FRAMING CONSTRUCTION NOTES

REVISED AUGUST 23, 2005

1. CRAWL GIRDERS AND BAND WITH 4" CURTAIN WALL AND PIER CONSTRUCTION SHALL BE 2-2x10 SOUTHERN YELLOW PINE #2 UNLESS NOTED OTHERWISE, MAXIMUM CLEAR SPAN TO BE 4'-0" (6'-0" O.C. SPACING OF PIERS).

   TO AVOID OBJECTIONABLE CRACKING IN FINISHED HARDWOOD FLOORS OVER ANY GIRDERS, USE THE FOLLOWING PROCEDURE:

   A. NAILING
      I. ALL FLOOR JOISTS MUST BE TOENAILED TO THEIR SUPPORT GIRDERS WITH A MINIMUM OF 8-16d NAILS AT EACH END. LARGER NAILS WILL NOT AID IN REDUCING THE TERRAIN. INEFFECTIVE, NO END NAILING THROUGH THE GIRDER OR BAND IS PERMITTED.
      II. IF CRAWLED GIRDERS ARE USED, END LAP ALL JOISTS AND SIDE NAIL EACH WITH A MINIMUM OF 3-8d NAILS AT EACH END OF EACH JOIST, LEDGER STRIPS NAILED WITH 3-16d NAILS AT EACH JOIST END, SPACED 8" APART.
      III. NAIL MULTIPLE MEMBER BUILT UP GIRDERS WITH TWO ROWS OF 16d NAILS STAGGERED AT 32" O.C., 2" DOWN FROM THE TOP AND 2" UP FROM THE BOTTOM WITH 5-16d NAILS AT EACH END OF EACH PIECE IN THE JOINT THROUGH THE MEMBERS MAKING UP THE MULTIPLE GIRDER.
      IV. THIS NAILING PATTERN WILL INSURE A TIGHT FLOOR FROM OUTSIDE OF HOUSE TO OUTSIDE SO THAT WHEN THE FRAMING SHRINKS DURING THE FIRST HEATING SEASON, THE SHRINKAGE WILL BE UNIFORMLY DISTRIBUTED OVER THE ENTIRE FLOOR. IF THE GIRDER NAILING PATTERN IS OMITTED, THEN THE SHRINKAGE WILL ACCUMULATE OVER THE GIRDERS AND AN OBJECTIONABLE CRACK WILL DEVELOP IN THE FINISHED HARDWOOD FLOOR OVER THE GIRDER LINE.
   B. AT ALL GIRDERS WHERE THE JOISTS CHANGE DIRECTION, INSTALL BRIDGING AT 4'-0" O.C. FOR A MINIMUM OF SIX JOIST SPACINGS BEYOND ANY JOIST DIRECTION CHANGE. THIS WILL INSURE SHRINKAGE DISTRIBUTION OVER THE FLOOR AND NOT LET IT ACCUMULATE AT THE GIRDERS.
   C. THERE MUST BE WOOD BLOCKING THRU BOLTED TO THE STEEL BEAM FOR TOENAILING OR ATTACHED TO THE BEAM WITH METAL HANGERS UNDER ANY HARDWOOD FLOORS THAT RUNS OVER A STEEL BEAM SUPPORTING FLOOR JOISTS. THIS CONDITION OFTEN EXISTS IN BASEMENT AREAS.
2. ALL OTHER LUMBER MAY BE SPRUCE #2 UNLESS NOTED OTHERWISE.
3. STEEL BEAMS MUST HAVE 3-2x4 STUD JACKS UNDER EACH END SUPPORT UNLESS NOTED OTHERWISE.
4. LVL BEAMS MUST HAVE 3-2x4 STUD JACKS UNDER EACH END SUPPORT UNLESS NOTED OTHERWISE.
5. MASONRY LINTELS:
   A. FOR SPANS UP TO 6'- USE 3 1/2" X 3 1/2" X 1/4" STEEL ANGLES.
   B. FOR SPANS FROM 6' TO 10'- USE 5" X 3 1/2" X 5/16" STEEL ANGLES.
   C. FOR SPANS FROM 4' TO 16'- USE A PAIR OF 6 GAUGE HRPS IN EACH OF THE FIRST 3 COURSES OF BRICK ON A 3" X 3 1/2" X 3/16" STEEL ANGLE. LAP ALL 6 GAUGE HRPS SPLICES 12" MINIMUM AND EXTEND HRPS 12" MINIMUM INTO JAMBS. TEMPORARILY SUPPORT STEEL ANGLE BEFORE LAYING MASONRY. SHORING MAY BE REMOVED FIVE DAYS FOLLOWING INSTALLATION OF MASONRY.
