Detached Garage Construction Permits Submittal Checklist

- Building Permit Application
- Site Plan
- Construction Plans
- Electrical, Plumbing and Mechanical Permit Applications (when applicable)

BUILDING PERMIT APPLICATION
Submit completed Building Permit Application

SITE PLAN
Submit an accurate site plan for review and approval, which includes:
Location of the proposed garage, the house and any other building or structures on the property.
Distances between buildings and structures and to property lines.
Easements, drainage and City Right-of-Way (when applicable)

CONSTRUCTION PLANS
Submit complete set of construction plans drawn to scale no smaller than ¼ inch to 1 foot - electronic plans are also required for plans larger than 11x17.
OR fill out the following Construction Details, Floor Plan and Cross Section pages of this handout

ADDITIONAL PLANS AND INFORMATION REQUIRED FOR:
Gambrel roof or unconventional roof framing.
Attic storage area and/or stairs to storage area, basement or second floor.
Any use other than a building accessory to one and two family dwellings.

ELECTRICAL, PLUMBING AND MECHANICAL PERMIT APPLICATIONS:
When applicable, separate permit applications must be submitted for each of the following respective trades Electrical, Plumbing and Mechanical Permits as separate permits are required.
Contractors licensed in accordance with State of Iowa Licensing Laws for the respective trade must obtain these permits and perform the work.
Per State of Iowa Code, homeowners may obtain these permits and perform the work, provided the homeowner has lived there for at least six months.

OTHER INFORMATION:
After application, the building inspector does a thorough plan review and notes any code deficiencies or missing information on the plans.
When the plans are approved and permit fees are paid, the building permit is issued and construction is authorized to begin.
**Detached Garage Construction Guidelines**

**Construction Details**

Construction Details for detached garages to one and two family dwellings.

Please provide the following information:

<table>
<thead>
<tr>
<th>Size of New Garage</th>
<th>Wall Height</th>
<th>Enlarging an existing garage?</th>
<th>☐ Yes ☐ No</th>
</tr>
</thead>
</table>

**Wall Sheathing**

- ☐ Plywood (approved structural wood panel)
- ☐ OSB (approved structural wood panel)
- ☐ Other sheathing

**Wall Corner Bracing**

- ☐ 4’ at each corner
- ☐ Other bracing method

**Roof Framing**

- ☐ Manufactured wood trusses (truss design required)
- ☐ Rafters (ask for rafter information sheet and rafter tables)

**Roof Sheathing**

- ☐ Plywood (approved structural wood panel)
- ☐ OSB (approved structural wood panel)

**Roof Sheathing Size**

- ☐ 7/16”
- ☐ 1/2”
- ☐ 5/8”

**Roofing Underlayment**

Minimum #15 asphalt felt underlay

**Separation from house**

- ☐ Solid wood door
- ☐ Metal door (no windows)
- ☐ On garage side of common wall up to roof sheathing
- ☐ On garage side of common wall up to ceiling height and on entire garage ceiling
- ☐ On all garage walls and on entire garage ceiling if living area above

**OVERHEAD DOORS**

<table>
<thead>
<tr>
<th>Overhead doors:</th>
<th>Quantity</th>
<th>Width</th>
<th>X</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>In gable end?</td>
<td>☐ Yes ☐ No</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Overhead doors Headers LVL:</th>
<th>Quantity</th>
<th>Width</th>
<th>X</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 3/4”</td>
<td>X</td>
<td>1 3/4”</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2”</td>
<td>X</td>
<td>2”</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

**DOORS AND WINDOWS**

<table>
<thead>
<tr>
<th>Doors: ☐ swing out ☐ swing in ☐ sliding</th>
<th>Quantity</th>
<th>Width</th>
<th>X</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Door Headers:</td>
<td>X</td>
<td>6” 8”</td>
<td>3” or 2” 8”</td>
<td>6” 8”</td>
</tr>
<tr>
<td>☐ Window headers:</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

| Window headers:                        | X        | X    |   | X      |
Floor Plan

Show door and window sizes and locations

Show Dimensions

Sample Floor Plan

16' x 7' Overhead Door
Detached Garage Construction Guidelines
Community Development Department - Construction Permits and Inspection Services
215 Sycamore St Muscatine, IA 52761 - PH 563.262.4141 - FAX 563.262.4142
www.muscatineiowa.gov/26/Community-Development

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Cross Section
Check, circle, or fill in each detail to create your building design.

ROOF DESIGN
☐ Ice and Water Barrier (to 24” inside wall line)
  + Felt
Roof Sheathing (Circle): 7/16” or 1/2” OSB or Plywood
☐ 2 X _____ Rafters _____ on center
  2 X______ Ceiling Joists _____ on center
  Hip/Valley Rafters __________________________
  – or –
☐ Manufactured Trusses (Provide Mfr. Specs. at or before Rough Frame Inspection)
☐ Roof Ventilation: Total Vent Area in Sq. Inches:

WALL DESIGN
Double Top Plate (Circle): 2X4 or 2X6 (Consult Building Department Staff for Single Top Plate Option)
Window Header: 2 X _____ – or – LVL 1 3/4” X _______
Door Header: 2 X _____ – or – LVL 1 3/4” X _______
Studs (Circle): 2X4 or 2X6 at _____ on center
Bottom Plate (Single) – Same as Top Plates
Wall Sheathing: __________________________
Weather Barrier (Circle): House Wrap or Felt
Siding: __________________________
Sill Plate (Circle): 2X6 or 2X8 (Must be Treated or Naturally Decay Resistant)

