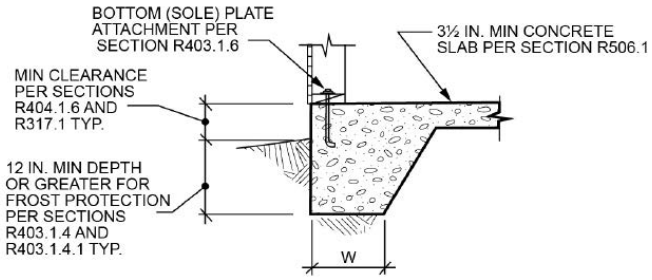
Footing Plan - Detached 20'x20' Garage

20'-0"

20'-0"



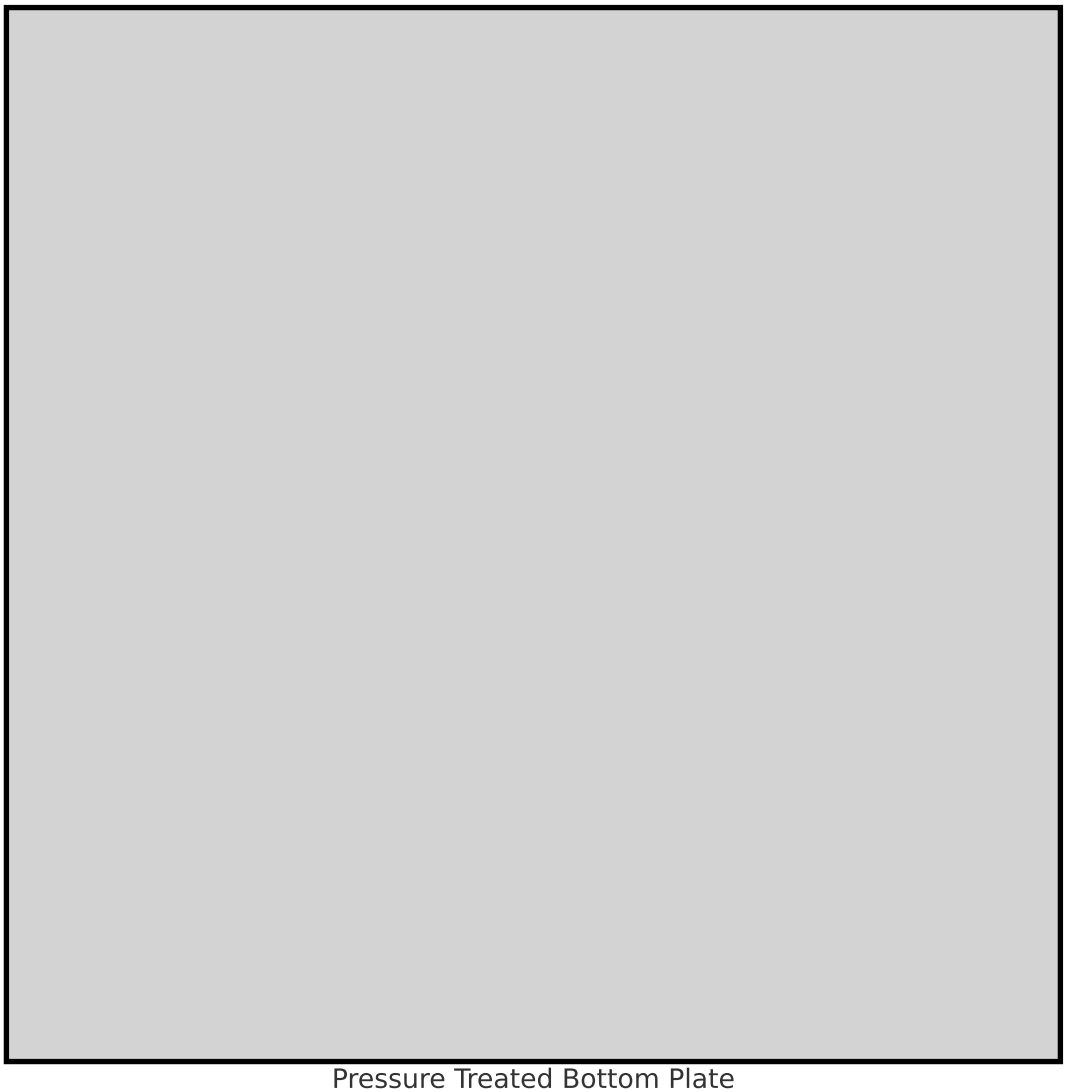
1 MONOLITHIC SLAB-ON-GROUND WITH TURNED-DOWN FOOTING
SCALE: NOT TO SCALE