   D. WHEN STRUCTURAL STEEL BEAMS WITH BOTTOM PLATES ARE USED TO SUPPORT MASONRY, THE BOTTOM PLATE MUST EXTEND THE FULL LENGTH OF STEEL BEAM. THIS PROVIDES SUPPORT TO THE ENDS OF THE PLATE ON THE ADJACENT MASONRY JAMBS. THE BEAM SHOULD BE TEMPORARILY SHORED PRIOR TO LAYING THE MASONRY. THE SHORING MAY BE REMOVED FIVE DAYS AFTER LAYING THE MASONRY.
6. ALL BRICK VENEER OVER LOWER ROOFS (BRICK CLINGS) MUST HAVE A STRUCTURAL ANGLE LAG SCREWED TO ADJACENT STUD WALL IN ACCORDANCE WITH DETAIL, WITH STEEL BRICK STOPS TO PREVENT SLIDING OF BRICK.
7. ALL RAFTER BRACES MUST HAVE 2 STUDS FROM PLATE THRUEAH ALL FLOORS TO FOUNDATION OR SUPPORTING BEAM BELOW, NO BRACES SHALL BE ATTACHED TO TOP WALL PLATE WITHOUT STUDS DIRECTLY UNDER THEM.
8. WHERE PARTITIONS FALLS BETWEEN FLOOR JOISTS OR TRUSSES, 2"x4" LADDERS @ 16" O.C. MUST BE PLACED PERPENDICULAR TO THE TRUSSES TO SUPPORT THE PLYWOOD DECKING.
9. ALL WOOD I-JOISTS AND OPEN JOISTS MUST BE BRACED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS PLUS DETAILS SHOWN ON PLANS. LOAD BEARING PARTITIONS, JACKS, BEAMS AND COLUMN SUPPORTS MUST BE SOLID BLOCKED THROUGH FLOOR TO JOISTS, TRUSSES, AND PLYWOOD CANNOT CARRY CONCENTRATED POINT LOADS. ALL POINT LOADS MUST BE CARRIED TO FOUNDATIONS WITH BLOCKING AND/OR BEAMS.
10. ALL STEEL COLUMNS SHALL BEAR ON CONCRETE, MASONRY, OR STEEL ONLY. AN ADEQUATELY-SIZED BASE PLATE SHALL BE USED TO SPREAD THE COLUMN LOAD ACROSS THE BEARING SURFACE AREAS SO AS NOT TO EXCEED ITS ALLOWABLE COMPRESSIVE STRESS. BEAMS THAT BEAR ON TOP OF STEEL COLUMNS SHALL BE WELDED TO THE COLUMN. BASE PLATE SHALL BE BOLTED WITH FOUR 1/2" DIAMETER ANCHOR BOLTS OR EXPANSION BOLTS TO CONCRETE OR MASONRY.
11. UNLESS NOTED OTHERWISE ON THE PLANS, ALL EXTERIOR FACING STUD WALLS TALLER THAN 10' SHALL BE CONSTRUCTED AS FOLLOWS:
   A. WALLS 10' TO 12' HIGH, BALLOON FRAME 2x6 STUDS @ 12" O.C. WITH 1/2" OSB SHEATHING AND 3 KING STUDS ON EACH SIDE OF EACH OPENING NAILED REQUIRELY TO THE HEADER.
   B. WALLS 12' TO 20' HIGH, BALLOON FRAME 2X6 STUDS @ 16" O.C. (1/2" OSB SHEATHING REQUIRED FOR WALL HEIGHTS OVER 10'). PROVIDE 2-1 3/4" X 9 1/4" LVL KING STUDS ON EACH SIDE OF OPENINGS 9' TO 9' HIGH AND 3-2X6 KING STUDS FOR OPENINGS OVER 9' HIGH. FASTEN KING STUDS SECURELY TO ALL HEADERS WITH A MINIMUM OF 12-16d NAILS OR 4-3/8" DIAMETER LAG SCREWS EMBEDDED A MINIMUM OF 4" INTO THE HEADER.
   C. GABLE END WALLS OF ROOMS WITH VAULTED CEILING JOISTS: BALLOON FRAME WALL AND PROVIDE TRIPLE KING STUD ON EACH SIDE OF OPENINGS, NAILED SECURELY TO THE HEADER.
   D. TWO-STORY HIGH FOYER WALLS LESS THAN 6' WIDE: ROTATE 3 1/2" X 9 1/4" PARALLAM PSL MEMBER WITH 2x2x4 FLAT PLATES ACROSS THE ENTIRE WALL. LOCATE THE BEAM NEAR MID-HEIGHT OF THE WALL AT OR NEAR FIRST FLOOR TOP PLATE.

