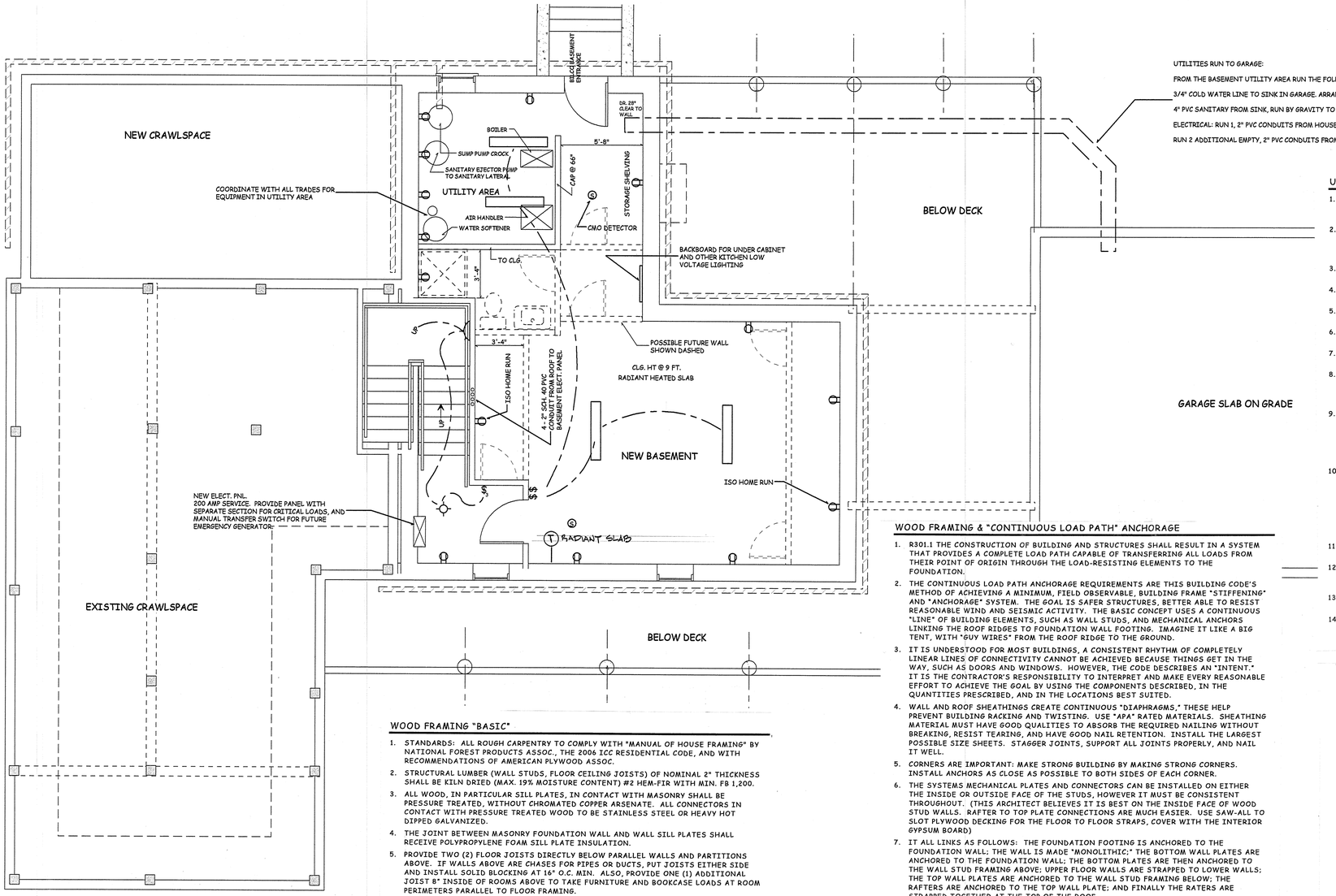

UTILITIES RUN TO GARAGE:

FROM THE BASEMENT UTILITY AREA RUN THE FOLLOWING PIPES AND/OR CONDUITS TO GARGAGE.

3/4" COLD WATER LINE TO SINK IN GARAGE. ARRANGE TO BACK DRAIN TO HOUSE FOR WINTER DEACTIVATION.

4" PVC SANITARY FROM SINK, RUN BY GRAVITY TO EJECTOR PUMP IN BASEMENT UTILITY.

