

City of Greenwood, Indiana

**2020 Indiana Residential Code-Based
Prescriptive Detached Garage Structure
Construction Guide**



A reference guide from the City of Greenwood, Indiana's
Community Development Services Building Department

Created: February 2024



BUILDING COMMISSIONER

300 South Madison Avenue | Greenwood, IN 46142 | 317.881.8698

General Information Notes

1. This guide is using the 2020 Indiana Residential Code (2018 International Residential Code with Indiana Amendments), this is referenced in the rest of this guide as “Residential Building Code”.
2. This guide also references the City of Greenwood Unified Development Ordinance, this is referenced in the rest of the guide as “City Ordinance”.
3. In this guide we tried to cover all the basic construction/design code & City Ordinance information, but this is not meant to be exhaustive list of the all the Shed/Accessory Structure code requirements.
4. The City Ordinance limits each property to one of each type of structure located on a property, i.e. Shed, Detached Garage, Detached Accessory Dwelling Unit, etc. Properties under two acres are limited to maximum of two different types of Accessory Structures. Properties over two acres can have one additional accessory structure per acre with a maximum of five accessory structures.
5. A Detached Garage Structures cannot be placed on a property without a Primary/Main Structure on the property.
6. You have the option to apply for a Variance from the City Ordinance requirements, by submitting a Variance Application with the Planning Department to go to the Board of Zoning & Appeals meeting where Board Members vote whether to grant or reject the Variance request.
7. If you want your structure placed within a Recorded/Platted Easement, you can submit an Encroachment Request Application with the City Engineering Department to go to the Board of Public Works meeting where Board Members vote whether to grant or reject the Encroachment request.
8. All lumber shall be No. 2 grade or better, preservative-treated or approved naturally durable lumber required if exposed to weather or in contact with the ground, Preservative-treated wood products in contact with the ground shall be labeled for that use, have identifying grade marks of an approved lumber grading or inspection bureau agency.
9. If you are using Lumber Composite Materials, you need to not only to follow the Residential Building Code, but also follow the Manufacturer’s recommendations and specifications for installation of these products.
10. Detached Garages shall not be occupied until the shed Passes the Final Inspection by the City of Greenwood Building Department.
11. Per the City Ordinance all New Driveways or Driveway Extensions must be hard-surfaced finished, per the City Ordinance Requirements. Any Driveway work is done near the street (in Right-of-Way) you will need to apply for a Right-of-Way Permit as well.

Site/Plot Plan Information:

Detached Garage Structures must not be placed in any recorded/platted easements without Permission from the City Board of Public Works to encroach into the easement (Drainage, Utility, Landscape or Building Setback Easements), see General Note #7 above for more info on this process. The placement of the structure cannot



create or add to Stormwater Drainage issues on the property or affect adjacent properties. You cannot cover greater than certain percentage of your property square feet with impervious surfaces [i.e., Residence, Driveway(s), Patio(s), Accessory Structures with roofs], see by Zoning Lot Coverage list below. For a Permit submittal a Site/Plot Plan must be provided showing Property Structures and proposed Detached Garage Structure with dimensions from Detached Garage to Property Lines, to Main Residence & other Adjacent Structures on the property. Shed/Accessory Structure cannot be located in a Front Yard (Corner Lots have min. two Front Yards when facing a street) or in a Side Yard that is located less than 15'-0" from the Front Building Line of the Main Residence.

Property Zoning Max. Coverage:

- RL (Residential Large): 40%
- RM (Residential Medium): 50%
- RA (Residential Attached Single-Family): 60%
- RMH (Residential Mobile Home): N/A
- OTR (Old Town Residential): 70%

Property Line Setback Per Property Zoning:

- RL (Residential Large): Rear & Side Min. 10'-0"
- RM (Residential Medium): Rear & Side Min. 8'-0"
- RA (Residential Attached Single-Family): Rear & Side Min. 8'-0"
- RMH (Residential Mobile Home): Rear & Side Min. 5'-0"
- OTR (Old Town Residential): Rear & Side Min. 5'-0"

Concrete Footing & Slab Information:

Table 309 Detached Garages, Detached Carports, And Accessory Structures

TABLE R309			
DETACHED GARAGES, CARPORTS, AND ACCESSORY STRUCTURES			
CONSTRUCTION REQUIREMENTS	Portable 200 Square Feet Maximum	Monolithic ¹ Footings 721 Square Feet Maximum	Structures with Conventional Foundation
Footings and Foundations	No Requirements	8" W x 18" D ² or 12" W x 12" D ²	
NOTES:			
¹ In structures utilizing monolithic floor systems, the water and sanitation systems and permanent heating facilities may be installed when approved flexible connections are provided.			
² 6 x 6 - W2.9 x W2.9 welded wire fabric or equivalent is required when monolithic slab footing system is used.			
³ One story unless otherwise approved by the building official.			

