

MINIMUM INSULATION REQUIREMENTS:

1. USING THE SPECIFIC "PRESCRIPTIVE METHOD," SHOWN BELOW ARE THE MINIMUM INSULATION LEVELS REQUIRED. THE "PRESCRIPTIVE METHOD" IS VISUALLY FIELD VERIFIABLE, AND IS BASED SOLELY ON THE ACTUAL INSULATION MATERIALS INSTALLED. THE FRAMING, DRYWALL, SHEATHING, ETC. DOES NOT CONTRIBUTE.
2. USING THE ALTERNATIVE "PERFORMANCE METHOD," A COMPLIANCE REPORT MAY BE SUBMITTED SHOWING THE PROPOSED DESIGN HAS ANNUAL ENERGY COST LESS THAN OR EQUAL TO THE ENERGY COSTS OF THE STANDARD REFERENCED (PRESCRIPTIVE) DESIGN. COORDINATE ACCEPTABLE REPORT METHOD WITH THE LOCAL CODE OFFICIAL.
3. NJ IS IN CLIMATE ZONE 5.
4. NOTE: THESE ARE MINIMUMS AND ARE BASED ON FIBERGLASS BATTS, AND NOT RECOMMENDED AS COST EFFECTIVE. INSULATION SYSTEMS WHICH ARE MOST EFFECTIVE IN DEFATING "AIR INFILTRATION" ARE HIGHLY RECOMMENDED. AIR INFILTRATION IS THE MAJOR FACTOR IN DETERMINING THE EQUIPMENT SIZING OF HVAC SYSTEMS. OTHER COST SAVING MAY ALSO BE ACHIEVED. FOR INSTANCE, A UNIFORM FIELD APPLICATION OF R-20 SPAY APPLIED CLOSED CELL URETHANE WILL SIGNIFICANTLY OUTPERFORM THE FIBERGLASS. IT ALSO QUALIFIES AS THE AIR BARRIER AND VAPOUR BARRIER.
5. WHEN BUILDINGS ARE MADE HIGHLY RESISTANT TO AIR INFILTRATION, THEN FRESH AIR EXCHANGE SYSTEMS ARE RECOMMENDED. SEE OTHER HVAC NOTES.

