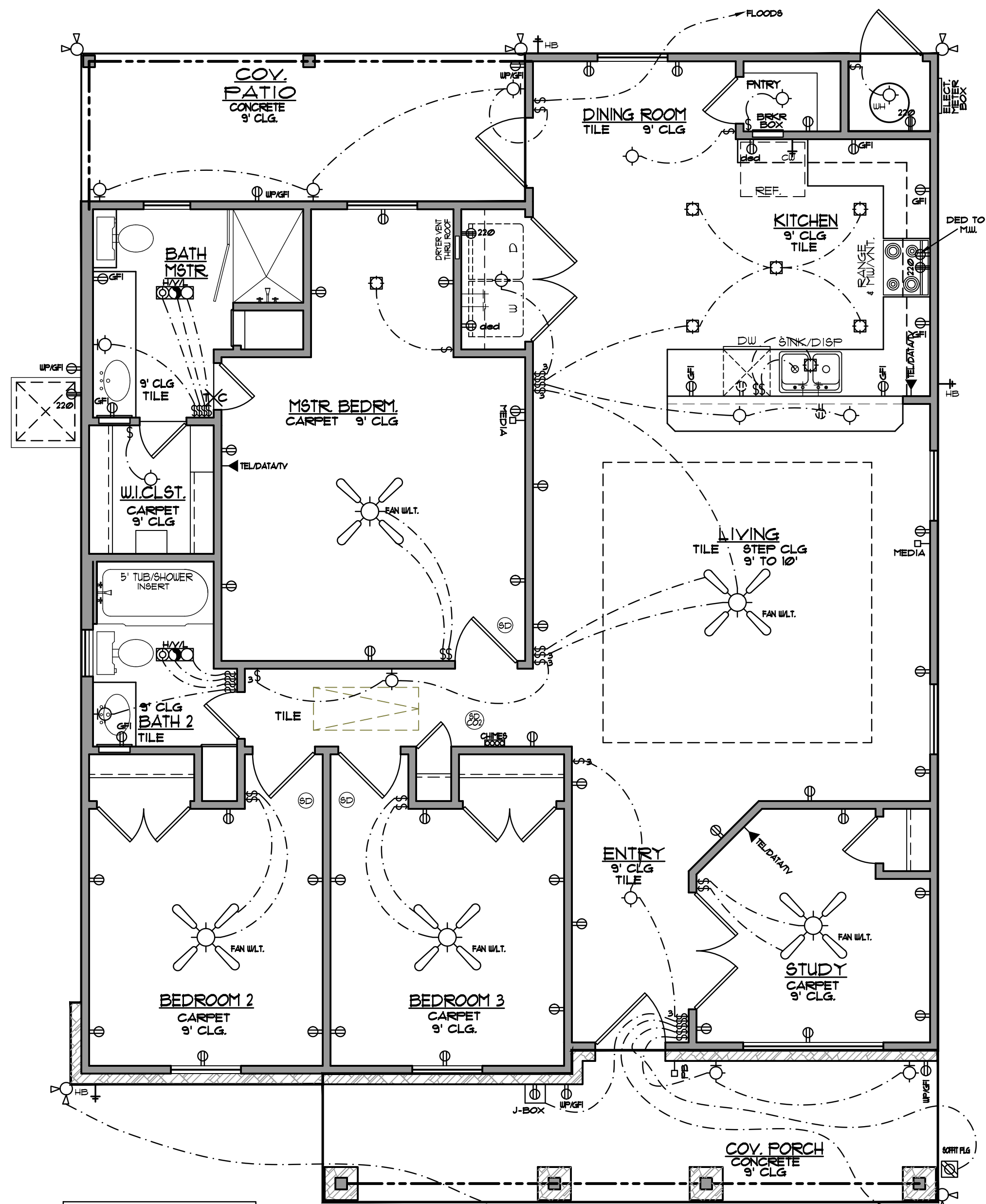


GRAPHIC SYMBOLS		
ELECTRICAL		
N9 SWITCH	H-O-I TELEVISION OUTLET	H-O-H HALOGEN WALL FURNITURE
N9-D DIMMER SWITCH	H-O-I-C INTERCOM	FLUORESCENT LIGHT
N9-3 THREE WAY SWITCH	SPK BRKBRKER OUTLET	FLUORESCENT LIGHT
N9-4 FOUR WAY SWITCH	SPK DET SPK DETECTOR	FLUORESCENT LIGHT
N9-5 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-6 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-7 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-8 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-9 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-10 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-11 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-12 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-13 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-14 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-15 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-16 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-17 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-18 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-19 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-20 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-21 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-22 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-23 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-24 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
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N9-26 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-27 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-28 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-29 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-30 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-31 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-32 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-33 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-34 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-35 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
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N9-37 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-38 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-39 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-40 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-41 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-42 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-43 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-44 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
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N9-62 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-63 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-64 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-65 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-66 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
