RESIDENTIAL ADDITION/ALTERATION SUBMITTAL GUIDE

Pennsylvania Uniform Construction Code (UCC) referencing the International Residential Code adopted by Manheim Township Ordinance

BUILDING PERMIT REQUIREMENTS: A building permit is required for residential additions, alterations or repairs as set forth in Section 403.62 of the PA Uniform Construction Code and per Manheim Township Ordinance. Submit the following items for review and approval:

- **BUILDING PERMIT APPLICATION**
  Complete the Application for Zoning Review, Building Plan Examination, and Building Permit. It is necessary to fill out all applicable areas of the permit application including the signature of the permit applicant. Our staff will assist applicants with questions regarding the permit application.

- **PERMIT FEE SCHEDULE WORKSHEET**
  Complete the Residential Permit Fee Schedule Worksheet.
  - Permit fees for additions are based on project square footage.
  - Permit fees for alterations are to be calculated per the "Alteration" section of the worksheet.
  - Permit fees for porches, decks, detached garages and accessory structures are itemized on the Residential Fee Schedule Worksheet.
  - Additional fees include a UCC mandated Educational Fee and a Planning & Zoning Review Fee when an egress window well or exterior stairway are installed.

  A payment invoice will be provided to the permit applicant when the permit is issued.

- **PLAN REQUIREMENTS**
  - **ADDITIONS**: Four (4) copies of a site plan, two (2) copies of floor plans including the foundation plan, two (2) copies of a building cross section, the Residential Energy Efficiency Worksheet, and any applicable specifications and/or manufacturer's installation instructions are to be submitted for review and approval.
  - **ALTERATIONS**: Four (4) copies of floor plan(s), two (2) copies of a cross section, the Residential Energy Efficiency Worksheet (if applicable) and applicable specifications and/or manufacturer's installation instructions are to be submitted for review and approval.

Two (2) copies of the addition site plans or two (2) copies of interior alteration plans will be forwarded to the Planning and Zoning Department for review, while the remaining plans will be forwarded to the Code Compliance Department for review. At time of permit issuance, an approved set of plans, site plans and building permit will be returned to the permit applicant.

Gas Piping Testing Requirements. If gas piping is to be added as part of the addition/alteration project, a rough-in visual inspection and pressure test is needed along with a Gas Piping System Test Certification form completed and submitted prior to the final inspection.

On-site Sewer System Testing. **Administrative Order 2019-2** requires on-lot private sewage disposal systems to be inspected to verify their proper operation prior to the issuance of a building permit.

Construction Drawings Prepared by Registered Design Professionals. **Administrative Order 2007-6** provides guidance on when the review and approval of a registered design professional is needed.

PLAN SPECIFICATIONS Plans are to be **drawn to scale or dimensions** are to be included

Addition Floor Plan(s)

- Label each room specific to its use within the addition and in the room(s) adjacent to the addition
- Location of all existing and proposed partition walls, windows and doors
- Location and manufacturer, model, and size of emergency escape and rescue window or door for bedroom additions or full basements. (finished and unfinished basements)
- Location of 110-volt smoke alarm(s) with 9-volt battery back-up(s), and carbon monoxide alarm(s)
- Location of tempered safety glazing. (if applicable)
- Location of stairways with stair geometry provided (riser and tread dimensions), guardrails and handrails
- Location of stairway illumination (interior and exterior stairways)
- Location of all plumbing fixtures, clearance requirements at fixtures, and access to whirlpool tub motors
- Location, type, manufacturer and model number of any proposed factory built fireplaces or appliances
- Floor and roof framing members (type, size and spacing) in all altered/added areas
- Fireplace details and applicable dimensions. (masonry and pre-manufactured / factory built units)

Foundation Plan

- Identify basement area as finished or unfinished. If the area is to be finished, identify use of space(s)
- Location of sealed and gasketed foundation drain sump pit for fully excavated foundations
- Location of passive radon vent pipe. A radon system is to be included in additions if an existing active (fan assisted) radon system is present in the exiting dwelling.
- Location and size of footings, foundation wall type/size/reinforcing, columns, beams, pier/column footings
- Crawl space access size and location (if applicable)
- Crawl space ventilation specifications. Provide size and location of crawl space vents if ventilated. If crawl space is unvented, provide crawl space insulation and mechanical ventilation requirements
- Basement and/or crawl space floor specifications. 4" stone layer, 6 mil. poly vapor barrier and concrete
- Location of the required 110-volt smoke alarm(s) with 9-volt battery back-up(s).

