

ONE-STOP'S PERMIT INFORMATION PACKAGE FOR RESIDENTIAL PROJECTS



*This package was prepared by the
Customer Assistance & Code Development Office
1002 Washington Avenue – 1st Floor
Houston, TX 77002
Phone: 832-394-9494*

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RESIDENTIAL ONE-STOP GUIDELINE

INTRODUCTION

The Residential One-Stop Guideline lists the various requirements for plan submittal and review of residential construction projects.

GENERAL REQUIREMENTS

All projects reviewed by this section shall have the following items prior to review:

- ☐ **Application.** A completed “Building Permit Application”.
- ☐ **Deed Restriction Unsworn Declaration.** The declaration must be signed by the owner.
- ☐ **Project Number.** A project number assigned by the *Permits Section*.
- ☐ **Plans.** Two sets of plans *shall be drawn to scale and clearly labeled with dimensions*.

Important Notes:

- Properties located in the floodplain are required to obtain approval from the *Flood Plain Section* on all projects.
- It is imperative that you verify if there are any deed restrictions in your subdivision. Permits may be revoked for deed restriction violations.

SPECIFIC REQUIREMENTS BY PROJECT TYPE

ADDITIONS May be reviewed at <i>One-Stop</i> , if review time \leq 30 minutes	Other Reviews Required: <input checked="" type="checkbox"/> Planning <input checked="" type="checkbox"/> Taps & Meters <input type="checkbox"/> Traffic <input checked="" type="checkbox"/> Storm
<ul style="list-style-type: none"><input type="checkbox"/> 2009 Residential Energy Conservation Form (Form 1246) or ResCheck Software Compliance Report shall be submitted.<input type="checkbox"/> Grading for Excavation and Fill Worksheet (Form 1094) - The worksheet will determine if a Residential Grading for Excavation and Fill Permit is required.<input type="checkbox"/> <u>If required</u>, the “Residential Grading Permits for Excavations and Fill Application (Form 1084)” shall be submitted.<input type="checkbox"/> Calculation of Impervious Percentage (Form 1207) - For lots less than 15,000 sq. ft. to determine whether lot has 75% or more of impervious cover.<input type="checkbox"/> Complete plans including the following items:<ul style="list-style-type: none">- Texas registered survey or complete site plan showing existing property lines, easements, building setback lines, and showing the existing building, proposed addition and any other structures located on the site.- Foundation plans showing pad location, concrete strength, beam details with dimensions, and the steel bar layout with sizes noted. (Professional Engineer designed plans may be required for concrete slabs)- If block and base, indicate the size, spacing, grade, and species of floor joists.- Floor plans that include the addition and footprint of the existing building showing in detail the adjacent areas of the existing building, with use of each room labeled, and the location of partitions, windows and doors identified.- Door and window schedule or plan with all dimensions clearly indicated.- Roofing and Framing plans indicating size, spacing, grade, and species of ceiling joists and rafters, and if required, the location of purlins. (Professional Engineer designed plans may be required)- Wall section details indicating size, spacing, grade, and species of studs to determine the method of bracing.- Plans shall indicate materials used.- Plans must include details showing how compliance with windstorm or strapping is achieved. (Reference Section 302 or Appendix L of the IRC)	
REMODELS May be reviewed at <i>One-Stop</i> , if review time \leq 30 minutes	Other Reviews Required: <input type="checkbox"/> Planning <input checked="" type="checkbox"/> Taps & Meters <input type="checkbox"/> Traffic <input type="checkbox"/> Storm
<ul style="list-style-type: none"><input type="checkbox"/> 2009 Residential Energy Conservation Form (Form 1246) or ResCheck Software Compliance Report shall be submitted.<input type="checkbox"/> Complete plans including the following items:<ul style="list-style-type: none">- Provide floor plan of existing building and show in detail affected area.- Wall section details to determine bearing and non-load bearing walls.- Plans shall indicate materials used.	