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N9-68 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-69 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-70 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
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N9-72 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
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N9-75 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-76 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-77 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-78 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-79 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
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N9-86 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
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N9-89 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-90 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-91 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-92 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-93 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-94 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-95 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-96 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-97 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-98 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-99 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
N9-100 DUPLEX OUTLET	THRM PNT THERMOSTAT	FLUORESCENT LIGHT
PLUMBING		
WATER HEATER	COLD WATER TO REF.	
WATER SOFTNER	HOT & COLD WATER	
SHOWER HEAD	FLOOR DRAIN	
HOSE BIB/FACIET	GAS KEY	
	GAS VALVE	
MISC.		
SECURITY SYSTEM	VACUUM SYSTEM	
VACUUM SYSTEM	VACUUM CLEANER	
VACUUM CLEANER	TANK	

SMOKE & CO-MONOXIDE DETECTORS TO BE HARD WIRED & 3FT. MIN. FROM AC VENTS. PROVIDE A.F.C.I. RECEPTALS IN ALL BEDROOMS.

ELECTRICAL NOTES:

- ALL SWITCHES TO BE 4'-0" ABOVE FIN. FLR. TO CENTER LINE OF SWITCH PLATE UNLESS NOTED OTHERWISE.
- PREWIRE FOR SECURITY SYSTEM PER OWNER'S REQUEST.
- GANG ALL SWITCHES AND OUTLETS WHERE POSSIBLE.
- VERIFY LOCATION OF POWER TO ALL APPLIANCES.
- OUTLETS WITHIN 5'-0" OF A SINK OR LAVATORY TO BE ON A G.F.I. CIRCUIT.
- NO SWITCHES TO BE WITHIN 5'-0" OF A TUB.
- LOCATION OF ALL FLOOR OUTLETS & PHONE FLOOR OUTLETS TO BE VERIFIED BY OWNER.
- VERIFY PHONE & CATV OUTLETS PER PLAN WITH OWNER.
- NOTE TO ELECTRICIAN: CENTER LIGHT OVER PEDESTAL LAV. WHERE SHOWN.
- SUPPLY 220V/410V OR GAS/410V TO HVAC UNIT(S) IN ATTIC. (REFER TO SPECS.)
- PROVIDE FOR LIGHT NEAR HVAC UNIT(S) IN ATTIC
- WIRE TO N.E.C.
- ELECTRICAL CONTRACTOR SHALL PROVIDE 4 BLANK 15 AMP CIRCUITS FOR FUTURE USE AT MAIN PANEL. BOX ALL BREAKERS SHALL BE LABELED.
- INSTALL RHEOSTAT SPEED CONTROL TO ALL FANS.
- INSTALL DIMMER SWITCHES TO ALL RECESSED SPOT AND EYEBALL FIXTURES.
- SMOKE DETECTORS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING WHEN SUCH WIRING IS SERVED FROM A COMMERCIAL SOURCE AND SHALL BE EQUIPPED W/ A BATTERY BACKUP.