Per the Code Chart above, up to 721 sq.ft. can have monolithic slab/footing or poured at-grade pier pads 8"W x 18"D or 12"w x 12"D. Sheds over 721 sq.ft. must have a Conventional Foundation per the 2020 Indiana Residential Code requirements. Sheds required by the City Ordinance to have a 36" Mortared Masonry Wainscot must provide a means of support which may require either a Conventional Foundation or a Properly - Sized Steel Angle to support Mortared Masonry Veneer. For Conventional Foundation Footing Info see Applicable Code Tables below, assumed bearing capacity is 1500 unless you have a soils test that indicates differently:



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Table R403.1(1) Minimum Width And Thickness For Concrete Footings For Light-Frame Construction:

SNOW LOAD OR ROOF LIVE LOAD	STORY AND TYPE OF STRUCTURE WITH LIGHT FRAME	LOAD-BEARING VALUE OF SOIL (psf)					
		1500	2000	2500	3000	3500	4000
	1 story—slab-on-grade	12 × 6	12 × 6	12 × 6	12 × 6	12 × 6	12 × 6
	1 story—with crawl space	12 × 6	12 × 6	12 × 6	12 × 6	12 × 6	12 × 6

Table R403.1(2) Minimum Width And Thickness For Concrete Footings For Light-Frame Construction With Brick Veneer:

SNOW LOAD OR ROOF LIVE LOAD	STORY AND TYPE OF STRUCTURE WITH BRICK VENEER	LOAD-BEARING VALUE OF SOIL (psf)					
		1500	2000	2500	3000	3500	4000
	1 story—slab-on-grade	12 × 6	12 × 6	12 × 6	12 × 6	12 × 6	12 × 6
	1 story—with crawl space	15 × 6	12 × 6	12 × 6	12 × 6	12 × 6	12 × 6

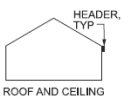
Wall Construction Information (Applicable if over 200 sq.ft. in size):

Exterior walls shall be framed with #2 Grade or greater 2x4's/2x6's studs at 16" O.C. Exterior Wall Finishes per the City Ordinance is based on Shed sq.ft.:

- Up to 300 sq.ft. can be Wood, Fiber Cement, Masonry or the same materials as the Primary Structure on the property. In no instances shall Steel be utilized.
- Over 300 sq.ft. must contain a 36" tall Mortared Masonry Veneer and the remaining siding material can be Wood, Fiber Cement, Masonry, Steel or the same materials as the Primary Structure on the property.

Appropriately sized Headers & Framing around door or window openings, see Code Table below for further information:

Table R602.7(1) Girder Spans And Header Spans For Exterior Bearing Walls:

GIRDERS AND HEADERS SUPPORTING	SIZE	GROUND SNOW LOAD (psf)*											
		30						50					
		Building width ^c (feet)											
		12		24		36		12		24		36	
Span'	NJ ^d	Span'	NJ ^d	Span'	NJ ^d	Span'	NJ ^d	Span'	NJ ^d	Span'	NJ ^d		
 <p>Roof and ceiling HEADER, TYP. ROOF AND CEILING</p>	1-2 × 6	4-0	1	3-1	2	2-7	2	3-5	1	2-8	2	2-3	2
	1-2 × 8	5-1	2	3-11	2	3-3	2	4-4	2	3-4	2	2-10	2
	1-2 × 10	6-0	2	4-8	2	3-11	2	5-2	2	4-0	2	3-4	3
	1-2 × 12	7-1	2	5-5	2	4-7	3	6-1	2	4-8	3	3-11	3
	2-2 × 4	4-0	1	3-1	1	2-7	1	3-5	1	2-7	1	2-2	1
	2-2 × 6	6-0	1	4-7	1	3-10	1	5-1	1	3-11	1	3-3	2
	2-2 × 8	7-7	1	5-9	1	4-10	2	6-5	1	5-0	2	4-2	2
	2-2 × 10	9-0	1	6-10	2	5-9	2	7-8	2	5-11	2	4-11	2
	2-2 × 12	10-7	2	8-1	2	6-10	2	9-0	2	6-11	2	5-10	2
	3-2 × 8	9-5	1	7-3	1	6-1	1	8-1	1	6-3	1	5-3	2
	3-2 × 10	11-3	1	8-7	1	7-3	2	9-7	1	7-4	2	6-2	2
	3-2 × 12	13-2	1	10-1	2	8-6	2	11-3	2	8-8	2	7-4	2
	4-2 × 8	10-11	1	8-4	1	7-0	1	9-4	1	7-2	1	6-0	1
	4-2 × 10	12-11	1	9-11	1	8-4	1	11-1	1	8-6	1	7-2	2
4-2 × 12	15-3	1	11-8	1	9-10	2	13-0	1	10-0	2	8-5	2	