NEW GARAGES/CARPORTS/STORAGES OVER 120 SQ. FT.May be reviewed at *One-Stop*, if review time ≤ 30 minOther Reviews Required: ☒ Planning ☒ Taps & Meters
☐ Traffic ☒ Storm

- ☐ **2009 Residential Energy Conservation Form (Form 1246)** or ResCheck Software Compliance Report shall be submitted.
- ☐ **Grading for Excavation and Fill Worksheet (Form 1094)** - The worksheet will determine if a Residential Grading for Excavation and Fill Permit is required.
- ☐ If required, the “Residential Grading Permits for Excavations and Fill Application (Form 1084)” shall be submitted.
- ☐ **Calculation of Impervious Percentage (Form 1207)** - For lots less than 15,000 sq. ft. to determine whether lot has 75% or more of impervious cover.
- ☐ **Complete plans** including the following items:
 - Texas registered survey or complete site plan showing existing property lines, easements, building setback lines, and the location of the residence and proposed garage/carport.
 - Foundation plans if addition requires additional foundation, dimensions shall include beams and steel bars, and foundation conditions should be noted on plans. (Professional Engineer designed plans may be required for concrete slabs)
 - If block and base, indicate the size, spacing, grade, and species of floor joists.
 - Floor plan that includes the addition and footprint of the existing building showing in detail the adjacent areas of the existing building, with use of each room labeled, and the location of partitions, windows and doors identified.
 - Door and window schedule or plan with all dimensions clearly indicated.
 - Roofing and Framing plans indicating size, spacing, grade, and species of ceiling joists and rafters, and if required, the location of purlins. (Professional Engineer designed plans may be required)
 - Wall section details indicating size, spacing, grade, and species of studs to determine the method of bracing.
 - Plans shall indicate materials used.

GARAGES CONVERSIONSMay be reviewed at *One-Stop*, if review time ≤ 30 minOther Reviews Required: ☒ Planning ☒ Taps & Meters
☐ Traffic ☒ Storm

- ☐ **2009 Residential Energy Conservation Form (Form 1246)** or ResCheck Software Compliance Report shall be submitted.
- ☐ **Complete plans** including the following items:
 - Texas registered survey or complete site plan showing existing property lines, easements, building setback lines, and showing the existing building, and any other structures located on the site to determine off-street parking. (Planning)
 - Floor plan with use of each room labeled, and the location of partitions, windows and doors identified
 - Door and window schedule or plan with all dimensions clearly indicated.
 - Wall section details to determine bearing and non-load bearing walls.
 - Demolition of any load bearing walls will require additional requirements to determine direction of ceiling joists, and the location of header and beam.

FENCESMay be reviewed at *One-Stop*, if review time ≤ 30 minOther Reviews Required: ☒ Planning ☐ Taps & Meters
☒ Traffic ☐ Storm**Fences 8 feet or less, other than masonry or concrete, do not require a building permit.**

- ☐ **Complete plans** including the following items:

<ul style="list-style-type: none"> - Texas Registered survey or complete site plan showing existing property lines, easements, building setback line and location of proposed fence layout to determine visibility. - Structural section plan designed by a Professional Engineer design is required. 	<ul style="list-style-type: none"> - Plans shall indicate materials for fencing and columns. - Show height elevation - Show location of gate(s) and method of operation (e.g., remote control, manual, keypad)
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Note: Drilled piers are not allowed on easements.**MINOR REPAIRS (LIKE-FOR-LIKE CONST)**May be reviewed at *One-Stop*, if review time ≤ 30 minOther Reviews Required: ☐ Planning ☐ Taps & Meters
☐ Traffic ☐ Storm