Cross Section

- Footing depth below grade, footing depth, width and reinforcing (if applicable)
- Foundation wall details and materials of construction (type and reinforcing if applicable)
- Foundation anchor bolt diameter, length and spacing. Pressure treated sill plate
- Foundation insulation location and R-value for crawl spaces and unexcavated foundations
- Floor framing specifications including joist size/spacing, insulation values and floor sheathing thickness
- Exterior framed wall specifications including stud size/spacing, double top plates with 24" lap joints, insulation values, sheathing type/thickness, water resistive barrier type and veneer specifications
- Wall bracing type and fastener type/nailing schedule
- Roof framing specifications including framing type/size/spacing (engineered trusses or rafters), sheathing type/thickness, insulation values, ice/water shield, underlayment type, roof covering and roof ventilation
- Ceiling heights of each unique area are to be identified. Sloped ceilings are to be illustrated and noted Minimum ceiling heights within habitable rooms and over plumbing fixtures are to be maintained
- Bearing and non-bearing framed wall size(s) with on center stud spacing.
- Fireplace and/or chimney section with applicable detail and dimensions.

Alteration Plan(s)/Section(s)

- Before and after floor plans of the proposed area to be renovated and/or altered
- Label each room specific to its use within the renovated/altered area
- Identify location of all removed, moved and/or added partitions or bearing walls, windows and doors
- Location of all plumbing fixtures
- Typical cross section illustrating methods and materials of construction as noted in the addition guidelines
- Ceiling heights within each area to be renovated and/or altered

(Please refer to the sample plan(s) and cross section prior to submitting your permit package.)

2021 IRC CODE REFERENCES

The following code sections are applicable for additions and alterations. This list, although not all inclusive, provides guidance on code provisions affecting basement alterations.

- **R301.1.3 Engineered design.** Where a building of otherwise conventional construction contains structural elements exceeding the limits of Section R301 or otherwise not conforming to this code, these elements shall be designed in accordance with accepted engineering practice. **Refer to Administrative Order 2007-6**
- **R302.11 Fireblocking required.** Fireblocking shall be provided to cut off all concealed draft openings (both vertical and horizontal) 2-inch nominal lumber, (2) thicknesses of 1-inch nominal lumber with broken lap joints, ¾" particleboard, ½" gypsum wallboard, ¼" cement-based millboard or batts / blankets of mineral wool or glass fiber installed in such a manner as to be securely retained in place are approved fireblock materials.
- **R303.7 & R303.8 Stairway illumination.** All interior and exterior stairs shall be provided with a means to illuminate the stairway, including the landings and treads. Interior stairways shall be provided with an artificial light source in the immediate vicinity of each landing and at the top and bottom of the stair.
- **R305.1 Minimum ceiling height.** Habitable space, hallways and portions of basements containing these spaces shall have a ceiling height of not less than 7 feet. Bathrooms, toilet rooms and laundry rooms shall have a ceiling height of not less than 6 feet 8 inches.

  Exceptions:

  1. For rooms with sloped ceilings, the required floor area of the room shall have a ceiling height of not less than 5 feet (1524 mm) and not less than 50 per-cent of the required floor area shall have a ceiling height of not less than 7 feet (2134 mm).
  2. The ceiling height above bathroom and toilet room fixtures shall be such that the fixture is capable of being used for its intended purpose. A shower or tub equipped with a showerhead shall have a ceiling height of not less than 6 feet 8 inches (2032 mm) above an area of not less than 30 inches (762 mm) by 30 inches (762 mm) at the showerhead.
  3. Beams, girders, ducts or other obstructions in basements containing habitable space shall be permitted to project to within 6 feet 4 inches (1931 mm) of the finished floor.
- **R308.4 Glazing - hazardous locations.** The locations specified in Sections R308.4.1 through R308.4.7 shall be considered to be specific hazardous locations for the purposes of glazing.
- **R310.1 Emergency escape and rescue opening required.** Basements, habitable attics and every sleeping room shall have not less than one operable emergency escape and rescue opening. Where basements contain one or more sleeping rooms, an emergency escape and rescue opening shall be required in each sleeping room. Emergency escape and rescue openings shall open directly into a public way, or to a yard or court that opens to a public way.
- **R310.6 & R310.7 Emergency Egress - alterations or repairs of existing basements**. An emergency escape and rescue opening is not required where existing basements undergo alterations or repairs.

  Exception: New sleeping rooms created in an existing basement shall be provided with emergency escape and rescue openings in accordance with Section R310.1.
- **R311.7.2 Stairway headroom.** The headroom in stairways shall be not less than 6 feet 8 inches (2032 mm) measured vertically from the sloped line adjoining the tread nosing or from the floor sur-face of the landing or platform on that portion of the stairway.
- **R311.7.5 per PA UCC 403.21(7)(ii) Stair treads and risers.** Stairway riser height are not to exceed 8 ¼" with no more than a 3/8 inch variation in riser height within a flight of stairs. The minimum tread depth is 9 inches measured from tread nosing to tread nosing. The greatest tread depth within any flight of stairs may not exceed the smallest by more than 3/8 inch.
- **R311.7.8 Handrails.** Handrails having minimum and maximum heights of 34 inches and 38 inches respectively, measured vertically from the nosing of the treads, shall be provided on at least one side of the stairway of four or more risers. All required handrails shall be continuous the full length of the stairs. Where half walls or partial guardrails are installed, handrails are to remain continuous through these transition points. Ends shall be returned or shall terminate in newel posts or into the adjacent wall.

