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Uniform Construction Code - Plan Review

Building Subcode

WOOD DECK

Information is needed to process your application for a construction permit. **Note**, other elements, material requirements, and methods of construction not requested in this plan review can also be applicable to your project and code compliance in general. Please review all code sections within NJAC 5:23-6 and R507 Exterior Decks in the 2018 IRC NJ edition.

CONSTRUCTION CODES ONLINE:
The 2018 international Residential Code applicable to this project and referenced in this plan review are available for your use from the following websites:

https://up.codes/viewer/new_jersey/irc-2018/chapter/5/floors#R507

- or -

https://codes.iccsafe.org/content/NJRC2018P2/chapter-5-floors#NJRC2018P2_Pt03_Ch05_SecR507

CONSTRUCTION PERMIT FOR A SINGLE-FAMILY RESIDENCE - NJAC 5:23-2.15A
Please review the below referenced code sections and revise or provide two sets of **scaled** construction drawings with all applicable details and information to demonstrate compliance with the referenced code section and show the nature and character of the work to be performed.

SIGNATURE: Please make sure both sets of construction plans are sealed and signed by a licensed Architect or Engineer 5:23-2.15A(b)4. **Exception**: A single family, owner-occupier who has prepared his or her own plans for the construction is exempt and may sign and submit these construction documents.

PLAN REVISIONS: All revisions made to originally submitted documents shall be highlighted in a contrasting color or manner. The date of the revisions shall also be noted on the revised plan.

DIGITAL PLANS: In addition to the above paper plans and printed documents; please email a copy of the final revised plans with any specifications in a PDF format to dpino@hazletNJ.org.

CONSTRUCTION APPLICATION: please provide the information requested and highlighted on your construction permit application.

GENERAL REQUIREMENTS:

Site diagram 5:23-2.15A(b)1. Please submit a site plan (survey) showing the size and location of the proposed deck including the distances of the deck to the lot lines. **If previously submitted with your zoning approval, no additional copies or documentation is necessary**.

Plans 5:23-2.15A(b)2. Construction plans must be drawn to scale with sufficient clarity and detailed dimensions to show the nature and character of the proposed work. Footings, girders, and posts must be identified and located on the submitted plan, including, structural framing notes for all connections and assemblies.

Construction plans shall also include a **cross section** 5:23-2.15A(b)3.i. This section should present all construction materials used including footings, connectors, posts, girders, joists, decking, stairs, and guardrails.

Clearly delineate **existing** construction from **proposed** construction, giving sufficient details to show the scope of work to be performed.

DECK LEVELS: The referenced code section R507 provides prescriptive requirements for single-level decks only. Multi-level decks or stacking deck levels or deck components upon others must be designed pursuant to R301 Proposed multiple single-level decks designed within R507 must be constructed independently from each and may be contiguous.

ROOFING OVER DECKS: The referenced code section R507 provides prescriptive requirements for single-level decks only that do not support roof structures. Roof structures proposed to be constructed over wood decks must be designed pursuant to R301 or must be constructed structurally independent from the deck.

FOOTINGS R507.3: *"The **minimum size** of concrete footings shall be in accordance with Table R507.3.1, based on the tributary area and allowable soil-bearing pressure in accordance with Table R401.4.1."* Provide a layout of the footings indicating the spacing between all footings. Indicate the size of the proposed footing, concrete strength in PSI and depth of the footing described in R403.1.4. Lastly include the method of construction of the footing as depicted in figure R507.3.

Free-standing decks need not be provided with footings that extend below the frost line assuming they meet all the listed criteria as noted within the **Exception**.

STRUCTURAL FRAMING

Indicate the proposed post size, maximum height, and method of construction / connection details.

R507.4 DECK POSTS. For ***single-level*** wood-framed decks with beams sized in accordance with Table R507.5, deck post size shall be in accordance with Table R507.4.

R507.4.1 DECK POST TO DECK FOOTING CONNECTION. "*Where posts bear on concrete footings in accordance with Section R403 and Figure R507.4.1, lateral restraint shall be provided by manufactured connectors or a minimum post embedment of 12 inches in surrounding soils or concrete piers. Other footing systems are permitted."* **Provide details for construction**.

R507.5.2 DECK BEAM CONNECTION TO SUPPORTS. "*Deck beams shall be attached to supports in a manner capable of transferring vertical loads and resisting horizontal displacement. Deck beam connections to wood posts shall be in accordance with* ***Figures R507.5.1(1) and R507.5.1(2).*** *Manufactured post-to-beam connectors shall be sized for the post and beam sizes. Bolts shall have washers under the head and nut."* **Provide details for construction.**

DECK BEAMS
Provide details for the maximum allowable spans between supports as shown in Figure R507.5. Indicate the allowable spans on the construction plans. Beams shall be permitted to cantilever at each end up to one-fourth of the allowable beam span. **Provide details for cantilevers as applicable with this design**.

ENGINEERED WOOD PRODUCTS R507.2.1.1. Engineered wood products shall be in accordance with Section R502.

DECK JOISTS R507.6. Provide details for joist spans indicating the maximum allowable spans for wood deck joists between proposed supports as shown in Figure R507.6 and in accordance with Table R507.6.