- ☐ **Residential Repair Spec List (Form 1059)**

DRIVEWAY/SIDEWALK May be reviewed at <i>One-Stop</i> , if review time ≤ 30 min	Other Reviews Required: <input type="checkbox"/> Planning <input type="checkbox"/> Taps & Meters <input checked="" type="checkbox"/> Traffic <input type="checkbox"/> Storm
<input type="checkbox"/> Sidewalk-Driveway Curb & Gutter-Culvert Parking Lot Permit Application (Form 1023). <input type="checkbox"/> Texas Registered survey or complete site plan indicating existing property lines, easements, building setback line, and showing the proposed driveway, curbs and/or sidewalk location and layout.	
Notes: <ul style="list-style-type: none"> ■ Only a <u>bonded</u> contractor will be able to purchase this permit. ■ The homeowner may purchase the permit when curb cut is not involved. 	
CULVERTS May be reviewed at <i>One-Stop</i> , if review time ≤ 30 min	Other Reviews Required: <input type="checkbox"/> Planning <input type="checkbox"/> Taps & Meters <input checked="" type="checkbox"/> Traffic <input type="checkbox"/> Storm
<input type="checkbox"/> Sidewalk-Driveway Curb & Gutter-Culvert Parking Lot Permit Application (Form 1023) <input type="checkbox"/> Site plan indicating location and width of driveway.	
Note: <ul style="list-style-type: none"> ■ Must be a minimum of 24" diameter and not less than the nearest upstream culvert pipe. ■ Only the homeowner or a <u>bonded</u> contractor may purchase this permit. 	

CONTACT INFORMATION

One-Stop Plan Review Section

Hours: 8:00 am – 4:30 pm

Phone Number: (832) 394-8820

Location: 1002 Washington Ave. 3rd Floor
Houston, Texas 77002

Other Important Phone Numbers

Customer Assistance and Code Development Office (832) 394-9494

Development Services (Planning)..... (832) 394-8849

Flood Plain Section..... (832) 394-8854

Traffic & Transportation..... (832) 394-8851

Taps & Meters (832) 394-8888

Storm Plan Review (832) 394-8810

Structural Inspections..... (832) 394-8840

COH Deed Restrictions Hotline (*Complaints*)..... (832) 393-6333

Harris County Clerk - Deed Restrictions (713) 755-6405

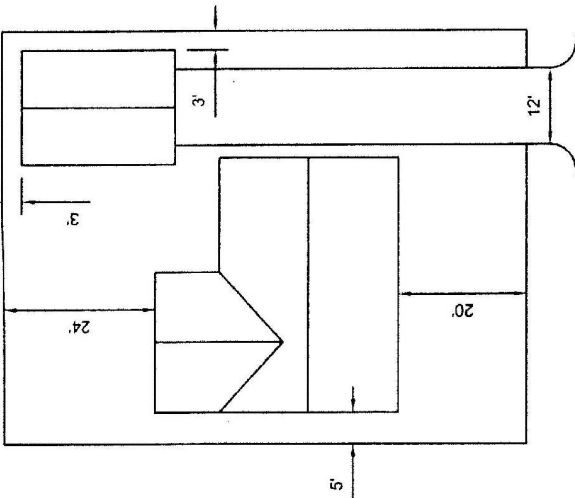
201 Caroline 3rd Floor
Houston, TX 77002



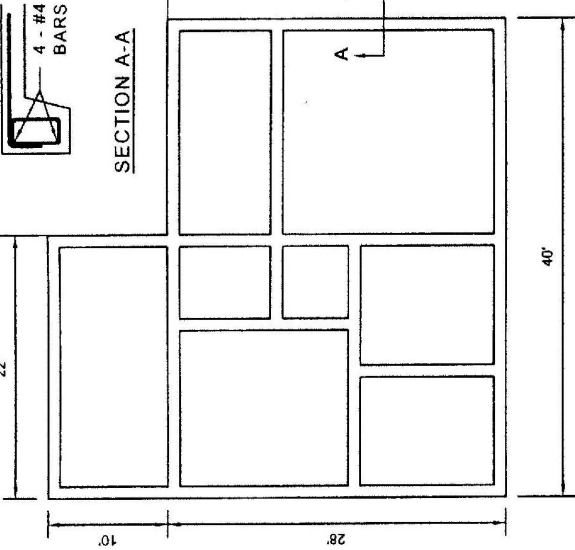
RESIDENTIAL ONE-STOP GUIDELINE

Follow the corresponding steps below to obtain a building permit for your specific residential project.

