

VILLAGE OF GLENWILLOW DEPARTMENT OF BUILDING AND ZONING GUIDELINES FOR DECK CONSTRUCTION

This is a guide to deck construction and is intended as a guide only. Design and code information can be obtained from reference manuals, code books or design professionals. A sample site plan and construction plan are enclosed for your use.

LOCATION AND DESIGN

Decks are commonly constructed on the rear of the house. The Zoning Code limits the location with respect to side yard setbacks.

The design may affect the location. Some people prefer a one level deck; others may prefer two or more levels. Decks can be built in most shapes depending upon the carpentry skills of the builder.

In all cases, the design live load of a deck shall be no less than 40 pounds per square foot.

MATERIALS

All decking lumber must be treated and rated for use outdoors and in contact with the ground. Ammonical Copper Quat or ACQ is the typical lumber treatment.

All fasteners and hangers, including screws, nails, or bolts must be properly rated for contact with the ACQ lumber.

Both nails and screws should be of a size and type that will provide proper penetration when fastening deck components together.

FOUNDATION SYSTEM

Decks are routinely constructed upon post foundations. 4" x 4" posts are most common. On decks in excess of eight (8') foot in height above grade or with large roofed structures located upon them, 6" x 6" posts should be employed.

In all cases the foundation must be constructed to a depth in excess of thirty-six inches (>36") below finished grade or to solid bearing, whichever is deeper. Traditional methods of post construction provide that the post be placed upon a flagstone within an eight inch (8") diameter post hole. Cement is then placed around the post for stability.

Other methods of foundation construction may include filling the foundation hole entirely with cement and using a galvanized mechanical fitting designed to adapt a 4" x 4" or 6" x 6" post placed into the cement before it hardens.

If any foundation systems other than the two described are desired, they must be approved by the Building Official.

LEDGER

In cases where the deck is not free-standing and requires support by attachment to the house a ledger must be employed.

The ledger board is a connection to the rim joist of the house. The size of the ledger must equal to or larger than the floor joist that will be attached to it. Traditional methods of lag support require the use of a ½" diameter lag located 16" c/c maximum and staggered from top to bottom along the horizontal run of the ledger in alternating fashion of 2" in from the top of the ledger and 2" in from the bottom of the ledger. The lag must be long enough to penetrate both the ledger and the rim joist of the main structure.

Alternative methods of securing the ledger to the main structure are available and are permitted. Such systems must be shown on the submitted plans.

An approved corrosion-resistant flashing shall be installed between the ledger and the main structure to prevent water entry to the building structural framing.

FLOOR SYSTEM

The floor system is comprised the three basic components:

BEAM: Fastened to foundation posts; they support and run perpendicular to the floor joists.

FLOOR JOISTS: Commonly fastened to the house (if desired) and the beam(s) to support the decking.

DECKING: Flooring of the deck

The beam is commonly constructed of two (2) 2" x 8"'s, 2" x 10" 's or 2" x 12" 's. The Residential Building Code of Ohio (RCO) requires direct bearing of the beam upon the post upon the post by notching or through of a mechanical fastener such as the Simpson Strong Tie DJT14Z. The size of the beam is dependent upon the spacing of the posts, the spacing of the beams, as well as the size and spacing of the floor joists.

Floor joists are commonly constructed of 2" x 6" 's, 2" x 8" 's, or 2" x 10" 's, and are generally spaced at 16" intervals upon the beam(s). Floor joists should be fastened to the beam with approved hurricane ties. If floor joist spans exceed 10 feet (10'), blocking or bridging must be added between the joists for added stiffness.

The floor joists should be fastened to the house ledger with joint hangers.

When using mechanical fasteners all available nail, lag and other attachment ports must be filled with approved fasteners.

The decking is frequently 2" x 6" or 5/4" lumber. The 5/4" has a radius (rounded) edge. The decking should be fastened to the floor joist with two (2) fasteners per each floor joist. At butt ends of the decking, three (3) fasteners should be used. Composite decking must be installed

STAIRS

Typically a deck will require a stair from the ground to the deck. The stair shall be a minimum of 36" in width. Each step on the stair shall have a minimum tread of nine inches (9") as measured from the nose of the tread above and a maximum rise of eight and one quarter inches (8-1/4"). Steps should not vary in rise and run by more than 3/8".

