

RESIDENTIAL GARAGE

Permit Application Guidelines

- 1. Submit to Community Development Building Division the following for review:
 - a) Building permit application. Libertyville Municipal Code (LMC) 6-86(a), (b), (c) & (d)
 - b) Two copies of the Plat of Survey dimensionally locating the garage and driveway with respect to the property lines and any buildings on the site. **LMC 6-86(f)**
 - c) Two copies of the garage foundation and framing plans and elevations indicating the overall size and materials to be used in construction. **LMC 6-86(e)**
 - d) Two copies of the garage wall section indicating the overall height from top of grade to top of roof, foundation type and depth and building materials. LMC 6-86(e)
 - e) Calculations indicating building and lot coverage.
- 2. The permit may be issued within 5 business days from date of submittal to Building Division if information submitted is complete. **LMC 6-87(a)**
- 3. Contact Engineering Division (847)918-2100 if structure is located within the flood plain.
- 4. Call **J.U.L.I.E.** at (800)892-0123 to locate any underground utility lines before start of construction.

Attached Garage Construction Guidelines

- 1. A formed spread footing and foundation wall is required for all garages except one story structures a maximum of twenty (20) feet in each direction and not to exceed four hundred (400) square feet where a trench footing/foundation wall is allowed. A minimum eight (8) inch thick foundation wall is required. A minimum eight (8) inch deep by eighteen (18) inch wide formed spread footing is required. **LMC 6-130(a) & (e)**
- 2. There shall be a service door from the garage to either the dwelling or directly to the outside as a means of emergency egress. There shall not be any opening from a garage directly into a room used for sleeping purposes. All door openings between the garage and the dwelling shall be provided with solid core doors, not less than one-and-three-fourths-inch thick with rabbeted jamb, or a twenty-minute labeled fire door. No other non-fire-rated openings between the garage and the dwelling shall be permitted. **LMC 6-138(a)**
- 3. There shall be a minimum four-inch high concrete curb separating the garage floor from any abutting portion of the principal building, or the garage floor may be constructed four (4) inches or more below the top of the common foundation wall between the garage and the dwelling. A minimum four-inch curb and step platform shall be provided to protect any stairway leading to any level below the garage floor. **LMC 6-138(b)**
- 4. The installation of any open-flame heating unit, hot water tank or other open-flame, fuel-burning appliance in the garage space is not permitted. Heating appliances that are approved (by testing agency) for use in a garage may be permitted. **LMC 6-138(c)**

- 5. Hot air duct openings shall be a minimum of six (6) feet above the floor, with a one-hour fusible link fire damper protecting the opening. Return air ducts from the garage shall not be permitted. **LMC 6-138(d)**
- 6. All garage floor surfaces shall be paved with a minimum four-inch-thick, water-impervious, noncombustible concrete floor with appropriate curbs and expansion joints. The garage floor shall be pitched to surface drain all parts of the garage through the vehicle door opening. Floor drains in a residential garage shall not be permitted, except that in a below grade garage unit, a grated, water catchbasin or trench may be installed outside of the overhead door of the garage, provide that all requirements of the Village are met. Multiple-family buildings with underground parking shall comply with all provisions of fire suppression and commercial type traps and separation basins of this code.. LMC 6-138(e)
- 7. Concrete in garage floor slabs shall have a compressive strength of 3500 psi at 28 days. **2006 IRC Table R402.2**
- 8. Provide a 6 mil minimum vapor barrier under concrete slab. 2006 IRC R506.2.3
- 9. A garage attached to a single-family house shall be completely separated from all portions of the dwelling unit by five-eighths-inch type X drywall, installed on the garage side of all common walls. This fire separation wall shall be continuous from the top of the four-inch concrete wall curb on up to the underside of the roof deck to separate the attic spaces, if any, or a fire ceiling of the same drywall material may be installed over the garage space as the common attic separation. Where any portion of the garage space is under any portion of the dwelling unit above the garage space, then all interior wall surfaces, ceilings, columns and structural beams within the garage space shall be protected with the same drywall material as above. **LMC 6-139(a)**
- **10.** For attached single-family, two-family and multiple-family buildings see Village amendments. **LMC 6-139(b & c)**
- 11. No garage door or doors shall constitute more than thirty percent (30%) of the area of the front face of the dwelling to which such garage is attached.
 - Libertyville Zoning Code (LZC) 4-2.4b, 4-3.4b, 4-4.4b, 4-5.4b, 4-6.4b, 4-7.4b, 4-8.4b & 4-9.4b
- 12. The garage and dwelling unit shall conform to the Residential Coverage and Setback Requirement Table below. LZC 4-2.5, 4-3.5, 4-4.5, 4-5.5, 4-6.5, 4-7.5, 4-8.5 & 4-9.5

