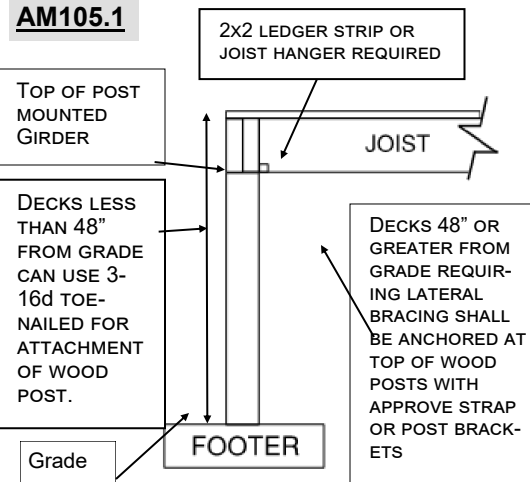
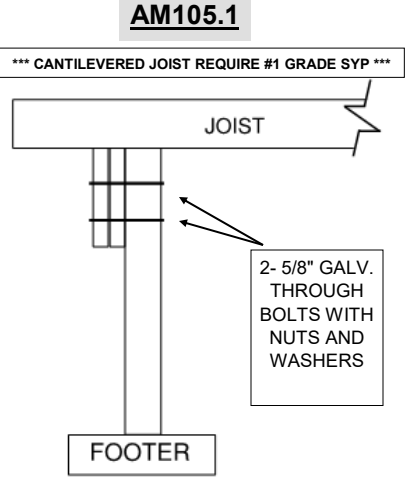


AM105.1



AM105.1



Top Mount / Flush Girder

Side Mount Dropped Girder

GIRDER SPAN TABLES #2 SYP @ 40 psf LIVE/SNOW LOAD, 10 psf DEAD LOAD

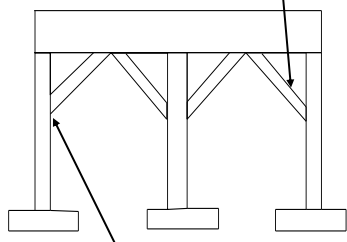
Exterior Girder Clear Spans ***

DECK WIDTH	Nominal Lumber Size				DECK WIDTH	Nominal Lumber Size			
	2 x 6	2 x 8	2 x 10	2 x 12		2 x 6	2 x 8	2 x 10	2 x 12
16' (2 ply)	4'-3"	5'-4"	6'-4"	7'-6"	18' (2 ply)	4'-0"	5'-0"	6'-0"	7'-0"
16' (3 ply)	5'-3"	6'-8"	7'-11"	9'-4"	18' (3 ply)	5'-3"	6'-4"	7'-6"	8'-10"
16' (4 ply)	----	----	----	----	18' (4 ply)	----	----	----	----

***Partial reproduction of Table AM105.2 for uncovered decks. For other Spans and wood species see Table AM105.2.

AM 109.1

BRACES SHALL BE BETWEEN 45 AND 60 DEGREES



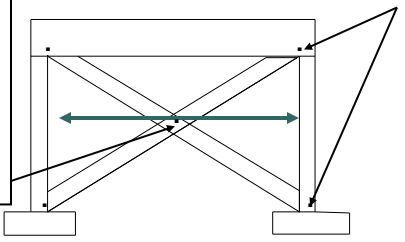
ATTACHED NOT LESS THAN 1/3 OF POST LENGTH, WITH ONE (1) 5/8" H.D.G. BOLT WITH NUT AND WASHER ON EACH END OF BRACE

AM109.1

CALL RTAC FOR DETAILS

ONE 5/8" BOLT TOP AND BOTTOM END WITH NUT AND WASHER OF REQUIRED 2x6 CROSS BRACING

IF SPAN BETWEEN POST IS GREATER THAN 7' CENTER, BLOCKING AND 1, 5/8" BOLT WITH NUT AND WASHER REQUIRED.