ELECTRICAL: RUN 1, 2" PVC CONDUITS FROM HOUSE ELECT. PNL TO GARAGE ELECT. PNL. USE TO ENERGIZE GARAGE.

RUN 2 ADDITIONAL EMPTY, 2" PVC CONDUITS FROM BASEMENT UTILITY AREA TO GARAGE WALL AT ELECT. PNL.

GARAGE SLAB ON GRADE

UNIT MASONRY

1. CONCRETE MASONRY UNIT (CMU) CONSTRUCTION AND MATERIALS SHALL CONFORM TO ALL REQUIREMENTS OF "SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530.1/ASCE 6-88)" PUBLISHED BY THE AMERICAN CONCRETE INSTITUTE.
2. HOLLOW LOAD BEARING CMU SHALL CONFORM TO ASTM C90, TYPE I, "NORMAL WEIGHT". MINIMUM NET TENSILE STRENGTH OF 1250 PSI; 0.06% MAXIMUM. LINEAR SHRINKAGE FROM SATURATED TO OVEN DRY: CURE 28 DAYS. PROVIDE MANUFACTURER'S CERTIFICATE OF COMPLIANCE FOR UNITS PROVIDED TO SITE.
3. MORTAR TO BE TYPE S, CONFORMING TO ASTM C270. MORTAR SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI AT 28 DAYS.
4. INSTALL 9 GA. DUROWALL TRUSS TYPE JOINT REINFORCEMENT @ 16" O.C. VERTICALLY (EVERY OTHER COURSE), ALL CMU WALLS.
5. GROUT FOR CELLS SHALL CONFORM TO ASTM C476, 3000 PSI COMPRESSIVE STRENGTH. GROUT CELLS SOLID AT REINFORCING AND AS NOTED IN MAX. 48-INCH LIFTS.
6. CMU WALLS SHALL BE FILLED SOLID TOP TO BOTTOM, FOR ENTIRE LENGTHS, WITH CONCRETE, PUMP MIX. MAX. 48-INCH LIFTS.
7. WHERE PIPES OR WIRE PASS THROUGH A FOUNDATION WALL, INSTALL SLEEVE MINIMUM OF PIPE OR WIRE DIAMETER PLUS 2 INCHES.
8. REINFORCING BARS SHALL BE "DEFORMED" CONFORMING TO ASTM A615: GRADE-40 FOR #3 BARS, GRADE-60 FOR #4 AND LARGER BARS. "LAP JOIN" ALL REINFORCING BARS 30 BAR DIAMETERS MINIMUM. CORNER BARS FOR CONTINUOUS REINFORCING SHALL BE LAPPED MINIMUM 30 BAR DIA. EACH WAY.
9. DAMPPROOFING (WHERE SHOWN): THE SUBSTRATE SHALL BE MADE SMOOTH AND ACCEPTABLE FOR THE APPLICATION. GENERALLY IF CMU (CONC. BLOCK) APPLY A ¼" THICK CEMENT PARGING. THEN APPLY TWO COATS OF AN ASPHALTIC COATING. COATS SHALL BE APPLIED FROM OPPOSITE DIRECTIONS TO ENSURE THE FILLING OF THE SUBSTRATE. FOLLOW MANUFACTURER'S DIRECTIONS. PRODUCT W.R.MEADOWS "SEALMASTIC EMULSION", EACH COAT 1/16" WET FILM THICKNESS.
10. WATERPROOFING (WHERE SHOWN): ALL FOUNDATION WALLS ENCLOSING CRAWLSPACES OR OTHER OCCUPIED SPACE SHALL BE WATERPROOFED (NOT DAMPPROOFED). PREPARE WALL SURFACE AS REQUIRED, INSTALL ASTM # D449 "TYPE A", ADHESIVE, SELF-HEALING POLYMER, MODIFIED ASPHALT MEMBRANE, MINIMUM 40-MIL. THICK, OR APPROVED EQUAL. MEMBRANE SHALL EXTEND ONTO THE FOOTING AND EXTEND UP TO WITHIN 12 INCHES OF FINAL GRADE. WATERPROOFING MEMBRANE SYSTEM SHALL BE PROTECTED, TOP TO BOTTOM, DURING BACKFILLING. CONTRACTOR SHALL PROVIDE CATALOG CUTS FOR ALL PARTS OF THE SYSTEM FOR APPROVAL BEFORE PROCEEDING.
11. DO NOT BACKFILL AGAINST FOUNDATION WALLS WITHOUT APPROPRIATE BRACING AND SHORING, OR UNTIL ALL FRAMING IS COMPLETE, INCLUDING THE ROOF.
12. COMPACT BACKFILL BEHIND FOUNDATION WALLS TO MINIMUM OF 90% DENSITY, IN APPROPRIATE LIFTS. ALL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC OR OTHER DETRIMENTAL MATERIAL.
13. GRADE AWAY FROM BUILDING, AT TOP OF BACKFILL, WITH MIN. INITIAL INSTALLED SLOPE OF 1" PER FT.
14. DO NOT APPLY CONCENTRATED LOADS FOR AT LEAST 3 DAYS AFTER BUILDING MASONRY WALLS. DO NOT APPLY UNIFORM FLOOR OR ROOF LOADS FOR AT LEAST 12 HOURS AFTER BUILDING MASONRY WALLS.

