



# FINISHED BASEMENT SUBMITTAL GUIDE

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

**BUILDING PERMIT REQUIREMENTS:** A building permit is required for residential alterations or repairs as set forth in Section 403.62 of the PA Uniform Construction Code as adopted 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 a finished basement are based on the dollar value of work to be performed and are to be calculated with the formula provided in the "Alteration" section of the 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 after permit issuance.

- **PLAN REQUIREMENTS**

- Two (2) copies of a basement floor plan
- Two (2) copies of a typical wall cross section
- Four (4) copies of a site plan when an egress window well, exterior stairway or Bilco entry installed
- If natural gas piping is installed as part of a basement alteration, a [Gas Piping Certification Test Form](#) is to be completed by the installer form final connections of gas piping. A visual inspection with air test is needed for all gas line installations at rough-in

## PLAN SPECIFICATIONS

### Basement Floor Plan

- Label each room specific to its use within the finished and unfinished portions of the basement.
- Location of all existing and proposed partition walls.
- Location of emergency escape and rescue opening including wells or "Bilco" type stairways. (approved window or door) **A site plan will be needed for window well and/or "Bilco" stair additions, which protrude into the lot. Include the square footage of stair or well and all applicable dimensions to property lines.**
- Location of the required 110-volt smoke detector(s) with 9-volt battery back-up(s).
- Location of electrical service panel(s) or sub-panel(s). 30" wide x 36" deep needed in front of electrical panels.
- Location of stairway guards (if applicable) and continuous, graspable handrail.
- Location of all plumbing fixtures including sump and sewage ejector pits/pumps.
- Location and size of all dropped soffits or ceiling height changes. (identify unique soffit heights on plans)

### Cross Section

- Ceiling height within finished portion of basement including height under dropped soffits and within stairway.
- Lumber size and on center spacing of partition wall studs with pressure treated sill plates.
- Approved fireblock material at top plate separation between wall system and floor system.
- Minimum R-13 cavity (batt) insulation or R-10 continuous foam insulation within all exterior and interior partition walls enclosing habitable space.

## 2021 IRC CODE REFERENCES

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

- **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,  $\frac{3}{4}$ " particleboard,  $\frac{1}{2}$ " gypsum wallboard,  $\frac{1}{4}$ " 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.** Ceiling height in basements with habitable spaces may not be less than 7 feet clear height except for under beams, girders, ducts, or other obstructions where clear height shall not be less than 6 feet 4 inches.
- **R305.1 Minimum ceiling height within bathrooms.** Bathrooms shall have a ceiling height of 6 feet 8 inches at the center of the front clearance area for fixtures.
- **R310.1 Emergency escape and rescue.** Every sleeping room shall have at least one approved, openable emergency escape and rescue opening. Escape windows shall have a sill height not to exceed 44" above the floor. Windows are to provide a clear opening of not less than 24" high and 20" wide with a net clear opening of 5.0 square feet. Windows below grade are to be provided with an approved window well 9 square feet in area with a minimum horizontal projection and width of 36 inches. The area of the window well shall allow the emergency escape and rescue opening to be fully opened. Wells with a vertical depth greater than 44" are to be equipped with a permanently affixed ladder or steps usable with the window in the fully open position.
- **R311.7.2 Stairway headroom.** The minimum stairway headroom shall not be less than 6 feet 8 inches.
- **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.
- **R312.1 Stairway Guardrails.** Open sides of stairs with a total rise of more than 30 inches above the adjacent floor or grade below shall have guards not less than 34 inches in height measured vertically from the nosing of the treads. Openings between guardrail balusters on the side of stair treads shall be maximum 4-3/8 inches.
- **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.
- **PA Alternative Table PA 301 Energy Efficiency Requirements.** Partition walls enclosing habitable space are to be provided with a minimum insulation R-value of R-13 cavity or R-10 continuous.
- **M1701/G2407.5 Combustion air.** Air for combustion of flue gases for fossil fuel appliances shall be provided. The minimum required volume shall be 50 cubic feet per 1000 Btu/h input rating. Partitions between confined equipment and adjacent spaces shall be provided with two openings with a minimum free area of 1 square inch per 1000 Btu/h input rating, but not less than 100 square inches each. One opening shall be within 12" of the top and one opening shall be within 12" of the bottom of the enclosure.
- **E3901.9 Unfinished basement receptacles.** At least one GFCI protected, tamper-resistant receptacle outlet, in addition to any provided for specific equipment shall be installed in each unfinished portion of the basement.
- **E3902.20 Arc-fault circuit-interrupter protection.** All branch circuits in finished spaces other than bathrooms that supply 120-volt, single-phase, 15- and 20-ampere outlets shall be protected by combination AFCI's.
- **E4002.14 Tamper-resistant receptacles.** All receptacles added in finished and unfinished portions of a basement shall be listed tamper-resistant receptacles.

