4. ALL MOTORIZED DAMPERS NOT FURNISHED WITH EQUIPMENT ARE TO BE HONEYWELL M. DIFFUSERS, GRILLES AND REGISTERS

1. PROVIDE DIFFUSERS, GRILLES AND REGISTERS AS SCHEDULED. DEVICES TO BE COMPLETE WITH FRAMES AND ALL ACCESSORIES, ALL DIFFUSERS, GRILLES AND REGISTERS IN SHEET ROCK CEILINGS TO BE PROVIDED WITH PLASTER FRAMES. FINISH TO BE COORDINATED WITH INTERIOR FINISHES 2. INSTALL ALL AIR DEVICES AS LOCATED ON THE ARCHITECTURAL REFLECTED CEILING

PLAN OR THE MECHANICAL PLAN. N. DUCTWORK INSULATION 1. ALL NEW SUPPLY AND RETURN AIR DUCTWORK WITHIN 10' OF HVAC UNIT SHALL BE ACOUSTICALLY LINED. DUCT SIZES SHOWN ON THE DRAWING ARE INTERNAL FREE AREA

SIZES. INTERNAL LINER SHALL BE 1 1/2" THICK DUCT LINER EQUIVALENT TO JOHNS MANVILLE "PERMACOTE LINACOUSTIC" ("R VALUE" = 6.3) AND SHALL BE APPLIED TO THE DUCTWORK WITH FIRE RESISTIVE ADHESIVES AND CADMIUM OR COPPER PLATED 2. ALL OUTSIDE AIR AND UNEXPOSED DUCTWORK WITHIN BUILDING, EXCEPT WHERE

ACOUSTICALLY LINED, SHALL HAVE 2 INCH, FIBERGLASS DUCT WRAP INSULATION WITH FSK

FACING EQUIVALENT TO JOHNS MANVILLE "MICROLITE XG TYPE 75" (INSTALLED "R VALUE" =

3. LEADING EDGES OF DUCT INSULATION SHALL BE OVERLAPPED BY ADJOINING INSUI ATION FOR 6" MINIMUM AND THEN SEALED WITH FOIL VAPOR BARRIER ADHESIVE AND DUCT MASTIC SO THAT NO FIBERGLASS INSULATION IS VISIBLE. 4. ALL INSULATION ON EXISTING PIPING OR DUCTS THAT IS WETTED, DAMAGED, DISTURBED OR REMOVED SHALL BE REPLACED.

INSTRUCTIONS AND IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES, INSULATION MUST COMPLY WITH NFPA 90A. 6. ALL INSULATION SHALL HAVE A FLAME SPREAD RATING OF NOT MORE THAN 25 AND A SMOKE DEVELOPED RATING OF NO HIGHER THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84 AND MUST NOT FLAME, GLOW SMOLDER OR SMOKE WHEN TESTED IN ACCORDANCE WITH ASTM C 411 OR AS REQUIRED BY LOCAL CODES.

5. INSTALL INSULATION PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN

7. EXTERIOR SUPPLY AND RETURN DUCT INSULATION, IF APPLICABLE A. SERVICE: RECTANGULAR, SUPPLY-AIR AND RETURN-AIR DUCTS. 1. MATERIAL: INSULATION BOARD, 6 PSF MINIMUM AND PLAIN FACING. 2. THICKNESS: 2 INCHES 3. NUMBER OF LAYERS: TWO. TOTAL THICKNESS = 4" 4. VAPOR RETARDER REQUIRED: YES

A INORGANIC GLASS FIBERS PREFORMED AND BONDED BY THERMOSETTING RESIN MUST COMPLY WITH ASTM C 612, TYPE 1A AND 1B, . KNAUF INSULATION OR APPROVED EQUIVALENT. B. INSULATION INSTALLED OUTDOORS: FLAME SPREAD RATING OF 25 OR LESS AND SMOKE DEVELOPED RATING OF 50 OR LESS

B. APPLY INSULATION AS FOLLOWS: A APPLY TWO-LAYER INSULATION WITH JOINTS TIGHTLY BUTTED AND STAGGERED AT 3. DURING THE CONSTRUCTION PHASE OF THE PROJECT, ANY DUCTWORK INSTALLED IS TO LEAST 3 INCHES. SECURE LAYERS WITH ADHESIVE, MECHANICAL FASTENERS OR BANDING. FASTENERS SHALL BE LOCATED A MAXIMUM OF 3" FROM EACH EDGE AND NO GREATER THAN

> B. ON EXPOSED APPLICATIONS. FINISH INSULATION WITH A SKIM COAT OF MINERAL-FIBER. HYDRAULIC-SETTING CEMENT TO SURFACE OF INSTALLED INSULATION. WHEN DRY, APPLY FLOOD COAT OF LAGGING ADHESIVE AND PRESS ON ONE LAYER OF GLASS CLOTH OR TAPE. OVERLAP EDGES AT LEAST 1 INCH (25 MM). APPLY FINISH COAT OF LAGGING ADHESIVE OVER GLASS CLOTH OR TAPE. THIN THE FINISH COAT TO ACHIEVE SMOOTH FINISH. OUTDOOR JACKET: POLYGUARD PRODUCTS, INC. 'ALUMAGUARD 60' OR MFM BUILDING PRODUCTS CORP. 'FLEXCLAD 400".

. UPON COMPLETION OF INSTALLATION, CLEAN ENTIRE SYSTEM BEFORE INSTALLING AIR OUTLETS, CONTRACTOR TO PROVIDE A CERTIFICATION THAT CLEANING WAS ACCOMPLISHED PRIOR TO PROJECT CLOSEOUT.

2. FILTERS MUST BE IN UNITS AT ANY TIME FANS ARE OPERATED. P. SYSTEM TESTING, ADJUSTING AND BALANCING

1. TESTING, ADJUSTING AND BALANCING OF ALL WORK SHALL BE COMPLETED BY AN INDEPENDENT CONTRACTOR WHO IS CURRENTLY LICENSED BY THE ASSOCIATED AIR BALANCING COUNCIL (AABC) OR NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB) NO OTHER BALANCE REPORTS WILL BE REVIEWED OR ACCEPTED, ALL BALANCING WORK MUST BE COMPLETE AND DONE IN ACCORDANCE WITH THE MOST RECENT STANDARDS OF THEIR SOCIETY. PAYMENT OF ALL COSTS FOR TESTING SHALL BE MADE BY THE HVAC CONTRACTOR 2. THE CONTRACTOR SHALL INSTALL NEW FILTERS IN ALL UNITS PRIOR TO THE AIR BALANCING. THE COMPLETE AIR BALANCE SHALL TAKE PLACE WITH OUTSIDE AIR DAMPERS IN

3. BALANCE AIR AND WATER QUANTITIES TO WITHIN PLUS OR MINUS 5 PERCENT OF THAT INDICATED ON THE DRAWINGS. ANY REQUIRED CHANGES IN SHEAVES, BELTS, PULLEYS OR THE ADDITION OF DAMPERS REQUIRED TO ACHIEVE SPECIFIED FLOW RATES SHALL BE PROVIDED BY THE HVAC CONTRACTOR WITH NO ADDITIONAL COST TO THE OWNER. 4. THE BALANCE REPORT SHALL INCLUDE AS A MINIMUM THE FOLLOWING INFORMATION: A) AABC OR NEBB CERTIFICATION NUMBER AND SIGNATURE OF BALANCING CONTRACTOR. B) INSTRUMENTATION LIST WITH LAST CALIBRATION DATES C) MAKE AND MODEL NUMBERS OF ALL HVAC EQUIPMENT TESTED. D) AIR CFM AND STATIC PRESSURE READINGS (DISCHARGE AND SUCTION) AS MEASURED BY PITOT TUBE DUCT TRAVERSE AT THE UNITS. E) MOTOR NAMEPLATE DATA WITH ACTUAL FIELD VOLTAGE AND AMPERAGE READINGS FOR F) MOTOR AND FAN RPM, SHEAVE SIZES AND BELT SIZES AND LENGTHS.

G) OUTSIDE, RETURN, MIXED AND SUPPLY AIR TEMPERATURES AT FULL COOLING. H) WATER BALANCE DATA INCLUDING GPM WITH INLET AND OUTLET TEMPERATURE AND PRESSURE READINGS I) MAKE AND MODEL NUMBERS OF ALL AIR DISTRIBUTION EQUIPMENT J) FINAL BALANCED AIR VOLUMES AT ALL OUTLETS (INCLUDING RETURNS WHERE DUCTED). K) INDEXED PLAN WITH DIFFUSER AND RETURN LOCATIONS.

5. ALL CONTROL SEQUENCES SHALL BE TESTED AND OPERATING STATUS RECORDED IN THE 6. THREE COPIES OF THE BALANCE REPORT SHALL BE SUBMITTED THROUGH THE GENERAL CONTRACTOR TO THE OWNER'S CONSTRUCTION MANAGER FOR REVIEW AND COMMENT. 7. THE BALANCING CONTRACTOR SHALL PERFORM ALL APPLICABLE TESTING AND BALANCING FUNCTIONS REQUIRED FOR THE SYSTEM DESIGNED IN THESE DRAWINGS. THE BALANCING CONTRACTOR SHALL RECHECK ANY ITEMS THAT THE OWNER DEEMS NECESSARY AT NO ADDITIONAL COST TO THE OWNER.

8. FINAL BALANCE REPORT SHALL BE INCLUDED IN THE OPERATION AND MAINTENANCE

Q. FINAL HVAC INSPECTIONS ASIDE FROM NORMAL INTERIM INSPECTIONS OF WORK IN PLACE, THE OWNER SHALL HAVE THE RIGHT TO HAVE AN INDEPENDENT HVAC CONTRACTOR INSPECT THE FINISHED HVAC INSTALLATION UPON COMPLETION FOR COMPLIANCE WITH THE PLANS. SPECIFICATIONS AND CODES. THE INSTALLING CONTRACTOR WILL BE RESPONSIBLE TO BRING ALL ITEMS REPORTED BY THE INDEPENDENT HVAC CONTRACTOR UP TO PLANS AND SPECIFICATIONS REQUIREMENTS AT NO ADDITIONAL COST TO THE OWNER.

1. NO ANALYSIS HAS BEEN MADE WITH REGARD TO SOURCES OR POTENTIAL SOURCES OF INDOOR OR OUTDOOR AIR CONTAMINANTS OR LEVELS OF CONTAMINATION. 2. IT IS THE RESPONSIBILITY OF THE GENERAL AND MECHANICAL CONTRACTOR TO INFORM THE OWNER'S REPRESENTATIVE. OWNER AND OWNER'S ARCHITECT IF ANY SOURCE OR

POTENTIAL SOURCE OF INDOOR AIR CONTAMINATION IS IDENTIFIED. 3. PRIOR TO ENCLOSING SPACES SUCH AS PLUMBING CHASES, AIR SHAFTS AND RETURN AIR PLENUMS CLEAN ALL AREAS THOROUGHLY. THE CONTRACTOR SHALL GUARANTEE THAT THE PLENUM CHAMBER USED FOR RECIRCULATING OF AIR WILL BE OF TIGHT CONSTRUCTION AND THAT ALL SOURCES OF CONTAMINATION FROM TRAPS, SOIL STACKS, DOWNSPOUTS, VENTS, EXHAUST DISCHARGES AND OTHER SOURCES WILL BE ENCLOSED SO THAT NO CONTAMINATED AIR WILL BE RECIRCULATED.

4 PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES SHUT OFF THE HVAC SYSTEM BLOCK OFF ALL AIR GRILLS. DIFFUSERS AND OTHER OPENINGS OUTSIDE THE IMMEDIATE ONSTRUCTION AREA. OPENINGS TO ADJACENT OWNER SPACES SHALL BE COVERED WITH FILTER MEDIA TO PREVENT DUST AND OTHER AIRBORNE CONTAMINANTS FROM PASSING TO CONTRACTOR TO INSTALL TEMPORARY EXHAUST SYSTEM TO VENTILATE CONSTRUCTION SITE AND KEEP SITE UNDER SLIGHT NEGATIVE PRESSURE DURING ALL HOURS OF

6. CONTRACTOR TO INSTALL TEMPORARY BARRIERS TO PROTECT ADJACENT SPACES FROM

DUST, PARTICULATES, VAPORS AND NOISE. WHERE TEMPORARY BARRIERS ARE INSTALLED

CONSTRUCTION, EVEN IF AFTER NORMAL BUSINESS HOURS.

ALWAYS MAINTAIN FIRE EXITS AND EXITWAYS. 3-26-08

STANDARD NOTES SHOWN ON THIS SHEET ARE INTENDED TO BE

GENERAL AND MAY NOT BE SPECIFIC OR APPLICABLE TO THIS PROJECT.

FIRST FLOOR DINING ROOM

| | | HEAT GA | IN CALC | CULATI | ONS | | |
|----------|--------|-------------------------------|------------------|-----------|----------|----------|----------|
| | ITEM | ROOM NUMBER: | | | | | |
| | | NAME | | | | | |
| | 1 | AREA (SQ. FT.) | 2,128 | DESIGN CO | NDITIONS | DRY BULB | WET BULB |
| | 2 | CEILING HEIGHT (FT.) | 9'-0" | | OUTSIDE | 89 F | 72 F |
| | 3 | VOLUME (CU. FT.) | 19,152 | | INSIDE | 78 F | 50% RH |
| NSIBLE (| GAINS | | FACTOR | QUANTITY | BTUH | QUANTITY | BTUH |
| | 4 | ROOF | 5.10 | | | | |
| BOVE | 5 | WALL | | | | | |
| EILING | 6 | LIGHTS | 3.41 | | | | |
| | 7 | | | | | | |
| | 8 | SUB-TOTAL (4 THRU 7) | | | | | |
| | 9 | ROOF | 5.10 | 2,128 | 10,853 | | |
| | 10 | WALL | 4.39 | 1,001 | 4,392 | | |
| | 11 | GLASS | 58.40 | 358 | 20,905 | | |
| ELOW | 12 | PEOPLE | 250 | 111 | 27,750 | | |
| EILING | 13 | INFILTRATION | | | | | |
| | 14 | LIGHTS | 3.41 | 2,128 | 7,263 | | |
| | 15 | OUTSIDE AIR | 12.10 | 1,600 | 19,360 | | |
| | 16 | EQUIPMENT | 138 | 30 | 4,143 | | |
| | 17 | SUB-TOTAL (9 THRU 16) | | | 94,666 | | |
| TENT GA | INS | | | | | | |
| | 18 | PEOPLE | 200 | 111 | 22,200 | | |
| ELOW | 19 | INFILTRATION | | | | | |
| EILING | 20 | EQUIPMENT | | | | | |
| | 21 | OUTSIDE AIR | 13.11 | 1,600 | 20,971 | | |
| | 22 | SUB-TOTAL (18 THRU 21) | | | 43,171 | | |
| OM CON | IDITIO | | | | | | |
| | 23 | TOTAL LOAD (17 + 22) | | | 137,837 | | |
| | 24 | SENSIBLE HEAT FACTOR (1 - (22 | / 17)) | | 0.54 | | |
| | 25 | SUPPLY AIR TEMP. DIFF. | | | 20 | | |
| ELOW | 26 | SUPPLY AIR CFM | | | 4,383 | | |
| EILING | | (17 / (1.08 X 25)) | | | | | |
| | 27 | CFM PER SQ. FT. | | | 2.06 | | |
| | | (26 / 1) | | | | | |
| | 28 | AIR CHANGES PER HOUR | | | 13.7 | | |
| | | ((26 X 60) / 3) | | | | | |
| | 29 | ROOM GRAND TOTAL (8 + 17 + 2 | · · | | 137,837 | | |
| | 30 | AVG. ROOM LOAD BTUH PER SC | Q. FT. (29 / 1) | | 65 | | |
| | 31 | TOTAL TENANT AREA (1) | | | | 2,128 | |
| | 32 | TENANT GRAND TOTAL LOAD (2 | | | | | 137,837 |
| | 33 | AVG. TENANT LOAD BTUH PER S | SQ. FT. (32 - 31 | 1) | | | 65 |

| | | | HEA | I LOSS | S CAL | CULATI | ONS | | |
|-----------|-------|------------|--------------|---------------|--------------|-----------|----------|----------|--------|
| | ITEM | ROOM NUM | BER: | | | | | | |
| | | NAME | | | | | | | |
| | 1 | AREA (SQ. | FT.) | | 2,128 | DESIGN CO | NDITIONS | DRY BULB | |
| | 2 | CEILING HE | IGHT (FT.) | | 9'-0" | | OUTSIDE | 1 F | |
| | 3 | VOLUME (C | U. FT.) | | 19,152 | | INSIDE | 70 F | |
| XTERIOR | LOSSE | S | | | FACTOR | QUANTITY | BTUH | QUANTITY | BTU |
| | 4 | ROOF | | | 6.90 | 2,128 | 14,683 | | |
| DAY | 5 | WALL | | | 8.97 | 1,001 | 8,979 | | |
| CYCLE | 6 | GLASS | | | 44.16 | 358 | 15,809 | | |
| | 7 | INFILTRATI | ON | | | | | | |
| | 8 | OUTSIDE A | IR | | 74.52 | 1,600 | 119,232 | | |
| | 9 | SUB-TOTAL | . (4 THRU 8) | | | | 158,703 | | |
| | 10 | ROOF | | | 6.90 | 2,128 | 14,683 | | |
| NIGHT | 11 | WALL | | | 8.97 | 1,001 | 8,979 | | |
| CYCLE | 12 | GLASS | | | 44.16 | 358 | 15,809 | | |
| | 13 | OUTSIDE A | R | | 74.52 | | | | |
| | 14 | SUB-TOTAL | . (10 THRU 1 | 3) | | | 39,471 | | |
| NTERIOR (| GAINS | | | | | | | | |
| DAY | 15 | LIGHTS 50% | 6 CREDIT | | 3.41 | 1,064 | 3,628 | | |
| CYCLE | 16 | OTHER | | | | | | | |
| | 17 | SUB-TOTAL | . (15 + 16) | | | | 3,628 | | |
| NET HEAT | LOSS | | | | | | | | |
| | 18 | ROOM LOA | | | | | 155,075 | | |
| DAY | 19 | AVG. LOAD | PER SQ. F1 | Γ. | | | 73 | | |
| CYCLE | | (18 / 1) | | | | | | | |
| | 20 | TOTAL TEN | | , | | | | 2,128 | |
| | 21 | TENANT GR | AND TOTAL | . LOAD (18) | | | | | 155,07 |
| | 22 | | | UH PER SQ. | |) | | | 73 |
| NIGHT | 23 | | | H PER SQ. F | <u> </u> | | | | 18.5 |
| CYCLE | 24 | | | . LOAD (14) | | | | | 39,47 |
| | 25 | AVG. TENA | NT LOAD BT | UH PER SQ. | FT. (24 / 20 |) | | | 18.5 |

| INTERNATIONAL N | /IECH | ANICA | L CODE 2 | 021 | | |
|---------------------------------------|--------|------------------------------------|----------|----------|--|--|
| OUTDOOR AIR REQUIRMENTS FOR | SQUARE | QUARE CFM / MECHANICAL VENTILATION | | | | |
| VENTILATION 2.1 COMMERCIAL FACILITIES | FEET | SQ. FOOT | REQUIRED | SUPPLIED | | |
| TOTAL SQUARE FOOTAGE | 2,128 | | | | | |
| DINING ROOM | 1,739 | 0.71 | 1226 | 1,454 | | |
| BARS/COCKTAIL LOUNGES | 141 | 0.93 | 131 | 131 | | |
| | | | | | | |
| STORAGE ROOMS | 69 | 0.12 | 8 | 9 | | |
| | | | | | | |
| CORRIDOR | 90 | 0.06 | 5 | 5 | | |
| TOILET | 89 | | | | | |
| TOTAL | 2,128 | | 1,371 | 1,600 | | |
| | | | | • | | |

34 AVG. TENANT CFM PER SQ. FT. (26 / 31)

| | | | HEA | T GAIN | CALC | CULATI | ONS | | |
|-----------|----------------|-------------------|--------------|-----------------|-------------|-----------|----------|----------|----------|
| | ITEM | ROOM NUM | BER: | | | | | | |
| | · · · <u> </u> | NAME | | | | | | | |
| | 1 | AREA (SQ. I | FT.) | | 644 | DESIGN CO | NDITIONS | DRY BULB | WET BULB |
| | 2 | CEILING HE | | | 9'-0" | | OUTSIDE | 89 F | 72 F |
| | 3 | VOLUME (C | | | 5,796 | | INSIDE | 78 F | 50% RH |
| SENSIBLE | | (0 | , | | FACTOR | QUANTITY | _ | QUANTITY | BTUH |
| | | ROOF | | | 5.10 | | | | _ |
| ABOVE | 5 | WALL | | | | | | | |
| CEILING | 6 | LIGHTS | | | 3.41 | | | | |
| | 7 | | | | | | | | |
| | 8 | SUB-TOTAL | (4 THRU 7) | | | | | | |
| | 9 | ROOF | | | 5.10 | 644 | 3,284 | | |
| | 10 | WALL | | | 4.39 | 862 | 3,782 | | |
| | 11 | GLASS | | | 58.40 | 47 | 2,745 | | |
| BELOW | 12 | PEOPLE | | | 250 | 13 | 3,250 | | |
| CEILING | 13 | INFILTRATI | ON | | | | | | |
| | 14 | LIGHTS | | | 3.41 | 644 | 2,198 | | |
| | 15 | OUTSIDE AI | R | | 12.10 | | | | |
| | 16 | EQUIPMENT | Г | | 138 | 15 | 2,072 | | |
| | 17 | SUB-TOTAL | (9 THRU 16 |) | | | 17,331 | | |
| LATENT GA | INS | | | | | | | | |
| | 18 | PEOPLE | | | 200 | 13 | 2,600 | | |
| BELOW | 19 | INFILTRATI | ON | | | | | | |
| CEILING | 20 | EQUIPMENT | Г | | | | | | |
| | 21 | OUTSIDE AI | R | | 13.11 | | | | |
| | 22 | SUB-TOTAL | . (18 THRU 2 | 1) | | | 2,600 | | |
| ROOM CON | IDITION | N | | | | | | | |
| | | TOTAL LOA | | | | | 19,931 | | |
| | 24 | SENSIBLE H | HEAT FACTO | OR (1 - (22 / 1 | 7)) | | 0.85 | | |
| | | SUPPLY AIR | | F. | | | 20 | | |
| BELOW | 26 | SUPPLY AIF | R CFM | | | | 1,000 | | |
| CEILING | | (17 / (1.08 X | | | | | | | |
| | 27 | CFM PER S | Q. FT. | | | | 1.55 | | |
| | | (26 / 1) | | | | | | | |
| | 28 | AIR CHANG | ES PER HOU | JR | | | 10.4 | | |
| | | ((26 X 60) / 3 | 3) | | | | | | |
| | | ROOM GRA | | | | | 19,931 | | |
| | 30 | AVG. ROOM | | | T. (29 / 1) | | 31 | | |
| | 31 | | ANT AREA (| | | | | 644 | |
| | 32 | TENANT GR | | | | | | | 19,931 |
| | 33 | | | UH PER SQ. | | () | | | 31 |
| | 34 | AVG. TENAI | NT CFM PEF | R SQ. FT. (26 | / 31) | | | | 1.55 |

| | | | | TIASS | CALC | ULATI | ONIC | | |
|-----------|-------|------------------|--------------|---------------|--------|-----------|---------|----------|--------|
| | | | | I LUS | CALC | JULATI | ONS | | |
| | ITEM | ROOM NUM | IBER: | | | | | | |
| | | NAME | | | | | | | |
| | | AREA (SQ. | | | 644 | DESIGN CO | | DRY BULB | |
| | | CEILING HE | <u> </u> | | 9'-0" | | OUTSIDE | 1 F | |
| | | VOLUME (C | U. FT.) | | 5,796 | | INSIDE | 70 F | |
| EXTERIOR | | | | | FACTOR | QUANTITY | | QUANTITY | BTUH |
| | | ROOF | | | 6.90 | 644 | 4,444 | | |
| DAY | | WALL | | | 8.97 | 862 | 7,732 | | |
| CYCLE | 6 | GLASS | | | 44.16 | 47 | 2,076 | | |
| | 7 | INFILTRATI | ON | | | | | | |
| | 8 | OUTSIDE A | IR | | 74.52 | | | | |
| | 9 | SUB-TOTAL | _ (4 THRU 8) | | | | 14,251 | | |
| | 10 | ROOF | | | 6.90 | 644 | 4,444 | | |
| NIGHT | 11 | WALL | | | 8.97 | 862 | 7,732 | | |
| CYCLE | 12 | GLASS | | | 44.16 | 47 | 2,076 | | |
| | 13 | OUTSIDE A | İR | | 74.52 | | | | |
| | 14 | SUB-TOTAL | _ (10 THRU 1 | 3) | | | 14,251 | | |
| NTERIOR (| GAINS | | Ì | | | | · | | |
| DAY | 15 | LIGHTS 50% | 6 CREDIT | | 3.41 | 322 | 1,098 | | |
| CYCLE | | OTHER | | | - | _ | , | | |
| | 17 | SUB-TOTAL | (15 + 16) | | | | 1.098 | | |
| NET HEAT | | | 1 | | | | , | | |
| | 18 | ROOM LOA | D (9 - 17) | | | | 13,153 | | |
| DAY | 19 | | PER SQ. F1 | - | | | 20 | | |
| CYCLE | | (18 / 1) | | | | | | | |
| | 20 | | ANT AREA (| 1) | | | | 644 | |
| | | | | . LOAD (18) | | | | | 13,153 |
| | | | | UH PER SQ. | |) | | | 20 |
| NIGHT | | | | H PER SQ. F | | , | | | 22.1 |
| CYCLE | | | | LOAD (14) | | | | | 14,251 |
| 3.022 | 25 | | | UH PER SQ. | | \ | | | 22.1 |

| Issu | es and Revi | sions | | |
|------|-------------|----------------------|----|-------|
| No. | Date | Issues and Revisions | Ву | Check |
| 1. | 05/17/24 | ISSUED FOR PERMIT | MS | MS |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | 1 | 1 | | |
| | | | | |

Norwescap

Old Sullivan Building

Remodeling Project

371 S Main Street

Phillipsburg, NJ 08865

Warren County

350 Marshall Street

Phillipsburg, NJ 08865

PO Box 612, Budd Lake, NJ 07828

Tel/Fax: 973-527-7691

www.frontier-es.com

312 State Route 10, Randolph, NJ 07869

Tel: 973.442.5880 Fax: 973.442.5886

BLOCK:

PROJECT LOCATION

LOT:

MICHAEL J. SCHLICK, P.E.

MECHANICAL - GENERAL NOTE CALCULATIONS, & WORK RESPONSIBILI

N.J. LICENSE NUMBER: 24GE04904300

C.O.A. NUMBER: 24GA28244900

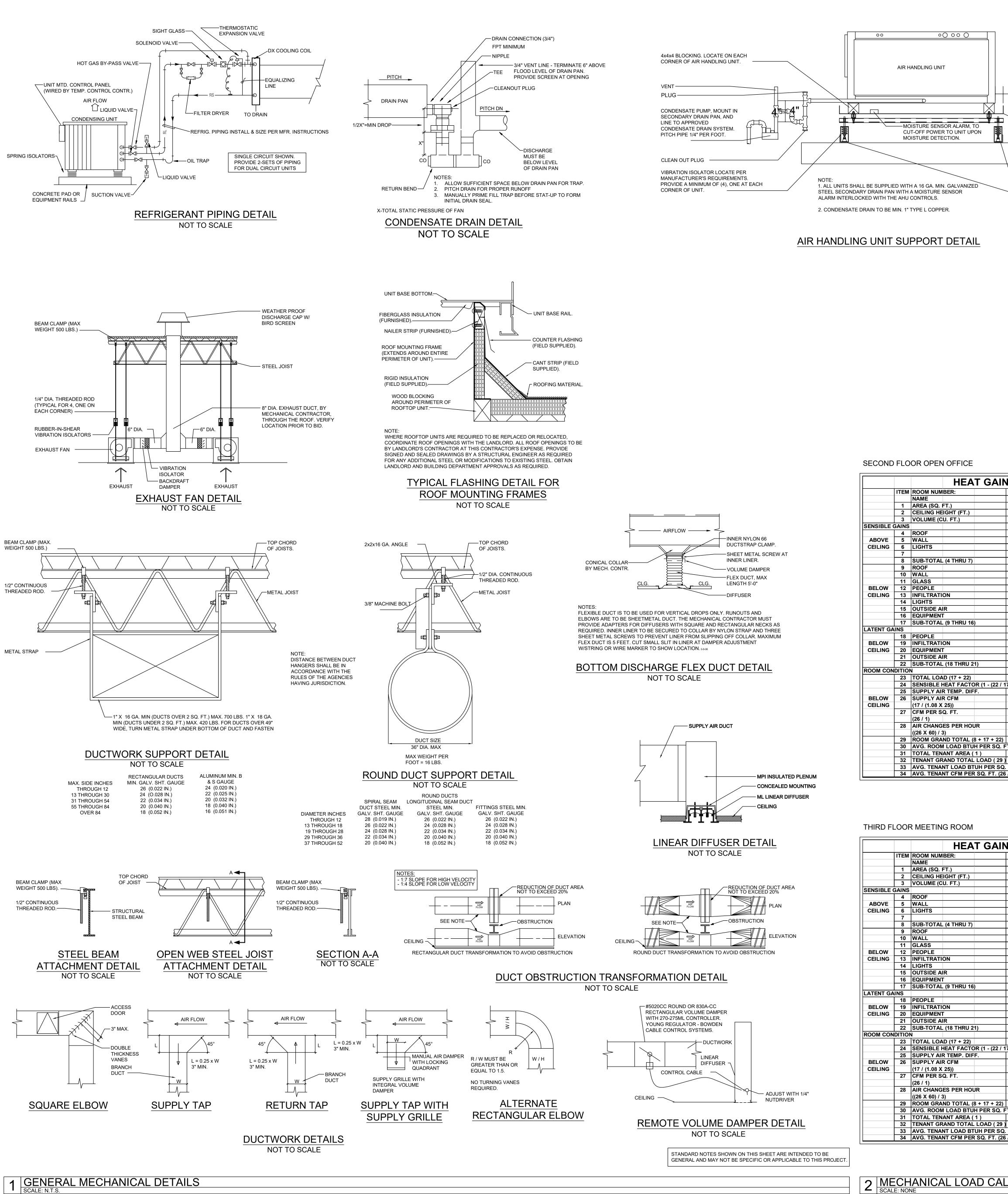
Registration and Signature

All drawings and written material appearing herein constitute original and unpublished work of the architect and may not be duplicated. used or disclosed without written consent of the architect.

