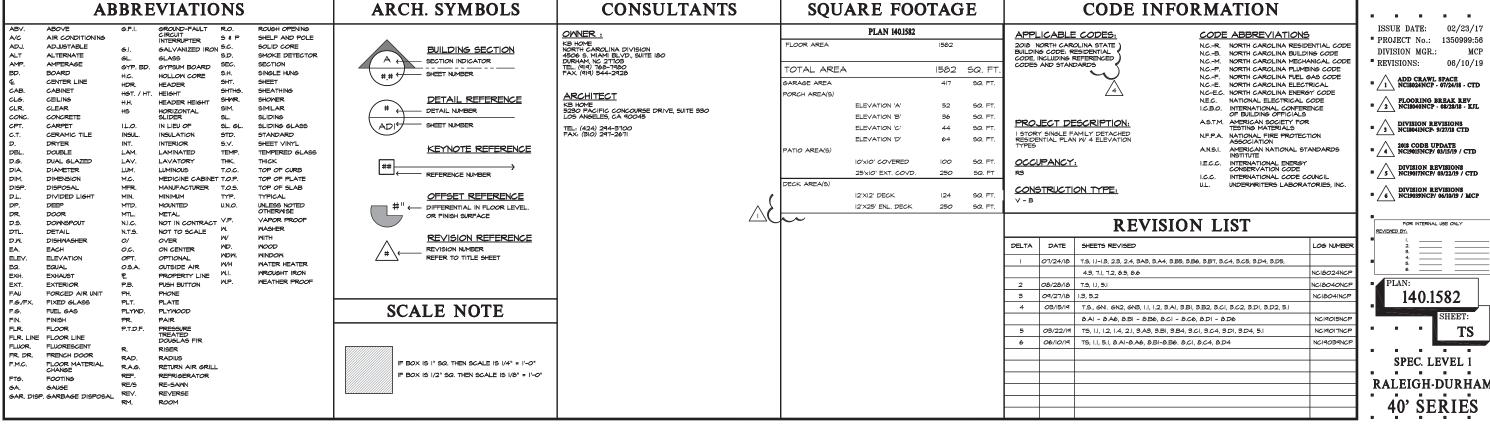


# NORTH CAROLINA 40' SERIES PLAN 140.1582

LOT 59 MASON POINTE -ELEVATION B

### PARTIAL FLOOR, SLAB PLAN, & ROOF W. REAR, PARTIAL RIGHT ELEVATIONS AT FLOOR PLAN 'C' IO'XIO' COVERED PATIO TITLE SHEET GENERAL NOTES GENERAL NOTES GENERAL NOTES PARTIAL FLOOR, SLAB PLAN, ROOF W REAR, PARTIAL RIGHT ELEVATIONS AT FLOOR PLAN 'C' 10 x 25' EXTENDED COVERED PATIO PARTIAL FLOOR, SLAB PLAN, \$ ROOF W REAR, PARTIAL RIGHT ELEVATIONS AT FLOOR PLAN 'C' IO'XIO' COVERED SCREENED PATIO FLOOR PLAN 'A' FIRST FLOOR AT CRAWL SPACE OPTION PARTIAL FLOOR, SLAB PLAN, \$ ROOF W REAR, PARTIAL RIGHT ELEVATIONS AT FLOOR PLAN 'C' 10'x25' EXTENDED COVERED SCREENED PATIO FLOOR PLAN OPTIONS SLAB INTERFACE PLAN 'A' PARTIAL SLAB INTERFACE PLAN 'B', 'C' CRANL SPACE PLAN 'A' PARTIAL CRAWL SPACE PLAN B', 'C' & 'D' PARTIAL FLOOR, SLAB PLAN, & ROOF W REAR, PARTIAL RIGHT ELEVATIONS AT FLOOR PLAN 'C' IO'XIO' COVERED SCREENED DECK 8.66 PARTIAL FLOOR, SLAB PLANS ROOF BY REAR PARTIAL RIGHT ELEVATIONS OF THE PROPERTY PROPERTY OF THE 8.06 3.AI ROOF PLAN, FRONT & REAR ELEVATIONS 'A' 3.A2 LEFT & RIGHT ELEVATIONS 'A' 3.A3 FRONT ELEVATIONS 'A' AT OPTIONAL 9'-1" PLATE HEIGHT 3.A4 PARTIAL FLOOR PLAN, ROOF, FRONT ELEVATION, PARTIAL LEFT ELEVATION 'A' 8.DI PARTIAL FLOOR, SLAB PLAN, ROOF W REAR, PARTIAL RIGHT ELEVATIONS AT FLOOR PLAN 'D' IO'XIO' COVERED PATIO PARTIAL FLOOR, SLAB PLAN, \$ ROOF W REAR, PARTIAL RIGHT ELEVATIONS AT FLOOR PLAN $\rm 'D'$ IO'x25' EXTENDED COVERED PATIO AT EXTENDED PORCH OPTION W CRANLSPACE FRONT ELEVATION 'A' AT OPTIONAL 9'-O" PLATE AT SLAB & CRANL SPACE PARTIAL FLOOR, SLAB PLAN, ROOF W REAR, PARTIAL RIGHT ELEVATIONS AT FLOOR PLAN 'D' IO'XIO' COVERED SCREENED PATIO PARTIAL FLOOR, SLAB PLAN, ROOF W/ REAR, PARTIAL RIGHT ELEVATIONS AT FLOOR PLAN 'D' 10'x25' EXTENDED COVERED SCREENED PATIO PARTIAL FIRST & SECOND FLOOR PLANS B' ROOF PLAN, FRONT & REAR ELEVATIONS B' LEFT & RIGHT ELVATIONS B' PARTIAL FLOOR PLAN, ROOF, FRONT ELEVATION, PARTIAL LEFT ELEVATION B' PARTIAL FLOOR, SLAB PLAN, \$ ROOF W REAR, PARTIAL RIGHT ELEVATIONS AT FLOOR PLAN $\rm 'D'$ $\rm IO' XIO'$ COVERED SCREENED DECK PARTIAL FLOOR, SLAB PLAN, \$ ROOF W REAR, PARTIAL RIGHT ELEVATIONS AT FLOOR PLAN 'D' 10'x25' EXTENDED COVERED SCREENED DECK AT EXTENDED PORCH OPTION W CRAWLSPACE FRONT ELEVATION 'B' AT OPTIONAL 9'-0" PLATE AT SLAB & CRAWL SPACE ARCHITECTURAL DETAILS ARCHITECTURAL DETAILS PARTIAL FIRST & SECOND FLOOR PLANS 'C' PARTIAL FIRST & SECOND FLOOR PLANS C' ROOF PLAN, FRONT & REAR ELEVATIONS C' LEFT & RIGHT ELEVATIONS C' FRONT ELEVATION PARTIAL LEFT ELEVATION C' AT EXTENSED FROCH OPTION W CRANLSPACE ROONT ELEVATION C' AT OPTIONAL 41-0" PLATE AT SLAB & CRANL SPACE ARCHITECTURAL DETAILS ARCHITECTURAL DETAILS ARCHITECTURAL DETAILS ARCHITECTURAL DETAILS ARCHITECTURAL DETAILS PARTIAL FIRST & SECOND FLOOR PLANS D' ROOF PLAN, FRONT & REAR ELEVATIONS D' LEFT & RIGHT ELEVATIONS D' LEFT & RIGHT ELEVATIONS D' FRONT ELEVATIONS D' AT EVATENATIONS D' AT EXTENDED PORCH OPTION W. CRANLSPACE FRONT ELEVATION D' AT EXTENDED PORCH OPTION W. CRANLSPACE FRONT ELEVATION D' AT OPTIONAL 9'-0" PLATE AT SLAB & CRAWL SPACE INTERIOR ELEVATIONS SECTIONS SECTIONS CRAWL SPACE PARTIAL FLOOR, SLAB PLAN, & ROOF W/ REAR, PARTIAL RIGHT ELEVATIONS AT FLOOR PLAN 'A' IO'XIO' COVERED PATIO PARTIAL FLOOR, SLAB PLAN, ROOF W REAR, PARTIAL RIGHT ELEVATIONS AT FLOOR PLAN 'A' IO'x25' EXTENDED COVERED PATIO AT FLOOR PLAN 'A' IOX25' EXTENDED COVERED PATIO PARTIAL FLOOR SLAB PLANI, ROOF MY REAR PARTIAL RIGHT ELEVATIONS AT FLOOR PLAN 'A' IOX10' COVERED SCREENED PATIO PARTIAL FLOOR, SLAB PLANI, ROOF MY REAR, PARTIAL RIGHT ELEVATIONS AT FLOOR PLAN 'A' IOX25' EXTENDED COVERED SCREENED PATIO PARTIAL FLOOR, SLAB PLANI, ROOF MY REAR, PARTIAL RIGHT ELEVATIONS AT FLOOR PLANI'A' IOX10' COVERED SCREENED DECK PARTIAL FLOOR, SLAB PLANI, ROOF MY REAR, PARTIAL RIGHT ELEVATIONS AT FLOOR PLANI'A' IOX10' FOR MY REAR, PARTIAL RIGHT ELEVATIONS AT FLOOR PLANI'A' IOX25' EXTENDED COVERED SCREENED DECK PARTIAL FLOOR, SLAB PLAN, \$ ROOF W REAR, PARTIAL RIGHT ELEVATIONS AT FLOOR PLAN 'B' IO'XIO' COVERED PATIO PARTIAL FLOOR, SLAB PLAN, & ROOF W/ REAR, PARTIAL RIGHT ELEVATIONS AT FLOOR PLAN 'B' 10'x25' EXTENDED COVERED PATIO PARTIAL FLOOR, SLAB PLAN, ROOF W REAR, PARTIAL RIGHT ELEVATIONS AT FLOOR PLAN 'B' IO'XIO' COVERED SCREENED PATIO PARTIAL FLOOR, SLAB PLAN, \$ ROOF W/ REAR, PARTIAL RIGHT ELEVATIONS AT FLOOR PLAN 'B' IO'x25' EXTENDED COVERED SCREENED PATIO PARTIAL FLOOR, SLAB PLAN, ROOF W REAR, PARTIAL RIGHT ELEVATIONS AT FLOOR PLAN 'B' IO'XIO' COVERED SCREENED DECK 3B6 PARTIAL FLOOR, SLAB PLAN, 8 ROOF W REAR, PARTIAL RIGHT ELEVATIONS AT FLOOR PLAN 'B' 10'x25' EXTENDED COVERED SCREENED DECK **CODE INFORMATION CONSULTANTS SQUARE FOOTAGE**

SHEET INDEX





NORTH CAROLINA 40' SERIES KB HOME NORTH CAROLINA DIVISION 4518 S. MIAMI BLVD. SUITE 180 DURHAM, NC 27703 ■ TEL: (919) 768-7988 ■ FAX: (919) 472-0582 2018 NORTH CAROLINA STATE BUILDING **CODES** 

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PLAN: 140.1582 HEET:

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SPEC. LEVEL 1 RALEIGH-DURHAM

# GENERAL REQUIREMENTS

- THE WORD 'CONTRACTOR' AS USED HEREIN SHALL MEAN THE GENERAL CONTRACTOR, SUBCONTRACTORS AND ALL PERSONS DIRECTLY OR DIRECTLY EMPLOYED BY ANY OF THEM
- CONTRACTOR SHALL PERFORM THE WORK IN ACCORDANCE WITH THE FOLLOWING APPLICABLE CODE REQUIREMENTS:
  - ALL LANS, STATUTES, THE MOST RECENT BUILDING CODES, ORDINANCES, RULES, REGULATIONS, AND LANFUL ORDERS OF ALL PUBLIC AUTHORITIES HAVING JURISDICTION OVER OWNER, CONTRACTOR, ANY SUBCONTRACTOR, THE PROJECT THE PROJECT SITE, THE WORK, OR THE PROSECUTION OF THE WORK.
- THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT AND ALL OTHER APPLICABLE CODE REQUIREMENTS RELATING TO SAFETY.
- THE FAIR HOUSING AMENDMENTS ACT. THE AMERICANS WITH DISA-BILITIES ACT, AND ALL OTHER APPLICABLE CODE REQUIREMENTS RELATING THERETO.
- CONTRACTOR SHALL CAREFULLY STUDY AND REVIEW THE CONSTRUCTION CONTRACTOR SHALL CAMEDILLY STUDY AND MEMIENT IN CONSTRUCTION DOCUMENTS AND INFORMATION FURNISHED BY OMNER, AND SHALL PROMPTLY REPORTED HOLD IN MINITING TO OWNER'S REPRESENTATIVE ANY SERVICE, OR COMISSIONS IN THE CONSTRUCTION DOCUMENTS OF INCOMISSIONS IN STRUCTURE OF INCOMISSIONS IN THE CONTRACTOR.
- IF CONTRACTOR PERFORMS WORK WHICH HE KNOWS OR SHOULD KNOW IS CONTRARY TO APPLICABLE CODE REQUIREMENTS, WITHOUT THE AGREEMENT FONDER, CONTRACTOR SHALL BE RESPONSIBLE FOR SUCH MORK AND SHALL BEAR THE RESULTANT LOSSES, INCLUDING, WITHOUT LIMITATION, THE COSTS OF CORRECTING DEFECTIVE WORK.
- CONTRACTOR SHALL PROVIDE CERTIFICATES OF INSURANCE ACCEPTABLE TO OWNER PRIOR TO COMMENCEMENT OF WORK.
- CONTRACTOR SHALL TAKE FIFLD MEASUREMENTS VERIEY FIFLD DOCUMENTS SUCH FIELD MEASUREMENTS, CONDITIONS, AND OTHER INFORMATION KNOWN TO CONTRACTOR BEFORE COMMENCING THE WORK ERRORS, INCONSISTENCIES, OR OMISSIONS DISCOVERED AT ANY TIME SHALL BE PROMPTLY REPORTED IN WRITING TO THE OWNER.
- CONTRACTOR SHALL PROMPTLY NOTIFY OWNER'S REPRESENTATIVE IF CONTRACTOR BECOMES AMARE DURING THE PERFORMANCE OF THE WORK THAT THE CONSTRUCTION DOCUMENTS ARE NOT IN COM-PLIANCE WITH APPLICABLE CODE REQUIREMENTS.
- BY SUBMITTAL OF BID, CONTRACTOR WARRANTS TO OWNER THAT ALL MATTERIALS AND EQUIPMENT TO BE FURNISHED ARE NEW UNLESS NOTED OTHERWISE AND ALL WORK WILL BE OF GOOD QUALITY AND FREE FROM FAULTS AND DEFECTS.
- SUB-CONTRACTORS SHALL INSURE THAT ALL WORK IS DONE IN A PROFESSIONAL WORKMANLIKE MANNER BY SKILLED MECHANICS AND SHALL REPLACE ANY MATERIALS OR ITEMS DAMASED BY SUB-CONTRACTOR'S PERFORMANCE. SUB-CONTRACTOR'S AND SUPPLIERS ARE HEREBY NOTIFIED THAT THEY ARE TO CONFER AND COOPERATE FULLY WITH EACH OTHER DURING THE COURSE OF CONSTRUCTION TO DETERMINE THE EXACT EXTENT AND OVERLAP OF EACH OTHER'S WORK AND TO SUCCESSFULLY COMPLETE THE EXECUTION OF THE WORK. ALL AND TO SUCCESSFULLY COMPLETE THE EXECUTION OF THE WORK. ALL SUB-CONTRACTOR WORKMANSHIP SHALL BE OF QUALITY TO PASS INSPECTIONS BY LOCAL AUTHORITIES, LENDING INSTITUTIONS, ARCHITECT OR BUILDER. ANY ONE OR ALL OF THE ABOVE MENTIONED INSPECTORS MAY INSPECT WORKMANSHIP AT ANY TIME, AND CORRECTIONS NEEDED TO ENHANCE THE QUALITY OF BUILDING WILL BE DONE IMMEDIATELY. EACH SUBCONTRACTOR, INLESS SPECIFICALLY EXEMPTED BY THE TERMS OF HISHERS SUB-CONTRACT AGREEMENT, SHALL BE RESPONSIBLE FOR CLEANING UP AND REMOVING FROM THE JOB SITE ALL TRACH AND DEBRING LIEFT BY OTHER SUB-CONTRACTORS. BUILDER WILL DETERMINE HOW SOON AFTER SUBCONTRACTOR COMPLETS EACH PHASE OF HIS WORK THAT TRASH AND DEBRIS WILL BE REMOVED FROM THE SITE.
- APPROVAL BY THE BUILDING INSPECTOR DOES NOT MEAN APPROVAL OR ALLOWABLE FAILURE TO COMPLY WITH THE PLANS AND SPECIFICATIONS. ANY DESIGN WHICH FAILS ON BE CLEAR OR IS ANSIGNOUS MUST BE REFERRED TO THE ARCHITECT OR ENGINEER FOR INTERPRETATION
- ALL EQUIPMENT AND MATERIALS FURNISHED AND INSTALLED UNDER THESE PLANS SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE OF THE WORK BY OWNER UNLESS STIPULATED OTHERWISE
- ALL TRADE NAMES AND BRAND NAMES CONTAINED HEREIN ESTABLISH GUALITY STANDARDS. SUBSTITUTIONS ARE PERMITTED, WITH PRIOR APPROVAL BY THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL SUBMIT FOR THE ARCHITECT'S AND BUILDER'S APPROVAL ALL MATERIALS OR EQUIPMENT WHICH IS CONSIDERED "OR EQUIAL" TO THAT SPECIFIED.
- CONSTRUCTION DOCUMENTS IDENTIFIED AS "BID SET" ON ANY OR ALL SHEETS MAY BE SUBJECT TO REVIEW. THIS REVIEW MAY RESULT IN CHANGES WHICH MAY BE MADE TO THE FLANS PRICE TO THE ISSUANCE OF THE FINAL CONSTRUCTION SET WHICH WILL CONTAIN NO "BID SET" DESIGNATIONS. CONSTRUCTION DOCUMENTS IDENTIFIED AS "BID SET" ARE NOT TO BE CONSTRUCTION DOCUMENTS IDENTIFIED AS "BID SET" ARE NOT TO BE CONSTRUCTION SET WHICH THE COMPLETED OR FINAL DRAWNINGS AND THEY SHOULD NOT IN ANY WAY BE USED AS SUCH.
- ALL STANDARD NOTES CONTAINED HEREIN ARE TYPICAL UNLESS
- TYPICAL DETAILS AND SPECIFICATIONS ARE MINIMUM REQUIREMENTS TO BE USED WHEN CONDITIONS ARE NOT SHOWN OTHERWISE.
- SPECIFIC NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
  WHERE NO DETAILS ARE SHOWN CONSTRUCTION SHALL CONFORM
  TO SIMILAR WORK ON THE PROJECT.
- SEE ARCHITECTURAL, STRUCTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS FOR PITS, TRENCHES, ROOF OPENINGS, DEPRESSIONS, ETC. NOT SHOWN ON THE OTHER DRAWINGS.
- THE CONSTRUCTION DOCUMENTS AND ALL COPIES THEREOF FURNISHED TO CONTRACTOR ARE THE PROPERTY OF THE ARCHITECT AND ARE NOT TO BE USED ON OTHER WORK.

# SITE WORK

- CONTRACTOR SHALL INVESTIGATE SITE DURING CLEARING AND EARTHWORK OPERATIONS FOR FILLED EXCAVATIONS OR BURIED STRUCTURES SUCH AS CESSPOOLS, CISTERNS, FOUNDATIONS, ETC., AND BURIED ARTIFACTS SUCH AS INDIAN OR DINOSAUR BONES. IF ANY SUCH ITMS ARE FOUND THE ARKHITECT, CIVIL ENGINEER, AND SOILS ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
- CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO FULLY PROTECT ADJACENT PROPERTIES.
- REFER TO THE SOILS REPORT AS PREPARED BY THE GEOTECHNICAL
- 4. REFER TO CIVIL ENGINEER'S CURRENT GRADING AND PLOT PLANS

# SITE WORK (continued)

- REFER TO THE LANDSCAPE ARCHITECT'S CURRENT GRADING PLAN AND CONSTRUCTION DOCUMENTS.
- ALL FOOTINGS SHALL REST ON FIRM NATURAL SOIL OR APPROVED COMPACTED FILL. REFER TO GEOTECHNICAL REPORT.
- EXCAVATIONS FOR FOOTINGS SHALL BE MADE TO THE WIDTH, LENGTH, AND DEPTH REQUIRED AND FINISHED WITH LEVEL BOTTOMS
- EXCAVATIONS SHALL BE KEPT FREE OF STANDING WATER
- WHERE EXCAVATIONS ARE MADE TO A DEPTH GREATER THAN INDICATED, SUCH ADDITIONAL DEPTH SHALL BE FILLED WITH CONCRETE AS SPECIFIED FOR FOOTINGS.
- IO. FILL MATERIALS SHALL BE FREE FROM DEBRIS, VEGETABLE MATTER AND OTHER FOREIGN SUBSTANCES.
- ALL FINISH GRADES TO DRAIN AWAY FROM THE BUILDING FOOTINGS.
- 12. THERE SHALL BE NO ON-SITE WATER RETENTION.
- THERE SHALL BE NO DRAINAGE TO ADJACENT PROPERTY
- FOR ONSITE CONTSRUCTION, PLANS TO COMPLY WITH NECESSARY INSPECTIONS APPROVED BY THE BUILDING OFFICIAL.
- THE REQUIREMENTS IN THESE NOTES ARE THE MINIMUM THAT SHALL BE MET. REQUIREMENTS OF THE STRUCTURAL DRAWINGS THAT EXCEED THE REQUIREMENTS SHOWN HERE SHALL BE MET.

# CONCRETE

- REFER TO STRUCTURAL ENGINEERING CALCULATIONS AND SOILS REPORT FOR THE PERFORMANCE REQUIREMENTS FOR CONCRETI
- CONCRETE SHALL BE PROPORTIONED TO PROVIDE AN AVERAGE COMPRESSIVE STRENGTH AS PRESCRIBED IN THE N.C.-R, AS WELL AS SATISFY THE DURABILITY CRITERIA OF THE N.C.-R
- MIXING OF CONCRETE SHALL BE PERFORMED IN ACCORDANCE WITH ACI 318, SECTION 5.8.
- THE DEPOSITING OF CONCRETE SHALL COMPLY WITH THE PROVISIONS ACI 310, SECTION 5.10.
- THE CURING OF CONCRETE SHALL BE IN ACCORDANCE WITH ACI 318, SECTION 5.II.
- ALL FORM WORK SHALL BE DESIGNED, CONSTRUCTED, UTILIZED, AND REMOVED.
- CONDUIT, PIPES AND SLEEVES OF ANY MATERIAL NOT HARMFUL TO CONCRETE AND WITHIN THE LIMITATIONS OF ACI 318, SECTION 6.3, ARE PERMITTED TO BE EMPEDDED IN CONCRETE WITH APPROVAL OF THE REGISTERED DESIGN PROFESSIONAL.
- CONSTRUCTION JOINTS INCLUDING THEIR LOCATION SHALL COMPLY WITH THE PROVISIONS OF ACI 318, SECTION 6.4.
- ALL STEEL REINFORCING OF CONCRETE SHALL BE DONE IN ACCORDANCE WITH THE N.C.-R
- TOP OF CONCRETE SLABS TO BE A MINIMUM 4" W MASONRY VENEER 6" ELSEWHERE (8" H.J.D.) ABOVE FINISH GRADE.
- FOUNDATION WIDTHS, DEPTHS, AND REINFORCING, AS SHOWN ON PLANS, ARE SUPERCEDED BY ANY LOCAL CODES OR ORDINANCES WHICH REQUIRE INCREASES OF THE SAME.
- ALL REINFORGEMENT, CONDUIT, OUTLET BOXES, ANCHORS, HANGERS BE SECURED AND APPROPRIATELY FASTENED IN THEIR PROPER LOCATIONS PRIOR TO THE PLACEMENT OF CONCRETE. SUB-CONTRACTOR SHALL VERIFY INSTALLATION OF HOLD-DOWNS ANCHOR BOLTS, PA STRAPS, AND OTHER ANCHORAGE MATERIAL AND ITEMS PRIOR TO PLACEMENT OF CONCRETE
- IS. POST-TENSION SLABS, IF APPLICABLE:
- POINT AND LINE LOADS FROM STRUCTURE ABOVE TO BE PROVIDED TO POST-TENSION ENGINEER PRIOR TO POST-
- ANCHOR BOLTS AND OTHER HARDWARE TO BE SHOWN ON POST-TENSION PLANS TO AVOID MIS-LOCATION OF HARDWARE AND POSSIBLE FIELD FIXES WHICH MAY CUT TENDONS.

# MASONRY

- ALL MASONRY DESIGN SHALL FOLLOW THE REQUIREMENTS OF THE CURRENT ADOPTED CODES.
- ANCHORED MASONRY VENEER SHALL COMPLY WITH THE PROVISIONS N.C.-R. AND SECTIONS 6.1 AND 6.2 OF ACI 580/ASCE 5/TMS 402.
- STONE VENEER UNITS NOT EXCEEDING 5 INCHES IN THICKNESS SHALL BE ANCHORED DIRECTLY TO MASONRY, CONCRETE OR TO STUD CONSTRUCTION BY ONE OF THE APPROVED METHODS LISTED IN THE N.C.-R
- MORTAR FOR USE IN MASONRY CONSTRUCTION SHALL COMPLY WITH ASTM C 270. THE TYPE OF MORTAR SHALL BE IN ACCORDANCE WIT THE N.C. R AND SHALL MEET THE PROPORTION SPECIFICATIONS OR THE PROPERTY SPECIFICATIONS OF ASTM C 270
- GROUT SHALL CONSIST OF CEMENTITIOUS MATERIAL AND AGGREGATE IN ACCORDANCE WITH ASTM C 476 AND THE PROPORTION SPECIFICATIONS PER THE N.C.-R
- AGGREGATES FOR MORTAR AND GROUT SHALL BE NATURAL SAND AND ROCK CONFORMING TO A.S.T.M. C-144-04 (MASONRY MORTAR) AND C-404-01 (GROUT).
- 7. CEMENT SHALL BE PORTLAND CEMENT CONFORMING TO A.S.T.M. C 150.
- 8. ALL BRICK SHALL CONFORM TO A.S.T.M. C 216, GRADE MW.
- UNLESS SPECIFICALLY SHOWN OTHERWISE ALL BRICK SHALL BE LAID IN A RUNNING BOND PATTERN.
- ANCHORS, TIES AND WIRE FABRIC SHALL CONFORM TO N.C.-R
  - ANCHOR TIES AND WIRE FABRIC FOR USE IN MASONRY WALL CONSTRUCTION SHALL CONFORM TO THE N.C.-R

# **METALS**

- REFER TO STRUCTURAL NOTES AND SPECIFICATIONS FOR STRUCTURAL STEEL, METAL AND REINFORCING STEEL SPECIFICATIONS.
- 2. ALL STRUCTURAL STEEL SHALL CONFORM TO AISC/CRED
- ANCHOR RODS SHALL BE SET ACCURATELY TO THE PATTERN AND DIMENSIONS CALLED FOR ON THE PLANS. THE PROTRUSION OF THE THREADED ENDS THROUGH THE CONNECTED MATERIAL SHALL BE SUFFICIENT TO FULLY ENGAGE THE THREADS OF THE NITS, BUT SHALL BE FOREATER THAN THE LENGTH OF THE THREADS ON THE BOLTS
- FASTENERS FOR PRESERVATIVE-TREATED AND FIRE-RETARDANT-TREATED MOOD SHALL BE OF HOT-DIPPED ZINC COATED GALVANIZED STEEL. STAINLESS STEEL, SILICON BRONZE OR COPPER VERIEY ACCEPTABLE FASTENERS PER CHEMICALS USED IN PRESSURE PRESERVITIVELY TREATED MOOD MY N.C.-R. FASTENINGS FOR MOOD FOUNDATIONS SHALL BE AS REQUIRED IN AFFAR TECHNICAL REPORT NO. 7.

# WOOD & FRAMING

- THE DESIGN AND CONSTRUCTION OF CONVENTIONAL LIGHT-FRAME WOOD CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF THE N.C.-R
- ALL LUMBER SHALL MEET THE STANDARDS OF QUALITY AS STATED IN THE N.C.-R
- LIMBER AND PLYWOOD REQUIRED TO BE PRESSURE PRESERVATIVELY REATED IN ACCORDANCE WITH THE N.C.-R AND SHALL BEAR THE QUALITY MARK OF AN APPROVED INSPECTION AGENCY THAT MAINTAINS CONTINUING SUPERVISION, TESTING AND INSPECTION OVER THE QUALITY OF THE PRODUCT AND THAT HAS BEEN APPROVED BY AN ACCREDITATION BODY THAT COMPLIES WITH THE REQUIREMENTS OF THE AMERICAN LUMBER STANDARD COMMITTEE TREATED WOOD PROGRAM
- ALL LUMBER SIZES NOTED AND SPECIFIED ON PLANS ARE NOMINAL SIZES UNLESS SPECIFICALLY INDICATED AS NET SIZE.

#### GLUE LAMINATED LUMBER

- REFER TO THE STRUCTURAL ENGINEER'S CURRENT NOTES, CALCULATIONS, AND SPECIFICATIONS.
- GLUED LAMINATED TIMBERS SHALL BE MANUFACTURED AND IDENTIFIED AS REQUIRED IN AITC AIGO. AND ASTM D 3737.