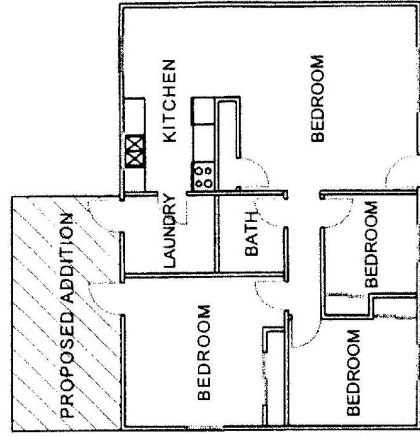
TYPE OF PROJECT	STEPS
Additions, New Garages, New Carports, Garage Conversions, Detached Storage Buildings (Over 120 sq. ft.) <u>Note:</u> Detached Storage buildings 120 sq. ft. or less do not require a building permit)	<ol style="list-style-type: none">1. Complete the Building Permit Application and the appropriate Deed Restriction Unsworn Declaration.2. Obtain a project number and have the affidavit notarized by the <i>Permits Section</i>.3. Proceed to the <i>Development Services (Planning) Section</i> for their review.4. Proceed to the <i>Flood Management Office</i> if the property is located in the floodplain.5. Proceed to the <i>Taps & Meters Section</i> for their review (if plumbing work is involved).6. Proceed to the <i>One-Stop Section</i> for plan review, if the project does not required detention, <p>OR</p> <p>Submit the plans at the <i>Permits Section</i> for storm review, if the project requires detention.</p>
Remodels	<ol style="list-style-type: none">1. Complete the Building Permit Application and the appropriate Deed Restriction Unsworn Declaration.2. Obtain a project number and have the affidavit notarized by the <i>Permits Section</i>.3. Proceed to the <i>Taps & Meters Section</i> for their review (if plumbing work is involved).4. Proceed to the <i>One-Stop Section</i> for plan review.
Repairs	<ol style="list-style-type: none">1. Complete the Building Permit Application and the Residential Repair Spec List (Form CE-1059)2. Obtain a project number from the <i>Permits Section</i>.3. Proceed to the <i>One-Stop Section</i> for review.
Fences OVER 8 FT. IN HEIGHT Wood , metal and fences with over two feet (24") high masonry, brick or concrete require an Engineer's design for 110mph wind speed 8 FT. OR LESS Other than masonry or concrete do not need a building permit	<ol style="list-style-type: none">1. Complete the Building Permit Application and the appropriate Deed Restriction Unsworn Declaration.2. Obtain a project number and have the affidavit notarized by the <i>Permits Section</i>.3. Proceed to the <i>Development Services (Planning)</i> for their review. (If the fence will be located in front of property).4. Proceed to the <i>One-Stop Section</i> for plan review.
Driveways/Sidewalks/Culverts	<ol style="list-style-type: none">1. Complete the Sidewalk-Driveway Curb & Gutter Culvert Parking Lot Permit Application (Form CE-1023)2. Obtain a project number from the <i>Permits Section</i>.3. Proceed to the <i>Traffic & Transportation Section</i> for review.4. Proceed to the <i>One-Stop Section</i> for plan review.