©2023 REN HORTEN All Rights Reserved

MECHANICAL GENERAL NOTES

EQUIPMENT FOR USE IN THIS CONTRACT SHALL BE PROTECTED BY TARPAULIN OR BY



0000

CUT-OFF POWER TO UNIT UPON

MOISTURE DETECTION.

– 3" MIN.

EMERGENCY DRAIN PAN TO

—PLATFORM, BY OTHERS, FOR

MOUNTING OF AIR HANDLING

--- 3" x 3" x 1/4" MIN. ANGLE TO BE

JOIST SUPPORTS, UNDER TWO

VIBRATION ISOLATORS MIN. TO

DISTRIBUTE THE LOAD.

INSTALLED PERPENDICULAR TO THE

EXTEND 3" MIN. BEYOND

UNIT AND MUST BE 3"

MINIMUM IN HEIGHT.

AIR HANDLING UNIT

| | | HEAT GAIN | N CALC | ULATI | ONS | | |
|-----------|--------|-----------------------------------|-------------|-----------|----------|----------|---------|
| | ITEM | ROOM NUMBER: | | | | | |
| | | NAME | | | | | |
| | 1 | AREA (SQ. FT.) | 1,040 | DESIGN CO | NDITIONS | DRY BULB | WET BUL |
| | 2 | CEILING HEIGHT (FT.) | 9'-0" | | OUTSIDE | 89 F | 72 F |
| | 3 | VOLUME (CU. FT.) | 9,360 | | INSIDE | 78 F | 50% RH |
| SENSIBLE | GAINS | | FACTOR | QUANTITY | BTUH | QUANTITY | BTUH |
| | 4 | ROOF | 5.10 | | | | |
| ABOVE | 5 | WALL | | | | | |
| CEILING | 6 | LIGHTS | 3.41 | | | | |
| | 7 | | | | | | |
| | 8 | SUB-TOTAL (4 THRU 7) | | | | | |
| | 9 | ROOF | 5.10 | 494 | 2,519 | | |
| | 10 | WALL | 4.39 | 962 | 4,221 | | |
| | 11 | GLASS | 58.40 | 118 | 6,891 | | |
| BELOW | 12 | PEOPLE | 250 | 8 | 2,000 | | |
| CEILING | 13 | INFILTRATION | | | | | |
| | 14 | LIGHTS | 3.41 | 1,040 | 3,550 | | |
| | 15 | OUTSIDE AIR | 12.10 | | | | |
| | 16 | EQUIPMENT | 138 | 15 | 2,072 | | |
| | 17 | SUB-TOTAL (9 THRU 16) | | | 21,252 | | |
| LATENT GA | INS | | | | | | |
| | 18 | PEOPLE | 200 | 8 | 1,600 | | |
| BELOW | 19 | INFILTRATION | | | | | |
| CEILING | 20 | EQUIPMENT | | | | | |
| | 21 | OUTSIDE AIR | 13.11 | | | | |
| | 22 | SUB-TOTAL (18 THRU 21) | | | 1,600 | | |
| ROOM CON | IDITIO | 1 | | | | | |
| | 23 | TOTAL LOAD (17 + 22) | | | 22,852 | | |
| | 24 | SENSIBLE HEAT FACTOR (1 - (22 / 1 | i7)) | | 0.92 | | |
| | 25 | SUPPLY AIR TEMP. DIFF. | | | 20 | | |
| BELOW | 26 | SUPPLY AIR CFM | | | 1,200 | | |
| CEILING | | (17 / (1.08 X 25)) | | | | | |
| | 27 | CFM PER SQ. FT. | | | 1.15 | | |
| | | (26 / 1) | | | | | |
| | 28 | AIR CHANGES PER HOUR | | | 7.7 | | |
| | | ((26 X 60) / 3) | | | | | |
| | 29 | ROOM GRAND TOTAL (8 + 17 + 22) | | | 22,852 | | |
| | | AVG. ROOM LOAD BTUH PER SQ. F | T. (29 / 1) | | 22 | | |
| | | TOTAL TENANT AREA (1) | | | | 1,040 | |
| | | TENANT GRAND TOTAL LOAD (29) |) | | | | 22,852 |
| | | AVG. TENANT LOAD BTUH PER SQ | |) | | | 22 |
| | | AVG. TENANT CFM PER SQ. FT. (26 | | - | | | 1.15 |

| | | | | I LUSS | CALC | CULATI | ON2 | | |
|------------|-------|-------------------|---------------|------------|---------------|-----------|----------|----------|--------|
| | ITEM | ROOM NUM | IBER: | | | | | | |
| | | NAME | | | | | | | |
| | 1 | AREA (SQ. | FT.) | | 1,040 | DESIGN CO | NDITIONS | DRY BULB | |
| | 2 | CEILING HE | | | 9'-0" | | OUTSIDE | 1 F | |
| | 3 | VOLUME (C | U. FT.) | | 9,360 | | INSIDE | 70 F | |
| EXTERIOR | LOSSE | S | | | FACTOR | QUANTITY | BTUH | QUANTITY | BTUH |
| | 4 | ROOF | | | 6.90 | 494 | 3,409 | | |
| DAY | 5 | WALL | | | 8.97 | 962 | 8,629 | | |
| CYCLE | 6 | GLASS | | | 44.16 | 118 | 5,211 | | |
| | 7 | INFILTRATI | ON | | | | | | |
| | 8 | OUTSIDE A | IR | | 74.52 | | | | |
| | 9 | SUB-TOTAL | _ (4 THRU 8) | | | | 17,249 | | |
| | 10 | ROOF | | | 6.90 | 494 | 3,409 | | |
| NIGHT | 11 | WALL | | | 8.97 | 962 | 8,629 | | |
| CYCLE | 12 | GLASS | | | 44.16 | 118 | 5,211 | | |
| | 13 | OUTSIDE A | IR | | 74.52 | | | | |
| | 14 | SUB-TOTAL | _ (10 THRU 1: | 3) | | | 17,249 | | |
| INTERIOR (| GAINS | | | | | | | | |
| DAY | 15 | LIGHTS 50% | 6 CREDIT | | 3.41 | 520 | 1,773 | | |
| CYCLE | 16 | OTHER | | | | | | | |
| | 17 | SUB-TOTAL | (15 + 16) | | | | 1,773 | | |
| NET HEAT | LOSS | | | | | | | | |
| | 18 | ROOM LOA | D (9 - 17) | | | | 15,475 | | |
| DAY | 19 | AVG. LOAD | PER SQ. FT | | | | 15 | | |
| CYCLE | | (18 / 1) | | | | | | | |
| | 20 | TOTAL TEN | ANT AREA (| 1) | | | | 1,040 | |
| | 21 | TENANT GF | RAND TOTAL | LOAD (18) | | | | | 15,475 |
| | 22 | AVG. TENA | NT LOAD BT | UH PER SQ. | FT. (21 / 20) | | | | 15 |
| NIGHT | | | I LOAD BTU | | | | | | 16.6 |
| CYCLE | 24 | TENANT GF | RAND TOTAL | LOAD (14) | • | | | | 17,249 |
| | 25 | AVG. TENA | NT LOAD BT | UH PER SQ. | FT. (24 / 20) | | | | 16.6 |

THIRD FLOOR MEETING ROOM

| | | | HEA | T GAIN | I CALC | CULATI | ONS | | |
|--------------|-------|------------------|---------------------------------------|-----------------|-------------|-----------|----------|----------|----------|
| | ITEM | ROOM NUM | BER: | | | | | | |
| | | NAME | | | | | | | |
| | 1 | AREA (SQ. F | T.) | | 906 | DESIGN CO | NDITIONS | DRY BULB | WET BULE |
| | 2 | CEILING HE | IGHT (FT.) | | 9'-0" | | OUTSIDE | 89 F | 72 F |
| | 3 | VOLUME (CI | J. FT.) | | 8,154 | | INSIDE | 78 F | 50% RH |
| SENSIBLE | GAINS | | - | | FACTOR | QUANTITY | BTUH | QUANTITY | BTUH |
| | 4 | ROOF | | | 5.10 | | | | |
| ABOVE | 5 | WALL | | | | | | | |
| CEILING | 6 | LIGHTS | | | 3.41 | | | | |
| | 7 | | | | | | | | |
| | 8 | SUB-TOTAL | (4 THRU 7) | | | | | | |
| | 9 | ROOF | · · · · · · · · · | | 5.10 | 906 | 4,621 | | |
| | 10 | WALL | | | 4.39 | 1,422 | 6,239 | | |
| | 11 | GLASS | | | 58.40 | 72 | 4,204 | | |
| BELOW | 12 | PEOPLE | | | 250 | 45 | 11,250 | | |
| CEILING | 13 | INFILTRATION | ON | | | | , | | |
| | 14 | LIGHTS | | | 3.41 | 906 | 3,092 | | |
| | 15 | OUTSIDE AI | R | | 12.10 | | , | | |
| | 16 | EQUIPMENT | | | 138 | 15 | 2,072 | | |
| | 17 | SUB-TOTAL | (9 THRU 16 | 5) | | | 31,478 | | |
| ATENT GA | AINS | | • | | | | | | |
| | 18 | PEOPLE | | | 200 | 45 | 9,000 | | |
| BELOW | 19 | INFILTRATIO | ON | | | | · | | |
| CEILING | 20 | EQUIPMENT | | | | | | | |
| | 21 | OUTSIDE AI | R | | 13.11 | | | | |
| | 22 | SUB-TOTAL | (18 THRU 2 | 2 1) | | | 9,000 | | |
| ROOM CON | | | ` | | | | • | | |
| | 23 | TOTAL LOA | D (17 + 22) | | | | 40,478 | | |
| | 24 | SENSIBLE H | | DR (1 - (22 / 1 | 7)) | | 0.71 | | |
| | | SUPPLY AIR | | | <u> </u> | | 20 | | |
| BELOW | 26 | SUPPLY AIR | RCFM | | | | 1,600 | | |
| CEILING | | (17 / (1.08 X | 25)) | | | | | | |
| | 27 | CFM PER SO | | | | | 1.77 | | |
| | | (26 / 1) | | | | | | | |
| | 28 | AIR CHANGI | ES PER HO | JR . | | | 11.8 | | |
| | | ((26 X 60) / 3 | 5) | | | | | | |
| | 29 | ROOM GRAI | | 8 + 17 + 22) | | | 40,478 | | |
| | 30 | AVG. ROOM | | | T. (29 / 1) | | 45 | | |
| | 31 | TOTAL TEN | | | <u> </u> | | | 906 | |
| | 32 | TENANT GR | · · · · · · · · · · · · · · · · · · · | | | | | | 40,478 |
| | 33 | AVG. TENAN | | | | 1) | | | 45 |
| | 34 | | | R SQ. FT. (26 | | | | | 1.77 |

| | | | HEA' | T LOSS | S CAL | CULATI | ONS | | |
|-----------|-------|-------------------|------------|-------------|--------------|-----------|----------|----------|--------|
| | ITEM | ROOM NUM | BER: | | | | | | |
| | | NAME | | | | | | | |
| | 1 | AREA (SQ. I | =T.) | | 906 | DESIGN CO | NDITIONS | DRY BULB | |
| | 2 | CEILING HE | | | 9'-0" | | OUTSIDE | 1 F | |
| | 3 | VOLUME (C | | | 8,154 | | INSIDE | 70 F | |
| XTERIOR | LOSSE | S | · | | FACTOR | QUANTITY | BTUH | QUANTITY | BTUH |
| | 4 | ROOF | | | 6.90 | 906 | 6,251 | | |
| DAY | 5 | WALL | | | 8.97 | 1,422 | 12,755 | | |
| CYCLE | 6 | GLASS | | | 44.16 | 72 | 3,180 | | |
| | 7 | INFILTRATION | ON | | | | | | |
| | 8 | OUTSIDE AI | R | | 74.52 | | | | |
| | 9 | SUB-TOTAL | (4 THRU 8) | | | | 22,186 | | |
| | 10 | ROOF | | | 6.90 | 906 | 6,251 | | |
| NIGHT | 11 | WALL | | | 8.97 | 1,422 | 12,755 | | |
| CYCLE | 12 | GLASS | | | 44.16 | 72 | 3,180 | | |
| | 13 | OUTSIDE A | R | | 74.52 | | | | |
| | 14 | SUB-TOTAL | (10 THRU 1 | 3) | | | 22,186 | | |
| NTERIOR (| GAINS | | | | | | | | |
| DAY | 15 | LIGHTS 50% | 6 CREDIT | | 3.41 | 453 | 1,545 | | |
| CYCLE | 16 | OTHER | | | | | | | |
| | 17 | SUB-TOTAL | (15 + 16) | | | | 1,545 | | |
| NET HEAT | LOSS | | | | | | | | |
| | 18 | ROOM LOA | D (9 - 17) | | | | 20,642 | | |
| DAY | 19 | AVG. LOAD | PER SQ. FT | • | | | 23 | | |
| CYCLE | | (18 / 1) | | | | | | | |
| | 20 | TOTAL TEN | ANT AREA (| 1) | | | | 906 | |
| | 21 | TENANT GR | AND TOTAL | LOAD (18) | | | | | 20,642 |
| | 22 | AVG. TENAI | NT LOAD BT | UH PER SQ. | FT. (21 / 20 |) | | | 23 |
| NIGHT | 23 | AVG. ROOM | | | | | | | 24.5 |
| CYCLE | 24 | TENANT GR | | , , | | | | | 22,186 |
| | 25 | AVG. TENAI | NT LOAD BT | UH PER SQ. | FT. (24 / 20 |) | | | 24.5 |

Issues and Revisions 1. 05/17/24 ISSUED FOR PERMIT Registration and Signature

Norwescap

Old Sullivan Building

Remodeling Project

371 S Main Street

Phillipsburg, NJ 08865

Warren County

350 Marshall Street

Phillipsburg, NJ 08865

PO Box 612, Budd Lake, NJ 07828

Tel/Fax: 973-527-7691

www.frontier-es.com

312 State Route 10, Randolph, NJ 07869

Tel: 973.442.5880 Fax: 973.442.5886

BLOCK:

PROJECT LOCATION

LOT:

CONSULTANT

MICHAEL J. SCHLICK, P.E. N.J. LICENSE NUMBER: 24GE04904300 C.O.A. NUMBER: 24GA28244900

MECHANICAL - DETAILS AND LOAD CALCULATIONS

All drawings and written material appearing herein constitute original and unpublished work of the architect and may not be duplicated, used or disclosed without written consent of the architect.

©2023 BEN HORTEN All Rights Reserved

Computer File:

| | | | | AIR | HAI | NDLI | NG | UNI | ΓSC | HED | ULE | | | | |
|------------|-----------------------|-------|--------------|-----------------------|-----|--------|-----------------|--------------------|---------|---------|----------|---------|----------|----------|----------------------------------|
| | UNIT: | | | | | FAN | ٧: | | | | | ELECT | RICAL: | | MANUFACTURER |
| TAG | LOCATION | TONS: | MIN. OSA | CFM | HP | R.P.M. | E.S.P. "W.C. | TYPE | NO. | DIA. | VOLTS-I | PH-Hz | MCA | МОСР | MODEL NO. |
| AHU-1 5 | THIRD FLOOR | 5 | - | 1,990 | 1 | - | 0.5" | ВІ | 1 | 11" | 115-1 | -60 | 14.8 | 20 | CARRIER 59TN6A100S2114 |
| | GAS COOLING COIL OPER | | | | | | | | | | | | | | ERATING WEIGHT NACE + COOLING |
| | | | INPUT MBH | OUTPUT MBH | EAT | LAT | 1 | NUFACT MODEL I | | MBH | г мвнѕ | EDB | EWB | FUR | COIL |
| | | | 100 | 98 | 65 | 125 | С | CARRII CAP**602 | | 57.1 | 33.1 | 75 | 67 | | 230# |
| REMARKS: | | | | F DESIGN: D PROGRA | | | | | IT WITH | 2" THRO |)WAWAY F | FILTERS | , galvan | NIZED CO | NDENSATE DRAIN |

| | | | C | ONE | DENS | SING L | JNIT | SCI | HED | ULE | Ξ | | | | |
|---------|---|------|-----------------|----------|----------|--------------|---------|-------|---------|--------|----------|-------|--------------------------|--|--------------|
| | UNIT: | | ELECT | RICAL: | | | | (| COMPRI | ESSOR: | | | | | MANUFACTURER |
| TAG | IAGLLOCATIONLIONS:LVOLIS-PH-Hz_L_MCA_LMOCP_LREFRIG_ L SSLL_FAL_L | | | | | | | | | | MIN. OSA | OPER. | MODEL NO. | | |
| | LOCATION | WOOF | INLI NIG. | NO. | HP | NO. | kW | 331 | LAI | TEMP | WT. | | | | |
| CU-1 5 | ROOF | 5 | 60 | R410A | 1 | 1/3 | 1 | 5.7 | 45 | 95 | 40 | 224# | CARRIER 24VNA960A0030 | | |
| REMARKS | : SEER = 15.0 | | BASIS OF DESIGN | N: CONDE | ENSING U | INIT WITH 12 | 20 VOLT | CONVE | ENIENCI | E OUTL | ET. | | | | |

1) CONTRACTOR TO UTILIZE LANDLORD'S ROOFING CONTRACTOR FOR ALL ROOF PENETRATIONS. REUSE EXISTING ROOF OPENINGS IF POSSIBLE.
2) CONTRACTOR TO HIRE STRUCTURAL ENGINEER TO VERIFY STRUCTURAL INTEGRITY OF STRUCTURE. ADDITIONAL STRUCTURAL REQUIREMENTS ARE THE RESPONSIBILITY OF THIS CONTRACTOR.

OF THIS CONTRACTOR.

3) RUN 1" CONDENSATE DRAIN LINE TO APPROVED INTERIOR LOCATION. CONDENSATE DRAIN LINE SHALL BE INSULATED WITH 1/2" THICK ARMAFLEX.

| | | | | AIR | HAI | NDL | ING | UNI | ΓSC | HED | ULE | | | | |
|------------|---|-------|---------------------|---------------|-----|--------|-----------------|--------------------|---------|---------|---------|---------|----------|----------|------------------------|
| | UNIT: | | | | | FAI | N: | | | | | ELECT | RICAL: | | MANUFACTURER |
| TAG | LOCATION | TONS: | MIN. OSA | CFM | HP | R.P.M. | E.S.P. "W.C. | TYPE | NO. | DIA. | VOLTS-I | PH-Hz | MCA | МОСР | MODEL NO. |
| AHU-2 3 | 3 SECOND FLOOR 3 1,200 1/2 0.5 BI 1 11 115-1-60 9.7 15 59TN6A060S1712 | | | | | | | | | | | | | | |
| | GAS COOLING COIL OPERATING WEIGHT | | | | | | | | | | | | | | |
| | | | INPUT (| OUTPUT MBH | EAT | LAT | ı | NUFACT MODEL I | _ | MBHT | MBHS | EDB | EWB | FUR | NACE + COOLING COIL |
| | | | 60 | 58 | 65 | 115 | C | CARRIE CAP**361 | | 35.2 | 20.8 | 75 | 67 | | 205# |
| REMARKS | : | | BASIS OF PAN AND | | | | | | IT WITH | 2" THRO | WAWAY F | FILTERS | , galvan | NIZED CO | NDENSATE DRAIN |

| | | | C | ONE | DENS | SING L | INIT | SCI | HED | ULE | = | | | | |
|--|---|---|-----------------|----------|----------|-------------|---------|-------|--------|--------|-----|----|----|------|--------------------------|
| | UNIT: | | ELECT | RICAL: | | | | (| COMPRI | ESSOR: | | | | | MANUFACTURER |
| TAC | TAG LOCATION TONS: VOLTS-PH-HZ MCA MOCP REFRIG. FAN: COMP: SST EAT MIN. OSA OPER. MODEL NO. | | | | | | | | | | | | | | |
| TAG LOCATION TONS: VOLTS-PH-Hz MCA MOCP REFRIG. NO. HP NO. kW SST EAT WINK OSA OF EXT. | | | | | | | | | | | | | | | |
| CU-2 3 | ROOF | 3 | 208-1-60 | 24.4 | 40 | R410A | 1 | 1/3 | 1 | 3.4 | 45 | 95 | 40 | 160# | CARRIER 24VNA936A0030 |
| REMARKS: | SEER = 16.0 | | BASIS OF DESIGN | N: CONDE | ENSING U | NIT WITH 12 | 20 VOLT | CONVE | ENIENC | E OUTL | ET. | | | | |

1) CONTRACTOR TO UTILIZE LANDLORD'S ROOFING CONTRACTOR FOR ALL ROOF PENETRATIONS. REUSE EXISTING ROOF OPENINGS IF POSSIBLE.
2) CONTRACTOR TO HIRE STRUCTURAL ENGINEER TO VERIFY STRUCTURAL INTEGRITY OF STRUCTURE. ADDITIONAL STRUCTURAL REQUIREMENTS ARE THE RESPONSIBILITY OF THIS CONTRACTOR.
3) RUN 1" CONDENSATE DRAIN LINE TO APPROVED INTERIOR LOCATION. CONDENSATE DRAIN LINE SHALL BE INSULATED WITH 1/2" THICK ARMAFLEX.

| | | | | AIR | HAI | NDL | NG | UNI | ΓSC | HED | ULE | | | | |
|---------|--|-------|--------------|----------------------|-----|--------|-----------------|--------------------|---------|---------|---------|--------|----------|----------|------------------------|
| | UNIT: | | | | | FAN | 1 : | | | | | ELECT | RICAL: | | MANUFACTURER |
| TAG | LOCATION | TONS: | MIN. OSA | CFM | HP | R.P.M. | E.S.P. "W.C. | TYPE | NO. | DIA. | VOLTS-I | PH-Hz | MCA | МОСР | MODEL NO. |
| AHU-3 | 4 SECOND FLOOR 4 1,400 1/2 0.5 BI 1 115-1-60 9.7 15 59TN6A080S2114 | | | | | | | | | | | | | | |
| | GAS COOLING COIL OPERATING WEIGHT | | | | | | | | | | | | | | |
| | | | INPUT MBH | OUTPUT MBH | EAT | LAT | | NUFACT MODEL I | _ | МВНТ | MBHS | EDB | EWB | FUR | NACE + COOLING COIL |
| | | | 80 | 78 | 65 | 113 | C | CARRIE CAP**482 | | 46.7 | 27.5 | 75 | 67 | | 215# |
| REMARKS | : | | | F DESIGN) PROGRA | | | | | IT WITH | 2" THRO | WAWAY F | ILTERS | , GALVAN | NIZED CO | NDENSATE DRAIN |

| | | | C | ONE | DENS | SING L | INIT | SCI | HED | ULE | <u> </u> | | | | |
|-----------|--|---|-----------------|----------|----------|-------------|---------|-------|---------|---------|----------|----|----|------|--------------------------|
| | UNIT: ELECTRICAL: COMPRESSOR: MANUFACTURER FAN: COMP: MIN OSA OPER MODEL NO | | | | | | | | | | | | | | |
| TAG | FAN: COMP: MIN OSA OPER MODEL NO. | | | | | | | | | | | | | | |
| CU-3 4 | ROOF | 4 | 208-1-60 | 31.4 | 50 | R410A | 1 | 1/3 | 1 | 4.2 | 45 | 95 | 40 | 216# | CARRIER 24VNA948A0030 |
| REMARKS: | SEER = 15.5 | | BASIS OF DESIGN | N: CONDE | ENSING U | NIT WITH 12 | 20 VOLT | CONVE | ENIENCI | E OUTLI | ET. | | | | |

NOTES:

1) CONTRACTOR TO UTILIZE LANDLORD'S ROOFING CONTRACTOR FOR ALL ROOF PENETRATIONS. REUSE EXISTING ROOF OPENINGS IF POSSIBLE.

2) CONTRACTOR TO HIRE STRUCTURAL ENGINEER TO VERIFY STRUCTURAL INTEGRITY OF STRUCTURE. ADDITIONAL STRUCTURAL REQUIREMENTS ARE THE RESPONSIBILITY OF THIS CONTRACTOR.

3) RUN 1" CONDENSATE DRAIN LINE TO APPROVED INTERIOR LOCATION. CONDENSATE DRAIN LINE SHALL BE INSULATED WITH 1/2" THICK ARMAFLEX.

| [| DIFFUSI | ER, R | EGIST | ER AI | ND GF | RILLE | SCHE | DULE | |
|-------------------------|--|---|---|--|---|--|-------------------------------------|--------------------------|-----------------|
| TAG | DESC | RIPT | ION | | | | | | |
| "SAD" | ALUMINUM C REMOVABLE DISCHARGE. BAFFLE FOR EQUIVALENT. | INNER COI PROVIDE \ AIRFLOW (| NE ASSEMB WITH STAND OTHER THA | LY AND AD DARD WHIT N 4-WAY BI | JUSTABLE E FINISH, O LOW. TITUS | VANES FOR PPOSED BL MODEL #TI | CHANGINO ADE DAMP MSA-AA OR | G AIRFLOW PER AND SE | CTORING |
| | | 12"X12" MC | DULE SIZE | | 24"X2 | 24" MODULE | SIZE | | |
| 24"X24" | CFM RANGE | 0 - 120 | 121 - 230 | 0 - 120 | 121 - 230 | 231 - 420 | 421 - 700 | 701 - 1050 | 1051 - 1250 |
| | NECK SIZE | 6" DIA. | 8" DIA. | 6" DIA. | 8" DIA. | 10" DIA. | 12" DIA. | 14" DIA. | 15" DIA. |
| 12"X12" | UNLESS OTH UNLESS OTH | | | | | | | UAL TO NE | CK SIZE. |
| "RET" 24"X24" 12"X12" | ALUMINUM C LONG DIMENS BORDER FOR CEILING) OR OR APPROVE UNLESS OTH 24"X24" (0-18) | SION AND CEILING I SURFACE DEQUIVA | SET AT 35 D NSTALLATION MOUNT BOI LENT. SEE IN | DEGREES. F DN (PROVIE RDER SUITA MECHANICA LE SIZE SHA | PROVIDE WI DE OPTIONA ABLE FOR V AL PLAN FO ALL BE: | ITH STANDA AL PLASTEF VALL INSTA R GRILLE S | ARD WHITE FRAME FO LLATION. T | FINISH, LA' OR DRYWAL | Y-IN LL TYPE |
| "TR" | ALUMINUM C GRILLE. PRO' BORDER SUI | VIDE WITH | STANDARD | WHITE FIN | IISH, OPPO | SED BLADE | DAMPER A | ND SURFA | CE MOUNT |

APPROVED EQUIVALENT. SEE MECHANICAL PLAN FOR SUPPLY GRILLE SIZES.

| | THERMOSTAT SCHEDULE |
|---|--|
| | THERMOSTAT BY MECHANICAL CONTRACTOR |
| Т | THERMOSTAT SHALL BE MANUFACTURED BY HONEYWELL, MODEL VisionPRO 8000. THERMOSTAT SHALL BE TOUCHSCREEN PROGRAMMABLE 7-DAY TYPE. PROVIDE LOCKING GUARD COVER. MOUNT AT 4'-0" AFF. |

| | | | | Е | XHA | JST F | AN S | CHE | DULE | | | |
|------------|----------------|---------|-----|--------------|-------|--------|------|---------------|-------|----------------------|---------------------------|---------|
| TAG | LOCATION | SERVICE | CFM | SP " W.C. | RPM | DRIVE | TYPE | WHEEL DIA. | WATTS | VOLTAGE PH. / HZ. | MANUFACTURER MODEL NO. | REMARKS |
| EF-1 80 | TOILET ROOM | EXHAUST | 80 | 0.125" | 1,550 | DIRECT | ВІ | - | 39 | 120/1/60 | PENNBARRY Z3H | 1,2,3 |
| EF-2 80 | TOILET ROOM | EXHAUST | 80 | 0.125" | 1,550 | DIRECT | ВІ | - | 39 | 120/1/60 | PENNBARRY Z3H | 1,2,3 |
| EF-3 80 | TOILET ROOM | EXHAUST | 80 | 0.125" | 1,550 | DIRECT | ВІ | - | 39 | 120/1/60 | PENNBARRY Z3H | 1,2,3 |

NOTES:

1) FAN SHALL BE MOUNTED IN CEILING WITH VIBRATION ISOLATORS.

2) FAN SHALL BE CONTROLLED BY THE TOILET ROOM LIGHT SWITCH.