SPAN IS ACTUAL CLEAR DISTANCE BETWEEN SUPPORTS. 5/8" BOLTS ARE NEEDED AT THE TOP, BOTTOM, AND MIDDLE BRACING POINTS

Joist Span Tables #2 SYP @ 40 psf Live/Snow Load, 10 psf Dead Load ***

JOIST SIZE	SPACED @	MAX SPAN	JOIST SIZE	SPACED @	MAX SPAN
2 x 6	12" OC	9'-11"	2 x 10	12" OC	16'-2"
	16" OC	9'-0"		16" OC	14'-0"
	24" OC	7'-7"		24" OC	11'-5"
2 x 8	12" OC	13'-1"	2 x 12	12" OC	18'-0"
	16" OC	11'-10"		16" OC	16'-6"
	24" OC	9'-8"		24" OC	13'-6"

Partial reproduction of Table AM106.1 for uncovered decks.

AM 111

Handrails, Guards and General Construction

GUARDS AT A MINIMUM 36" REQUIRED PER R312.1.2 WITH GREATER THAN 30" DROP AND OPENING LIMITS PER R312.1.3 (4" SPHERE CANNOT PASS THROUGH VERTICAL PICKETS OR HORIZONTAL AND ORNAMENTAL GUARD RAILS), TOP RAIL AND POST TO SUPPORT 200LBS WITH INFILL TO MEET 50LBS PER TABLE R301.5 AND FOOTNOTES.

RAIL POSTS CANNOT EXCEED 8' O.C. SPACING AND SHALL BE ATTACHED WITH 2-3/8" GALV BOLTS WITH NUT & WASHER TO OUTER BANDS. 4x4 POST MAY NOT BE NOTCHED PER DOI INTERPRETATION.

ATTACHMENT TO STRUCTURE BASED UPON SECTIONS AM104.1, AM104.1.1, AND AM104.1.2.

DECKING PER AM107 FOR #2 SYP AND ATTACHED WITH 2-8D GALV NAILS AT EACH JOIST OR APPROVED SCREWS. OTHER MATERIALS PER MFG INSTALLATION BASED UPON JOISTS O.C. SPACING. ALTERNATE MATERIAL ATTACHED PER MFG INSTALLATION INSTRUCTIONS.

STAIR HANDRAIL/GUARD. HEIGHT BETWEEN 34"-38" PER R311.7.8.1 & R312.1. OPENINGS ON SIDE OF STAIRS REQUIRING GUARDS SHALL NOT ALLOW A SPHERE 4 3/8" TO PASS PER R312.1.3 EXCEPTION #2.

STAIRS TREADS AND RISERS

PER R311.7.5.1 (8 1/4" MAX RISER) & R311.7.5.2 (9" MINIMUM TREAD DEPTH + 3/4" NOSE). STAIRWAYS MIN 36" WIDTH PER R311.7.1 (RAIL PROJECTIONS ALLOWED).

Post Height per AM108

FOOTERS PER TABLE AM102.1. MINIMUM BASE OF FOOTERS 12" BELOW GRADE.

RISER OPENINGS. STAIRS WITH A 30" OR MORE VERTICAL RISE MUST HAVE SOLID RISERS OR OPENING RESTRICTED TO PREVENT A 4" SPHERE FROM PASSING PER R311.7.5.1.

LATERAL BRACING PER AM 109. AM109.1.1 HEIGHT REQUIRED; AM109.1.2 KNEE BRACING; AM109.1.3 SELF SUPPORTED EMBEDMENT; AM109.1.4 DIAGONAL BRACING; AM109.1.5 COASTAL EMBEDMENT.

TRIANGLE OPENINGS SHALL NOT ALLOW A 6" SPHERE TO PASS PER R312.1.3 EXCEPTION #1.

Floor Joist cantilevers allowed per Section AM106.1 for uncovered decks and Table R502.3.3.1 for covered decks.