#### PROTECTION AGAINST DECAY & TERMITE

- IN AREAS SUBJECT TO DECAY DAMAGE AS ESTABLISHED BY THE N.C.-R. THE FOLLOWING LOCATIONS SHALL REQUIRE THE USE OF NATURALLY DURABLE WOOD OR WOOD THAT IS PRESERVATIVE TREATED I ACCORDANCE WITH AMPA UI FOR THE SPECIES, PRODUCT, PRESERVATIVE AND END USE. PRESERVATIVES SHALL BE LISTED IN SECTION 4 OF AWPA U
- WOOD JOISTS OR THE BOTTOM OF WOOD FLOOR WHEN CLOSER THAN IS INCHES, OR WOOD GIRDERS WHEN CLOSER THAN 12 INCHES TO THE EXPOSED GROUND IN CRANL SPACES OR UNEXCAVATED AREAS LOCATED WITHIN THE PERIPHERY OF THE BUILDING FOUNDATION.
- ALL EXTERIOR SILLS &PLATES THAT REST ON CONCRETE OR MASONRY EXTERIOR FOUNDATION WALLS.
- SILLS AND SLEEPERS ON A CONCRETE OR MASONRY, UNLESS THE SLAB THAT IS IN DIRECT CONTACT WITH THE GROUND IS SEPARATED FROM THE GROUND BY AN APPROVED IMPERVIOUS MOISTURE BARRIER.
- THE ENDS OF WOOD GIRDERS ENTERING EXTERIOR MASONRY OR CONCRETE WALLS HAVING CLEARANCES OF LESS THAN 0.5 INCH ON TOPS, SIDES AND ENDS.
- WOOD SIDING AND SHEATHING ON THE EXTERIOR OF A BUILDING HAVING A CLEARANCE OF LESS THAN 6 INCHES FROM THE GROUND.
- WOOD STRUCTURAL MEMBERS SUPPORTING MOISTURE-PERMEABLE FLOORS OR ROOFS THAT ARE EXPOSED TO THE MEATHER, SUCH AS CONCRETE OR MASONRY SLABS, UNLESS SEPARATED FROM SUCH FLOORS OR ROOFS BY ANIMPERVIOUS MOISTURE BARRIER
- MOOD FURRING STRIPS OR OTHER MOOD FRAMING MEMBERS ATTACHED 2. DIRECTLY TO THE INTERIOR OF EXTERIOR MASONRY MALLS OR CONCRETE MALLS DELON GRADE EXCEPT WHERE AN APPROVED VAPOR RETARDER 15 APPLIED DETWEEN THE WALL AND THE FURRING 9. STRIPS OR FRAMING MEMBERS.
- ALL PORTIONS OF A PORCH, SCREEN PORCH OR DECK FROM THE BOTTOM OF THE HEADER DOWN, INCLIDING POSTS, SUARDRALLS, PICKETS, STEPS AND FLOOR STRICTURE. COVERINGS THAT WOLLD PREVENT MOISTURE OR WATER ACCUMILATION ON THE SURFACE OR AT JOINTS BETWEEN MEMBERS ARE ALLOWIED.
- IN AREAS SUBJECT TO DAMAGE FROM TERMITES METHODS OF PROTECTION SHALL BE ONE OF THE METHODS LISTED IN THE N.C.-R
- UNDER-FLOOR AREAS SHALL BE VENTILATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE N.C.-R

# WOOD & FRAMING (continued)

- MOOD STRUCTURAL PANELS SHALL CONFORM TO THE REQUIREMENTS AS SET FORTH IN THE N.C.-R
- ROOF SHEATHING PANELS SHALL BE LAID WITH FACE GRAIN OR STRENGTH AXIS PERPENDICULAR TO SUPPORTS AND WITH PANEL CONTINUOUS OVER TWO OR MORE SPANS.
- ROOF SHEATHING SHALL BE IN ACCORDANCE WITH THE N.C.-R
- FLOOR SHEATHING PANELS SHALL BE LAID WITH FACE GRAIN OR STRENGTH AXIS PERPENDICULAR TO SUPPORTS AND WITH PANEL CONTINUOUS OVER TWO OR MORE SPANS.
- STRUCTURAL FLOOR SHEATHING SHALL COMPLY WITH THE PROVISIONS OF THE N.C.-R
- REFER TO THE STRUCTURAL ENGINEER'S CURRENT SPECIFICATIONS, CALCULATIONS, AND PLANS FOR REQUIRED STRENGTH, GRADE, AND THICKNESS FOR PLYWOOD FLOOR SHEATHING PANELS AND FOR DIAPHRAGM NAILING AND ADHESIVE REQUIREMENTS
- ALL VERTICAL JOINTS OF PANEL SHEATHING SHALL OCCUR OVER, AND BE FASTENED TO, COMMON STUDS. HORIZONTAL JOINTS IN BRACED WALL PANELS SHALL OCCUR OVER, AND BE FASTENED TO, COMMON BLOCKING OF A MINIMM OF I I/2 INCH THICKNESS.
- WHERE APPLICABLE, REFER TO THE SHEAR WALL SCHEDULE FOR REQUIRED STRENGTH, GRADE, AND THICKNESS OF PLYWOOD SHEAR PANELS AND FOR REQUIRED SHEAR WALL NAILING SCHEDULE.
- IN ONE- AND TWO-FAMILY DWELLING CONSTRUCTION USING VINYL ALUMINUM AS A SOFFIT MATERIAL, THE SOFFIT MATERIAL SHALL SECURELY ATTACHED TO FRAMING MEMBERS AND USE AN UNDERLAYMENT MATERIAL OF EITHER FIRE RETARD 23/93 INCH WOOD SHEATHING OR 5/6 INCH CYTSUM BOARD, VENTING REQUIREMENTS APPLY TO BOTH SOFFIT AND UNDERLANDENT AND SHALL BE PER SECTION REGIO OF THE NORTH CARCLINA RESIDENTIAL CODE. WHERE THE PROVISIONS OF THIS CODE SECTION DO NOT APPLY FACE, THE PROVISIONS OF THIS CODE SECTION DO NOT APPLY SECTION.

#### FLOOR FRAMING

- ALL FLOOR JOISTS SHALL BE DESIGNED I-JOIST WOOD FLOOR TRUSSES. REFER TO MANUFACTURER FOR ALL LAYOUTS AND CALCULATIONS.
- REFER TO THE STRUCTURAL ENGINEER'S CURRENT PLANS & CALCULATIONS FOR SIZE, SPACING, AND ANCHORAGE OF ALL FLOOR JOISTS; SIZE, LOCATION, AND ANCHORAGE OF ALL FLOOR BEAMS AND HEADERS; AND ALL RELATED FRAMING ISSUES.

- ROOF FRAMING SHALL BE BY PRE-MANUFACTURED ROOF TRUSSES SPACED AT 24 INCHES ON CENTER UNLESS NOTED OTHERWISE.
- WOOD TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE N.C.-R
- THE MANUFACTURER SHALL SUPPLY TO THE ARCHITECT AND BUILDER CALCULATIONS AND SHOP DRAWINGS FOR APPROVAL OF DESIGN LOADS, CONFIGURATION (2 OR 3 POINT BEARING), VOLUME CEILING OPTIONS, AND SHEAR TRANSFER, PRIOR TO FABRICATION.
- THE BRACING OF WOOD TRUSSES SHALL COMPLY TO THEIR APPROPRIATE ENGINEERED DESIGN. PER THE N.C.-R
- TRUSS MEMBERS SHALL NOT BE CUT, NOTCHED, DRILLED, SPLICED OR OTHERWISE ALTERED IN ANY WAY MITHOUT THE APPROVAL OF A REGISTERED DISIGN PROFESSIONAL. ALTERATIONS RESULTING IN THE ADDITION OF LOAD (E.S. HYAC EQUIPMENT, WATER HEATER) THAT EXCEEDS THE DESIGN LOAD FOR THE TRUSSES SHALL NOT BY PERMITTED WITHOUT WEITTEN YEAR, CATION THAT THE TRUSS IS CAPABLE OF SUPPORTING SUCH ADDITIONAL LOADING.
- ALL CALCULATIONS AND SHOP DRAWINGS SHALL BE SIGNED BY A ESSIONAL ENGINEER REGISTERED IN THE STATE WHEREIN THE PROJECT IS TO BE BUILT.
- MANUFACTURER IS TO SECURE BUILDING DEPARTMENT APPROVA OF CALCULATIONS AND SHOP DRAWINGS PRIOR TO FABRICATION

### WALL FRAMING

- THE SIZE, HEIGHT, AND SPACING OF STUDS SHALL BE IN ACCORDANCE WITH THE N.C.-R
- STUDS SHALL BE PLACED WITH THEIR WIDE DIMENSION PERPENDICULAR
- NOT LESS THAN THREE STUDS SHALL BE INSTALLED AT EACH CORNER OF AN EXTERIOR WALL.
- MOOD STUD WALLS SHALL BE CAPPED NITH A DOUBLE TOP PLATE INSTALLED TO PROVIDE OVERLAPPING AT CORNERS AND INTERSECTION MITH BEARING PARTITIONS. END JOINTS IN TOP PLATES SHALL BE OFFSET AT LEAST 24 INCHES, JOINTS NETD NOT OCCUR OVER STUDS. PLATES SHALL BE NOT LESS THAN 2-INCHES NOMINAL THICKNESS AND HAVE A MIDTH AT LEAST EQUAL TO THE MIDTH OF THE STUDS. SEE EXCEPTIONS. CTIONS
- WHERE JOISTS, TRUSSES OR RAFTERS ARE SPACED MORE THAN 16 INCHES ON CENTER AND THE BEARING STUDS BELOW ARE SPACED 24 INCHES ON CENTER, SUCH MEMBERS SHALL BEAR WITHIN 5 INCHES OF THE STUDS BENEATH. SEE EXCEPTIONS.
- STUDS SHALL HAVE FULL BEARING ON NOMINAL 2 BY OR LARGE PLATE OR SILL HAVING A WIDTH AT LEAST EQUAL TO THE WIDT OF THE STUDS.
- INTERIOR NONBEARING WALLS SHALL BE PERMITTED TO BE CONSTRUCTED MITH 2-INCH-BY-3-INCH STUDS SPACED 24 INCHES ON CENTER OR, MEN NOT A PART OF A BRACED WALL LINE, 2-INCH-BY-4-INCH FLAT STUDS SPACED IG INCHES ON CENTER. INTERIOR NONBEARING WALLS SHALL BE CAPPED WITH AT LEAST A SINGLE TOP PLATE. INTERIOR NONBEARING WALLS SHALL BE FIREBLOCKED IN ACCORDANCE WITH THE N.C.-F

# WOOD & FRAMING

# (continued)

- 8. DRILLING AND NOTHCING OF STUDS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
  - NOTHCING, ANY STUD IN AN EXTERIOR MALL OR BEARING PARTITION MAY BE CUT OR NOTCHED TO A DEPTH NOT EXCEEDING 25 PERCENT OF ITS MIDTH, STUDS IN NONBEARING PARTITIONS MAY BE NOTCHED TO A DEPTH NOT TO EXCEED 40 PERCENT OF A SINGLE STUD MIDTH, NOTCHING OF BEARING STUDS SHALL BE ON ONE EDGE ONLY AND NOT TO EXCEED ONE-FOURTH THE HEIGHT OF THE STUD, NOTCHING SHALL NOT OCCUR IN THE BOTTOM OR TOP 6 INCHES OF BEARING STUDS.
  - DRILLING, ANY STUD MAY BE BORED OR DRILLED, PROVIDED THAT THE DIAMETER OF THE RESULTING HOLE IS NO MORE THAN 60 PERCENT OF THE STUD WIDTH, THE EDGE OF THE HOLE IS NO MORE THAN 5/6" INCH TO THE EDGE OF THE STUD, AND THE HOLE SHALL NOT BE CLOSER THAN 6 INCHES FROM AN ADJACENT HOLE OR NOTCH, HOLES NOT EXCEEDING 3/4 INCH DIAMETER CAN BE AS CLOSE AS I 1/2 INCHES ON CENTER OR SACIOS, STUDS LOCATED IN EXTERIOR WALLS OR BEARING PARTITIONS DRILLED OVER 40 PERCENT AND UP TO 60 PERCENT SHALL ALSO BE DOUBLED WITH NO MORE THAN TWO SUCCESSIVE DOUBLED STUDS BORRED.
  - CUTTING AND NOTCHING OF STUDS SHALL BE PERMITTED TO BE INCREASED TO 65 PERCENT OF THE WIDTH OF THE STUD IN EXTERIOR AND INTERIOR WALLS AND BEARING PARTITIONS, PROVIDED THAT ONE OF THE FOLLOWING CONDITIONS ARE MET.

    (a) THE WALL SECTION IS REINFORCED WITH 1/2-INCH EXTERIOR GRADE PLYWOOD OR EQUIVALENT REINFORCHENT ON THE NOTCHED SIDE OF THE WALL. PLYWOOD, IF USED, SHALL REACH FROM THE FLOOR TO CEILING AND AT LEAST ONE STUD PIXTHER ON EACH SIDE OF THE SECTION THAT HAS BEEN NOTCHED OR CUT.

    (b) THE EXTERIOR WALLS OF A KITCHEN MAY BE REINFORCED BY PLACING 1/2-INCH PLYWOOD OR EQUIVALENT REINFORCEMENT ON THE NOTCHED SIDE OF THE WALL. PLYWOOD, IF USED, SHALL REACH PROM THE FLOOR TO COUNTER-TOP HEIGHT AND AT LEAST ONE STUD PIXTHER ON EACH SIDE OF THE SECTION THAT HAS BEEN NOTCHED OR CUT.
- WHEN PIPING OR DUCTWORK IS PLACED IN OR PARTIALY IN AN EXTERIOR WELD FIFTING A DOCTOOMS IS PLACED IN OR PARTIALT IN AS INSIGNO OR INTERIOR LOAD-BEARING WALL, NECESSITATION CUTTING, DRILLING OR NOTCHING OF THE TOP PLATE B MORE THAN 50 PERCENT OF ITS A GALYANIZED METAL TIE OF NOT LESS THAN 0.054 INCH THICK AND I 1/2" INCHES WIDE SHALL BE FASTENED ACROSS AND TO THE PLATE AT EACH SIDE OF THE OPENING WITH NOT LESS THAN EIGHT IOD NAILS HAVING A MINIMM LENGTH OF I / IZ INCHES (38 MM) AT EACH SIDE OR EQUIVALENT. THE METAL TIE MUST EXTEND A MINIMM OF 6 INCHES PAST THE OPENING.
- HEADERS SHALL MEET THE REQUIREMENTS OF THE N.C.-F
- PROVIDE LATERAL BRACING PER THE N.C.-R
- FOUNDATION CRIPPLE WALLS SHALL MEET THE REQUIREMENTS OF THE
- 14. WOOD STUD WALLS SHALL BE BRACED AS REQUIRED BY THE N.C.-R
- 15. UNLESS COVERED BY INTERIOR OR EXTERIOR WALL COVERINGS OR SHEATHING MEETING THE MINIMUM REQUIREMENTS OF THIS CODE, ALI STUD PARTITIONS OR WALLS WITH STUDS HAVING A HEIGHT-TO-LEAST THICKNESS RATIO EXCEEDING 50 SHALL HAVE BRIDGING NOT LESS THAN 2 INCHES IN THICKNESS AND OF THE SAME WIDTH AS THE STUDS FITTED SNUSLY AND NAILED THERETO TO PROVIDE ADEQUATE LATERAL SUPPORT.

### FIRE BLOCKS AND DRAFT STOPS

- FIRE BLOCKING SHALL BE PROVIDED TO CUT OFF ALL CONCEALED DRAFT OPENINGS (BOTH VERTICAL AND HORIZONTAL) AND TO FORM AN EFFECTIVE BARRIER BETWEEN STORIES, AND BETWEEN A TOP STORY AND A ROOF SPACE, FIREBLOCKING SHALL BE PROVIDED IN WOOD-FRAME CONSTRUCTION IN THE LOCATIONS SPECIFIED IN THE N.C.-R
- FIRE BLOCKING SHALL CONSIST OF 2 INCHES NOMINAL LUMBER, OR TWO THICKNESSES OF I-INCH NOMINAL LUMBER WITH BROKEN LAP JOINTS, OR ONE THICKNESS OF 23/32-INCH WOOD STRUCTURAL PANELS WITH JOINT BACKED BY 23/32-INCH WOOD STRUCTURAL PANELS OR ONE THICKNESS OF 3/4-INCH PARTICLEBOARD WITH JOINTS BACKED BY 3/4-INC PARTICLEBOARD, 1/2-INCH GYPSOM BOARD, OR 1/4-INCH CEMENT-BASED
- BATTS OR BLANKETS OF MINERAL WOOL OR GLASS FIBER OR OTHER APPROVED MATERIALS INSTALLED IN SUCH A MANNER AS TO BE SECURELY RETAINED IN PLACE SHALL BE PERMITTED AS AN ACCEPTABLE FIRE BLOCK.
- BATTS OR BLANKETS OF MINERAL OR GLASS FIBER OR OTHER APPROVED NON-RIGID MATERIALS SHALL BE PERMITTED FOR COMPLIANCE WITH THE 10 FOOT HORIZONTAL FIREBLOCKING IN WALLS CONSTRUCTED USING PARALLEL ROWS OF STUDS OR STAGGERED STUDS. LOOSE FILL INSULATION MATERIAL SHALL NOT BE USED AS A FIREBLOCK UNLESS SPECIFICALLY TESTED IN THE FORM AND MANNER INTENDED FOR USE TO DEMONSTRATE ITS ABILITY TO REMAIN IN PLACE AND TO RETARD THE SPREAD OF FIRE AND HOT GASSES.
- WHEN THERE IS USABLE SPACE BOTH ABOVE AND BELOW THE CONCEALED WHEN THERE IS UNDELESTADE BOTH ABOVE AND BELLOW THE CONCALED SPACE OF A FLOOR/CEILING ASSEMBLY, DRAFTSTOPS SHALL BE INSTALLED SO THAT THE AREA OF THE CONCEALED SPACE DOES NOT EXCEED I, DOO SOULARE FEET, DRAFTSTOPPING SHALL DIVIDE THE CONCEALED SPACE INTO APPROXIMATELY EQUAL AREAS, WHERE THE ASSEMBLY IS ENCLOSED BY A AFFACTOR TO BE ASSENTED TO THE ASSENTED TO BE ASSENTED TO BE AFFACTOR OF A CELLING MEMBRANE BELOW, DRAFTSTOPPING SHALL BE PROVIDED IN FLOOR/CELLING ASSEMBLIES UNDER THE FOLLOWING CIRCUMSTANCES.
- CEILING IS SUSPENDED UNDER THE FLOOR FRAMING.
- FLOOR FRAMING IS CONSTRUCTED OF TRUSS-TYPE OPEN-WEB OR PERFORATED MEMBERS.

- GUARDRAIL OF 36" HIGH MIN. SHALL BE PROVIDED WHERE FINISHED GRADE OR FLOOR BELOW RAISED AREA EXCEEDS 30".
- HANDRAIL AT STAIRS SHALL BE PROVIDED WHEN 4 OR MORE STAIR RISERS



**NORTH CAROLINA** 40' SERIES

NORTH CAROLINA DIVISION

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2018 NORTH **CAROLINA STATE** BUILDING CODES

ISSUE DATE: 02/23/17

PROJECT No.: 1350999:56 DIVISION MGR.: MCP REVISIONS: 06/10/19

ADD CRAWL SPACE NCI8024NCP · 07/24/18 · CTD FLOORING BREAK REV NCISO40NCP - 08/28/18 - KJL

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SPEC. LEVEL 1 RALEIGH-DURHAM 40' SERIES

GN1

# THERMAL & MOISTURE PROTECTION

- PROVIDE ALL FLASHING, COUNTER-FLASHING, BITUTHENE, MEMBRANE FING, SHEET METAL, CAULKING, SEALANTS, ELASTOMERIC WALKING SURFACES, AND RAIN GUTTERS AND/OR DIVERTERS WHERE JIRED TO MAKE WORK COMPLETELY WATERPROC
- "CORROSION RESISTANCE" SHALL MEAN THE ABILITY OF A MATERIAL TO WITHSTAND DETERIORATION OF IT'S SURFACE OR IT'S PROPERTIES WHEN EXPOSED TO IT'S ENVIRONMENT
- BALCONIES, LANDINGS, EXTERIOR STAIRWAYS, OCCUPIED ROOFS AND SIMILAR SURFACES EXPOSED TO THE NEATHER AND SEALED UNDER-NEATH SHALL BE WATERPROOFED AND SLOPED A MINIMUM OF 1/4 UNIT VERTICAL IN 12 UNITS HORIZONTAL (2% SLOPE) FOR DRAINAGE.
- PROVIDE A MINIMUM 2 INCH DROP FROM FINISHED INTERIOR FLOOR ELEVATION TO THE HIGHEST FLOOR ELEVATION OF ANY ADJOINING DECK OR BALCONY.
- ELASTOMERIC OR MEMBRANE DECK COATINGS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS AT DECKS AND BALCONIES COLOR, FINISH, AND DETAILING SHALL BE APPROVED BY OWNER/
- UNLESS DESIGNED TO DRAIN OVER DECK EDGES, DRAINS AND OVER-FLOWS OF ADEQUATE SIZE SHALL BE INSTALLED AT THE LOW POINTS OF THE DECK OR BALCONY.
- FOUNDATION WALLS WHERE THE OUTSIDE GRADE IS HIGHER THAN THE INSIDE GRADE SHALL BE WATER-PROOFED AND DAMPPROOFED IN ACCORDANCE WITH THE N.C.-R
- PARAPET WALLS SHALL BE PROPERLY COPED WITH NONCOMBUSTIBLE, WEATHERPROOF MATERIALS OF A WIDTH NO LESS THAN THE THICKNESS OF THE PARAPET WALL. PARAPET COPING SHALL EXTEND 2" MINIMUM DOWN THE PACES OF THE PARAPET.

- APPROVED CORROSION-RESISTANT FLASHING SHALL BE APPLIED SHINGLE-FASHION IN A MANNER TO PREVENT ENTRY OF WATER INTO THE WALL 12. CAVITY OR PENETRATION OF MATER TO THE BUILDING STRUCTURAL FRAMING COMPONENTS, SELF-ADHERED MEMBRANES USED AS FLASHING SHALL COMPLY MITH AAMA TI, FLUID-APPLIED MEMBRANES USED AS FLASHING IN 19. EXTERIOR NALLS SHALL COMPLY WITH AAMA TI, ALIDIA-PRILED MEMBRANES USED AS FLASHING IN 19. EXTENDED TO THE SURFACE OF THE EXTENDED TO THE SURFACE OF THE TOTAL FINISH ALUMINM FLASHING SHALL NOT BE USED IN CONTACT MITH CENENTITIONS MATERIAL, EXCEPT AT CONTACTS THE ABUNCA SHALL BE COUNTER FLASHING. APPROVED CORROSION-RESISTANT FLASHINGS SHALL BE INSTALLED AT ALL OF THE LOCATIONS STATED IN N.C.-R.
- ALL BEAMS, OUTLOOKERS, CORBELS, ETC. PROJECTED THROUGH EXTERIOR WALLS OR PENETRATING EXTERIOR FINISHES SHALL BE FLASHED WITH A MINIMUM O.O.I9-INCH (NO. 26 SHEET METAL GAGE) CORROSION-RESISTANT METAL AND CAULKED
- ALL SHEET METAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE RECOMMENDATIONS AND STANDARDS OF THE SHEET METAL AND AIR CONDITIONING CONTRACTOR'S NATIONAL ASSOCIATION (S.M.A.C.N.A.), THE ARCHITECTURAL SHEET METAL MANUAL, AND SEALANT, MATERROOFING AND RESTORATION INSTITUTE'S (S.M.R.I.) GUIDE - "SEALANTS" THE PROFESSIONAL'S GUIDE".
- SHEET METAL SHALL BE STEEL SHEET, HOT-DIPPED, TIGHT COATED AND GALLYANIZED, CONFORMING TO A.S.T.M. A525 AND SHALL BE A NUMBER 24 SHEET METAL AGGE UNLESS OTHERWISE NOTED IN THESE NOTES, PILANS, OR MANUFACTURER'S SPECIFICATIONS.
- SHEET ALUMINUM SHALL CONFORM WITH FEDERAL SPECIFICATIONS QQ-A-359 AND A.S.T.M. B209 ALLOY 3003.
- FABRICATE SHEET METAL WITH FLAT LOCK SEAMS AND SOLDER WITH TYPE AND FLUX RECOMMENDED BY MANUFACTURER. SEAL ALUMINUM SEAMS WITH EPOXY METAL SEAM CEMENT. WHERE REQUIRED FOR STRENGTH, RIVET SEAMS AND JOINTS.
- SHOP FABRICATE TO THE GREATEST EXTENT POSSIBLE IN ACCORDANCE WITH APPLICABLE STANDARDS TO PROVIDE A PERMANENTLY MATER-PROOF, WEATHER RESISTANT INSTALLATION.
- ASPHALT SHINGLES SHALL HAVE SELF-SEAL STRIPS OR BE INTERLOCKING, AND COMPLY WITH ASTM D 225 OR D 3462.
- BASE AND CAP FLASHING SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTALLATION INSTRUCTIONS, BASE FLASHING SHALL BE OF EITHER CORROSION-RESISTANT METAL OF MINIMAY NOMINAL O.0/4-INCH THICKNESS OR MINERAL SURFACE ROLL ROOFING MEIGHING A MINIMAM OF TI POUNDS PER IOO SQUARE FEET, CAP FLASHING SHALL BE CORROSION-RESISTANT METAL OF MINIMAM NOMINAL O.0/4-INCH THICKNESS
- VALLEY LININGS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS BEFORE APPLYING SHINGLES, VALLEY LININGS OF THE FOLLOWING TYPES SHALL BE PERMITTED AS STATED PER THE NG.-R.
- A CRICKET OR SADDLE SHALL BE INSTALLED ON THE RIDGE SIDE OF ANY CHIMNEY OR PENETRATION MORE THAN 30 INCHES WIDE AS MEASURED PERPENDICULAR TO THE SLOPE. CRICKET OR SADDLE COVERINGS SHALL BE SHEET METAL OR OF THE SAME MATERIAL AS THE ROOF COVERING. PROVIDE FLASHING AT THE INTERSECTION OF STIME ROOF CAUCHING.
- FLASHING AGAINST A VERTICAL SIDEWALL SHALL BE BY THE STEP-FLASHING METHOD PER NC-R.
- FLASHING AGAINST A VERTICAL FRONT WALL, AS WELL AS SOIL STACK VENT PIPE AND CHIMMEY FLASHING, SHALL BE APPLIED ACCORDING TO ASPHALT SHINGLE MANUFACTURER'S PRINTED INSTRUCTIONS.
- AT THE JINCTURE OF ROOF VERTICAL SURFACES, FLASHING AND COUNTERFLASHING SHALL BE PROVIDED IN ACCORDANCE WITH THE N.C.-R AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND, WHERE OF METAL, SHALL NOT BE LESS THAN O.O.I INCH (NO. 26 GALVANIZED
- I6. VALLEY FLASHING FOR CONCRETE TILE ROOFS SHALL BE AS REQUIRED.

### ROOFING MATERIALS

- ROOF COVERINGS SHALL BE APPLIED IN ACCORDANCE WITH THE N.C.-R AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
  INSTALLATION OF ROOF COVERINGS SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF THE N.C.-R
- ROOFS AND ROOF COVERINGS SHALL BE OF MATERIALS THAT ARE COMPATIBLE WITH EACH OTHER AND WITH THE BUILDING OR STRUCTURE TO WHICH THE MATERIALS ARE APPLIED.
- ROOF COVERING MATERIALS SHALL CONFORM TO THE APPLICABLE STANDARDS LISTED IN THE N.C.-R. IN THE ABSENCE OF APPLICABLE STANDARDS OR WHERE MATERIALS ARE OF QUESTIONABLE SUITABILITY, TESTING BY AN APPROVED TESTING AGENCY SHALL BE REQUIRED BY THE BUILDING OFFICIAL TO DETERMINE THE CHARACTER, QUALITY, AND LIMITATIONS OF APPLICATION OF THE MATERIALS.

# THERMAL & MOISTURE PROTECTION (continued)

- ROOF COVERING MATERIALS SHALL BE DELIVERED IN PACKAGES BEARING HE MANUFACTURER'S IDENTIFYING MARKS AND APPROVED TES LABELS WHEN REQUIRED. BULK SHIPMENTS OF MATERIALS SHALL BE ACCOMPANIED BY THE SAME INFORMATION ISSUED IN THE FORM OF A CERTIFICATE OR ON A BILL OF LADING BY THE MANUFACTURER
- COMPOSITION ROOFING SHINGLES SHALL BE OF ASPHALT OR APPROVED RELATED MATERIALS AND MEET THE REQUIREMENTS OF THE N.C.-R
- UNDERLAYMENT FOR ASPHALT SHINGLES SHALL CONFORM TO ASTM D 226 TYPE I, ASTM D 4869, TYPE I, OR ASTM D 6757. SELF-ADHERING POLYMER MODIFIED BITUMEN SHEET SHALL COMPLY WITH ASTM D 1970.
- ASPHALT SHINGLES SHALL COMPLY WITH ASTM D 225 OR ASTM D 3462.
- FASTENERS FOR ASPHALT SHINGLES SHALL BE GALVANIZED STEEL, STAINLESS STEEL, ALJMINIM, OR COPPER ROOFING NAILS, MINIMIM 12 GAGE SHANK MITH A MINIMIM 3/6 INCH DIAMETER HEAD, ASTM F 1667, OF A LENGTH TO PENETRATE THROUGH THE ROOFING MATERIALS AND A MINIMIM 0F 3/4 INCH INTO THE ROOF SHEATHING. WHERE THE ROOF SHEATHING IS LESS THAN 3/4 INCH THICK, THE FASTENERS SHALL COMPLY WITH ASTM E 1687.
- ASPHALT SHINGLES SHALL HAVE THE MINIMUM NUMBER OF FASTENERS REQUIRED BY THE MANUFACTURER. FOR NORMAL APPLICATION, ASPHALT SHINGLES SHALL BE SECURED TO THE ROOF WITH NOT LESS THAN FOUR FASTENERS PER STRIP SHINGLE OR TWO FASTENERS PER
- UNDERLAYMENT FOR ASPHALT SHINGLES SHALL BE APPLIED IN ACCORDANCE WITH THE N.C.-R
- THE INSTALLATION OF CLAY AND CONCRETE TILE SHALL COMPLY WITH THE PROVISIONS OF N.C.-R CLAY ROOF TILE SHALL COMLY WITH
- CONCRETE AND CLAY TILE SHALL BE INSTALLED ONLY OVER SOLID SHEATHING OR SPACED STRUCTURAL SHEATHING BOARDS
- CLAY AND CONCRETE ROOF TILE SHALL BE INSTALLED ON ROOF SLOPES OF 2 1/2 UNITS VERTICAL. IN 12 UNITS HORIZONTAL. (2-1/2.12) OR GREATER. FOR ROOF SLOPES FROM 2 1/2 UNITS VERTICAL. IN 12 UNITS HORIZONTAL. (2-1/2.12) TO FOUR UNITS VERTICAL. IN 12 UNITS HORIZONTAL. (4-1/2.) DOUBLE UNDERLAYMENT APPLICATION IS REQUIRED IN ACCORDANCE WITH THE N.C.-R.
- UNDERLAYMENT FOR CLAY AND CONCRETE TILE SHALL CONFORM WITH ASTM D 226, TYPE II, ASTM D 2626 TYPE I, OR ASTM D 6380 CLASS I MINERAL SURFACED ROLL ROOFING.
- CONCRETE ROOF TILE SHALL COMPLY WITH ASTM C 1492.
- NAILS SHALL BE CORROSION-RESISTANT AND NOT LESS THAN IL GAGE NAILS STACE DE CORROSIONALSISTANT TO RENETRATE THE DECK.