3) FAN SHALL BE PROVIDED WITH LOW LEAKAGE BACKDRAFT DAMPER.

| VARIAB | LE REFRIGEF | RANT V | OLUME - AIR-CO | OLED COI | NDENSING UN | IIT SCH | IEDULE | | | | | | | | | | | | | | | | | | | | | | |
|-----------|-----------------------------|--------------------|--------------------------|----------|-----------------------|---------|--------------------------------|----------------------|-------------------------|---------------------|-----------------|--------|------------------------|--------|-------------|----------------|--------|-------------------------|----------------------|-----------------|-----------|--------------|-----------|-----------|------------|------------|----------|---------|------------------------|
| TAG: ROOM | BASIS OF DESIGN (DAIKIN) | NOMINAL TONNAGE | I DESCRIPTION | COOL | ING CAPACITY | HEAT | ING CAPACITY | REFRIGERA | NT CHARGE | CONNECTION RATIO | VOLTAGE- | | MIN CIRCUIT AMPS (MCA) | ELE | MAX OVERO | | | RUNNING CURRENT(RLA) | DIMENSIO | ONS | E | FFICIENCY (N | NonDucted | /Ducted o | r Specific | Combo) | N | IOTES C | Options and Accessorie |
| | | | | BTU/h AM | 1BIENT DESIGN (°F DB) | BTU/h | AMBIENT DESIGN (°F DB / WB) | Factory Charge (lbs) | Add'l Refrigerant (lbs) | (%) | PHASE | mod #1 | mod #2 mod #3 tot | al mod | d #1 mod #2 | mod #3 total n | mod #1 | mod #2 mod #3 to | tal (WxHxD) (inch) | WEIGHT (lbs) | EER | IEER | COP47 | COP17 | SCHE | SEER | HSPF | | |
| ACCU - 1 | RXYQ120AATJA | 10 | Air cooled heat pump (1) | 120.107 | 95.0 | 94,329 | 10.0 / 10.0 | 25.4 | n/a | 91.3 | 208V - 230V 3ph | 36.5 | 36 | .5 40 | 0.0 | 40.0 | 21.1 | 21 | .1 48.8 x 65.4 x 30. | 1 683.4 | 12.4 / 12 | 26.6 / 23.4 | 3.8/3.4 | 2.5 / 2.4 | n/a n | /a / n/a n | /a / n/a | | |
| ACCU - 2 | RXYQ144AATJA | | Air cooled heat pump (1) | | 95.0 | 123,360 | | 25.8 | n/a | | 208V - 230V 3ph | | | .8 50 | | 50.0 | | | .8 48.8 x 65.4 x 30. | | | | | | | | | | |

| | | | | CONNI | CONNECTED TO: SUPPLY FAN COOLING | | COOLING CAPACIT | Υ | HEATING | G CAPACITY | | ELECTRICAL | | DIMENSIONS WEIGHT | | | | |
|-----------|--------------------------|-----------------------|----------------------------------|-----------------|----------------------------------|---------------|-----------------|----------------|-----------------|----------------|------|-------------------------|---|-------------------|--------------------|-------|----------------------------|-------------|
| TAG ROC | BASIS OF DESIGN (DAIKIN) | F DESIGN NOMINAL TYPE | | CONDENSING UNIT | ZONE CHANGEOVER AIR FLO | AIR FLOW RATE | TOTAL BTU/h I S | SENSIBLE BTU/h | ENTERING AIR | TOTAL ENTERING | | TERING AIR POWER SUPPLY | Min Circuit Amps Max Overcurrent Protection | | WxHxD Net | NOTES | Options and Accessories | |
| | , , , | | | | DEVICE | cfm | | | °F DB °F WB | BTU/h | °Fdb | Voltage - Phase | MCA | MOP | inch | lbs | | |
| | | _ | | | | _ | _ | _ | | | | | _ | _ | | | | |
| C1-1 | FXAQ09PVJU | 0.8 | Wall Mounted Unit | ACCU - 1 | No | 280 | 9,502 | 7,124 | 80.0 67.0 | | 68.0 | 208-230V 1ph | 0.3 | 15.0 | 31.3 x 11.4 x 9.3 | | | BRC1E73 (1) |
| C1-2 | FXAQ09PVJU | 0.8 | Wall Mounted Unit | ACCU - 1 | No | 280 | 9,502 | 7,124 | 80.0 67.0 | 11,100 | 68.0 | 208-230V 1ph | 0.3 | 15.0 | 31.3 x 11.4 x 9.3 | 26.5 | | BRC1E73 (1) |
| C1-3 | FXAQ09PVJU | 0.8 | Wall Mounted Unit | ACCU - 1 | No | 280 | 9,502 | 7,124 | | / | 68.0 | 208-230V 1ph | 0.3 | 15.0 | 31.3 x 11.4 x 9.3 | 26.5 | | BRC1E73 (1) |
| C1-4 | FXDQ24MVJU | 2.0 | Concealed Slim Duct (Low Static) | ACCU - 1 | No | 580 | 24,004 | 16,064 | 80.0 67.0 | | 68.0 | 208-230V 1ph | 1.4 | 15.0 | 43.4 x 7.9 x 24.4 | 75.2 | | BRC1E73 (1) |
| C1-5 | FXAQ07PVJU | 0.6 | Wall Mounted Unit | ACCU - 1 | No | 260 | 7,501 | 6,041 | 80.0 67.0 | | 68.0 | 208-230V 1ph | 0.3 | 15.0 | 31.3 x 11.4 x 9.3 | | | BRC1E73 (1) |
| C1-6 | FXAQ07PVJU | 0.6 | Wall Mounted Unit | ACCU - 1 | No | 260 | 7,501 | 6,041 | 80.0 67.0 | 8,700 | 68.0 | 208-230V 1ph | 0.3 | 15.0 | 31.3 x 11.4 x 9.3 | | | BRC1E73 (1) |
| C1-7 | FXUQ18PAVJU | 1.5 | 4-Way Ceiling Suspended | ACCU - 1 | No | 795 | 17,983 | 13,356 | 80.0 67.0 | | 68.0 | 208-230V 1ph | 0.6 | 15.0 | 37.4 x 7.8 x 37.4 | 57.3 | | BRC1E73 (1) |
| C1-8 | FXUQ24PAVJU | 2.0 | 4-Way Ceiling Suspended | ACCU - 1 | No | 795 | 23,989 | 17,560 | 80.0 67.0 | 27,980 | 68.0 | 208-230V 1ph | 0.6 | 15.0 | 37.4 x 7.8 x 37.4 | | | BRC1E73 (1) |
| C-2-1 | FXMQ72MFVJU | 6.0 | OA Processing Unit | ACCU - 2 | No | 988 | 72,000 | n/a | n/a n/a | 0 | n/a | 208-230V 1ph | 3.6 | 15.0 | 54.3 x 18.5 x 43.3 | | | BRC1E73 (1) |
| C-2-2 | FXMQ72MFVJU | 6.0 | OA Processing Unit | ACCU - 2 | No | 988 | 48,000 | n/a | n/a n/a | 0 | n/a | 208-230V 1ph | 3.6 | 15.0 | 54.3 x 18.5 x 43.3 | 271.2 | | BRC1E73 (1) |
| | | | | | | | | | | | | | | | | | | |
| hedule No | tes: | | | | | | | | | | | | | | | | | |
| Stan | dard Limited Warrant | ty: 10-year w | arranty on compressor and all pa | ırts | | | | | | | | | | | | | | |

CONTRACTOR SHALL FURNISH AND INSTALL NEW DAIKIN NAVIGATION REMOTE CONTROLLER (NAV) BRC1E73 SERVING ALL OF THE AC UNITS ON THE FIRST FLOOR. FURNISH AND INSTALL ALL WIRING AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.

| ELECTRIC DUCT HEATER SCHEDULE | | | | | | | |
|-------------------------------|----------|----|-------------|------|------|---------------------------|---|
| TAG | TYPE | kW | VOLTS-Ph-Hz | MCA | МОСР | MANUFACTURER MODEL NO. | REMARKS: OPEN COIL, ONE STAGE, SCR CONTROLS DUCT HEATER 23,891 |
| DH-1 7kW | ELECTRIC | 7 | 240-1-60 | 29.1 | 40 | MARKEL 240-1-HF-7kW | BTUH. |
| DH-2 7kW | ELECTRIC | 7 | 240-1-60 | 29.1 | 40 | MARKEL 240-1-HF-7kW | |

1) HEATER SHALL BE FLANGE TYPE MOUNT.
2) HEATER SHALL BE PROVIDED WITH FUSED DISCONNECT SWITCH.
3) HEATER SHALL BE PROVIDED WITH DIFFERENTIAL PRESSURE SWITCH TO SHUT HEATER OFF IN THE EVENT OF FAN FAILURE.
4) WIRE AND OVERCURRENT PROTECTION TO BE SIZED FOR 125% OF TOTAL HEATER LOAD MINIMUM, PER NEC.
5) HEATER SHALL OPERATE TO MAINTAIN 23°F DOWN STREAM.

THE NORWESCAP "TENANT CRITERIA MANUAL" (IF APPLICABLE) FORMS A PART OF THESE SPECIFICATIONS. ANY DISCREPANCY BETWEEN THESE SPECIFICATIONS AND THE "TENANT CRITERIA MANUAL" THE MANUAL SHALL SUPERSEDE. ANY EQUIPMENT REQUIRED OF THE MANUAL BUT NOT SHOWN ON THESE SPECIFICATIONS SHALL BE PROVIDED AT THIS CONTRACTOR'S EXPENSE.

MECHANICAL CONTRACTOR SHALL REMOVE AND DISPOSE OF THE FOLLOWING:

1. THIS CONTRACTOR SHALL REMOVE EXISTING BOILER, BASEBOARD HEATERS, WALL MOUNTED HEATERS, TOILET EXHAUST FANS, AND ALL WORK PERTAINING TO THE EXISTING HVAC SYSTEM, UNLESS OTHERWISE NTED TO REMAIN.

MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL THE FOLLOWING:

1. THIS CONTRACTOR SHALL FURNISH AND INSTALL NEW SPLIT SYSTEM UNITS, ELECTRIC DUCT HEATERS, EXHAUST FANS, DUCTWORK, DIFFUSERS, REGISTERS, HANGERS, PROGRAMMABLE THERMOSTATS AND ALL ITEMS REQUIRED TO PRODUCE A COMPLETE AND OPERABLE HVAC SYSTEM.

2. DUCTWORK: THE MECHANICAL CONTRACTOR IS TO FURNISH AND INSTALL, IN COMPLIANCE WITH THE MOST RECENT SMACNA STANDARDS FOR LOW AND MEDIUM PRESSURE, NEW DUCTWORK, INSULATION, FLEX DUCT, GRILLES, REGISTERS, DIFFUSERS, VOLUME DAMPERS, FIRE DAMPERS, SMOKE DETECTORS, SECONDARY CONDENSATE DRAIN, ETC. NECESSARY TO RENDER THE SYSTEM OPERATIONAL AS DESCRIBED IN THESE PLANS AND SPECIFICATIONS AND AS REQUIRED BY THE LANDLORD, LOCAL AND STATE CODES.

3. ALL DUCTWORK SHALL BE HUNG AS HIGH AS POSSIBLE TO MAINTAIN ARCHITECTURAL CEILING HEIGHT REQUIREMENTS.

4. ALL OUTSIDE AIR AND UNEXPOSED DUCTWORK SHALL BE INSULATED WITH 2" THICK FIBERGLASS FIRE RETARDANT VAPOR SEAL INSULATION. DUCTWORK WITHIN 10' OF THE UNIT SHALL BE INTERNALLY LINED WITH 1 1/2" ACOUSTICAL INSULATION. DUCT DIMENSIONS ARE NET FREE AREA ONLY. DUCT SIZE MUST ACCOMMODATE INSULATION THICKNESS.

5. FIRE DAMPERS MUST BE INSTALLED AT ALL LOCATIONS WHERE DUCTWORK PENETRATES A FIRE RATED WALL. PROVIDE ACCESS DOORS AS REQUIRED. FIRE DAMPERS TO BE OF THE TYPE APPROVED BY THE AGENCIES HAVING JURISDICTION.

6. WHEN NEW DUCTWORK CONFLICTS WITH EXISTING DUCTWORK, PIPING, ETC., NEW DUCTWORK SHALL BE SET UP OR DOWN AS REQUIRED.

7. PROVIDE VOLUME DAMPERS ON ALL NEW SUPPLY AIR DUCT SPLITS AND TAPS.
8. PIPING: THE MECHANICAL CONTRACTOR IS TO FURNISH AND INSTALL, IN COMPLIANCE WITH THE MOST RECENT CODES AND STANDARDS FOR SPLIT REFRIGERATION SYSTEMS, ALL VALVES, STRAINERS, DRYERS, INSULATION

ETC. REQUIRED TO MAKE THE SYSTEM FULLY FUNCTIONAL AND OPERATIONAL. ANY OTHER EQUIPMENT REQUIRED TO MAKE THE SYSTEM OPERATIONAL AND NOT SHOWN OR SPECIFIED WILL BE PROVIDED BY THIS CONTRACTOR. 3/4" ARMAFLEX INSULATION IS REQUIRED ON ALL REFRIGERANT PIPING.

9. POWER WIRING:

A. THE ELECTRICAL CONTRACTOR IS TO FURNISH AND INSTALL ALL EQUIPMENT AND MATERIAL REQUIRED TO PROVIDE POWER TO THE AIR HANDLING UNITS AND CONDENSING UNITS FROM THE TENANT'S POWER SUPPLY.

B. THE ELECTRICAL CONTRACTOR IS TO FURNISH AND INSTALL A DISCONNECT SWITCH AND STARTER ON THE AIR HANDLING UNITS, CONDENSING UNITS AND HEATERS.

C. THE ELECTRICAL CONTRACTOR IS TO PROVIDE POWER WIRING TO THE EXHAUST FANS.

10. CONTROL WIRING AND CONTROLS: THE MECHANICAL CONTRACTOR IS TO FURNISH AND INSTALL ALL NECESSARY WIRING (IN CONDUIT IF REQUIRED) AND CONTROLS REQUIRED TO PROVIDE A COMPLETE AND

11. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF ALL CEILING DIFFUSERS AND REGISTERS.

12. THE MECHANICAL CONTRACTOR IS TO FURNISH AND INSTALL A CONDENSATE DRAIN SYSTEM PER THE MANUFACTURERS RECOMMENDATIONS AND THE LANDLORD'S REQUIREMENTS. INTERIOR CONDENSATE DRAIN LINE SHALL BE INSULATED WITH 1/2" THICK ARMAFLEX.

13. TENANT'S MECHANICAL CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL THE LANDLORD'S SPECIFICATIONS FOR THIS INSTALLATION.

14. THIS CONTRACTOR IS TO HIRE LANDLORD'S SPECIFIED CONTRACTOR FOR ALL ROOF PENETRATIONS.

15. THE MECHANICAL CONTRACTOR, AS PART OF THEIR WORK, IS TO STENCIL THE TENANT NAME AND SPACE NUMBER ON ALL ROOFTOP EQUIPMENT WITH 4" HIGH BLOCK LETTERS (2" HIGH BLOCK LETTERS ON ALL SMALL EQUIPMENT WHERE 4" WILL NOT FIT) IN A COLOR APPROVED BY THE BUILDING MANAGER / CONSTRUCTION

16. IF STRUCTURAL DRAWINGS FOR HVAC EQUIPMENT SUPPORTS ARE NOT ALREADY INCORPORATED INTO THIS SET OF PLANS AND SPECIFICATIONS, THE MECHANICAL CONTRACTOR, AT THEIR OWN COST AND EXPENSE, AND AS PART OF THE BID TO THE G.C., IS TO HIRE A STRUCTURAL ENGINEER TO DESIGN THE SUPPORTS FOR THE NEW HVAC UNITS AND A STRUCTURAL SUBCONTRACTOR TO FURNISH AND INSTALL SUCH HANGERS / SUPPORTS, BRACING, ETC. TO HANG FROM THE STRUCTURE FOR ALL NEW HVAC EQUIPMENT. G.C. TO SUBMIT AS REQUIRED ALL STRUCTURAL SHOP DRAWINGS TO THE LANDLORD'S ARCHITECT, AS REQUIRED, FOR APPROVAL, PRIOR TO STARTING WORK.

Tel: 973.442.5880 Fax: 973.442.5886

CONSULTANT

PO Box 612, Budd Lake, NJ 07828 Tel/Fax: 973-527-7691 www.frontier-es.com

Norwescap
Old Sullivan Building

Remodeling Project

371 S Main Street

Phillipsburg, NJ 08865

Warren County

350 Marshall Street

Phillipsburg, NJ 08865

BLOCK:

PROJECT LOCATION

LOT:

Issues and Revisions

No. Date Issues and Revisions By Check

1. 05/17/24 ISSUED FOR PERMIT MS MS

Registration and Signature

MICHAEL J. SCHLICK, P.E.
N.J. LICENSE NUMBER: 24GE04904300
C.O.A. NUMBER: 24GA28244900

ng Description:

MECHANICAL - SCHEDULES AND

WORK RESPONSIBILITY

omputer File:

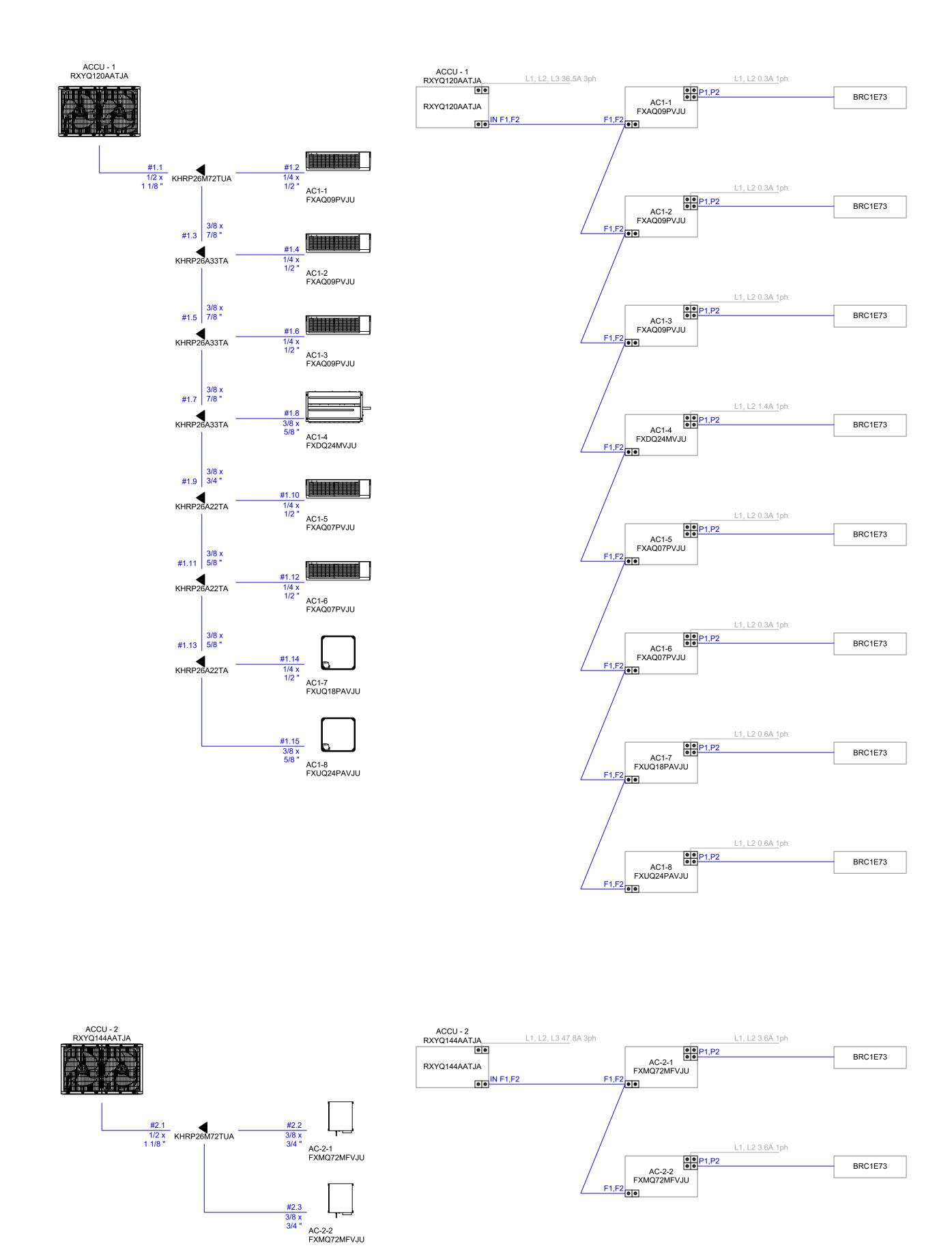
All drawings and written material appearing herein constitute original and unpublished work of the architect and may not be duplicated,

used or disclosed without written consent of the architect.

©2023 BEN HORTEN All Rights Reserved

1 MECHANICAL SCHEDULES

2 WORK RESPONSIBILITY



PROJECT

Norwescap
Old Sullivan Building
Remodeling Project

PROJECT LOCATION

LOT:

BLOCK

371 S Main Street Phillipsburg, NJ 08865 Warren County

NORWESCAP

350 Marshall Street Phillipsburg, NJ 08865

ARCHITECT



ONSULTANT



Issues and Revisions

No. Date Issues and Revisions

By Checl

1. 05/17/24 ISSUED FOR PERMIT MS MS

Registration and Signature

MICHAEL J. SCHLICK, P.E.
N.J. LICENSE NUMBER: 24GE04904300
C.O.A. NUMBER: 24GA28244900

Drawing Description:

MECHANICAL - DETAIL:

Computer File:

M0.4

All drawings and written material appearing herein constitute original and unpublished work of the architect and may not be duplicated, used or disclosed without written consent of the architect.

©2023 REN HORTEN All Rights Reserved

1 MECHANICAL PIPING AND WIRING DETAILS SCALE: N.T.S.

- CONTRACTOR SHALL FURNISH AND INSTALL NEW REFRIGERANT PIPING AND DISTRIBUTION MANIFOLDS FROM THE NEW AC LOCATED ON THE ROOF TO THE NEW AC UNITS. PIPING TO BE SIZED AND INSULATED PER MANUFACTURERS RECOMMENDATION.
- 2 1" COPPER CONDENSATE FROM NEW CONDENSATE PUMP AT THE AHU TO THE EXISTING INDIRECT DRAIN. MATERIALS TO CONFORM TO NFPA90A. PIPE TO PITCH 1/4" PER FOOT.
- (3) NEW REFRIGERANT PIPING UP TO THE NEW ACCU UNIT ON THE ROOF.
- NEW CONDENSATE PIPING TO THE EXISTING INDIRECT DRAIN. VERIFY EXISTING CONDITIONS PRIOR TO BID

MECHANICAL LEGEND

| SYMBOL | DESCRIPTION |
|-----------|------------------------------------|
| Т | THERMOSTAT |
| s | TEMPERATURE SENSOR |
| ⟨CO₂⟩ | CARBON DIOXIDE SENSOR |
| 1 | NEW DUCTWORK |
| | VOLUME DAMPER |
| | CABLE OPERATED VOLUME DAMPER |
| RTU 10 | — EQUIPMENT LABEL — CFM/TONNAGE |

| SYMBOL | DESCRIPTION |
|-----------------|--|
| SAD - 250 | — DIFFUSER TYPE — AIRFLOW (CFM) |
| 4W - 12" DIA. N | — NECK OR GRILLE SIZE — DIFFUSER AIRFLOW PATTER |
| X/Y | X=SQUARE DUCT WIDTH Y=SQUARE DUCT HEIGHT |
| —-— FD | FIRE DAMPER |
| —-— SD | SMOKE DAMPER |
| —-— FSD | FIRE/SMOKE DAMPER |
| —-— вр | BACK DRAFT DAMPER |
| s _P | PHOTOELECTRIC SMOKE DETECTOR |
| (E) | EXISTING |
| (R) | RELOCATED |
| (N) | NEW |
| | FIELD CONNECTION |
| | |

ABBREVIATIONS

| | ABBR. | DESCRIPTION |
|----|-------|---|
| | А | AMP |
| | AC | ABOVE CEILING |
| RN | AFF | ABOVE FINISHED FLOOR |
| | AHU | AIR HANDLING UNIT |
| | AWG | AMERICAN WIRE GAUGE |
| | С | CONDUIT |
| | CATV | CABLE TV |
| | СН | COUNTER HEIGHT |
| | D | EXISTING EQUIPMENT/DEVICE TO BE REMOVED |
| | EF | EXHAUST FAN |
| | EM | EMERGENCY |
| | EX | EXISTING EQUIPMENT/DEVICE TO REMAIN |

GFI GROUND FAULT CIRCUIT INTERRUPTER

RE RELOCATE EXISTING EQUIPMENT/DEVICE

UL UNDERWRITERS LABORATORIES INC.

UPS UNINTERRUPTIBLE POWER SUPPLY

FA FIRE ALARM

FD FIRE DAMPER

NL NIGHT LIGHT

PP POWER POLE

RTU ROOF TOP UNIT

SD SMOKE DAMPER

UC UNDER CABINET

UG UNDERGROUND

WH WATER HEATER

WP WEATHERPROOF

W WATT

TEL TELEPHONE

IG ISOLATED GROUND

MD MOTORIZED DAMPER

N NEW EQUIPMENT/DEVICE

NORWESCAP

350 Marshall Street Phillipsburg, NJ 08865

Norwescap

Old Sullivan Building

Remodeling Project

371 S Main Street

Phillipsburg, NJ 08865

Warren County

ARCHITECT

PROJECT LOCATION

LOT:



HORTEN architecture & design 312 State Route 10, Randolph, NJ 07869 Tel: 973.442.5880 Fax: 973.442.5886

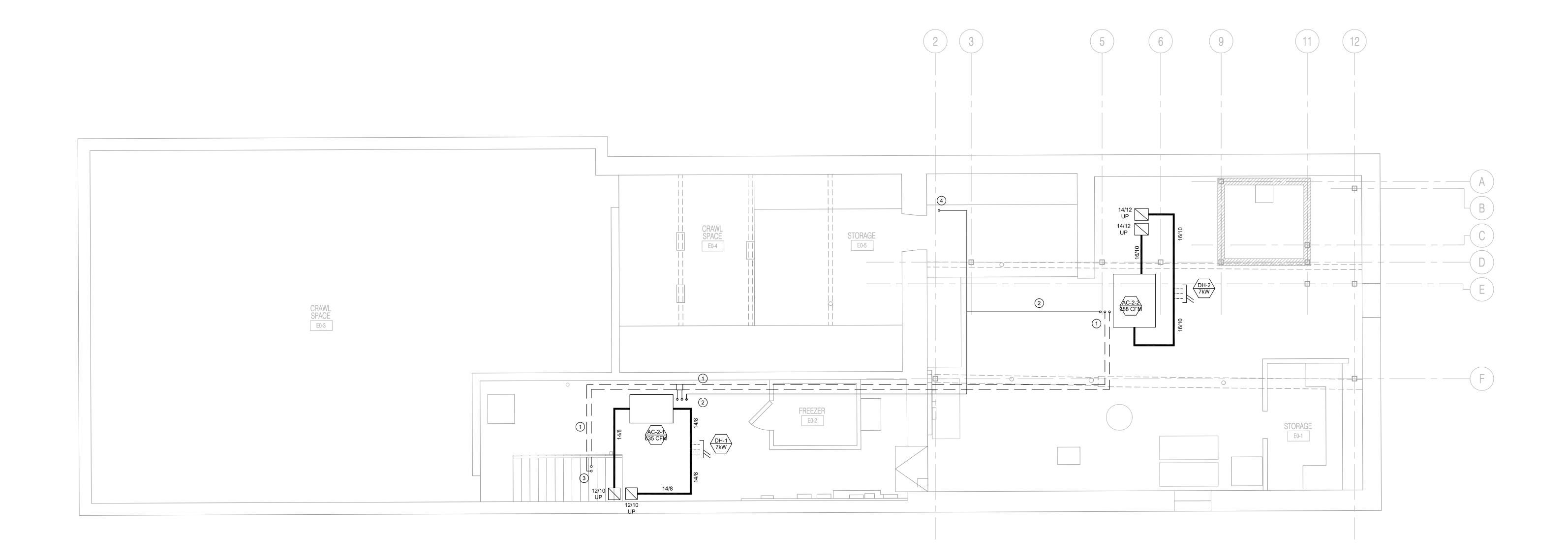
BLOCK:

CONSULTANT



www.frontier-es.com

STANDARD LEGEND AND ABBREVIATIONS SHOWN ON THIS SHEET ARE INTENDED TO BE GENERAL AND MAY NOT BE SPECIFIC OR APPLICABLE TO THIS PROJECT.



Issues and Revisions

No. Date Issues and Revisions

By Check

1. 05/17/24 ISSUED FOR PERMIT

MS MS

Registration and Signatu

MICHAEL J. SCHLICK, P.E. N.J. LICENSE NUMBER: 24GE04904300 C.O.A. NUMBER: 24GA28244900

Drawing Description:

Computer File:

M1.0

MECHANICAL - PLAN

All drawings and written material appearing herein constitute original and unpublished work of the architect and may not be duplicated, used or disclosed without written consent of the architect.

©2023 BEN HORTEN All Rights Reserved

1 MECHANICAL BASEMENT PLAN
SCALE: 1/4" = 1'-0"

- CONTRACTOR SHALL FURNISH AND INSTALL NEW REFRIGERANT PIPING AND DISTRIBUTION MANIFOLDS FROM THE NEW AC LOCATED ON THE ROOF TO THE NEW AC UNITS. PIPING TO BE SIZED AND INSULATED PER MANUFACTURERS RECOMMENDATION.
- 1" COPPER CONDENSATE FROM NEW CONDENSATE PUMP AT THE AHU TO THE LAVATORY TAILPIECE. MATERIALS TO CONFORM TO NFPA90A. PIPE TO PITCH 1/4" PER FOOT.
- (3) NEW REFRIGERANT PIPING UP TO THE NEW ACCU UNIT ON THE ROOF.
- NEW CONDENSATE PIPING TO THE LAVATORY TAILPIECE. VERIFY EXISTING CONDITIONS PRIOR TO BID
- 5 NEW REFRIGERANT PIPING DOWN TO THE AC UNITS ON THE FLOOR BELOW.
- 6 18/12 EXTERIOR INTAKE LOUVER (635 CFM), FIXED BLADE, DOUBLE DRAINABLE AS MANUFACTURED BY UNITED ENERTECH.
- (7) EXISTING TOILET EXHAUST TO REMAIN.
- CONTRACTOR SHALL FURNISH AND INSTALL NEW DAIKIN NAVIGATION REMOTE CONTROLLER (NAV) BRC1E73 SERVING ALL OF THE AC UNITS ON THE FIRST FLOOR. FURNISH AND INSTALL ALL WIRING AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.