2021 IRC CODE REFERENCES

The following code sections are applicable for additions and alterations. This list, although not all inclusive, provides guidance on code provisions affecting basement alterations.

- **R314 Smoke alarms.** 110-volt, UL listed smoke alarms with 9-volt battery back-ups are to be installed within a finished basement and in any bedrooms within the basement. The remainder of the dwelling is to be provided with no less than battery alarms on each level of dwelling, outside of each sleeping area and in each bedroom.
- **R315 Carbon monoxide alarms.** Where work requiring a permit occurs in existing dwellings that have attached garages or in existing dwellings within which fuel-fired appliances exist, carbon monoxide alarms shall be provided outside of each sleeping area in the immediate vicinity of the bedrooms. Where a fuel-burning appliance is located within a bedroom or its attached bathroom, a carbon monoxide alarm shall be installed within the bedroom.
- **R319.1 (as amended) Site address.** Every new and existing structure to which a street number has been assigned shall display such numbers (numerals only) in a position easily observable and easily readable from the roadway or street fronting the property. The numbers shall be of contrasting color with their background and permanent in nature. Street numbers shall be at least 2 ¾" in height and shall be at least 18" above grade.
- **R403.1 (as amended) Footings.** All exterior walls shall be supported on continuous solid concrete footings. Footings shall be supported on undisturbed natural soils or engineered fill. Spread footings shall be at least 8 inches in thickness. When unsuitable soil conditions are present or if blasting is required in the excavation of footings and foundation, (2) ½" diameter reinforcing bars are required to be installed in the entire footing.
- **R403.1.6 Foundation anchorage.** The wood sill plate at exterior walls shall be anchored to the foundation with anchor bolts spaced a maximum of 6 feet on center. There shall be a minimum of two bolts per plate section with one bolt located not more than 12 inches from each end of the plate section. Bolts shall be at least ½ inch diameter and shall extend a minimum of 7 inches into concrete or grouted cells of concrete masonry units. Bolts are not to be placed within the head joints between CMU's.
- **R703.2 Water-resistive barrier.** One layer of No. 15 asphalt felt, free from holes and breaks, complying with ASTM D226 for Type 1 felt or other approved water-resistive barrier shall be applied over studs or sheathing of all exterior walls.
- **N1102 Building thermal envelope.** The building thermal envelope shall meet the insulation requirements set forth in IRC Table N1102.1.3 or per the PA Alternative Energy Provisions.
- **N1103.3 Duct testing.** New forced air HVAC systems installed as part of an addition and/or alteration shall be installed and tested per the requirements of IRC Section N1103. .
- **N1104.1 Lighting equipment.** A minimum of percent of the lamps in permanently installed lighting fixtures shall be high-efficacy lamps.
- **P2708.4 Shower control valves.** Individual shower and tub/shower combination valves shall be equipped with control valves of the pressure-balance/thermostatic-mixing or combination pressure-balance/thermostatic-mixing valve types with a high stop limit set to limit water temperature to a maximum of 120 degrees Fahrenheit. In-line thermostatic valves shall not be used for compliance with this section.
- **E3405.1 Electrical equipment working space and clearances.** Access and working space shall be provided and maintained around all electrical equipment to permit ready and safe operation and maintenance of such equipment in accordance with this section and Figure E3405.1.
- **E3902.20 Arc-fault circuit-interrupter protection**. Branch circuits that supply 120-volt, single-phase, 15- and 20-ampere outlets installed in kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, rec rooms, closets, hallways, laundry areas and similar rooms or shall be AFCI protected.
- **E3902.21 Arc-fault circuit interrupter protection for branch circuit extensions or modifications**. Where branch-circuit wiring is modified, replaced, or extended in any of the areas specified in Section E3902.16, the branch circuit shall be protected by one of the following:
  1. A combination-type AFCI located at the origin of the branch circuit
  2. An outlet branch-circuit type AFCI located at the first receptacle outlet of the existing branch circuit.
- **E4002.14 Tamper-resistant receptacles.** Receptacles in additions and added as part of alterations shall be listed tamper-resistant receptacles.