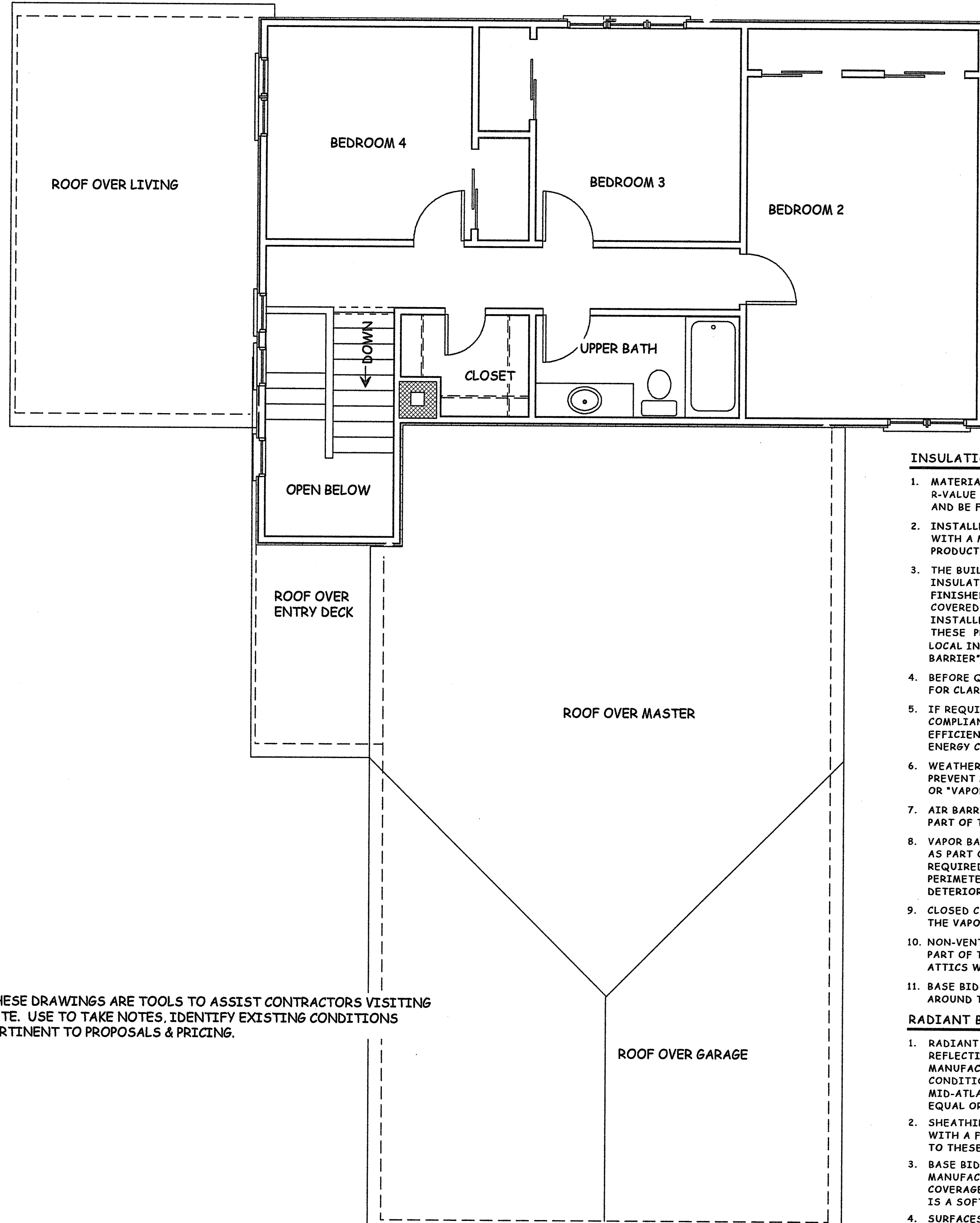
LOCATION	MIN. INSULATION FACTOR	DESCRIPTION
WINDOW GLAZING	U-0.35 MAX.	THIS IS WINDOWS AND DOOR GLAZING. UNITS MUST DISPLAY THE MANUFACTURE'S DATA.
SKYLIGHTS	U-0.60 MAX.	SKYLIGHT UNITS MUST DISPLAY THE MFG'S DATA
CEILING	R-38	THIS IS THE HIGHEST CEILING UNDER THE ATTIC DECK. IF A "FLAT" ROOF OR CATHEDRAL CEILING THIS IS THE RATING REQUIRED IN THE RAFTERS
WALLS	R-19	THIS IS PERIMETER ABOVE GRADE EXTERIOR WALLS.
FLOORS	R-30	WHEN THE FLOOR IS OVER AN NON-INSULATED BASEMENT OR CRAWLSPACE. CAREFUL ATTENTION IS RECOMMENDED AT THE EXTERIOR FLOOR PERIMETER (THE RIBBON BAND) WHERE THE INSULATION SHOULD BE INSTALLED SIMILAR TO WALLS WITH VAPOUR BARRIER FACING THE WARM OR INTERIOR SIDE.
BASEMENT PERIMETER WALLS	R-10 / 13	WHEN THE BASEMENT IS A CONDITIONED, OR OCCUPIED SPACE THIS RATING IS REQUIRED. IF THE BASEMENT PERIMETER IS INSULATED, THEN THE FLOOR ABOVE IS NOT REQUIRED TO BE INSULATED. INSULATION SHALL EXTEND FROM THE BOTTOM OF THE FLOOR DECK ABOVE TO THE BASEMENT FLOOR.
SLAB PERIMETER	R-10	SLABS MUST BE SEPARATED FROM THE EARTH BY THIS RATING FOR A MINIMUM DISTANCE OF 24" EITHER VERTICALLY AGAINST THE FOUNDATION WALL, OR HORIZONTALLY UNDER THE SLAB IN FROM THE EXTERIOR. (NOTE: THIS ARCHITECT RECOMMENDS 36" OR MORE, AS THE MIN. DISTANCE FOR REAL ENERGY SAVING)
CRAWLSPACE WALLS	R-10 / 13	IF THE FLOOR ABOVE IS NOT INSULATED, AND IF A CRAWLSPACE IS NOT VENTED TO THE EXTERIOR, THEN THIS RATING IS REQUIRED. INSTALL SIMILAR TO DESCRIPTION FOR BASEMENT WALLS.