MECHANICAL LEGEND

SYMBOL

| SYMBOL | DESCRIPTION |
|--------------------|------------------------------------|
| Т | THERMOSTAT |
| S | TEMPERATURE SENSOR |
| (CO ₂) | CARBON DIOXIDE SENSOR |
| - | NEW DUCTWORK |
| VD | VOLUME DAMPER |
| | CABLE OPERATED VOLUME DAMPER |
| RTU 10 | — EQUIPMENT LABEL — CFM/TONNAGE |

| SAD - 250 | — DIFFUSER TYPE — AIRFLOW (CFM) | | |
|-----------------|---|--|--|
| 4W - 12" DIA. N | NECK OR GRILLE SIZE DIFFUSER AIRFLOW PATT | | |
| X/Y | X=SQUARE DUCT WIDTH Y=SQUARE DUCT HEIGHT | | |
| —-— FD | FIRE DAMPER | | |
| —-— SD | SMOKE DAMPER | | |
| —-— FSD | FIRE/SMOKE DAMPER | | |
| —-— вр | BACK DRAFT DAMPER | | |
| s _P | PHOTOELECTRIC SMOKE DETECTOR | | |
| (E) | EXISTING | | |
| (R) | RELOCATED | | |
| (N) | NEW | | |
| | FIELD CONNECTION | | |
| | | | |

DESCRIPTION

| | ABBREVIATIONS |
|--|---------------|
|--|---------------|

| - DIFFUSER TYPE - AIRFLOW (CFM) | Α | AMP |
|---|------|---------|
| - NECK OR GRILLE SIZE | AC | ABOVE |
| - DIFFUSER AIRFLOW PATTERN X=SQUARE DUCT WIDTH | AFF | ABOVE |
| Y=SQUARE DUCT HEIGHT | AHU | AIR HAN |
| FIRE DAMPER | AWG | AMERIC |
| SMOKE DAMPER | С | CONDU |
| FIRE/SMOKE DAMPER | | |
| BACK DRAFT DAMPER | CATV | CABLE |
| PHOTOELECTRIC | СН | COUNT |
| SMOKE DETECTOR | D | EXISTIN |
| EXISTING | EF | EXHAUS |
| RELOCATED | EM | EMERG |
| NEW | | |

| ABBR. | DESCRIPTION |
|-------|---|
| А | AMP |
| AC | ABOVE CEILING |
| AFF | ABOVE FINISHED FLOOR |
| AHU | AIR HANDLING UNIT |
| AWG | AMERICAN WIRE GAUGE |
| С | CONDUIT |
| CATV | CABLE TV |
| СН | COUNTER HEIGHT |
| D | EXISTING EQUIPMENT/DEVICE TO BE REMOVED |
| EF | EXHAUST FAN |
| EM | EMERGENCY |
| EX | EXISTING EQUIPMENT/DEVICE TO REMAIN |
| F | FUSED |
| FA | FIRE ALARM |
| FD | FIRE DAMPER |
| | |

GFI GROUND FAULT CIRCUIT INTERRUPTER

RE RELOCATE EXISTING EQUIPMENT/DEVICE

UL UNDERWRITERS LABORATORIES INC.

UPS UNINTERRUPTIBLE POWER SUPPLY

IG ISOLATED GROUND

NL NIGHT LIGHT

PP POWER POLE

RTU ROOF TOP UNIT

SD SMOKE DAMPER

UC UNDER CABINET

UG UNDERGROUND

WH WATER HEATER

WP WEATHERPROOF

W WATT

TO THIS PROJECT.

TEL TELEPHONE

MD MOTORIZED DAMPER

N NEW EQUIPMENT/DEVICE

Phillipsburg, NJ 08865

PROJECT LOCATION

LOT:



Norwescap

Old Sullivan Building

Remodeling Project

371 S Main Street

Phillipsburg, NJ 08865

Warren County

350 Marshall Street

BLOCK:

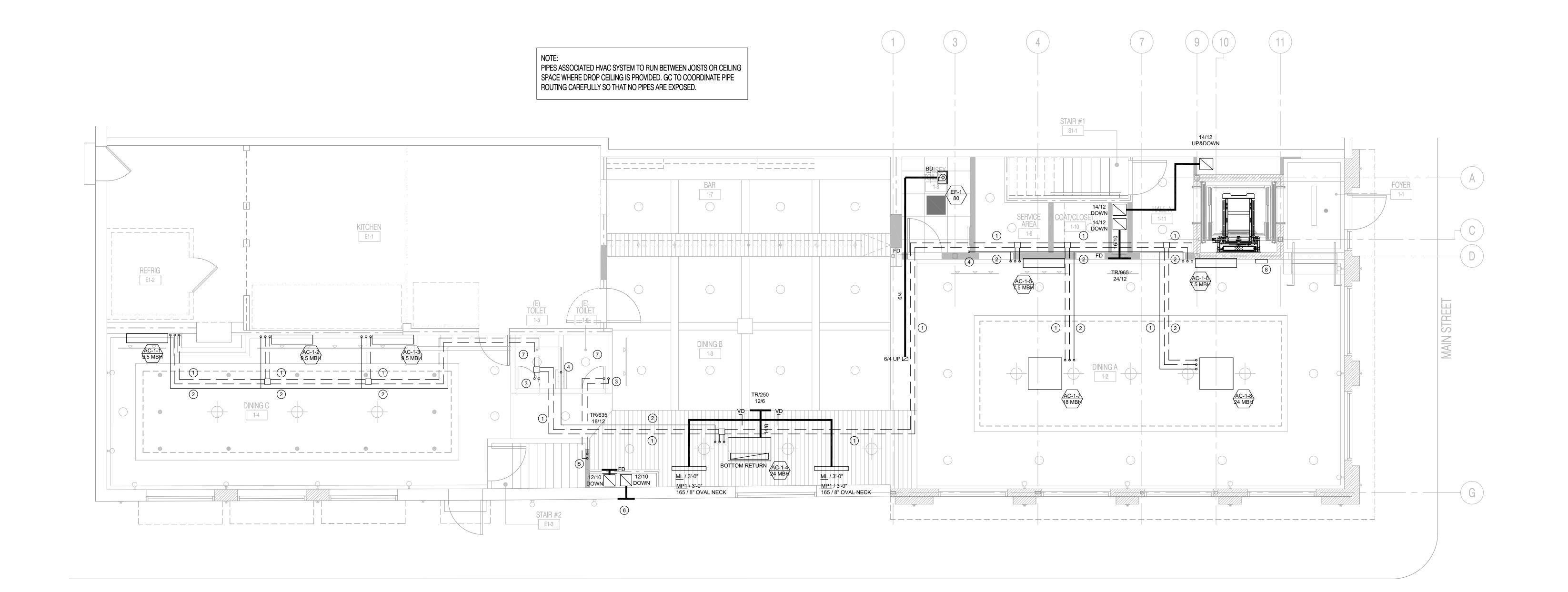
CONSULTANT



Tel/Fax: 973-527-7691

www.frontier-es.com

STANDARD LEGEND AND ABBREVIATIONS SHOWN ON THIS SHEET ARE INTENDED TO BE GENERAL AND MAY NOT BE SPECIFIC OR APPLICABLE



Issues and Revisions

No. Date Issues and Revisions

By Check

1. 05/17/24 ISSUED FOR PERMIT MS MS

MS

Registration and Signature

MICHAEL J. SCHLICK, P.E.

N.J. LICENSE NUMBER: 24GE04904300 C.O.A. NUMBER: 24GA28244900

Computer File:

M1.

MECHANICAL - PLAN

- CONTRACTOR SHALL FURNISH AND INSTALL NEW REFRIGERANT PIPING FROM THE NEW AC LOCATED ON THE ROOF TO THE NEW AHU UNITS IN THE ATTIC SPACES. PIPING TO BE SIZED AND INSULATED PER MANUFACTURERS RECOMMENDATION.
- 2 1" COPPER CONDENSATE FROM NEW CONDENSATE PUMP AT THE AHU TO THE LAVATORY TAILPIECE. MATERIALS TO CONFORM TO NFPA90A. PIPE TO PITCH 1/4" PER FOOT.
- (3) NEW REFRIGERANT AND CONDENSATE PIPING UP TO THE NEW AHU UNIT IN THE ATTIC.
- (4) NEW CONDENSATE PIPING TO THE LAVATORY TAILPIECE.
- (5) REFRIGERANT PIPING DOWN THROUGH THE ROOF TO THE FLOOR BELOW.
- CONTRACTOR SHALL FURNISH AND INSTALL NEW CONCENTRIC B-VENT INTAKE AND EXHAUST PIPING FROM THE NEW AIR HANDLING UNIT THROUGH THE ROOF. CONTRACTOR SHALL COORDINATE PIPE PENETRATIONS THROUGH THE ROOF WITH ANY EXISTING OPENINGS. MAINTAIN MINIMUM 10'-0" CLEARANCE FROM OUTDOOR AIR INTAKES. VERIFY EXISTING CONDITIONS PRIOR TO BID.
- 7 12/12 EXTERIOR INTAKE LOUVER (240 CFM), FIXED BLADE, DOUBLE DRAINABLE AS MANUFACTURED BY UNITED ENERTECH.

DESIGN NOTE: THE SPACES ON THE SECOND FLOOR UTILIZE THE EXISTING OPERABLE WINDOWS FOR NATURAL VENTILATION.

MECHANICAL LEGEND

| SYMBOL | DESCRIPTION |
|-----------|---------------------------------|
| Т | THERMOSTAT |
| S | TEMPERATURE SENSOR |
| ⟨CO₂⟩ | CARBON DIOXIDE SENSOR |
| - | NEW DUCTWORK |
| | VOLUME DAMPER |
| | CABLE OPERATED VOLUME DAMPER |
| RTU 10 | — EQUIPMENT LABEL — CFM/TONNAGE |

| | SAD - 250 | — DIFFUSER TYPE — AIRFLOW (CFM) | | |
|---|-----------------|---|--|--|
| R | 4W - 12" DIA. N | — NECK OR GRILLE SIZE — DIFFUSER AIRFLOW PATTE | | |
| Λ | X/Y | X=SQUARE DUCT WIDTH Y=SQUARE DUCT HEIGHT | | |
| | —-— FD | FIRE DAMPER | | |
| | —-— SD | SMOKE DAMPER | | |
| | —-— FSD | FIRE/SMOKE DAMPER | | |
| | —-— BD | BACK DRAFT DAMPER | | |
| | e _P | PHOTOELECTRIC SMOKE DETECTOR | | |
| | (E) | EXISTING | | |
| | (R) | RELOCATED | | |
| | (N) | NEW | | |
| | | FIELD CONNECTION | | |
| | - | | | |

SYMBOL DESCRIPTION

| | | ABBREVIATIONS |
|----------------|-------|---|
| | ABBR. | DESCRIPTION |
| | А | AMP |
| <u> </u> | AC | ABOVE CEILING |
| PATTERN OTH | AFF | ABOVE FINISHED FLOOR |
| GHT | AHU | AIR HANDLING UNIT |
| | AWG | AMERICAN WIRE GAUGE |
| | С | CONDUIT |
| | CATV | CABLE TV |
| ₹ | СН | COUNTER HEIGHT |
| | D | EXISTING EQUIPMENT/DEVICE TO BE REMOVED |
| | EF | EXHAUST FAN |
| | EM | EMERGENCY |
| | EX | EXISTING EQUIPMENT/DEVICE TO REMAIN |
| | F | FUSED |
| | FA | FIRE ALARM |
| | - FD | EIDE DAMBED |

INTENDED TO BE GENERAL AND MAY NOT BE SPECIFIC OR APPLICABLE TO THIS PROJECT.

FD FIRE DAMPER GFI GROUND FAULT CIRCUIT INTERRUPTER IG ISOLATED GROUND MD MOTORIZED DAMPER N NEW EQUIPMENT/DEVICE NL NIGHT LIGHT PP POWER POLE RE RELOCATE EXISTING EQUIPMENT/DEVICE RTU ROOF TOP UNIT SD SMOKE DAMPER TEL TELEPHONE UC UNDER CABINET UG UNDERGROUND UL UNDERWRITERS LABORATORIES INC.

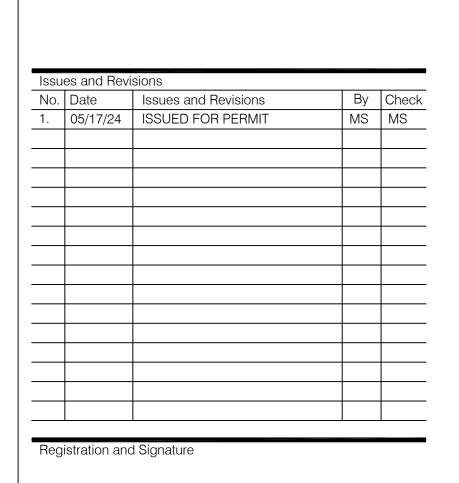
STANDARD LEGEND AND ABBREVIATIONS SHOWN ON THIS SHEET ARE

UPS UNINTERRUPTIBLE POWER SUPPLY

W WATT

WH WATER HEATER

WP WEATHERPROOF



Norwescap

Old Sullivan Building

Remodeling Project

371 S Main Street

Phillipsburg, NJ 08865

Warren County

350 Marshall Street

Phillipsburg, NJ 08865

PO Box 612, Budd Lake, NJ 07828 Tel/Fax: 973-527-7691

www.frontier-es.com

architecture & design

312 State Route 10, Randolph, NJ 07869 Tel: 973.442.5880 Fax: 973.442.5886

BLOCK:

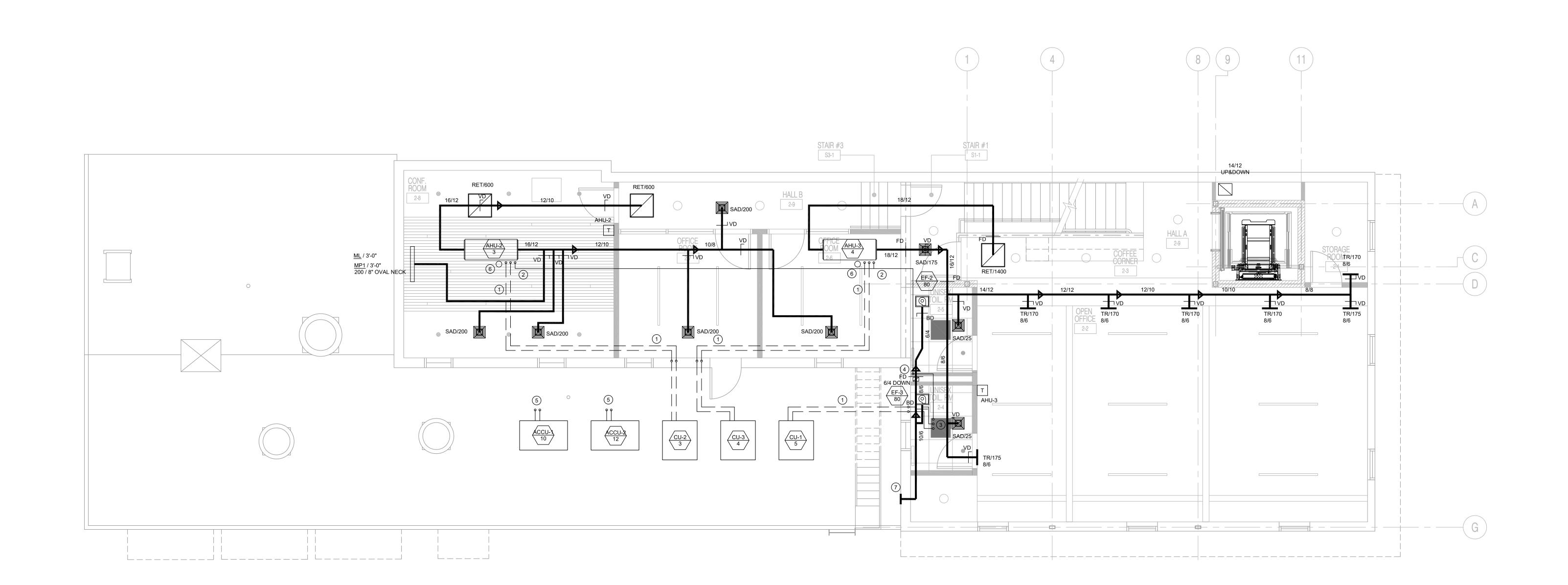
PROJECT LOCATION

LOT:

CONSULTANT

N.J. LICENSE NUMBER: 24GE04904300 C.O.A. NUMBER: 24GA28244900

MECHANICAL - PLAN



- CONTRACTOR SHALL FURNISH AND INSTALL NEW REFRIGERANT PIPING FROM THE NEW AC LOCATED ON THE LOWER ROOF TO THE NEW AHU UNIT IN THE ATTIC SPACE. PIPING TO BE SIZED AND INSULATED PER MANUFACTURERS RECOMMENDATION.
- 2 1" COPPER CONDENSATE FROM NEW CONDENSATE PUMP AT THE AHU TO THE LAVATORY TAILPIECE ON THE FLOOR BELOW. MATERIALS TO CONFORM TO NFPA90A. PIPE TO PITCH 1/4" PER FOOT.
- 3 NEW REFRIGERANT AND CONDENSATE PIPING DOWN TO THE FLOOR BELOW.
- 4) 14/12 OUTDOOR AIR DUCT UP THROUGH THE ROOF TO A WEATHER CAP.
- CONTRACTOR SHALL FURNISH AND INSTALL NEW CONCENTRIC B-VENT INTAKE AND EXHAUST PIPING FROM THE NEW AIR HANDLING UNIT THROUGH THE ROOF. CONTRACTOR SHALL COORDINATE PIPE PENETRATIONS THROUGH THE ROOF WITH ANY EXISTING OPENINGS. MAINTAIN MINIMUM 10'-0" CLEARANCE FROM OUTDOOR AIR INTAKES. VERIFY EXISTING CONDITIONS PRIOR TO BID.

DESIGN NOTE: THE SPACES ON THE THIRD FLOOR UTILIZE THE EXISTING OPERABLE WINDOWS FOR NATURAL VENTILATION.

MECHANICAL LEGEND

| SYMBOL | DESCRIPTION |
|---------------------------------------|---------------------------------|
| Т | THERMOSTAT |
| S | TEMPERATURE SENSOR |
| (CO ₂) | CARBON DIOXIDE SENSOR |
| 1 | NEW DUCTWORK |
| VD | VOLUME DAMPER |
| | CABLE OPERATED VOLUME DAMPER |
| · · · · · · · · · · · · · · · · · · · | |

| CARBON DIOXIDE SENSOR | | X=SQUARE DUCT WI |
|-------------------------------|----------------|---------------------------------|
| NEW DUCTWORK | X/Y | Y=SQUARE DUCT HE |
| | —-— FD | FIRE DAMPER |
| VOLUME DAMPER CABLE OPERATED | —-— SD | SMOKE DAMPER |
| VOLUME DAMPER | — - — FSD | FIRE/SMOKE DAMPE |
| — EQUIPMENT LABEL | —-— BD | BACK DRAFT DAMPE |
| — CFM/TONNAGE | e _P | PHOTOELECTRIC SMOKE DETECTOR |
| | (E) | EXISTING |
| | (R) | RELOCATED |
| | | |

| , <u> </u> | | |
|------------------------------|---|----|
| SYMBOL | DESCRIPTION | AB |
| 010 050 | — DIFFUSER TYPE — AIRFLOW (CFM) | , |
| SAD - 250 4W - 12" DIA. N | - NECK OR GRILLE SIZE | А |
| | — DIFFUSER AIRFLOW PATTERN X=SQUARE DUCT WIDTH | AI |
| X/Y | Y=SQUARE DUCT HEIGHT | Al |
| —-— FD | FIRE DAMPER | AV |
| SD | SMOKE DAMPER | |
| — - — FSD | FIRE/SMOKE DAMPER | |
| —-— BD | BACK DRAFT DAMPER | CA |
| | PHOTOELECTRIC | c |
| - s | SMOKE DETECTOR | _ |

| | ⊢ AIRFLOW (CFM) | | | |
|-------------|---|---|-------|-----------------------------|
| 50 IA. N | - NECK OR GRILLE SIZE | | AC | ABOVE CEILING |
| | — DIFFUSER AIRFLOW PATTERN | | AFF | ABOVE FINISHED FLOOR |
| | X=SQUARE DUCT WIDTH Y=SQUARE DUCT HEIGHT | | AHU | AIR HANDLING UNIT |
| FD | FIRE DAMPER | | AWG | AMERICAN WIRE GAUGE |
| SD | SMOKE DAMPER | | 7,000 | 7 WILLIAM WINE SAUGE |
| | | | С | CONDUIT |
| FSD | FIRE/SMOKE DAMPER | | CATV | CABLE TV |
| BD | BACK DRAFT DAMPER | | CH | COUNTER HEIGHT |
| • | PHOTOELECTRIC SMOKE DETECTOR | | | |
| | EXISTING | | D | EXISTING EQUIPMENT/DEVICE T |
| | | | EF | EXHAUST FAN |
| | RELOCATED | | EM | EMERGENCY |
| | NEW | | EX | EXISTING EQUIPMENT/DEVICE T |
| | FIELD CONNECTION | | | |
| | | J | F | FUSED |
| | | | _ ^ | |

| | ABBREVIATIONS | | | | | | | | | |
|-------|---|--|--|--|--|--|--|--|--|--|
| ABBR. | ABBR. DESCRIPTION | | | | | | | | | |
| А | AMP | | | | | | | | | |
| AC | ABOVE CEILING | | | | | | | | | |
| AFF | ABOVE FINISHED FLOOR | | | | | | | | | |
| AHU | AIR HANDLING UNIT | | | | | | | | | |
| AWG | AMERICAN WIRE GAUGE | | | | | | | | | |
| С | CONDUIT | | | | | | | | | |
| CATV | CABLE TV | | | | | | | | | |
| СН | COUNTER HEIGHT | | | | | | | | | |
| D | EXISTING EQUIPMENT/DEVICE TO BE REMOVED | | | | | | | | | |
| EF | EXHAUST FAN | | | | | | | | | |
| EM | EMERGENCY | | | | | | | | | |
| EX | EXISTING EQUIPMENT/DEVICE TO REMAIN | | | | | | | | | |
| F | FUSED | | | | | | | | | |
| FA | FIRE ALARM | | | | | | | | | |
| FD | FIRE DAMPER | | | | | | | | | |
| GFI | GROUND FAULT CIRCUIT INTERRUPTER | | | | | | | | | |
| IG | ISOLATED GROUND | | | | | | | | | |

MD MOTORIZED DAMPER

NL NIGHT LIGHT

PP POWER POLE

RTU ROOF TOP UNIT

SD SMOKE DAMPER

UC UNDER CABINET

UG UNDERGROUND

WH WATER HEATER

WP WEATHERPROOF

W WATT

TEL TELEPHONE

N NEW EQUIPMENT/DEVICE

RE RELOCATE EXISTING EQUIPMENT/DEVICE

UL UNDERWRITERS LABORATORIES INC.

UPS UNINTERRUPTIBLE POWER SUPPLY

STANDARD LEGEND AND ABBREVIATIONS SHOWN ON THIS SHEET ARE INTENDED TO BE GENERAL AND MAY NOT BE SPECIFIC OR APPLICABLE TO THIS PROJECT.

Norwescap Old Sullivan Building Remodeling Project PROJECT LOCATION LOT: BLOCK: 371 S Main Street

Warren County

Phillipsburg, NJ 08865

350 Marshall Street Phillipsburg, NJ 08865

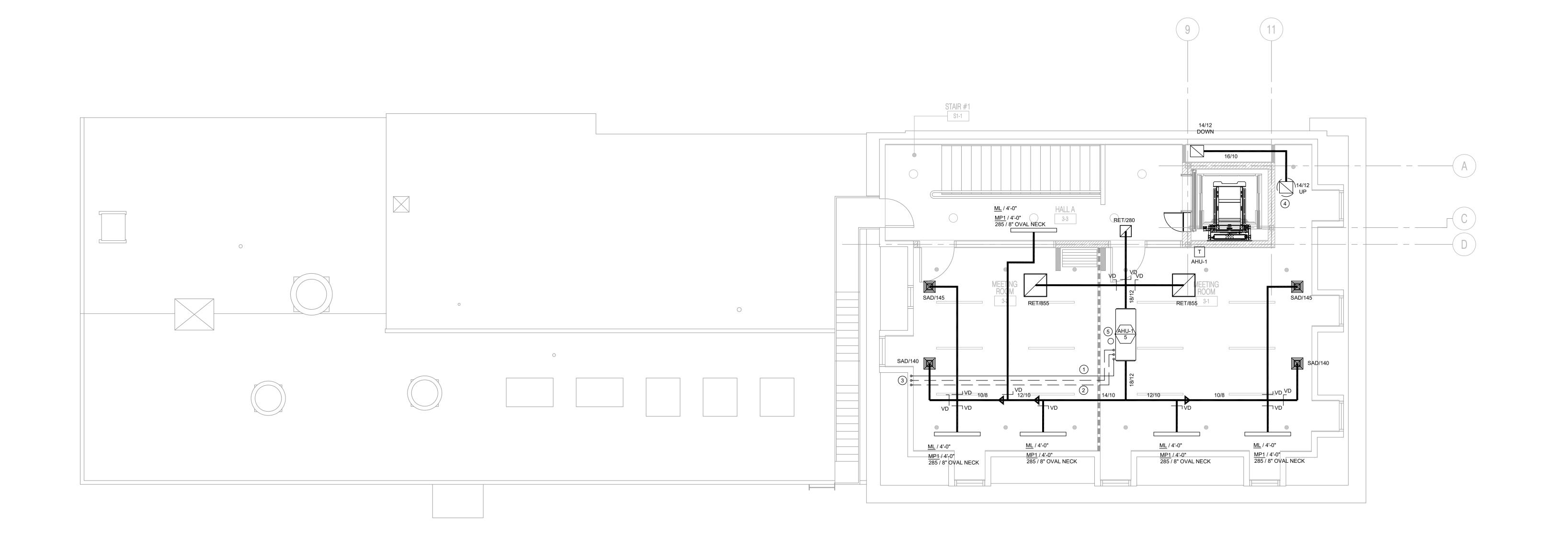


architecture & design 312 State Route 10, Randolph, NJ 07869 Tel: 973.442.5880 Fax: 973.442.5886

CONSULTANT



www.frontier-es.com



| Issu | es and Revi | sions | | |
|------|---------------|----------------------|----|-------|
| No. | Date | Issues and Revisions | Ву | Check |
| 1. | 05/17/24 | ISSUED FOR PERMIT | MS | MS |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| Reg | istration and | d Signature | | |

MICHAEL J. SCHLICK, P.E. N.J. LICENSE NUMBER: 24GE04904300 C.O.A. NUMBER: 24GA28244900

MECHANICAL - PLAN

All drawings and written material appearing herein constitute original and unpublished work of the architect and may not be duplicated, used or disclosed without written consent of the architect.

©2023 BEN HORTEN All Rights Reserved

1 MECHANICAL THIRD FLOOR PLAN
SCALE: 1/4" = 1'-0"

PLUMBING FIXTURE SCHEDULE DESCRIPTION MANUFACTURER / CATALOG NO. AMERICAN STANDARD "CADET" RIGHT HEIGHT, 16-1/2" HIGH, ELONGATED, PRESSURE ASSISTED 1.6 GPF TOILET. MODEL #2467.016 (BOWL: #3483.016, TANK: #4142.016, SEAT: CONTRACTOR TO PROVIDE SEAT WITH OPEN FRONT. MEETS ANSI 117.1 AND ASME A112.19.2-2008 REQUIREMENTS. AMERICAN STANDARD "LUCERNE" MODEL 0355.012. WALL HUNG LAVATORY WITH 4" CENTERS AND WALL HANGER. FURNISH WITH AMERICAN STANDARD "SELECTRONIC" METERING FAUCET MODEL 6055.204 WITH 605XTMV THERMOSTATIC MIXING VALVE, 0.35 GPM SPRAY, BATTERY POWER, AND METAL POP UP DRAIN. MEETS ANSI A117.1 AND ASME A112.19.2 REQUIREMENTS. FURNISH WITH "LAV-GUARD" UNDERSINK PROTECTIVE PIPE COVER MODEL #103-EZ. AMERICAN STANDARD "STUDIO" MODEL 0614000.020, UNDER COUNTER SINK. FURNISH WITH AMERICAN STANDARD SELECTRONIC" METERING FAUCET MODEL 6055.204 WITH 605XTMV THERMOSTATIC MIXING VALVE. 0.35 GPM SPRAY. BATTERY POWER, AND METAL POP UP DRAIN. MEETS ANSI A117.1 AND ASME A112.19.2 REQUIREMENTS. FURNISH WITH 'LAV-GUARD" UNDERSINK PROTECTIVE PIPE COVER MODEL #103-EZ. AMERICAN STANDARD MODEL 15SB.252283.073, DROP IN, 3 HOLE, BARRIER FREE, STAINLESS STEEL KITCHEN SINK. KITCHEN SINK (KSINK) PROVIDE WITH AMERICAN STANDARD FAUCET MODEL 4462F DUAL CONTROL KITCHEN FAUCET WITH DRAIN FITTINGS. COORDINATE SPECIFICATION WITH OWNER. HAND SINK (HSINK) COORDINATE SPECIFICATION WITH OWNER WATER HEATER RHEEM MODEL ELD20 WATER HEATER WITH 20 GALLON STORAGE CAPACITY AND TWO 3,000 WATT HEATING ELEMENTS (SIMULTANEOUS WIRING). 208V-1PH, 14.4 AMPS FLOOR CLEAN OUT JOSAM SERIES 58360-VP ADJUSTABLE CLEANOUT WITH SECURE COVER AND VANDAL-PROOF SCREWS. SEE PLUMBING PLAN AND ISOMETRICS FOR SIZE. WALL CLEAN OUT JOSAM SERIES 58910 TEE CLEANOUT FOR USE IN WALLS. PROVIDE WITH JOSAM SERIES 58600-VP SECURE WALL ACCESS COVER WITH VANDAL-PROOF SCREWS. SEE PLUMBING PLAN AND ISOMETRICS FOR SIZE.

- REMOTE HIGH WATER ALARM PANEL W/ HORN

LIGHT, RESET BUTTON & SILENCING SWITCH.

ELEVATOR MACHINE ROOM.

SPILL ONTO SPLASH BLOCK AT

EXTERIOR OF BUILDING

OF 8'-0" TO BOTTOM OF

LITTLE GIANT MODEL 101H. MOUNT ON WALL IN

GENERAL PLUMBING NOTES

1. IT IS THE INTENT OF THESE SPECIFICATIONS TO PROVIDE A COMPLETE INSTALLATION FOR FINISHED WORK, TESTED AND READY FOR OPERATION. THE WORK THROUGHOUT SHALL BE EXECUTED IN THE BEST AND MOST THOROUGH MANNER UNDER THE DIRECTION OF AND TO THE SATISFACTION OF THE

2. ALL MATERIALS REQUIRED FOR THIS WORK SHALL BE NEW, UNUSED, BEST OF ITS RESPECTIVE KINDS. AND FREE FROM DEFECTS AND OF FIRST CLASS QUALITY. BASIS OF QUALITY SHALL BE LATEST STANDARDS OF ASTM, ANSI FEDERAL SPECIFICATIONS OR OTHER ACCEPTABLE STANDARDS.

3. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR WORK UNTIL ITS COMPLETION AND FINAL ACCEPTANCE AND SHALL REPLACE ANY OF THE SAME WHICH MAY BE DAMAGED, LOST OR STOLEN WITHOUT ADDITIONAL

COST TO THE OWNER. 4. THE PLUMBING CONTRACTOR SHALL GUARANTEE ALL WORK PERFORMED AND MATERIALS INSTALLED TO BE FREE FROM INHERENT DEFECTS AND SHALL

FREE OF COST TO THE (OWNER) FOR A PERIOD OF ONE (1) YEAR AFTER 5. ALL WORK SHALL BE DONE ACCORDING TO THE REQUIREMENTS OF ALL APPLICABLE CODES AND LEASE CRITERIA (IF APPLICABLE) AND SHALL RECEIVE THE APPROVAL OF ALL AUTHORITIES HAVING JURISDICTION. PREPARE ALL

REQUIRED DOCUMENTS, DRAWINGS AND PERFORM ALL REQUIRED TESTS AND

PAY ALL REQUIRED CHARGES TO OBTAIN THESE APPROVALS. 6. CONTRACTOR SHALL BE HELD TO HAVE EXAMINED THE SITE FOR THE WORK BEFORE HAVING SUBMITTED A PROPOSAL. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR CONDITIONS FOUND DURING THE COURSE OF THE

7. THIS CONTRACTOR MUST PROVIDE OWNER'S CONSTRUCTION REPRESENTATIVE WITH COPIES OF REQUIRED INSURANCE AND COPIES TO BE FURNISHED TO THE OWNER BEFORE COMMENCING WORK.

8. SUBMIT ELECTRONICALLY THREE (3) SETS OF SHOP DRAWINGS IDENTIFIED WITH PROJECT NAME OF THE FOLLOWING (1) ELECTRIC HOT WATER HEATER OR INSINKERATOR (2) PLUMBING FIXTURES AND TRIM. CONTRACTOR SHALL SUBMIT SHOP DRAWING OF PIPING LAYOUT TO THE OWNER FOR THEIR FILE. 9. THE PLUMBING SUBCONTRACTOR IS A SUBCONTRACTOR OF THE GENERAL

10. NOTCHING AND BORING OF STRUCTURAL STEEL MEMBERS IS NOT

PERMITTED. WHEN HANGING FROM STRUCTURAL STEEL ONLY HANG FROM TOP FLANGE OF BEAMS AND TOP CHORDS ONLY AT PANEL POINTS OF JOISTS /

I. WORK RESPONSIBILITY

1. FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND CONTRACTORS FOR A COMPLETE, SAFE INSTALLATION OF PLUMBING WORK IN FULL CONFORMITY WITH REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION AS INDICATED ON DRAWINGS AND/OR HEREIN SPECIFIED, INCLUDING IN GENERAL THE

2. SANITARY DRAINAGE CONNECTIONS TO PLUMBING FIXTURES AND EQUIPMENT REQUIRING SAME WITH FINAL CONNECTIONS. PLUMBER SHALL VERIFY EXACT LOCATION OF WASTE PIPE OUTLET BEFORE SUBMITTING BID AND NOTIFY THE ARCHITECT OF ANY LOCATION DISCREPANCIES. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CONCRETE SAWCUTTING REQUIRED TO MAKE THE FINAL CONNECTION TO THE WASTE PIPING OR CAPPED OUTLET(S) SAWCUTTING, EXCAVATING, BACKFILLING AND NEW CONCRETE MUST MEET

WITH THE OWNER'S APPROVAL A. SNAKE SANITARY FOR A DISTANCE OF 100 FEET AND REPORT ANY B. TEST WATER PRESSURE TO INSURE MINIMUM OF 50 PSI.

3. COMPLETE VENT SYSTEM, ALL FIXTURES INDIVIDUALLY VENTED WITH FINAL CONNECTION THROUGH ROOF. ROOF PENETRATION AND FLASHING TO BE PERFORMED BY OWNER'S ROOFER (IF APPLICABLE). COST OF ROOF PENETRATION AND FLASHING TO BE PART OF THIS CONTRACT, UNLESS NOTED

4. DOMESTIC WATER SUPPLY SYSTEM INCLUDING CONNECTION TO NEW OR EXISTING DOMESTIC WATER SERVICE AND FINAL CONNECTIONS TO PLUMBING FIXTURES AND EQUIPMENT REQUIRING SAME. VERIFY EXACT LOCATION AND SIZE BEFORE SUBMITTING BID.

OTHERWISE IN BID PROPOSAL (IF APPLICABLE).

5. INSULATION OF ALL HOT AND COLD WATER PIPING, INCLUDING UNDER LAVATORY A.D.A. PIPE WRAPPINGS.

6. FURNISH AND INSTALL WATER METER (IF APPLICABLE) ACCESSIBLE TO UTILITY COMPANY OR OWNER'S REPRESENTATIVE FOR MONITORING WATER BUT METER SHOULD IN NO WAY BE IN THE PATH OF THE A.D.A./CABO-ANSI, 5'-0"

CIRCULAR PATTERN.

7. COSTS FOR WORKING BELOW SLAB. 8. INSTALLATION OF FLOOR DRAIN, BACKFLOW PREVENTER (IF REQ. BY CODE) PER OWNER REQUIREMENT AND CLEANOUT PER LOCAL CODE. COORDINATE

ALL LOCATIONS WITH OPERATIONS MANAGER. 9. COMPLETE NATURAL GAS PIPING SYSTEMS (AS APPLICABLE). REFER TO GAS PIPING PLANS FOR GAS PIPING GENERAL NOTES.

II. GENERAL ITEMS 1. SLEEVES: PROVIDE #22 GAGE GALVANIZED IRON PIPE SLEEVES FOR PIPING

THROUGH WALLS AND FLOOR, PACK WITH NON-ASBESTOS ROPE AND FILL WITH EXPANDO NON-SHRINKING CEMENT.

2. ESCUTCHEONS: PROVIDE EXPOSED PIPING, BOTH BARE AND COVERED, WITH CP CAST BRASS ESCUTCHEONS WHERE PASSING THROUGH FLOORS, CEILINGS, WALLS OR PARTITIONS.

3. HANGERS AND SUPPORTS: SUPPORT HORIZONTAL DRAINAGE PIPING AT LEAST EVERY 5 FEET OR AT EVERY HUB, COPPER TUBING EVERY 7 FEET AND STEEL PIPE EVERY 10 FEET WITH "CLEVIS" HANGERS AND INSULATION PROTECTION SHIELDS. PIPING SHALL NOT BE SUPPORTED FROM BRIDGING OR OTHER PIPING, ONLY SUPPORT FROM TOP FLANGES OF BEAMS AND TOP CHORDS AT PANELS OF JOIST AND TRUSSES. PROVIDE SWAY AND SEISMIC BRACING WHERE REQUIRED BY CODES.

4. TEST: TEST PIPING AND PROVE TIGHT FOR AT LEAST TWO HOURS IN ACCORDANCE WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION AND/OR AS SPECIFIED. TEST SHALL BE PERFORMED IN THE PRESENCE OF OWNER'S REPRESENTATIVE AND LOCAL INSPECTOR. TEST SHALL BE REPEATED IF NECESSARY UNTIL FINAL APPROVAL OF SYSTEM IS OBTAINED. A. TEST DRAINAGE AND VENT PIPING BY FILLING WITH WATER TO OVERFLOWING AT ROOF, WATER LEVEL TO REMAIN. B. TEST WATER PIPING WITH WATER 1 1/2 TIMES THE WORKING

PRESSURE. 5. STERILIZATION OF DOMESTIC WATER SYSTEM: BEFORE BEING PLACED IN SERVICE, ALL WATER LINES SHALL BE CHLORINATED TO THE SATISFACTION OF THE ARCHITECT OR OWNER'S REPRESENTATIVE, IN ACCORDANCE WITH

A.W.W.A. SPECIFICATION C651-05. 6. SLOPE WASTE LINES 2 INCHES AND SMALLER NOT LESS THAN 1/4 INCH PER FOOT. SLOPE LARGER MAINS NOT LESS THAN 1/8 INCH PER FOOT.

7. INSTALL A CLEANOUT AT BASE OF EACH SOIL STACK, AT EACH CHANGE IN DIRECTION, AT INTERVALS NOT OVER 50 FEET AND ELSEWHERE AS SHOWN ON DRAWINGS OR REQUIRED BY LOCAL CODE. CLEANOUTS SHALL NOT BE INSTALLED IN PUBLIC AREAS WITHOUT SPECIFIC PERMISSION BY OWNER'S CONSTRUCTION MANAGER.

1. DRAINAGE AND VENT PIPING: EXTRA HEAVY HUB AND SPIGOT CAST IRON SOIL WITH RUBBER GASKETS CONFORMING TO ASTM C564, NO-HUB CAST IRON TO HAVE HEAVY DUTY, TYPE 304 STAINLESS STEEL COUPLINGS CONFORMING TO ASTM A 666, TYPE 304 STAINLESS STEEL SHIELD, TYPE 304 STAINLESS STEEL BANDS AND SLEEVE NPS 1 1/2" TO NPS 4": 3" WIDE SHIELD WITH 4 BANDS;

2. DOMESTIC WATER PIPING

NPS 5" TO NPS 10": 4" WIDE BAND WITH 6 BANDS.

III. MATERIALS

A WATER PIPING BELOW SLAB: TYPE K HARD COPPER TUBING WITH CAST BRONZE OR WROUGHT COPPER SOLDER JOINT FITTINGS USING 95-5 B. WATER PIPING ABOVE SLAB: TYPE L HARD COPPER TUBING USING SILVER SOLDER. ALL WATER SUPPLY PIPING TO CONFORM TO NSF/ANSI 61 AND

ASTM B 75, ASTM B 88, ASTM B 251, OR ASTM B 447. ALL PIPE FITTINGS

SHALL CONFORM TO ASSE 1061, ASME B 16.15, ASME B 16.18, ASME B 16.22, ASME B 16.23, ASME B 16.26, AND ASME B 16.29. 3. WATER HAMMER ARRESTERS: PROVIDE ON HOT AND COLD WATER BRANCHES TO FIXTURES, J. R. SMITH HYDROTROL MODEL 5020 FOR UP TO 60 FIXTURE UNITS. WATER HAMMER ARRESTERS SHALL CONFORM TO ASSE 1010.

4. VALVES: GATE VALVE WATTS SERIES B-3000, CHECK VALVE WATTS SERIES B-5000, BALL VALVE WATTS SERIES B6080 OR B6081 FULL PORT. ALL VALVES 1/2" TO 2" BRONZE BODY. VALVES SHALL CONFORM TO NSF/ANSI 61.

5. PRESSURE AND TEMPERATURE RELIEF VALVE: WATTS REGULATING CO. MODEL 10L. T&P RELIEF VALVE SHALL CONFORM TO ANSI Z21.22.

6. PRESSURE REDUCING VALVE: WATTS SERIES 25AUB BRONZE BODY WITH INTEGRAL S/S STRAINER, SEALED CAGE FOR 1/2" TO 2 1/2" DIA. TO 300 PSI. PRESSURE REDUCING VALVE SHALL CONFORM TO ASSE 1003.

7. PRESSURE GAUGE: AMETEK DIV. OF U.S. GAUGE SERIES P-500, UP TO 4-1/2" DIAL, 1/4" STEM, ALUMINUM CASE, BLACK FINISH.

8. AIR VENT: HOFFMAN #79 WATER MAIN VENT VALVE. 9. WATER METER: HERSEY CO. MODEL 400 SERIES IIS. WATER METER SHALL CONFORM TO ALL APPLICABLE PARTS OF ANSI/AWWA C700 AND NSF/ANSI 61.

10. VACUUM RELIEF VALVE: WATTS MODEL N36-M1 BRASS BODY, 1/2" NPT LINE SIZE. VACUUM RELIEF VALVES SHALL CONFORM TO ANSI Z21.22. 11. EXPANSION TANK: AMTROL THERMAL EXPANSION TANK MODEL ST.

CONTRACTOR TO VERIFY SIZE REQUIRED FOR EXPANSION TANK PRIOR TO BID. THERMAL EXPANSION TANK TO CONFORM TO NSF/ANSI 61 12. TRAP PRIMER: PRECISION PLUMBING PRODUCTS INC. MODEL P1-500 UP TO FOUR CONNECTIONS. OPTIONAL DISTRIBUTION UNIT REQUIRED FOR 2, 3 AND

FOUR DRAIN LINES. TRAP PRIMER TO CONFORM TO ASSE 1018 OR ASSE 1044. 13. MIXING VALVE: WATTS SERIES MMV MIXING VALVE, 1/2" LINE SIZE. MIXING VALVE SHALL CONFORM TO ASSE 1017, ASSE 1069 & ASSE 1070.

14. BACK-FLOW PREVENTER: ZURN "WILKINS" MODEL 975XL2 REDUCED PRESSURE PRINCIPLE ASSEMBLY BACK-FLOW PREVENTER. LINE SIZE 3/4" TO 2" TO MATCH INLET WATER LINE SIZE. PREVENTER SHALL CONFORM TO ASSE 1013 IV. INSULATION

1. ALL HOT AND COLD WATER PIPING AND FITTINGS SHALL BE INSULATED WITH 1" THICK RIGID FIBERGLASS WITH VAPOR BARRIER UNIVERSAL JACKET PASTED WITH VAPOR BARRIER CEMENT. VAPOR BARRIER NOT REQUIRED ON HOT

2. ALL ADA CONFORMING, WHEELCHAIR ACCESSIBLE LAVATORY P-TRAP AND ANGLE VALVE ASSEMBLIES TO BE COVERED WITH THE MOLDED, ANTIMICROBIAL TRUBRO, INC "LAV-GUARD" UNDERSINK PROTECTIVE PIPE COVER MODEL #103.

V. SPECIFIC PLUMBING SPECIFICATIONS

1. INSTALL NEW ONLY IF EXISTING DOES NOT MEET CURRENT ADA/CABO-ANSI (AS APPLICABLE) STANDARDS, OR IS DAMAGED, NOT IN WORKING ORDER OR NOT EXISTING AS APPLICABLE.

2. IT IS THIS CONTRACTOR'S RESPONSIBILITY TO SUPPLY HANDICAPPED TOILET FIXTURES, IF REQUIRED BY CODE OR NOTED ON THE DRAWINGS, UTILIZING THE SPECIFICATION ABOVE AS A STANDARD AND MEETING CODE REQUIREMENTS. SPACING OF FIXTURES TO BE COORDINATED WITH THE GENERAL CONTRACTOR AS WELL AS THE PLUMBING INSPECTOR'S REQUIREMENTS.

1. THE PLUMBING CONTRACTOR IS TO BECOME FAMILIARIZED WITH OWNER'S CRITERIA FOR THIS LOCATION AND INCLUDE ANY WORK REQUIRED OF THIS CRITERIA, WHICH IS NOT SPECIFICALLY NOTED IN THESE DRAWINGS AND SPECIFICATIONS. 1-1-10

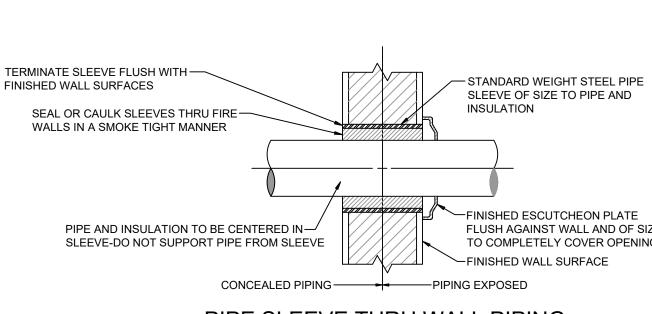
1. NOTES AND GRAPHIC REPRESENTATIONS SHALL NOT LIMIT THE EXTENT OF DEMOLITION REQUIRED. 2. EXTENT OF DEMOLITION SHALL BE COORDINATED WITH THE ARCHITECTURAL ALL WORK REQUIRED TO REMAIN IN SERVICE BUT

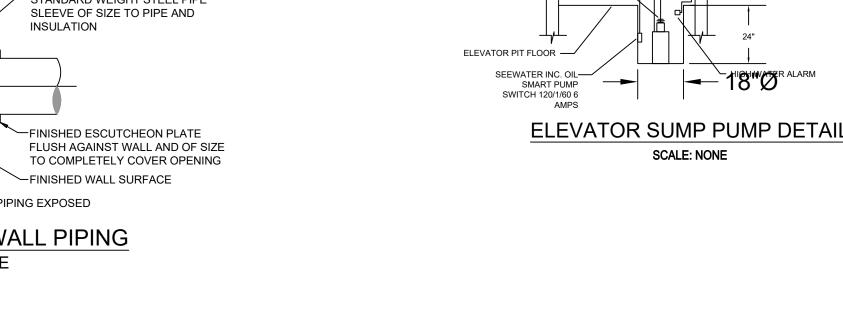
INTERFERING WITH THE ALTERATIONS SHALL BE RELOCATED AND RECONNECTED USING MATERIALS AND STANDARDS OF THIS CONTRACT. 3. EQUIPMENT AND DEVICES TO BE REMOVED SHALL BE DISCONNECTED PRIOR TO ANY DEMOLITION WORK. EQUIPMENT INDICATED TO BE REMOVED SHALL BE TAKEN FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE LAWS AND ENVIRONMENTAL REGULATIONS, UNLESS OTHERWISE 4. DISTRIBUTION TO BE REMOVED - BRANCH PIPING AND SUPPORTS SHALL BE

REMOVED TO THE MAIN OF ORIGIN. WHERE PORTIONS OF EXISTING BRANCH DISTRIBUTION ARE TO BE REMOVED, CONTRACTOR SHALL TRACE OUT EXISTING DEVICES THAT ARE TO REMAIN AND EXTEND DISTRIBUTION AS REQUIRED TO MAINTAIN THE PERFORMANCE OF THE REMAINING DEVICES. 5. PORTIONS OF EXISTING SYSTEMS (INCLUDING FIRE PROTECTION, STORM AND GAS PIPING) ARE OMITTED FROM AREAS THAT HAVE NO TRADE ASSOCIATED SCOPE. THESE SYSTEMS SHALL BE LEFT UNMODIFIED AND ARE OMITTED FROM THE DRAWING TO MAINTAIN GRAPHICAL CLARITY. 6. FIELD VERIFY EXACT LOCATION OF EXISTING PIPING DISTRIBUTION AND EXTENT OF RE-CONFIGURATION AND DEMOLITION REQUIRED FOR NEW 7. FIELD VERIFY EXISTING DOMESTIC WATER, DRAINAGE AND VENT PIPING SERVING LOCATIONS EXTERNAL TO SCOPE AREA, MAINTAIN OPERATION AS

8. BRANCH PIPING INDICATED FOR REMOVAL SHALL BE REMOVED TO

NEAREST MAIN AND CAPPED.

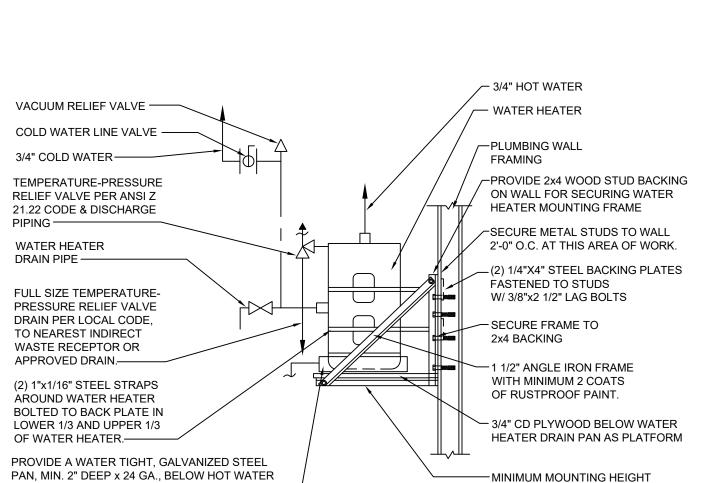




HEATER. 1" MIN. DIA. DRAIN PER LOCAL CODE,

TO NEAREST INDIRECT WASTE RECEPTOR OR

APPROVED DRAIN.—

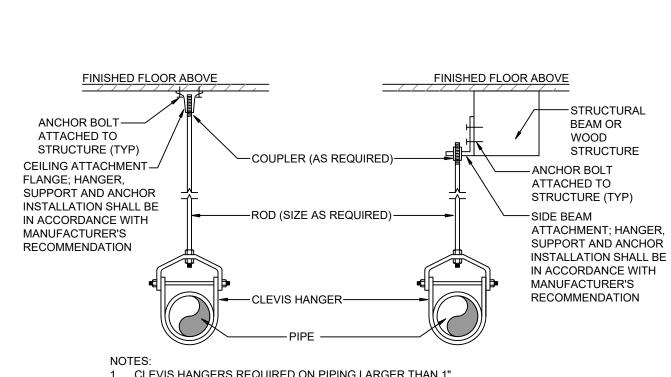


OIL SMART SWITCH

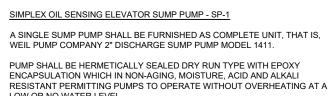
RECEPTACLE

GATE VALVE -

LIFT CHECK-



HOT WATER HEATER PIPING DETAIL



PUMP SHALL BE SUBMERSIBLE TYPE, CAST IRON CONSTRUCTION, BRON IMPELLER, SEMI-OPEN TYPE, HEAVY DUTY MECHANICAL SEAL WITH FACES SILICON CARBIDE" COATED, STAINLESS STEEL SELF-CLEANING SUCTION STRAINER, 15' OF NEOPRENE JACKETED POWER CABLE, 300 SERIES PUMP TO HAVE A CAPACITY OF 50GPM AT A TOTAL DYNAMIC HEAD OF 20

FEET AND TO OPERATE AT 1750RPM. PUMP TO HAVE CURVE CHARACTERISTICS SO AS NOT TO OVERLOAD THE 1/2HP MOTOR AT ANY MOTOR TO BE 1/2 HP, SINGLE PHASE, 60 HERTZ, 120 VOLTS, 1750 RPM HOUSED IN AIRFILLED WATERTIGHT CAST IRON MOTOR SHELL WITH THE

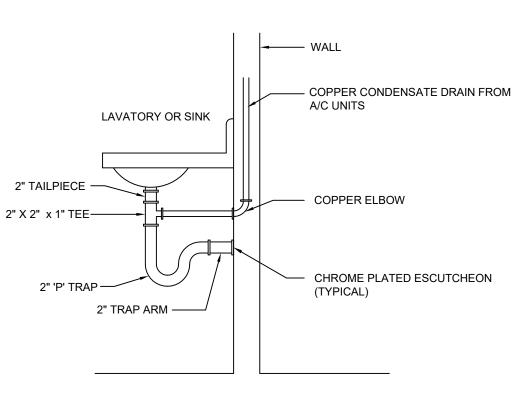
 ${\tt DOUBLE\ SEAL\ BEARINGS.\ OIL\ FILLED\ MOTORS\ ARE\ NOT\ ACCEPTABLE.}$ THE EQUIPMENT WILL INCLUDE A CULLEN SERIES BC2001 UL LISTED SOLID STATE AUTOMATIC SWITCH THAT SHALL NOT ALLOW OIL TO BE PUMPED OUT OF THE SUMP PIT. THE SWITCH SHALL PLUG INTO A STANDARD 120 VOLT RECEPTACLE AND SHALL HAVE A PIGGYBACK PLUG TO RECEIVE THE PUMP POWER CABLE MOLDED 120V PLUG. THE CONTROL SWITCH SHALL OPERATE THE PLIMP AUTOMATICALLY BY TWO INDEPENDENT SENSING TRIP POINTS NE FOR "PUMP ON" AND ONE FOR "PUMP OFF" AND SHALL DIFFERENTIATE BETWEEN THE OIL AND THE WATER.

IF OIL IS SENSED BY THE TOP "PUMP ON" PROBE THE PUMP WILL NOT OPERATE UNTIL THAT PROBE IS AGAIN COVERED BY WATER. A SEPARATE HIGH WATER ALARM FLOAT SHALL BE MOUNTED 2" ABOVE THE OIL SENSING

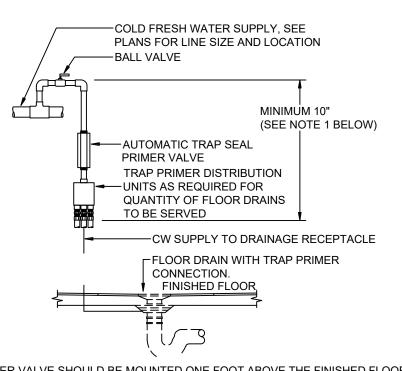
A 1/60/115 VOLT REMOTE NEMA-1 ENCLOSED ALARM PANEL HAVING AN INDICATING LIGHT, AUDIBLE ALARM WITH A SILENCE PUSH-BUTTON AND AUXILIARY DRY CONTACT SHALL BE PROVIDED. IF THE WATER LEVEL WITH THE SLICK OF OIL FLOATING ON TOP, CONTINUES TO RISE ABOVE THE OIL SENSING SWITCH. THE "HIGH WATER" ALARM FLOAT SHALL ACTIVATE THE REMOTE ALARM PANEL PROMPTING SERVICE PERSONNEL TO CORRECT THE

PROVIDE CHECK AND GATE VALVES ON THE DISCHARGE OF THE PUMP. COMPLETE THE PIPING AS SHOWN AND CLEAN THE BASIN OF ALL DEBRIS

BEFORE STARTING PUMPS INTO OPERATION.



LAVATORY TAIL PIECE DETAIL



1. TRAP PRIMER VALVE SHOULD BE MOUNTED ONE FOOT ABOVE THE FINISHED FLOOR FOR EVERY 20 FEET OF PRIMER LINE. A PRESSURE DROP OF 5 TO 10 PSI IS REQUIRED TO ACTIVATE THE PRIMING VALVE 3. THE TRAP PRIMER MUST BE INSTALLED ON COLD FRESH WATER LINES 1-1/2" DIAMETER OR LESS. TRAP PRIMER PIPING DETAIL NOT TO SCALE

> STANDARD DETAILS, LEGEND, AND ABBREVIATIONS SHOWN ON THIS SHEET ARE INTENDED TO BE GENERAL AND MAY NOT BE SPECIFIC OR APPLICABLE TO THIS PROJECT.

All drawings and written material appearing herein constitute original and unpublished work of the architect and may not be duplicated used or disclosed without written consent of the architect. 2023 REN HORTEN All Rights Reserved

MICHAEL J. SCHLICK, P.E.

N.J. LICENSE NUMBER: 24GE04904300

C.O.A. NUMBER: 24GA28244900

PLUMBING - GENERAL NOTES AND DETAI

Issues and Revisions

05/17/24 | ISSUED FOR PERMIT

Registration and Signature

Computer File:

Norwescap

Old Sullivan Building

Remodeling Project

371 S Main Street

Phillipsburg, NJ 08865

Warren County

350 Marshall Street

Phillipsburg, NJ 08865

PO Box 612, Budd Lake, NJ 07828

Tel/Fax: 973-527-7691

www.frontier-es.com

architecture & design

312 State Route 10, Randolph, NJ 07869 Tel: 973.442.5880 Fax: 973.442.5886

BLOCK:

PROJECT LOCATION

LOT:

CONSULTANT

1 GENERAL PLUMBING NOTES

2 GENERAL PLUMBING DETAILS

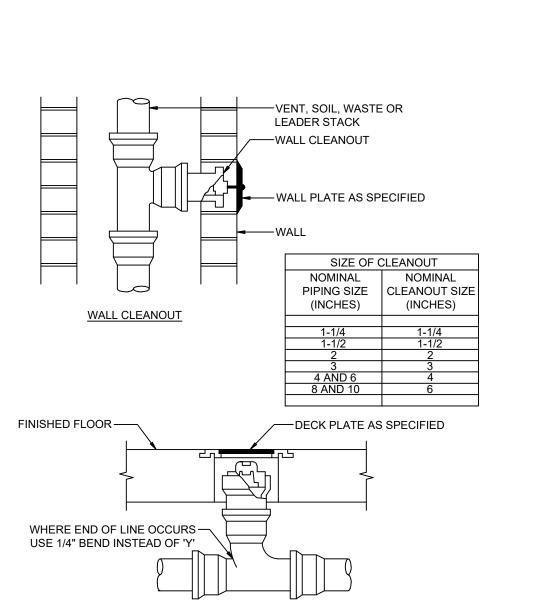
FLOOR CLEANOUT

FLOOR + WALL CLEANOUTS DETAIL

NOT TO SCALE

PIPE SLEEVE THRU WALL PIPING

-3" DRAIN LINE --- PROVIDE DRIP EDGE EXTENSION DOME STRAINER NO HUB OUTLET DEEP SEAL P-TRAP— FLOOR SINK DETAI



1. CLEVIS HANGERS REQUIRED ON PIPING LARGER THAN 1" 2. SEISMIC BRACING NOT SHOWN

> PIPING TYPICAL HANGER DETAILS NOT TO SCALE

SECTION 02553 - NATURAL GAS DISTRIBUTION

PART 1 - GENERAL

1.1 SUMMARY A. THIS SECTION INCLUDES PIPING, VALVES, AND SPECIALTIES FOR NATURAL GAS DISTRIBUTION B. UNDERGROUND: USE PLASTIC VALVES.

OUTSIDE THE BUILDING. 1.2 DEFINITIONS

A. GAS MAIN: UTILITY'S NATURAL GAS PIPING

B.- GAS DISTRIBUTION: PIPING FROM GAS MAIN TO INDIVIDUAL SERVICE METER ASSEMBLIES.

C. POINT OF DELIVERY: PIPING OUTLET FROM SERVICE METER ASSEMBLY D. NATURAL GAS PIPING: PIPING THAT CONVEYS NATURAL GAS FROM POINT OF DELIVERY TO NATURAL GAS UTILIZATION DEVICES INSIDE BUILDING.

1.3 - SYSTEM PERFORMANCE REQUIREMENTS

A. MINIMUM WORKING PRESSURE RATINGS: ACCORDING TO THE FOLLOWING:

 PIPING AND VAI VES: 100 PSIG 2. SERVICE REGULATORS: 100 PSIG.

3. SERVICE METERS: 100 PSIG. 1.4 QUALITY ASSURANCE

A. DISTRIBUTION COMPONENTS: LISTING/APPROVAL STAMP, LABEL, OR OTHER MARKING BY TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.

B. COMPLY WITH REQUIREMENTS OF UTILITY SUPPLYING NATURAL GAS AND STANDARDS OF AUTHORITIES HAVING JURISDICTION FOR NATURAL GAS PIPING SYSTEMS.