12" x 12" Continuous Footing

Foundation Plan with Anchor Bolt Details

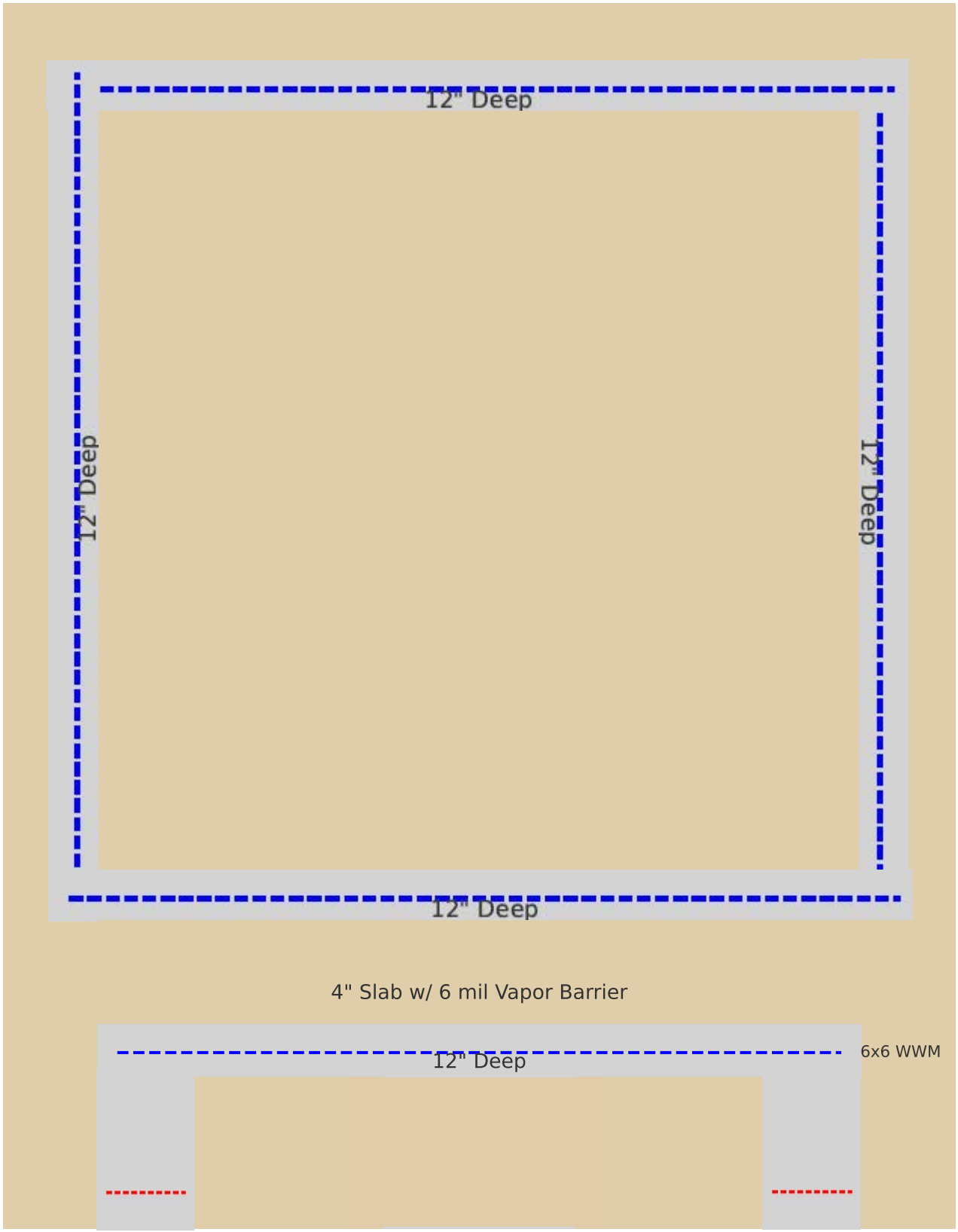
½" Ø Anchor Bolts @ 6'-0" max, within 12" of ends,
Min 7" embed