   NOTE: SEE SPECIAL DESIGN OR ENGINEER FOR WALLS TALLER THAN 20', WHEN OPENINGS IN HIGH WALLS EXCEED 6' IN WIDTH, OR 9' THE WALL CANNOT BE CONSTRUCTED USING ANY OF THE METHODS MENTIONED.
12. CONTINUOUS 2x6 BRIDGING SHALL BE NAILED TO DIAGONAL OR VERTICAL WEB MEMBERS OF ALL OPEN WEB FLOOR TRUSSES OVER 12' LONG. THEY SHALL BE INSTALLED NEAR MID-SPAN AND AT LOAD DISTRIBUTION MEMBERS. IF THE 2x6 BRIDGING IS NOT CONTINUOUS, LAP ENDS OF BRIDGING ONE TRUSS SPACE.
13. LOWER STUD WALLS FOR BUILDINGS OVER TWO STORIES, BUT NOT MORE THAN THREE STORIES:
   A. INTERIOR WALLS
      I. LOAD BEARING ——— 2x6 @ 16" O.C.
      II. NON LOAD BEARING ——— 2x6 @ 16" O.C.
   B. EXTERIOR WALLS
      USE 2x6 @ 16" O.C. WITH 1/2" X 4' X 8' PLYWOOD SHEATHING AT ALL CORNERS AND EVERY 25' OR USE 2x6 @ 12" O.C. WITH 1/2" PLYWOOD SHEATHING SOLID ON WALLS.
14. HEADERS SHALL BE AS SHOWN UNLESS NOTED DIFFERENTLY ON PLANS:
   A. INTERIOR
      I. SPANS UP TO 2'-6" ——— 2-2x6'S
      II. SPANS 2'-6" TO 5'-6" ——— 3-2x6'S
      III. SPANS 5'-6" TO 8'-6" ——— 2-2x10'S
      IV. SPANS 8'-6" OR MORE ——— SEE PLAN
   B. EXTERIOR
      I. SPANS UP TO 2'-0" ——— 3-2x6'S
      II. SPANS 2'-0" TO 3'-0" ——— 2-2x6'S
      III. SPANS 5'-0" TO 7'-0" ——— 2-2x10'S
      IV. SPANS 7'-0" OR MORE ——— SEE PLAN