  A MINIMUM OF S/4-INCH OR THROUGH THE THICKNESS OF THE DECK,

  WHICHEVER IS LESS. ATTACHING WIRE FOR CLAY OR CONCRETE TILE

  SHALL NOT DE SMALLER THAN 0.008-INCH. PERIMETER FASTENING AREAS INCLUDE THREE TILE COURSES BUT NOT LESS THAN 36 INCHES FROM EITHER SIDE OF HIPS OR RIDGES AND EDGES OF EAVES AND GABLE RAKES.
- 17. CLAY AND CONCRETE ROOF TILES SHALL BE FASTENED IN ACCORDANCE WITH THE N.C.-R
- TILE SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS, BASED ON CLIMATIC CONDITIONS, ROOF SLOPE, UNDERLAYMEN SYSTEM, AND TYPE OF TILE BEINS INSTALLED PER THE N.C.-R
- THE INSTALLTION OF BUILT-UP ROOFS SHALL COMPLY WITH THE N.C.-R
- 20. BUILT-UP ROOFS SHALL HAVE A DESIGN SLOPE OF A MINIMUM OF ONE-FOUTH UNIT VERTICAL IN 12 UNITS HORIZONTAL (2-PERCENT SLOPE) FOR DRAINAGE, EXCEPT FOR COAL-TAR BUILT-UP ROOFS THAT SHALL HAVE A DESIGN SLOPE OF A MINIMUM ONE-EIGHTH UNIT VERTICAL IN 12 UNITS HORIZONTAL (I-PERCENT SLOPE)
- 21. BUILT-UP ROOF COVERING MATERIALS SHALL COMPLY WITH THE

### EXTERIOR WALL COVERINGS

- SEE FINISHES IN THESE GENERAL NOTES FOR EXTERIOR PLASTER
- MATERIALS USED FOR THE CONSTRUCTION OF EXTERIOR WALLS SHALL COMPLY WITH THE PROVISIONS OF THE N.C.-R
- EXTERIOR WALLS SHALL PROVIDE THE BUILDING WITH A WEATHER-RESISTANT EXTERIOR WALL ENVELOPE. THE EXTERIOR WALL ENVELOPE SHALL INCLUDE FLASHING. THE EXTERIOR WALL ENVELOPE SHALL SE DESIGNED AND CONSTRUCTED IN A MANNER THAT PREVENTS THE ACCUMULATION OF MATER WITHIN THE PWALL ASSEMBLY BY PROVIDING A WATER-RESISTANT BARRIER BEHIND THE EXTERIOR VENEER AS REQUIRED AND A MEANS OF DRAINING WATER THAT ENTERS THE ASSEMBLY TO THE EXTERIOR. PROTECTION ASAINST CONDENSATION IN THE EXTERIOR WALL ASSEMBLY SHALL SEASONED. ASSEMBLY SHALL BE PROVIDED.
- ONE LAYER OF NO. 15 ASPHALT FELT, FREE FROM HOLES AND BREAKS ONE LAYER OF NO. IS ASPHALT FELT, FREE FROM HOLES AND BREAKS, COMPLYING NITH ASTIM D 226 FOR TYPE I FELT OR OTHER APPROVED WATER-RESISTIVE BARRIER SHALL BE APPLIED OVER STIDS OR SHEATHING OF ALL EXTERIOR WALLS, SICH FELT OR MATERIAL SHALL BE APPLIED HORIZONTALLY, WITH THE UPPER LAYER LAPPED OVER THE LOWER LAYER NOT LESS THAN 2 INCHES, WHERE JOINTS OCCUR, FELT SHALL BE LAPPED NOT LESS THAN 6 INCHES, THE FELT OR OTHER APPROVED WATERIAL SHALL BE CONTINUOUS TO THE TOP OF WALLS AND TERMINATED AT PENETRATIONS AND BUILDING APPENDAGES IN A MANNER TO MEET THE REQUIREMENTS OF THE EXTERIOR WALL ENVELOPE.
- VINYL SIDING CONFORMING TO THE REQUIREMENTS OF THE N.C.-R. AND COMPLYING WITH ASTM D 3649 SHALL BE PERMITTED ON EXTERIOR WALLS OF BUILDINGS OF TYPE V CONSTRUCTION LOCATED IN AREA SHERE THE ULTIMATE WIND SPEED SPECIFIED DOES NOT EXCEED IOO MILES PER HOUR AND THE BUILDING HEIGHT IS LESS THAN 40 FEET IN EXPOSURE C. WHERE CONSTRUCTION IS LOCATED IN AREAS HHERE THE ULTIMATE WIND SPEED EXCEEDS ISO MILES PER HOUR OR BUILDING HEIGHTS ARE IN EXCESS OF 40 T. DATA INDICATING COMPLIANCE MUST BE SUBMITTED SHALL BE SECURED TO BUILDING TO PROVIDE WEATHER PROTECTION FOR THE EXTERIOR WALLS OF THE BUILDING.
- VINYL SIDING SHALL BE APPLIED OVER SHEATHING OR MATERIALS LISTED IN THE NC.-R VINYL SIDING SHALL BE APPLIED TO CONFORM WITH THE WEATHER-RESISTIVE BARRIER REQUIREMENTS VINYL SIDING WITH HOP ACCESSORIES SHALL BE INSTALLED IN ACCORDANCE WITH APPROVED MANUFACTIRERS INSTRUCTIONS.
- VINYL SIDING FASTENERS AND ACCESSORIES SHALL MEET THE REQUIREMENTS OF THE N.C.-B
- EXTERIOR WALLS OF WOOD CONSTRUCTION SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE N.C.-R

# THERMAL & MOISTURE PROTECTION (continued)

- HARDBOARD SIDING SHALL CONFORM TO THE REQUIREMENTS OF AHA A135.6 AND, WHERE USED STRUCTURALLY, SHALL BE SO IDENTIFIED THE LABEL OF AN APPROVED AGENCY
- MOOD VENEERS ON EXTERIOR WALLS OF BUILDINGS OF TYPES I, II, III, AND IV CONSTRUCTION SHALL BE NOT LESS THAN I-INCH NOMINAL THICKNESS, O.435-INCH EXTERIOR HARDBOARD SIDING OR 0.375-INCH EXTERIOR-TYPE MOOD STRUCTURAL PANELS OR PARTICLE-BOARD AND SHALL CONFORM TO THE RECURRENCEMENTS OF THE NC.-R.
- FIBER-CEMENT LAP SIDING HAVING A MAXIMUM WIDTH OF 12 INCHES SHALL I COMPLY WITH THE REQUIREMENTS OF ASTM CIBÉ, TYPE A, MINIMUM GRADE II LAP SIDING SHALL BE LAPPED A MINIMUM OF II/4 INCHES (32 MM) AND LAP SIDING NOT HAVING TONGUE-AND-GROOVE END JOINTS SHALL HAVE THE ENDS SEALED WITH CAULKING, INSTALLED WITH AN H-SECTION JOINT COVER, ENDS SEALED MITH CAULKING, INSTALLED MITH AN INSECTION JOINT COVER, LOCATED OVER A STRIP OF FLASHING OR SHALL BE DESIGNED TO COMPY. MITH KC-R. LAP SIDING COURSES MAY BE INSTALLED MITH THE FASTENER HEADS EXPOSED OR CONCEALED, ACCORDING TO NC-R OR APPROVED MANUFACTURERS INSTALLATION INSTRUCTIONS.

- INSULATING MATERIALS, INCLUDING FACINGS, SUCH AS VAPOR INSULATING MATTERIALS, INCLUDING FACINGS, SUCH AS VAPOR RETARDERS OR VAPOR-PERMEABLE MEMBRANESI, INSTALLED WITHIN FLOOR-CEILING ASSEMBLIES, ROOF-CEILING ASSEMBLIES, WALL-ASSEMBLIES, CRAML SPACES AND ATTICS SHALL HAVE A FLAME-SPREAD INDEX NOT TO EXCEED 25 WITH AN ACCOMPANYING SMOKE-DEVELOPED INDEX NOT TO EXCEED 450 WHEN TESTED IN ACCORDANCE WITH ASTM E 64 OR UL 723.
- DUCT INSULATION MATERIALS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS OF THE N.C.-R
- INSULATION AND COVERING ON PIPE AND TUBING SHALL HAVE A FLANE-SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 25. AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 450. SEE EXCEPTIONS.
- ALL EXPOSED INGLI ATION MATERIALS INSTALLED ON ATTIC FLOORS SHALL AVE A CRITICAL RADIANT FILIX OF NOT LESS THAN Q12 WATT PER SQUARE IT CENTIMETER PER N.C.-R TESTS FOR CRITIAL RADIANT FLUX SHALL BE MADE IN ACCORDANCE WITH ASTM E 970
- THE USE OF ABOVE DECK THERMAL INSULATION SHALL BE PER PROVIDED SUCH INSULATION IS COVERED WITH AN APPROVED ROOF COVERING AND PASSES FM 4450 OR UL 1256 PER N.C.-R.
- CELLULOSE LOOSE-FILL INSULATION SHALL COMPLY WITH CPSC 16 CFR. PARTS 1207 AND 1404. EACH PACKAGE OF SUCH INSULATING MATERIAL SHALL BE CLEARLY LABELED IN ACCORDANCE WITH CPSC 16 CFR. PARTS 1209 AND 1404.
- INSULATION IN FLOOR-CEILING ASSEMBLIES, ROOF-CEILING ASSEMBLIES, MALLS, CRAMIL SPACES OR ATTICS SHALL BE EITHER OF THE BLOWN-IN CEILULOSE TYPE OR FIBERGLASS BATTS OR BLANKET TYPE PER BUILDER'S SPECIFICATIONS.
- THE ENERGY EFFICIENCY REQUIREMENTS INCLUDING LEGG. BUT NOT IMITED TO INSULATION 'R' VALUES, PERCENTAGE OF GLAZING
  'U' VALUES, ETC. SHALL BE DETERMINED BY THE ADOPTED STATE
  AND LOCAL ENERGY CODE EQUIREMENTS, REFER TO MECHANICAL PLANS FOR SPECIFICATIONS.
- THE BUILDING THERMAL ENVELOPE SHALL BE DURABLY SEALED WITH AN AIR BARRIER SYSTEM TO LIMIT INFILTRATION. THE SEALING METHODS BETWEEN DISSIMILAR MATERIALS SHALL ALLOW FOR DIFFERENTIAL EXPANSION AND CONTRACTION. FOR ALL HOMES, WHERE PRESENT, THE FOLLOWING SHALL BE CAULKED, GASKETED, MEATHERSTRIPPED OR OTHERWISE SHALL BE CAULKED, GASKETED, WEATHERSTRIPPED OR OTHERWISE. APPENDIX E-23 AND E-24 OF THE NG-NITH APPENDIX E-2.5 AND E-2.4 OF THE NO-R:
  BLOCKING AND SEALING FLOOR/CEILING SYSTEMS AND UNDER
  KNEE WALLS OPEN TO UNCONDITIONED OR EXTERIOR SPACE.
  CAPPING AND SEALING SHAFTS OR CHASES, INCLUDING FLUE 3. CAPPING AND SEALING SOFFIT OR DROPPED CEILING AREAS
- FRAMED CAVITY WALLS, THE EXTERIOR THERMAL ENVELOPE WALL INSULATION SHALL BE INSTALLED IN SUBSTANTIAL CONTACT AND CONTINUOUS ALIGNMENT WITH THE BUILDING ENVELOPE AIR BARRIER, INSULATION SHALL BE SUBSTANTIALLY PREE FROM INSTALLATION 6APS, VOIDS, OR COMPRESSION. FOR FRAMED WALLS, THE CAVITY INSULATION SHALL BE ENCLOSED ON ALL SIDES WITH A RIGID MATERIAL OR AN AIR BARRIEM MATERIAL, MALL INSULATION SHALL BE ENCLOSED AT THE FOLLOWING LOCATIONS WHEN INSTALLED ON EXTERIOR WALLS PRICE TO BEING COVERED BY SUBSEQUENT CONSTRUCTION, CONSISTENT WITH APPENDIX E-23 AND E-24 OF NC-R:
- SHOWERS
- 3. STAIRS
  4. FIREPLACE UNITS
  ENCLOSING OF MALL CAVITY INSULATION ALSO APPLIES TO WALLS THAT ADJOIN ATTIC SPACES BY PLACING A RIGID MATERIAL OR AIR BARRIER MATERIAL ON THE ATTIC SIDE.

# DOORS & WINDOWS

- SEE EL COR PLANS AND ELEVATIONS FOR SIZES AND TYPES OF DOORS AND WINDOWS AND FOR ANY DIVIDED LITE PATTERNS. COLORS SHALL BE APPROVED BY THE BUILDER AND ARCHITECT
- OPENINGS FROM A PRIVATE GARAGE DIRECTLY INTO A ROOM USED OFBINISOS FROM A PRIVATE GARAGE DIRECTLET INTO A MOON USED FOR SLEEPING PURPOSES SHALL NOT BE PERMITTED. OTHER OPENINGS BETWEEN THE GARAGE AND RESIDENCE SHAN I SIGN BUSINESS. SOLID OR HONEYCOME CORE STEEL DOORS NOT LESS THAN I 3/6 INCHES IN THICKNESS, SOLID OR HONEYCOME CORE STEEL DOORS NOT LESS THAN I 3/6 INCHES THICK, OR 20-MINITE FIRE-RATED DOORS.
- NO DOUBLE FRENCH DOORS SHALL BE USED UNLESS THERE IS A SUFFICIENT OVERHANG OR COVERED PATIO COVERING THESE DOORS. NO DOUBLE  $\underline{MOOD}$  FRENCH DOORS SHALL BE USED IN ANY CASE.
- ALL AUTOMATIC GARAGE DOOR OPENERS REQUIRE THE INCLUSION OF A PHOTOELECTRIC SENSOR, EDGE SENSOR OR SOME OTHER SIMILAR DEVICE FOR REMOTE OPERATION AND AS A SAFETY PRE-CAUTION TO PREVENT THE DOOR FROM CLOSING WIEN SOMETHING IS BLOCKING THE PATH OF THE DOOR, SEE MANUFACTURERS NSTALLTION INSTRUCTIONS
- ALL MANUFACTURED MINDOMS AND SLIDING GLASS DOORS SHALL MEET THE AIR INFILTRATION STANDARDS OF THE CURRENT AMERICAN NATIONAL STANDARDS INSTITUTE AST.M. E285-T3 MITH A PRESSURE DIFFERENTIAL OF 15T FOUNDS PER SQUARE FOOT AND SHALL BE CERTIFIED AND LABELED.
- BASEMENTS, HABITABLE ATTICS AND EVERY SLEEPING ROOM SHALL HAVE AT LEAST ONE OPENABLE EMERGENCY ESCAPE AND RESCUE OPENING
- WHERE EMERGENCY ESCAPE AND RESCUE OPENINGS ARE PROVIDED THEY SHALL HAVE A SILL HEIGHT OF NOT MORE THAN 44 INCHES ABOVE THE FLOOR.
- EMERGENCY ESCAPE AND RESCUE OPENINGS WITH A FINISHED SILL HEIGHT BELOM THE ADJACENT GROUND ELEVATION SHALL BE PROVIDED WITH A WINDOW WELL.

# DOORS & WINDOWS (continued)

- ALL EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE A MINIMUN ALL EMPRISED TESTAPE AND RESCUE OFERNINGS SHALL HAVE A MINIPOWN NET CLEAR OPENING OF NOT LESS THAN 5 SOURCE FEET IN THE CASE OF A GROUND FLOOR LEVEL WINDOW AND NOT LESS THAN 5.7 SQUARE FEET IN THE CASE OF AN UPPER STORY WINDOW.
- ALL EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE A MINIMUM NET CLEAR OPENING HEIGHT OF 24 INCHES.
- . EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE A MINIMUM CLEAR OPENING WIDTH OF 20 INCHES.
- EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL BE OPERATIONAL FROM THE INSIDE OF THE ROOM MITHOUT THE USE OF KEYS, TOOLS OR SPECIAL KNOWLEDGE.
- THE MINIMUM HORIZONTAL AREA OF THE WINDOW WELL SHALL BE 9 SQUARE FEET, MITH A MINIMAN HORIZONTAL PROJECTION AND WIDTH OF 36 INCHES THE AREA OF THE MINDOW MELL SHALL ALLOW EMERGENCY ESCAPE AND RESCUE OPENING TO BE FULLY OPENED PER THE N.C.-R. THE LADDER OR STEPS REQUIRED SHALL BE PERMITTED TO ENCROACH A MAXIMUM OF 6" INTO THE REQUIRED DIMENSIONS OF THE WINDOW WELL
- WINDOW WELLS WITH A VERTICAL DEPTH GREATER THAN 44 INCHES SHALL BE EQUIPPED WITH A PERMANENTLY AFFIXED LADDER OF STEPS USABLE WITH THE WINDOW IN THE FULLY OPEN POSITION.
- BARS, GRILLES, COVERS, SCREENS OR SIMILAR DEVICES ARE PER EMAGO, OMILLED, COVIETO, SCREENS OR SIMILAR DEVICES ARE FERMITTED TO BE PILACED OVER EMERGENCY ESCAPE AND RESQUE OPENINGS, BULKHEAD ENCLOSURES, OR NINDON NELLS THAT SERVE SUCH OPENINGS, PROVIDED THE MINIMAN NET CLEAR OPENINGS SIZE COMPLIES WITH THE NIC. AR AND SUCH DEVICES SHALL BE RELEASABLE OR REMOVABLE FROM THE INSIDE WITHOUT THE USE OF A KEY, TOOL, SPECIAL KNOWLEDES OR FORCE GREATER THAN THAT WHICH IS REQUIRED FOR NORMAL OPERATION OF THE ESCAPE AND RESCLE POPINING.
- ALL INTERIOR EGRESS DOORS AND A MINIMUM OF ONE EXTERIOR EGRESS DOOR SHALL BE READILY OPENABLE FROM THE SIDE FROM WHICH EGRESS IS TO BE MADE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR

#### GLAZING & SAFETY GLAZING

- HABITABLE ROOMS SHALL HAVE AN AGGREGATE GLAZING AREA OF NOT LESS THAN B PERCENT OF THE FLOOR AREA OF SUCH ROOMS, NATURAL VENTILATION SHALL BE THROUGH HINDOMS, SKYLIGHTS, DOORS, LOUVERS OR OTHER APPROVED OPENINGS TO THE CUITDOOR SIR, SUCH OPENINGS SHALL BE PROVIDED WITH READY ACCESS OR SHALL OTHERWISE BE READILY CONTROLLABLE BY THE BUILDING OCCUPANTS, THE OPENABLE AREA TO THE CUITDOORS SHALL BE NOT LESS THAN 4 PERCENT OF THE FLOOR AREA BEING VENTILATED.
- BATHROOMS WATER OLOGET COMPARTMENTS AND OTHER SIMIL AR DAI INCUCTO, IVALEN CLOSET COMPARTMENTS AND OTHER SIMILAR ROOMS SHALL BE PROVIDED WITH AGGREGATE GLAZING AREAS II WINDOWS OF NOT LESS THAN 3 SQUARE FEET, ONE-HALF OF WHICH MUST BE OPENABLE.
- EXCEPT AS INDICATED, EACH PANE OF GLAZING INSTALLED IN HAZARDOUS EXCEPT AS INDICATED, EACH PANE OF 6 LAZING INSTALLED IN HAZARDOUS LOCATIONS SHALL BE PROVIDED WITH MANFACTURER'S DESIGNATION SPECIFYING WHO APPLIED THE DESIGNATION, DESIGNATION IT TYPE OF 61,495 AND THE SAFETY GLAZING STANDARD WITH WHICH IT COMPLIES, WHICH IS VISIBLE IN THE FINAL INSTALLATION. THE DESIGNATION SHALL BE ACID ETCHED, SANDBLASTED, CERAMIC-PIRED, LAGER ETCHED, EMPOSSED, OR BE OF A TYPE WHICH ONCE APPLIED CANNOT BE REMOVED WITHOUT SELLA DESIGNATION.
- LOCATIONS SHALL PASS THE TEST REQUIREMENTS OF CPSC 16 CFR, PART 1201. GLAZING SHALL COMPLY WITH CPSC 16.
- THE FOLLOWING SHALL BE CONSIDERED SPECIFIC HAZARDOUS LOCATIONS FOR THE PURPOSES OF GLAZING:
- GLAZING IN ALL FIXED AND OPERABLE PANELS OF SWINGING NG AND BIFOLD DOORS
- SLIDING AND DIELD DOUGH.

  SLAZING IN AN INDIVIDIAL FIXED OR OPERABLE PANEL IN THE SAME PLANE AS A DOOR WHERE THE NEAREST VERTICAL EDGE IS WITHIN 24-INCHES OF THE DOOR IN A CLOSED POSITION AND WHOSE BOTTOM EDGE IS LESS THAN 60 INCHES ABOVE THE FLOOR OR MALKING SIPPLAY.
- GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL THAT MEETS ALL OF THE FOLLOWING CONDITIONS:
- 3.I EXPOSED AREA OF AN INDIVIDUAL PANE LARGER THAN 9 SQUARE
- 3.2 BOTTOM EDGE LESS THAN IS INCHES ABOVE THE FLOOR 3.3 TOP EDGE MORE THAN 36 INCHES ABOVE THE FLOOR
- 3.4 ONE OR MORE WALKING SURFACES WITHIN 36 INCHES, MEASURED HORIZONTALLY AND IN A STRAIGHT LINE, OF THE GLAZING.
- SLAZING IN GUARDS AND RAILINGS, INCLUDING STRUCTURAL BALUSTER PANELS AND NONSTRUCTURAL IN-FILL PANELS, REGARDLESS OF AREA OR HEIGHT ABOVE A WALKING SURFACE.
- GLAZING IN DOORS AND ENGLOSURES FOR HOT TUBS, WHIRLPOOLS, SALNAS, STEAM ROOMS, BATHTUBS AND SHOWERS, GLAZING ENCLOSING THESE COMPARTMENTS WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60 INCHES MEASURED VERTICALLY ABOVE ANY STANDING OR WALKING SURFACE.
- SMINMING POOLS, HOT TUBS AND SPAS WHERE THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 60 INCHES ABOVE A WALKING SURFACE AND WITHIN 60 INCHES HORIZONTALLY OF THE MATERS EDGE, THIS SHALL APPLY TO SINGLE GLAZING AND ALL PANES IN MULTIPLE
- GLAZING ADJACENT TO STAIRWAYS, LANDINGS AND RAMPS WITHIN 36 INCHES HORIZONTALLY OF A WALKING SURFACE WHEN THE EXPOSED SURFACE OF THE GLAZING IS LESS THAN 36 INCHES ABOVE THE PLANE THE AD IACENT WALKING SURFACE
- GLAZING ADJACENT TO THE LANDING AT THE BOTTOM OF STAIRWAYS MHERE THE GLAZING IS LESS THAN 36 INCHES ABOVE THE LANDING AND WITHIN A 60-INCH HORIZONTAL ARG LESS THAN 180 DEGREES FROM THE BOTTOM TREAD NOSING.
- HINGED SHOWER DOORS SHALL OPEN OUTWARD.
- GLAZING SHALL BE IN ACCORDANCE MITH ENERGY COMPLIANCE CALCULATIONS BASED ON A LOCALLY ADOPTED ENERGY CODE, THE MODEL ENERGY CODE OR THE INTERNATIONAL ENERGY
- IN DWELLING UNITS, WHERE THE OPENING OF AN OPERABLE MINDOW IS LOCATED MORE THAN 12 INCHES (1824 MM) ABOVE THE FINISHED GRADE OR SURFACE BELOW, THE LOWEST PART OF THE CLEAR OPENING OF THE MINDOW SHALL BE A MINIMUM OF 24 INCHES (610 MM) ABOVE THE FINISHED FLOOR OF THE ROOM IN WHICH THE WINDOW IS LOCATED. OPERABLE SECTIONS OF WINDOWS SHALL NOT PERMIT OPENINGS THAT ALLOW PASSAGE OF A 4 INCH (102 MM) DIAMETER SPHERE WHERE SUCH OPENINGS ARE LOCATED OPENINGS ARE LOCATED WITHIN 24 INCHES (610 MM) OF THE FINISHED FLOOR.

# FINISHES

- SYPSUM WALLBOARD SHALL BE INSTALLED IN CONFORMANCE WITH THE CURRENT EDITION OF THE NORTH CAROLINA RESIDENTIAL CODE AND ALL STATE AND LOCAL BUILDING CODES. THE MOST STRINGENT
- MATERIALS, ALL GYPSUM BOARD MATERIALS AND ACCESSORIES SHALL CONFORM TO ASTM C 22, C 475, C 514, C 1002, C 1047, C 1177, C 1178, C 1278, C 1346, OR C 1658 AND SHALL BE INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF THE N.C.PR. ADHESIVES FOR THE INSTALLATION OF GYPSUM BOARD SHALL CONFORM TO ASTM C 557.
- GYPSUM BOARD MATERIALS SHALL CONFORM TO THE APPROPRIATE STANDARDS LISTED IN THE N.C.-R WHERE REQUIRED FOR FIRE PROTECTION, CONFORM TO THE N.C.-R
- INTERIOR GYPSUM BOARD SHALL NOT BE INSTALLED WHERE IT IS DIRECTLY EXPOSED TO THE WEATHER OR TO WATER.
- ALL EDGES AND ENDS OF GYPSUM BOARD SHALL OCCUR ON THE ALL EDGES AND ENDS OF GYPSYM BOARD SHALL OCCUR ON THE FRAMING MEMBERS, EXCEPT THOSE EDGES AND ENDS THAT ARE PERFENDICULAR TO THE FRAMING MEMBERS. EDGES AND ENDS OF GYPSYM BOARD SHALL BE IM MODERATE CONTACT EXCEPT IN CON-CEALED SPACES MHERE FIRE-RESISTACE-RATED CONSTRUCTION. SHEAR RESISTANCE, OR DIAPHRAGM ACTION IS NOT REQUIRED. CEALED SPACES MHERE FIRE-RESISTACE-RATED CONSTRUCTION.
- FASTENERS AT THE TOP AND BOTTOM PLATES OF VERTICAL ASSEMBLIES,
- GYPSUM BOARD USED AS THE BASE OR BACKER FOR ADHESIVE APPLICATION OF CERAMIC TILE OR OTHER REQUIRED NON-ABSO FINISH MATERIAL SHALL CONFORM TO ASTM C 1996, C 1178 OR C1278. USE OF WATER-RESISTANT GYPSUM BACKING BOARD SHALL BE PERMITTED ON CEILINGS WHERE FRAMING SPACING DOES NOT EXCEED 12 INCHES ON CENTER FOR 1/2-INCH-THICK OR 16 INCHES FOR 5/8-INCH-THICK GYPSUM BOARD WATER RESISTANT GATEOUN BOARD SHALL NOT BE INSTALLED OVER A
  VAPOR RETARDER IN A SHOWER OR TUB COMPARTMENT. OUT OR EXPOSED
  EDGES, INCLUDING THOSE AT WALL INTERSECTIONS, SHALL BE SEALED AS RECOMMENDED BY THE MANUFACTURER
- MATER RESISTANT GYPSUM BACKING BOARD SHALL NOT BE USED WHERE THERE MILL BE DIRECT EXPOSURE TO WATER, OR IN AREAS SUBJECT TO CONTINUOUS HIGH HUMIDITY.
- WHEN APPLYING A WATER-BASED TEXTURE MATERIAL, THE MINIMUM GYPSUM BOARD THICKNESS SHALL BE INCREASED FROM 9/6 INCH TO 1/2 INCH FOR I6-INCH ON CENTER FRAMING, AND FROM 1/2 INCH FOR 16-INCH ON CENTER FRAMING OR 1/2 INCH SAG-RESISTANT GYPSUM CEILING BOARD SHALL BE USED.

- ALL LATH AND LATH ATTACHMENTS SHALL BE OF CORROSION-
- BACKING OR A LATH SHALL PROVIDE SUFFICIENT RIGIDITY TO PERMIT PLASTER APPLICATION.
- WHERE LATH ON VERTICAL SURFACES EXTENDS BETWEEN RAFTERS OR OTHER SIMILAR PROJECTING MEMBERS, SOLID BACKING SHALL BE INSTALLED TO PROVIDE SUPPORT FOR LATH AND ATTACHMENTS.
- GYPSUM LATH OR GYPSUM BOARD SHALL NOT BE USED, EXCEPT THAT ON HORIZONTAL SUPPORTS OF CEILINGS OR ROOF SOFFITS IT MAY BE USED AS BACKING FOR METAL LATH OR WIRE FABRIC LATH AND CEMENT PLASTER.
- UNLESS SPECIFIED OTHERWISE, ALL WALL COVERINGS SHALL BE SECURELY FASTENED PER THE N.C.-R. OR WITH OTHER APPROVED ALIMINUM, STAINLESS STEEL, ZINC-COATED OR OTHER APPROVED CORROSION-RESISTIVE FASTENERS, NHERE THE BASIC WIND SPEED IS 110 MILES PER HOUR OR HIGHER, THE ATTACHMENT OF WALL COVERINGS SHALL BE DESIGNED TO RESIST THE COMPONENT AND CLADDING LOADS SPECIFIED AND ADJUSTED FOR HEIGHT AND EXPOSURE
- A MINIMUM O.019-INCH (NO. 26 GALVANIZED SHEET GAGE),
  CORROSION-RESISTANT WEEP SCREED OR PLASTIC WEEP SCREED, WITH A
  MINIMUM VERTICAL ATTACHMENT PLANGE OF 31/2 INCHES SHALL BE
  PROVIDED AT OR BELOW THE FOUNDATION PLATE LINE ON EXTERIOR STUD
  WALLS IN ACCORDANCE WITH ASTM C 926. THE WEEP SCREED SHALL BE
  PLACED A MINIMUM OF 4 INCHES ABOVE THE EARTH OR 2 INCHES ABOVE
  PAVED AREAS AND SHALL BE OF A TYPE THAT WILL ALLOW TRAPPED
  WATER TO DRAIN TO THE EXTERIOR OF THE BUILDINS. THE
  WEATHER-RESISTANT BARRIER SHALL LAP THE ATTACHMENT FLANGE. THE
  EXTERIOR LATH SHALL COVER AND TERMINATE ON THE ATTACHMENT FLANGE
  OF THE MEEP SCREED.