FIBERGLASS ROOF SHINGLE SYSTEM

1. WIND RESISTANCE U.I. INC. LISTING CLASS "A". FIRE RATING: U.I. INC. LISTING CLASS "A". WEIGHT MIN. 200 LBS./SQARE MIN. EXPOSURE MANUFACTURER'S RECOMMENDATIONS, HEAD CAP 2" MINIMUM. SUBMIT TECHNICAL PRODUCT DATA, INSTALLATION INSTRUCTIONS, AND RECOMMENDATIONS. PROVIDE SHINGLE MANUFACTURER WARRANTY ON INSTALLED WORK. PERIOD OF WARRANTY IS 30 YEARS FROM DATE OF SUBSTANTIAL COMPLETION. COLOR RECOMMENDED IS "GREY/BLUE" WEATHERED WOOD SHAKE REPLICATION. COLOR AND MFG. SHALL BE CONFIRMED BY OWNER.
2. MAINTENANCE STOCK SHALL BE 2% OF EACH TYPE/COLOR/TEXTURE OF SHINGLE USED IN THE WORK. DELIVER TO OWNER FOR STORAGE.
3. HORSE FEATHERS: AT THE GABLE EDGES OF ALL ROOFS (ABOVE RAKE BOARDS), ATTACH TO THE SHEATHING A PIECE OF 10" CEMENT FIBER TAPERED SHIPLAP SIDING TO FORM SLIGHT "RAMP" THICKENING THE OUTSIDE EDGE AND RETARDING WATER ROLLING OFF EDGES. COVER WITH ROOFING MEMBRANE.
4. PROVIDE BLACK ALUMINUM METAL DRIP EDGES AT ALL, EAVE AND GABLE, ROOF EDGES.
5. ROOFING MEMBRANE FELT SHALL COMPLY WITH ASTM D 250. MIN. 30 LB.
6. ICE DAM PREVENTION MEMBRANE (ICE SHIELD) SHALL BE INSTALLED STARTING AT THE EAVE EDGE, AND EXTEND A MIN. 36" UP THE ROOF SLOPE, MEASURED FROM THE INTERIOR FACE OF THE WALL BELOW, SHALL BE COMPATIBLE WITH THE SHINGLE SELECTED.
7. VALLEY FLASHINGS SHALL BE EXPOSED METAL WITH MIN. 2" EXPOSURE UP EACH OPPOSING ROOF SLOPE. USE COPPER OR VERIFY OWNER'S APPROVAL FOR OTHER MATERIAL. USE ICE DAM MEMBRANE UNDER ALL VALLEYS.
8. ABUTTING ALL VERTICAL SURFACES, INSTALL METAL STEP FLASHING, IN COMPLIANCE WITH RECOMMENDATIONS OF THE NRCA STEEP ROOF MANUAL. BUILD IN FLASHING AS WORK PROGRESSES, WORKING BETWEEN SHINGLES AS THEY ARE LAID. WHEREVER STEP FLASHINGS ARE REQUIRED, PROVIDE EXPOSED COUNTER FLASHING.
9. PLUMBING VENT STACK FLASHINGS, AND SIMILAR, SHALL BE NEW NEOPRENE BOOTS.