If using LVL's you must provide us the specific LVL application Engineering Spec Report (to include: LVL Size & Ply(s) used, Bearing Points, Clear Span, Design Loads & That Design "Passed") on these before LVL's installation for approval.

Roof Construction Information:

The Roof can be framed by either Field-Framed Rafters or Pre-Engineered Trusses. If using Pre-Engineered Trusses you will need to provide Engineer Signed and Sealed Truss Specs & Layout prior to Rough-In/Final Inspection. If using Field-Framed Rafters see Code Table below for further sizing information, common species locally is usually "Spruce-Pine-Fir":

Table R802.4.1(5) Rafter Spans For Common Lumber Species:

RAFTER SPACING (Inches)	SPECIES AND GRADE	DEAD LOAD - 10 psf					
		2 x 4	2 x 6	2 x 8	2 x 10	2 x 12	2 x 4
		Maximum rafter spans*					
		(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)
12	Douglas fir-larch SS	8-5	13-3	17-6	22-4	26-0	8-5
	Douglas fir-larch #1	8-2	12-0	15-3	18-7	21-7	7-7
	Douglas fir-larch #2	7-10	11-5	14-5	17-8	20-5	7-3
	Douglas fir-larch #3	6-0	8-9	11-0	13-6	15-7	5-6
	Hem-fir SS	8-0	12-6	16-6	21-1	25-6	8-0
	Hem-fir #1	7-10	11-10	15-0	18-4	21-3	7-6
	Hem-fir #2	7-5	11-1	14-0	17-2	19-11	7-0
	Hem-fir #3	5-10	8-6	10-9	13-2	15-3	5-5
	Southern pine SS	8-4	13-1	17-2	21-11	Note b	8-4
	Southern pine #1	8-0	12-3	15-6	18-2	21-7	7-7
	Southern pine #2	7-0	10-6	13-4	15-10	18-8	6-6
	Southern pine #3	5-5	8-0	10-1	12-3	14-6	5-0
	Spruce-pine-fir SS	7-10	12-3	16-2	20-8	24-1	7-10
	Spruce-pine-fir #1	7-8	11-3	14-3	17-5	20-2	7-1
	Spruce-pine-fir #2	7-8	11-3	14-3	17-5	20-2	7-1
	Spruce-pine-fir #3	5-10	8-6	10-9	13-2	15-3	5-5
16	Douglas fir-larch SS	7-8	12-1	15-11	19-9	22-10	7-8
	Douglas fir-larch #1	7-1	10-5	13-2	16-1	18-8	6-7
	Douglas fir-larch #2	6-9	9-10	12-6	15-3	17-9	6-3
	Douglas fir-larch #3	5-2	7-7	9-7	11-18	13-6	4-9
	Hem-fir SS	7-3	11-5	15-0	19-1	22-1	7-3
	Hem-fir #1	7-0	10-3	13-0	15-11	18-5	6-6
	Hem-fir #2	6-7	9-7	12-2	14-10	17-3	6-1
	Hem-fir #3	5-0	7-4	9-4	11-5	13-2	4-8
	Southern pine SS	7-6	11-10	15-7	19-11	23-7	7-6
	Southern pine #1	7-1	10-7	13-5	15-9	18-8	6-7
	Southern pine #2	6-1	9-2	11-7	13-9	16-2	5-8
	Southern pine #3	4-8	6-11	8-9	10-7	12-6	4-4
	Spruce-pine-fir SS	7-1	11-2	14-8	18-0	20-11	7-1
	Spruce-pine-fir #1	6-8	9-9	12-4	15-1	17-6	6-2
	Spruce-pine-fir #2	6-8	9-9	12-4	15-1	17-6	6-2
	Spruce-pine-fir #3	5-0	7-4	9-4	11-5	13-2	4-8
19.2	Douglas fir-larch SS	7-3	11-4	14-9	18-0	20-11	7-3
	Douglas fir-larch #1	6-6	9-6	12-0	14-8	17-1	6-0
	Douglas fir-larch #2	6-2	9-0	11-5	13-11	16-2	5-8
	Douglas fir-larch #3	4-8	6-11	8-9	10-8	12-4	4-4
	Hem-fir SS	6-10	10-9	14-2	17-5	20-2	6-10
	Hem-fir #1	6-5	9-5	11-11	14-6	16-10	8-11
	Hem-fir #2	6-0	8-9	11-1	13-7	15-9	5-7
	Hem-fir #3	4-7	6-9	8-6	10-5	12-1	4-3