### EXTERIOR PLASTER

PLASTERING WITH PORTLAND CEMENT PLASTER SHALL BE NOT LESS THAN THREE COATS WHEN APPLIED OVER METAL LATH OR WIRE LATH AND SHALL BE NOT LESS THAN TWO COATS WHEN APPLIED OVER MASONRY, CONCRETE, PRESSURE-PRESERVATIVE TREATED MOOD OR DECAY-RESISTANT WOOD OR SYPSUM BACKING, IF THE PLASTER SURFACE IS COMPLETELY COVERED BY VENEER OR OTHER FACING MATERIAL OR IS COMPLETELY CONCRAED. PLASTER APPLICATION NEED BE ONLY TWO COATS, PROVIDED THE TOTAL THICKNESS IS AS SET FORTH PER THE N.C.-R

ON WOOD-FRAME CONSTRUCTION WITH AN ON-GRADE FLOOR SLAB SYSTEM, EXTERIOR PLASTER SHALL BE APPLIED TO COVER, BUT NOT EXTEND BELOW, LATH, PAPER AND SCREED.

THE PROPORTION OF AGGREGATE TO CEMENTITIOUS MATERIALS SHALL BE AS SET FORTH PER THE N.C.-R

- ONLY APPROVED PLASTICITY AGENTS AND APPROVE AMOUNTS THEREOF MAY BE ADDED TO PORTLAND CEMENT. WHEN PLASTIC CEMENT IS USED, NO ADDITIONAL LIME OR PLASTICIZERS SHALL BE ADDED. HYDRATED LIME OR THE EQUIVALENT AMOUNT OF LIME JITY USED AS A PLASTICIZER MAY BE ADDED TO CEMENT PLASTER OR CEMENT AND LIME PLASTER IN AN AMOUNT NOT TO EXCEED THAT SET FORTH IN ASTM C 926
- GYPSUM PLASTER SHALL NOT BE USED ON EXTERIOR SURFACES.
- PLASTER COATS SHALL BE PROTECTED FROM FREEZING FOR A PERIOD OF NOT LESS THAN 24 HOURS AFTER SET HAS OCCURRED. PLASTER SHALL BE APPLIED WHEN THE AMBIENT TEMPERATURE IS HIGHER THAN 40 DEGREES F (4 DEGREES C), UNLESS PROVISIONS ARE MADE TO KEEP CHENT PLASTER WORK ABOVE 40 DEGREES (4 DEGREES C), PRIOR TO & DURING APPLICATION AND 48 HOURS THEREAFTER.
- COLOR AND FINISH TO BE SELECTED AND APPROVED BY OWNER, BUILDER AND ARCHITECT. A I-COAT EXTERIOR PLASTER SYSTEM SUCH AS "MAGNA WALL
- A 1-COAT EXTERIOR PLASTER STSTEM SUCH AS MAGNA WALL I.C.C. NO. ER-4716, "EXPO FIBREMALL" I.C.C. NO. ER-4366, OR APPROVED EQUAL MAY BE USED IN LIEU OF A 3-COAT EXTERIOR



NORTH CAROLINA 40' SERIES

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RALEIGH-DURHAM SERIES

# MECHANICAL & PLUMBING

- ALL MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ALL PAYERIAS AND CONSTRUCTION PERIODS SHALL BE IN CONFORMANCE PITH THE MORTH CAROLINA RESIDENTIAL AND MECHANICAL CODE. INSTALLATIONS OF MECHANICAL APPLIANCES, EQUIPMENT AND SYSTEMS NOT ADDRESSED BY THIS CODE SHALL COMPLY NITH THE APPLICABLE PROVISIONS OF THE NORTH CAROLINA RESIDENTIAL AND FUEL 6AS CODE.
- CONTRACTOR SHALL DESIGN ENTIRE H.V.A.C. SYSTEM AND SUBMIT DRAWINGS FOR OWNER/BUILDER'S APPROVAL PRIOR TO ORDERIN MATERIALS OR EQUIPMENT.
- WHERE AIR CONDITIONING IS AN OPTIONAL FEATURE, HEATING SYSTEMS MUST BE DESIGNED AND DUCT WORK SIZED TO ACCOMMODATE FUTURE AIR CONDITIONING NEEDS.
- WHERE THE PRIMARY HEATING SYSTEM IS A FORCED-AIR FURNACE, AT LEAST ONE THERMOSTAT PER DIVELLING UNIT SHALL BE CAPABLE OF CONTROLLING THE HEATING AND COOLING SYSTEM ON A DAILY SCHEDULE TO MAINTAIN DIFFERENT TEMPERATURE SET POINTS AT DIFFERENT TIMES OF THE DAY. THIS THERMOSTAT SHALL INCLUDE THE CAPABILITY TO SET BACK OR TEMPORARILY OPERATE THE SYSTEM TO MAINTAIN ZONE TEMPERATURES DOWN TO 55 DEG. F (19 C) OR UP TO 85 DEG. F (29 C).
- ALL DUCTWORK SHALL CONFORM TO THE REQUIREMENTS OF THE
- COMBUSTION AIR SHALL BE PROVIDED FOR FORCED AIR UNITS IN ACCORDANCE WITH N.C.-R
- CONTRACTOR TO PROVIDE BOOT IN DUCTWORK WHEN OPTIONAL "HONEYWELL" OR "CARRIER" ELECTRONIC AIR CLEANER IS PROVIDED.
- DUCTS IN THE GARAGE AND DUCTS PENETRATING THE WALLS OR CEILINGS SEPARATING THE DIVELLING FROM THE GARAGE GHALL BE CONSTRUCTED OF A MINIMUM NO. 26 GAGE SHEET STEEL OR OTHER APPROVED MATERIAL AND SHALL HAVE NO OPENINGS INTO THE
- EXTERIOR-GRADE INSTALLATIONS. EQUIPMENT AND APPLIANCES INSTALLED ABOVE GRADE LEVEL SHALL BE SUPPORTED ON A SOLID BASE OR APPROVED MATERIAL A MINIMUM OF 2 INCHES THICK.
- IO. UNDER-FLOOR INSTALLATION. SUSPENDED EQUIPMENT SHALL BE A MINIMUM OF 6 INCHES ABOVE THE ADJOINING GRADE.
- CRAINL SPACE SUPPORTS. IN A CRAINL SPACE, A MINIMUM OF 2-INCH THICK SOLID BASE, 2-INCH (SI MM) THICK FORMED CONCRETE, OR STACKED MASONRY UNITS HELD IN PLACE BY MORTAR OR OTHER APPROYED METHOD, THE WATER HEATER SHALL BE SUPPORTED NOT LESS THAN 2 INCHES ABOVE GRADE.
- DRAINAGE. BELOW-GRADE INSTALLATIONS SHALL BE PROVIDED WITH A NATURAL DRAIN OR AN AUTOMATIC LIFT OR SUMP PUMP. FOR PIT REQUIREMENTS REFER TO N.C.-M.

- IN LIEU OF REQUIRED EXTERIOR OPENINGS FOR NATURAL VENTILATION IN BATHROOMS CONTAINING A BATHTUB, SHOWER OR COMBINATION THEREOF, A MECHANICAL VENTILATION SYSTEM MAY BE PROVIDED. THE MINIMM VENTILATION RATES SHALL BE SO CPM FOR INTERMITTENT VENTILATION OR 20 CPM FOR CONTINUOUS VENTILATION. VENTILATION AIR FROM THE SPACE SHALL BE EXHAUSTED DIRECTLY TO THE OUTSIDE PER N.C.-R.
- HAUST DUCTS SHALL TERMINATE OUTSIDE THE BUILDING AND SHALL E EQUIPPED WITH BACKDRAFT DAMPERS.
- RANGE HOODS SHALL DISCHARGE TO THE OUTDOORS THROUGH A DUCT. THE DUCT SERVING THE HOOD SHALL HAVE A SMOOTH INTERIOR SURFACE SHALL BE AIR TIGHT, SHALL BE EQUIPPED WITH A BACK-DRAFT DAMPER AND SHALL BE INDEPENDENT OF ALL OTHER EXHAUST SYSTEMS, DUCTS SERVING RANGE HOODS SHALL NOT TERMINATE IN AN ATTIC OR CRAML SPACE OR AREAS INSIDE THE BUILDING, DUCTS SERVING RANGE HOODS SHALL BE CONSTRUCTED OF GALVANIZED STEEL, STAINLESS STEEL OR COPPER.
- WHERE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS, AND WHERE MECHANICAL OR NATURAL VENTILATION IS OTHERWISE PROVIDED, LISTED AND LABELED DUCTLESS RANGE HOODS SHALL NOT BE REQUIRED TO DISCHARGE TO THE OUTDOORS PER N.C.-M
- DUCTS FOR DOMESTIC KITCHEN COOKING APPLIANCES EQUIPPED WITH DOWN DRAFT EXHAUST SYSTEMS SHALL BE PERMITTED TO BE CONSTRUCTED OF SCHEDULE 40 PVC PIPE PROVIDED THAT THE INSTALLATION COMPLIES WITH ALL OF THE FOLLOWING PER N.C.-M.
- A. THE DUCT SHALL BE INSTALLED UNDER A CONCRETE SLAB POURED ON GRADE.
- THE UNDERFLOOR TRENCH IN WHICH THE DUCT IS INSTALLED SHALL BE COMPLETELY BACKFILLED WITH SAND OR GRAVEL.
- THE PVC DUCT SHALL EXTEND NOT GREATER THAN I INCH ABOVE THE INDOOR CONCRETE FLOOR SURFACE.
- THE PVC DUCT SHALL EXTEND NOT GREATER THAN I INCH ABOVE GRADE OUTSIDE THE BUILDING.
- E. THE PVC DUCTS SHALL BE SOLVENT CEMENTED.
- EXHAUST HOOD SYSTEMS CAPABLE OF EXHAUSTING IN EXCESS OF 400 CPM SHALL BE PROVIDED WITH MAKEUP AIR AT A RATE APPROXIMATEL EQUAL TO THE EXHAUST AIR RATE THAT IS IN EXCESS OF 400 CUBIC FE FER MINUTE. SUCH MAKEUP AIR SYSTEMS SHALL BE EQUIPPED WITH A MEANS OF CLOSURE AND SHALL BE AUTOMATICALLY CONTROLLED TO START AND OPERATE SIMILTANEOUSLY WITH THE EXHAUST SYSTEM. DAMPERS SHALL BE ACCESSIBLE FOR INSPECTION, SERVICE, REPAIR AND REPLACEMENT WITHOUT REMOVING PERMANENT CONSTRUCTION
- DOMESTIC WATER HEATERS, UNLESS SPECIFIED OTHERWISE BY THE MANIFACTURERS) INSTALLATION INSTRUCTIONS, SHALL BE VENTED THE OUTSIDE AIR BY A TYPE 'B' VENT AND COMPLY WITH THE REQUIREMENTS OF THE NC.-M

- A POTABLE WATER SUPPLY SYSTEM SHALL BE DESIGNED, INSTALLED AND MAINTAINED IN SUCH A MANNER SO AS TO PREVENT AND INVANIOUS IN SOUT A MANNER SU AS TO PREVENT CONTAMINATION FROM NONPOTABLE LIQUIDS, SOLIDS OR GASES BEING INTRODUCED INTO THE POTABLE NATER SUPPLY THROUGH CROSS-CONNECTIONS OR ANY OTHER PIPING CONNECTIONS TO THE SYSTEM. BACKFLOW PRE- VENTER APPLICATIONS SHALL CONFORM TO
- THE SUPPLY LINES OR FITTINGS FOR EVERY PLUMBING FIXTURE SHALL BE INSTALLED SO AS TO PREVENT BACKFLOW, PLUMBING FIXTURE FITTINGS SHALL PROVIDE BACKFLOW PROTECTION IN ACCORDANCE WITH ASME AII2.18.1.

# MECHANICAL & PLUMBING (continued)

- ALL DEVICES, APPURTENANCES, APPLIANCES AND APPARATUS INTENDED TO SERVE SOME SPECIAL FUNCTION, SUCH AS STERILIZATION, DISTILLATION, PROCESSING, COOLING, OR STORAGE OF ICE OR FOODS, AND THAT CONNECT TO THE WATER SUPPLY SYSTEM, SHALL BE PROVIDED WITH PROTECTION ASPINST BACKETON AND CONTAMINATION OF THE MATER SUPPLY SYSTEM. WATER PUMPS, FILTERS, SOFTENERS, TANKS AND ALL OTHER APPLIANCES AND DEVICES THAT HANDLE OR TREAT POTABLE WATER SHALL BE PROTECTED AGAINST CONTAMINATION.
- WATER SERVICE PIPING SHALL BE PROTECTED IN ACCORDANCE WITH N.C.-P SECTIONS AND EXCEPTIONS)
- FIXTURE FITTINGS, FAUCETS AND DIVERTERS SHALL BE CONNECTED TO THE MATER DISTRIBUTION SYSTEM SO THAT HOT WATER CORRESPONDS TO THE LETT SIDE OF THE FITTINGS.
- DIVERTERS FOR SINK FAUCETS WITH A SECONDARY OUTLET CONSISTING OF A FLEXIBLE HOSE AND SPRAY ASSEMBLY SHALL CONFORM TO ASTM AII2.18.1 IN ADDITION TO THE REQUIREMENTS IN N.C.-P
- THE INSTALLATION OF A WATER SERVICE OR WATER DISTRIBUTION PIPE SHALL BE PROHIBITED IN SOIL AND GROUND WATER THAT IS CONTAMINATED. GROUND WATER CONDITIONS SHALL BE REQUIRED TO ACERTAIN THE ACCEPTAIN THE ACCEPTAINT ABILITY OF THE WATER SERVICE OR WATER DISTRIBUTION PIPING MATERIAL FOR THE SPECIFIC INSTALLATION, WHERE DETRIMENTAL CONDITIONS EXIST, APPROVED ALTERNATIVE MATERIALS OR ROUTING SHALL BE REQUIRED.
- WATER DISTRIBUTION PIPE SHALL CONFORM TO NSF 61 AND SHALL CONFORM TO ONE OF THE STANDARDS LISTED IN N.C.-PLIMBING. / WATER DISTRIBUTION PIPE AND TUBING SHALL HAVE A MINIMUM PRESSURE RATING OF 100 PSI AT 180 DESREES F.
- PIPE PASSING THROUGH CONCRETE OR CINDER WALLS AND FLOORS OR OTHER CORROSIVE MATERIAL SHALL BE PROTECTED AGA EXTERNAL CORROSION BY A PROTECTIVE SHEATHING OR WRAPPING OR CATHER MEANS THAT WILL MITHSTAND ANY REACTION PROM THE LIME AND ACID OF COKRETE, CINDER OR CATHER CORROSIVE MATERIAL SHEATHING OR NEAPPING SHALL ALLOW FOR EXPANSION AND CONTRACTION OF PIPING TO PREVENT ANY RUBBING ACTION, MINIMUM MAIL THANKES OF MATERIAL BE O.025-INCH.
- PIPES PASSING UNDER OR THROUGH WALLS SHALL BE PROTECTED FROM PHYSICAL DAMAGE PER NC-R.
- PIPING SHALL BE INSTALLED SO AS TO PREVENT DETRIMENTAL STRAINS AND STRESSES IN THE PIPE. PROVISIONS SHALL BE MADE TO PROTECT PIPING FROM DAMAGE RESULTING FROM EXPANSION, CONTRACTION AND STRUCTURAL SETTLEMENT. PIPING SHALL BE INSTALLED TO AVOID STRUCTURAL STRESSES OR STRAINS WITHIN BUILDING COMPONENTS.
- 12. WATER PIPES INSTALLED IN A WALL EXPOSED TO THE EXTERIOR SHALL BE LOCATED ON THE HEATED SIDE OF THE WALL INSULATION, IN OTHER CASES, WATER, SOIL AND WASTE PIPES SHALL NOT BE INSTALED OUTSIDE OF A BUILDING, IN UNCONDITIONED ATTICS, UNCONDITIONED CUTSIDE OF A BUILDING, IN UNCONDITIONED ATTICS, UNCONDITIONED UTILITY ROOMS OR IN ANY OTHER PLACE SUBJECTED TO FREEZING TEMPERATURES UNLESS ADEQUATE PROVISION IS MADE TO PROTECT SUCH PIPES FROM FREEZING BY A MINIMUM OF R-SS INSULATION DETERMINED AT 75 DEG. F IN ACCORDANCE WITH ASTM CITT OR HEAT OR BOTH.

  EXTERIOR WATER SUPPLY SYSTEM PIPING SHALL BE INSTALLED NOT LEGG. TAIN A LIVER BE BE ON THE FROMET LIVE AND MYT LEGG. LESS THAN 6 INCHES BELOW THE FROST LINE AND NOT LESS THAN 12 INCHES BELOW GRADE.
- BUILDING SEMER PIPE SHALL CONFORM TO ONE OF THE STANDARDS
- BUILDING SEWER PIPE FITTINGS SHALL BE APPROVED FOR INSTALLATION MITH THE PIPING MATERIAL INSTALLED AND SHALL CONFORM TO THE RESPECTIVE PIPE STANDARDS OR ONE OF THE STANDARDS LISTED IN N.C.-P.
- WHERE WASTE LINE DROPS OCCUR IN A LOCATION WHERE THE SOUND OF FLUSHED TOILET MAY BE UNDESIRABLE, SUCH AS IN WALLS OF PARTITIONS ADJACENT TO EATING ROOMS, USE CAST IRON PIPING OR SIMILAR APPROVED HARD OR DENSE PIPING TO MITIGATE SOUND.
- CLEANOUTS ON BUILDING SEWERS SHALL BE LOCATED AS SET FORTH IN
- THE MAXIMUM WATER CONSUMPTION FLOW RATES AND QUANTITIES FOR ALL PLUMBING FIXTURES SHALL BE IN ACCORDANCE WITH N.C.-R.
- INDIVIDUAL SHOWER AND TUB/SHOWER COMBINATION VALVES SHALL BE EQUIPPED WITH CONTROL. VALVES OF THE PRESSURE-BALANCE, THERMOSTATIC-MIXINS OR COMBINATION PRESSURE-BALANCE/THERMOSTATIC-MIXINS VALVE TYPES WITH A HIGH LIMIT STOP IN ACCORDANCE WITH ASSE 1016/ ASME AII.2.1016/C5A BI25.16. AND SHALL BE INSTALLED AND ADJASTED PER MANUFACTURES INSTRUCTIONS.
- GAS AND ELECTRIC WATER HEATERS HAVING AN IGNITION SOURCE SHALL BE ELEVATED SUCH THAT THE SOURCE OF IGNITION IS NOT LESS THAN IS INCHES ABOVE THE GARAGE FLOOR. REPER TO N.C.-R FOR EXCEPTION.
- 20. WATER HEATERS, (USING SOLID, LIQUID OR GAS FUEL) WITH THE EXCEPTION WATER HEATERS, (ISING SOLID, LIQUID OR 6AS FILE.) WITH THE EXCEPTION OF THOSE HAVING DIRECT VENT SYSTEMS, SHALL NOT BE INSTALLED IN BATHROOMS AND BEDROOMS OR IN A CLOSET WITH ACCESS ONLY THROUGH A BEDROOM OR BATHROOM, HONEVER, WATER HEATERS OF THE AUTOMATIC STORAGE TYPE MAY BE INSTALLED AS REPLACEMENT IN A BATHROOM, IMMEN APPROVED BY THE PLIMBING OFFICIAL, PROVIDED THEY ARE VENTED AND SUPPLIED WITH ADEQUATE COMBUSTION AIR.
- IN SEISMIC DESIGN CATEGORIES DO, DI AND D2 AND TOWNHOUSES IN SEISMIC DESIGN CATEGORY C, WATER HEATERS SHALL BE ANCHORED OR STRAPPED IN THE UPPER ONE-THIRD OF THE APPLIANCE TO RESIST A HORIZONTAL FORCE EQUAL TO ONE-THIRD OF THE OPERATING WEIGHT OF THE MATER HEATER, ACTING IN ANY HORIZONTAL DIRECTION, OR IN ACCORDANCE WITH THE APPLIANCE MANUFACTURER'S RECOMMENDATIONS
- 22. APPLIANCES LOCATED IN A GARAGE OR CARPORT SHALL BE PRO-TECTED FROM IMPACT BY A MOVING VEHICLE.
- 23 WHERE WATER HEATERS OR HOT WATER STORAGE TANKS ARE INSTALLED IN-MERCE VALEN FALLEN ON TO MALEN SICKNES THAN ANE INSTALLEN INS.
  REMOTE LOCATIONS SUCH AS SUSPENDED CEILING, ATTICS, ABOVE OCCUPIED
  SPACES, OR UNVENTILATED CRANL SPACES, A LOCATION WHERE WATER
  LEAKAGE FROM THE TANK WILL CAUSE DAMAGE TO PRIMARY STRUCTURAL
  MEMBERS, THE TANK OR WATER HEATER SHALL BE INSTALLED IN A GALVANIZED STEEL PAN HAVING A MINIMUM THICKNESS OF 24 GAGE, OR OTHER PANS APPROVED FOR SUCH USE.
- WHERE CLOTHES WASHING MACHINES ARE LOCATED ON WOOD FRAMED FLOORS WHERE LEAKAGE WOULD CAUSE DAMAGE, A GALVANIZED STELL PAN HAVING A MINIMUM THICKNES OF 24 GAGE, OR OTHER PANS APPROVED FOR SUCH USE SHALL BE PROVIDED.

# MECHANICAL \$ PLUMBING (continued)

- 25. APPLIANCES AND EQUIPMENT USED FOR HEATING WATER OR STORING HO APPLIANCES AND EQUIPMENT USED FOR HEATING MATER OR STORING HOT WATER SHALL BE PROTECTED BY A SEPARATE PRESSURE-RELIEF VALVE AND A SEPARATE TEMPERATURE-RELIEF VALVE OR A COMBINATION PRESSURE-AND-TEMPERATURE RELIEF VALVE. BLIEF VALVE SHALL HAVE A MINIMAM RATED CAPACITY FOR THE EQUIPMENT SERVED AND SHALL CONFORM TO ANSI 221.22, THE RELIEF VALVE SHALL NOT BE USED AS A MEANS OF CONTROLLING THERMAL EXPANSION.
- THE WATER SUPPLY TO A DISHWASHER SHALL BE PROTECTED AGAINST BACKFLOW BY AN AIR GAP COMPLYING WITH ASME AII2.1.3 OR AII2.1.2 THAT IS INSTALLED INTEGRALLY WITHIN THE MACHINE OR A BACKFLOW PREVENTER IN ACCORDANCE WITH THE NC-R.
- 27. SINK AND DISHWASHER, THE COMBINED DISCHARGE FROM A DISHWASHER AND A ONE- OR THO-COMPARTMENT SINK, WITH OR MITHOUT A FOOD-WASTE DISPOSER, SHALL BE SERVED BY A TRAP OF NOT LESS THAN II/2 INCESSES (36 MM) IN OUTSIDE DIAMETER, THE DISHWASHER DISCHARGE PIPE OR TUBING SHALL RISE TO THE WIDERSIDE OF THE COUNTER AND SHALL BE SECURELY FASTEINED TO THE WIDERSIDE OF THE SINK RIM OR COUNTER BEFORE CONNECTING TO THE HEAD OF THE FOOD-WASTE DISPOSER OR TO A MYE FITTING IN THE SINK TAILPIECE.

- FACTORY-BUILT FIREPLACES SHALL BE LISTED AND LABELED AND SHALL BE INSTALLED IN ACCORDANCE WITH THE CONDITIONS OF LISTING. FACTORY-BUILT FIREPLACES SHALL BE TESTED IN ACCORDANCE WITH UL. 127.
- 2. FIREPLACES ARE TO BE PROVIDED WITH AN EXTERIOR AIR SUPPLY

# ELECTRICAL

- ALL MATERIALS AND APPLIANCES, INSTALLATION AND CONSTRUCTION METHODS SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE OR CURRENT SAE REQUIREMENTS.
- ALL ELECTRICAL SYSTEMS, CIRCUITS, FIXTURES AND EQUIPMENT SHALL BE GROUNDED IN A MANNER COMPLYING WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.
- ALL WIRING SHALL BE SO INSTALLED THAT, WHEN COMPLETED, THE SYSTEM WILL BE FREE FROM SHORT CIRCUITS AND FROM GROUNDS OTHER THAN AS REQUIRED OR PERMITTED IN N.E.C. ARTICLE 250.
- ELECTRIC EQUIPMENT SHALL BE INSTALLED IN A NEAT AND WORK-MANLIKE MANNER.
- ALL 125-VOLT, SINGLE-PHASE, IS- AND 20-AMPERE RECEPTACLES INSTALLED IN THE LOCATIONS SPECIFIED BELOW SHALL HAVE ROUND-INSTRUMENTER PROTECTION FOR PERSONNEL. THE GROUND-FAULT CIRCUIT-INTERRUPTER SHALL BE INSTALLED IN A READILY ACCESSIBLE LOCATION.
  - A. BATHROOMS
  - GARAGES AND ALSO ACCESSORY BUILDINGS THAT HAVE A FLOOR LOCATED AT OR BELOW GRADE LEVEL NOT INTENDED AS HABITABLE ROOMS AND LIMITED TO STORAGE AREAS, WORK AREAS, AND AREAS OF SIMILAR USE.

  - CRANL SPACES. WHERE THE CRANL SPACE IS AT OR BELOW GRADE LEVEL.
  - UNFINISHED PORTIONS OR AREAS OF THE BASEMENT NOT INTENDED AS HABITABLE ROOMS.
  - KITCHENS. WHERE THE RECEPTACLES ARE INSTALLED TO SERVE THE COUNTERTOP SURFACES.
  - SINKS, WHERE RECEPTACLES ARE INSTALLED WITHIN 6 FT FROM THE TOP INSIDE EDGE OF THE BOWL OF THE SINK.
  - BOAT HOUSES
  - BATHTUBS OR SHOWER STALLS WHERE RECEPTACLES ARE INSTALLED WITHIN 6' OF THE OUTSIDE EDGE OF THE BATHTUB OR SHOWER STALL.
- DISHWASHER GFCI PROTECTION IS NOT REQUIRED FOR OUTLETS THAT SUPPLY DISHWASHERS INSTALLED IN DWELLING UNIT LOCATIONS.
- CRAWL SPACE LIGHTING OUTLETS. GFCI PROTECTION SHALL BE PROVIDED FOR LIGHTING OUTLETS NOT EXCEEDING 120 VOLTS INSTALLED IN CRAWL SPACES.
- APPLIANCE RECEPTAGLE OUTLETS INSTALLED IN A DWELLING UNIT FOR SPECIFIC APPLIANCES, SUCH AS LAUNDRY EQUIPMENT, SHALL BE INSTALLED WITHIN 6 FEET OF THE INTENDED LOCATION OF THE APPLIANCE.
- IN EVERY KITCHEN, FAMILY ROOM, DINING ROOM, LIVING ROOM PARLOR LIBRARY, DEN SURROOM, BEDROOM, RECREATION ROOM, OR SIMILIAR ROOM OR AREA OF DVIELLING NITIS, RECEPTACLE OUTLETS SHALL BE INSTALLED SO THAT NO POINT ALONG THE FLOOR LINE IN ANY MALL SPACE IS MORE THAN 6 FIET, MEASURED HORIZONTALLY, FROM AN JUTLET IN THAT SPACE, INCLUDING ANY WALL SPACE 2 FEET OR MORE IN WIDTH (INCLUDING SPACE WALL SPACE 2 FIET OR MORE IN MIDTH (INCLUDING SPACE MEASURED AROUND CORNERS) AND UNBROKEN ALONG THE FLOOR LINE BY DOORWAYS AND SIMILAR OPENINGS, FIREPLACES, SAD FIXED CABINETS, AND THE WALL SPACE OCCUPIED BY FIXED PANELS IN EXTERIOR WALLS, BUT EXCLUDING SLIDING PANELS IN EXTERIOR WALLS, BUT EXCLUDING SLIDING PANELS IN EXTERIOR WALLS, THE WALL SPACE AFFORDED BY FIXED ROOM DIVIDERS, SUCH AS FREESTANDING BAR-TYPE COUNTERS OR RAILINGS, SHALL BE INCLUDED IN THE 6 FOOT MEASUREMENT.
- IN THE KITCHEN, PANTRY, BREAKFAST ROOM, DINING ROOM, OR SIMILAR AREA OF A DWELLING UNIT, THE TWO OR MORE 20-AMPERE SMALL-APPLIANCE BRANCH CIRCUITS REQUIRED SHALL SERVE ALL MALL AND FLOOR RECEPTACLE OUTLETS, ALL COUNTERTOP OUTLETS, AND RECEPTACLE OUTLETS FOR REFRIGERATION EQUIPMENT. THE TWO OF MORE SMALL-APPLIANCE BRANCH CIRCUITS SHALL HAVE NO OTHER OUTLETS.
- IN KITCHENS, PANTRIES, BREAKFAST ROOMS, DINING ROOMS AND SIMILAR AREAS OF DIRELLING UNITS, RECEPTACLE OUTLETS FOR COUNTER SPACES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING.
- A RECEPTACLE OUTLET SHALL BE INSTALLED AT EACH WALL COUNTER SPACE 12 INCHES OR MIDER. RECEPTACLE OUTLETS SHALL BE INSTALLED SO THAT NO POINT ALONG THE WALL LINE 15 MORE THAN 24 INCHES MEASURED HORIZONTALLY FROM A RECEPTACLE OUTLET IN THAT SPACE.