WOOD FRAMING & "CONTINUOUS LOAD PATH" ANCHORAGE

1. R301.1 THE CONSTRUCTION OF BUILDING AND STRUCTURES SHALL RESULT IN A SYSTEM THAT PROVIDES A COMPLETE LOAD PATH CAPABLE OF TRANSFERRING ALL LOADS FROM THEIR POINT OF ORIGIN THROUGH THE LOAD-RESISTING ELEMENTS TO THE FOUNDATION.
2. THE CONTINUOUS LOAD PATH ANCHORAGE REQUIREMENTS ARE THIS BUILDING CODE'S METHOD OF ACHIEVING A MINIMUM, FIELD OBSERVABLE, BUILDING FRAME "STIFFENING" AND "ANCHORAGE" SYSTEM. THE GOAL IS SAFER STRUCTURES, BETTER ABLE TO RESIST REASONABLE WIND AND SEISMIC ACTIVITY. THE BASIC CONCEPT USES A CONTINUOUS "LINE" OF BUILDING ELEMENTS, SUCH AS WALL STUDS, AND MECHANICAL ANCHORS LINKING THE ROOF RIDGES TO FOUNDATION WALL FOOTING. IMAGINE IT LIKE A BIG TENT, WITH "GUY WIRES" FROM THE ROOF RIDGE TO THE GROUND.
3. IT IS UNDERSTOOD FOR MOST BUILDINGS, A CONSISTENT RHYTHM OF COMPLETELY LINEAR LINES OF CONNECTIVITY CANNOT BE ACHIEVED BECAUSE THINGS GET IN THE WAY, SUCH AS DOORS AND WINDOWS. HOWEVER, THE CODE DESCRIBES AN "INTENT." IT IS THE CONTRACTOR'S RESPONSIBILITY TO INTERPRET AND MAKE EVERY REASONABLE EFFORT TO ACHIEVE THE GOAL BY USING THE COMPONENTS DESCRIBED, IN THE QUANTITIES PRESCRIBED, AND IN THE LOCATIONS BEST SUITED.
4. WALL AND ROOF SHEATHINGS CREATE CONTINUOUS "DIAPHRAGMS," THESE HELP PREVENT BUILDING RACKING AND TWISTING. USE "APA" RATED MATERIALS. SHEATHING MATERIAL MUST HAVE GOOD QUALITIES TO ABSORB THE REQUIRED NAILING WITHOUT BREAKING, RESIST TEARING, AND HAVE GOOD NAIL RETENTION. INSTALL THE LARGEST POSSIBLE SIZE SHEETS. STAGGER JOINTS, SUPPORT ALL JOINTS PROPERLY, AND NAIL IT WELL.
5. CORNERS ARE IMPORTANT: MAKE STRONG BUILDING BY MAKING STRONG CORNERS. INSTALL ANCHORS AS CLOSE AS POSSIBLE TO BOTH SIDES OF EACH CORNER.
6. THE SYSTEMS MECHANICAL PLATES AND CONNECTORS CAN BE INSTALLED ON EITHER THE INSIDE OR OUTSIDE FACE OF THE STUDS, HOWEVER IT MUST BE CONSISTENT THROUGHOUT. (THIS ARCHITECT BELIEVES IT IS BEST ON THE INSIDE FACE OF WOOD STUD WALLS. RAFTER TO TOP PLATE CONNECTIONS ARE MUCH EASIER. USE SAW-ALL TO SLOT PLYWOOD DECKING FOR THE FLOOR TO FLOOR STRAPS, COVER WITH THE INTERIOR GYPSUM BOARD)
7. IT ALL LINKS AS FOLLOWS: THE FOUNDATION FOOTING IS ANCHORED TO THE FOUNDATION WALL; THE WALL IS MADE "MONOLITHIC;" THE BOTTOM WALL PLATES ARE ANCHORED TO THE FOUNDATION WALL; THE BOTTOM PLATES ARE THEN ANCHORED TO THE WALL STUD FRAMING ABOVE; UPPER FLOOR WALLS ARE STRAPPED TO LOWER WALLS; THE TOP WALL PLATES ARE ANCHORED TO THE WALL STUD FRAMING BELOW; THE RAFTERS ARE ANCHORED TO THE TOP WALL PLATE; AND FINALLY THE RATERS ARE STRAPPED TOGETHER AT THE TOP OF THE ROOF.
8. READ ALL NOTES ABOUT ANCHORAGE IN THE MASONRY SECTIONS, THERE IS A CONSISTENCY OF LAYOUT FOR BOTH MASONRY AND WOOD FRAMING, THE IMPLICATION IS, IT SHOULD ALL LINE UP.