C. COMPLY WITH NFPA 54, "NATIONAL FUEL GAS CODE." FOR GAS PIPING MATERIALS AND COMPONENTS; INSTALLATIONS; AND INSPECTION, TESTING, AND PURGING.

1.5 PROJECT CONDITIONS

A. PERFORM SITE SURVEY. RESEARCH PUBLIC UTILITY RECORDS AND VERIFY EXISTING UTILITY LOCATIONS. CONTACT UTILITY - LOCATING SERVICE FOR AREA WHERE PROJECT IS LOCATED. PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. WHERE SUBPARAGRAPH TITLES BELOW INTRODUCE LISTS, THE FOLLOWING REQUIREMENTS APPLY FOR PRODUCT SELECTION:

1. AVAILABLE MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE. BUT ARE NOT LIMITED TO, THE MANUFACTURERS SPECIFIED.

2.2 PIPE AND FITTINGS

SEAT: GROUND JOINT

A. STEEL PIPE: ASTM A53, TYPE E OR S, GRADE B; SCHEDULE 40, BLACK

1. MALLEABLE IRON FITTINGS: ASME B16.3, CLASS 150, STANDARD PATTERN WITH THREADS COMPLYING WITH ASME B1.20.1.

3. STEEL FLANGES AND FLANGED FITTINGS: ASME B16.5.

B. PE PIPE: ASTM D2513, SDR11 1. PE FITTINGS: ASTM D 2683, SOCKET TYPE OR ASTM D 3261, BUTT TYPE WITH DIMENSIONS

MATCHING ASTM 2513, SDR 11 PE PIPE. C. TRANSITION FITTING: TYPE, MATERIAL AND WITH END CONNECTIONS MATCHING PIPING BEING P. DO NOT USE GAS PIPING AS GROUNDING ELECTRODE

RECOMMENDED BY PIPING MANUFACTURER.

A. SHUTOFF VALVES: MANUAL OPERATION VALVES SUITABLE FOR NATURAL GAS SERVICE AND

WITH 100-PSIG (690 KPA) MINIMUM WORKING PRESSURE RATING. B. THREADED VALVES, NPS 1 (DN 25) AND SMALLER: INCLUDE LISTING BY AGENCY ACCEPTABLE DETECTABLE WARNING TAPE DURING BACKFILLING OF TRENCHES FOR PIPING.

C. LUBRICATED, TAPERED PLUG VALVES: CAST IRON BODY, WITH LUBRICATED, BRASS TAPERED

PLUG; LEVER OPERATION; AND COMPLYING WITH ASME B16.33, MSS SP-78, UL 842, OR AGA/IAS LISTING. INCLUDE LEVER.

1. AVAILABLE MANUFACTURERS:

TO AUTHORITIES HAVING JURISDICTION.

A. NORDSTROM VALVES, INC B. NATIONAL METER. C. NORDSTROM VALVES, INC.

2. INCLUDE LOCKING DEVICE.

D. LUBRICATED PLUG VALVES: CAST IRON BODY, WITH LUBRICATED, TAPERED, OR CYLINDRICAL CONTROLS AND SAFETY DEVICES. PLUG; LEVER OPERATION; AND COMPLYING WITH ASME B16.38, MSS SP-78, UL-842, OR AGA/IAS

1. AVAILABLE MANUFACTURERS:

A. HUBER, J. M. CORP.; FLOW CONTROL DIV. B. MILLIKEN VALVE CO., INC.

C. NORDSTROM VALVES, INC D. OLSON TECHNOLOGIES, INC. HOMESTEAD VALVE DIV.;

2. INCLUDE LOCKING DEVICE.

E. WALWORTH CO.

E. PLASTIC VALVES: PE MADE FOR GAS DISTRIBUTION, WITH NUT OR FLAT HEAD FOR KEY OPERATION, AND COMPLYING WITH ASME B16.40, UL 842, OR AGA/IA LISTING.

1. AVAILABLE MANUFACTURERS:

A. KEROTEST MANUFACTURING CORP B. LYALL, R. W. & CO., INC.

C. NORDSTROM VALVES, INC. D. PERFECTION CORP.; GAS PRODUCTS DIV.

F. EARTHQUAKE VALVES: ANSI Z21.70, MECHANICAL OPERATION, AUTOMATIC SHUTOFF EARTHQUAKE VALVE. INCLUDE THREADED ENDS FOR NPS 2 AND SMALLER, AND FLANGED ENDS

FOR VALVES NPS 2-1/2 AND LARGER. 1. AVAILABLE MANUFACTURERS:

A. PACIFIC SEISMIC PRODUCTS, LTD. B. QUAKE DEFENSE, INC.; EMERGENCY FAIL SAFE SYSTEMS.

C. QUAKEMASTER SEISMIC SAFETY SYSTEMS.

D. SAFETQUAKE CORP.

E. SEISMIC SAFETY PRODUCTS, INC.

2.4 SPECIALTIES

A. VALVE BOXES: CAST IRON, TWO SECTION BOX. INCLUDE TOP SECTION WITH COVER WITH "GAS" LETTERING, BOTTOM SECTION WITH BASE TO FIT OVER VALVE AND BARREL 5 INCHES IN DIAMETER, AND ADJUSTABLE CAST IRON EXTENSION OF LENGTH REQUIRED FOR DEPTH OF BURY. INCLUDE TEE HANDLE, STEEL OPERATING WRENCH WITH SOCKET END FITTING VALVE NUT

OR FLAT HEAD AND STEM OF LENGTH REQUIRED TO OPERATE VALVE. B. SERVICE REGULATORS: AGA/IAS LISTED FOR SERVICE REGULATORS, SINGLE STAGE, STEEL JACKETED, AND CORROSION RESISTANT. INCLUDE ATMOSPHERIC VENT, ELEVATION COMPENSATOR, WITH THREADED ENDS FOR NPS 2 AND SMALLER AND FLANGED ENDS FOR NPS

2-1/2 AND LARGER. 1. AVAILABLE MANUFACTURERS:

A. AMERICAN METER CC B. EQUIMETER, INC.

C. FISHER CONTROLS INTERNATIONAL, INC. D. NATIONAL METER

E. SCHLUMBERGER INDUSTRIES; GAS DIV. C. REGULATOR VENTS: FACTORY OR FIELD INSTALLED, CORROSION RESISTANT SCREENED IN

D. SERVICE LINE RISERS: PE PIPE WITH COATED, ANNODELESS, STEEL PIPE CASING ON RISER

SECTION. INCLUDE INLET FOR HEAT FUSION CONNECTION TO PE PIPE AND OUTLET FOR

CONNECTION TO SHUTOFF VAI VE. E. STRAINERS: Y-PATTERN, FULL SIZE OF CONNECTING PIPING. INCLUDE ASTM A666, TYPE 304 STAINLESS STEEL SCREENS WITH 3/64 INCH PERFORATIONS, UNLESS OTHERWISE INDICATED.

1. PRESSURE RATING: 125-PSIG MINIMUM STEAM OR 175-PSIG WOG WORKING PRESSURE. 2. NPS 2 AND SMALLER: BRONZE BODY WITH FEMALE THREADED ENDS. 3. NPS 2-1/2 AND LARGER: CAST IRON BODY, WITH FLANGED ENDS.

4. SCREWED SCREEN RETAINER WITH CENTERED BLOWDOWN AND PIPE PLUG. :. CONCRETE BASES: PRECAST. REINFORCED. MADE OF 3000 PSI MINIMUM. 28 DAY COMPRESSIVE STRENGTH CONCRETE; AND 4 INCHES THICK AND 4 INCHES LARGER IN DIMENSION THAN SUPPORTED ITEM, UNLESS OTHERWISE INDICATED.

PART 3 EXECUTION

3.1 PREPARATION A. CLOSE EQUIPMENT SHUTOFF VALVES BEFORE TURNING OFF GAS TO PREMISES OR PIPING

SECTION. B. INSPECT NATURAL GAS PIPING ACCORDING TO NFPA 54 TO DETERMINE THAT NATURAL GAS

C. COMPLY WITH NFPA 54, PART 1, "PREVENTION OF ACCIDENTAL IGNITION" PARAGRAPH 3.2 PIPING APPLICATIONS

UTILIZATION DEVICES ARE TURNED OFF IN PIPING SECTION AFFECTED.

A. FLANGES, UNIONS, TRANSITION AND SPECIAL FITTINGS, AND VALVES WITH PRESSURE RATINGS REQUIRED SAME OR HIGHER THAN SYSTEM PRESSURE RATING MAY BE USED, UNLESS OTHERWISE

B. ABOVEGROUND PIPING: STEEL PIPE, MALLEABLE IRON FITTINGS, AND THREADED JOINTS. C. UNDERGROUND PIPING: USE PE PIPE, PE FITTINGS, AND HEAT FUSION JOINTS.

3.3 VALVE APPLICATIONS

HAVING THREADED PIPE CONNECTION.

A. CONNECTIONS TO EXISTING GAS PIPING: USE VALVE AND FITTING ASSEMBLIES MADE FOR

C. ABOVEGROUND, NPS 2 AND SMALLER: LUBRICATED TAPERED PLUG VALVES.

D. ABOVEGROUND, NPS 2-1/2 AND LARGER: LUBRICATED PLUG VALVES. 3.4 INSTALLATION

A. INSTALL UNIONS, IN PIPING NPS 2 AND SMALLER AND FLANGES IN PIPING NPS 2-1/2 AND LARGER, ADJACENT TO EACH VALVE AND AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT

B. INSTALL BURIED GAS DISTRIBUTION PIPING AT LEAST 36 INCHES. C. DRIPS AND SEDIMENT TRAPS: INSTALL DRIPS AT POINTS WHERE CONDENSATE MAY COLLECT, $\,\,$ 2.3 PROTECTIVE COATING INCLUDING SERVICE METER OUTLETS, LOCATE WHERE READILY ACCESSIBLE TO PERMIT

CLEANING AND EMPTYING. DO NOT INSTALL WHERE CONDENSATE WOULD BE SUBJECT TO 1. CONSTRUCT DRIPS AND SEDIMENT TRAPS USING TEE FITTING WITH BOTTOM OUTLET PLUGGED 2.4 SPECIALTIES OR CAPPED. USE MINIMUM LENGTH NIPPLE OF THREE PIPE DIAMETERS, BUT NOT LESS THAN 3

INCHES LONG AND SAME SIZE AS CONNECTED PIPE. INSTALL WITH SPACE BELOW BOTTOM OF DRIP TO REMOVE PLUG OR CAP. D. INSTALL STRAINERS ON INSET SIDE OF SERVICE REGULATORS AND EARTHQUAKE VALVES. E. TERMINATE VENT PIPING WITH TURNED DOWN, REDUCING ELBOW FITTINGS WITH CORROSION 2.5 VALVES

RESISTANT INSECT SCREENS IN LARGE END. F. INSTALL UNDERGROUND, PLASTIC, GAS DISTRIBUTION PIPING ACCORDING TO ASTM 2774.

G. INSTALL PLASTIC SHUTOFF VALVES ON BRANCH CONNECTIONS TO EXISTING UNDERGROUND GAS DISTRIBUTION PIPING. INSTALL VALVES WITH VALVE BOXES.

H. INSTALL METAL SHUTOFF VALVES ON ABOVEGROUND. GAS DISTRIBUTION PIPING. I. INSTALL ABOVEGROUND, METAL SHUTOFF VALVES IN ACCESSIBLE LOCATIONS, PROTECTED FROM PHYSICAL DAMAGE. INCLUDE METAL TAG INDICATING PIPING SYSTEMS SUPPLIED. ATTACHED TO VALVE WITH METAL CHAIN.

J. INSTALL METAL SHUTOFF VALVES AND STRAINERS UPSTREAM FROM SERVICE REGULATORS. SHUTOFF VALVES ARE NOT REQUIRED AT SECOND REGULATORS IF TWO REGULATORS ARE

K. INSTALL METAL SHUTOFF VALVES UPSTREAM FROM SERVICE METERS. INSTALL DIELECTRIC F. PLUG VALVES, NPS 2-1/2 (DN65) AND LARGER: ASME B16.38 AND MSS SP-78 CAST IRON, FITTINGS DOWNSTREAM FROM SERVICE METERS.

L. INSTALL PRESSURE RELIEF OR PRESSURE LIMITING DEVICES SO THEY CAN BE READILY

OPERATED TO DETERMINE IF DEVICE IS FREE, TESTED TO DETERMINE PRESSURE AT WHICH THEY WILL OPERATE, AND EXAMINED FOR LEAKAGE IF CLOSED.

M. TERMINATE SERVICE - REGULATOR VENTS WITH TURNED DOWN, REDUCING ELBOW FITTINGS H. AUTOMATIC GAS VALVES: ANSI Z21.21, WITH MECHANICAL OPERATOR FOR ACTUATION BY WITH CORROSION RESISTANT INSECT SCREENS IN LARGE END

N. CONNECT GAS DISTRIBUTION PIPING TO NATURAL GAS SOURCE AND EXTEND TO SERVICE 2. UNIONS: ASME B16.39, CLASS 150, BLACK MALLEABLE IRON; FEMALE PATTERN; BRASS-TO-IRON METER ASSEMBLIES AND POINTS INDICATED. TERMINATE PIPING WITH CAPS, PLUGS, OR FLANGES. AS REQUIRED FOR PIPING MATERIAL. CONNECT TO BUILDING NATURAL GAS PIPING IF IT A. ASCO GENERAL CONTROLS. IS INSTALLED. REFER TO DIVISION 15 SECTION "FUEL GAS PIPING" FOR BUILDING NATURAL GAS

> O. INSTALL ABOVEGROUND, NATURAL GAS DISTRIBUTION PIPING UPSTREAM FROM EQUIPMENT SHUTOFF VALVES, ELECTRICALLY CONTINUOUS, AND BONDED TO GROUNDING ELECTRODE ACCORDING TO NFPA 70

Q. EQUIPMENT NAMEPLATES AND SIGNS: INSTALL ENGRAVED PLASTIC LAMINATE EQUIPMENT 1. COMPONENTS, TAPES, GASKETS, AND BOLTS AND NUTS: SUITABLE FOR NATURAL GAS AND AS NAMEPLATES AND SIGNS ON OR NEAR EACH SERVICE REGULATOR, METER, AND EARTHQUAKE

1. TEXT: DISTINGUISH BETWEEN MULTIPLE UNITS, INFORM OPERATOR OF OPERATIONAL

REQUIREMENTS. INDICATE SAFETY AND EMERGENCY PRECAUTIONS, AND WARN OF HAZARDS 1. AVAILABLE MANUFACTURERS: R. WARNING TAPES: ARRANGE FOR INSTALLATION OF CONTINUOUS, UNDERGROUND.

3.5 FIELD QUALITY CONTROL

A. INSPECT, TEST, AND PURGE NATURAL GAS DISTRIBUTION ACCORDING TO NFPA 54, PART 4. "INSPECTION, TESTING, AND PURGING," AND UTILITY REQUIREMENTS. REPAIR LEAKS AND DEFECTS WITH NEW MATERIALS TEST SYSTEM UNTIL THERE ARE NO LEAKS. REPORT TEST RESULTS IN WRITING TO AUTHORITIES HAVING JURISDICTION.

B. VERIFY CAPACITIES AND PRESSURE RATINGS OF SERVICE REGULATORS AND METERS AND

C. VERIFY CORRECT PRESSURE SETTINGS FOR SERVICE REGULATORS.

D. ADJUST CONTROLS AND SAFETY DEVICES. REPLACE DAMAGED AND MALFUNCTIONING

END OF SECTION 02553

SECTION 15194 - FUEL GAS PIPING PART 1 - GENERAL

1.0 CONTRACTOR IS TO INSTALL GAS PIPING FROM LANDLORD DESIGNATED AREA TO ROOFTOI UNIT. ALL PIPING SHALL BE BLACK STEEL SCH. 40 WELDED CONSTRUCTION AND SUPPORTED IN 2.6 METERS ACCORDANCE WITH LANDLORD DRAWINGS. GAS PIPING IN PLENUM AREA TO BE FULLY ENCASED WITH WELDED PIPE MINIMUM 2 PIPE SIZES LARGER THAN GAS PIPE AND VENTED DIRECTLY TO THE EXTERIOR. COORDINATE WITH LANDLORD AND UTILITY PRIOR TO BID.

A. THIS SECTION INCLUDES FUEL GAS PIPING, SPECIALTIES, AND ACCESSORIES WITHIN THE

1.2 PROJECT CONDITIONS A. GAS SYSTEM PRESSURES: TWO PRESSURE RANGES. PRIMARY PRESSURE IS MORE THAN 0.5 PSIG (3.45 KPA) BUT NOT MORE THAN 2.0 PSIG (13.8 KPA), AND IS REDUCED TO SECONDARY PRESSURE OF 0.5 PSIG (3.45 KPA) OR LESS.

A. PRODUCT DATA: CORRUGATED, STAINLESS STEEL TUBING SYSTEMS. INCLUDE ASSOCIATED COMPONENTS. 2. SPECIALTY VALVES. INCLUDE PRESSURE RATING, CAPACITY, SETTINGS, AND ELECTRICAL CONNECTION DATA OF SELECTED MODELS. 3. SERVICE METERS. INCLUDE PRESSURE RATING AND CAPACITY OF SELECTED MODELS. 4. PRESSURE REGULATORS. INCLUDE PRESSURE RATING, CAPACITY, AND SETTINGS OF

B. SHOP DRAWINGS: FOR FUEL GAS PIPING. INCLUDE PLANS AND ATTACHMENTS TO OTHER WORK. SHOW DIFFERENT PRESSURE ZONES AND INDICATE PRESSURE FOR EACH ZONE.

1. WIRING DIAGRAMS: POWER, SIGNAL, AND CONTROL WIRING.

C. FIELD QUALITY CONTROL TEST REPORTS.

D. OPERATION AND MAINTENANCE DATA.

NFPA 70, ARTICLE 100, BY A TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, AND MARKED FOR INTENDED USE. B. ANSI STANDARD: COMPLY WITH ANSI Z223.1, "NATIONAL FUEL GAS CODE."

C. FMG STANDARD: PROVIDE COMPONENTS LISTED IN FMG'S "FIRE PROTECTION APPROVAL GUIDE" IF SPECIFIED TO BE FMG APPROVED. D. IAS STANDARD: PROVIDE COMPONENTS LISTED IN IAS'S "DIRECTORY OF A. G. A. AND C. G. A

CERTIFIED APPLIANCES AND ACCESSORIES" IF SPECIFIED TO BE IAS LISTED. E. UL STANDARD: PROVIDE COMPONENTS LISTED IN UL'S "GAS AND OIL EQUIPMENT DIRECTORY" IF SPECIFIED TO BE UL LISTED.

A. EXISTING UTILITIES: DO NOT INTERRUPT UTILITIES SERVING FACILITIES OCCUPIED BY OWNER 3) NATIONAL METER. OR OTHERS UNLESS PERMITTED UNDER THE FOLLOWING CONDITIONS AND THEN ONLY AFTER

ARRANGING TO PROVIDE TEMPORARY UTILITY SERVICES ACCORDING TO REQUIREMENTS 1. NOTIFY ARCHITECT NOT LESS THAN TWO DAYS IN ADVANCE OF PROPOSED UTILITY

PART 2 - PRODUCTS 2.1 MANUFACTURERS

THREADED ENDS ACCORDING TO ASME B1.20.1.

A. WHERE SUBPARAGRAPH TITLES BELOW INTRODUCE LISTS, THE FOLLOWING REQUIREMENTS APPLY FOR PRODUCT SELECTION:

BUT ARE NOT LIMITED TO, THE MANUFACTURERS SPECIFIED. 2.2 PIPING MATERIALS

1. AVAILABLE MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS,

A. CORRUGATED, STAINLESS TUBING SYSTEMS: COMPLY WITH AGA LC1 AND INCLUDE THE FOLLOWING: 1. TUBING: CORRUGATED STAINLESS STEEL WITH PLASTIC JACKET OR COATING.

STRIKER PLATES: STEEL, DESIGNED TO PROTECT TUBING FROM PENETRATIONS. B. STEEL PIPE: ASTM A53; TYPE E OR S; GRADE B; SCHEDULE 40; BLACK.

1. MALLEABLE IRON THREADED FITTINGS: ASME B16.3, CLASS 150, STANDARD PATTERN, WITH

2. FITTINGS: COPPER ALLOY WITH ENDS MADE TO FIT CORRUGATED TUBING. INCLUDE ENDS

2. UNIONS: ASME B16.39, CLASS 150, MALLEABLE IRON WITH BRASS TO IRON SEAT, GROUND JOINT, AND THREADED ENDS ACCORDING TO ASME 1,20,1

3. CAST IRON FLANGES AND FLANGED FITTINGS: ASME B16.1. CLASS 125 4. STEEL WELDING FITTINGS: ASME B16.9, WROUGHT STEEL OR ASME B16.11, FORGED STEEL. D. PRESSURE REGULATOR VENTS: FACTORY OR FIELD INSTALLED, CORROSION RESISTANT 5. STEEL THREADED FITTINGS: ASME B16.11, FORGED STEEL WITH THREADED ENDS ACCORDING SCREEN IN OPENING IF NOT CONNECTED TO VENT PIPING. TO ASME B1.20.1 6. JOINT COMPOUND AND TAPE: SUITABLE FOR NATURAL GAS. 7. STEEL FLANGES AND FLANGED FITTINGS: ASME B16.5

C. SOFT COPPER TUBE: ASTM B88 TYPE L (ASTM B88M, TYPE B), WATER TUBE, ANNEALED COPPER FITTINGS: ASME B16.22. WROUGHT COPPER. STREAMLINED PATTERN.

8. GASKET MATERIAL: THICKNESS, MATERIAL, AND TYPE SUITABLE FOR NATURAL GAS.

2. BRAZING FILLER METALS: AWS A5.8, SILVER CLASSIFICATION BAG-1. FILLER METAL CONTAINING PHOSPHORUS IS PROHIBITED. D. TRANSITION FITTINGS: TYPE, MATERIAL, AND END CONNECTIONS TO MATCH PIPING BEING

A. FURNISH PIPE AND FITTINGS WITH FACTORY APPLIED, CORROSION RESISTANT POLYETHYLENE COATING FOR USE IN CORROSIVE ATMOSPHERE.

A. FLEXIBLE CONNECTORS: ANSI Z21.24, COPPER ALLOY. B. QUICK DISCONNECT DEVICES: ANSI Z21.41, CONVENIENCE OUTLETS AND MATCHING PLUG

LEVER HANDLE; 2 PSIG (13.8 KPA) MINIMUM PRESSURE RATING.

LUBRICATED PLUG VALVES, WITH 125 PSIG (860 KPA) PRESSURE RATING.

B. VALVES, NPS 2-1/2 -(DN50) AND LARGER: FLANGED ENDS ACCORDING TO ASME B16.5 FOR STEEL FLANGES AND ACCORDING TO ASME B16.24 FOR COPPER AND COPPER ALLOY FLANGES.

A. VALVES, NPS 2 (DN65) AND SMALLER: THREADED ENDS ACCORDING TO ASME B1.20.1 FOR

C. APPLIANCE CONNECTOR VALVES: ANSI Z21.15 AND IAS LISTED. D. GAS STOPS: BRONZE BODY WITH AGA STAMP, PLUG TYPE WITH BRONZE PLUG AND FLAT OR SQUARE HEAD, BALL TYPE WITH CHROME PLATED BRASS BALL AND LEVER HANDLE. OR BUTTERFLY VALVE WITH STAINLESS STEEL DISC AND FLUOROCARBON ELASTOMER SEAL AND

E. GAS VALVES, NPS 2 (DN 50) AND SMALLER: ASME B16.33 AND IAS LISTED BRONZE BODY AND 125 PSIG (860 KPA) PRESSURE RATING.

G. GENERAL DUTY VALVES, NPS 2-1/2 (DN65) AND LARGER: MSS SP-70, ASME B16.38, CAST IRON BODY GATE VALVES, OS&Y TYPE WITH SOLID WEDGE, SUITABLE FOR FUEL GAS SERVICE, WITH "WOG" INDICATED ON VALVE BODY, AND 125 PSIG (860 KPA) PRESSURE RATING.

APPLIANCE AUTOMATIC SHUTOFF DEVICE.

1. AVAILABLE MANUFACTURERS: B. AUTOMATIC SWITCH CO. C. DUNGS. KARL. INC). EATON CORP.; CONTROLS DIV. F ECLIPSE COMBUSTION INC. F. GAS PROTECTION SYSTEMS, INC. GPS G. HONEYWELL, INC. H. JOHNSON CONTROLS, INC I. ASCOLECTRIC, LTD.

. ELECTRICALLY OPERATED GAS VALVES: UL 429, BRONZE, ALUMINUM, OR CAST IRON BODY D. CONCEALED LOCATIONS: EXCEPT AS SPECIFIED BELOW, INSTALL CONCEALED GAS PIPING IN SOLENOID VALVE; 120 V AC, 60 HZ, CLASS - B, CONTINUOUS DUTY MOLDED COIL. INCLUDE NEMA AIRTIGHT CONDUIT CONSTRUCTED OF SCHEDULE 40, SEAMLESS, BLACK STEEL PIPE WITH ISC 6, TYPE - 4, COIL ENCLOSURE AND ELECTRICALLY OPENED AND CLOSED DUAL COILS. VALVE WELDED JOINTS. VENT CONDUIT TO OUTSIDE AND TERMINATE WITH SCREENED VENT CAP.

POSITION SHALL BE NORMALLY CLOSED.

A. ATKOMATIC VALVE CO., INC. B. AUTOMATIC SWITCH CO. C. DUNGS, KARL, INC. D. ECLIPSE COMBUSTION INC E. GOYEN VALVE CORP.

. MAGNATROL VALVE CORP. G. PARKER HANNIFIN CORP.; CLIMATE & INDUSTRIAL CONTROLS GROUP; SKINNER VALVE DIV. H. ASCO GENERAL CONTROLS. . EARTHQUAKE VALVES: FMG APPROVED OR LISTED IN IAS DIRECTORY AS COMPLYING WITH ANS

Z21.70 AND UL LISTED. INCLUDE MECHANICAL OPERATOR. 1. AVAILABLE MANUFACTURERS:

A. FMG LISTED EARTHQUAKE VALVES: 1) QUAKEMASTER SEISMIC SAFETY SYSTEMS.

B. UL LISTED EARTHQUAKE VALVES:

2) SEISMIC SAFETY PRODUCTS, INC.

SEISMIC VALVE CO., INC. 4) TECH, INC. - TREMBLER 5) WESTCOAST SEISMIC PROTECTION CO., LTD.

1) SAFE T QUAKE CORP.

ENERGY PACIFIC.

3) NATIONAL METER

A. SERVICE METERS: POSITIVE DISPLACEMENT TYPE SUITABLE FOR FUEL GAS SERVICE. INCLUDE METAL CASE, TEMPERATURE COMPENSATION, CORROSION RESISTANT INTERNAL

COMPONENTS, AND FLOW REGISTERED IN CUBIC FEET PER HOUR. 1. AVAILABLE MANUFACTURERS:

A. DIAPHRAGM TYPE SERVICE METERS: 1) BADGER METER, INC.; UTILITY PRODUCTS DIV. EQUIMETER. INC

4) SCHLUMBERGER INDUSTRIES; GAS DIV. 5) AMERICAN METER CO. B. ROTARY TYPE SERVICE METERS:

1) SCHLUMBERGER INDUSTRIES; GAS DIV. 2) AMERICAN METER CO. 2. NPS 2 (DN50) AND SMALLER: THREADED ENDS ACCORDING TO ASME B1.20.1 FOR PIPE 3. NPS 2-1/2 (DN65) AND LARGER: FLANGED ENDS ACCORDING TO ASME B16.5 FOR STEEL FLANGES AND ACCORDING TO ASME B16.24 FOR COPPER AND COPPER ALLOY FLANGES.

5. TYPE: ANSI B109.2, DIAPHRAGM, WITH CAPACITIES MORE THAN 500 CFH (3935 ML/S). 6. TYPE: ANSI B109.3. ROTARY. B. TURBINE METERS: AXIAL FLOW TYPE SUITABLE FOR FUEL GAS SERVICE. COMPLY WITH CONSTRUCTION CRITERIA FOR AXIAL FLOW, GAS TURBINE METERS IN ASME MFC-4M. INCLUDE

4. TYPE: ANSI B109.1. DIAPHRAGM, WITH CAPACITIES 500 CFH (3935 ML/S) AND LESS.

METAL BODY, CORROSION RESISTANT INTERNAL COMPONENTS, AND FLOW REGISTERED IN CUBIC FEET PER HOUR 1. AVAILABLE MANUFACTURERS:

A. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN B. EQUIMETER, INC. 2. NPS 2 AND SMALLER: THREADED ENDS ACCORDING TO ASME B1.20.1 FOR PIPE THREADS. 3. NPS 2-1/2 AND LARGER: FLANGED ENDS ACCORDING TO ASME B16.5 FOR STEEL FLANGES AND INSTRUCTIONS.

ACCORDING TO ASME B16.24 FOR COPPER AND COPPER ALLOY FLANGES. C. PRESSURE REGULATORS: SINGLE STAGE AND SUITABLE FOR FUEL GAS SERVICE. INCLUDE STEEL JACKET AND CORROSION RESISTANT COMPONENTS, ELEVATION COMPENSATOR, AND ATMOSPHERIC VENT.

1. AVAILABLE MANUFACTURERS: A. SERVICE PRESSURE REGULATORS:

1) EQUIMETER, INC 2) AMERICAN METER CO 4) RICHARDS INDUSTRIES, INC.; JORDAN VALVE DIV. 5) SCHLUMBERGER INDUSTRIES; GAS DIV.

1) DONKIN, BRYAN DONKIN RMG CANADA, LTD.

B. LINE PRESSURE REGULATORS:

2) HARPER WYMAN CO.

3) MAXITROL CO.

4) SCP_INC

2) COMBUSTION, INC. ECLIPSE 4) FISHER CONTROLS INTERNATIONAL, INC. 5) MAXITROL CO. 6) NATIONAL METER.

8) SCHLUMBERGER INDUSTRIES; GAS DIV. 9) AMERICAN METER CO. MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, C. APPLIANCE PRESSURE REGULATORS: 1) FATON CORP.: CONTROLS DIV

7) RICHARDS INDUSTRIES, INC.: JORDAN VALVE DIV.