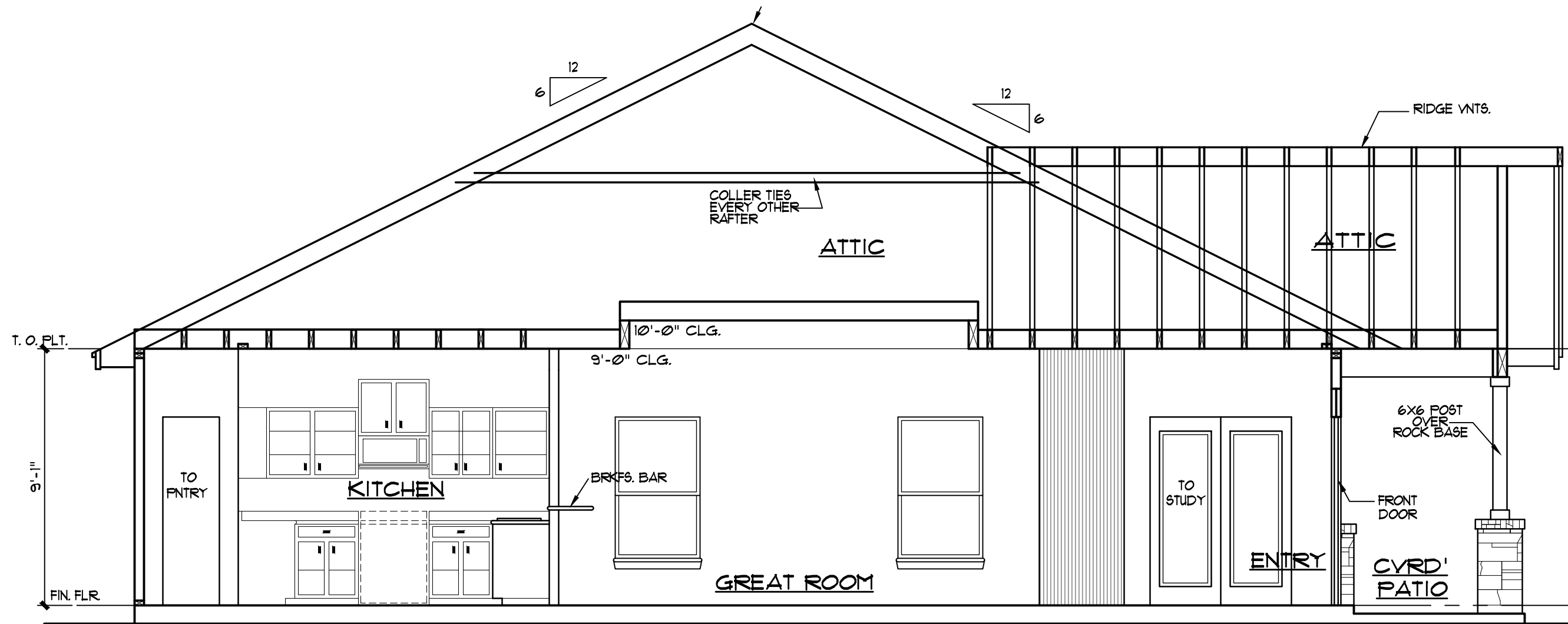
ELECTRICAL PLAN

SCALE: 1/4" = 1'-0"

1. HVAC UNIT IN ATTIC. PROVIDE 220V OUTLET. PROVIDE LIGHT FIXTURE NEAR UNIT SWITCHED AT ATTIC ENTRANCE. PROVIDE METAL DRIP PAN WITH OUTSIDE DRAIN LINE. PROVIDE SUB-FLOOR WALKWAY TO & AROUND UNIT. CONFORMING TO APPLICABLE CODE.

AC CONTRACTOR MAY REQUIRE THE USE OF ADDITIONAL AREAS FOR THE USE OF DUCTWORK OR EQUIPMENT. VARIETY ANY CHANGES WITH OWNER & BUILDER.

NOTE:
ALL ELECTRICAL WORK TO BE DONE ACCORDING TO THE N.E.C. 2020 (NATIONAL ELECTRICAL CODE)



SECTION A-1

SCALE: 1/4" = 1'-0"