9. FOR BUILDINGS WITH ROOF AND FLOOR SPANS OF LESS THAN 20 FEET, THIS STARTS WITHIN AS CLOSE AS POSSIBLE TO EXTERIOR CORNERS (BOTH SIDES), AND THEN RE-OCCURS ALONG WALLS AT NOT GREATER THAN 48 INCH INTERVALS.
10. ALL PRODUCTS REFERENCED HEREIN AND TO BE USED ON THIS JOBSITE ARE BY SIMPSON STRONG-TIE BECAUSE THEY SUPPORT THE INDUSTRY WITH EXTENSIVE TESTING, EDUCATION, AND FIELD SUPPORT. ALL ANCHORS SHALL BE INSTALLED PER MFG'S. RECOMMENDATIONS, BE ATTENTIVE TO NAIL SIZES AND LENGTHS. THE SIMPSON CATALOG SHALL BE ON THE JOBSITE, NO ALTERNATE MANUFACTURERS ARE ALLOWED.
11. SILL PLATE ANCHORING: SILL PLATES SHALL BE ANCHORED TO THE FOUNDATION WALL AS FOLLOWS: ANCHOR BOLTS SHALL BE MIN. ONE-HALF INCH DIAMETER DEFORMED OR THREADED ROD WITH MIN. EMBEDMENT OF 7 INCHES INTO CONCRETE OR SOLID FILLED MULTI COURSE MASONRY, THE WASHER IN CONTACT WITH THE SILL PLATE SHALL BE MIN. 2 INCHES SQUARE AND 1/8" THICK. AT BLDG. CORNERS, OR THE END OF SILL PLATE SECTIONS, THE ANCHOR BOLT SHALL NOT BE MORE THAN "7 DIAMETERS" (3-1/2") FROM ENDS. IN ADDITION, ANCHORS SHALL BE PLACED ALONG WALLS AT INTERVALS NOT EXCEEDING 48 INCHES. IF ANCHOR BOLTS ARE "CAST" INTO THE FOUNDATION WALL AND "MISS" THESE OBJECTIVES, THEN SUPPLEMENT AS REQUIRED BY DRILLING AND SETTING EPOXY BOLTS OR SIMPSON "TITEN HD" MASONRY SCREWS.
12. NOTE, IT IS PRACTICAL TO BUILD THE WALL AS REQUIRED FOR OPENINGS, THEN DETERMINE THE BEST ANCHOR LOCATIONS. USE OF THE SIMPSON "TITEN HD" WOOD SCREWS, ALLOWS ANCHORS CLOSER TO CORNERS AND BETTER COORDINATION WITH "UPLIFT" SILL PLATE TO WALL ANCHORS.
13. WIND BRACING "UPLIFT": A) SILL PLATE TO WALL STUD ANCHORAGE: USE SIMPSON #SSP WITH Z-MAX HOT DIPPED GALVANIZED COATING (BECAUSE OF PRESSURE TREATED PLATE, ALSO USE STAINLESS STEEL NAILS). USE A PAIR (INSIDE AND OUT) LOCATED AT BLDG. CORNERS, THEN SINGLE UNITS AT SPACING NOT EXCEEDING 48" O.C. (SAME AS FOUNDATION ANCHOR BOLTS). B) WALL STUD TO TOP DOUBLE PLATE. USE SAME PRODUCT AT THE SILL PLATE TO WALL STUD ANCHOR, LOCATED ON THE SAME STUD. THESE TOP AND BOTTOM ANCHORS SHOULD BE IN "ALIGNMENT."
14. WALL-TO-WALL ANCHORAGE: WHERE WALLS CONTINUE ABOVE A FLOOR DECK, THE CONTINUITY OF UPLIFT ANCHORAGE SHALL BE MAINTAINED. UPPER WALL STUDS MUST BE LOCATED INLINE WITH LOWER WALL STUDS. USING THE SAME STUDS WHICH HAVE THE SILL PLATE TO STUD ANCHORS, INSTALL SIMPSON #CS STRAPS.
15. WALL TO RAFTER ANCHORAGE: EVERY RAFTER SHALL BE ANCHORED TO THE WALL TOP PLATE USING ONE "HURRICANE CLIP", SIMPSON #H2.5A. ALL CEILING JOISTS (OR FLOOR JOISTS) SHALL BE SECURELY NAILED TO THE RAFTER.
16. RAFTER TO RIDGE BEAM (OR OTHER EXISTING STRUCTURE): USE SIMPSON #LSTA STRAPS.