# ELECTRICAL (continued)

- (2) AT LEAST ONE RECEPTACLE OUTLET SHALL BE INSTALLED AT EACH ISLAND COUNTER SPACE WITH A LONG DIMENSION OF 24 INCHES OR GREATER AND A SHORT DIMENSION OF 12 INCHES OR GREATER.
- AT LEAST ONE RECEPTACLE OUTLET SHALL BE INSTALLED AT EACH PENINSULAR COUNTER SPACE WITH A LONG DIMENSION OF 24 INCHES OR GREATER AND A SHORT DIMENSION OF 12 INCHES OR GREATER. A PENINSULAR COUNTERTOP IS MEASURED FROM CONNECTING PERFENDICULAR WALL.
- COUNTERTOP SPACES SEPARATED BY RANGE TOPS, REFRIGER-ATORS, OR SINKS SHALL BE CONSIDERED AS SEPARATE COUNTER-TOP SPACES IN APPLYING THE REQUIREMENTS OF (I), (2), AND (3) ABOVE. IF A RANGE, COUNTER-MOUNTED COOKING UNIT, OR SINK ABOVE: IF A RANGE, CONTIENT-MOUNTED COOKING UNIT, ON SINK IS INSTALLED IN AN ISLAND OR PENNINGUAR CONTIENTOR AND THE DEFITH OF THE COUNTER BEHIND THE ITEM IS LESS THAT IS INCHES, IT WILL BE CONSIDERED TO DIVIDE THE COUNTERTOP SPACE INTO TWO SEPARATE COUNTERTOP SPACES. EACH COUNTERTOP SPACE SHALL COMPLY WITH APPLICABLE REQUIREMENTS.
- RECEPTACLE OUTLETS SHALL BE LOCATED NOT MORE THAN 20 INCHES ABOVE THE COUNTERTOP, RECEPTACLE OUTLETS RENDERED NOT READILY ACCESSIBLE BY APPLIANCES FASTENED IN PLACE, APPLIANCE GARAGES, SINKS, OR RANGETOPS AS COVERED IN 4) ABOVE, OR APPLIANCES OCCUPYING DEDICATED SPACE SHALL NOT BE CONSIDERED AS THESE REQUIRED OUTLETS.
- AT LEAST ONE WALL RECEPTACLE OUTLET SHALL BE INSTALLED IN BATHROOMS WITHIN 3 FEET OF THE OUTSIDE EDGE OF EACH BASIN. THE RECEPTACLE OUTLET SHALL BE LOCATED IN WALL OR PARTITION THAT IS ADJACENT TO THE BASIN OR BASIN COUNTERTOP, OR INSTALLED ON THE SIDE OF FACE OF THE BASIN CABINET NOT MORE HAN 12" BELOW THE COUNTERTOR
- 12. IN DWELLING UNITS, AT LEAST ONE RECEPTACLE OUTLET SHALL BE INSTALLED IN AREAS DESIGNATED FOR THE INSTALLATION OF LAUNDRY
- IN EACH ATTACHED GARAGE AND IN EACH DETACHED GARAGE WITH ELECTRIC POWER, THE BRANCH CIRCUIT SUPPLYING THIS RECEPTACLE(S) SHALL NOT SUPPLY OUTLETS OUTSIDE OF THE GARAGE. AT LEAST ONE RECEPTACLE OUTLET SHALL BE INSTALLED IN EACH VEHICLE BAY.
- CABLE- OR RACEWAY-TYPE WIRING METHODS INSTALLED IN A GROOVE, TO BE COVERED BY WALLBOARD, SIDING, PANELING, CARPETING, OR SIMILAR FINISH, SHALL BE PROTECTED BY I/O INOH THICK STEEL PLATE, SLEEVE, OR EQUIVALENT OR BY NOT LESS THAN I-I/4 INCH FREE SPACE FOR THE FULL LENGTH OF THE GROOVE IN WHICH THE CABLE OR RACEW IS INSTALLED.
- 15. RECEPTACLES IN DAMP OR WET LOCATIONS.
- A RECEPTACLE INSTALLED OUTDOORS IN A LOCATION PROTECTED PROM NEATHER OR IN OTHER DAMP LOCATIONS SHALL HAVE AN ENCLOSURE FOR THE RECEPTACLE THAT IS MEATHERPROOF WHEN THE RECEPTACLE IS COVERED, (ATTACHMENT PLUS CAP NOT INSERTED) AND RECEPTACLE COVERS CLOSED.)
- ALL 15- AND 20- AMPERE, 125- AND 250-VOLT RECEPTACLES INSTALLED IN A MET LOCATION SHALL HAVE AN ENCLOSURE THAT IS MEATHER PROOF MHETHER OR NOT THE ATTACHMENT PLUS CAP IS INSERTED. AN OUTLET BOX HOOD INSTALLED FOR THIS PURPOSE SHALL BE LISTED AND SHALL BE IDENTIFIED AS "EXTRA DUTY". ALL 15- AND 20- AMPERE, 125- AND 250-VOLT NONLOCKING RECEPTACLES SHALL BE LISTED WEATHER RESISTANT TYPE.
- LIGHTING EQUIPMENT. NOT LESS THAN 15 PERCENT OF THE PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL CONTAIN ONLY HIGH-EFFICACY LAMPS.
- LIGHT FIXTURES WITHIN CLOTHES CLOSETS SHALL BE INSTALLED IN
- ALL 120-VOLT, SINGLE PHASE, 15- AND 20-AMPERE BRANCH CIRCUITS ALL 120-VOLT, SINGLE PHASE, IS- AND 20-AMPERE BRANCH CIRCUITS SUPPLYTING OUTLETS OR DEVICES INSTALLED IN DWELLING WINT FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLHAYS, OR SIMILAR ROOMS OR AREAS SHALL BE ROTICCTED BY AN ARC-FALLT CIRCUIT INTERRUPTERS), COMBINATION-TYPE, INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT. THE ARC-FALLT CIRCUIT INTERRUPTERS SHALL BE INSTALLED IN A READILY ACCESSION.
- BUILDINGS SHALL BE PROVIDED WITH APPROVED ADDRESS IDENTIFICATION. THE ADDRESS IDENTIFICATION SHALL BE LEGIBLE AND PLACED IN A POSITION THAT IS VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY.
- TAMPER-RESISTANT RECEPTACLES IN DWELLING UNITS IN ALL AREAS, ALL NON-LOCKING TYPE I25-VOLT IS-AND 20-AMPERE RECEPTACLES SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES. EXCEPTIONS LISTED BELOW:
  - I. RECEPTACLES LOCATED MORE THAN 51 ABOVE THE FLOOR 2. RECEPTACLES THAT ARE PART OF A LUMINAIRE OR APPLIANCE.
  - 3, A SINGLE RECEPTACLE OR A DUPLEX RECEPTACLE FOR TWO APPLIANCES LOCATED MITHIN DEDICATED SPACE FOR EACH APPLIANCE THAT, IN NORMAL USE, IS NOT EASILY MOVED FROM ONE PLACE TO ANOTHER, AND THAT IS CORD-AND-PLUS CONNECTED.
  - 4. NON-GROUNDING RECEPTACLES USED FOR REPLACEMENTS.
- DIMMER-CONTROLLED RECEPTACLES. A RECEPTACLE SUPPLYING LIGHTING LOADS SHALL NOT BE CONNECTED TO A DIMMER UNLESS THE PLUG/RECEPTACLE COMBINATION IS A NONSTANDARD CONFIGURATION TYPE THAT IS SPECIFICALLY LISTED AND IDENTIFIED FOR EACH SUCH

- SMOKE DETECTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE
- ALL SMOKE ALARMS SHALL BE LISTED IN ACCORDANCE WITH UL 21T AND INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF THIS CODE AND THE HOUSEHOLD FIRE WARNING EQUIPMENT PROVISIONS OF NPPA T2.

HOUSEHOLD FIRE ALARM SYSTEMS INSTALLED IN ACCORDANCE WITH NFPA 12 THAT INCLUDE SMOKE ALARMS, OR A COMBINATION OF SMOKE DETECTOR AND AUDIEL HOTFICATION DEVICE INSTALLED AS REQUIRED BY THE NC-R RBI43 FOR SMOKE ALARMS, SHALL BE PERMITTED. THE HOUSEHOLD FIRE ALARM SYSTEM SHALL PROVIDE THE SAME LEVEL OF SMOKE DETECTION AND ALARM AS REQUIRED BY THE NC-R FOR SMOKE ALARMS IN THE EVENT THE FIRE ALARM PASSEL IS REMOVED OR THE SYSTEM IS NOT CONNECTED TO A CENTRAL STATION.

REQUIRED SMOKE DETECTORS SHALL BE LOCATED IN ACCORDANCE MITH THE NC-R R314.3

# ELECTRICAL (continued)

#### CARBON MONOXIDE ALARMS

- CARBON MONOXIDE ALARMS IN DWELLING UNITS SHALL BE INSTALLED OUTSIDE OF EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS, WHERE A FUEL-BURNING APPLIANCE IS LOCATED WITHIN A BEDROOM OR ITS ATTACHED BATHROOM, A CARBON MONOXIDE ALARM SHALL BE INSTALLED
- SINGLE STATION CARBON MONOXIDE ALARMS SHALL BE LISTED AS COMPLYING WITH UL 2034 AND SHALL BE INSTALLED IN ACCORDANCE WITH THE NC-R RS15 AND THE MANUFACTURER'S NSTALLATION INSTRUCTIONS.
- COMBINATION CARBON MONOXIDE AND SMOKE ALARMS SHALL BE PERMITTED TO BE USED IN LIEU OF INDIVIDUAL CARBON MONOXIDE OR SMOKE ALARMS.

#### DRYER VENT

THE DRYER DUCT IS REQUIRED TO IDENTIFY THE LENGTH IN ACCORDANCE MITH SECTION MI502.4.5



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**NORTH CAROLINA** 40' SERIES

NORTH CAROLINA DIVISION 4518 S. MIAMI BLVD.

SUITE 180 DURHAM, NC 27703 TEL: (919) 768-7988 • FAX: (919) 472-0582

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MCP

06/10/19

2018 NORTH **CAROLINA STATE** BUILDING CODES

ISSUE DATE: 02/23/17 PROJECT No.: 1350999:56

ADD CRAWL SPACE NCI8024NCP • 07/24/18 • CTD

DIVISION MCR ·

REVISIONS:

FLOORING BREAK REV NCI8040NCP - 08/28/18 - KJL DIVISION REVISIONS
NCIS04INCP- 9/27/18 CTD

a 4 2018 CODE UPDATE NC19015NCP/ 03/15/19 / CTD

DIVISION REVISIONS
NCI9017NCP/ 03/22/19 / CTD

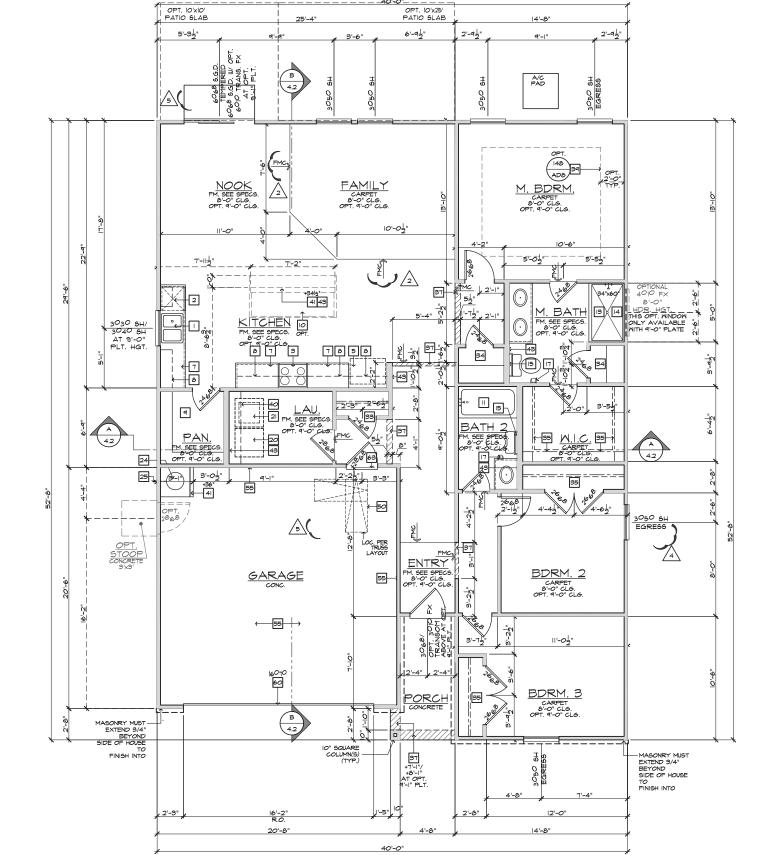
DIVISION REVISIONS NC19039NCP/ 06/10/19 / MCP

REVIEWED BY:

GN<sub>3</sub>

FOR INTERNAL USE ONLY

140.1582



FLOOR PLAN

9CALE: |/4"=|'-0" (22"x34") - |/8"=|'-0" (||"x|7")



# INTERIOR KEY SOLIARE FOOTAGE

	SQUARE FOOTA	GE	
	PLAN 140.1582		
FLOOR AREA		1582	
TOTAL AREA		1582	SQ. FT.
GARAGE AREA		417	5Q. FT.
PORCH AREA(S)			
	ELEVATION 'A'	52	SQ. FT.
	ELEVATION 'B'	36	SQ. FT.
	ELEVATION 'C'	44	SQ. FT.
	ELEVATION 'D'	64	SQ. FT.
PATIO AREA(S)			
	IO'XIO' COVERED	100	5Q. FT.
	25'xIO' EXT. COVD.	. 250	50. FT
DECK AREA(S)			
	12'X12' DECK	124	SQ. FT.
	12'X25' ENL. DECK	250	SQ. FT.
G	ENERAL PLAN	NOTES	2016 N.G-R
ALL CEILING HEIGH HEIGHTS, U.N.O.	ITS PER SECTION AND	ELEVATION P	LATE
ALL INTERIOR DOCU.N.O. (REFER TO P	DRS TO BE HOLLOW OF LAN FOR SIZE).	ORE   3/8" THI	SK,
ALL GARAGE SERY EXTERIOR GRADE	/ICE DOORS TO BE HO (REFER TO PLAN FOR	OLLOW CORE SIZE).	
ALL HOUSE TO GAI (REFER TO PLAN F	RAGE DOORS TO BE : OR SIZE).	20-MINUTE FIRE	E-RATED
ALL ENTRY DOORS	AND EXTERIOR FREN THICK (REFER TO PL	NCH DOORS TO AN FOR SIZE).	BE
ALL FLOOR MATER DOOR JAMBS, U.N.	RIAL CHANGES TO OCO D.	CUR AT CENTER	R OF
	PLATE NOTI	ES	2018 N.CR
	8'-I" PLATE NO	OTES	
<ul> <li>ENTRY DOOR</li> </ul>	NDOW HDR. HEIGHT: HEIGHT: 5 DOOR HEIGHT: FIT HEIGHT:	6'-8" U.N.O T'-O" U.N.O 6'-8" U.N.O 6'-8" (TEM T'-4" U.N.O 6'-8" U.N.O	P)
	9'-1" PLATE NO	TES	
<ul> <li>4010 MINDOM</li> <li>ENTRY DOOR</li> </ul>	5 DOOR HEIGHT: FIT HEIGHT:	5'-8" U.N.O 8'-4" U.N.O 6'-8" U.N.O 6'-8" (TEM 8'-0" U.N.O 714" DROP 6'-8" U.N.O	P.) U.N.O.



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4518 S. MIAMI BLVD. SUITE 180 DURHAM, NC 27703 TEL: (919) 768-7988 FAX: (919) 472-0582

**2018 NORTH** 

**CAROLINA STATE** 

BUILDING

CODES

PROJECT No.: 1350999:56

ADD CRAWL SPACE NCIS024NCP - 07/24/18 - CTD

FLOORING BREAK REV NC18040NCP - 08/28/18 - KJL

4 2018 CODE UPDATE NCI9015NCP/ 03/15/19 / CTD

DIVISION REVISIONS
NCI9017NCP/ 03/22/19 / CTD

DIVISION REVISIONS
NC19039NCP/ 06/10/19 / MCP

DIVISION REVISIONS
NCIS04INCP- 9/27/18 CTD

02/23/17

06/10/19

ISSUE DATE:

DIVISION MGR.:

REVISIONS:

27. NOT USED 28. PRE-MFR. METAL GAS APPLIANCE FIREPLACE INSTALLED PER MANUFACTURERS INSTRUCTIONS

FLOOR PLAN NOTES SINK WITH GARBAGE DISPOSAL - VERIFY DIMENSIONS WITH MANUFACTURER SPEC'S. DISHWASHER - PROVIDE SURFACE MOUNT AIR GAP VERIFY DIMENSIONS WITH MANUFACTURER SPEC'S. SLIDE-IN RANGE/ OVEN COMBINATION W BUILT-IN LIGHT & F. 36" COOKTOP - W BUILT-IN HOOD WLIGHT & FAN. (VENT TO OUTSIDE AIR) - CABINET MOUNTED MICROWAVE INCLUDED OVEN WITH VENT - VERIFY WITH MANUFACTURER SPEC'S.

DOUBLE OVEN - VERIFY WITH MANUFACTURE SPEC'S. BASE CABINETS - REFER TO INTERIOR ELEVATIONS

UPPER CABINETS - REFER TO INTERIOR ELEVATIONS

IO. ISLAND CABINET - REFER TO INTERIOR ELEVATIONS TUB/SHOWER COMBINATION WITH 12" FIBERGLASS ENCLOSUS (NON-ABSORBENT) VERIFY DIMENSIONS WITH MFR'S SPEC'S. 12. OVAL TUB - VERIFY DIMENSIONS WITH MANUFACTURER SPEC

4. SHATTERPROOF (TEMPERED) GLASS SHOWER ENCLOSURE

18. EXTEND VANITY - REFER TO INTERIOR ELEVATIONS

20. PROVIDE WATER AND WASTE FOR WASHER (WASHER CONTROL VALVES) (RECESSED IN WALL)

23. FREE STANDING LAUNDRY SINK - VERIFY DIMENSIONS WITH MFR'S SPEC'S.

24. ELECTRIC MATER HEATER - LOCATE ON 16" HIGH FRAMED PLATFORM

PANTRY - SHELVES PER SPEC

IS. TOWEL BAR I6. NOT USED

17. TOILET PAPER HOLDER

19. OPTIONAL SINK

21. DRYER VENT

22. NOT USED

26. NOT USED

29. NON-COMBUSTIBLE HEARTH MATERIAL

30. ROUTE OF FIREPLACE "B" VENT FROM BELOW -PROVIDE 0.9.8. SHAFT

SI. +36" GUARD WALL DETAIL 84/AD5 OR 86/AD5

32. +34" - +38" HIGH HANDRAIL DETAIL 88/AD5 39. COATS WITH SHELF & POLE - DETAIL 75/AD4

34 LINEN - SHELVES PER SPEC

95. WARDROBE WITH SHELF & POLE - DETAIL 79/AD4 U.N.O.

36. MEDIA NICHE - REFER TO INTERIOR ELEVATIONS

ST. FLAT SOFFIT - REFER TO PLAN OR ELEVATIONS FOR HEI

38. NOT USED

S4. LINE OF CEILING BREAK

40. INTERIOR SHELF - REFER TO PLAN OR INT. ELEVS. FOR HGT.

41. LOW WALL - REFER TO PLAN FOR HEIGHT - DETAIL 12/AD4 42. LOCATION OF PLUMBING WASTE DROP FROM ABOVE

43. 2x6 MALL

44. 2x6 BALLOON FRAMED WALL - REFER TO STRUCTURAL

45. DOUBLE 2x4 WALL

46. LINE OF FLOOR ABOVE

47. LINE OF FLOOR BELOW

48. EXTERIOR RAIL

49. F.A.J. VENT TO OUTSIDE AIR 50. 22"x54" ATTIC ACCESS W/ STAIRS

FAU, IN ATTIC - PROVIDE MIN. 22"x50" ATTIC ACCESS PANE - PROVIDE FUEL SAS, REFER TO UTILITY PLAN DETAIL 89/AD5

52. DUCT CHASE - DETAIL 89 4 90/ADS - REFER TO MECH. PLAN

53. RETURN AIR GRILL (R.A.G.) -REFER TO MECHANICAL PLAN

54. I/2" GYPSUM BOARD ON CEILING AND WALLS AT USEABLE SPACE UNDER STAIRS

SEPARATION BETWEEN SECOND FLOOR AND GARAGE CEILING, PROVIDI (I) LAYER OF \$4" TYPE "X" GYPSUM BOARD, WALLS SUPPORTING SECOND FLOOR AND GARAGE CEILING, PROVIDE (I) LAYER OF 1/2 GYPSUM BOARD

57. EXTERIOR SHELF - REFER TO ELEV. FOR HEIGHT

58. NOT USED

54. NOT USED

BASIC PLAN

60. SECTIONAL GARAGE DOOR - VERIFY WINDOW OPTION

62. DRAFTSTOP REQUIRED IN FLOOR / CEILING SPACES EXCEEDING 1000 SQUARE FEET, DIVIDED SPACES MUST BE ROUGHLY EQUAL.

NOTE: FOR ALL PLAN OPTIONS REFER TO BASIC PLAN FOR INFORMATION NOT SHOWN HERE.

140.1582

SHEET:

1.1

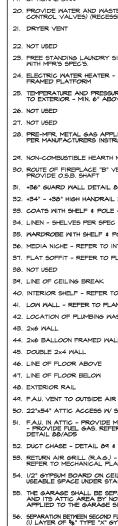
NOTE: REFER TO BASIC FLOOR PLAN FOR INFORMATION NOT SHOWN HERE

7'-2" +34½" 41 43 10 7'-3" KITCHEN

ISLAND

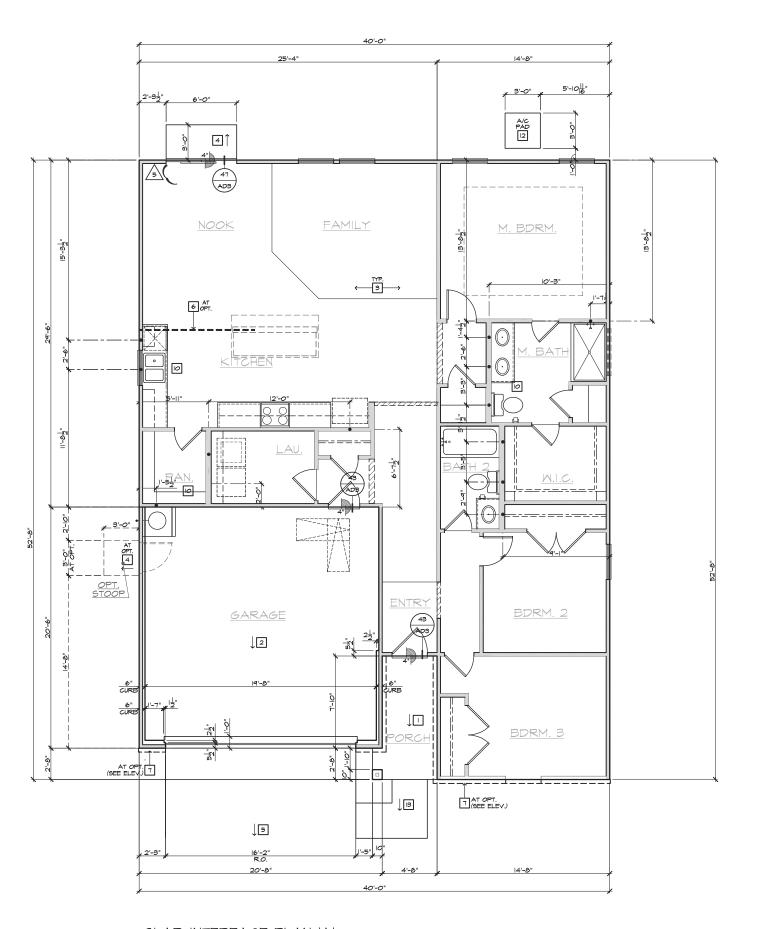
AT KITCHEN

PANTRY - SHELVES PER SPEC IO. ISLAND CABINET - REFER TO INTERIOR ELEVATIONS TUB/SHOWER COMBINATION WITH 12" FIBERGLASS ENCLOSUR! (NON-ABSORBENT) VERIFY DIMENSIONS WITH MFR'S SPEC'S. 12. OVAL TUB - VERIFY DIMENSIONS WITH MANUFACTURER SPEC'S 13. SHOWER PAN WITH WAINSCOT TO 84" - VERIFY DIMENSIONS WITH MANUFACTURER SPEC'S. 14. SHATTERPROOF (TEMPERED) GLASS SHOWER ENCLOSURE 15. TOWEL BAR 16. NOT USED 17 TOILET PAPER HOLDER **NORTH CAROLINA** IS. EXTEND VANITY - REFER TO INTERIOR ELEVATIONS 40' SERIES 19. OPTIONAL SINK 20. PROVIDE WATER AND WASTE FOR WASHER (WASHER CONTROL VALVES) (RECESSED IN WALL) NORTH CAROLINA DIVISION 4518 S. MIAMI BLVD. SUITE 180 23. FREE STANDING LAUNDRY SINK - VERIFY DIMENSIONS WITH MFR'S SPEC'S. DURHAM, NC 27703 24. ELECTRIC WATER HEATER - LOCATE ON 18" HIGH FRAMED PLATFORM TEL: (919) 768-7988 • FAX: (919) 472-0582 25. TEMPERATURE AND PRESSURE RELIEF VALVE DRAIN TO EXTERIOR - MIN. 6" ABOVE & MAX. 24" ABOVE GRADE . . . . 28. PRE-MFR. METAL GAS APPLIANCE FIREPLACE INSTALLED PER MANUFACTURERS INSTRUCTIONS 29. NON-COMBUSTIBLE HEARTH MATERIAL 30. ROUTE OF FIREPLACE "B" VENT FROM BELOW -PROVIDE O.S.B. SHAFT BUILDING 31. +36" GUARD WALL DETAIL 84/AD5 OR 86/AD5 CODES 32. +34" - +38" HIGH HANDRAIL DETAIL 83/AD5 33. COATS WITH SHELF & POLE - DETAIL 73/AD4 35. WARDROBE WITH SHELF & POLE - DETAIL 13/AD4 U.N.O. 36. MEDIA NICHE - REFER TO INTERIOR ELEVATIONS 37. FLAT SOFFIT - REFER TO PLAN OR ELEVATIONS FOR HEIGHT 40. INTERIOR SHELF - REFER TO PLAN OR INT. ELEVS. FOR HGT. 41. LOW WALL - REFER TO PLAN FOR HEIGHT - DETAIL 72/AD4 ISSUE DATE: 02/23/17 42 LOCATION OF PLUMBING WASTE DROP FROM ABOVE PROJECT No.: 1350999:56 DIVISION MGR.: 44. 2x6 BALLOON FRAMED WALL - REFER TO STRUCTURAL 06/10/19 REVISIONS: ADD CRAWL SPACE NCI8024NCP - 07/24/18 - CTD FLOORING BREAK REV NCI8040NCP - 08/28/18 - KIL DIVISION REVISIONS
NCI804INCP: 9/27/18 CTD 50. 22"x54" ATTIC ACCESS W/ STAIRS 51. F.A.J. IN ATTIC - PROVIDE MIN. 22"x30" ATTIC ACCESS PANEL - PROVIDE FUEL 6AS, REFER TO UTILITY PLAN DETAIL 88/AD5 2018 CODE UPDATE NCI9015NCP/ 03/15/19 / CTD 52. DUCT CHASE - DETAIL 89 \$ 90/AD5 - REFER TO MECH. PLAN DIVISION REVISIONS
NCI9017NCP/ 03/22/19 / CTD 53. RETURN AIR GRILL (R.A.G.) -REFER TO MECHANICAL PLAN DIVISION REVISIONS
NC19039NCP/ 06/10/19 / MCP 54. I/2" GYPSUM BOARD ON CEILING AND WALLS AT USEABLE SPACE UNDER STAIRS 55. THE GARAGE SHALL BE SEPARATED FROM THE RESIDENCE AND ITS ATTIC AREA BY NOT LESS THAN 1/2" GYPSUM BOARD APPLIED TO THE GARAGE SIDE FOR INTERNAL USE ONLY 56. SEPARATION BETWEEN SECOND FLOOR AND GARAGE CEILING, PROVIDE (I) LAYTER OF 34" TYPE "X" GYPSUM BOARD, WALLS SUPPORTING SECOND FLOOR AND GARAGE CEILING, PROVIDE (I) LAYER OF 1/2" GYPSUM BOARD 57. EXTERIOR SHELF - REFER TO ELEV. FOR HEIGHT 58. NOT USED 140.1582 59. NOT USED 60. SECTIONAL GARAGE DOOR - VERIFY WINDOW OPTION 1.3 SPEC. LEVEL 1 63. OPENINGS BETWEEN GARAGE AND HOUSE SHALL BE EQUIPPE WITH SOLID WOOD DOORS NOT LESS THAN I 3/8-INCH THICK, OR SHALL BE 20-MINJTE FIRE RATED. DOORS SHALL BE WEATHERSTRIPPED RALEIGH-DURHAM NOTE: FOR ALL PLAN OPTIONS REFER TO BASIC PLAN FOR INFORMATION NOT SHOWN HERE. 40' SERIES



FLOOR PLAN NOTES SINK WITH GARBAGE DISPOSAL - VERIFY DIMENSIONS WITH MANUFACTURER SPEC'S. DISHWASHER - PROVIDE SURFACE MOUNT AIR GAP VERIFY DIMENSIONS WITH MANUFACTURER SPEC'S. SLIDE-IN RANGE/ OVEN COMBINATION W BUILT-IN LIGHT & FA' (VENT TO OUTSIDE AIR) - VERIFY WITH MANUFACTURER SPEC'S 36" COOKTOP - W BUILT-IN HOOD WLIGHT & FAN. (VENT TO OUTSIDE AIR! - CABINET MOUNTED MICROMAYE INCLUDED OVEN WITH YENT - VERIFY WITH MANUFACTURER SPEC'S. 39" CLEAR REFRIGERATOR SPACE - PROVIDE PLUMBING FOR ICEMAKER (RECESSED IN WALL). DOUBLE OVEN - VERIFY WITH MANUFACTUER SPEC'S. BASE CABINETS - REFER TO INTERIOR ELEVATIONS 8. UPPER CABINETS - REFER TO INTERIOR ELEVATIONS

**2018 NORTH CAROLINA STATE** 



SLAB INTERFACE PLAN 'A'

SCALE |/4"=|'-0" (22"X34") - |/8"=|'-0" (||"X|7")

BASIC PLAN AT SLAB-ON-GRADE

# SLAB PLAN NOTES

NOTE: NOT ALL KEY NOTES APPLY.