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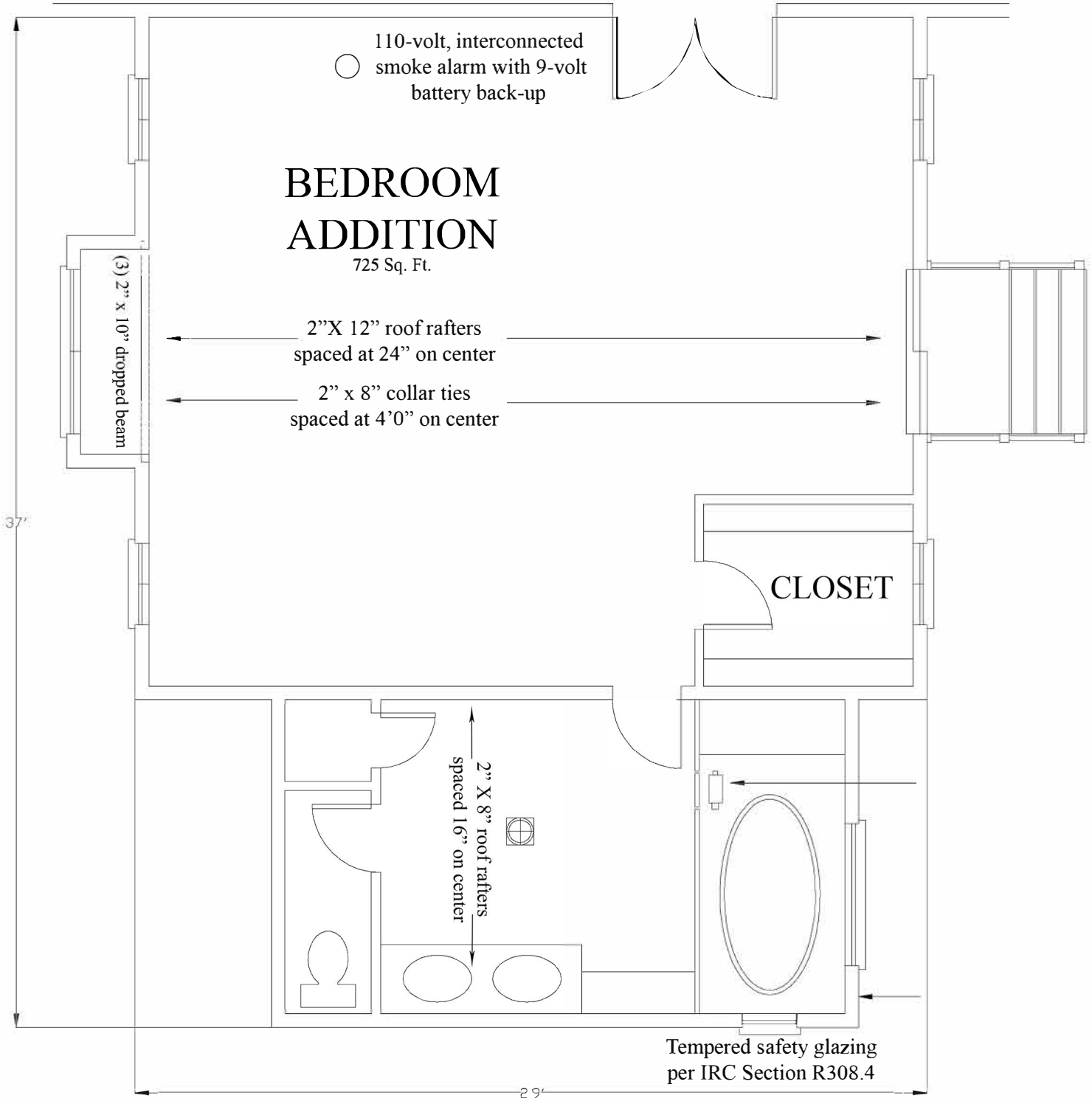
◯ Carbon monoxide alarm

◯ 110-volt, interconnected smoke alarm with 9-volt battery back-up



Windows located more than 72 inches above the finished grade (or surface below) are to have sill heights a minimum of 24 inches above the finished floor of the room in which the window is located.