WOOD FRAMING "BASIC"

1. STANDARDS: ALL ROUGH CARPENTRY TO COMPLY WITH "MANUAL OF HOUSE FRAMING" BY NATIONAL FOREST PRODUCTS ASSOC., THE 2006 ICC RESIDENTIAL CODE, AND WITH RECOMMENDATIONS OF AMERICAN PLYWOOD ASSOC.
2. STRUCTURAL LUMBER (WALL STUDS, FLOOR CEILING JOISTS) OF NOMINAL 2" THICKNESS SHALL BE KILN DRIED (MAX. 19% MOISTURE CONTENT) #2 HEM-FIR WITH MIN. FB 1,200.
3. ALL WOOD, IN PARTICULAR SILL PLATES, IN CONTACT WITH MASONRY SHALL BE PRESSURE TREATED, WITHOUT CHROMATED COPPER ARSENATE. ALL CONNECTORS IN CONTACT WITH PRESSURE TREATED WOOD TO BE STAINLESS STEEL OR HEAVY HOT DIPPED GALVANIZED.
4. THE JOINT BETWEEN MASONRY FOUNDATION WALL AND WALL SILL PLATES SHALL RECEIVE POLYPROPYLENE FOAM SILL PLATE INSULATION.
5. PROVIDE TWO (2) FLOOR JOISTS DIRECTLY BELOW PARALLEL WALLS AND PARTITIONS ABOVE. IF WALLS ABOVE ARE CHASES FOR PIPES OR DUCTS, PUT JOISTS EITHER SIDE AND INSTALL SOLID BLOCKING AT 16" O.C. MIN. ALSO, PROVIDE ONE (1) ADDITIONAL JOIST 8" INSIDE OF ROOMS ABOVE TO TAKE FURNITURE AND BOOKCASE LOADS AT ROOM PERIMETERS PARALLEL TO FLOOR FRAMING.
6. ALL FLOORS AND ALL ATTIC ACCESSIBLE CEILING JOISTS SHALL BE "BRIDGED" WITH SOLID BLOCKING, FULL DEPTH, STAGGERED, AS FOLLOWS: SPANS > TO 14', PROVIDE 2 ROWS; SPANS > TO 06', PROVIDE 1 ROW. IF EXISTING DIAGONAL "BRIDGING" IS FOUND, THEN REPLACE WITH SOLID BLOCKING AS DESCRIBED ABOVE.
7. IF EXISTING DIAGONAL "BRIDGING" IS FOUND, THEN REPLACE WITH SOLID BLOCKING AS DESCRIBED ABOVE.
8. ALL RAFTERS TO BE SOLIDLY BLOCKED ALONG THE TOP PLATE OF EXTERIOR WALLS.
9. WIND BRACING HORIZONTAL: ALL WALLS SHALL BE COMPLETELY SHEATHED WITH APA RATED, 4-PLY, 1/2 INCH THICK PLYWOOD. STARTING FROM THE BOTTOM, THE FIRST ROW SHALL BE LAID HORIZONTALLY; THE SECOND ROW SHALL BE INSTALLED VERTICALLY TO COMPLETELY COVER THE FLOOR BAND JOIST. ROWS ABOVE SHALL ALTERNATE USING THE SAME SYSTEM. VERTICAL JOINTS SHALL BE FULLY SUPPORTED ON STUDS. NAILING, USING 8D COMMON NAILS, ALL AROUND SHEET PERIMETERS SHALL BE 4" O.C., INTERIOR FIELD NAILING SHALL BE 6" O.C. NOTE: NAILS IN THE PRESSURE TREATED SILL PLATE MUST BE STAINLESS STEEL OR HOT DIPPED GALVANIZED.
10. SUB-FLOOR DECKS: SHALL BE ADVANTECK, 3/4", TONGUE & GROOVED, COMPOSITE DECKING., GLUE IN PLACE AND SCREW @ 6" O.C. ALONG ALL SHEET PERIMETERS AND 16" O.C. AT INTERIOR FIELD. ALL JOINTS SHALL BE FULLY SUPPORTED.
11. ROOF SHEATHING: SHALL BE EXTERIOR GRADE PLYWOOD, MIN. 5/8" THICK WITH RAFTER SPACING OF 24" O.C. AND MIN. 1/2" THICK WITH RAFTER SPACING OF 16" O.C. SEE NOTES ABOUT RADIANT BARRIERS. NAIL SAME AS WALL SHEATHING. PROVIDE TWO (2) SIMPSON STRONG-TIE "RSCL" SHEATHING CONTINUITY CLIPS IN EACH RAFTER BAY AT JOINTS BETWEEN SHEATHING.
12. LUAN UNDERLAYMENTS SHALL ALL BE CERTIFIED AS FABRICATED WITH EXTERIOR GRADE GLUE.