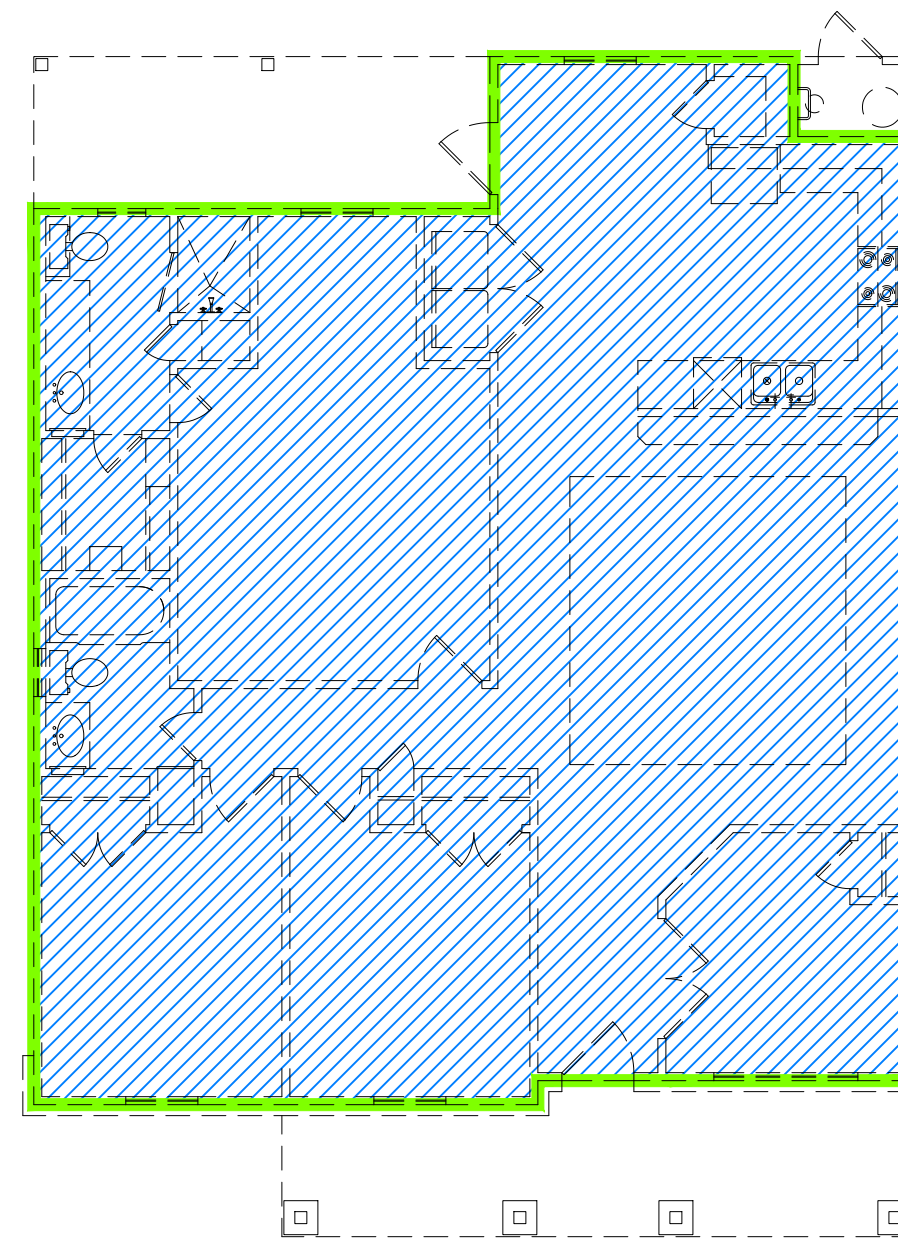
VENTED ATTIC CALCULATIONS:

VENTED ATTIC CALCULATIONS:
1753 S.F. OF ATTIC @ 1/300" = 5.84 S.F. NFA
5.84 x 144 S.Q. IN. = 841 S.Q. IN. x 1/2 = 420.5 S.Q. IN.
420.5 S.Q. IN. (MIN. EXHAUST REQUIRED)
420.5 S.Q. IN. (MIN. INTAKE REQUIRED)

MIN. REQUIREMENTS
INTAKE: 420.5 sq. in. NFA / 9 sq.in (2" SOFFIT VNT.) = 46.72' MIN.
EXHAUST: 420.5 sq. in. NFA / 18 sq.in (2" CONT. RDG. VNT.) = 23.36' MIN.

OPTIONAL USE OF POWER TURBINE
1753 S.Q. FT. X .1 = 127.1 CFM

VENTED ATTIC CALCULATIONS



R 13 BATTS INSUL.
BUILDING THERMAL ENVELOPE TO BE ACCOMPLISHED BY TYVEK WRAP

R 30 BATTS INSUL.