FOUNDATION DESIGN
1/2” X 10” Anchor Bolt, Washer and Nut (or other approved anchors), 6’ on center and 12” max. from plate splices. Anchor Bolt MUST have 7” embedment in concrete.
Foundation Rebar (size, grade, location): __________________________
☐ UFER Ground (1/2” X 20’ Rebar Typical) for connection to new electrical panel
Foundation Depth – 42” minimum below finished grade
Footing Size: 8”X16” minimum or ___________
Foundation Wall Width: _________ Height: ___________
Drainage Tile Required for Basement Foundations
Slope Finished Grade Away from Building–min. 6” in 10’
Maintain 6” Clearance from Exterior Siding to Grade

ROOF SLOPE
12 inches
______ Inches
Attic Insulation: Minimum R49

INTERIOR FINISH
Ceiling – 5/8” Drywall, Typical; Other _________
Wall Insulation (Minimum R20):
  6” Fiberglass or better in 2X6 Wall
  – or –
  2X4 Wall with Alternate Insulation (Circle):
    Foam or Cellulose or Rigid Foam Sheathing Plus Fiberglass (+ Wind Bracing)
Vapor Barrier: __________________________
Wall Finish – 1/2” Drywall; Other ___________
Wall Height (from Finished Floor): _____ ft. _____ in.

FLOOR DESIGN
Subfloor: __________________________
☐ 2 X _____ Floor Joists _____ on center
☐ Engineered Floor System _______ Center Beam Size
☐ 2 X _______ or _______ 1 3/4” X _______ LVL
  or  ☐ Steel: __________________________
Center Beam Post Spacing: _______ on center

CRAWL SPACE
Pressure Treated Beams within 12” and Joists within 18” of Earth
Clear Height Provided: ________________
Vapor Barrier Over Earth (Circle): Yes or No
Ventilation: ________________ square inches
Insulation (Circle):
  R10 Foundation Walls or R30 Floors
  Insulate Mechanical Ducts: R6 Minimum

Inches
**LIMITATIONS**
A floating slab foundation as illustrated is limited to 1,000 sq. ft. for one story, with a height not to exceed 16’ and side walls not exceeding 12’.

Continuous frost footings 42” delow finished grade are required for any of the following conditions:
- Detached garages exceeding 1,000 sq. ft. and/or exceeding one story.
- Masonry veneer, concrete block walls and concrete walls.
- Garages constructed or converted for other uses (such as business or office use).

The area within the foundation walls shall have all vegetation, top soil, and foreign material removed.

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**Shingles installed per manufacturer.**
- Min. #15 asphalt felt underlay

**Eave Ice Barrier (if heated garage)**

**Approved structural wood panel**
- (plywood or OSB) roof sheathing

**Engineered trusses. Submit truss design drawings prior to rough frame inspection**

**Bracing per manufacturer’s truss design drawings**

**Double 2x4 Top Plate**

**Header over door and window openings**

**2x4 studs 16” or 24” OC up to 10’ in height**

**2x4 preservative treated bottom plate**

**1/2” diameter anchor bolts with nut and washer maximum 6’ OC and within 12” of corners and ends, min. 2 bolts per plate. 7” min embedment (other methods or anchors must be approved by the building official)**

**Min 1—#4 rebar in footing (top & bottom)**

**Min 4” concrete slab. Where reinforcement is provided in slabs-on-ground, it shall be supported to remain in place from the center to upper 1/3 of the slab for the duration of the concrete placement.**

**Alternate footing design for floating slab**

**7” Min Embedment**
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2015 International Residential Code

Inspections Required

The inspection card must be kept at the jobsite to be available to the building inspector at all times. The permit card must be displayed and visible from the street. If this is impossible, post on an exterior to be visible to the building inspector on site.

Each phase of construction listed below shall comply with City of Muscatine Codes and shall pass inspection before work proceeds. It is the responsibility of the permit holder or their agent to call for inspections and to provide access for inspection. At least 24 Hours Notice is required prior to inspection. Based on the scope of work, all inspections listed below may not be required for every project.

Concrete Foundation
Excavation complete, forms, before concrete is poured. Includes floating slab (thickened edge) when permitted, post, pier, trench, spread, pad and other footings.

Pole Foundation
For pole buildings, after postholes are drilled or excavated and before placing concrete in the hole.

Utilities
Temporary and permanent electrical services.

Gas Piping Rough-In
Gas piping before covering or concealment. Coordinate air test on gas piping with Alliant Energy.

Plumbing Rough-In
Before insulation, gypsum board, or any covering has been installed.

Mechanical Rough-In
Before insulation, gypsum board, or any covering has been installed.

Electrical Rough-In
Before insulation, gypsum board, or any covering has been installed.

Framing Rough-In
All framing complete, after the above applicable rough-ins have been approved, before insulation, gypsum board, or any covering has been installed. If possible, coordinate rough-in inspections for one trip.

Final Inspection
After all phases of construction are complete and building is ready for occupancy. Framing Rough-In and Final Inspection can occur on the same trip provided the framing can be inspected from the inside of the building (there are no finish materials installed on the inside).

The portion or addition of the building affected by the work must not be occupied until Final Inspection has been completed, approved and a Certificate of Occupancy has been issued by Community Development.