CONCRETE PATIO/PORCH SLAB PER STRUCTURAL- SLOPE I/4" PER FT. MIN.

- CONCRETE GARAGE SLAB PER STRUCTURAL- SLOPE I/8" PER I'-O" MIN, TOMARD DOOR OPENING.
- CONCRETE FOUNDATION PER STRUCTURAL. CONCRETE 5TOOP, 36'x36" STANDARD SLOPE 1/4" PER FT. MIN.
- CONCRETE DRIVEWAY SLOPE 1/4" PER FT. MIN. AWAY FROM GARAGE DOOR OPENING.
- PROVIDE ELECTRICAL CONDUIT UNDER SLAB AT ISLAND. VERIFY LOCATION.

- VERIFY LOCATION.
  5" BRICK LEDGE FOR MASONRY VENEER.
  3" DIAMETER CONCRETE FILLED PIPE BOLLARD 36" HIGH WITH MIN. 12" EMBEDMENT INTO CONCRETE.
  REFER TO CIVIL DRAWINGS FOR ALL FINISH SURFACE ELEVATIONS.
- VERIFY ALL PLUMBING STUB DIMENSIONS SHOWN HERE PRIOR TO POUR OF SLAB.
- II. 4" MIN. 8 I/4" MAX. TO HARD SURFACE.

  12. A/C PAD. VERIFY LOCATION.
- 36" WIDE WALKWAY- SLOPE 1/4" PER FT. MIN.



# **NORTH CAROLINA** 40' SERIES

KB HOME NORTH CAROLINA DIVISION

SUITE 180 DURHAM, NC 27703 ■ TEL: (919) 768-7988 ■ FAX: (919) 472-0582 . . . . . .

4518 S. MIAMI BLVD.

# 2018 NORTH **CAROLINA STATE** BUILDING CODES

. . . . . .

ISSUE DATE: 02/23/17 \* PROJECT No.: 1350999:56 \*

DIVISION MGR.: \* REVISIONS: 06/10/19 \*

ADD CRAWL SPACE NCI8024NCP · 07/24/18 · CTD FLOORING BREAK REV NCI8040NCP · 08/28/18 · KJL

DIVISION REVISIONS
NCIS04INCP- 9/27/18 CTD

a /4 2018 CODE UPDATE NC19015NCP/ 03/15/19 / CTD

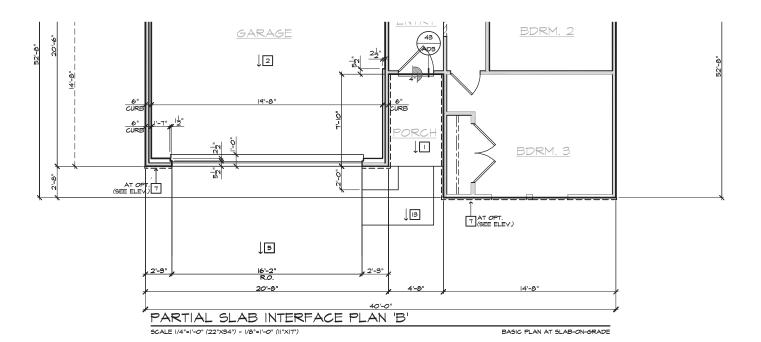
DIVISION REVISIONS
NC19017NCP/ 03/22/19 / CTD

DIVISION REVISIONS NCI9039NCP/ 06/10/19 / MCP



140.1582

2.1



# SLAB PLAN
NOTE: NOT ALL KEY NOTES APPLY. SLAB PLAN NOTES

CONCRETE PATIO/PORCH SLAB PER STRUCTURAL- SLOPE I/4" PER FT. MIN.

CONCRETE GARAGE SLAB PER STRUCTURAL- SLOPE 1/6" PER 1'-0" MIN. TOMARD DOOR OPENING.

I -- MIII. I LOVAND DOOR OPENING. CONCRETE FOUNDATION PER STRUCTURAL. CONCRETE 5TOOP; 36"x36" STANDARD SLOPE I/4" PER FT. MIN.

CONCRETE DRIVEWAY SLOPE 1/4" PER FT. MIN. AWAY FROM GARAGE DOOR OPENING.

PROVIDE ELECTRICAL CONDUIT UNDER SLAB AT ISLAND. VERIFY LOCATION.

VEKINY LOCATION.

5" BRICK LEDGE FOR MASONRY VENEER.

8. 3" DIAMETER CONCRETE FILLED PIPE BOLLARD 36" HIGH WITH MIN. 12" EMBEDMENT INTO CONCRETE.

9. REFER TO CIVIL DRAWINGS FOR ALL FINISH SURFACE ELEVATIONS.

IO. VERIFY ALL PLUMBING STUB DIMENSIONS SHOWN HERE PRIOR TO POUR OF SLAB.

II. 4" MIN. 8 1/4" MAX. TO HARD SURFACE.

12. A/C PAD. VERIFY LOCATION.

13. 36" WIDE WALKWAY- SLOPE 1/4" PER FT. MIN.



NORTH CAROLINA 40' SERIES

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. . . . . . . . . . . .

4518 S. MIAMI BLVD.

2018 NORTH **CAROLINA STATE** BUILDING CODES

ISSUE DATE: 02/23/17 \* PROJECT No.: 1350999:56 \* DIVISION MGR.:

06/10/19 REVISIONS: ADD CRAWL SPACE NCI8024NCP · 07/24/18 · CTD

FLOORING BREAK REV NCISO40NCP - 08/28/18 - KJL \*\*

DIVISION REVISIONS
NCIS04INCP- 9/27/18 CTD

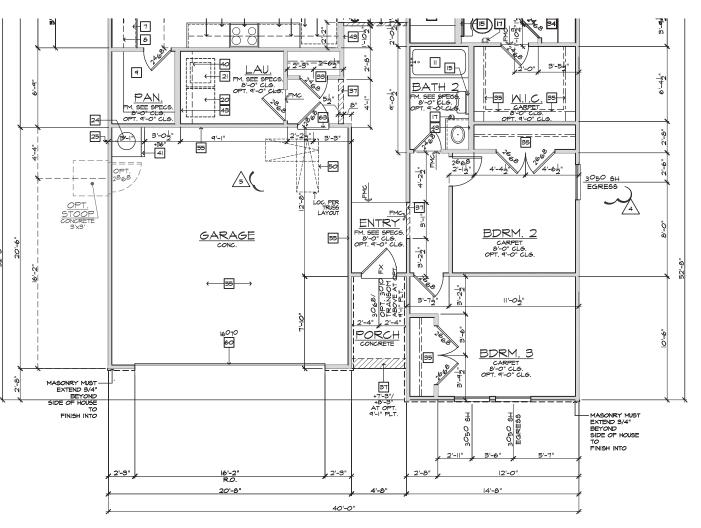
2018 CODE UPDATE NCI90I5NCP/ 03/I5/I9 / CTD

DIVISION REVISIONS
NCI9017NCP/ 03/22/19 / CTD

DIVISION REVISIONS NCI9039NCP/ 06/10/19 / MCP

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PARTIAL FLOOR PLAN 'B'

SCALE |/4"=|'-0" (22"X34") - |/8"=|'-0" (||"X|7")

BASIC PLAN

# PARTIAL PLAN NOTES
NOTE: NOT ALL KEY NOTES APPLY.

31. +36" GUARD WALL DETAIL 84/AD5 OR 86/AD5

37. FLAT SOFFIT - REFER TO PLAN OR ELEVATIONS FOR HEIGHT

38. NOT USED

39. LINE OF CEILING BREAK

40. INTERIOR SHELF - REFER TO PLAN OR INT. ELEVS. FOR HGT.

41. LON WALL - REFER TO PLAN FOR HEIGHT - DETAIL 72/AD4
43. 2x6 WALL

44. 2x6 BALLOON FRAMED WALL - REFER TO STRUCTURAL

45. DOUBLE 2x4 WALL

46. LINE OF FLOOR ABOVE

47. LINE OF FLOOR BELOW

48. EXTERIOR RAIL

55. THE GARAGE SHALL BE SEPARATED FROM THE RESIDENCE
AND ITS ATTIC AREA BY NOT LESS THAN 1/2" GYPSUM BOA
APPLIED TO THE GARAGE SIDE

6. SEPARATION BETWEEN SECOND FLOOR AND GARAGE CEILING: PROVIDE (I) LAYER OF %" TYPE "X" GYPSUM BOARD, WALLS SUPPORTING SECOND FLOOR AND GARAGE CEILING: PROVIDE (I) LAYER OF ½" GYPSUM BOARD

57. EXTERIOR SHELF - REFER TO ELEV. FOR HEIGHT

60. SECTIONAL GARAGE DOOR - VERIFY WINDOW OPTION

KB HOME

NORTH CAROLINA 40' SERIES

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NORTH CAROLINA DIVISION
4518 S. MIAMI BLVD.

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DURHAM, NC 27703
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2018 NORTH
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CODES

ISSUE DATE: 02/23/17
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FLOORING BREAK REV NCI8040NCP - 08/28/18 - KJL

DIVISION MGR.:

DIVISION REVISIONS
NCI804INCP- 9/27/18 CTD

2018 CODE UPDATE
NC19015NCP/ 03/15/19 / CTD

DIVISION REVISIONS NCI9017NCP/ 03/22/19 / CTD

DIVISION REVISIONS NCI9039NCP/ 06/10/19 / MCP

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SEVIENCE BY:

1.

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3.

4.

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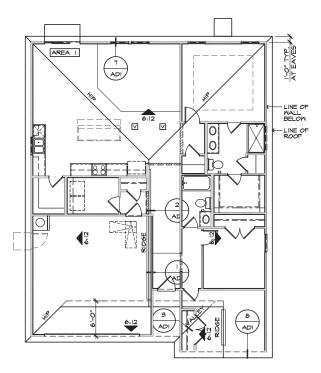
6.

PLAN: 140.1582

3.**B**1

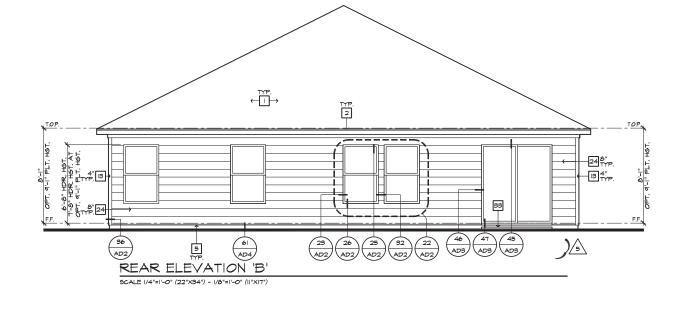
spec. level 1
RALEIGH-DURHAM
40' SERIES

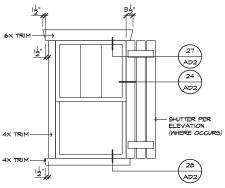
NOTE: REFER TO BASIC FLOOR PLAN FOR INFORMATION NOT SHOWN HERE



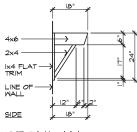
ROOF PLAN 'B'

SCALE I/8"=1'-0" (22"X34") - I/I6"=1'-0" (II"XI7")

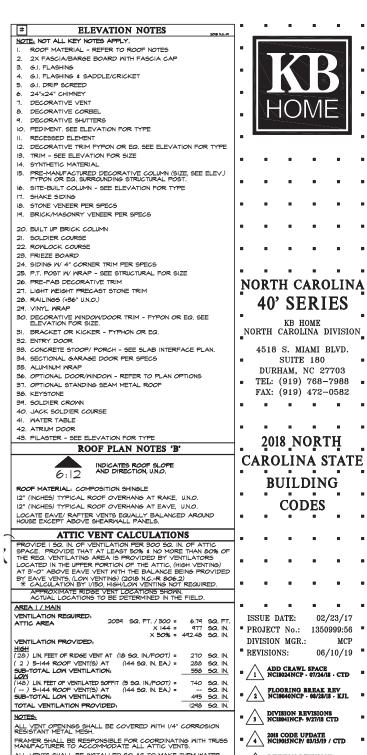




DETAIL 'B' SCALE: N.T.S.



DETAIL 'A' SCALE: N.T.S.



LOCATE HIGH VENTING MINIMUM 3'-O" VERTICAL DISTANCE ABOVE EAVES. WHEN GABLE END TRUSS MEMBERS BLOCK GABLE END VENTS,

ADD CRAWL SPACE NCI8024NCP • 07/24/18 • CTD 4 2018 CODE UPDATE NC19015NCP/ 03/15/19 / CTD DIVISION REVISIONS
NCI9017NCP/ 03/22/19 / CTD

40' SERIES

кв номе NORTH CAROLINA DIVISION

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2018 NORTH

BUILDING

CODES

ISSUE DATE: 02/23/17 PROJECT No.: 1350999:56

> MCP 06/10/19

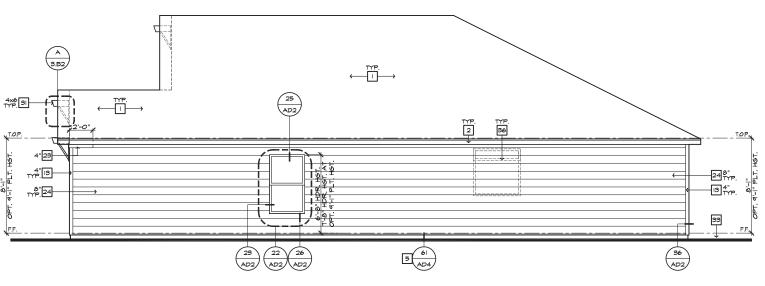
DIVISION MGR.:

SUITE 180 DURHAM, NC 27703

TEL: (919) 768-7988 •

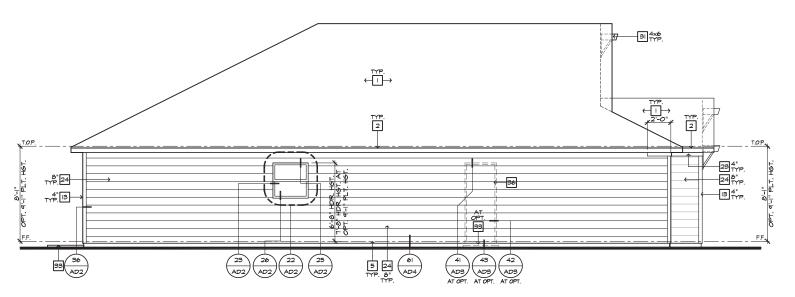
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SHEET: 3.**B**2



RIGHT ELEVATION 'B'

SCALE I/4"=I'-0" (22"X34") - I/8"=I'-0" (II"XI7")



LEFT ELEVATION 'B'

SCALE I/4"=I'-O" (22"X34") - I/8"=I'-O" (II"XI7")

# **ELEVATION NOTES** NOTE: NOT ALL KEY NOTES APPLY. ROOF MATERIAL - REFER TO ROOF NOTES 2. 2X FASCIA/BARGE BOARD WITH FASCIA CAF 3. G.I. FLASHING 4. G.I. FLASHING & SADDLE/CRICKET 5. G.I. DRIP SCREED 6. 24"x24" CHIMNEY 7. DECORATIVE VENT 8. DECORATIVE CORBEL 9. DECORATIVE SHUTTERS 10. PEDIMENT. SEE ELEVATION FOR TYPE II. RECESSED ELEMENT 12. DECORATIVE TRIM FYPON OR EQ. SEE ELEVATION FOR TYPE 13. TRIM - SEE ELEVATION FOR SIZE 14. SYNTHETIC MATERIAL PRE-MANUFACTURED DECORATIVE COLUMN (SIZE, SEE ELEV.) FYPON OR EQ. SURROUNDING STRUCTURAL POST. 16. SITE-BUILT COLUMN - SEE ELEVATION FOR TYPE IT. SHAKE SIDING STANE SIDING STONE VENEER PER SPECS BRICK/MASONRY VENEER PER SPECS 20. BUILT UP BRICK COLUMN 21. SOLDIER COURSE 22. ROWLOCK COURSE 23. FRIEZE BOARD 24. SIDING W/ 4" CORNER TRIM PER SPECS 25. P.T. POST W WRAP - SEE STRUCTURAL FOR SIZE 26 PRE-FAB DECORATIVE TRIM 27. LIGHT WEIGHT PRECAST STONE TRIM 28. RAILINGS (+36" U.N.O.) 29. VINYL WRAP 30. DECORATIVE WINDOWDOOR TRIM - FYPON OR EQ. SEE ELEVATION FOR SIZE. 31. BRACKET OR KICKER - FYPHON OR EQ. 32. ENTRY DOOR 33. CONCRETE STOOP/ PORCH - SEE SLAB INTERFACE PLAN. 34. SECTIONAL GARAGE DOOR PER SPECS 35. ALUMINUM MRAP 36. OPTIONAL DOOR/WINDOM - REFER TO PLAN OPTIONS 37. OPTIONAL STANDING SEAM METAL ROOF 38. KEYSTONE 39. SOLDIER CROWN

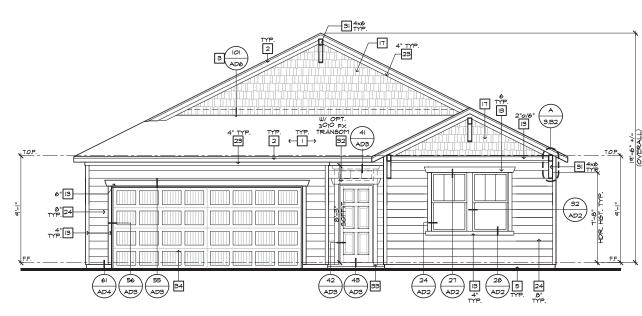
40. JACK SOLDIER COURSE 41. WATER TABLE 42. ATRIUM DOOR

43. PILASTER - SEE ELEVATION FOR TYPE



MCP

3.**B**3



FRONT ELEVATION 'B' AT OPTIONAL 9'-I" PLT. HGT.

SCALE I/4"=I'-0" (22"X34") - I/8"=I'-0" (II"XI7")

**ELEVATION NOTES** NOTE: NOT ALL KEY NOTES APPLY. ROOF MATERIAL - REFER TO ROOF NOTES 2. 2X FASCIA/BARGE BOARD WITH FASCIA CAP 4. G.I. FLASHING & SADDLE/CRICKET 7. DECORATIVE VENT 8. DECORATIVE CORBEL 9. DECORATIVE SHUTTERS
10. PEDIMENT. SEE ELEVATION FOR TYPE II. RECESSED ELEMENT
12. DECORATIVE TRIM FYPON OR EQ. SEE ELEVATION FOR TYPE I3. TRIM - SEE ELEVATION FOR SIZE

14. SYNTHETIC MATERIAL PRE-MANUFACTURED DECORATIVE COLUMN (SIZE, SEE ELEV.) FYPON OR EQ. SURROUNDING STRUCTURAL POST. 16. SITE-BUILT COLUMN - SEE ELEVATION FOR TYPE 18. STONE VENEER PER SPECS
19. BRICK/MASONRY VENEER PER SPECS 20. BUILT UP BRICK COLUMN 24. SIDING W/ 4" CORNER TRIM PER SPECS 25. P.T. POST W WRAP - SEE STRUCTURAL FOR SIZE

3. G.I. FLASHING

5. G.I. DRIP SCREED 6. 24"x24" CHIMNEY

IT. SHAKE SIDING

21. SOLDIER COURSE 22. ROWLOCK COURSE 23. FRIEZE BOARD

26 PRE-FAB DECORATIVE TRIM

28. RAILINGS (+36" U.N.O.) 29. VINYL WRAP

38. KEYSTONE 39. SOLDIER CROWN 40. JACK SOLDIER COURSE 41. WATER TABLE 42. ATRIUM DOOR

27. LIGHT WEIGHT PRECAST STONE TRIM

31. BRACKET OR KICKER - FYPHON OR EQ. 32. ENTRY DOOR

37. OPTIONAL STANDING SEAM METAL ROOF

43. PILASTER - SEE ELEVATION FOR TYPE

30. DECORATIVE WINDOWDOOR TRIM - FYPON OR EQ. SEE ELEVATION FOR SIZE.

33. CONCRETE STOOP/ PORCH - SEE SLAB INTERFACE PLAN.
34. SECTIONAL GARAGE DOOR PER SPECS

9'-1" PLATE OPTION

NOTE: NINDOM SIZES MILL INCREASE BY I' AT 4'-I" PLATE OPTIONS. HEADER HEIGHTS FOR ALL MINDOMS MILL BE 7'-8" AT 4'-I" PLATE OPTIONS.

35. ALUMINUM MRAP 36. OPTIONAL DOOR/WINDOM - REFER TO PLAN OPTIONS

# **NORTH CAROLINA** 40' SERIES

KB HOME NORTH CAROLINA DIVISION

4518 S. MIAMI BLVD. SUITE 180 DURHAM, NC 27703

TEL: (919) 768-7988

FAX: (919) 472-0582

2018 NORTH **CAROLINA STATE** 

BUILDING CODES

ISSUE DATE: 02/23/17 \* PROJECT No.: 1350999:56 \* DIVISION MGR.: MCP

ADD CRAWL SPACE NCI8024NCP · 07/24/18 · CTD

REVISIONS:

06/10/19

FLOORING BREAK REV NCI8040NCP - 08/28/18 - KJL

DIVISION REVISIONS NCI804INCP- 9/27/18 CTD 2018 CODE UPDATE NC19015NCP/ 03/15/19 / CTD

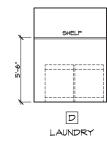
DIVISION REVISIONS
NCI9017NCP/ 03/22/19 / CTD

DIVISION REVISIONS NCI9039NCP/ 06/10/19 / MCP

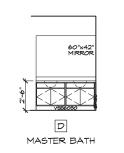
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3.**B**5

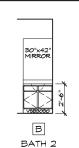


# LAUNDRY AND MISCELLANEOUS CABINETS

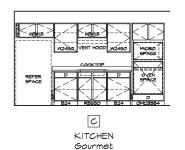


BATH CABINETS

KITCHEN CABINETS



# LAUNDRY AND MISCELLANEOUS CABINETS

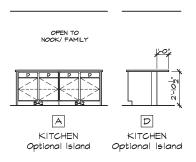


D

LAUNDRY

Opt. Upper

Cabinets



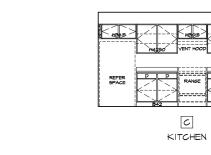
36" METAL FIREPLACE - MANTLE

FIREPLACE

D

FAMILY

Fireplace





KITCHEN CABINETS

SCALE: |/4"=|'-0" (22"X34") - |/8"=|'-0" (||"X|7")

SCALE: |/4"=|'-0" (22"X34") - |/8"=|'-0" (||"X|7")

OPTIONAL INTERIOR ELEVATIONS

STANDARD INTERIOR ELEVATIONS

# NORTH CAROLINA 40' SERIES

NORTH CAROLINA DIVISION

4518 S. MIAMI BLVD. SUITE 180 DURHAM, NC 27703 ■ TEL: (919) 768-7988 ■ FAX: (919) 472-0582

# 2018 NORTH **CAROLINA STATE** BUILDING CODES

ISSUE DATE: \* PROJECT No.: 1350999:56 \* DIVISION MGR.:

06/10/19 REVISIONS: ADD CRAWL SPACE NCI8024NCP · 07/24/18 · CTD

FLOORING BREAK REV NCI8040NCP - 08/28/18 - KJL

DIVISION REVISIONS NCI804INCP- 9/27/18 CTD

2018 CODE UPDATE NC19015NCP/ 03/15/19 / CTD DIVISION REVISIONS NCI9017NCP/ 03/22/19 / CTD

DIVISION REVISIONS NCI9039NCP/ 06/10/19 / MCP



140.1582

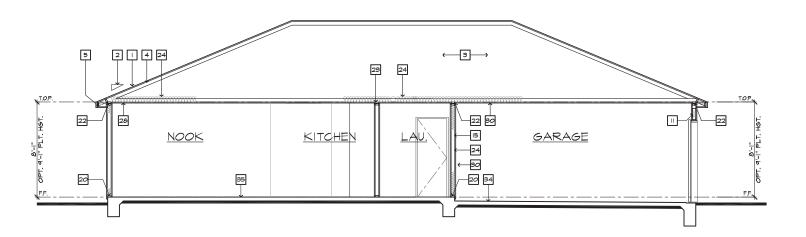
4.1



SECTION "A"

SCALE I/4"=1'-0" (22"X34") - I/8"=1'-0" (II"XI7")

AT SLAB-ON-GRADE



SECTION "B"

SCALE |/4"=|'-0" (22"X34") - |/8"=|'-0" (||"X|7")

AT SLAB-ON-GRADE

PRE-MANUFACTURED WOOD ROOF TRUSS SYSTEM - SEE STRUCTURAL & TRUSS CALCS 16. 2x6 STUD WALL 17. 2x6 BALLOON FRAMED WALL PER STRUCTURAL 22. DBL. 2x TOP PLATE @ EXTERIOR & BEARING WALLS
23. IX OVER 2x TOP PLATE @ INTERIOR & NON-BEARING WALLS 24. INSULATION MATERIAL PER ENERGY CALCULATIONS 25. MIN. 36" HIGH GUARD - SEE PLAN FOR HEIGHT **NORTH CAROLINA** 20. LOW WALL - SEE PLAN FOR HEIGHT
21. STAIR TREADS AND RISERS PER PLAN; - MIN. IO" TREAD
§ MAX, T 3/4" RISER
20. INTERIOR FINISH: - MIN. I/2" GYP. BD. • WALLS & SAG
RESISTANT OR 5/6" DRYWALL • CEILING
21. MIN. I/2" GYP. BD. ON CEILING & WALLS & USEABLE SPACE
UNDER STAIRS. 40' SERIES KB HOME NORTH CAROLINA DIVISION UNDER STAIRS.

30. GARAGE SHALL BE SEPARATED FROM THE RESIDENCE AND ITS ATTIC AREA BY NOT LESS THAT 1/2" GYP. BD. @ GARAGE SIDE WALLS & 5/0" UNDER LIVING AREA UN.O. 4518 S. MIAMI BLVD. 31. MATERIAL TO UNDERSIDE OF ROOF SHEATHING SUITE 180 32. INTERIOR SHELF - MIN. I/2" GYP. BD. OVER 3/8" PLY MD. DURHAM, NC 27703 33. CONCRETE PATIO/ PORCH SLAB PER STRUCTURAL - SLOPE  $1/4^{\circ}$  PER FT. MIN. TEL: (919) 768-7988 • 34. CONCRETE GARAGE SLAB PER STRUCTURAL - SLOPE 2" MIN. FAX: (919) 472-0582 . . . . 36. LINE OF OPTIONAL TRAY CEILING/ STEP CEILING 37. LINE OF OPTIONAL VOLUME CEILING 38. PROFILE OF OPTIONAL COVERED PATIO 34. EXTERIOR SOFFIT MATERIAL - REFER TO ELEVATIONS. 39. EXTERIOR SOFFIT MATERIAL - REFER TO ELEVATIONS.
40. 8° BLOCK MALL
41. 5/8° TYPE-X DRYMALL 8° GARAGE
CEILING
42. MHEN THERE IS USABLE SPACE ABOVE AND BELOW THE
CONCEALED SPACE OF A FLOOR-CEILING ASSEMBLY IN A
SINGLE-FAMILY DIVIDELING, DRAFT STOPPS SHALL BE INSTALLED
50 THAT THE AREA OF THE CONCEALED SPACE DOES NOT
EXCEED I/OO 500/ARE FIET: DRAFTSTOPPING SHALL DIVIDE
THE CONCEALED SPACE INTO APPROXIMATELY EQUAL AREAS. REVISIONS:



SECTION NOTES

NOTE: NOT ALL KEY NOTES APPLY.

 ROOF SHEATHING PER STRUCTURAL
 2x FASCIA/BARGE BOARD CONT. SOFFITED EAVE W VENTING G.I. FLASHING - ROOF TO WALL EXTERIOR FINISH PER ELEVATIONS FLOOR FRAMING PER STRUCTURAL IO. FLOOR SHEATHING PER STRUCTURAL

II. HEADER PER STRUCTURAL 12. FLUSH BEAM PER STRUCTURAL
13. DROPPED BEAM PER STRUCTURAL . FLAT/ ARCHED SOFFIT PER PLAN

15. 2x4 STUD WALL

2I. 2x SOLE PLATE

I8. DBL. 2x4 WALL PER PLAN 19. 2x CRIPPLES @ 16" O.C.