   HEADERS HIGHER THAN 9' SHALL HAVE A MINIMUM OF 3-2x6 KING STUDS ON EACH SIDE U.N.O.
15. WHEN CEILING JOISTS ARE PARALLEL TO AN EXTERIOR WALL AND RAFTERS BEAR ON THIS EXTERIOR STUD WALL, TOP PLATE, TIE THE RAFTERS NEAR THE TOP PLATE TO CEILING JOISTS WITH 2x6 HOSS A MINIMUM OF 6' LONG AT 4' ON CENTER ACROSS THE TOP OF THE CEILING JOISTS.
16. AT ALL BAY WINDOWS, EACH PANEL SHALL BE NAILED TO EACH ADJACENT PANEL WITH 8-16d NAILS OR TIED TOGETHER WITH METAL STRAPPING NAILED AT PON LOCATIONS BETWEEN FLOORS WITH A MINIMUM OF 2-16d NAILS INTO EACH PANEL AT EACH STRAP. THIS WILL AVOID VERTICAL CRACKING IN PANEL JOISTS DUE TO HORIZONTAL OSCILLATING PANELS.
17. AT ALL STAIRS, EVERY STUD AT EACH STRINGERS MUST BE NAILED TO EACH STRINGER WITH A MINIMUM OF 2-16d NAILS. THIS WILL AVOID CRACKING BETWEEN HALLBOARD AND TOP OF BASE MOLDING DUE TO VERTICAL OSCILLATION OF STAIR STRINGERS.
18. STEEL PIPE COLUMNS MUST BE IN CONTACT WITH THE UPPORTED MEMBER AND CONFINED SOLID TO THE SUPPORTING MASONRY OR CONCRETE FOUNDATION. NO INTERMEDIATE WOOD BLOCKING SHOULD BE USED AS IT WILL CRUSH.

ADDITIONAL NOTES

1. ALL PARTS OF THESE PLANS ARE COPYRIGHTED WITH THE REGISTER OF COPYRIGHTS, LIBRARY OF CONGRESS, WASHINGTON D.C. AND MAY NOT BE REPRODUCED IN WHOLE OR IN PART WITHOUT CONSENT OF CROWE DESIGN.
2. CROWE DESIGN IS A PROFESSIONAL RESIDENTIAL DESIGN FIRM LOCATED IN CONCORD, NORTH CAROLINA. BECAUSE SITE CONDITIONS MAY VARY, CROWE DESIGN CANNOT WARRANT THE SUITABILITY OF THESE PLANS FOR USE ON YOUR SPECIFIC SITE. CONSTRUCTION FROM THESE PLANS SHOULD NOT BE UNDERTAKEN WITHOUT THE ASSISTANCE OF A PROFESSIONAL CONTRACTOR.
3. ALL FEDERAL, STATE AND LOCAL CODES, ORDINANCES AND REGULATION SHALL BE CONSIDERED AS PART OF THESE DRAWING AND DETAILS FOR THIS BUILDING AND SHALL TAKE PREFERENCE OVER ANYTHING SHOWN, DESCRIBED OR IMPLIED WHERE VARIANCES OCCUR.
4. CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS BEFORE BEGINNING CONSTRUCTION AND COORDINATE ANY CORRECTIONS OR REVISIONS WITH THE OWNER AND DESIGNER. CROWE DESIGN WILL ASSUME NO LIABILITY FOR DIMENSIONAL ERRORS ONCE CONSTRUCTION BEGINS.