SAMPLE FIRST FLOOR PLAN

DRAW TO SCALE OR INCLUDE DIMENSIONS ON PLANS

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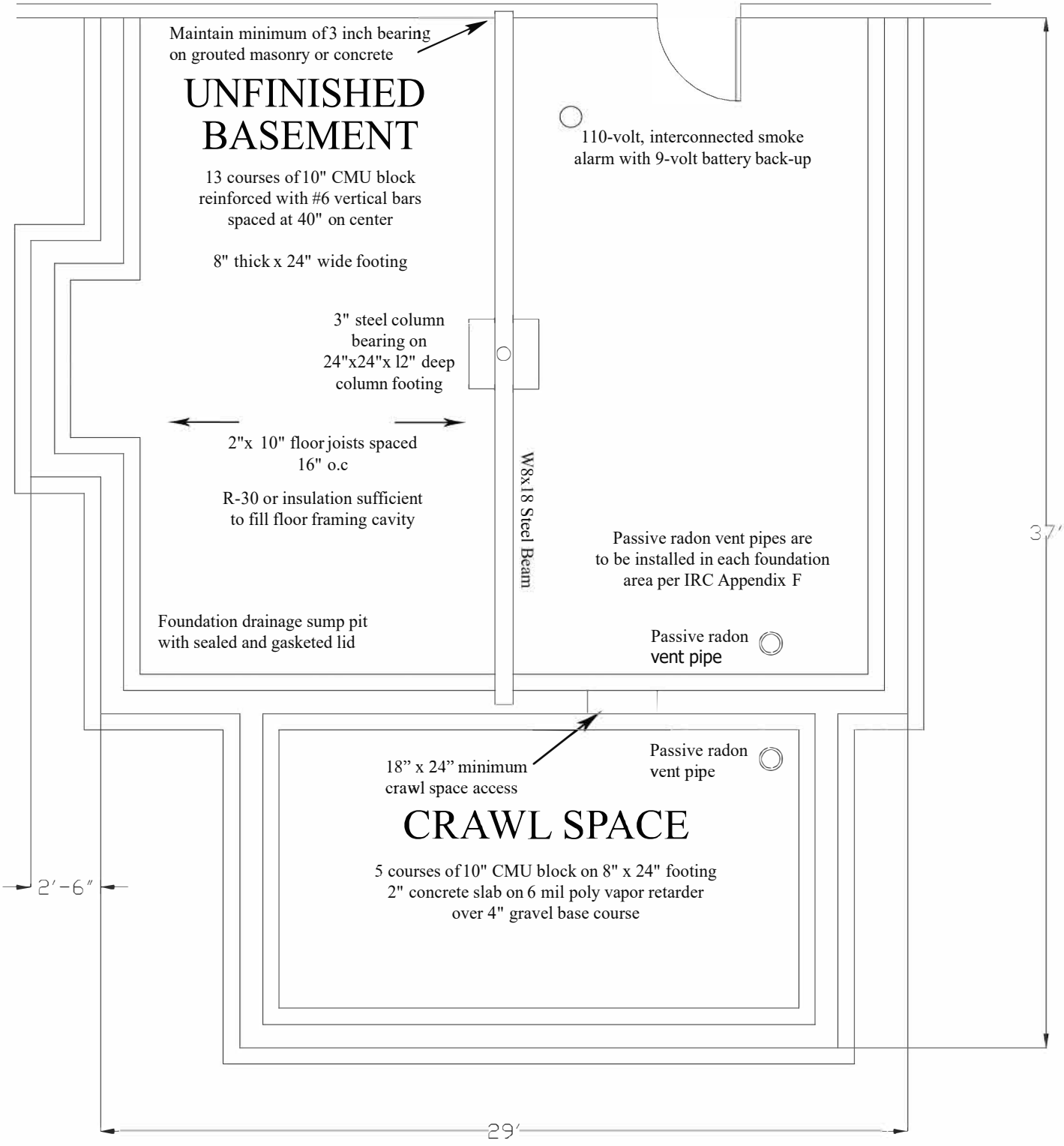

SAMPLE FOUNDATION PLAN

DRAW TO SCALE OR INCLUDE DIMENSIONS ON PLANS

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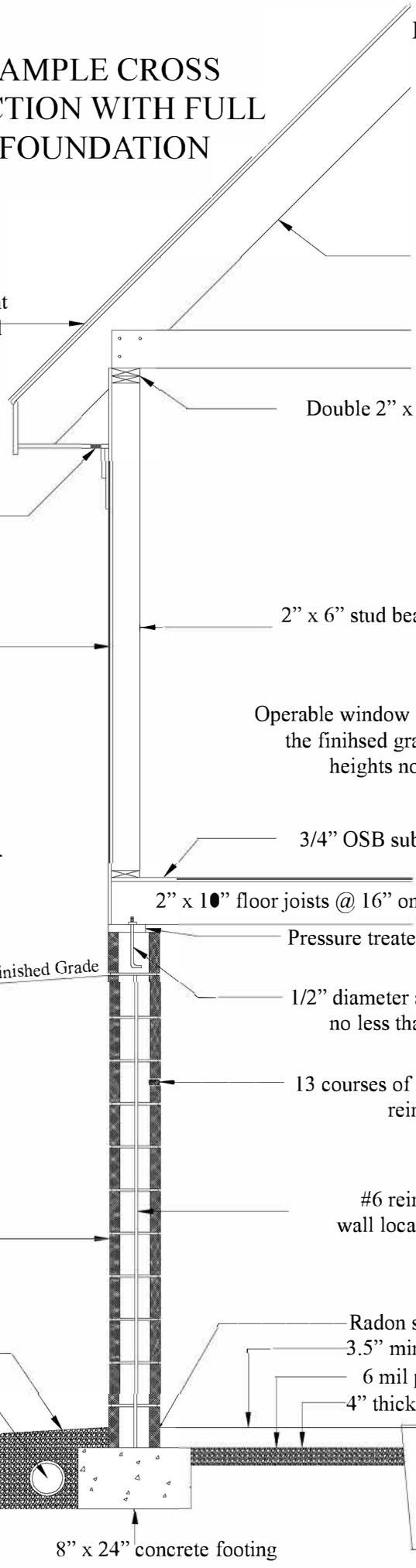
SAMPLE CROSS SECTION WITH FULL FOUNDATION