Detached Garage Construction Guidelines

- 1. For structures of not more than twenty-four (24) feet in any dimension or over five hundred seventy-six (576) square feet in total area, in lieu of separately framed and poured spread footings and foundation walls, trenched combination footing/foundation walls may be used in cohesive soil, such as clay, where the walls of the trench shall be self-supporting until the concrete is placed. The minimum width of the trenched combination footings and foundation walls shall be at least eight (8) inches, with a minimum of eight (8) inches of the wall extending above the finished grade and forty-two (42) inches extending below the finished grade. **LMC 6-140(a) & 6-130**
- 2. Sill plates shall be of pressure-treated, dry rot resistant lumber and be bolted to the foundation walls with one-half-inch diameter anchor bolts set into the top of the foundation wall a minimum of eight (8) inches in depth. The anchor bolts shall be spaced so that there are at least two (2) bolts per section of plate and not more than one (1) foot from the end of each section of plate and from each corner or door opening, with intermediate bolts spaced no more than eight (8) feet on center. **LMC 6-140(c)**
- 3. Garage floors shall be a minimum of four (4) inches of concrete on a minimum base of four (4) inches of pea gravel, sand or crushed stone, with all sod, black dirt or other organic material removed. The floor shall be pitched to drain the floor to the vehicle door opening. **LMC 6-140(d)**
- 4. Concrete in garage floor slabs shall have a compressive strength of 3500 psi at 28 days. **2006 IRC Table R402.2**
- 5. There shall be a service door in every detached garage leading directly to the outside as a means of emergency egress. **LMC 6-140(e)**
- 6. Framing:
 - a. Wall studs shall be a minimum of two (2) by four (4) inches, nominal dimension, spaced not more than twenty-four (24) inches on center. Doubling of studs is not required for the jambs of wall openings less than three (3) feet wide, but cripples are required for window framing.
 - b. Corner posts shall be a minimum of two (2) 2x4 studs or one (1) 4x4 stud.
 - c. Top plates may be single, providing that the roof rafters occur directly over the studs at the top plate, and that all top plate splices, joints and connections at all exterior corners are tied together with framing plates and anchors, heavy gauge steel strapping or other approved methods and materials, all properly nailed, to securely tie the top plates together as a single acting structural unit.
 - d. Wall sheathing may be omitted, provided that each exterior corner is wind-braced at a forty-five degree angle diagonally from the top plate at the corner, in both walls forming the corner, to the bottom plates, with a minimum 1x4 board let-in to all of the intervening studs or by other approved methods or materials.
 - e. The ridge board shall be a minimum of a 1x6, with the roof rafters occurring directly opposite each other. Rafter ties shall be provided at the top plate, at a maximum of four (4) feet on center, and shall parallel the greatest number of roof rafters, and shall be securely nailed into the adjoining roof rafter at the top plate. The roof rafters and roof ties shall be attached to the top plated by framing anchors or other approved means. **LMC 6-140(f)**