PLUMBING: WITH PUBLIC WATER AND SANITARY SERVICE

1. IN THIS PROJECT THE EXISTING MASTER BATH IS BEING REPLACED AND RELOCATED. ALL WORK WILL CONNECT TO THE EXISTING MASTER BATHROOM SANITARY AND SUPPLYS.
2. PLUMBING SHALL BE DONE IN ACCORDANCE WITH MUNICIPAL STANDARDS AND CODE BY LICENSED PLUMBERS. VERIFY MUNICIPAL REQUIREMENTS. PLUMBER SHALL COMPLETE HIS PART OF THE BUILDING PERMIT APPLICATION. IF MUNICIPALITY REQUIRES PLUMBING RISER DIAGRAMS OR SCHEMATICS, THEN THE PLUMBING CONTRACTOR SHALL PREPARE, PROVIDE AND SUBMIT WITH THE PLUMBING PERMIT APPLICATION.
3. COORDINATE WITH HVAC INSTALLER
4. ALL SUPPLY PIPING SHALL BE COPPER. PROVIDE FULL 3/4" MAINS ALL THE WAY TO EACH FIXTURE BEFORE CHANGING TO 1/2" RISERS FOR CONNECTIONS TO FIXTURES. TAKE PRECAUTIONS NOT TO LIMIT PRESSURE TO REMOTE LOCATIONS.
5. PROVIDE SHUT-OFF VALVES FOR EACH FIXTURE SUPPLY. USE "BALL VALVES" ONLY FOR ABSOLUTELY EVERYTHING, NO GATE TYPE VALVES.
6. PROVIDE "SHOCK" RISERS AT ENDS OF MAINS. PROVIDE EXPANSION TANK ON HOT WATER SUPPLY.
7. ALL EXTERIOR FAUCETS SHALL BE FROST PROOF, AND "DRAINABLE" BACK TO UTILITY AREA FOR WINTER.
8. TAKE SPECIAL PRECAUTIONS WITH CUTTING AND PATCHING JOISTS. DO NOT NOTCH JOISTS, DRILL HOLES ONLY IN PROPER LOCATIONS AT CENTER OF JOISTS, SEE CODE AND SEE SPECIFIC DETAILS PROVIDED IN THE ENGINEERED TIMBER CATALOG.
9. ALL PIPES LOCATED IN EXTERIOR WALLS SHALL BE INSULATED. AFTER INSTALLATION, SEAL THE PASSAGE OF ALL PIPES THROUGH WALL PLATES (TOP AND BOTTOM, INTERIOR OR EXTERIOR WALLS) WITH EXPANDABLE URETHANE FOAM TO PREVENT VERTICAL PASSAGE OF AIR.
10. DO ALL NATURAL GAS PLUMBING IN ACCORDANCE WITH CODE. AS A RULE, PROVIDE A RECESS WALL BOX FOR APPLIANCE CONNECTIONS.