Refer to Sample Crawl Space Cross Section for additonal construction details and code requirements



2" x 12" roof rafters @ 16" on center with 7/16" OSB sheathing

Ice and water shield underlayment to be installed on all roof eaves to a point at least 24 inches inside the exterior wall line of the building

2" x 8" ceiling joists @ 16" on center

Double 2" x 6" top plate with end joints lapped no less than 24 inches

Enclosed attics and enclosed rafter spaces are to be provided with cross ventilation

7/16" 0SB wall sheathing Continuously sheathed exterior walls are to be nailed at 6" on center along edges and 12" on center in the field. Exterior and interior walls (if applicable) are to be braced

2" x 6" stud bearing wall with stud spacing not to exceed 24" on center

Water resistive barrier needed under all wall coverings **including vinyl siding**

Operable window located more than 72 inches above the finihsed grade or surface below shall have sill heights no less than 24"above finished floor.

Foundation walls shall extend 6" above finished grade. Where a masonry veneer is used, the foundation shall extend a minimum of 4" above finished grade.

3/4" OSB subfloor

2" x 10" floor joists @ 16" on center

Pressure treated sill plate

Finished Grade

1/2" diameter anchor bolts with no less than 7" embedment

The grade away from foundation walls shall fall a minimum of 6" within the first 10' per IRC R401.3
Roof drainage shall discharge at least 5 feet from foundation walls

13 courses of 10" CMU block with #6 reinforcing @ 40" on center

#6 reinforcing fully grouted within CMU wall located at least 6.75" from the soil side of the block wall

Foundation walls shall be parged and dampproofed

Minimum 24"geotextile fabric per Standard Design Bulletin #2018-1

Radon sealant - Elastomeric/polyurethane
3.5" minimum concrete slab
6 mil poly. vapor barrier
4" thick stone base layer

Perforated pipe sitting on 2" of stone with minimum of 6" stone cover. Stone to extend no less than 12" beyond the outside edge of the footing

Sealed and gasketed foundation sump pit required if foundation drains are not discharged to daylight

8" x 24" concrete footing

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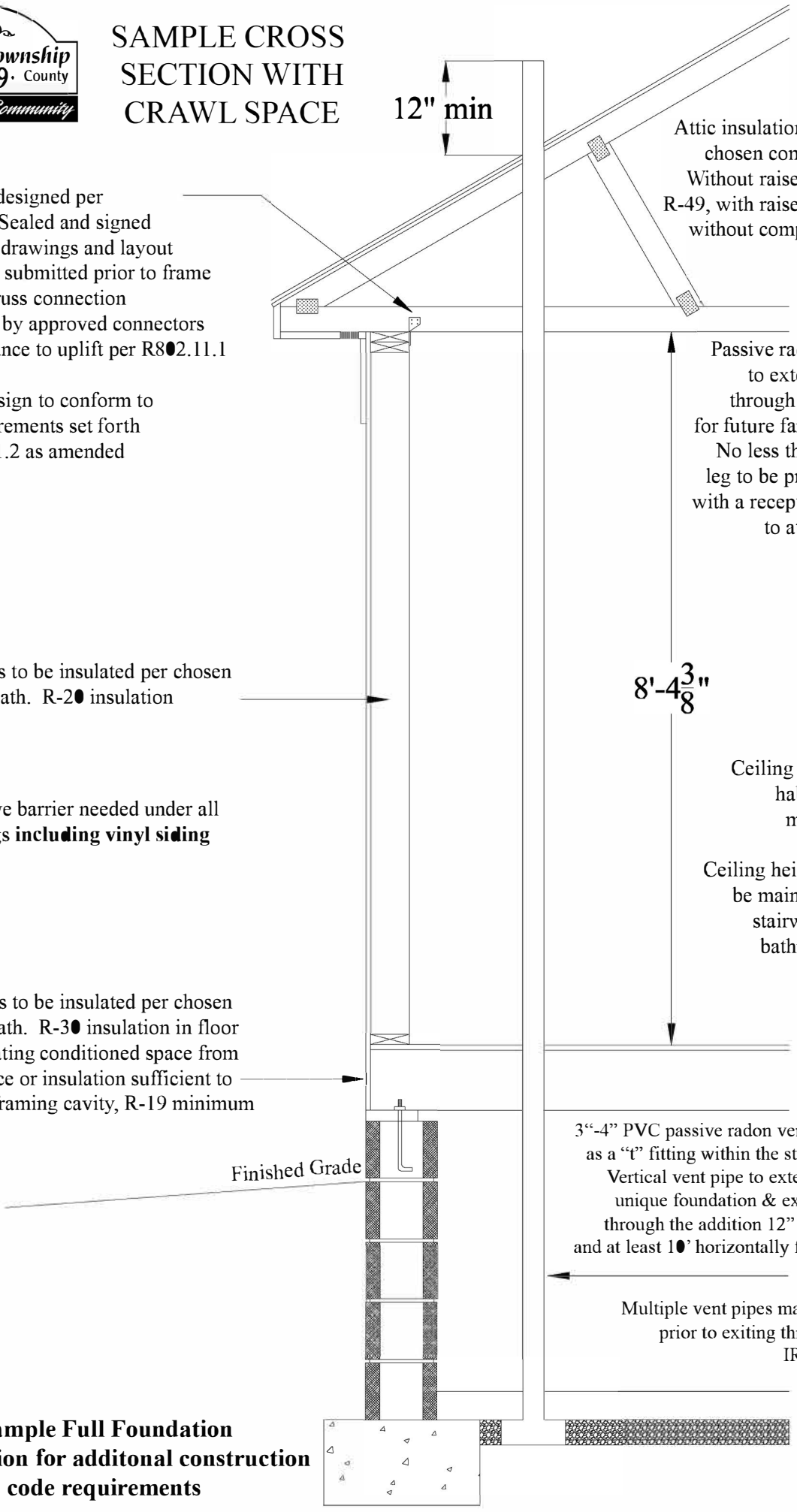
SAMPLE CROSS SECTION WITH CRAWL SPACE