5) CANADIAN METER CO., INC 2. NPS 2 AND SMALLER: THREADED ENDS ACCORDING TO ASME B1.20.1 FOR PIPE THREADS WITH THREADS ACCORDING TO ASME B1.20.1 IF CONNECTION TO THREADED PIPE OR FITTINGS IS 3. NPS 2-1/2 AND LARGER: FLANGED ENDS ACCORDING TO ASME B16.5 FOR STEEL FLANGES AND ACCORDING TO ASME B16.24 FOR COPPER AND COPPER ALLOY FLANGES.

> 4. SERVICE PRESSURE REGULATORS: ANSI Z21.80. INCLUDE 100 PSIG MINIMUM INLET PRESSURE 5. LINE PRESSURE REGULATORS: ANSI Z21.80 WITH 2 PSIG MINIMUM INLET PRESSURE RATING

6. APPLIANCE PRESSURE REGULATORS: ANSI Z21.18. REGULATOR MAY INCLUDE VENT LIMITING

DEVICE, INSTEAD OF VENT CONNECTION, IF APPROVED BY AUTHORITIES HAVING JURISDICTION.

PART 3 EXECUTION

3.1 PIPING APPLICATIONS A. USE FLANGES, UNIONS, TRANSITION, AND SPECIAL FITTINGS IN APPLICATIONS BELOW, UNLESS

1. NPS 1/2: AND SMALLER: NPS 3/4 STEEL PIPE, MALLEABLE IRON THREADED FITTINGS, AND 2. NPS 1/2: AND SMALLER: SOFT COPPER TUBE, COPPER FITTINGS, AND BRAZED JOINTS. 3. NPS 1/2: AND SMALLER: CORRUGATED, STAINLESS STEEL TUBING SYSTEM AND THREADED 4. NPS 3/4 AND NPS 1 STEEL PIPE, MALLEABLE IRON THREADED FITTINGS, AND THREADED

5. NPS 3/4 AND NPS 1: SOFT COPPER TUBE, COPPER FITTINGS, AND BRAZED JOINTS. NPS 3/4 AND NPS 1: CORRUGATED, STAINLESS STEEL TUBING SYSTEM AND THREADED JOINTS 7. NPS 1-1/4 TO NPS 4: STEEL PIPE, MALLEABLE IRON THREADED FITTINGS, AND THREADED

8. NPS 1-1/4 TO NPS 4: STEEL PIPE, STEEL WELDING FITTINGS, AND WELDED JOINTS. 9. LARGER THAN NPS 4: STEEL PIPE, STEEL WELDING FITTINGS, AND WELDED JOINTS.

3.2 VALVE APPLICATIONS A. APPLIANCE SHUTOFF VALVES FOR PRESSURE 0.5 PSIG OR LESS: APPLIANCE CONNECTOR

B. APPLIANCE SHUTOFF VALVES FOR PRESSURE 0.5 TO 2 PSIG: GAS STOP OR GAS VALVE.

C. PIPING LINE VALVES, NPS 2 AND SMALLER: GAS VALVE. D. PIPING LINE VALVES, NPS 2-1/2 AND LARGER: PLUG VALVE OR GENERAL DUTY VALVE.

F. VALVES AT SERVICE METER, NPS 2-1/2 AND LARGER: PLUG VALVE. 3.3 INSTALLATION

A. INSTALL SERVICE METER ASSEMBLIES ABOVEGROUND AND ON OR SUPPORTED OVER

PRECAST CONCRETE BASES, INCLUDE GAS VALVE OR PLUG VALVE STRAINER, SERVICE

5. INSTALL SERVICE METERS WITH CONNECTIONS NPS 1 AND SMALLER ON METER BARS.

E. VALVES AT SERVICE METER, NPS 2 AND SMALLER: GAS VALVE.

PRESSURE REGULATOR, SERVICE METER BAR FOR SERVICE METER WITH CONNECTIONS NPS 1 AND SMALLER, AND SERVICE METER FOR EACH ASSEMBLY. 1. INSTALL GAS VALVE OR PLUG VALVE AND STRAINER UPSTREAM FROM EACH SERVICE PRESSURE REGULATOR 2. INSTALL SERVICE PRESSURE REGULATORS WITH VENT OUTLET TURNED DOWN AND WITH CORROSION RESISTANT METAL INSECT SCREEN. 3. INSTALL PRESSURE GAGE DOWNSTREAM FROM EACH SERVICE PRESSURE REGULATOR 4. INSTALL SERVICE METERS DOWNSTREAM FROM SERVICE PRESSURE REGULATORS.

6. INSTALL SERVICE METERS WITH CONNECTIONS LARGER THAN NPS 1 SUPPORTED FROM PIPING OR SET ON CONCRETE BASES. B. SERVICE ENTRANCE PIPING: EXTEND FUEL GAS PIPING AND CONNECT TO FUEL GAS DISTRIBUTION FOR SERVICE ENTRANCE TO BUILDING 1. EXTERIOR FUEL GAS DISTRIBUTION SYSTEM PIPING, SERVICE PRESSURE REGULATOR, AND SERVICE METER WILL BE PROVIDED BY GAS UTILITY. 2. NATURAL GAS DISTRIBUTION SYSTEM PIPING, SERVICE PRESSURE REGULATOR, AND SERVICE METER ARE SPECIFIED IN DIVISION 2 SECTION "NATURAL GAS DISTRIBUTION." 3. INSTALL DIELECTRIC FITTING DOWNSTREAM FROM AND ADJACENT TO EACH SERVICE METER UNLESS METER IS SUPPORTED FROM SERVICE METER BAR WITH INTEGRAL DIELECTRIC FITTING. INSTALL SHUTOFF VALVE DOWN STREAM FROM AND ADJACENT TO DIFFECTRIC FITTING. REFER TO DIVISION 15 SECTION "BASIC MECHANICAL MATERIALS AND METHODS" FOR DIELECTRIC

1. ABOVE CEILING LOCATIONS: GAS PIPING MAY BE INSTALLED IN ACCESSIBLE SPACES. SUBJECT TO APPROVAL OF AUTHORITIES HAVING JURISDICTION, WHETHER OR NOT SUCH SPACES ARE USED AS PLENUMS. DO NOT LOCATE VALVES ABOVE CEILINGS 2. IN PARTITIONS: DO NOT INSTALL CONCEALED PIPING IN SOLID PARTITIONS. PROTECT TUBING FROM PHYSICAL DAMAGE WHEN INSTALLED INSIDE PARTITIONS OR HOLLOW WALLS. 3. IN WALLS: GAS PIPING WITH WELDED JOINTS AND PROTECTIVE WRAPPING SPECIFIED IN "PROTECTIVE COATING" ARTICLE IN PART 2 MAY BE INSTALLED IN MASONRY WALLS, SUBJECT TO APPROVAL OF AUTHORITIES HAVING JURISDICTION. 4. PROHIBITED LOCATIONS: DO NOT INSTALL GAS PIPING IN OR THROUGH CIRCULATING AIR DUCTS, CLOTHES OR TRASH CHUTES, CHIMNEYS OR GAS VENTS (FLUES), VENTILATING DUCTS.

E. DRIPS AND SEDIMENT TRAPS: INSTALL DRIPS AT POINTS WHERE CONDENSATE MAY COLLECT. INCLUDE OUTLETS OF SERVICE METERS. LOCATE WHERE READILY ACCESSIBLE FOR CLEANING AND EMPTYING. DO NOT INSTALL WHERE CONDENSATE WOULD BE SUBJECT TO FREEZING. 1. CONSTRUCT DRIPS AND SEDIMENT TRAPS USING TEE FITTING WITH BOTTOM OUTLET PLUGGED OR CAPPED. USE MINIMUM LENGTH NIPPLE OF 3 PIPE DIAMETERS, BUT NOT LESS THAN 3 INCHES

OR DUMBWAITER OR ELEVATOR SHAFTS.

WITH LEVEL SIDE DOWN.

3.4 HANGERS AND SUPPORTS

AND MINIMUM ROD SIZES:

LONG, AND SAME SIZE AS CONNECTED PIPE. INSTALL WITH SPACE BETWEEN BOTTOM OF DRIP AND FLOOR FOR REMOVAL OF PLUG OR CAP. F. CONCEAL PIPE INSTALLATIONS IN WALLS, PIPE SPACES, UTILITY SPACES, ABOVE CEILINGS,

BELOW GRADE OR FLOORS, AND IN FLOOR CHANNELS, UNLESS INDICATED TO BE EXPOSED TO

G. INSTALL FUEL GAS PIPING AT UNIFORM GRADE OF 0.1 PERCENT SLOPE UPWARD TOWARD

I. CONNECT BRANCH PIPING FROM TOP OR SIDE OF HORIZONTAL PIPING. J. INSTALL UNIONS IN PIPES NPS 2 AND SMALLER, ADJACENT TO EACH VALVE, AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT, AND ELSEWHERE AS INDICATED. UNIONS ARE NOT

H. USE ECCENTRIC REDUCER FITTINGS TO MAKE REDUCTIONS IN PIPE SIZES. INSTALL FITTINGS

K. INSTALL CORRUGATED, STAINLESS STEEL TUBING SYSTEM ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS. INCLUDE STRIKER PLATES TO PROTECT TUBING FROM PUNCTURE WHERE TUBING IS RESTRAINED AND CANNOT MOVE.

N. INSTALL FLANGES ON VALVES, SPECIALTIES, AND EQUIPMENT HAVING NPS 2-1/2 AND LARGER

L. INSTALL STRAINER ON INLET OF EACH LINE PRESSURE REGULATOR AND AUTOMATIC AND ELECTRICALLY OPERATED VALVE. M. INSTALL PRESSURE GAGE DOWNSTREAM FROM EACH LINE PRESSURE REGULATOR.

O. INSTALL VENT PIPING FOR GAS PRESSURE REGULATORS AND GAS TRAINS, EXTEND OUTSIDE BUILDING. AND VENT TO ATMOSPHERE. TERMINATE VENTS WITH TURNED DOWN, REDUCING ELBOW FITTINGS WITH CORROSION RESISTANT INSECT SCREENS IN LARGE END.

1. NPS 1 AND SMALLER: MAXIMUM SPAN, 96 INCHES; MINIMUM ROD SIZE, 3/8 INCH. 2. NPS 1-1/4: MAXIMUM SPAN 108 INCHES; MINIMUM ROD SIZE, 3/8 INCH. 3. NPS 1 -1/2 AND NPS 2: MAXIMUM SPAN 108 INCHES; MINIMUM ROD SIZE, 3/8 INCH. 4. NPS 2-1/2 TO NPS 3-1/2: MAXIMUM SPAN 10 FEET; MINIMUM ROD SIZE, 1/2 INCH.

5. NPS 4 AND LARGER: MAXIMUM SPAN 10 FEET; MINIMUM ROD SIZE, 5/8 INCH.

A. INSTALL HANGERS FOR HORIZONTAL STEEL PIPING WITH THE FOLLOWING MAXIMUM SPACING

C. INSTALL HANGERS FOR HORIZONTAL CORRUGATED, STAINLESS STEEL TUBING WITH THE FOLLOWING MAXIMUM SPACING AND MINIMUM ROD SIZES: 1. NPS 3/8 AND NPS 1/2: MAXIMUM SPAN, 48 INCHES; MINIMUM ROD SIZE, 3/8 INCH. 2. NPS 3/4 AND NPS 1: MAXIMUM SPAN, 72 INCHES; MINIMUM ROD SIZE, 3/8 INCH 3. OPTION: SUPPORT TUBING FROM STRUCTURE ACCORDING TO MANUFACTURER'S WRITTEN

A. INSTALL PIPING ADJACENT TO APPLIANCES TO ALLOW SERVICE AND MAINTENANCE. CONNECT PIPING TO APPLIANCES USING GAS WITH SHUTOFF VALVES AND UNIONS. INSTALL VALVE UPSTREAM FROM AND WITHIN 72 INCHES OF EACH APPLIANCE. INSTALL UNION DOWNSTREAM

A. INSPECT, TEST, AND PURGE PIPING ACCORDING TO ANSI Z223.1. PART 4 "INSPECTION. TESTING.

DEFECTS WITH NEW MATERIALS AND RETEST SYSTEM UNTIL SATISFACTORY RESULTS ARE

AND PURGING," AND REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION. REPAIR LEAKS AND

END OF SECTION 15194 9-28-07

3.6 FIELD QUALITY CONTROL

STANDARD NOTES SHOWN ON THIS SHEET ARE INTENDED TO BE GENERAL AND MAY NOT BE SPECIFIC OR APPLICABLE TO THIS PROJECT

2009 INTERNATIONAL FUEL GAS CODE TABLE 402.4(2) MAXIMUM CAPACITY OF PIPE IN CUBIC FEET OF GAS PER HOUR (CFH) FOR GAS PRESSURES OF <2 PSI AND A PRESSURE DROP OF 0.5 INCH WATER COLUMN

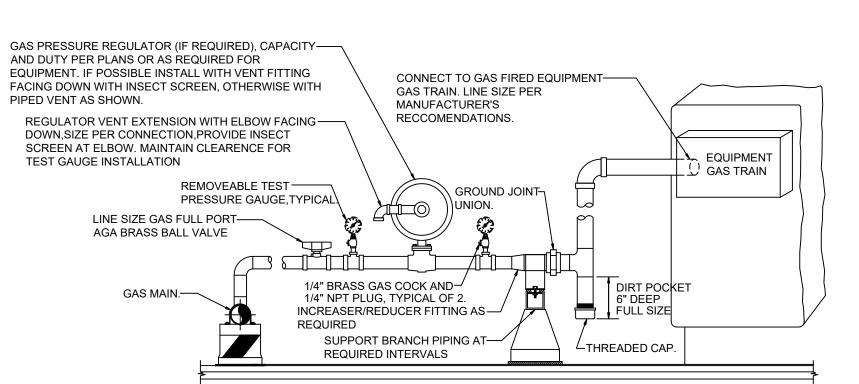
| NOM. PIPE SIZE | INSIDE DIA. (INCHES) | | LENGTH OF PIPE (FEET) | | | | | | | | | | | | | | |
|----------------------|----------------------------|--------|-----------------------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| (INCHES) | (| 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 125 | 150 | 175 | 200 | 250 | 300 |
| 1/2 | 0.622 | 172 | 118 | 95 | 81 | 72 | 65 | 60 | 56 | 52 | 50 | 44 | 40 | 37 | 34 | 30 | 27 |
| 3/4 | 0.824 | 360 | 247 | 199 | 170 | 151 | 137 | 126 | 117 | 110 | 104 | 92 | 83 | 77 | 71 | 63 | 57 |
| 1 | 1.049 | 678 | 466 | 374 | 320 | 284 | 257 | 237 | 220 | 207 | 195 | 173 | 157 | 144 | 134 | 119 | 108 |
| 1 1/4 | 1.380 | 1,390 | 957 | 768 | 657 | 583 | 528 | 486 | 452 | 424 | 400 | 355 | 322 | 296 | 275 | 244 | 221 |
| 1 1/2 | 1.610 | 2,090 | 1,430 | 1,150 | 985 | 873 | 791 | 728 | 677 | 635 | 600 | 532 | 482 | 443 | 412 | 366 | 331 |
| 2 | 2.067 | 4,020 | 2,760 | 2,200 | 1,900 | 1,680 | 1,520 | 1,400 | 1,300 | 1,220 | 1,160 | 1,020 | 928 | 854 | 794 | 704 | 638 |
| 2 1/2 | 2.469 | 6,400 | 4,400 | 3,530 | 3,020 | 2,680 | 2,430 | 2,230 | 2,080 | 1,950 | 1,840 | 1,630 | 1,480 | 1,360 | 1,270 | 1,120 | 1,020 |
| 3 | 3.068 | 11,300 | 7,780 | 6,250 | 5,350 | 4,740 | 4,290 | 3,950 | 3,670 | 3,450 | 3,260 | 2,890 | 2,610 | 2,410 | 2,240 | 1,980 | 1,800 |
| 4 | 4.026 | 23,100 | 15,900 | 12,700 | 10,900 | 9,660 | 8,760 | 8,050 | 7,490 | 7,030 | 6,640 | 5,890 | 5,330 | 4,910 | 4,560 | 4,050 | 3,670 |

) THIS CHART IS TO BE USED AS A GUIDE AND NOT FOR DESIGN PURPOSES. CONTRACTOR TO VERIFY THAT EXISTING GAS PIPING MEETS OR EXCEEDS THE REQUIREMENTS OF HE CHART FOR THE GAS UNITS SPECIFIED AND / OR INSTALLED OR IF GAS PIPING DRAWINGS ARE REQUIRED BY LOCAL AUTHORITIES, CONTACT TENANT AND TENANT'S ARCHITECT IMMEDIATELY

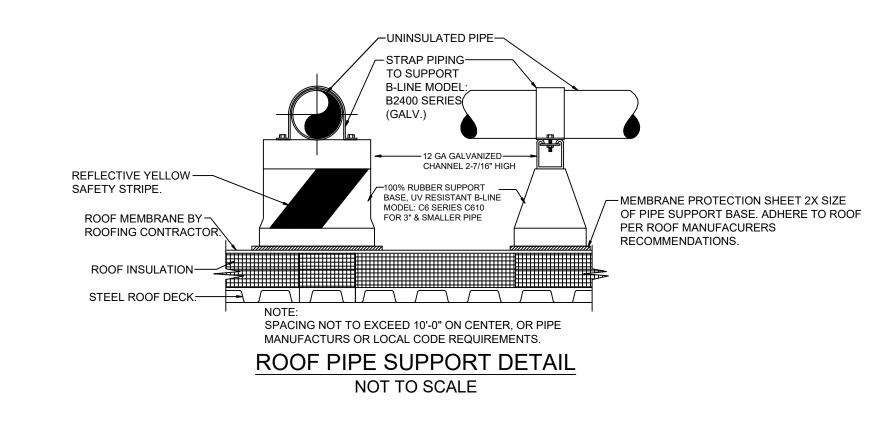
CONSTRUCTION AND SUPPORTED IN ACCORDANCE WITH LANDLORD DRAWINGS. GAS PIPING IN PLENUM AREA TO BE FULLY ENCASED WITH WELDED PIPE MINIMUM 2 PIPE SIZES

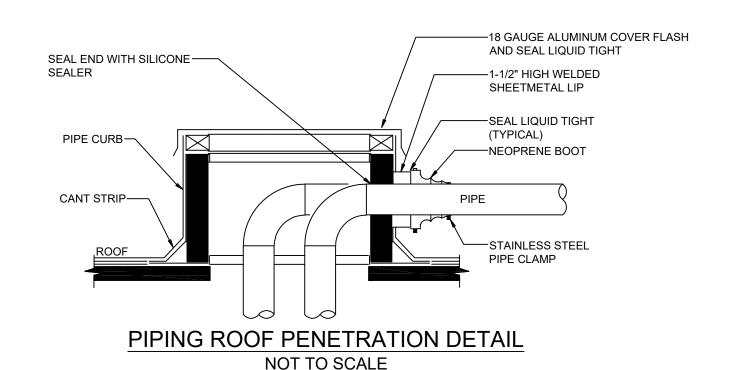
2) TO OBTAIN CUBIC FEET OF GAS PER HOUR (CFH) DIVIDE TOTAL BTUH OF SYSTEM BY 1,025. FOR EXAMPLE: 180,000 BTUH / (1,025 BTUH/CFH) = 175.6 CFH. 3) THE LENGTH OF PIPE IS TO BE THE LONGEST RUN OF PIPE FROM THE METER / PRESSURE REDUCING STATION TO THE FURTHEST GAS APPLIANCE. 4. CONTRACTOR IS TO INSTALL GAS PIPING FROM THE DESIGNATED POINT OF CONNECTION TO GAS FIRED APPLIANCES. ALL PIPING SHALL BE BLACK STEEL SCH. 40 WELDED

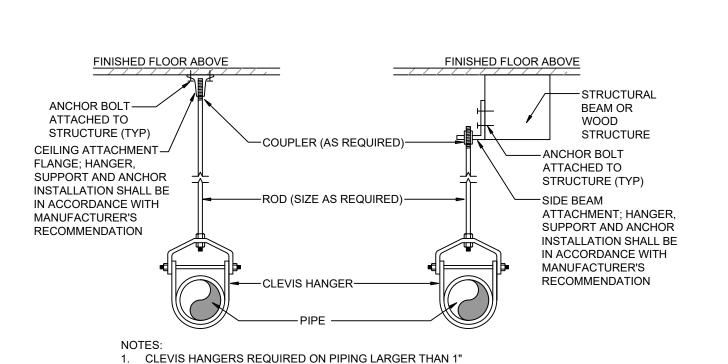
LARGER THAN GAS PIPE AND VENTED DIRECTLY TO THE EXTERIOR. COORDINATE WITH OWNER AND UTILITY PRIOR TO BID.



OUTDOOR GAS FIRED EQUIPMENT TYPICAL GAS CONNECTION







GAS PIPE HANGING DETAIL

| 7 FEET | 7 | 7 | 9 | 10 | 11 | 12 | 14 | 16 | 17 | 19 | 22 | 23 | 25 | 27 | 28 | 30 | 32

1 1/4" | 1 1/2" | 2 | 2 1/2 | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24

PO Box 612, Budd Lake, NJ 07828

Tel/Fax: 973-527-7691

www.frontier-es.com

Norwescap

Old Sullivan Building

Remodeling Project

371 S Main Street

Phillipsburg, NJ 08865

Warren County

350 Marshall Stree

Phillipsburg, NJ 08865

312 State Route 10, Randolph, NJ 07869

Tel: 973.442.5880 Fax: 973.442.588

BLOCK:

PROJECT LOCATION

LOT:

CONSULTANT

ssues and Revisions Issues and Revisions 05/17/24 | ISSUED FOR PERMIT

MICHAEL J. SCHLICK, P.E. N.J. LICENSE NUMBER: 24GE04904300 C.O.A. NUMBER: 24GA28244900

GAS PIPING - GENERAL NOTES AND

Registration and Signature

Computer File

All drawings and written material appearing herein constitute original and unpublished work of the architect and may not be duplicated. used or disclosed without written consent of the architect. ©2023 BEN HORTEN All Rights Reserved

2 GENERAL GAS DETAILS

NOM. SIZE | THRU 3/4" |

MAXIMUM PIPE/TUBING SUPPORT SPACING, FEET

5 FEET | 6 | 7 | 8 | 8 | 9 | 10 | 12 | 13 | 14 | 16 | - | - | - | - |

SEISMIC BRACING NOT SHOWN

NOTE: FOR TRAPEZE HANGER TAKE SMALLEST SIZE ON TRAPEZE

- 2 CONNECT NEW 3" SANITARY PIPING TO THE EXISTING SANITARY MAIN. VERIFY EXISTING CONDITIONS AND EXACT POINT OF CONNECTION PRIOR TO BID.
- 3 CONNECT NEW 2" SANITARY PIPING TO THE EXISTING SANITARY MAIN. VERIFY EXISTING CONDITIONS AND EXACT POINT OF CONNECTION PRIOR TO BID.
- NEW HOT WATER HEATER AND MIXING VALVE. VERIFY EXISTING CONDITIONS AND EXACT POINT OF INSTALLATION PRIOR TO BID.
- ONNECT NEW 1-1/4" GAS PIPING TO THE EXISTING GAS PIPING MAIN. VERIFY EXISTING CONDITIONS AND EXACT POINT OF CONNECTION PRIOR TO BID.
- 6 PIPING UP TO THE FIXTURES ABOVE.
- 7 2" PUMPED WATER UP TO THE FLOOR ABOVE.

| | PLUMBING | G LEGEND | |
|--------------------------------------|-----------|-----------------------------|---------|
| COLD WATER LINE | cw | HOT WATER LINE (140 DEG F) | —— нw — |
| GAS LINE | —— GAS —— | TEMP WATER LINE (110 DEG F) | —— THW— |
| SANITARY LINE | | VENT LINE | |
| NITROGEN LINE | NIT | COMPRESSED AIR LINE | — СА — |
| GAS METER | M | PRESSURE REDUCING VALVE | PRV |
| WATER METER | M M | GATE VALVES | ₩ 🖟 🛠 |
| BALL VALVES | 日日日日 | TRAP PRIMER | d |
| TEMPERATURE PRESSURE-RELIEF VALVE | \$ | VACUUM RELIEF VALVE | 4 |
| MIXING VALVE | | WATER HAMMER ARRESTERS | |
| BACK-FLOW PREVENTER | NI WIN | EXPANSION TANK | 9 |

| ABBR. | DESCRIPTION |
|-------------|---|
| ABBIN. A | AMP |
| AC | ABOVE CEILING |
| AFF | ABOVE FINISHED FLOOR |
| AHU | AIR HANDLING UNIT |
| AWG | AMERICAN WIRE GAUGE |
| С | CONDUIT |
| CATV | CABLE TV |
| СН | COUNTER HEIGHT |
| D | EXISTING EQUIPMENT/DEVICE TO BE REMOVED |
| EF | EXHAUST FAN |
| EM | EMERGENCY |
| EX | EXISTING EQUIPMENT/DEVICE TO REMAIN |
| F | FUSED |
| FA | FIRE ALARM |
| FD | FIRE DAMPER |
| GFI | GROUND FAULT CIRCUIT INTERRUPTER |
| IG | ISOLATED GROUND |
| MD | MOTORIZED DAMPER |
| N | NEW EQUIPMENT/DEVICE |
| NL | NIGHT LIGHT |
| PP | POWER POLE |
| RE | RELOCATE EXISTING EQUIPMENT/DEVICE |
| RTU | ROOF TOP UNIT |
| SD | SMOKE DAMPER |
| TEL | TELEPHONE |
| UC | UNDER CABINET |
| UG | UNDERGROUND |
| UL | UNDERWRITERS LABORATORIES INC. |
| UPS | UNINTERRUPTIBLE POWER SUPPLY |
| W | WATT |
| WH | WATER HEATER |
| WP | WEATHERPROOF |
| | <u> </u> |

INTENDED TO BE GENERAL AND MAY NOT BE SPECIFIC OR APPLICABLE TO THIS PROJECT.

STANDARD LEGEND AND ABBREVIATIONS SHOWN ON THIS SHEET ARE

Norwescap
Old Sullivan Building Remodeling Project PROJECT LOCATION LOT: BLOCK: 371 S Main Street Phillipsburg, NJ 08865

NORWESCAP 350 Marshall Street

Phillipsburg, NJ 08865

Warren County



HORTEN architecture & design 312 State Route 10, Randolph, NJ 07869 Tel: 973.442.5880 Fax: 973.442.5886



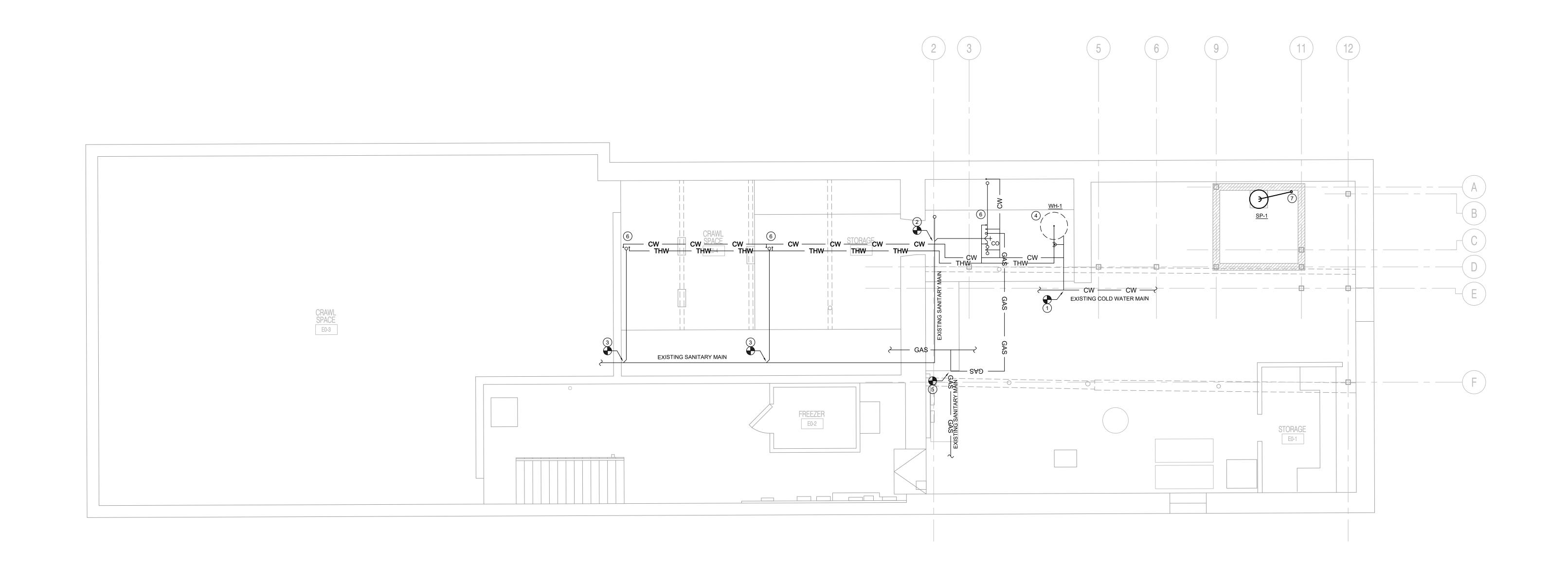
www.frontier-es.com

Issues and Revisions

No. Date Issues and Revisions 1. 05/17/24 ISSUED FOR PERMIT

> N.J. LICENSE NUMBER: 24GE04904300 C.O.A. NUMBER: 24GA28244900

PLUMBING - PLAN



- 2 NEW 1/2" COLD WATER, 1/2" TEMPERED WATER, AND 1-1/4" GAS PIPING DOWN TO THE FLOOR BELOW.
- 3 PIPING UP TO THE FIXTURES ABOVE. CAREFULLY COORDINATE PIPING IN THE SOFFIT WITH OTHER TRADES.
- 4 2" PUMPED WATER FROM THE FLOOR BELOW.

| | PLUMBING LEGEND | | | | | | | | | | |
|--------------------------------------|-----------------|------------|-----------------------------|----------|--|--|--|--|--|--|--|
| COLD WATER LINE | CW | · —— | HOT WATER LINE (140 DEG F) | —— нw —— | | | | | | | |
| GAS LINE | —— GAS | s — | TEMP WATER LINE (110 DEG F) | THW | | | | | | | |
| SANITARY LINE | | _ | VENT LINE | | | | | | | | |
| NITROGEN LINE | NIT | | COMPRESSED AIR LINE | —— CA —— | | | | | | | |
| GAS METER | M | | PRESSURE REDUCING VALVE | PRV | | | | | | | |
| WATER METER | М | M | GATE VALVES | M & & 1 | | | | | | | |
| BALL VALVES | 6 5 6 | (5) | TRAP PRIMER | * | | | | | | | |
| TEMPERATURE PRESSURE-RELIEF VALVE | | * | VACUUM RELIEF VALVE | 4 | | | | | | | |
| MIXING VALVE | ∑ | * | WATER HAMMER ARRESTERS | | | | | | | | |
| BACK-FLOW PREVENTER | NI LI | N N | EXPANSION TANK | ð | | | | | | | |

| PLUMBING LEGEND | | | | | | | | | | |
|--------------------------------------|----------|-------|-----------------------------|----------|--|--|--|--|--|--|
| COLD WATER LINE | c | :W | HOT WATER LINE (140 DEG F) | —— HW —— | | | | | | |
| GAS LINE | —— G | AS | TEMP WATER LINE (110 DEG F) | THW | | | | | | |
| SANITARY LINE | | | VENT LINE | | | | | | | |
| NITROGEN LINE | N | IT —— | COMPRESSED AIR LINE | —— СА — | | | | | | |
| GAS METER | M | | PRESSURE REDUCING VALVE | PRV | | | | | | |
| WATER METER | M | M | GATE VALVES | № № № | | | | | | |
| BALL VALVES | log Dy l | 61 05 | TRAP PRIMER | \$ | | | | | | |
| TEMPERATURE PRESSURE-RELIEF VALVE | | * | VACUUM RELIEF VALVE | 4 | | | | | | |
| MIXING VALVE | X | ** | WATER HAMMER ARRESTERS | | | | | | | |
| BACK-FLOW PREVENTER | N. T. | | EXPANSION TANK | Ð | | | | | | |

INTENDED TO BE GENERAL AND MAY NOT BE SPECIFIC OR APPLICABLE TO THIS PROJECT.