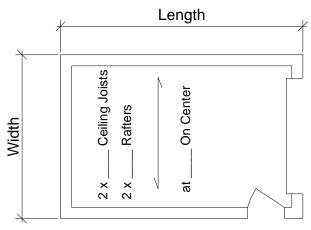
- 7. Any detached garage that is within ten (10) feet or less to the principal building or less than five (5) feet from any property line shall have the encroaching interior walls and roof structure of the garage protected with drywall, but in no case shall a detached garage be closer than three (3) feet to any other building or structure for maintenance and walkways. **LMC 6-140(g)**
- 8. The maximum height of a garage shall not exceed fifteen (15) feet from top of grade to top of roof. LZC 4-2.5a, 4-3.5a, 4-4.5a, 4-5.5a, 4-6.5a, 4-7.5a, 4-8.5a & 4-9.5a
- 9. The garage and dwelling unit shall conform to the Residential Coverage and Setback Requirement Table below except as noted in item 9. **LZC 4-2.5**, **4-3.5**, **4-4.5**, **4-5.5**, **4-6.5**, **4-7.5**, **4-8.5** & **4-9.5**
- 10. The garage when located entirely within the rear fifty percent (50%) of a lot may be located not closer than five (5) feet to any side lot line or rear lot line. LZC 4-2.5d4ii, 4-3.5d4ii, 4-4.5d4ii, 4-5.5d4ii, 4-7.5d4ii, 4-8.5d4ii & 4-9.5d4ii

Electrical Requirements for a Residential Garage

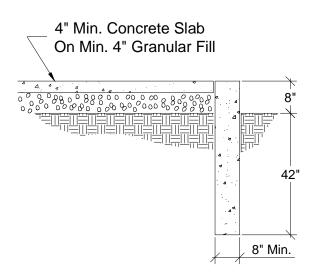
- 1. Attached and Detached Garages (which have power):
 - A separate circuit shall be provided for overhead garage door(s).
 LMC 6-282 Art. 210.52(G)
 - A separate circuit shall be provided for lighting. In addition, there shall be at least one lighting outlet on the interior of the garage and at least one lighting outlet on the exterior of the garage. A switch shall be installed to control these outlets. LMC 6-282 Art. 210.52(G)
 - c. A separate 20-Ampere circuit shall be provided for plug-in equipment and devices. **LMC 6-282 Art. 210.52(G)**
 - d. Detached garage shall be fed underground using galvanized rigid metal conduit a minimum of 8" below grade (or 20" below grade if running under the driveway).
 2005 NEC 300.5(a)
 - e. Provide a sub-panel with main breaker in the detached garage. LMC 6-282 ART. 225.36

Residential District Coverage and Setback Requirements

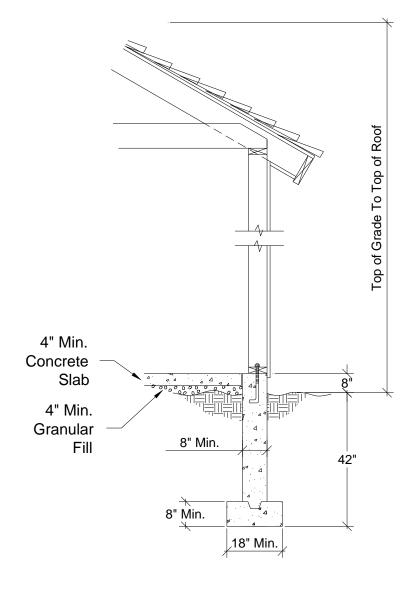
| | R-1 | R-2 | R-3 | R-4 | R-5 | R-6 | R-7 | R-8 |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Minimum Yards (feet) | | | | | | | | |
| Front | 50 | 50 | 40 | 30 | 30 | 30 | 30 | 30 |
| Interior Side | 30 | 20 | 20 | 10 | 10 | 5 | 5 | 5 |
| Interior Side Aggregate | 60 | 40 | 40 | 25 | 20 | 15 | 15 | 15 |
| Corner Side | 50 | 50 | 40 | 30 | 30 | 30 | 30 | 30 |
| Rear | 75 | 60 | 50 | 40 | 40 | 35 | 25 | 20 |
| Maximum Building | | | | | | | | |
| Interior Lot | 15 | 15 | 20 | 25 | 30 | 35 | 35 | 40 |
| Corner Lot | 20 | 20 | 25 | 30 | 35 | 40 | 40 | 45 |
| Maximum Lot Coverage | | | | | | | | |
| Interior Lot | 30 | 30 | 35 | 40 | 45 | 45 | 50 | 60 |
| Corner Lot | 25 | 25 | 30 | 35 | 40 | 40 | 45 | 55 |



Floor Framing Plan



Alternate Trench Foundation



Typical Section