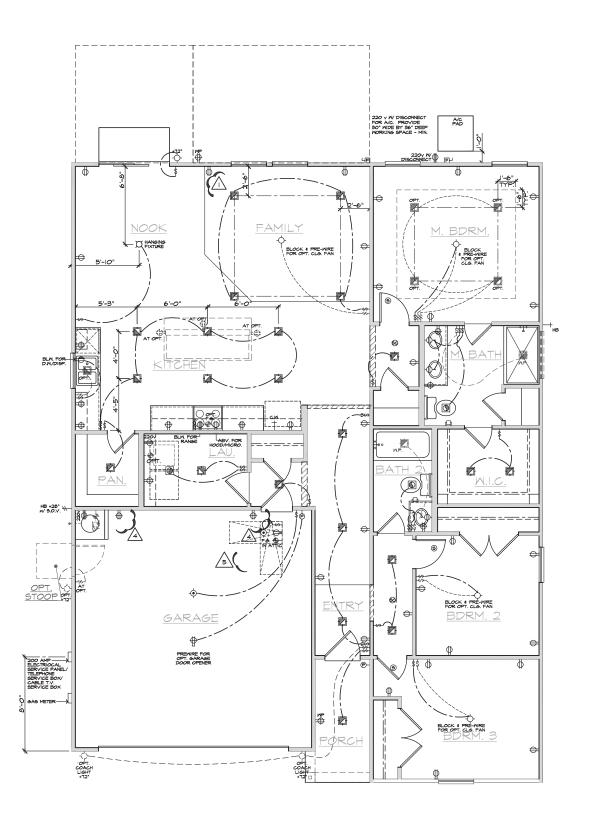
20. 2x PRESSURE TREATED SILL PLATE

26 LOW WALL - SEE PLAN FOR HEIGHT

35. CONCRETE FOUNDATION PER STRUCTURAL

ROOF MATERIAL - REFER TO ROOF NOTES ROOF PITCH - REFER TO ROOF NOTES

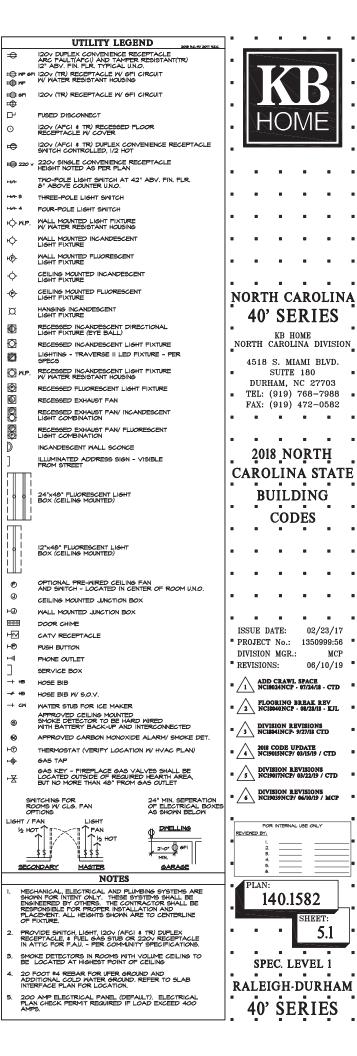
> 2018 NORTH **CAROLINA STATE** BUILDING CODES ISSUE DATE: 02/23/17 \* PROJECT No.: 1350999:56 \* DIVISION MGR.: 06/10/19 ADD CRAWL SPACE NCI8024NCP • 07/24/18 • CTD FLOORING BREAK REV NC18040NCP - 08/28/18 - KJL DIVISION REVISIONS
> NCIS04INCP- 9/27/18 CTD 2018 CODE UPDATE NC19015NCP/ 03/15/19 / CTD DIVISION REVISIONS
> NCI9017NCP/ 03/22/19 / CTD DIVISION REVISIONS
> NCI9039NCP/ 06/10/19 / MCP FOR INTERNAL USE ONLY 140.1582 SPEC. LEVEL 1 RALEIGH-DURHAM 40' SERIES

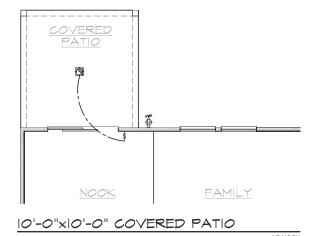


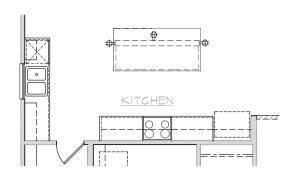
UTILITY PLAN

SCALE |/4"=|'-0" (22"X34") - |/6"=|'-0" (||"X|7")

BASIC PLAN





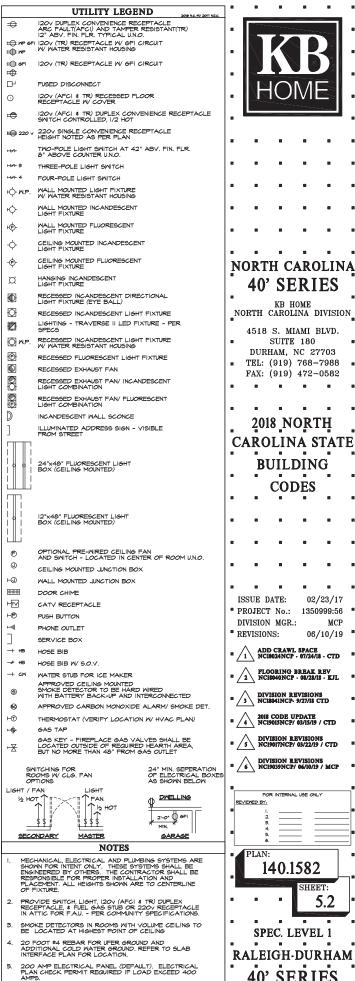


ISLAND

AT KITCHEN

UTILITY PLAN OPTIONS SCALE |/4"=|'-0" (22"X34") - |/8"=|'-0" (||"X|7")

BASIC PLAN



**NORTH CAROLINA** 40' SERIES кв номе

NORTH CAROLINA DIVISION 4518 S. MIAMI BLVD.

DURHAM, NC 27703 TEL: (919) 768-7988 FAX: (919) 472-0582

2018 NORTH **CAROLINA STATE** 

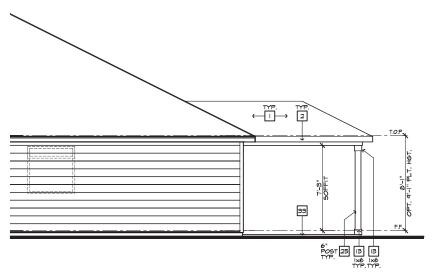
MCP

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140.1582 5.2

RALEIGH-DURHAM 40' SERIES



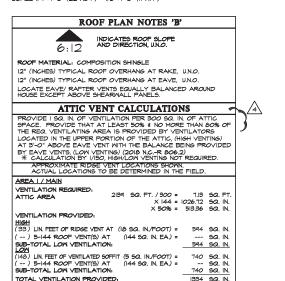


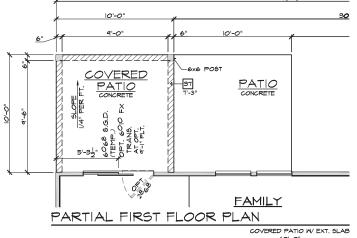
### PARTIAL RIGHT ELEVATION

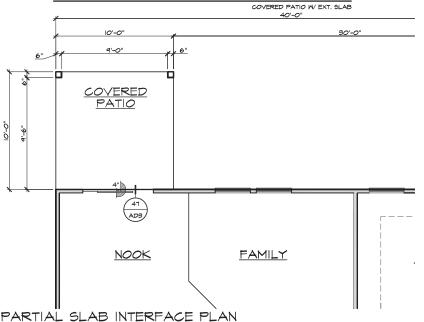
SCALE I/4"=I'-0" (22"X34") - I/8"=I'-0" (II"XI7"

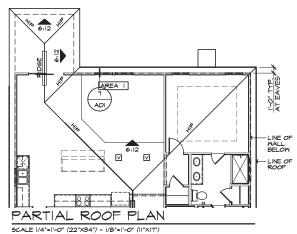
### REAR ELEVATION

SCALE |/4"=|'-0" (22"X34") - |/8"=|'-0" (||"X|7")



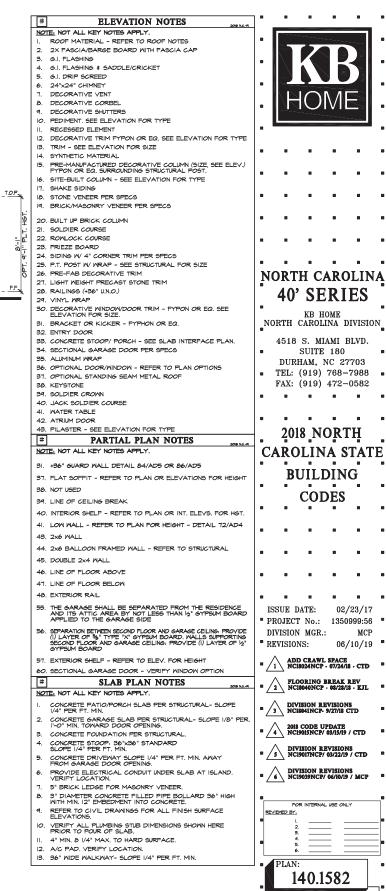






SCALE |/4"=|'-0" (22"X34") - |/8"=|'-0" (||"X|7")



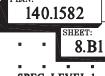


NOTE: REFER TO BASIC ROOF PLAN FOR INFORMATION NOT SUCKNI HERE

NOTE: REFER TO BASIC ELEVATIONS FOR INFORMATION NOT SHOWN HERE

NOTE: REFER TO BASIC FLOOR PLAN FOR INFORMATION NOT SHOWN HERE

NOTE: REFER TO BASIC SLAB PLAN FOR INFORMATION NOT SHOWN HERE



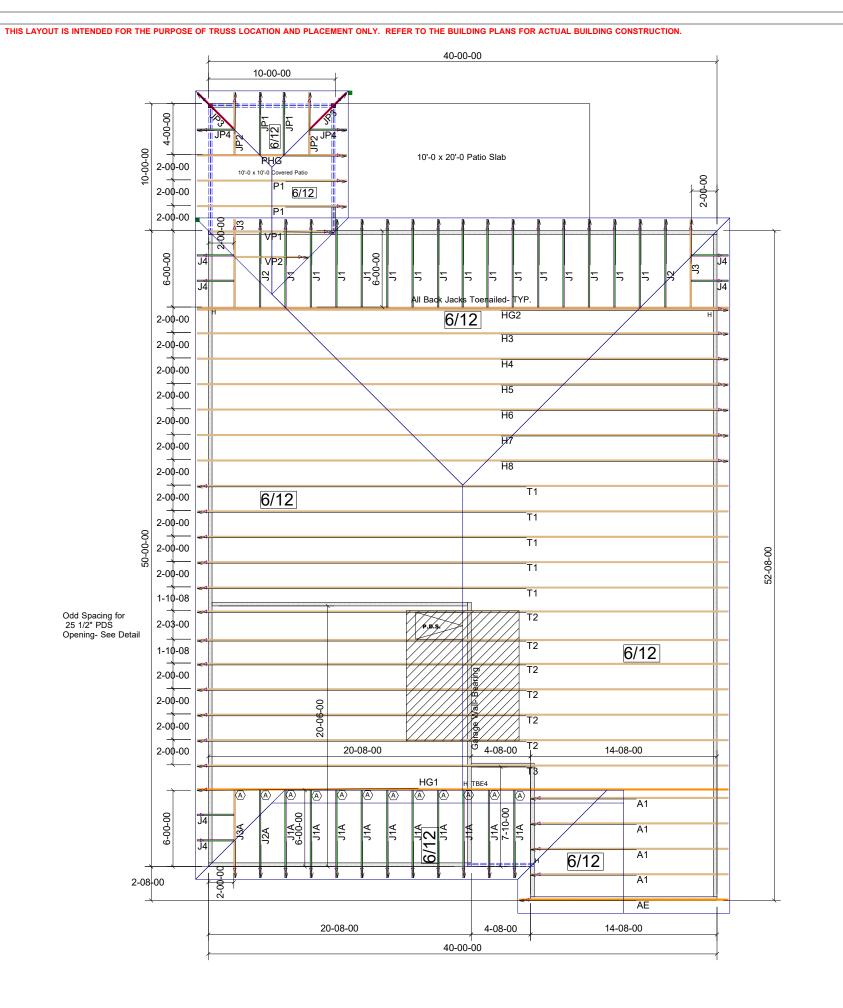
KB HOME

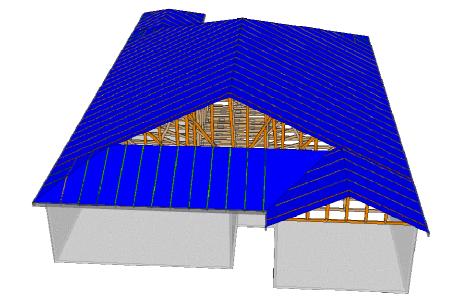
**CODES** 

02/23/17

MCP

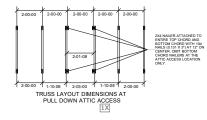
06/10/19





THE PURPOSE OF THIS DETAIL IS TO ILLUSTRATE HOW TO PROPERLY SPACE 24" O.C. ROOF TRUSSES TO ALLOW FOR A 25 1/2" OPENING FOR PULL DOWN ATTIC ACCESS

TRUSSES TO BE DESIGNED AT 24" ON CENTER



Truss Connector List				
Sym Manuf Product Qty				
Α	Simpson	LUS24	12	
С	Simpson	TBE4	1 Set	
Н	Simpson	HTS20	3	

DEDICATED TO QUALITY AND EXCELLENCE 200 EMMETT ROAD DUNN, NORTH CAROLINA 28334 PHONE: 910-892-8400 FAX: 910-892-8384

inte		x10 CVP	окрек: 21567	SHIP DATE: 2019
Lot 59 @ Mason Pointe	<b>KB HOME</b>	Plan 140.1582 "B" w/10x10 CVP	P.O. NUMBER: PO #	REV:
-ot 59 @	KB	140.1582		PRINT DATE: 7/18/19
	CUSTOMER:	MODEL: Plan	SCALE: NOT TO SCALE	DRAWN BY:  MWM
T	OP LI	VE: 2	20 PS	SF

WIND SPD: 130 MPH

TOP DEAD: 10 PSF

**BOTM DEAD: 10 PSF** 

**GENERAL NOTES:** 

DO NOT CUT OR MODIFY TRUSSES.

TRUSSES ARE SPACED 24" ON CENTER UNLESS NOTED OTHERWISE.

REFER TO THE INDIVIDUAL TRUSS DESIGN DRAWINGS FOR THE LOCATION

OF LATERAL BRACING AND MULTI-PLY CONNECTION REQUIREMENTS.

PER ANSI TPI 1-2002 THE TRUSS ENGINEER IS RESPONSIBLE FOR TRUSS TO TRUSS CONNECTIONS AND TRUSS PLY TO PLY CONNECTIONS.
THIS TRUSS PLACEMENT PLAN RECCOMENDS TRUSS TO BEARING CONNECTIONS AND TRUSS TO BEAM CONNECTIONS WHICH SHALL BE REVIEWED BY THE BUILDING OF THE BUILDING DESIGNER TO RESOLVE ALL ROOF FORCES ADEQUATELY TO THE FOUNDATION

# STRUCTURAL PLANS FOR:



# 140.1582 - LH GARAGE

PLAN RELEASE / REVISIONS				
REV DATE	ARCH PLAN VERSION	REVISION DESCRIPTION	DRFT	
07/17/2019	1582-140-01350	INITIAL SETUP OF LAYOUT	CAR	
07/17/2019	1582-140-01350	CREATED LOT-SPECIFIC STRUCTURAL LAYOUT FROM MASTER PLAN AND EWP LAYOUT	CAR	

# **NOTES**

- 1. ENGINEER'S SEAL APPLIES TO STRUCTURAL COMPONENTS ONLY. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT, INCLUING ROOF GEOMETRY. JDS CONSULTING & DESIGN, PLLC ASSUMES NO LIABILITY FOR CHANGES MADE TO THESE PLANS BY OTHERS, OR FOR CONSTRUCTION METHODS, OR FOR ANY DEVIATION FROM THE PLANS. ENGINEER TO BE NOTIFIED PRIOR TO CONSTRUCTION IF ANY DISCREPANCIES ARE NOTED ON THE PLANS.
- 2. DIMENSIONS SHALL GOVERN OVER SCALE, AND CODE SHALL GOVERN OVER DIMENSIONS.
- 3. PLANS MUST HAVE SIGNED SEAL TO BE VALID AND ARE LIMITED TO THE FOLLOWING USES:
  - A. IF THESE PLANS ARE ISSUED AS A MASTER-PLAN SET, THE SET IS VALID FOR 18 MONTHS FROM THE DATE ON THE SEAL, UNLESS ANY CODE-REQUIRED UPDATES ARE PLACED IN EFFECT BY THE MUNICIPALITY.
  - B. IF THESE PLANS ARE NOT ISSUED AS A MASTER-PLAN SET, THE SET IS VALID FOR A CONDITIONAL, ONE-TIME USE FOR THE LOT OR ADDRESS SPECIFIED ON THE TITLE BLOCK.

# CODE

ALL CONSTRUCTION, WORKMANSHIP, AND MATERIAL QUALITY AND SELECTION SHALL BE PER:

2018 NORTH CAROLINA STATE BUILDING CODE: RESIDENTIAL CODE

# **ENGINEER OF RECORD**

JDS CONSULTING & DESIGN, PLLC
ENGINEERING, BUILDING DESIGN, & CONSTRUCTION
CONSULTING SERVICES
8600 'D' JERSEY COURT
RALEIGH, NC 27617
FIRM LIC. NO: P-0961
PROJECT REFERENCE: 19901565



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	PROJECT NO.: 19901565 DATE: 7/17/2019						
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	PLAN: 140.15	582					

TITLE SHEET

T

NOTE: ALL CHAPTERS, SECTIONS, TABLES, AND FIGURES CITED WITHOUT A PUBLICATION TITLE ARE FROM THE APPLICABLE RESIDENTIAL CODE (SEE TITLE SHEET).

### **GENERAL**

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. FURTHERMORE, CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, AND SAFETY ON SITE. NOTIFY JDS CONSULTING & DESIGN, PLLC IMMEDIATELY IF DISCREPANCIES ON PLAN EXIST.
- BRACED-WALL DESIGN IS BASED ON <u>SECTION R602.10 WALL</u> <u>BRACING. PRIMARY PRESCRIPTIVE METHOD TO BE CS-WSP. SEE</u> WALL BRACING PLANS AND DETAILS FOR ADDITIONAL INFORMATION.
- ALL NON-PRESCRIPTIVE SOLUTIONS ARE BASED ON GUIDELINES ESTABLISHED IN THE AMERICAN SOCIETY OF CIVIL ENGINEERS PUBLICATION ASCE 7 AND THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION SPECIAL DESIGN PROVISIONS FOR WIND AND SEISMIC.
- 3. SEISMIC DESIGN SHALL BE PER SECTION R301.2.2 SEISMIC PROVISIONS, INCLUDING ASSOCIATED TABLES AND FIGURES, BASED ON LOCAL SEISMIC DESIGN CATEGORY.

### **DESIGN LOADS**

ASSUMED SOIL BEARING-CAPACITY	2,000 PSF
	LIVE LOAD
ULTIMATE DESIGN WIND SPEED	115 MPH, EXPOSURE B
GROUND SNOW	15 PSF
ROOF	20 PSF
RESIDENTIAL CODE TABLE R301.5	LIVE LOAD (PSF)
DWELLING UNITS	40
SLEEPING ROOMS	30
ATTICS WITH STORAGE	20
ATTICS WITHOUT STORAGE	10
STAIRS	40
DECKS	40
EXTERIOR BALCONIES	60
PASSENGER VEHICLE GARAGES	50
FIRE ESCAPES	40
CHARDS AND HANDRAILS	200 (nounds concentrate

COMPONENT AND CLADDING LOADS, INCLUDING THOSE FOR DOORS AND WINDOWS, SHALL BE DERIVED FROM TABLES R301.2(2) AND R301.2(3) FOR A BUILDING WITH A MEAN ROOF HEIGHT OF 35 FEET, LOCATED IN EXPOSURE B.

ABBR	EVIATIONS	KS	KING STUD COLUMN
4 D)/	ADOVE	LVL	LAMINATED VENEER LUMBER
	ABOVE ABOVE FINISHED FLOOR	MAX	MAXIMUM
	ALTERNATE	MECH	MECHANICAL
	BEARING	MFTR	MANUFACTURER
	BASEMENT	MIN	MINIMUM
	CANTILEVER	NTS	NOT TO SCALE
CJ	CEILING JOIST		OVERALL
CLG	CEILING	OC	ON CENTER
CMU	CONCRETE MASONRY UNIT	PT	PRESSURE TREATED
co	CASED OPENING	R	RISER
COL	COLUMN	REF RFG	REFRIGERATOR
CONC	CONCRETE	RFG RO	ROOFING
CONT	CONTINUOUS	RO	ROUGH OPENING
D	CLOTHES DRYER		
DBL		SC	STUD COLUMN
DIAM	DIAMETER	SF	SQUARE FOOT (FEET)
DJ	DOUBLE JOIST	SH	
DN	DOWN		SHEATHING
DP	DEEP		SHOWER
DR			SIMILAR
DSP	DOUBLE STUD POCKET		SINGLE JOIST
EA	EACH		STUD POCKET
	EACH END		SPECIFIED
	EQUAL	SQ T	SQUARE TREAD
	EXTERIOR	TEMP	TEMPERED GLASS
	FORCED-AIR UNIT	THK	THICK(NESS)
	FOUNDATION	TJ	TRIPLE JOIST
FF	FINISHED FLOOR	TOC	TOP OF CURB / CONCRETE
FLR	FLOOR(ING)	TR	TRIPLE RAFTER
FP	FIREPLACE	TYP	TYPICAL
FTG	FOOTING	UNO	UNLESS NOTED OTHERWISE
HB HDR	HOSE BIBB	W	CLOTHES WASHER
HDR	HEADER HANGER		WATER HEATER
			WELDED WIRE FABRIC
JS	JACK STUD COLUMN	XJ	EXTRA JOIST
		70	EXTINA JOIST

#### **MATERIALS**

 INTERIOR / TRIMMED FRAMING LUMBER SHALL BE #2 SPRUCE PINE FIR (SPF) WITH THE FOLLOWING DESIGN PROPERTIES (#2 SOUTHERN YELLOW PINE MAY BE SUBSTITUTED):

Fb = 875 PSI Fv = 70 PSI E = 1.4E6 PSI

 FRAMING LUMBER EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND, CONCRETE, OR MASONRY SHALL BE PRESSURE TREATED #2 SOUTHERN YELLOW PINE (SYP) WITH THE FOLLOWING DESIGN BROBERTIES:

Fb = 975 PSI Fv = 95 PSI E = 1.6E6 PSI

3. LVL STRUCTURAL MEMBERS TO BE LAMINATED VENEER LUMBER WITH THE FOLLOWING MINIMUM DESIGN PROPERTIES:

Fb = 2600 PSI Fv = 285 PSI E = 1.9E6 PSI

I. PSL STRUCTURAL MEMBERS TO BE PARALLEL STRAND LUMBER WITH THE FOLLOWING MINIMUM DESIGN PROPERTIES:

Fb = 2900 PSI Fv = 290 PSI E = 2.0E6 PSI

5. LSL STRUCTURAL MEMBERS TO BE LAMINATED STRAND LUMBER WITH THE FOLLOWING MINIMUM DESIGN PROPERTIES:

Fb = 2250 PSI Fv = 400 PSI E = 1.55E6 PSI

- STRUCTURAL STEEL WIDE-FLANGE BEAMS SHALL CONFORM TO ASTM A992. Fy = 50 KSI
- REBAR SHALL BE DEFORMED STEEL CONFORMING TO ASTM A615,
- 8. POURED CONCRETE COMPRESSIVE STRENGTH TO BE A MINIMUM 3,000 PSI AT 28 DAYS. MATERIALS USED TO PRODUCE CONCRETE SHALL COMPLY WITH THE APPLICABLE STANDARDS LISTED IN AMERICAN CONCRETE INSTITUTE STANDARD ACI 318 OR ASTM C1157.
- 9. CONCRETE SUBJECT TO MODERATE OR SEVERE WEATHERING PROBABILITY PER TABLE R301.2(1) SHALL BE AIR-ENTRAINED WHEN REQUIRED BY TABLE R402.2.
- 10. CONCRETE MASONRY UNITS (CMU) SHALL CONFORM TO AMERICAN CONCRETE INSTITUTE PUBLICATION 530: BUILDING CODE REQUIREMENTS AND SPECIFICATIONS FOR MASONRY STRUCTURES AND COMPANION COMMENTARIES AND THE MASONRY SOCIETY PUBLICATION TMS 402/602: BUILDING CODE REQUIREMENTS AND SPECIFICATIONS FOR MASONRY
- 11. MORTAR SHALL COMPLY WITH ASTM INTERNATIONAL STANDARD
- 12. INDICATED MODEL NUMBERS FOR ALL METAL HANGERS, STRAPS, FRAMING CONNECTORS, AND HOLD-DOWNS ARE SIMPSON STRONG-TIE BRAND. EQUIVALENT USP BRAND PRODUCTS ARE ACCEPTABLE.
- 13. REFER TO I-JOIST EQUIVALENCE CHART ON I-JOIST DETAIL SHEET FOR SUBSTITUTION OF MANUFACTURER SERIES.

#### FOUNDATION

- MINIMUM ALLOWABLE SOIL BEARING CAPACITY IS ASSUMED TO BE 2,000 PSF. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SOIL BEARING CAPACITY IF UNSATISFACTORY CONDITIONS EVIST
- CONCRETE FOUNDATION WALLS TO BE SELECTED AND
   CONSTRUCTED PER SECTION R404 OR AMERICAN CONCRETE
   INSTITUTE STANDARD ACI 348.
- 3. MASONRY FOUNDATION WALLS TO BE SELECTED AND CONSTRUCTED PER SECTION R404 AND/OR AMERICAN CONCRETE INSTITUTE PUBLICATION 530: BUILDING CODE REQUIREMENTS AND SPECIFICATIONS FOR MASONRY STRUCTURES AND COMPANION COMMENTARIES AND/OR THE MASONRY SOCIETY PUBLICATION TMS 402/602: BUILDING CODE REQUIREMENTS AND SPECIFICATIONS FOR MASONRY STRUCTURES
- I. CONCRETE WALL HORIZONTAL REINFORCEMENT TO BE PER TABLE R404.1.2(1) OR AS NOTED OR DETAILED. CONCRETE WALL VERTICAL REINFORCEMENT TO BE PER TABLES R404.1.2(3 AND 4) OR AS NOTED OR DETAILED. ALL CONCRETE WALLS SHALL COMPLY WITH APPLICABLE PROVISIONS OF CHAPTER 6.
  - A. TABLES ASSUME THAT WALLS HAVE PERMANENT LATERAL SUPPORT AT THE TOP AND BOTTOM.
  - B. FOUNDATION DRAINS ARE ASSUMED AT ALL WALLS PER SECTION R405.
- 5. PLAIN-MASONRY WALL DESIGN TO BE PER TABLE R404.1.1(1) OR AS NOTED OR DETAILED. MASONRY WALLS WITH VERTICAL REINFORCEMENT TO BE PER TABLES R404.1.1 (2 THROUGH 4) OR AS NOTED OR DETAILED. ALL MASONRY WALLS SHALL COMPLY WITH APPLICABLE PROVISIONS OF CHAPTER 6.
  - A. TABLES ASSUME THAT WALLS HAVE PERMANENT LATERAL SUPPORT AT THE TOP AND BOTTOM.
  - B. WALL REINFORCING SHALL BE PLACED ACCORDING TO FOOTNOTE (c) OF THE TABLES (REINFORCING IS NOT CENTERED IN WALL).
  - C. FOUNDATION DRAINS ARE ASSUMED AT ALL WALLS PER SECTION R405.
- 6. WOOD SILL PLATES TO BE ANCHORED TO THE FOUNDATION WITH 1/2" DIAMETER ANCHOR BOLTS WITH MINIMUM 7" EMBEDMENT, SPACED A MAXIMUM OF 6'-0" OC AND WITHIN 12" FROM THE ENDS OF EACH PLATE SECTION. INSTALL MINIMUM (2) ANCHOR BOLTS PER SECTION. SEE SECTION R403.1.6 FOR SPECIFIC CONDITIONS.
- THE UNSUPPORTED HEIGHT OF SOLID MASONRY PIERS SHALL NOT EXCEED TEN TIMES THEIR LEAST DIMENSION. UNFILLED, HOLLOW PIERS MAY BE USED IF THE UNSUPPORTED HEIGHT IS NOT MORE THAN FOUR TIMES THEIR LEAST DIMENSION.
- CENTERS OF PIERS TO BEAR IN THE MIDDLE THIRD OF THE FOOTINGS, AND GIRDERS SHALL CENTER IN THE MIDDLE THIRD OF THE PIERS.
- ). ALL FOOTINGS TO HAVE MINIMUM 2" PROJECTION ON EACH SIDE OF FOUNDATION WALLS (SEE DETAILS).
- 10. ALL REBAR NOTED IN CONCRETE TO HAVE AT LEAST 2" COVER FROM EDGE OF CONCRETE TO EDGE OF REBAR.
- 11. FRAMING TO BE FLUSH WITH FOUNDATION WALLS.
- 12. WITH CLASS 1 SOILS, VAPOR BARRIER AND CRUSHED STONE MAY BE OMITTED.