WATER SOFTENER SYSTEM

1. PROVIDE NEW WATER SOFTENER SYSTEM, EQUIPMENT TO BE BY "ERIE" OR APPROVED EQUAL, BLUE SALT.
2. ALL WATER TO BE SOFTENED, INCLUDING LINE TO GARAGE. EXCEPT DO NOT SOFTEN A SEPARATE, COLD WATER LINE TO THE KITCHEN WATER FILTER, DO NOT SOFTEN EXTERIOR HOSE BIBS.
3. ALL "BOILER" FILL AND MAKE-UP WATER, AND SUPPLIES TO HOT WATER HEATERS SHALL BE SOFTENED.

WATER FILTRATION SYSTEM

1. MUNICIPALITIES DELIVER "POTABLE" WATER. CHLORINE AND OTHER CHEMISTRY IS ADDED IN THE PURIFICATION PROCESS.
2. FOLLOWING IS THE PROPOSED USE OF SIMPLE SCREW-IN CANISTER WATER FILTERS, TO "STRIP OR MINIMIZE" THE CHEMICALS AT THE POINT AND TIME OF USE. SYSTEMS USING GOOD HIGH VOLUME FILTERS WITH REPLACEABLE CARTRIDGES WORK WELL. CARBON FILTERS ARE SIMPLE AND EFFECTIVE. USE OF OTHER FILTER ELEMENTS CAN MAKE THIS MORE SOPHISTICATED DEPENDING HOUSEHOLD REQUIREMENTS.
3. CONCEPT: INSTALL A READILY ACCESSIBLE AND SERVICEABLE, LIMITED "POINT OF USE" FILTER SYSTEM FOR DRINKING AND COOKING WATER ONLY.
4. CONTRACTOR SHALL PROVIDE SYSTEM SKETCH AND CATALOG CUTS OF ALL EQUIPMENT FOR OWNER'S APPROVAL.
5. BASE BID: GET EQUIPMENT FROM A NATIONALLY RECOGNIZED MANUFACTURER, TO ENSURE CONTINUITY OF FILTER ELEMENTS SUPPLY. AT VISIBLE AND EASILY SERVICED LOCATION ON BASEMENT WALL IN UTILITY AREA OR UNDER THE KITCHEN (SEE DRAWING) INSTALL (RACK) 2, 1-QUART MIN., FILTER JARS, "IN LINE." LOAD FIRST WITH A "SEDIMENT FILTER," THE SECOND WITH AN "ACTIVATED CARBON FILTER." SUPPLY FILTERS WITH 1/2" LINE FROM NOT-SOFTENED COLD WATER SOURCE.
6. FROM THE FILTER SUPPLY THE FOLLOWING: SEPARATE DRINKING WATER FAUCET MOUNTED AT MAIN KITCHEN SINK (AS SELECTED BY OWNER), THE MAIN REFRIGERATOR, AND THE SMALL BEVERAGE/ICE REFRIGERATOR BY THE DECK DOORS.
7. IF REFRIGERATORS COME WITH FILTERS, THEN REMOVE AND BYPASS. DO NOT ALLOW FILTER ELEMENTS TO REMAIN IN ANY APPLIANCE UNLESS IT IS REPLACED AS PART OF REGULAR SCHEDULED MAINTENANCE.
8. ADD OPTION: TO REMOVE CHLORINE FROM SHOWER WATER, INSTALL SMALL "SCREW-ON" CARBON FILTER RIGHT ON THE SHOWER HEAD STEM PIPE. THIS DOES NOT LOOK GREAT, BUT IS THE MOST COST EFFECTIVE METHOD.