## MECHANICAL ROOM

40,000 btuh gas  
hot water heater

80,000 btuh gas  
forced air furnace

Combustion air may be needed from adjacent living space if HVAC

living space in HVAC room does not provide 50 cuft. per 1,000 btuh

input rating.  
(gas, oil & solid fuel  
appliances)  
IRC M1701 & G2407.5  
Enclosed, accessi-  
space under stain-  
to be protected w/  
1/2" gypsum board  
on walls and ceiling  
IRC R302.7

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## UNFINISHED STORAGE AREA

Finished basement ceiling height not less than 7'0": IRC R305.1

Dropped ductwork or beam soffit ceiling height not less than 6'4" IBC R305.1

3 1/4" high guardrails with openings not greater than 4 3/8" required on open sides of stairs. IRC R312

A diagram of a C-shaped metal bracket. It consists of a vertical support arm and a horizontal top arm. The bracket is secured to a wall with two screws, one at the top corner and one at the bottom corner. The bracket is shown in a perspective view, with the wall in the background.

Headroom in entire stairway leading to finished basement to be no less than 6'8". IRC R311.7.2

50 cfm vented fan  
 **BATHROOM**  
Stairway lighting required at top and bottom of stairway operated on 3-way switching. IIRC R303.7

**110-volt UL listed smoke alarm with 9-volt battery back-up in basement.** Minimum of one battery smoke alarm on each additional floor. Floors with bedrooms are to have one in each bedroom and one in common area outside the bedrooms. IRC Section R314.

## **TORAGE AREA**

ly location of sewage pit  
w water and drain lines  
e and below slab) are  
pressure tested and inspected  
to concealing. IRC P2503.5.

Recreation Room  
1570 Square Feet

13 cavity insulation required  
K-10 continuous or

in partition walls enclosing  
finished room(s).

Identify location, type, and fuel source for

Maintain 30" wide, 36" deep and 66" high clear working space in front of fireplace additions. **IRC G2434.1**

of electrical services panel. IRC E3405.1

Partition walls to be

Foundation drain sump pit to remain accessible . IRC R405.1

Emergency escape and rescue window and well. (example - Andersen 3046 with Bilco Scapewell) Bulkhead or "Bilco" type service stairways are approved for emergency escape and rescue.\* New sleeping rooms shall be provided with emergency escape and rescue openings. IRC R310