MAX 16" GIRDER CANTILEVER AT ENDS OR 1 RIM/BAND JOIST WHICHEVER IS LESS

CANTILEVERED GIRDER IS LIMITED TO FLOOR LOADS ONLY, ROOF LOADS PROHIBITED ON CANTILEVERED GIRDER APPLICATION. REQUIRES #1 GRADE SYP

CONNECTOR BLOCK AT EACH JOIST NAILED TO SIDE OF JOIST WITH 3-8d NAILS AND FACE NAILED THROUGH EACH GIRDER PLY WITH 2-16d NAILS. BLOCK MUST FILL GAP BETWEEN GIRDER PLY'S.

AM 105.1

FLOOR JOIST MAX 16" O.C.

AM 105.1

GIRDER CAN HAVE DECORATIVE CLIP. CLIP NOT TO EXCEED D/4. D= DEPTH OF MEMBER /4

CANTILEVERED DROPPED GIRDER DETAIL

AM 108

Post Size ^a	Max Post Height ^{b,c}
4x4	8'-0"
6x6	20'-0"

a. This table is base on #2 SYP
b. From top of footing to bottom of girder
c. Decks with post heights exceeding these requirements shall be designed by a registered design professional

2-5/8" GAL THROUGH BOLTS WITH NUTS AND WASHERS

SPLIT GIRDER DETAIL

Code Enforcement

MECKLENBURG COUNTY

Are You Ready to Get All Decked Out?



What you need to know before building an attached or self-supporting deck to your home.

IF YOU HAVE ANY QUESTIONS ABOUT THESE SPECIFICATIONS, THE USE OF OTHER MATERIALS, STANDARDS OR THE CODE REQUIREMENTS FOR YOUR DECK, PLEASE CALL THE CODE INFORMATION AND RESOURCE CENTER AT 980-314-CODE (2633) or Email: circ@mecklenburgcountync.gov

WWW.MECKPERMIT.COM

THIS BROCHURE IS A PUBLICATION OF MECKLENBURG COUNTY

UPDATED 07/2020

First Things First...

Everyone dreams of the “perfect deck”... But getting from Point A (planning and constructing it) to point B (the dream deck) is not always as easy. This brochure will help you construct a safe, code-compliant “dream deck.”

But, first things first... Be sure to obtain a building permit for the deck before you build it. For more information on how and where to obtain your building permit, call or visit Residential Services at 2145 Suttle Avenue, Charlotte, or simply call our Code Information and Resource Center (CIRC) at 980-314-CODE (2633) or email us at circ@mecklenburgcountync.gov. Office hours are Monday-Friday from 8 a.m. to 5 p.m.

Why the permit and inspections?

We are required to permit and inspect your deck to ensure that it complies with local zoning regulations and the North Carolina State Residential Building Code. Municipal zoning regulations establish minimum setbacks from property lines. The building code governs the method of construction, materials, means of support, attachment and requires safety features such as guard rails and hand rails. Decks require an open footing inspection, as well as a framing and a final inspection.

Some Things to Think About...

What type of lumber will I be using?

First, all lumber should be treated or decay resistant. We will assume that you will use pressure treated **Southern Yellow Pine #2 (SYP)**. Girder/Header and Joist Spans for #2 SYP are partially listed on this brochure. Other species of lumber are acceptable for use. Please refer to the amendments of the current North Carolina Residential Code for complete lumber species, spacing, and allowable spans.

What distance will you span the joists?

Your joists must be sized to carry a 40 lb. per sq. ft. live load. In some instances, a girder is used to help meet this design criteria and to allow use of smaller individual floor joists (See Joist Span Tables on other side of this brochure).

How high off the ground will the floor of your deck be?

If the walking surface of the deck exceeds 30 inches from finished grade, your deck must be surrounded by guard rails which are a minimum of 36 inches in height. The steps for the deck must also have a hand rail on one side if there are 4 or more individual risers (a riser is considered any portion of the stair that requires a vertical motion). If the steps have a total rise of 30" or more above ground level, a combination guard rail/hand rail must be provided on open sides of the steps. See AM105 and AM111

Bracing your deck for lateral support

If your deck will be 48" or more above the ground (measured from top of footing to deck floor), bracing for lateral support is required. Self supported decks of ANY height require lateral bracing. Several methods of bracing are acceptable depending on whether the deck is free standing or attached (See AM109.1) Post embedment can be used in lieu of knee braces or diagonal bracing per AM109.1(3) of the 2018 NCRC. Consult with the Code Information and Resource Center (CIRC) at 980-314-CODE (2633) to select a method that meets code and will work best for your project.

