

From: Phil Borchardt
Sent: Friday, January 31, 2014 3:23 PM
To: 'Jeffrey.Weigand@wisconsin.gov'
Subject: Deck Info. - Fine Tooning

Hope your week has gone well Jeff,

In going through the deck hand out, there's a number of areas that need to be looked into, confirmed or addressed. I'm forwarding my concerns that I'll be bringing up at the February 20th Dwelling Code Council meeting ahead of time, so State Staff or others will be familiar or have an answer so we can move ahead quicker with the deck handout.

1: If we're going to put 3 soil bearing capacities (2,000, 3,000 & 4000 PSF.) in for deck footing bearing, we will need to put the type of soils per PSF. In other words we need to show the soil bearing capacity chart SPS 321.15(3).

2: Was the 1" stand off for the post to sona tube a recommendation or a requirement?

3: Confirm that Joist & Beam maximum span is measured to the center of the post. The UDC is generally all clear spans. Should we stay consistent?

4: Over 99% of the decks built in Wausau use treated southern yellow pine. Do we need to put Douglas Fir Larch & Ponderosa Pine in the charts? If we put all three in the charts, do we need to explain that treated wood is generally Southern yellow Pine.

5: Was the beam chart developed before the reduction factor for southern yellow pine.

6: Is it a correct statement that a beam cannot splice on a 4 x 4 post (Do to the requirement to have 3" of bearing for a beam)?

7: The ledger board fastener requirements don't show a minimum distance vertically between the top & bottom bolt, or a minimum distance for the top bolt to the bottom of the ledger. Example; The bottom bolt is 3/4" up from the bottom of a 2 x 12 ledger (1 1/4" high) and the top bolt could be placed 10 1/4" down from the top. The ledger would vertically support but would be susceptible to cracking from pull out.

8: The drawings for the ledger board fasteners aren't drawn accurately, with the minimum distance from the top (2") & bottom (3/4"). Presently the drawing looks like there the same distances from there prospectively top & bottom.

9: (See the attachment) For the wood screw ledger attachment; The Fairfax handout shows two kinds. 1: Fasten Master & 2: Simpson's. When I contacted GRK Fasteners (readily used in the Wausau area) they provided me with their code approvals for their fasteners. Are there other structural screws that are code complying? Instead of naming certain brands as acceptable should we set a certain criteria (pounds of pull out strength, sheer strength, washer size, etc..) per screw?

<http://www.grkfasteners.com/index.php/en/techdata/code-approvals>

10: (See the attachment) One can attach a deck ledger to a house with trussed floor joist with some planning ahead. http://support.sbcindustry.com/images/technotes/T-DeckLedger_10.pdf

11: Can approved wood screws or lag bolts be used to attach the diagonal brace to the post or can it only be a through bolted?

12: We need to put the definition of bridging in the code SPS 320.07 What's all acceptable/required? Example; 1 x 4 cross members or 1 x 3 & what minimum size nail? Solid blocking, is solid blocking 60% of the height acceptable?

13: In the legend we need to put decking in after joist.

14: How far can decking hang over the end of the joist? The Fairfax figure 18 shows 6" perpendicular to grain. How far when parallel to grain?

15: Clarify if/when more than one set of tension ties are required. Examples; a really long deck 40, 50, 60 feet long, or were decks change their size.

16: (See the attachments) In regard to the Fairfax section 13: lateral support Method 1) Tension-ties. I contacted both USP & Simpsons engineering divisions and got the same answer: The LTS19 & LTT19 have to be installed right dead on with the bolt embedded at least 3" into the direct center of the box sill plate. Besides the concern that neither company sell there's with corrosion resistant's (hot-dipped galvanized). Both companies strongly recommended there other hot dipped galvanized type (DTB-TZ & DTT2Z). <http://www.strongtie.com/ftp/catalogs/c-2013/C-2013-p193.pdf>, <http://www.strongtie.com/ftp/bulletins/T-DECKLATLOAD11.pdf>

Thank You
Phil Borchardt

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