Roof trusses designed per ANSI/TPI 1. Sealed and signed original truss drawings and layout map are to be submitted prior to frame inspection. Truss connection to wall plates by approved connectors having resistance to uplift per R802.11.1

Roof truss design to conform to loading requirements set forth in Table R301.2 as amended

Attic insulation required per chosen compliance path. Without raised heel trusses R-49, with raised heel trusses without compression R-38

Passive radon vent pipe to extend vertically through attic to allow for future fan installation. No less than 3' vertical leg to be provided along with a receptacle adjacent to attic vent pipe.

Exterior walls to be insulated per chosen compliance path. R-20 insulation typical

Water resistive barrier needed under all wall coverings **including vinyl siding**

Ceiling height within habitable rooms minimum 7'0"

Ceiling height of 6'8" to be maintained within stairways and over bathroom fixtures

Crawl space is to be insulated per chosen compliance path. R-30 insulation in floor system separating conditioned space from the crawl space or insulation sufficient to fill the floor framing cavity, R-19 minimum

3"-4" PVC passive radon vent pipe starting as a "t" fitting within the stone base layer. Vertical vent pipe to extend out of each unique foundation & extend vertically through the addition 12" above the roof and at least 10' horizontally from openings.

Multiple vent pipes may interconnect prior to exiting through the roof. IRC Appendix F

Refer to Sample Full Foundation Cross Section for additonal construction details and code requirements

ZONING SITE PLAN REQUIREMENTS

The following must appear on all site plans:

- Location of all property lines. Include exact length of all property lines and include the size of your lot in square feet.
- Location of all existing buildings and improvements, including but not limited to, residence, driveways, walkways, sheds, decks, patios, porches, swimming pools, garages, hot tubs, and any other impervious surface.
- Location of all proposed projects and other improvements, including but not limited to, driveways, walkways, sheds, decks, patios, porches, swimming pools, garages, hot tubs, and any other impervious surface.
- Exact dimensions, including the area calculations in square feet, of all existing and proposed improvements on the property, including but not limited to, residence, driveways, walkways, sheds, decks, patios, porches, swimming pools, garages, hot tubs, and any other impervious surface.
- Exact dimensions from all existing and proposed improvements to all property lines, including but not limited to, residence, driveways, walkways, sheds, decks, patios, porches, swimming pools, and any other impervious surface.
- Location of all easements on the property, both public and private including the exact dimensions of the easements. (See notes below)
- Location of the 100-year floodplain and the 100 year floodplain elevation, if applicable. Boundaries of the 100-year floodplain must be field staked prior to any on site construction, if applicable. (See notes below)
- Location and dimension of any clear sight triangles on the property. (See notes below)
- Location of all required Manheim Township building setback lines.
- Location of all public street rights-of-way.
- Location of all public streets, including curb and sidewalk, if applicable.
- Location of an on-lot sewage system, if applicable.
- Location of all wetland areas, if applicable.
- Location of all Municipal boundaries, if applicable.

NOTES

Any lot which contains a recorded easement or right-of-way MUST have the following note on the site plan.

- "Nothing shall be placed, planted, set, or put within the area of the easement that would adversely affect the function of the easement."

Any lot which contains a 100-year floodplain MUST contain the following note.