8" CMU or Concrete Wall



Pressure Treated Bottom Plate

Monolithic Slab Section Detail



20'

2'-8"

11 7/16"

2X6 X 3'-7" HEADER (2)

GARAGE

19'-4" X 19'-4"

16'-4 9/16"

20'

20'

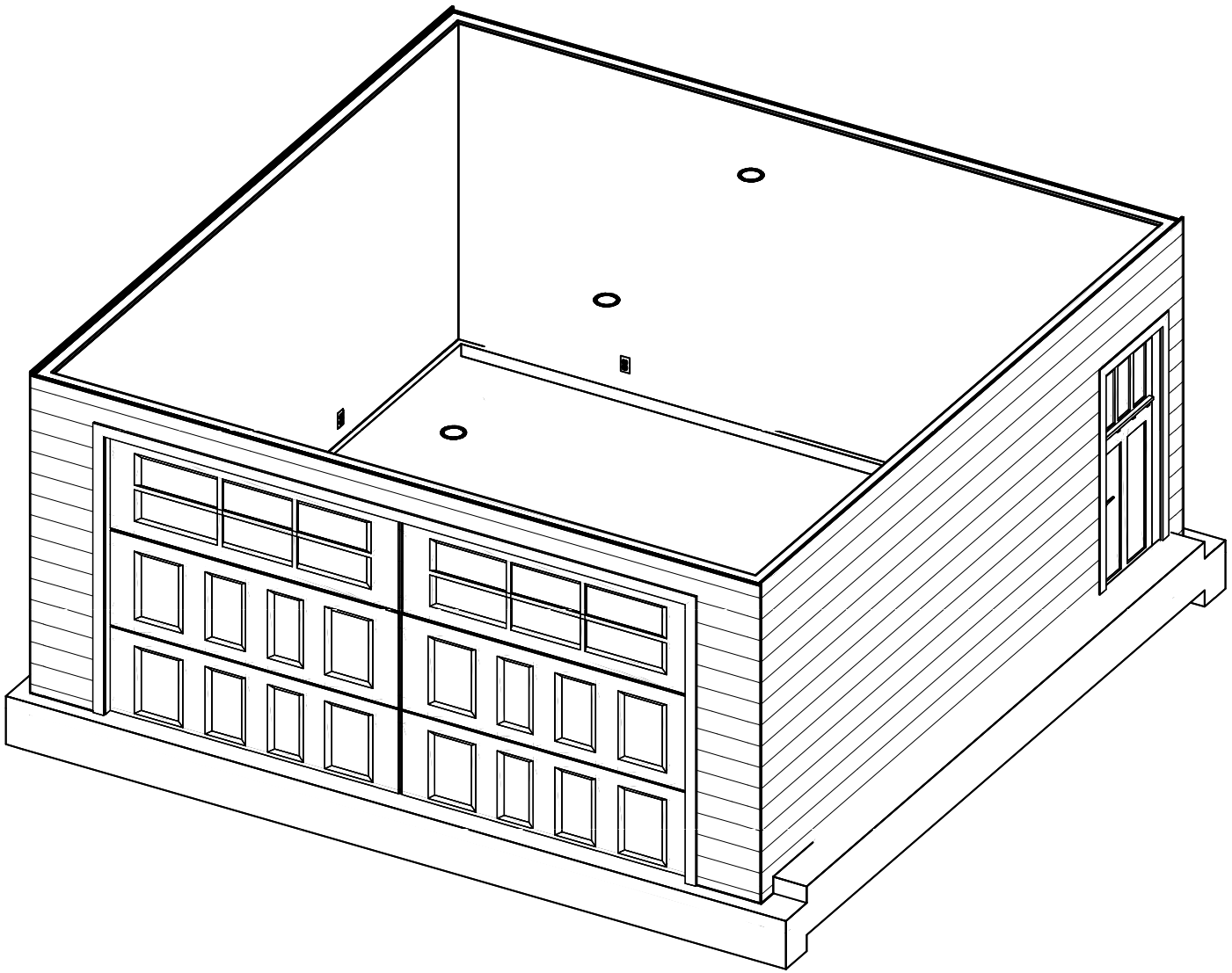
1 1/2 X 7 1/8 X 2'-0" HEADER (2)