# SAMPLE FINISHED BASEMENT FLOOR PLAN

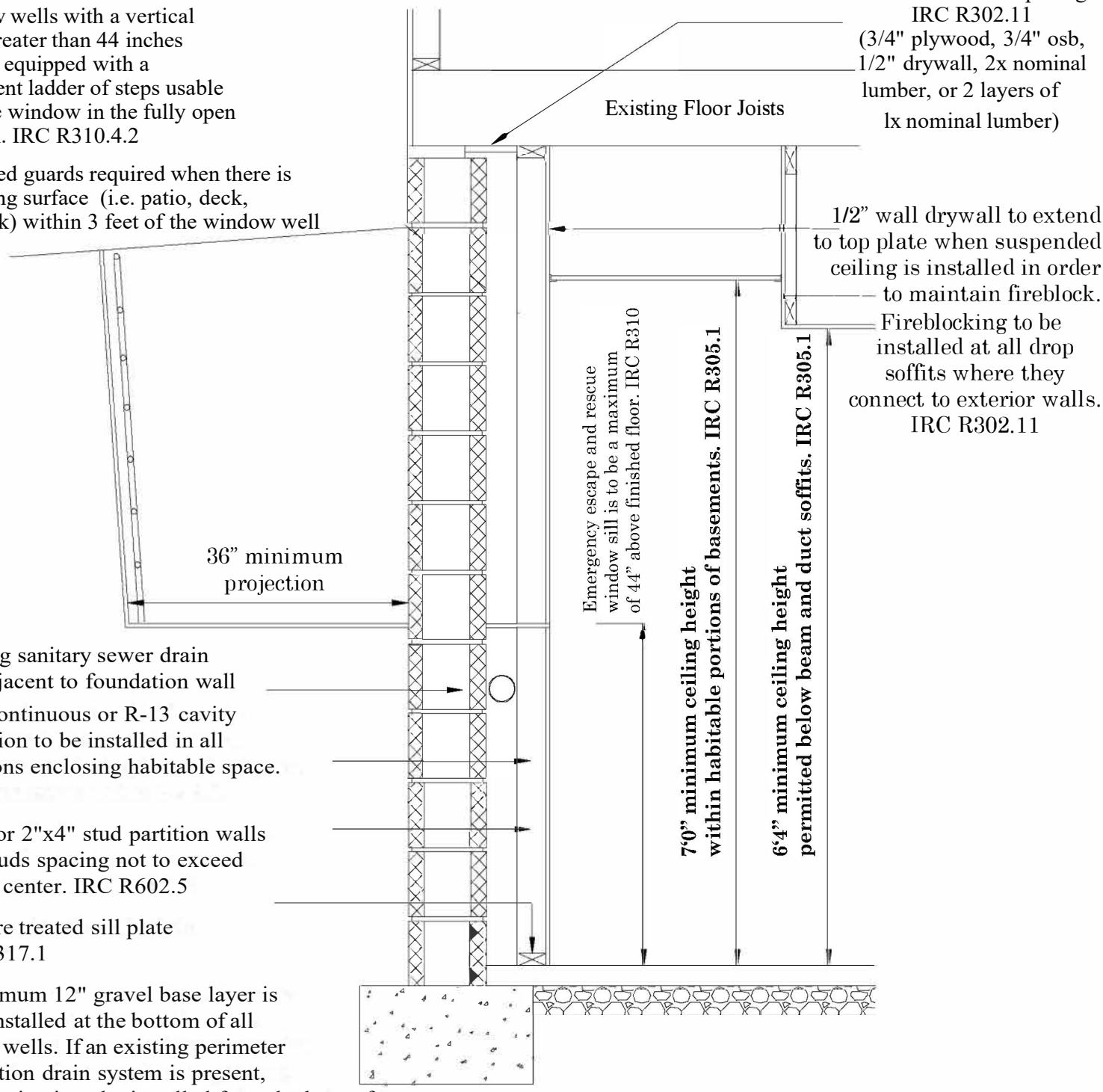
PA Uniform Construction Code, 2021 International Residential Code as Amended


  
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Emergency escape window providing a minimum clear opening of 20" in width, 24" in height, and 5.0 square feet of clear opening. IRC R310.2

Window wells with a vertical depth greater than 44 inches shall be equipped with a permanent ladder or steps usable with the window in the fully open position. IRC R310.4.2

Approved guards required when there is a walking surface (i.e. patio, deck, sidewalk) within 3 feet of the window well