- "Any proposed improvements to be located within the 100 year floodplain shall be in accordance with the Manheim Township Floodplain Ordinance, 2015 as amended."

Any lot which contains a 100-foot clear site triangle MUST have the following note written on the site plan.

- "Nothing shall be placed, planted, set, or put within the area of the 100 foot clear site triangle that has the possibility of growing in excess of 30 inches or may obscure motorist vision."

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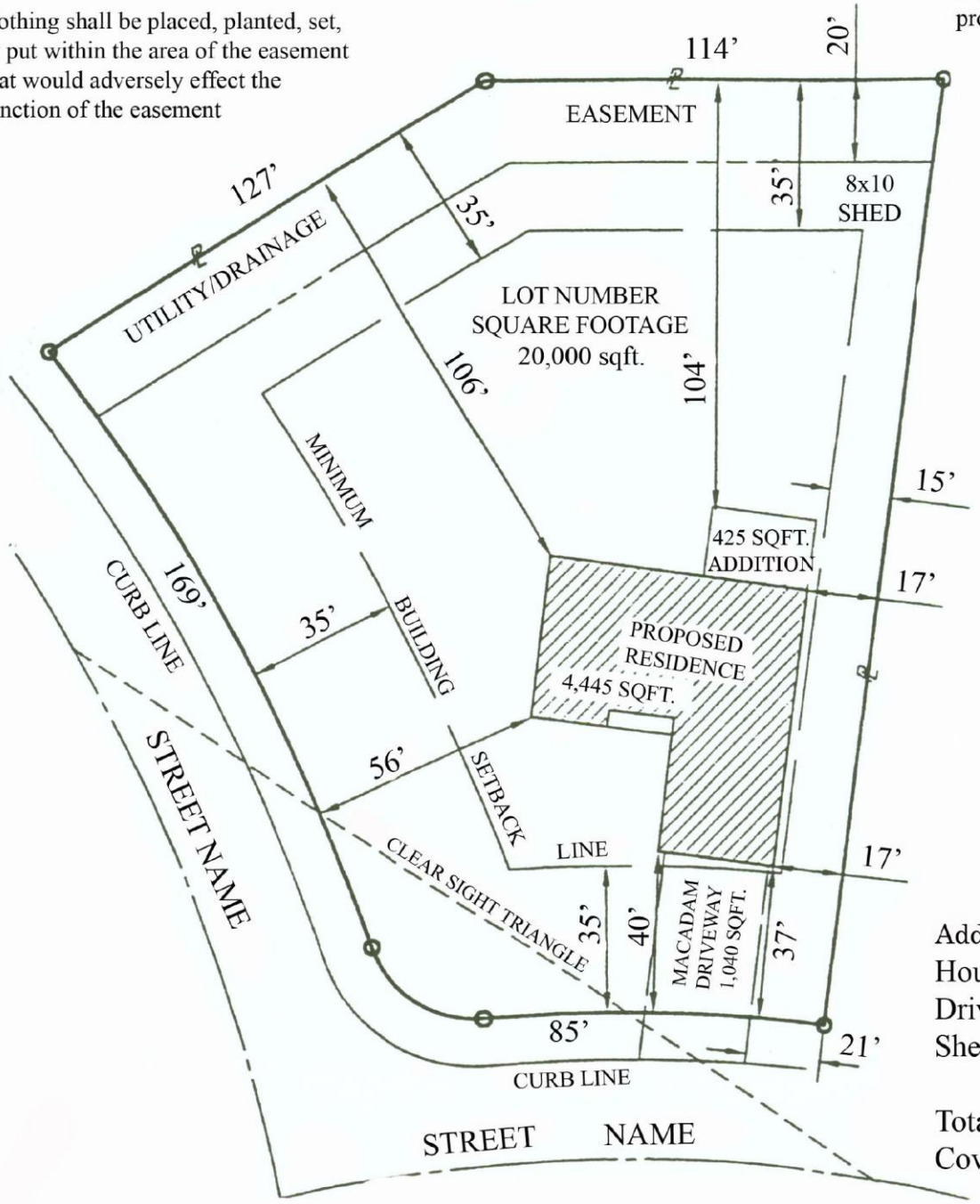
Sheds may be located up to, but not into an easement

Maintain a minimum of 5 feet setback between shed and side/rear property lines

Nothing shall be placed, planted, set, or put within the area of the easement that would adversely effect the function of the easement



Addition 425sqft.
House 2445 sqft.
Drive 1040 sqft.
Shed 80 sqft.

Total 3990 sqft. Coverage

Nothing shall be placed, planted, set or put within the area of a clear sight triangle that has the possibility of growing in excess of 30 inches or that may obscure motorist vision.

Name
Address
City, State, Zip code
Home Phone Work Phone

TYPICAL SITE PLAN

SCALE: 1" = 40'0"