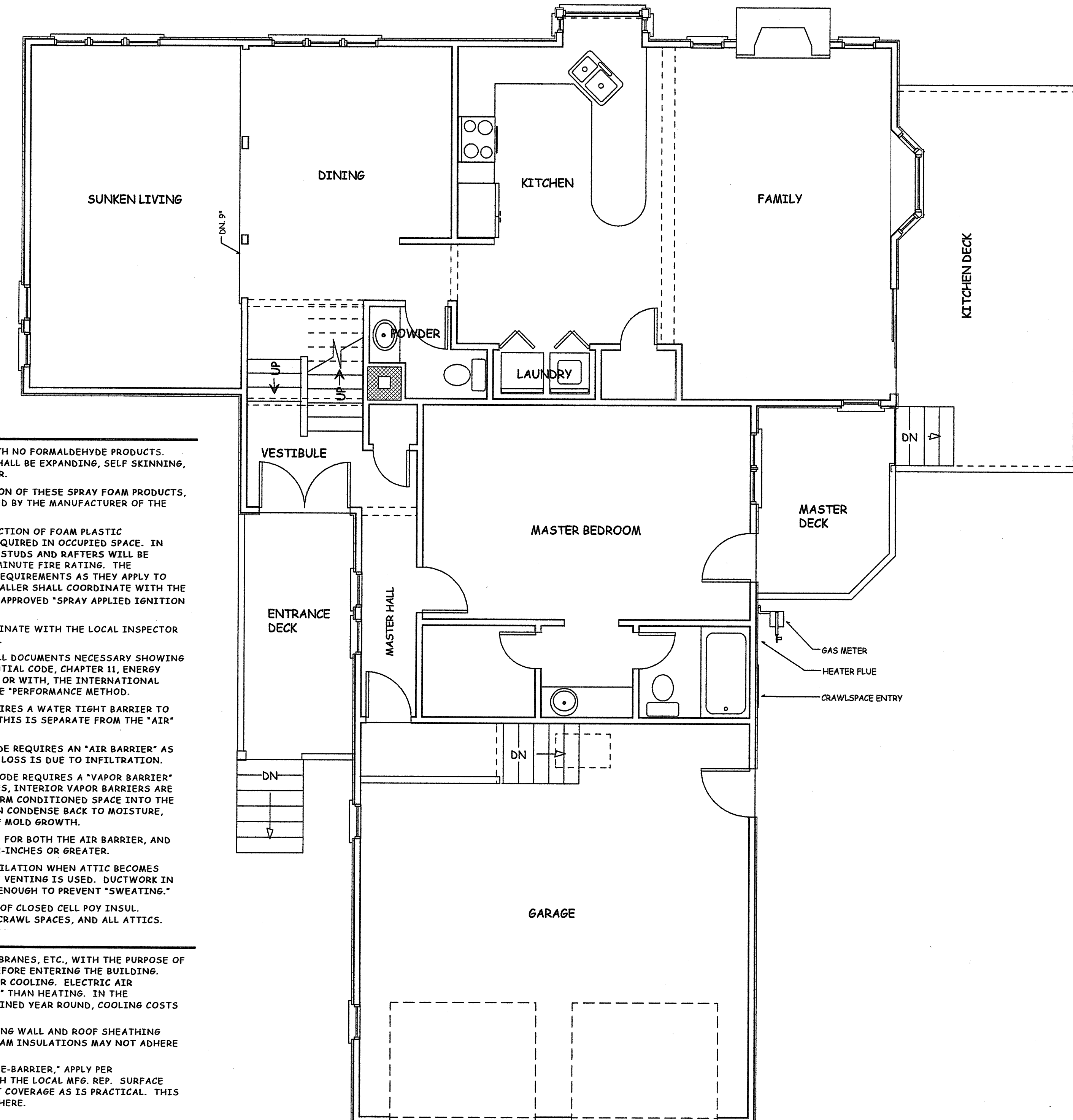
EXISTING SECOND FLOOR PLAN

INSULATION: URETHANE SPRAY FOAM SYSTEMS

1. MATERIAL SHALL BE CLOSED CELL, URETHANE BASED, WITH NO FORMALDEHYDE PRODUCTS. R-VALUE IS GENERALLY 6.50 PER INCH, AGED. PRODUCT SHALL BE EXPANDING, SELF SKINNING, AND BE FROM A NATIONALLY RECOGNIZED MANUFACTURER.
2. INSTALLER SHALL BE EXPERT IN THE USE AND APPLICATION OF THESE SPRAY FOAM PRODUCTS, WITH A MINIMUM OF 3-YEARS EXPERIENCE AND CERTIFIED BY THE MANUFACTURER OF THE PRODUCTS BEING USED.
3. THE BUILDING CODE HAS REQUIREMENTS FOR THE PROTECTION OF FOAM PLASTIC INSULATIONS. IN GENERAL AN IGNITION BARRIER IS REQUIRED IN OCCUPIED SPACE. IN FINISHED "LIVING" SPACE, THE FOAM SPRAYED BETWEEN STUDS AND RAFTERS WILL BE COVERED WITH 1/2" GYPSUM DRYWALL, WHICH HAS A 20-MINUTE FIRE RATING. THE INSTALLER SHALL BE EXPERT IN UNDERSTANDING CODE REQUIREMENTS AS THEY APPLY TO THESE PRODUCTS. BEFORE QUOTING THE JOB, THE INSTALLER SHALL COORDINATE WITH THE LOCAL INSPECTOR FOR CLARIFICATION. PROVIDE A CODE APPROVED "SPRAY APPLIED IGNITION BARRIER" WHERE REQUIRED.
4. BEFORE QUOTING THE JOB, THE INSTALLER SHALL COORDINATE WITH THE LOCAL INSPECTOR FOR CLARIFICATION REGARDING APPROVAL SUBMISSIONS.
5. IF REQUIRED, INSTALLER SHALL PREPARE AND PROVIDE ALL DOCUMENTS NECESSARY SHOWING COMPLIANCE WITH EITHER THE INTERNATIONAL RESIDENTIAL CODE, CHAPTER 11, ENERGY EFFICIENCY, SECTION N1102.1.3, TOTAL UA ALTERNATIVE; OR WITH, THE INTERNATIONAL ENERGY CONSERVATION CODE, SECTION 404, ALTERNATIVE "PERFORMANCE METHOD."
6. WEATHER BARRIER: FOR INFO, THE BUILDING CODE REQUIRES A WATER TIGHT BARRIER TO PREVENT MOISTURE PENETRATION FROM THE EXTERIOR. THIS IS SEPARATE FROM THE "AIR" OR "VAPOR" BARRIER.
7. AIR BARRIER: FOR INFO, THE ENERGY CONSERVATION CODE REQUIRES AN "AIR BARRIER" AS PART OF THE "BUILDING ENVELOPE." ONE-THIRD OF HEAT LOSS IS DUE TO INFILTRATION.
8. VAPOR BARRIER: FOR INFO, THE ENERGY CONSERVATION CODE REQUIRES A "VAPOR BARRIER" AS PART OF THE "BUILDING ENVELOPE." IN COOL CLIMATES, INTERIOR VAPOR BARRIERS ARE REQUIRED TO PREVENT TRANSFER OF MOISTURE FROM WARM CONDITIONED SPACE INTO THE PERIMETER WALL CONSTRUCTION CAVITIES WHERE IT CAN CONDENSE BACK TO MOISTURE, DETERIORATING FRAMING, AND INCREASING POTENTIAL F MOLD GROWTH.
9. CLOSED CELL SPRAY FOAM SATISFIES THE REQUIREMENTS FOR BOTH THE AIR BARRIER, AND THE VAPOR BARRIER, WHEN APPLIED AT A THICKNESS OF 2-INCHES OR GREATER.
10. NON-VENTILATED ATTICS: ATTICS DO NOT REQUIRE VENTILATION WHEN ATTIC BECOMES PART OF THE INSULATED ENVELOPE. NO SOFFIT OR RIDGE VENTING IS USED. DUCTWORK IN ATTICS WILL NOT REQUIRE AS MUCH INSULATION, JUST ENOUGH TO PREVENT "SWEATING."
11. BASE BID: FORM A CONTINUOUS, MONOLITHIC, ENVELOPE OF CLOSED CELL POLY INSUL. AROUND THE ENTIRE BUILDING, INCLUDING BASEMENTS, CRAWL SPACES, AND ALL ATTICS.