THERMAL PLAN

SCALE: 1/8" = 1'-0"

BUILDING THERMAL ENVELOPE COMPLIANCE

- 402.4 AIR LEAKAGE (MANDATORY)
402.4.1 BUILDING THERMAL ENVELOPE. THE BUILDING THERMAL ENVELOPE SHALL BE DURABLY SEALED TO LIMIT INFILTRATION. THE SEALING METHODS BETWEEN DISSIMILAR MATERIALS SHALL ALLOW FOR DIFFERENTIAL EXPANSION AND CONTRACTION. THE FOLLOWING SHALL BE CAULKED, GASKETED, WEATHER STRIPPED, OR OTHERWISE SEALED WITH AN AIR BARRIER MATERIAL, SUITABLE FILM OR SOLID MATERIAL.
- ALL JOINTS, SEAMS AND PENETRATIONS.
 - SITE BUILT WINDOWS, DOOR AND SKYLIGHTS.
 - OPENINGS BETWEEN WINDOWS AND DOOR ASSEMBLIES AND THEIR RESPECTIVE JAMBES & FRAMING.
 - UTILITY PENETRATIONS.
 - DROPPED CEILING OR CHASES ADJACENT TO THE THERMAL ENVELOPE.
 - KNEE WALLS.
 - WALLS AND CEILINGS SEPARATING A GARAGE FROM CONDITIONED SPACES.
 - BEHIND TUBS & SHOWERS ON EXTERIOR WALLS.
 - COMMON WALLS BETWEEN DUELLING UNITS.
 - OTHER SOURCES OF INFILTRATION.

402.4.2 PENETRATION AIR LEAKAGE. WINDOWS, SKYLIGHTS AND SLIDING GLASS DOORS SHALL HAVE AN AIR INFILTRATION RATE OF NO MORE THAN 0.3 cfm PER SQUARE FOOT AND SLIDING DOORS NO MORE THAN 0.5 cfm PER SQUARE FOOT, WHEN TESTED ACCORDING TO "NFRC 400" or "AIAA/MDMA/CSA 10/152/4440" BY AN ACCREDITED, INDEPENDENT LABORATORY AND LISTED AND LABELED BY THE MANUFACTURER.

EXCEPTIONS: SITE-BUILT WINDOWS, SKYLIGHTS & DOORS.

R402.4.12 Testing

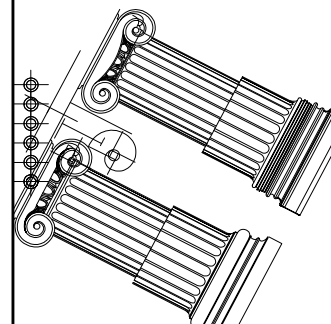
The building or dwelling unit shall be tested and verified as having an air leakage rate not exceeding five air changes per hour in Climate Zones 1 and 2, and three air changes per hour in Climate Zones 3 through 8. Testing shall be conducted in accordance with ASTM E 118 or ASTM E 1827 and reported at a pressure of 0.2 inch w.g. (50 Pascals). Where required by the code official, testing shall be conducted by an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the code official. Testing shall be performed at any time after creation of all penetrations of the building thermal envelope.

During testing:

Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed, beyond the intended weatherstripping or other infiltration control measures. Dampers including exhaust, intake, makeup air, backdraft and five dampers shall be closed, but not sealed beyond intended infiltration control measures. Interior doors, if installed at the time of the test, shall be open. Exterior doors for continuous ventilation systems and heat recovery ventilators shall be closed and sealed. Heating and cooling systems, if installed at the time of the test, shall be turned off. Supply and return registers, if installed at the time of the test, shall be fully open.

NOTE:
ALL CONSTRUCTION TO BE DONE ACCORDING TO THE 2021 I.R.C. (INTERNATIONAL RESIDENTIAL CODE) AND ADVANCE FRAMING TECHNIQUES FOR ENERGY STAR RATINGS.

DESIGNS BY:
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SAN ANTONIO, TEXAS 78230-1040
(210) 691-2944



DRK WORKS

227 QUENTIN DR.
SAN ANTONIO, TX

ELECTRICAL PLAN
& THERMAL PLAN

DATE DRAWN:

APRIL 12, 2023

DRAWN BY:

AE

CHECKED BY:

AE

PLOT DATE:

MAY 12, 2023

SHEET

4

OF 4 SHEETS

PLAN NO.:

SR 1459

FILE:

1