Still have questions?
If you're in doubt, reach out —
980-314-CODE (2633)

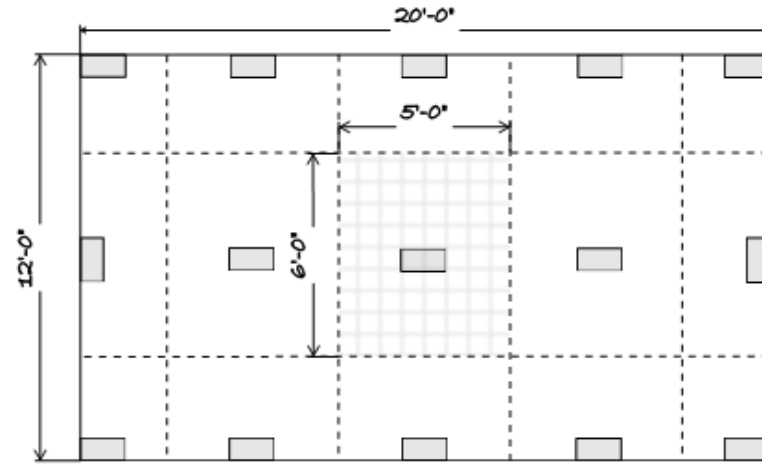
Some Things to Think About... (Continued)+

How deep and how large must the footings under support posts be?

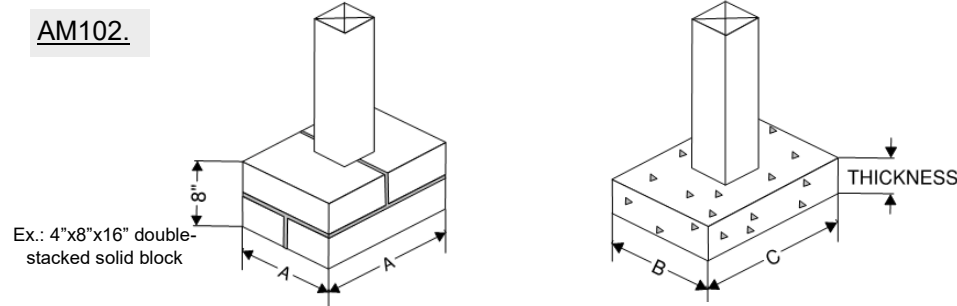
Each deck support post must be supported by concrete footings. The size of each footing is determined by the tributary load imposed on it. See the diagram below for an explanation of tributary load. Footing must be dug down into undisturbed soil and to a minimum depth of **12 INCHES BELOW FINISHED GRADE**.

AM102.1

Tributary area of shaded section on free standing deck shown is 5'x6'=30 sq. ft. Code will require a minimum footer of 8"x 16" per Table AM102.1



AM102.

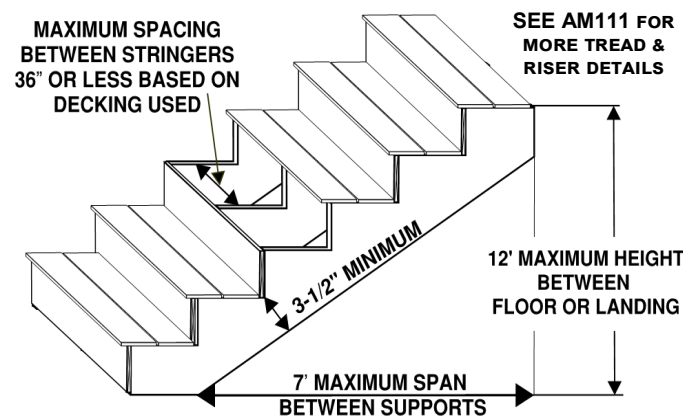


SIZE (inches)		TRIBUTARY AREA (square feet)	THICKNESS (inches)	
Precast Footings	Poured-in-Place Footings		Precast	Cast-in-Place
8 X 16	8 X 16	36	4	6
12 X 12	12 X 12	40	4	6
16 X 16	16 X 16	70	8	8
	16 X 24	100		8
	24 X 24	150		8