## SAMPLE FINISHED BASEMENT CROSS SECTION

PA Uniform Construction Code, 2021 International Residential Code as Amended

# 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.”

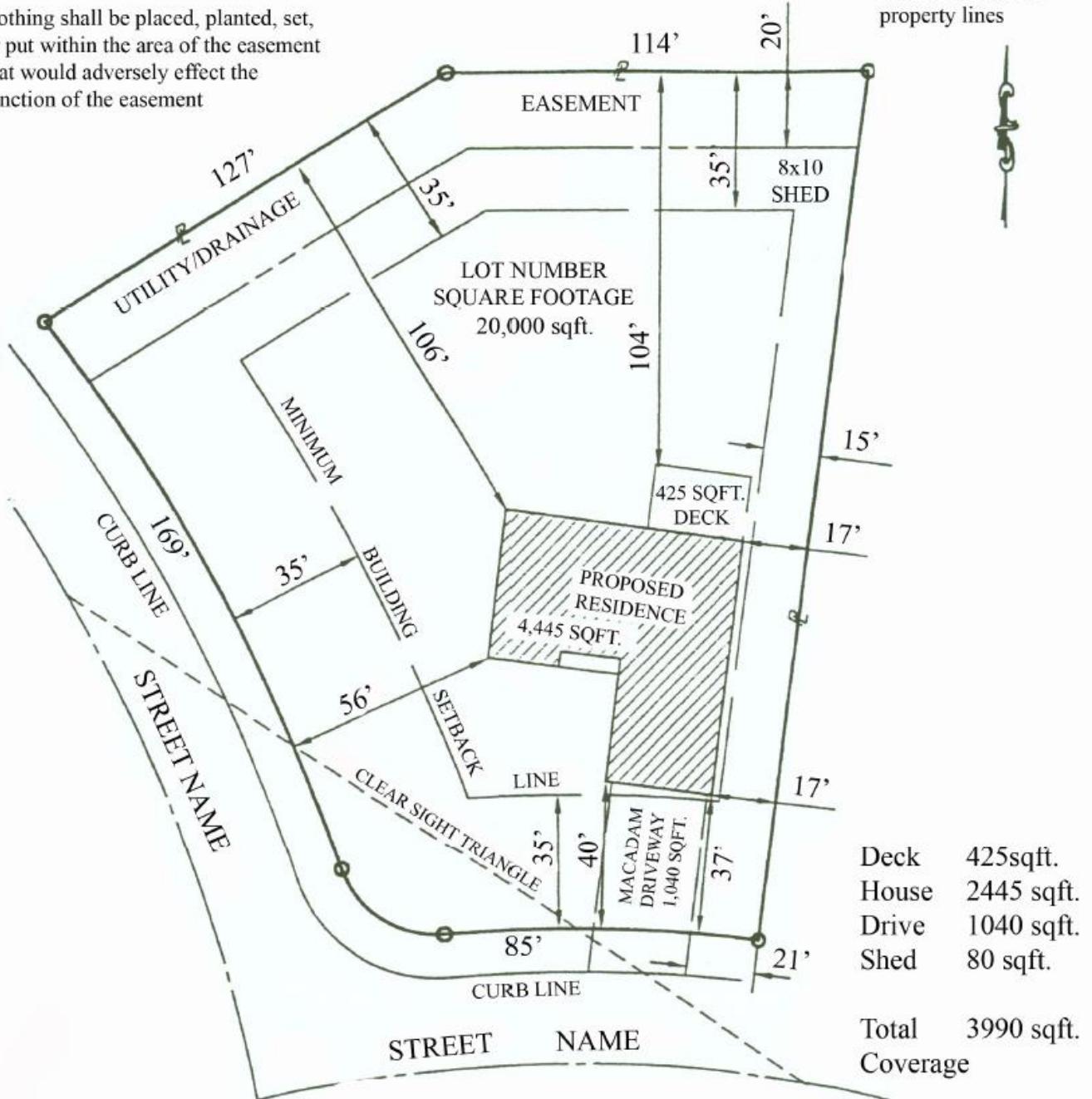

  
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Sheds may be located up to, but not into an easement

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



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"