PLUMBING: WITH PUBLIC WATER AND SANITARY SERVICE

1. THIS PROJECT IS TO RECEIVE ALL NEW PLUMBING, CONNECTED TO EXISTING MUNICIPAL SANITARY AND WATER UTILITIES.
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. PROVIDE OWNER WITH PLUMBING FIXTURE SCHEDULE FOR REVIEW AND APPROVAL BEFORE INSTALLATION OF ANY WORK.
5. BEFORE WORK BEGINS, "SNAKE" EXISTING SANITARY LATERAL ALL THE WAY TO THE STREET TO ENSURE FULL FUNCTION AND NO BLOCKAGES.
6. RELOCATE EXISTING WATER METER TO THE UTILITY AREA OF THE NEW BASEMENT. THIS IS THE NEW STARTING POINT.
7. DISHWASHER OPTION: TO AVOID "GURGLING" THE TRAP, DO NOT PLUMB THE DISHWASHER DRAIN THROUGH THE KITCHEN SINK TAILPIECE. PROVIDE SEPARATE DRAIN.
8. 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.
9. PROVIDE SHUT-OFF VALVES FOR EACH FIXTURE SUPPLY. USE "BALL VALVES" ONLY FOR ABSOLUTELY EVERYTHING, NO GATE TYPE VALVES.
10. PROVIDE "SHOCK" RISERS AT ENDS OF MAINS. PROVIDE EXPANSION TANK ON HOT WATER SUPPLY.
11. ALL EXTERIOR FAUCETS SHALL BE FROST PROOF, AND "DRAINABLE" BACK TO UTILITY AREA FOR WINTER.
12. SECOND FLOOR HIBERNATION: PROVIDE VALVES AND DRAIN FAUCETS TO ALLOW THE SECOND FLOOR TO BE COMPLETELY SHUT OFF, DRAINED, AND ABANDONED WITHOUT POSSIBLE FREEZING. SEE NOTES IN LAUNDRY AREA.
13. DOMESTIC HOT WATER TO BE PROVIDED BY A GAS FIRED "INSTANT HOT WATER HEATER(S)" UNITS, ENERGY STAR RATED, WITH CLOSED COMBUSTION SYSTEMS. LOCATED AS CLOSE TO POINTS OF USE AS POSSIBLE, MINIMUM ONE PER FLOOR. SEE PLANS FOR LOCATION.
14. ALL WASTE PLUMBING IN AND BELOW THE SECOND FLOOR DECK, BUILT INTO WALL AND FLOOR CAVITIES, SHALL BE COMPLETELY SURROUNDED WITH FIBERGLASS SOUND INSULATION.
15. 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.
16. 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.
17. DO ALL NATURAL GAS PLUMBING IN ACCORDANCE WITH CODE. AS A RULE, PROVIDE A RECESS WALL BOX FOR APPLIANCE CONNECTIONS.

REV. #	REVISION DESCRIPTION	DATE
	START UP	OCT. 22, 2008
	FINAL PRELIMINARY REVIEW	12-11-2008
	FOR PERMIT SUBMISSION	01-05-2009
1	REVISED PER TOWNSHIP REVIEW	02-18-09

NOT VALID FOR PERMITS UNLESS AFFIXED WITH EMBOSSED SEAL & ORIGINAL SIGNATURE IN RED.

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ELECTRICAL - BASEMENT

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ADDITIONS & RENOVATIONS

BENSALEM TWP., BUCKS CO., PA

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1/12

ELECTRICAL - BASEMENT PLAN

SCALE 1/4" = 1'-0"