2'

16'

2'

20'



20' x 20' Detached Garage Construction Plan

Floor Plan (Framing Layout)

Garage (Detached) Size: 20' deep × 20' wide

Wall Height: 8'

Door: 16' garage door centered on front wall, 36” entry door 12' from back right corner

Front Wall Layout:

| 2' | 16' Door | 2' |

- Studs at 16” O.C.
- Header over garage door: (2) 1/34x11 3/4
- King studs and jack studs on both sides of 36” rear door
- x1 King studs and x4 jack studs on each side of garage door opening
- No windows on front wall

Side Walls Layout (20' walls):

- Solid framing (no openings)
- Studs spaced 16” O.C.
- 36” entry door located 12' from right rear corner

Rear Wall Layout:

- Studs spaced 16' O.C.
- No windows

Foundation Plan

- 4” thick concrete slab
- Turn down slab, 16” deep perimeter, 12” wide
- 12” × 12” continuous footers under all exterior walls
- Reinforced with two (2) continuous #4 rebars around perimeter

- 6 mil plastic vapor barrier underneath entire slab

- Concrete strength: 3500 psi

Anchor Bolts:

- ½” diameter × 10” long anchor bolts

- Placed within 12” of all corners and door openings

- Spaced maximum 6’ apart along walls

Roof Framing Plan

Roof Type: Gable roof, 6/12 pitch

Span: 20' wide

Framing:

- 2×6 rafters @ 24” O.C.

- Ridge board: 2×8 running 20' length

- Stick Framing roof

- 12” overhangs on front, back, and sides

- Birdsmouth cuts at top plate (1½” seat)

- Outlookers to frame gable end overhangs

- Roof decking: 7/16” OSB

- Ceiling joists shall be Southern Pine 2×10 at 16" O.C., tied to each corresponding rafter at the top plate to resist lateral thrust

- Collar ties (2×6) shall be installed every other rafter in the upper third of the rafter span

- Each rafter will be secured to the top plate using metal roof-to-wall connectors (hurricane ties)

Note: Ceiling joists (2×10 @ 16" O.C.) shall tie into each rafter at the top plate. Every other rafter shall include a 2×6 collar tie in the upper third of the span. Each rafter will be secured with a roof-to-wall connector for uplift resistance.

Peak Height:

- Wall height = 8'

- Rise over half-span (10') = 5’

- Total peak height = 8’+5’= 13’

Elevations

Front Elevation:

- Vinyl siding (light green)

- White vinyl corners and soffit

- 16’ garage door centered

- 12” roof overhang with soffit venting

Rear Elevation:

- Vinyl siding, no windows

Left & Right Elevations:

- On right elevation 36” entry door 12’ from right rear corner

- Left Solid 20' wall

- Vinyl siding and 12” overhangs

- Roof slopes at 6/12 pitch

Wall Section (Slab to Ridge)

Ridge Beam (2×8)

/\

/ \ Rafters (2×6 @ 24” O.C.)

/____\

Double Top Plate (2×4)

Studs (2×4 @ 16” O.C.)

Pressure-Treated Bottom Plate

Anchor bolts into:

4” Slab w/ 6 mil Vapor Barrier

12”×12” Continuous Footer w/ (2) #4 Rebar

Electrical Plan

- 60A subpanel on rear wall

- (2) LED utility lights on centerline

- Single-pole light switch near 36” entry door

- First outlet within 6' of door

- Additional outlets max 12' apart on all walls