Attachment of a stair stringer to the main deck structure requires the use of mechanical fasteners.

GUARDRAILS AND HANDRAILS

If the deck is more than 30" above grade, a guardrail a minimum of 36" high. Handrails are required for stair when there are more than three (3) steps. Handrails can vary in height between 34" and 38" to allow a smooth transition with the guardrail.

In all cases, spindles or balusters shall be spaced vertically or horizontally to allow the passage of a sphere with a maximum diameter of four inches (4").

VAPOR BARRIER

To keep grass or other vegetation from growing below the deck, the Building Department has established a standard requiring a vapor barrier below the deck. The vapor barrier is usually a four (4) to six (6) mil plastic sheet. Gravel is generally used to keep the vapor barrier in place.

SUBMISSION REQUIREMENTS AND PLAN REVIEW

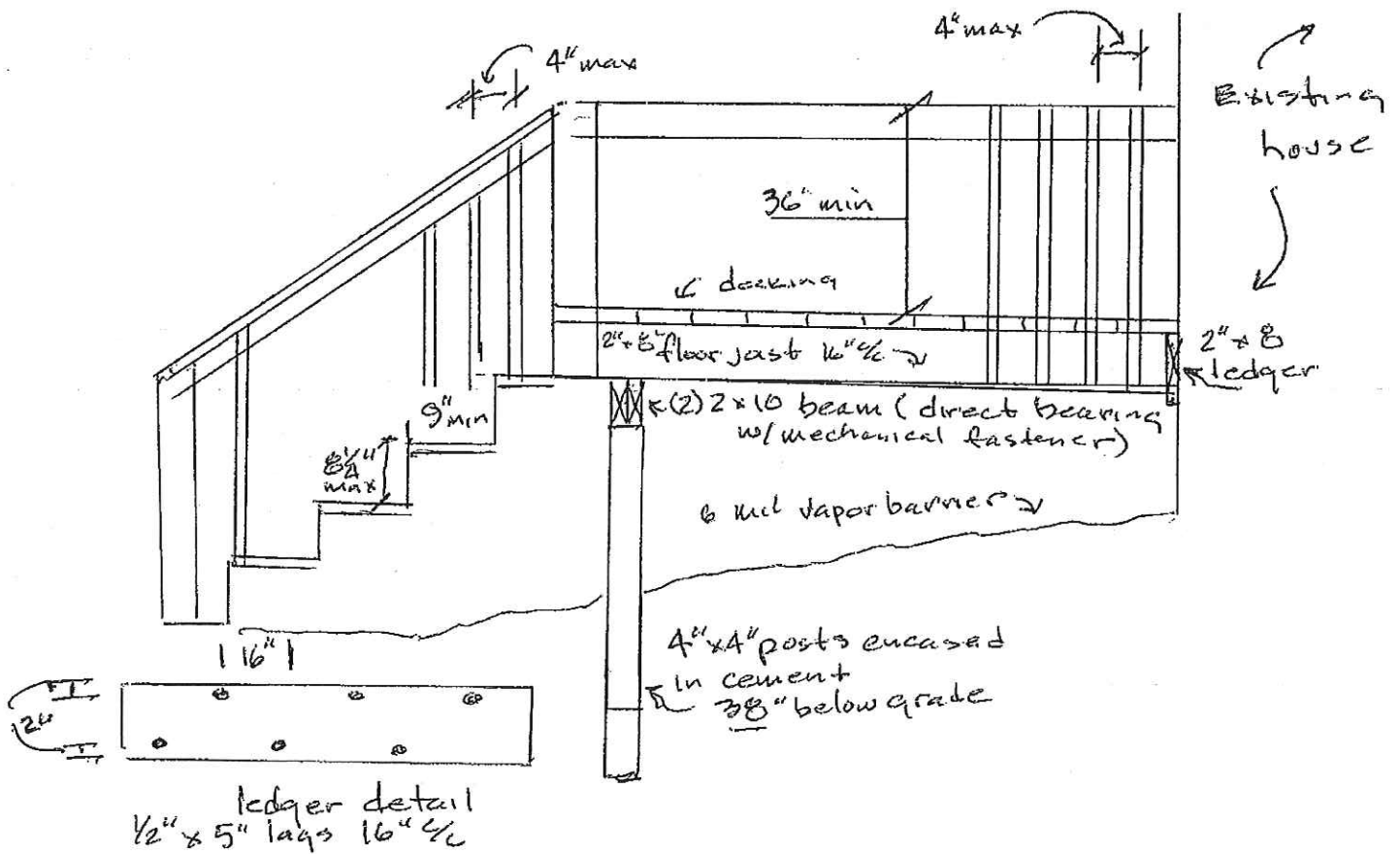
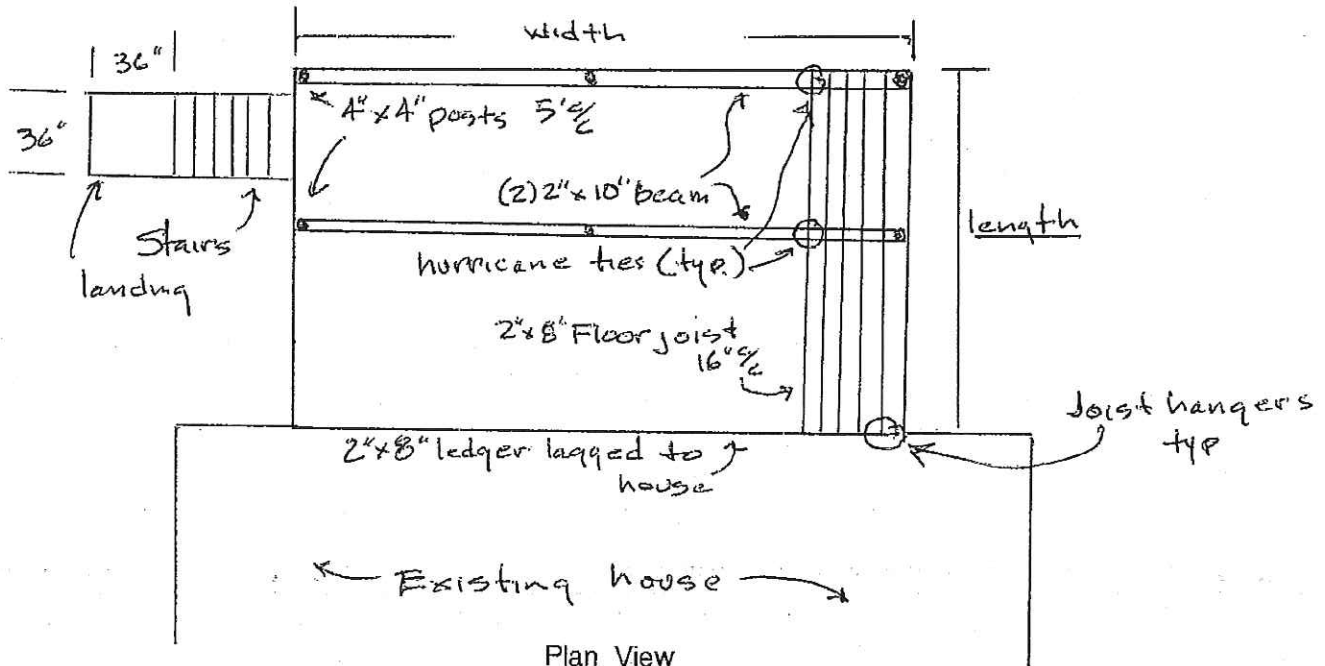
Your application for a deck permit requires the following:

1. Site plan (similar to sample copy)
2. Construction detail including fasteners with:
 - a) Foundation System
 - b) Floor System
 - c) Railings and Steps
3. Homeowner's Association Approval letter (if applicable)

PLAN REVIEW

Your plans will be subject to a code review by the Building Official and an architectural review by the Village Architectural Review Board.

Sample Deck Plans



Sectional View