#### FRAMING

- ALL BEARING HEADERS TO BE (2) 2x6 SUPPORTED W/ MIN (1) JACK STUD AND (1) KING STUD EACH END, UNO.
- 2. ALL NON-BEARING HEADERS TO BE (2) 2x4, UNO.
- 3. NON-BEARING INTERIOR WALLS NOT MORE THAN 10' NOMINAL HEIGHT AND NOT SHOWN AS BRACED WALLS MAY BE FRAMED WITH 2x4 STUDS @ 24" OC.
- SOLID BLOCKING TO BE PROVIDED AT ALL POINT LOADS
  THROUGH FLOOR LEVELS TO THE FOUNDATION OR TO OTHER
  STRUCTURAL COMPONENTS.
- 5. ALL BEAMS SPECIFIED ARE MINIMUM SIZES ONLY. LARGER MEMBERS MAY SUBSTITUTED AS NEEDED FOR EASE OF CONSTRUCTION
- 6. ALL EXTERIOR WALLS TO BE FULLY SHEATHED WITH 7/16" OSB.
- . PORCH / PATIO COLUMNS TO BE 4x4 MINIMUM PRESSURE-TREATED LUMBER.
  - A. ATTACH PORCH COLUMNS TO SLAB / FDN WALL USING ABA, ABU, ABW, OR CPT SIMPSON POST BASES TO FIT COLUMN SIZES NOTED ON PLAN -OR- ANY OTHER COLUMN CONNECTION WITH 500# UPLIFT CAPACITY.
  - B. ATTACH PORCH COLUMNS TO PORCH BEAMS USING AC OR BC SIMPSON POST CAPS TO FIT COLUMN SIZES NOTED ON PLAN -OR- ANY OTHER COLUMN CONNECTION WITH 500# UPLIFT CAPACITY.
  - C. TRIM OUT COLUMN(S) AND BEAM(S) PER BUILDER AND DETAILS.
- 3. ALL ENGINEERED WOOD PRODUCTS (LVL, PSL, LSL, ETC.) SHALL BE INSTALLED WITH CONNECTIONS PER MANUFACTURER SPECIFICATIONS.
- 9. ENGINEERED WOOD FLOOR SYSTEMS AND ROOF TRUSS SYSTEMS:
  - A. SHOP DRAWINGS FOR THE SYSTEMS SHALL BE PROVIDED TO THE ENGINEER OF RECORD FOR REVIEW AND COORDINATION BEFORE CONSTRUCTION.
  - B. TRUSS PROFILES SHALL BE SEALED BY THE TRUSS MANUFACTURER.
  - C. INSTALLATION OF THE SYSTEMS SHALL BE PER MANUFACTURER'S INSTRUCTIONS.
  - D. TRUSS LAYOUT AND PLACEMENT BY MANUFACTURER TO COINCIDE WITH THE SUPPORT LOCATIONS SHOWN IN THESE DRAWINGS.
- 10. ALL BEAMS TO BE CONTINUOUSLY SUPPORTED LATERALLY AND SHALL BEAR FULL WIDTH ON THE SUPPORTING WALLS OR COLUMNS INDICATED, WITH A MINIMUM OF THREE STUDS, UNO.
- ALL STEEL BEAMS TO BE SUPPORTED AT EACH END WITH A MIN BEARING LENGTH OF 3 1/2" AND FULL FLANGE WIDTH. BEAMS MUST BE ATTACHED AT EACH END WITH A MINIMUM OF FOUR 16d NAILS OR TWO 1/2" x 4" LAG SCREWS, UNO.
- 12. STEEL FLITCH BEAMS TO BE BOLTED TOGETHER USING (2) ROWS OF 1/2" DIAMETER BOLTS (ASTM 307) WITH WASHERS PLACED UNDER THE THREADED END OF THE BOLT. BOLTS TO BE SPACED AT 24" OC (MAX) AND STAGGERED TOP AND BOTTOM OF BEAM (2" EDGE DISTANCE), WITH TWO BOLTS TO BE LOCATED AT 6" FROM EACH END OF FLITCH BEAM.
- I3. WHEN A 4-PLY LVL BEAM IS USED, ATTACH WITH (1) 1/2" DIAMETER BOLT, 12" OC, STAGGERED TOP AND BOTTOM, 1 1/2" MIN FROM ENDS. ALTERNATE EQUIVALENT ATTACHMENT METHOD MAY BE USED, SUCH AS SDS, SDW, OR TRUSSLOK SCREWS (SEE MANUFACTURER SPECIFICATIONS).
- 14. FOR STUD COLUMNS OF 4-OR-MORE STUDS, INSTALL SIMPSON STRONG-TIE CS16 STRAPS ACROSS STUDS @ 30" OC, 6" MAX FROM PLATES, ON INSIDE FACE OF COLUMN (EXTERIOR WALL), ON BOTH FACES OF COLUMN (INTERIOR WALL).
- 15. FLOOR JOISTS ADJACENT AND PARALLEL TO THE EXTERIOR FOUNDATION WALL SHALL BE PROVIDED WITH FULL-DEPTH SOLID BLOCKING, NOT LESS THAN TWO (2) INCHES NOMINAL IN THICKNESS, PLACED PERPENDICULAR TO THE JOIST AT SPACING NOT MORE THAN FOUR (4) FEET. THE BLOCKING SHALL BE NAILED TO THE FLOOR SHEATHING, THE SILL PLATE, THE JOIST, AND THE EXTERIOR RIM JOIST / BOARD.
- 16. BRACED WALL PANELS SHALL BE FASTENED TO MEET THE UPLIFT-RESISTANCE REQUIREMENTS IN CHAPTERS 6 AND 8 OF THE APPLICABLE CODE (SEE TITLE SHEET). REQUIREMENTS OF THE STRUCTURAL DRAWINGS THAT EXCEED THE CODE MINIMUM SHALL BE MET.



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GENERAL NOTES

**GN1.0** 

FASTENER SCHEDULE				
CONNECTION	3" x 0.131" NAIL	3" x 0.120" NAIL		
JOIST TO SILL PLATE	(4) TOE NAILS	(4) TOE NAILS		
SOLE PLATE TO JOIST / BLOCKING	NAILS @ 8" OC (typical) (4) PER 16" SPACE (at braced panels)	NAILS @ 8" OC (typical) (4) PER 16" SPACE (at braced panels)		
STUD TO SOLE PLATE	(4) TOE NAILS	(4) TOE NAILS		
TOP OR SOLE PLATE TO STUD	(3) FACE NAILS	(4) FACE NAILS		
RIM JOIST OR BAND JOIST TO TOP PLATE OR SILL PLATE	TOE NAILS @ 6" OC	TOE NAILS @ 4" OC		
BLOCKING BETWEEN JOISTS TO TOP PLATE OR SILL PLATE	(4) TOE NAILS	(4) TOE NAILS		
DOUBLE STUD	NAILS @ 8" OC	NAILS @ 8" OC		
DOUBLE TOP PLATES	NAILS @ 12" OC	NAILS @ 12" OC		
DOUBLE TOP PLATES LAP (24" MIN LAP LENGTH)	(12) NAILS IN LAPPED AREA, EA SIDE OF JOINT	(12) NAILS IN LAPPED AREA, EA SIDE OF JOINT		
TOP PLATE LAP AT CORNERS AND INTERSECTING WALLS	(3) FACE NAILS	(3) FACE NAILS		
OPEN-WEB TRUSS BOTTOM CHORD TO TOP PLATES OR SILL NAILS @ 6" OC PLATE (PARALLEL TO WALL)		NAILS @ 4" OC		
BOTTOM CHORD OF TRUSS TO TOP PLATES OR SILL PLATE (PERPENDICULAR TO WALL)	(3) TOE NAILS	(3) TOE NAILS		

SEE TABLE R602.3(1) FOR ADDITIONAL STRUCTURAL-MEMBER FASTENING REQUIREMENTS.

DETAILS AND NOTES ON DRAWINGS GOVERN.

BALLOON WALL FRAMING SCHEDULE (USE THESE STANDARDS UNLESS NOTED OTHERWISE ON THE FRAMING PLAN SHEETS)

FRAMING MEMBER SIZE	MAX HEIGHT (PLATE TO PLATE) 115 MPH ULTIMATE DESIGN WIND SPEE
TRAMINO MEMBER OIZE	TO MILL OF CHIMATE DEGICIN WIND OF EEL
2x4 @ 16" OC	10'-0"
2x4 @ 12" OC	12'-0"
2x6 @ 16" OC	15'-0"
2x6 @ 12" OC	17'-9"
2x8 @ 16" OC	19'-0"
2x8 @ 12" OC	22'-0"
(2) 2x4 @ 16" OC	14'-6"
(2) 2x4 @ 12" OC	17'-0"
(2) 2x6 @ 16" OC	21'-6"
(2) 2x6 @ 12" OC	25'-0"
(2) 2×2 @ 46" OC	27! 0"
(2) 2x8 @ 16" OC	27'-0"
(2) 2x8 @ 12" OC	31'-0"

- a. ALL HEIGHTS ARE MEASURED SUBFLOOR TO TOP OF WALL PLATE.
- b. WHEN SPLIT-FRAMED WALLS ARE USED FOR HEIGHTS OVER 12', THE CONTRACTOR SHALL ADD 6' MINIMUM OF CS16 COIL STRAPPING (FULLY NAILED), CENTERED OVER THE WALL BREAK.
- C. FINGER-JOINTED MEMBERS MAY BE USED FOR CONTINUOUS HEIGHTS WHERE TRADITIONALLY MILLED LUMBER LENGTHS ARE
- d. FOR GREATER WIND SPEED, SEE ENGINEERED SOLUTION FOR CONDITION IN DRAWINGS.

### **ROOF SYSTEMS**

TRUSSED ROOF - STRUCTURAL NOTES

- PROVIDE CONTINUOUS BLOCKING THROUGH STRUCTURE FOR ALL POINT LOADS.
- DENC

DENOTES OVER-FRAMED AREA

- 3. MINIMUM 7/16" OSB ROOF SHEATHING
- 4. TRUSS LAYOUT AND PLACEMENT BY MANUFACTURER TO COINCIDE WITH THE SUPPORT LOCATIONS SHOWN. TRUSS PROFILES SHALL BE SEALED BY THE TRUSS MANUFACTURER. TRUSS PLANS TO BE COORDINATED WITH THE SEALED STRUCTURAL DRAWINGS. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- 5. MANUFACTURER TO PROVIDE REQUIRED UPLIFT CONNECTION.
- 6. PROVIDE H2.5A (MINIMUM) OR EQUIVALENT AT EACH TRUSS-TO-TOP PLATE CONNECTION AT OVER-FRAMED AREAS, UNLESS NOTED OTHERWISE.
- 7. UPLIFT CONNECTION TO BE CARRIED THROUGH TO FLOOR SYSTEM

### STICK-FRAMED ROOF - STRUCTURAL NOTES

- PROVIDE 2x4 COLLAR TIES AT 48" OC AT UPPER THIRD OF RAFTERS, UNLESS NOTED OTHERWISE.
- 2. FUR RIDGES FOR FULL RAFTER CONTACT.
- PROVIDE CONTINUOUS BLOCKING THROUGH STRUCTURE FOR ALL POINT LOADS.



DENOTES OVER-FRAMED AREA

- 5. MINIMUM 7/16" OSB ROOF SHEATHING
- PROVIDE 2x4 RAFTER TIES AT 16" OC AT 45° BETWEEN RAFTERS AND CEILING JOISTS. USE (4) 16d NAILS AT EACH CONNECTION. RAFTER TIES MAY BE SPACED AT 48" OC AT LOCATIONS WHERE NO KNEE WALLS ARE INSTALLED.
- PROVIDE H2.5A (MINIMUM) OR EQUIVALENT AT EACH RAFTER-TO-TOP PLATE CONNECTION AT OVER-FRAMED AREAS, UNLESS NOTED OTHERWISE.
- 8. UPLIFT CONNECTION TO BE CARRIED THROUGH TO FLOOR SYSTEM.

BRICK VENEER LINTEL SCHEDULE				
SPAN	STEEL ANGLE SIZE	END BEARING LENGTH		
UP TO 42"	L3-1/2"x3-1/2"x1/4" 8" (MIN. @ EACH END)			
UP TO 72"	L6"x4"x5/16"* (LLV) 8" (MIN. @ EACH END)			
OVER 72" L6"x4"x5/16"* (LLV) ATTACH LINTEL w/ 1/2" THRU BOLT @ 12" OC, 3" FROM EACH END				

\* FOR QUEEN BRICK: LINTELS AT THIS CONDITION MAY BE 5"x3-1/2"x5/16"

NOTE: BRICK LINTELS AT SLOPED AREAS TO BE 4"x3-1/2"x1/4" STEEL ANGLE WITH 16D NAILS IN 3/16" HOLES IN 4" ANGLE LEG AT 12" OC TO TRIPLE RAFTER. WHEN THE SLOPE EXCEEDS 4:12 A MINIMUM OF 3"x3"x1/4" PLATES SHALL BE WELDED AT 24" OC ALONG THE STEEL ANGLE.



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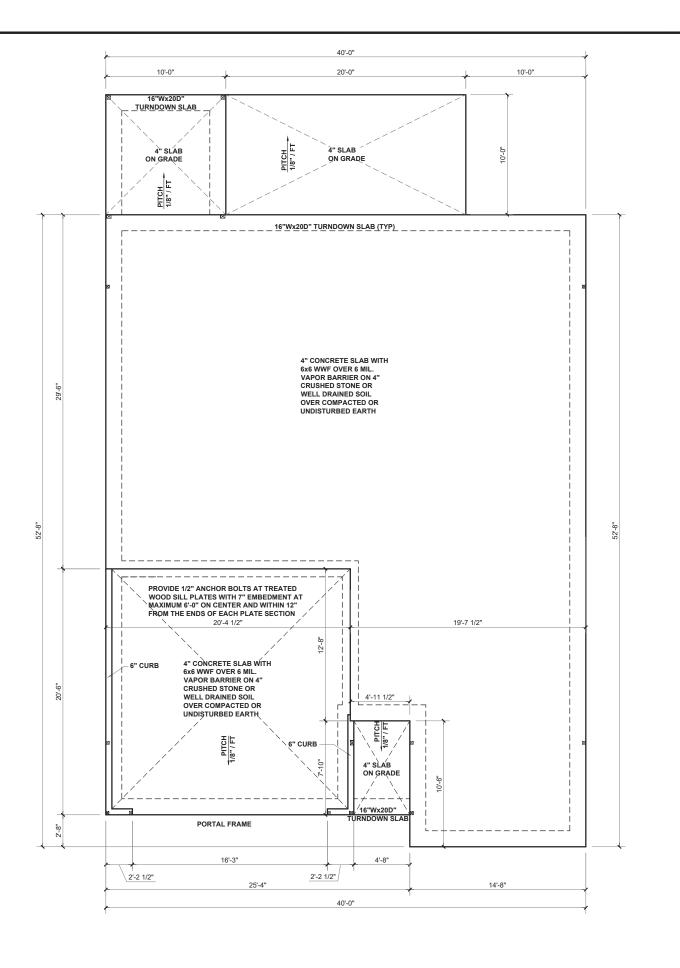
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GENERAL NOTES

GN1.1



BEAM & POINT LOAD LEGEN

INTERIOR LOAD BEARING WALL

---- ROOF RAFTER / TRUSS SUPPORT

WINDOW / DOOR HEADE

 ☑ POINT LOAD TRANSFER
 ■ POINT LOAD FROM ABOVE BEARING ON BEAM / GIRDER

(1) #5 REBAR @ CENTER OFF ALL PERIMETER AND INTERNAL LOAD BEARING FOOTINGS. (2" C.C. MIN) KBHOME

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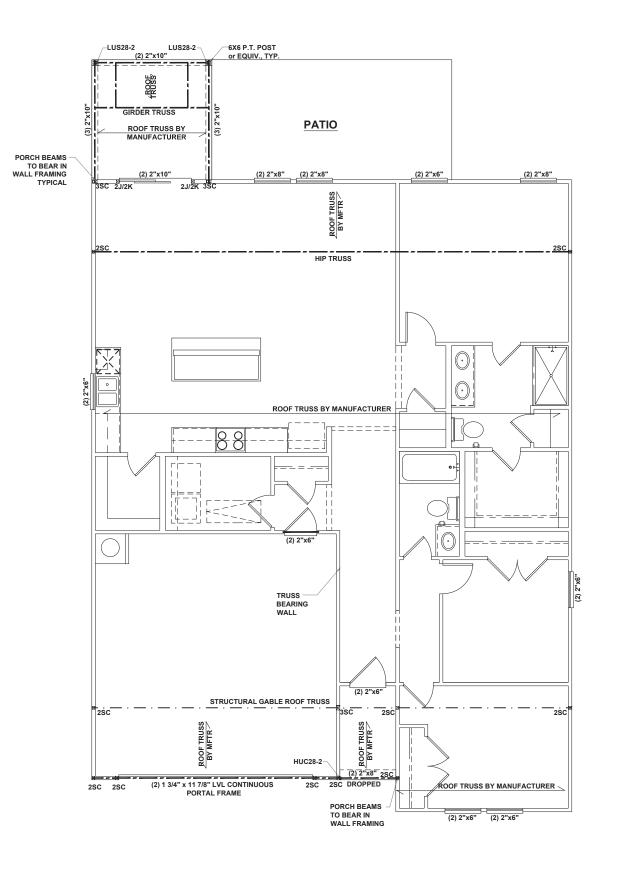
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SLAB FOUNDATION PLAN

**S.10B** 

**SLAB FOUNDATION PLAN - 'B'** 

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



#### BEAM & POINT LOAD LEGENI

INTERIOR LOAD BEARING WALL

---- ROOF RAFTER / TRUSS SUPPORT

DOUBLE RAFTER / DOUBLE JOIST
STRUCTURAL BEAM / GIRDER

WINDOW / DOOR HEADER

POINT LOAD TRANSFER

■ POINT LOAD FROM ABOVE BEARING ON BEAM / GIRDER

STRUCTURAL FRAMING NOTES - (SEE GENERAL NOTES SHEET FOR ADDITIONAL REQUIREMENTS.)

ALL FRAMING TO BE #2 SPF MINIMUM.

2. ALL BEARING HEADERS TO BE (2) 2x6 SUPPORTED W/ MIN (1) JACK AND (1) KING EACH END, UNO.

3. EXTERIOR WALL OPENINGS OVER 3' TO HAVE MULTIPLE KING STUDS AS NOTED ON PLAN.

 ALL NON-BEARING HEADERS TO BE (2) 2x4 (1) J (1) K, UNO.

PROVIDE CONTINUOUS BLOCKING THROUGH STRUCTURE FOR ALL POINT LOADS.

ALL HANGERS AND CONNECTORS SPECIFIED ARE TO BE SIMPSON STRONG-TIE OR EQUIVALENT.

 ALL BEAMS SPECIFIED ARE MINIMUM SIZES ONLY. LARGER MEMBERS MAY SUBSTITUTED AS NEEDED FOR EASE OF CONSTRUCTION. MINIMUM BEAM SUPPORT IS (1) 2x4 STUD.

ALL EXTERIOR WALLS TO BE FULLY SHEATHED
WITH 7/16" OSB

. FRONT PORCH COLUMNS TO BE MIN 4x4 PT ATTACHED AT TOP AND BOTTOM USING SIMPSON (OR EQUIV) COLUMN BASE OR SST A24 BRACKETS. TRIM OUT PER BUILDER.

 PORCH COLUMNS TO BE MIN 4x4 PT ATTACHED AT BOTTOM USING SIMPSON (OR EQUIV) ABA44 AND AT TOP USING CS 16 STRAPPING (12" MIN) TO PORCH HEADER / BAND.

. WHEN A 4-PLY LVL IS USED, ATTACH WITH (1) 1/2" Ø BOLT 12" OC STAGGERED, TOP AND BOTTOM, 1-1/2" MIN FROM ENDS. ALTERNATE ATTACHMENT EQUIVALENT METHOD MAY BE USED, SUCH AS SDW OR TRUSSLOK SCREWS (SEE MANUFACTURER'S SPECIFICATIONS).

2. FOR STUD COLUMNS OF 4 OR MORE, INSTALL SST CS16 STRAPS @ 30" OC, 6" MAX FROM PLATES, ON INSIDE FACE OF COLUMN (EXTERIOR WALL), ON BOTH FACES OF COLUMN (INTERIOR WALL).

ALL FLUSH BEAMS TO BE DIRECTLY SUPPORTED BY (2) 2X STUDS UNLESS OTHERWISE NOTED. STUD COLUMNS TO BE SUPPORTED BY SOLID BLOCKING TO FOUNDATION OR TO BEARING COMPONENT BELOW.



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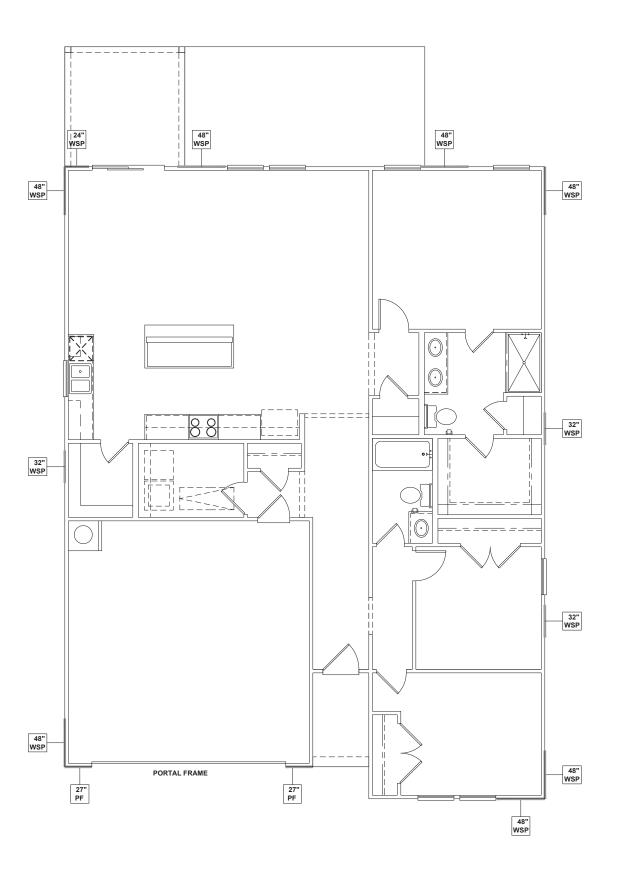
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FIRST FLOOR CEILING FRAMING PLAN

**S1.0B** 

FIRST FLOOR CEILING FRAMING PLAN - 'B'

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



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

# WALL BRACING REQUIREMENTS

- MINIMUM PANEL WIDTH IS 24"
   FIGURES BASED ON THE CONTINUOUS SHEATHING METHOD USING THE RECTANGLE CIRCUMSCRIBED AROUND THE FLOOR PLAN OR PORTION OF THE FLOOR PLAN. IF NO RECTANGLE IS NOTED, THE STRUCTURE HAS BEEN FIGURED ALL WITHIN ONE RECTANGLE.
- PANELS MAY SHIFT UP TO 36" EITHER DIRECTION FOR EASE OF CONSTRUCTION (NAILING & BLOCK REQUIREMENTS STILL APPLY).
- FOR ADDITIONAL WALL BRACING INFORMATION, REFER TO WALL BRACING DETAIL SHEET(S). - SCHEMATIC BELOW INDICATES HOW SIDES OF
- SCHEMATIC BELOW INDICATES HOW SIDES OF RECTANGLE ARE TO BE INTERPRETED IN BRACING CHART WHEN APPLIED TO STRUCTURE:



CS16 STRAP FROM STUD, CROSS HEADER, TO WALL TOP PLATE, 36" LONG MINIMUM

SIMPSON MSTA15 HOLD DOWN CAPACITY OF 970 POUNDS PER ANCHOR WITH (12) 10d NAILS. STRAP TO BE LOCATED AT EDGE OF BRACED WALL PANEL. (CS16 STRAPPING MAY BE SUBSTITUTED W/ SIMILAR LENGTH AND NAILING PATTERN.) USE HTT4 FOR ATTACHMENT TO CONCRETE.

SCALED LENGTH
OF WALL PANEL
AT LOCATION

24" NUN LEN WSP OF F

OF PANEL
-PANEL TYPE

### ENGINEERED WALL SCHEDULE

ENG1: CONTINUOUSLY SHEATH WITH 7/16" OSB ATTACHED WITH 8d NAILS @ 6" OC EDGE AND 12" OC FIELD. FULLY BLOCKED AT ALL PANEL EDGES.

ENG2: CONTINUOUSLY SHEATH WITH 7/16" OSB WITH 10d NAILS @ 3" OC EDGE AND 3" OC FIELD. FULLY BLOCKED AT ALL PANEL EDGES

ENG3: CONTINUOUSLY SHEATH 7/16" OSB ATTACHED BOTH SIDES WITH 8d NAILS @ 4" OC EDGE AND 8" OC FIELD. FULLY BLOCKED AT ALL PANEL EDGES.

ENG4: CONTINUOUSLY SHEATH 7/16" OSB ATTACHED WITH 8d NAILS @ 4" OC EDGE AND 8" OC FIELD. FULLY BLOCKED AT ALL PANEL EDGES.

### WALL BRACING NOTE:

WALLS WITH REQUIRED LENGTH LISTED AS "N/A" DO NOT MEET THE REQUIREMENTS OF PRESCRIPTIVE WALL BRACING FOUND IN THE NCRC. THESE WALLS HAVE BEEN ENGINEERED BASED ON DESIGN GUIDELINES ESTABLISHED IN ASCE-07 AND THE NDS: WIND & SEISMIC PROVISIONS SUPPLEMENT.

# WALL BRACING: RECTANGLE 1

REQUIRED LENGTH	PROVIDED LENGTH
7.0 FT.	10.75 FT.
5.5 FT.	10.6 FT.
7.0 FT.	10.0 FT.
5.5 FT.	13.3 FT.
	LENGTH 7.0 FT. 5.5 FT. 7.0 FT.



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PLAN:

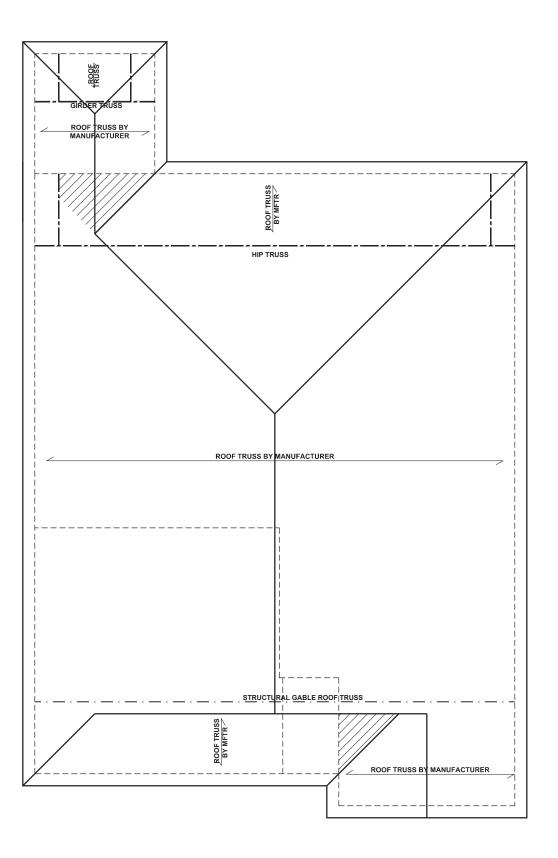
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FIRST FLOOR WALL BRACING PLAN

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**S4.0B** 

FIRST FLOOR WALL BRACING PLAN - 'B'



#### BEAM & POINT LOAD LEGEND

INTERIOR LOAD BEARING WALL

---- ROOF RAFTER / TRUSS SUPPORT
----- DOUBLE RAFTER / DOUBLE JOIST

STRUCTURAL BEAM / GIRDER
WINDOW / DOOR HEADER

POINT LOAD TRANSFER

■ POINT LOAD FROM ABOVE BEARING ON BEAM / GIRDER

### TRUSSED ROOF - STRUCTURAL NOTES

PROVIDE CONTINUOUS BLOCKING THROUGH STRUCTURE FOR ALL POINT LOADS.

DENOTES OVER-FRAMED AREA

3. MINIMUM 7/16" OSB ROOF SHEATHING

4. TRUSS LAYOUT AND PLACEMENT BY
MANUFACTURER TO COINCIDE WITH THE
SUPPORT LOCATIONS SHOWN. TRUSS PROFILES
SHALL BE SEALED BY THE TRUSS
MANUFACTURER. TRUSS PLANS TO BE
COORDINATED WITH THE SEALED STRUCTURAL
DRAWINGS. INSTALLATION SHALL BE IN
ACCORDANCE WITH THE MANUFACTURER'S
INSTRUCTIONS.

5. MANUFACTURER TO PROVIDE REQUIRED UPLIFT CONNECTION.

6. PROVIDE H2.5A (MINIMUM) OR EQUIVALENT AT EACH TRUSS-TO-TOP PLATE CONNECTION AT OVER-FRAMED AREAS, UNLESS NOTED OTHERWISE.

7. UPLIFT CONNECTION TO BE CARRIED THROUGH TO FLOOR SYSTEM.

### ATTIC VENTILATION

THE TOTAL NET-FREE VENTILATION AREA SHALL NOT BE LESS THAN 1/150 OF THE AREA OF THE ATTIC SPACE TO BE VENTILATED. THE TOTAL VENTILATION MAY BE REDUCED TO 1/300 PROVIDED AT LEAST 50% BUT NOT MORE THAN 80% OF THE REQUIRED VENTILATION BE LOCATED IN THE UPPER PORTION OF THE AREA TO BE VENTILATED, OR AT LEAST 3' ABOVE THE SOFFIT VENTILATION INTAKE.

2348 SQUARE FEET OF TOTAL ATTIC / 150 =

15.65 SQUARE FEET OF NET-FREE VENTILATION REQUIRED

TRUSS UPLIFT CONNECTORS: EXPOSURE B, 115 MPH, ANY PITCH, 24" O.C. MAX ROOF TRUSS SPACING

TRUSSES SHALL BE ATTACHED TO SUPPORT WALL FOR UPLIFT RESISTANCE. CONTINUOUS OSB WALL SHEATHING BELOW PROVIDES CONTINUOUS UPLIFT RESISTANCE TO FOUNDATION. ALL TRUSSES SUPPORTED BY INTERMEDIATE SUPPORT WALLS, KNEEWALLS, OR BEAMS SHALL BE ATTACHED TO SUPPORTING MEMBER PER SCHEDULE:

ROOF SPAN IS MEASURED HORIZONTALLY BETWEEN FURTHEST SUPPORT POINTS.

ROOF PLAN

CONNECTOR NAILING PER TABLE 602.3(1) NCRBC 2018 EDITION

OVER 28'

(1) SIMPSON H2.5A HURRICANE CLIP TO DBL TOP PLATE OR

OR (1) SIMPSON H3 CLIP TO SINGLE 2x4 PLATE



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ROOF FRAMING PLAN

S7.0B

**ROOF FRAMING PLAN - 'B'** 

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