(continued)



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RAFTER SPACING (inches)	SPECIES AND GRADE		DEAD LOAD = 10 psf					
			2 x 4	2 x 6	2 x 8	2 x 10	2 x 12	2 x 4
			Maximum rafter spans ^a					
		(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)	
19.2	Southern pine	SS	7-1	11-2	14-8	18-3	21-7	7-1
	Southern pine	#1	6-6	9-8	12-3	14-4	17-1	6-0
	Southern pine	#2	5-7	8-4	10-7	12-6	14-9	5-2
	Southern pine	#3	4-3	6-4	8-0	9-8	11-5	4-0
	Spruce-pine-fir	SS	6-8	10-6	13-5	16-5	19-1	6-8
	Spruce-pine-fir	#1	6-1	8-11	11-3	13-9	15-11	5-7
	Spruce-pine-fir	#2	6-1	8-11	11-3	13-9	15-11	5-7
	Spruce-pine-fir	#3	4-7	6-9	8-6	10-5	12-1	4-3
24	Douglas fir-larch	SS	6-8	10-5	13-2	16-1	18-8	6-7
	Douglas fir-larch	#1	5-10	8-6	10-9	13-2	15-3	5-5
	Douglas fir-larch	#2	5-6	8-1	10-3	12-6	14-6	5-1
	Douglas fir-larch	#3	4-3	6-2	7-10	9-6	11-1	3-11
	Hem-fir	SS	6-4	9-11	12-9	15-7	18-0	6-4
	Hem-fir	#1	5-9	8-5	10-8	13-0	15-1	8-4
	Hem-fir	#2	5-4	7-10	9-11	12-1	14-1	4-11
	Hem-fir	#3	4-1	6-0	7-7	9-4	10-9	3-10
	Southern pine	SS	6-7	10-4	13-8	16-4	19-3	6-7
	Southern pine	#1	5-10	8-8	11-0	12-10	15-3	5-5
	Southern pine	#2	5-0	7-5	9-5	11-3	13-2	4-7
	Southern pine	#3	3-10	5-8	7-1	8-8	10-3	3-6
	Spruce-pine-fir	SS	6-2	9-6	12-0	14-8	17-1	6-0
	Spruce-pine-fir	#1	5-5	7-11	10-1	12-4	14-3	5-0
	Spruce-pine-fir	#2	5-5	7-11	10-1	12-4	14-3	5-0
	Spruce-pine-fir	#3	4-1	6-0	7-7	9-4	10-9	3-10

Utilities Information:

1. A Detached Garage that is over 200 sq.ft., if Electrical Circuit(s) provided, Interior Receptacle(s) shall be GFCI-Protected, Exterior Receptacle(s) shall be GFCI-Protected, "WR"-Rated Receptacle Fixture and be in a "In-Use" Electrical Box. A Circuit/Circuit Panel Power Disconnect shall be supplied at the Detached Garage in order to shut power off Circuit(s) at the Detached Garage.
2. A Detached Garage that is over 200 sq.ft. in size and Water/Sanitary Service is provided in the Detached Garage, then the Detached Garage is required to have a Foundation to Frost Depth (min. 30" below surrounding grades). Installation must meet Plumbing Code Requirements, if no permanent heat is provided in the Detached Garage then you must protect Water/Sanitary Systems from Freezing, install Weatherization Devices. If Detached Garage is Permanent Heated, see Heating Requirements below in note #4.
3. A Detached Garage that is over 200 sq.ft. in size and Permanent Heat is provided, the Heating System shall be installed per 2020 Indiana Residential Code which requires min. Insulation installed to meet the Energy Code requirements below:
 - Slab Insulation R-10, depth of footing or 2 feet, Wall Insulation R-13 min., Ceiling Insulation R-24 min., Window/Door Fenestration U-Factor of U-0.45, Skylight Fenestration U-Factor of U-0.70.