- a. Footing values are based on single floor and roof loads;
- b. Support post must rest in center 1/3 of footer;
- c. Top of footer shall be level for full bearing support of post

SECTION AM110 STAIRS

AM110.1 Stair shall be constructed per figure AM110. Stringer spans shall be no greater than 7 foot span between supports. Spacing between stringers shall be based upon decking material used per AM107.1. Each stringer shall have minimum 3 1/2" between the step cut and the back of the stringer. Suspended headers shall be attached with 3/8" inch galvanized bolts with nuts and washers.



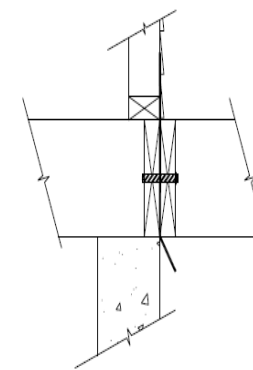
Some Things to Think About... (Continued)

Will your deck be attached to the residence for support or will it be a “self-supported” deck?

If attached, this means the deck band will be connected to the house band and that your deck will be supported partially by the existing foundation of the house. Attached decks must be connected to the band or rim joist of the house by 5/8 inch galvanized through bolts. Also, the existing siding (except brick) which covers the house band must be removed so that the deck band makes full contact with the house band. Non-aluminum, corrosion-resistant flashing must be installed between the house and deck bands (see flashing detail AM103) to prevent water from rotting the house band. See diagram below for detail.

All Structures Except Brick Veneer			
Method	Fasteners	8' Max Joist Span ^a	16' Max Joist Span ^a
1	5/8" Hot Dipped Galv. Bolts with nut and washer ^b and 12d Common Hot Dipped Galv. Nails ^c	1 @ 3'-6" O.C.	1 @ 1'-8" O.C.
		and 2 @ 8" O.C.	and 3 @ 6" O.C.
OR			
2	Self-Drilling Screw Fastener ^d	12" O.C.	6" O.C.
		STAGGERED	STAGGERED
Brick Veneer Structures			
	5/8" Hot Dipped Galv. Bolts with Nut and Washer ^b	1 @ 2'-4" O.C.	1 @ 1'-4" O.C.

AM103



AM107.1 Floor decking. Floor decking shall be No. 2 grade treated Southern Pine or equivalent. The minimum floor decking thickness shall be as follows:

SPACING	DECKING (nominal)
12" OC	1" S4S
16" OC	1" T&G
19.2" OC	1-1/4" S4S
24" - 36" OC	2" S4S

Important Note:

A COPY OF THE ENTIRE NC RESIDENTIAL CODE CAN BE FOUND ONLINE AT, <http://www.ncdoi.com/OSFM/Default.aspx#>.

SELECT OSFM DIVISIONS THEN STATE BUILDING CODES. IN THE RESOURCES BOX SELECT 2018 NC CODES WHERE IT WILL OPEN A NEW PAGE TO THE INTERNATIONAL CODE COUNCIL (ICC). SELECT NC THEN 2018. FOR THE LATEST AMENDMENTS TO THE CURRENT CODE SELECT OSFM DIVISIONS, STATE BUILDING CODES, CODE (CURRENT AND PAST) THEN SCROLL TO THE 2018 NC/ICC 2015 AMENDMENTS. ALL REFERENCES TO AM REFER TO APPENDIX M OF THE 2012 NC RESIDENTIAL CODE AND AMENDMENTS TO THE CODE.