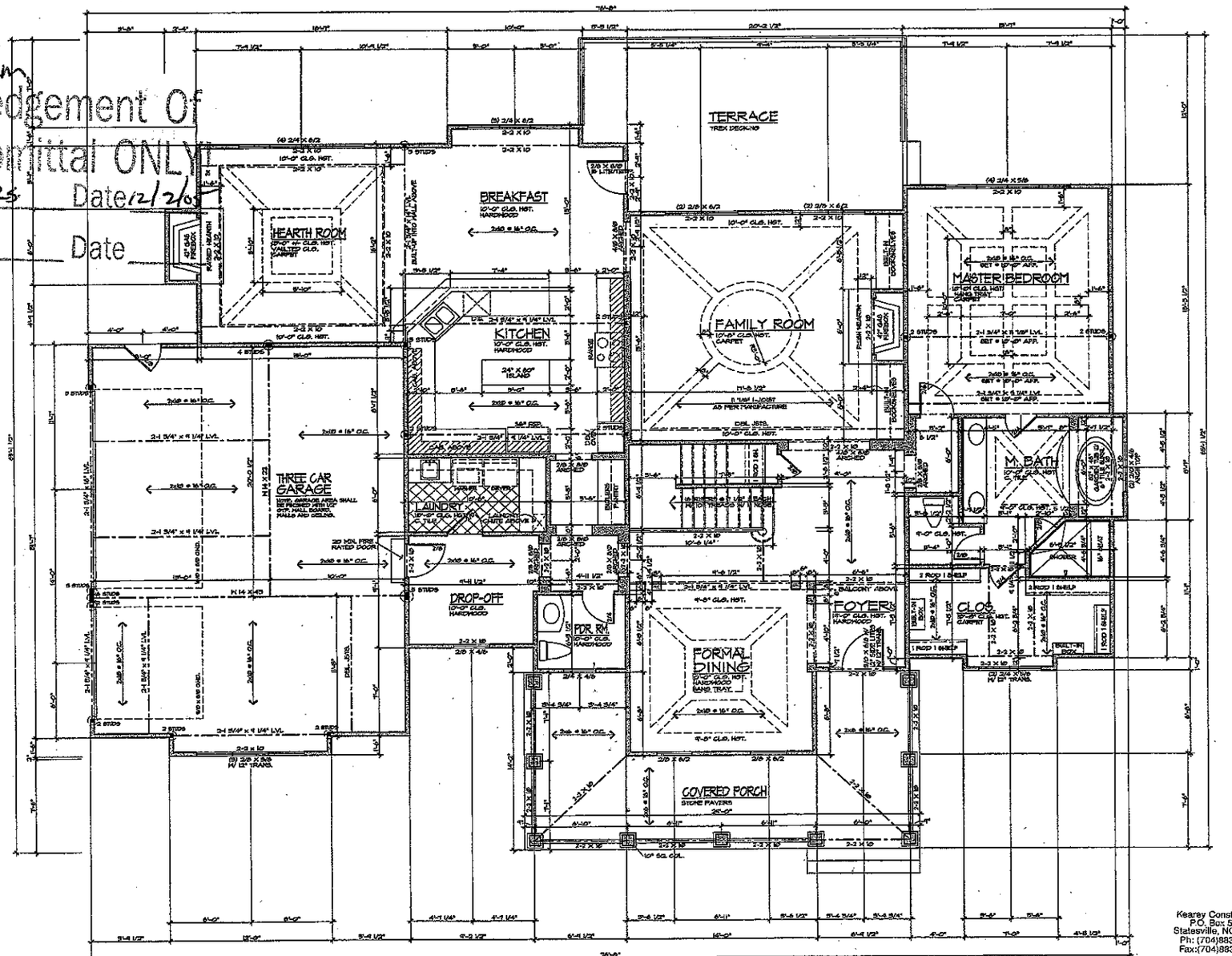
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Acknowledgement Of Plans Submittal ONLY!

Date 12/2/05

W. Sparks RS

Date _____



1/A4 FIRST FLOOR PLAN
SCALE: 1/4"= 1'-0"

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FRAMED SQUARE FOOTAGE	
1ST FLOOR HEATED	2383
2ND FLOOR HEATED	1362
REC. ROOM HEATED	381
UNFIN. BONUS RM.	629
GARAGE	748
COVERED PORCH	318
REAR DECK	325
TOTAL HEATED	4126

VENEER SQUARE FOOTAGE	
1ST FLOOR HEATED	2383
2ND FLOOR HEATED	1362
BONUS ROOM HEATED	381
TOTAL HEATED W/ VENEER	4126
TOTAL UNDER ROOF	5821

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OCTOBER 27, 2005

FIRST LEVEL FLOOR PLAN

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