> **Note** joist spacing is limited by the **decking materials** in accordance with Table R507.7. The maximum joist cantilever is limited to one-fourth of the joist span or the maximum cantilever length specified in Table R507.6, whichever is less. **Provide details for cantilevers as applicable with this design**.

DECK JOIST BEARING R507.6.1. Provide details to demonstrate compliance with the following: The ends of joists shall have not less than 1½ inches of bearing on wood or metal and not less than 3 inches of bearing on concrete or masonry over its entire width. Joists bearing on top of a multiple-ply beam or ledger shall be fastened in accordance with Table R602.3(1). Joists bearing on top of a single-ply beam or ledger shall be attached by a mechanical connector. Joist framing into the side of a beam or ledger board shall be supported by approved joist hangers.

R507.8 VERTICAL AND LATERAL SUPPORTS. Where supported by attachment to an exterior wall, decks shall be positively anchored to the primary structure and designed for both vertical and lateral loads. Such attachment shall not be accomplished using toenails or nails subject to withdrawal.

For decks with cantilevered framing members, connection to exterior walls or other framing members shall be designed and constructed to resist uplift resulting from the full live load specified in Table R301.5 acting on the cantilevered portion of the deck. **Where positive connection to the primary building structure cannot be <u>verified</u> during inspection, decks shall be self-supporting.**

DECK LEDGER - POINT OF CONNECTION: Please confirm the deck ledger is attached to a structure wall which transfers all loads directly down to the foundational system and / or indicate the Deck Ledger is not attached to an existing overhang or cantilever type floor assembly.

LEDGER DETAILS R507.9.1.1. Include details to demonstrate compliance for ledgers as described herein. Deck ledgers shall be a minimum 2-inch by 8-inch nominal, pressure-preservative-treated Southern pine, incised pressure-preservative-treated hem-fir, or approved, naturally durable, No. 2 grade or better lumber.

BAND JOIST DETAILS R507.9.1.2. Band joists supporting a ledger shall be a minimum 2-inch-nominal solid-sawn, spruce-pine-fir or better lumber or a minimum 1-inch by 9½ -inch dimensional, Douglas fir or better, laminated veneer lumber. Band joists shall bear fully on the primary structure capable of supporting all required loads.

LEDGER TO BAND JOIST DETAILS R507.9.1.3. Provide details for fasteners used in deck ledger connections in accordance with Table R507.9.1.3(1) shall be hot-dipped galvanized or stainless steel and shall be installed in accordance with Table R507.9.1.3(2) and Figures R507.9.1.3(1) and R507.9.1.3(2).

Note: Alternate framing configurations supporting a ledger are permitted and must be designed to meet the load requirements of Section R301.5.

STAIRWAYS & GUARDRAILS

Provide the following details to show compliance with the referenced code for stairway width, landing width, riser height, tread depth, stringer size and method for construction. See manufacture specifications below.

WIDTH R311.7.1. Provide details for stairway width. Stairways shall be not less than 36 inches in clear width at all points above the permitted handrail height.

STAIR TREADS AND RISERS R311.7.5. Provide details for stair tread dimensions, riser heights, openness, and or closed risers.

HANDRAILS R311.7.8. Provide details for handrails, including proposed height, projection, clearances, grip size and continuity on not less than one side of each flight of stairs with four or more risers.

GUARDS R312.1: Provide details for guardrail construction, such as height and guard opening limitations and protection where located more than 30 inches measured vertically to the floor or grade below at any point within 36 inches horizontally to the edge of the open side.

MANUFACTURED PRODUCTS & SPECIFICATIONS: When using manufactured products, such as plastic composite components including deck boards, stair treads, handrails or guards, these elements or packaging must be “labeled” per R507.2.2.1 and meet other minimum requirements described within R507. Provide a copy of the manufacture specifications for these components and follow all manufacture installation requirements during construction. These documents are not required for permit issuance; however, they should be submitted for the file with required “labels” being available for field verification and facilitation of inspection.

ALTERNATE MATERIALS R507.2.5. Alternative materials, including glass and metals are permitted for use.

SWIMMING POOLS & DECKS

When adding a deck to an above ground swimming pool installation, consideration must be made to assure protection by restricting entry into areas having pools and spas. Please provide details incorporated with this deck design for a **swimming pool barrier** described in the ISPSC 2018 edition,

Section 305 Barriers. Note NJ amendments for barriers are found in the 2018 IRC NJ edition. If existing approved barriers already exist, please make such note.

For free public access to the 2018 ISPSC Code go to the link below or search ISPSC 2018 public access:

https://codes.iccsafe.org/content/ISPSC2018/chapter-3-general-compliance#ISPSC2018_Ch03_Sec305

GENERAL 322.1. Ladders shall comply with the provisions of the code and applicable provisions of Chapters 4 through 10 based on the type of pool and details specific to this installation. The main concern with ladders being installed on wood decks into swimming pools is potential **entrapment** where required clearances are necessary for life-safety**.** Please provide manufacture specifications for the ladder and details to demonstrate compliance as applicable.

SECTION 306 DECKS – Section 306.1 General.

Provide information and details for the following elements as applicable to your installation:

- 306.2 Slip resistant
- 306.6 Gaps.
- 306.8 Deck edges