STANDARD LEGEND AND ABBREVIATIONS SHOWN ON THIS SHEET ARE

WP WEATHERPROOF

| | | PROJECT |
|-------|---|--|
| | ABBREVIATIONS | Norwescap |
| ABBR. | DESCRIPTION | |
| Α | AMP | 🗌 Old Sullivan Building |
| AC | ABOVE CEILING | |
| AFF | ABOVE FINISHED FLOOR | Remodeling Project |
| AHU | AIR HANDLING UNIT | |
| AWG | AMERICAN WIRE GAUGE | PROJECT LOCATION |
| С | CONDUIT | |
| CATV | CABLE TV | LOT: BLOCK |
| СН | COUNTER HEIGHT | 371 S Main Street |
| D | EXISTING EQUIPMENT/DEVICE TO BE REMOVED | Phillipsburg, NJ 08865 |
| EF | EXHAUST FAN | |
| EM | EMERGENCY | Warren County |
| EX | EXISTING EQUIPMENT/DEVICE TO REMAIN | CLIENT: |
| F | FUSED | NORWESCAP |
| FA | FIRE ALARM | |
| FD | FIRE DAMPER | 350 Marshall Street |
| GFI | GROUND FAULT CIRCUIT INTERRUPTER | Phillipsburg, NJ 08865 |
| IG | ISOLATED GROUND | ADCHITECT |
| MD | MOTORIZED DAMPER | ARCHITECT |
| N | NEW EQUIPMENT/DEVICE | HORTEN |
| NL | NIGHT LIGHT | architecture & design |
| PP | POWER POLE | 312 State Route 10, Randolph, NJ 07869 |
| RE | RELOCATE EXISTING EQUIPMENT/DEVICE | Tel: 973.442.5880 Fax: 973.442.5880 |
| RTU | ROOF TOP UNIT | CONSULTANT |
| SD | SMOKE DAMPER | |
| TFI | TELEPHONE | |

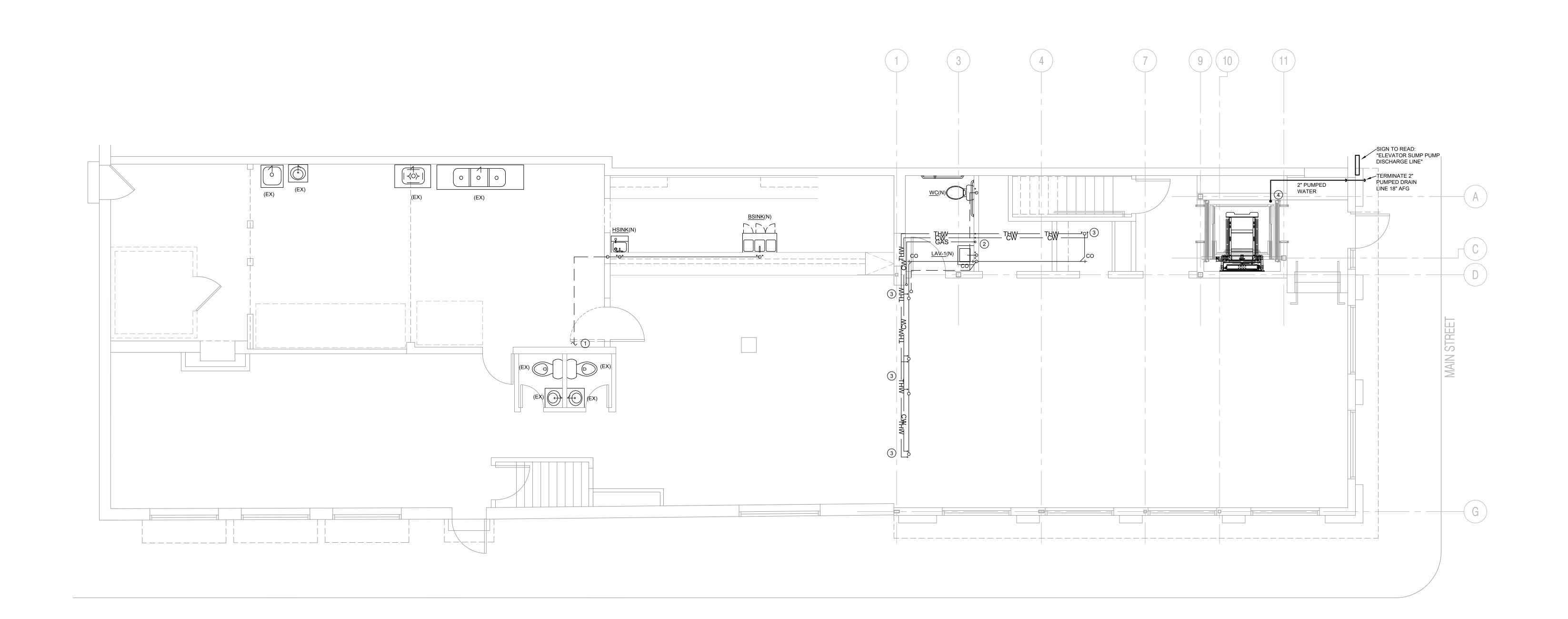
TEL TELEPHONE UC UNDER CABINET UG UNDERGROUND UL UNDERWRITERS LABORATORIES INC. UPS UNINTERRUPTIBLE POWER SUPPLY WH WATER HEATER

1. 05/17/24 ISSUED FOR PERMIT

PO Box 612, Budd Lake, NJ 07828 Tel/Fax: 973-527-7691 www.frontier-es.com

MICHAEL J. SCHLICK, P.E. N.J. LICENSE NUMBER: 24GE04904300 C.O.A. NUMBER: 24GA28244900

PLUMBING - PLAN



| | PLUMBIN | G LEGEND | |
|--------------------------------------|------------|-----------------------------|----------|
| COLD WATER LINE | cw | HOT WATER LINE (140 DEG F) | —— HW —— |
| GAS LINE | —— GAS —— | TEMP WATER LINE (110 DEG F) | THW |
| SANITARY LINE | | VENT LINE | |
| NITROGEN LINE | NIT | COMPRESSED AIR LINE | —— CA —— |
| GAS METER | M | PRESSURE REDUCING VALVE | PRV |
| WATER METER | M M | GATE VALVES | M & & 1 |
| BALL VALVES | 日日日日 | TRAP PRIMER | \$ |
| TEMPERATURE PRESSURE-RELIEF VALVE | 4 | VACUUM RELIEF VALVE | Ą |
| MIXING VALVE | № ≫ | WATER HAMMER ARRESTERS | |
| BACK-FLOW PREVENTER | | EXPANSION TANK | 9 |

STANDARD LEGEND AND ABBREVIATIONS SHOWN ON THIS SHEET ARE INTENDED TO BE GENERAL AND MAY NOT BE SPECIFIC OR APPLICABLE TO THIS PROJECT.

| | ABBREVIATIONS | |
|---|---------------|---|
| | ABBR. | DESCRIPTION |
| | Α | AMP |
| | AC | ABOVE CEILING |
| | AFF | ABOVE FINISHED FLOOR |
| | AHU | AIR HANDLING UNIT |
| # | AWG | AMERICAN WIRE GAUGE |
| | С | CONDUIT |
| | CATV | CABLE TV |
| | СН | COUNTER HEIGHT |
| | D | EXISTING EQUIPMENT/DEVICE TO BE REMOVED |
| | EF | EXHAUST FAN |
| | EM | EMERGENCY |
| | EX | EXISTING EQUIPMENT/DEVICE TO REMAIN |
| | F | FUSED |
| | FA | FIRE ALARM |
| | FD | FIRE DAMPER |
| | GFI | GROUND FAULT CIRCUIT INTERRUPTER |
| | IG | ISOLATED GROUND |
| | MD | MOTORIZED DAMPER |
| | N | NEW EQUIPMENT/DEVICE |
| | NL | NIGHT LIGHT |
| | PP | POWER POLE |
| | RE | RELOCATE EXISTING EQUIPMENT/DEVICE |
| | RTU | ROOF TOP UNIT |
| | SD | SMOKE DAMPER |
| | TEL | TELEPHONE |
| | UC | UNDER CABINET |
| | UG | UNDERGROUND |
| | UL | UNDERWRITERS LABORATORIES INC. |
| | UPS | UNINTERRUPTIBLE POWER SUPPLY |
| | W | WATT |
| | WH | WATER HEATER |
| | WP | WEATHERPROOF |
| | | |

| | es and Revi | | | Ta |
|-----|-------------|----------------------|----|-------|
| No. | Date | Issues and Revisions | Ву | Check |
| 1. | 05/17/24 | ISSUED FOR PERMIT | MS | MS |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Norwescap
Old Sullivan Building
Remodeling Project

371 S Main Street

Phillipsburg, NJ 08865

Warren County

NORWESCAP

350 Marshall Street

Phillipsburg, NJ 08865

PO Box 612, Budd Lake, NJ 07828 Tel/Fax: 973-527-7691 www.frontier-es.com

HORTEN architecture & design

312 State Route 10, Randolph, NJ 07869 Tel: 973.442.5880 Fax: 973.442.5886

BLOCK:

PROJECT LOCATION

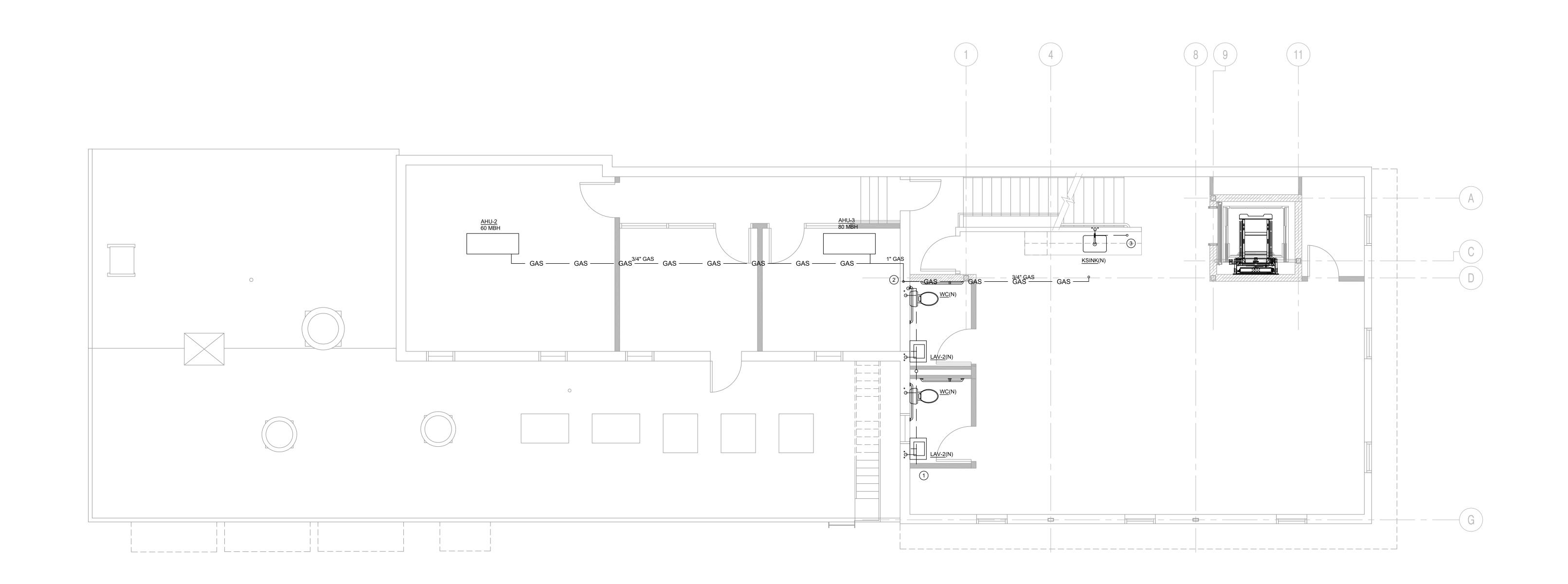
LOT:

MICHAEL J. SCHLICK, P.E. N.J. LICENSE NUMBER: 24GE04904300 C.O.A. NUMBER: 24GA28244900

PLUMBING - PLAN

All drawings and written material appearing herein constitute original and unpublished work of the architect and may not be duplicated, used or disclosed without written consent of the architect.

©2023 BEN HORTEN All Rights Reserved



KEY NOTES

NEW 2" VENT THROUGH THE ROOF.

3 NEW 2" VENT UP TO THE FLOOR ABOVE.

2 NEW 1-1/4" GAS PIPING DOWN TO THE FLOOR BELOW.

PLUMBING LEGEND COLD WATER LINE ─ CW ── HOT WATER LINE (140 DEG F) — TEMP WATER LINE (110 DEG F) THW GAS LINE SANITARY LINE _ __ _ _ NITROGEN LINE --- NIT ---- COMPRESSED AIR LINE — CA — PRESSURE REDUCING VALVE PRV GAS METER M ₩ \$ \$ \$ GATE VALVES WATER METER BALL VALVES TEMPERATURE PRESSURE-RELIEF VALVE VACUUM RELIEF VALVE WATER HAMMER ARRESTERS MIXING VALVE BACK-FLOW PREVENTER EXPANSION TANK

| | ABBREVIATIONS |
|-------|---|
| ABBR. | DESCRIPTION |
| Α | AMP |
| AC | ABOVE CEILING |
| AFF | ABOVE FINISHED FLOOR |
| AHU | AIR HANDLING UNIT |
| AWG | AMERICAN WIRE GAUGE |
| С | CONDUIT |
| CATV | CABLE TV |
| СН | COUNTER HEIGHT |
| D | EXISTING EQUIPMENT/DEVICE TO BE REMOVED |
| EF | EXHAUST FAN |
| EM | EMERGENCY |
| EX | EXISTING EQUIPMENT/DEVICE TO REMAIN |
| F | FUSED |
| FA | FIRE ALARM |
| FD | FIRE DAMPER |
| GFI | GROUND FAULT CIRCUIT INTERRUPTER |
| IG | ISOLATED GROUND |
| MD | MOTORIZED DAMPER |
| N | NEW EQUIPMENT/DEVICE |
| NL | NIGHT LIGHT |
| PP | POWER POLE |
| RE | RELOCATE EXISTING EQUIPMENT/DEVICE |
| RTU | ROOF TOP UNIT |
| SD | SMOKE DAMPER |
| TEL | TELEPHONE |
| UC | UNDER CABINET |
| UG | UNDERGROUND |
| UL | UNDERWRITERS LABORATORIES INC. |
| UPS | UNINTERRUPTIBLE POWER SUPPLY |
| W | WATT |
| WH | WATER HEATER |

STANDARD LEGEND AND ABBREVIATIONS SHOWN ON THIS SHEET ARE INTENDED TO BE GENERAL AND MAY NOT BE SPECIFIC OR APPLICABLE TO THIS PROJECT.

WP WEATHERPROOF

Issues and Revisions

No. Date Issues and Revisions

1. 05/17/24 ISSUED FOR PERMIT

N.J. LICENSE NUMBER: 24GE04904300 C.O.A. NUMBER: 24GA28244900

Norwescap
Old Sullivan Building

Remodeling Project

371 S Main Street

Phillipsburg, NJ 08865

Warren County

NORWESCAP

350 Marshall Street

Phillipsburg, NJ 08865

PO Box 612, Budd Lake, NJ 07828 Tel/Fax: 973-527-7691 www.frontier-es.com

HORTEN architecture & design

312 State Route 10, Randolph, NJ 07869 Tel: 973.442.5880 Fax: 973.442.5886

BLOCK:

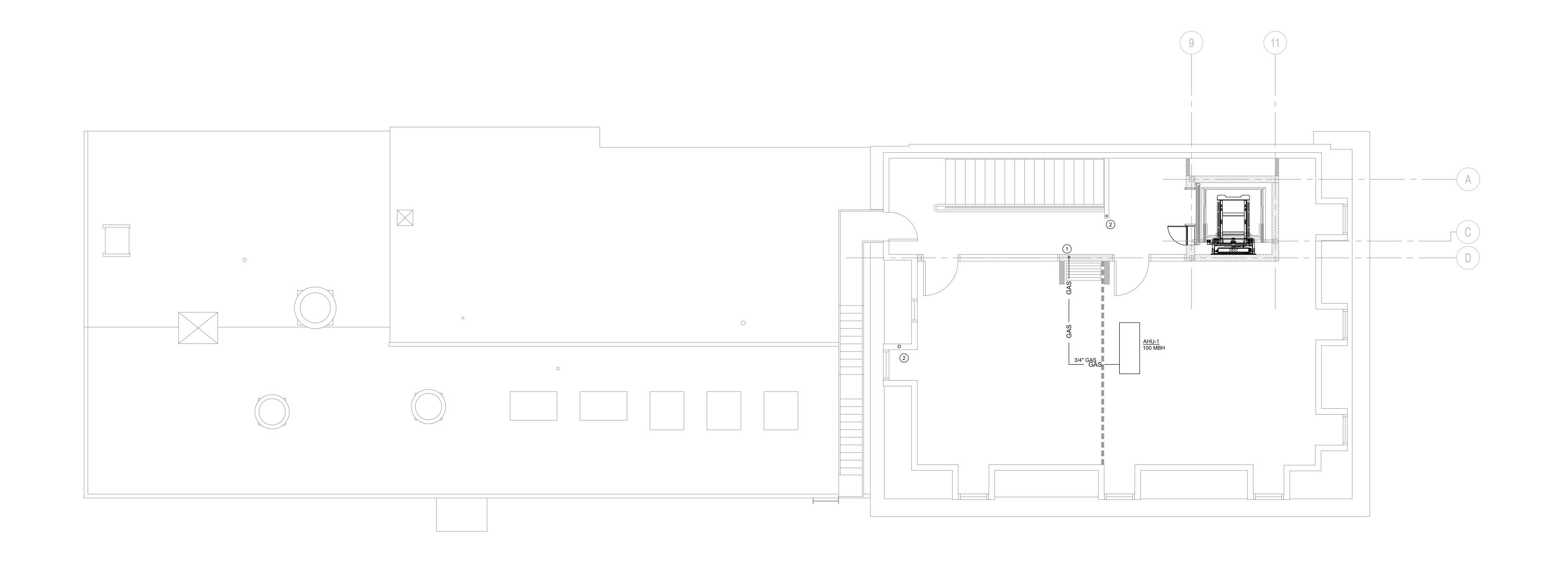
PROJECT LOCATION

LOT:

PLUMBING - PLAN

All drawings and written material appearing herein constitute original and unpublished work of the architect and may not be duplicated, used or disclosed without written consent of the architect.

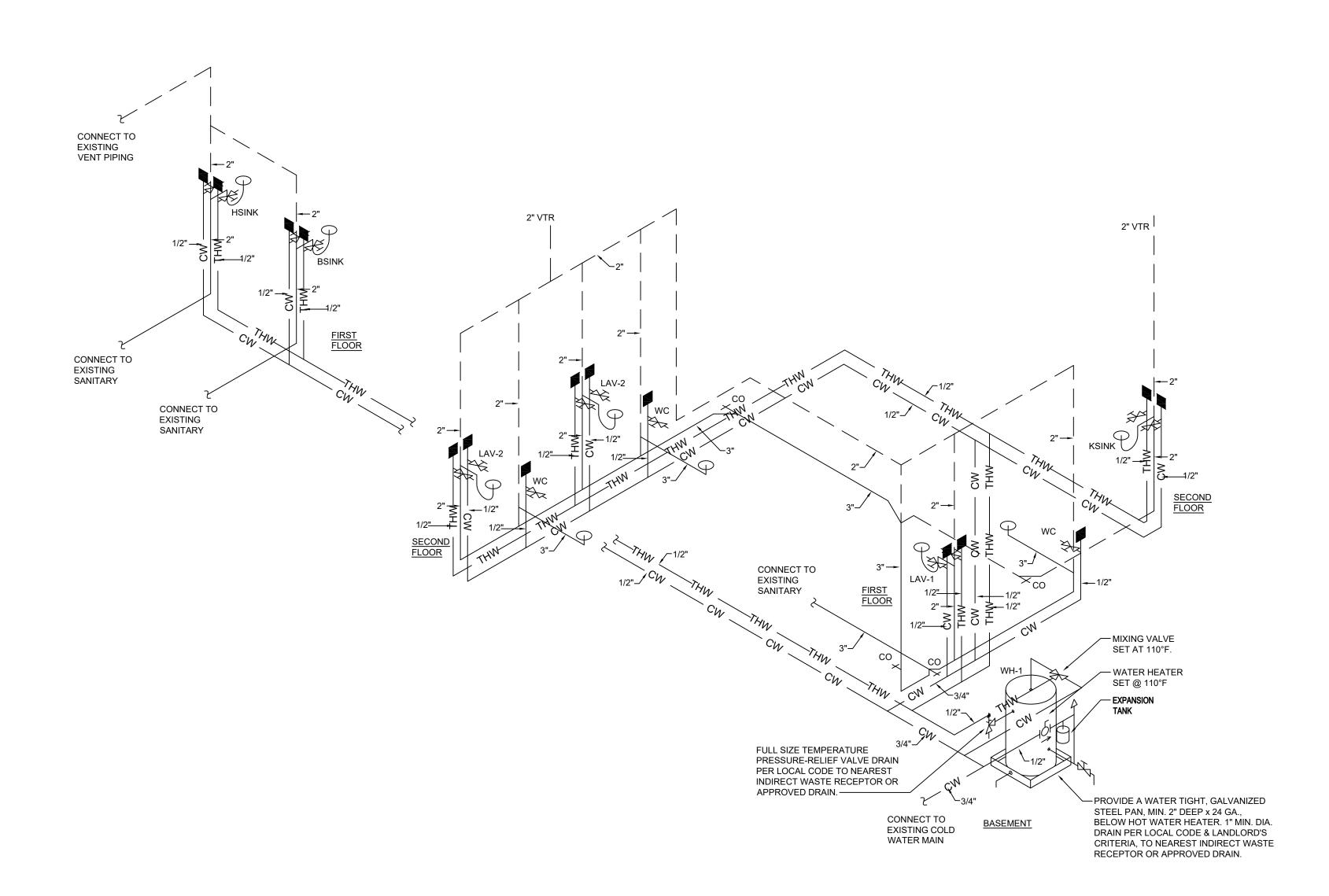
©2023 BEN HORTEN All Rights Reserved

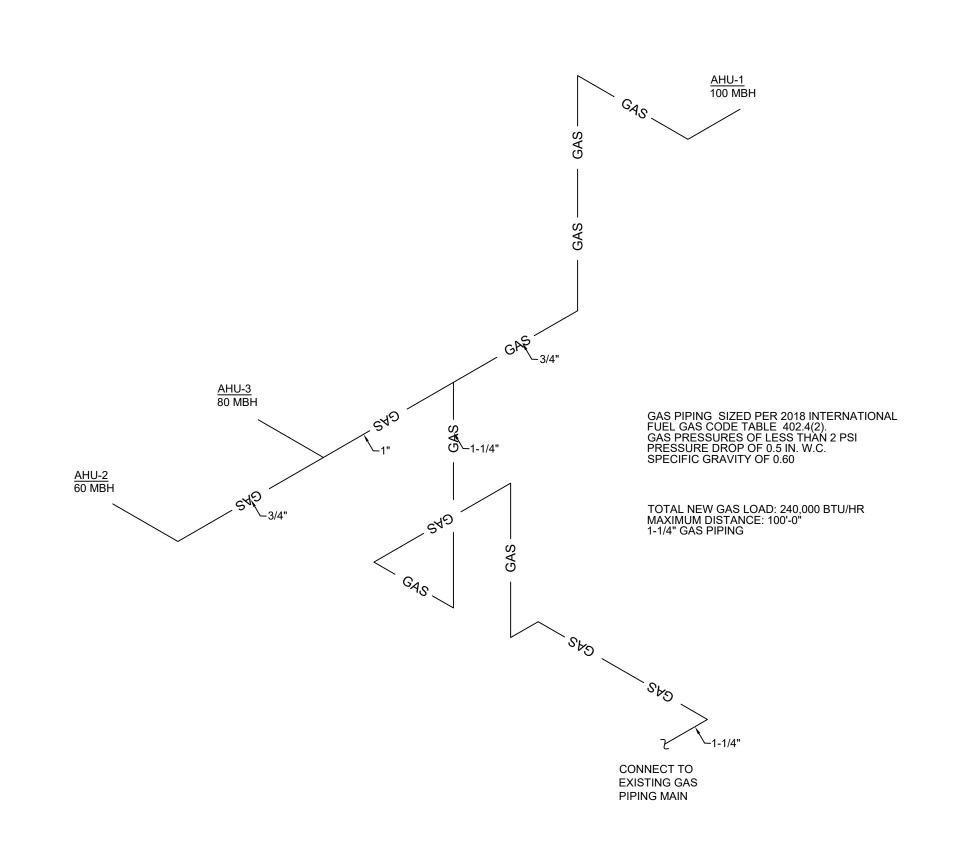


KEY NOTES

(1) 3/4" GAS PIPING DOWN TO THE FLOOR BELOW.

2 2" VENT THROUGH THE ROOF.





| PLUMBING LEGEND | | | | |
|--------------------------------------|--|-----------------------------|----------|--|
| COLD WATER LINE | CW | HOT WATER LINE (140 DEG F) | —— HW —— | |
| GAS LINE | —— GAS —— | TEMP WATER LINE (110 DEG F) | THW | |
| SANITARY LINE | | VENT LINE | | |
| NITROGEN LINE | NIT | COMPRESSED AIR LINE | —— CA —— | |
| GAS METER | M | PRESSURE REDUCING VALVE | PRV | |
| WATER METER | M M | GATE VALVES | M & & A | |
| BALL VALVES | 10 D 10 0 | TRAP PRIMER | \$ | |
| TEMPERATURE PRESSURE-RELIEF VALVE | 4 | VACUUM RELIEF VALVE | Ą | |
| MIXING VALVE | | WATER HAMMER ARRESTERS | | |
| BACK-FLOW PREVENTER | MI THE STATE OF TH | EXPANSION TANK | 9 | |

| ABBREVIATIONS | | |
|---------------|---|--|
| ABBR. | DESCRIPTION | |
| Α | AMP | |
| AC | ABOVE CEILING | |
| AFF | ABOVE FINISHED FLOOR | |
| AHU | AIR HANDLING UNIT | |
| AWG | AMERICAN WIRE GAUGE | |
| С | CONDUIT | |
| CATV | CABLE TV | |
| СН | COUNTER HEIGHT | |
| D | EXISTING EQUIPMENT/DEVICE TO BE REMOVED | |
| EF | EXHAUST FAN | |
| EM | EMERGENCY | |
| EX | EXISTING EQUIPMENT/DEVICE TO REMAIN | |
| F | FUSED | |
| FA | FIRE ALARM | |
| FD | FIRE DAMPER | |
| GFI | GROUND FAULT CIRCUIT INTERRUPTER | |
| IG | ISOLATED GROUND | |
| MD | MOTORIZED DAMPER | |
| N | NEW EQUIPMENT/DEVICE | |
| NL | NIGHT LIGHT | |
| PP | POWER POLE | |
| RE | RELOCATE EXISTING EQUIPMENT/DEVICE | |
| RTU | ROOF TOP UNIT | |
| SD | SMOKE DAMPER | |
| TEL | TELEPHONE | |
| UC | UNDER CABINET | |
| UG | UNDERGROUND | |
| UL | UNDERWRITERS LABORATORIES INC. | |
| UPS | UNINTERRUPTIBLE POWER SUPPLY | |
| W | WATT | |
| WH | WATER HEATER | |
| WP | WEATHERPROOF | |

STANDARD LEGEND AND ABBREVIATIONS SHOWN ON THIS SHEET ARE INTENDED TO BE GENERAL AND MAY NOT BE SPECIFIC OR APPLICABLE TO THIS PROJECT.

PROJEC

Norwescap Old Sullivan Building Remodeling Project

PROJECT LOCAT

LOT:

BLOCK:

371 S Main Street Phillipsburg, NJ 08865 Warren County

NORWESCAP

350 Marshall Street Phillipsburg, NJ 08865

CHITECT



ONSULTANT



| No. | es and Revi | Issues and Revisions | Ву | Check |
|-----|-------------|----------------------|----|-------|
| 1. | 05/17/24 | ISSUED FOR PERMIT | MS | MS |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Registration and Signature

MICHAEL J. SCHLICK, P.E.
N.J. LICENSE NUMBER: 24GE04904300
C.O.A. NUMBER: 24GA28244900

PLUMBING - RISER DIAGRAM

Computer File:

P2.