RADIANT BARRIER

1. RADIANT BARRIERS ARE REFLECTIVE FILMS, PAINTS, MEMBRANES, ETC., WITH THE PURPOSE OF REFLECTING THE SUN'S RADIANT (HEAT) ENERGY AWAY BEFORE ENTERING THE BUILDING. MANUFACTURERS CLAIM SIGNIFICANT ENERGY SAVINGS FOR COOLING. ELECTRIC AIR CONDITIONING IS MORE EXPENSIVE PER "DEGREE CHANGE" THAN HEATING. IN THE MID-ATLANTIC REGION, WHEN TEMPERATURES ARE MAINTAINED YEAR ROUND, COOLING COSTS EQUAL OR EXCEED HEATING COSTS.
2. SHEATHING OPTION: SOME MANUFACTURERS ARE PROVIDING WALL AND ROOF SHEATHING WITH A FACTORY APPLIED FOIL FACE, HOWEVER SPRAY FOAM INSULATIONS MAY NOT ADHERE TO THESE FOIL FACES.
3. BASE BID: PAINT PRODUCT OPTION: SHERWIN WILLIAMS "E-BARRIER," APPLY PER MANUFACTURER'S RECOMMENDATIONS. COORDINATE WITH THE LOCAL MFG. REP. SURFACE COVERAGE DOES NOT HAVE TO BE PERFECT. ACHIEVE BEST COVERAGE AS IS PRACTICAL. THIS IS A SOFT METALLIC FINISH, AND SPRAY FOAMS WILL ADHERE.
4. SURFACES TO RECEIVE BARRIER:
 - A. UNDERSIDE (INTERIOR) OF ALL ROOF SHEATHING.
 - B. INTERIOR SIDE OF ALL ATTIC GABLE WALLS, ESPECIALLY SOUTH AND WEST FACING.
 - C. INTERIOR SIDE OF ALL SOUTH AND WEST FACING OCCUPIED ROOM WALLS.



EXISTING FIRST FLOOR PLAN

ALL DRAWINGS ARE FORMATTED FOR FULL SCALE PRINTING ON 24"x36" SHEETS. DO NOT SCALE ANY OTHER SHEET SIZE

DATE	REVISION DESCRIPTION
05-12-2010 <td>START UP</td>	START UP
09-10-2010 <td>REVIEW SET</td>	REVIEW SET
10-28-2010 <td>FOR PERMITS</td>	FOR PERMITS
12-17-2010 <td>FOR CONSTRUCTION</td>	FOR CONSTRUCTION

PLANS NOT VALID FOR PERMITS UNLESS SIGNED IN RED AND IMPRESSED w/ SEAL

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