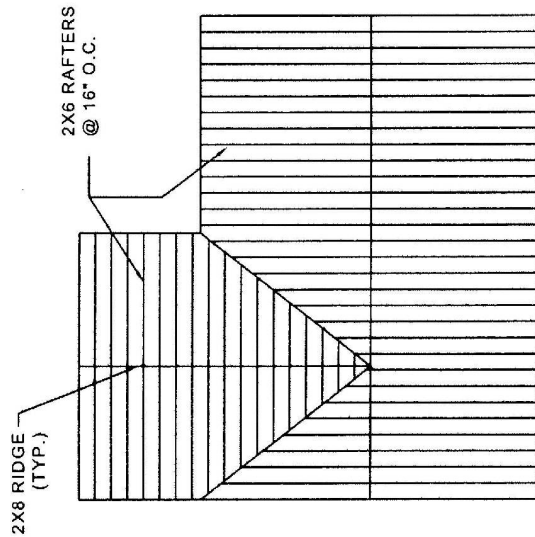
SITE PLAN



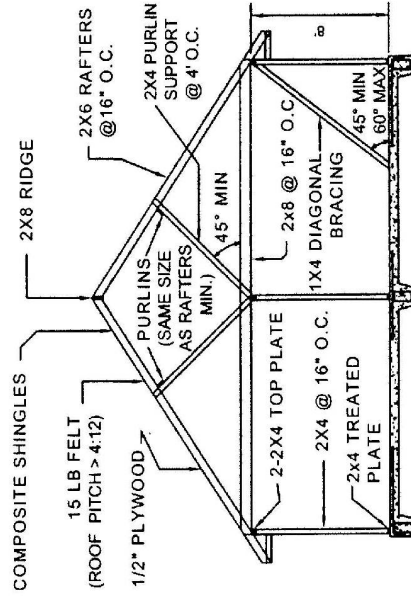
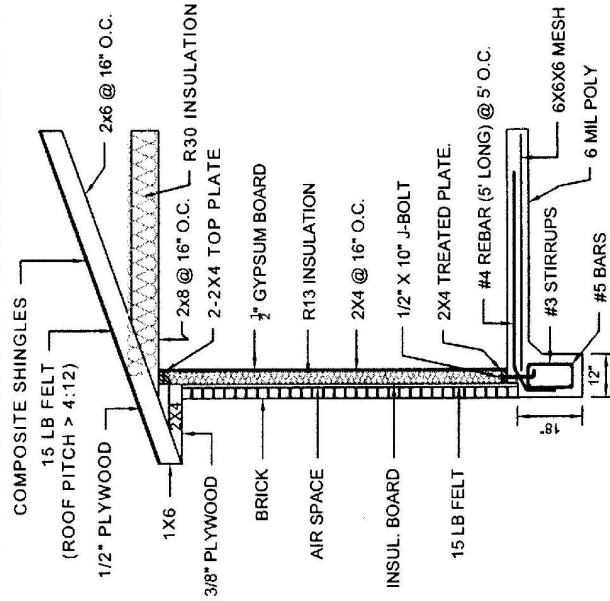
FOUNDATION PLAN



FLOOR PLAN



ROOF PLAN



ROOF & FRAME DETAILS

CITY OF HOUSTON
Department of Public Works and Engineering

RESIDENTIAL INFORMATION PACKAGE-1

DATE: 10/08/09 DWG No: 08R08 1 of 1



City of Houston
Building Inspection
CODE WORD 2006

INTERPRETATIONS AND APPLICATIONS OF
THE HOUSTON ADOPTED CODES

2006 IBC, 2006 IRC, 2011 NEC, 2006 UMC, 2006 UPC,
2006 IECC, 2009 IECC and ASHRAE 90.1-2007

No:	2006-19A	Page:	1	of	1
PUBLICATION:	Revision December 10, 2013				
SUBJECT:	Policy- Block and Base Foundations				
CODE(S):	Building				
SECTION(S)	R403.1 & R403.2 (IRC) & 1805.4.3 (IBC)				


This policy is an acceptable alternate as per Section 104.11 of the Building Code for existing buildings when performing maintenance or repair of existing block and base foundations. This alternative shall apply to conventional light-frame construction designed with girders and supported on blocks and bases in such a manner that the building can be easily leveled any time after the full load has been applied. For repair of existing block and base foundations the following apply:

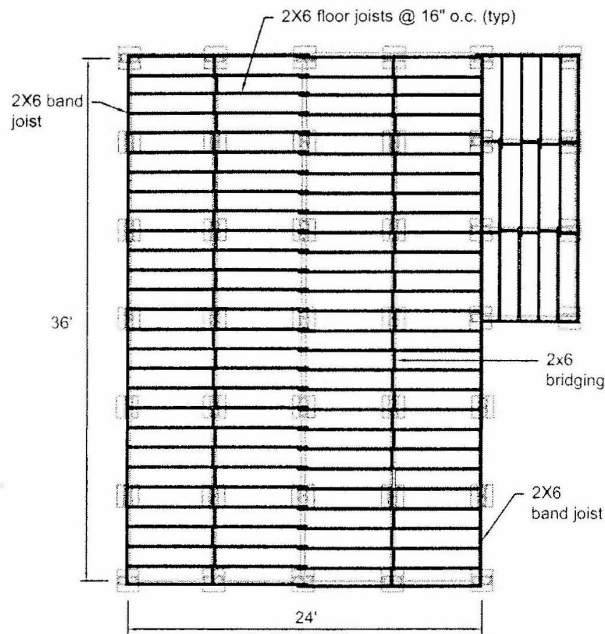
1. All loose material and vegetation must be removed to ensure solid bearing beneath bases.
2. End joints of girders shall occur over supports.
3. Minimum thickness of concrete bases shall be 4 inches.
4. The minimum width of the structure shall not be less than the overall height.
5. Girders shall not be placed further than the depth of the joist from the exterior wall.

For new and relocated buildings, as well as additions, block and base foundations shall be designed by a Texas registered Professional Engineer to comply with the applicable code sections, or in accordance with Code Enforcement Drawing #13-05-R

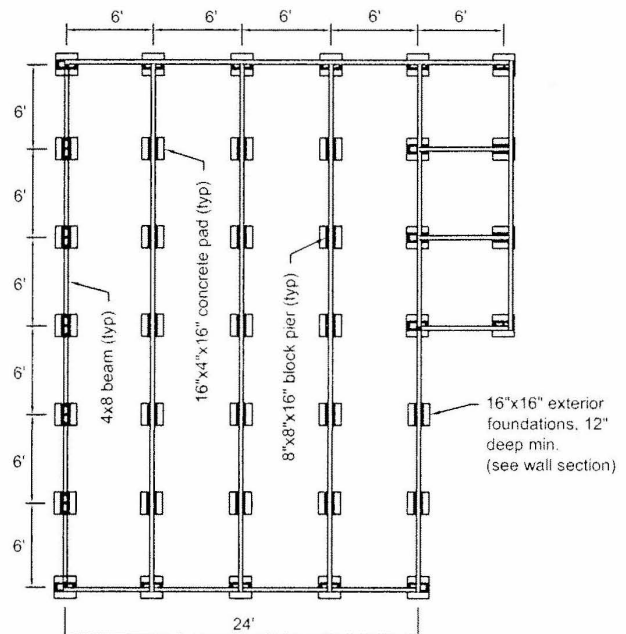
This interpretation is applicable to all building plans submitted on or after March 1, 2014.

Approved:

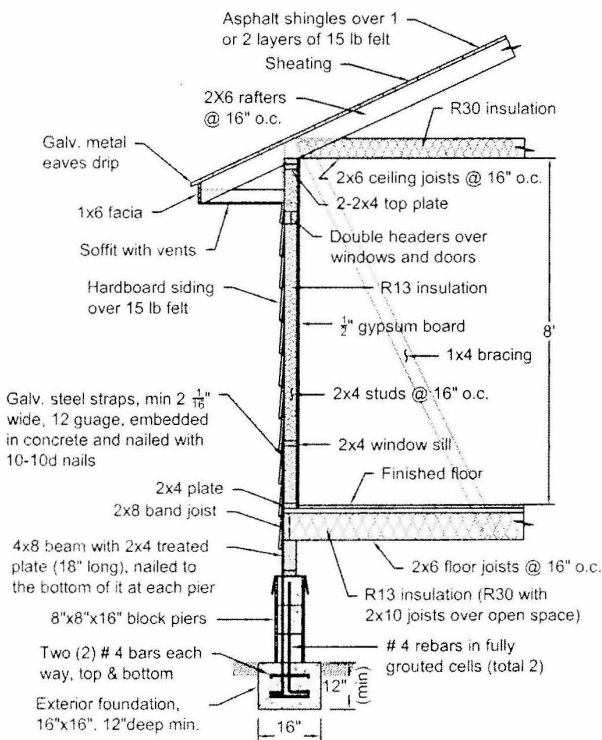

Thomas Hosey, Building Official



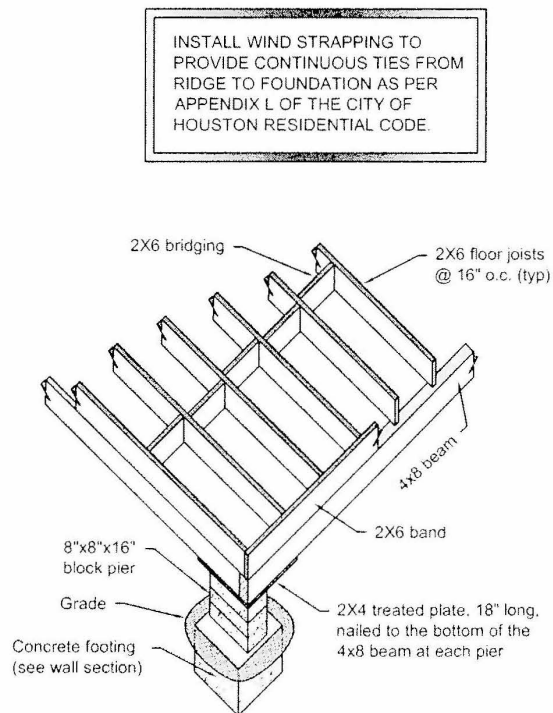
FLOOR FRAMING PLAN



FOUNDATION PLAN

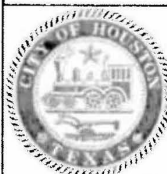


TYPICAL WALL SECTION



FOUNDATION PIER & FLOOR JOIST DETAIL

INSTALL WIND STRAPPING TO PROVIDE CONTINUOUS TIES FROM RIDGE TO FOUNDATION AS PER APPENDIX L OF THE CITY OF HOUSTON RESIDENTIAL CODE.



STANDARD DRAWING

CITY OF HOUSTON
DEPARTMENT OF PUBLIC
WORKS & ENGINEERING

RESIDENTIAL INFORMATION PACKAGE (2)

1002 WASHINGTON AVE., HOUSTON, TEXAS 77002

APPROVED BY

[Signature]
BUILDING OFFICIAL

DATE
10 / 1 / 2014

DWG No
14-04-R

1 of 1



REQUIREMENTS FOR ENGINEER SEALS

The Texas Engineering Practice Act, Section 1001.402, states that a public official of this state, or of a political subdivision of this state, who is responsible for enforcing laws, ordinances, codes or regulations that affect the practice of engineering may accept plans, specifications and other related documents only if those plans, specifications and other related documents were prepared by registered professional engineers, as evidenced by the seal of the engineer.

Section 1001.056 exempts the following from the provisions of the Act:

1. Any private dwelling, one story apartment buildings not exceeding eight units, two story apartment buildings not exceeding four units, garages or other structures pertinent to such buildings;
2. Private buildings used exclusively for farm, ranch or agricultural purposes, or used exclusively for storage of raw agricultural commodities; or
3. Other one story buildings, except public buildings, containing no clear span greater than 24 feet and having a floor area of 5000 square feet or less.

Section 1001.053 exempts the following public works from the provisions of the Act:

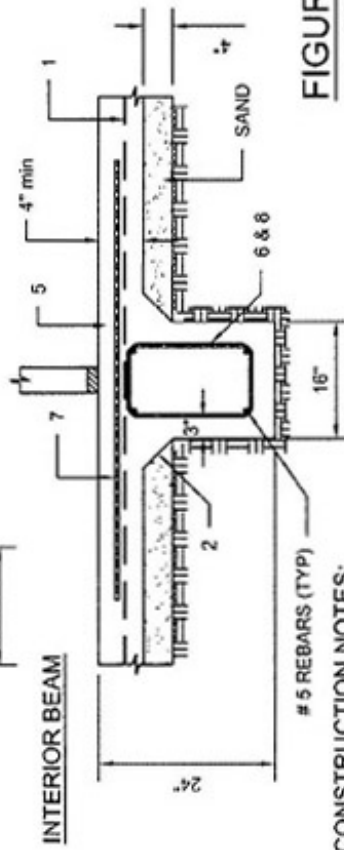
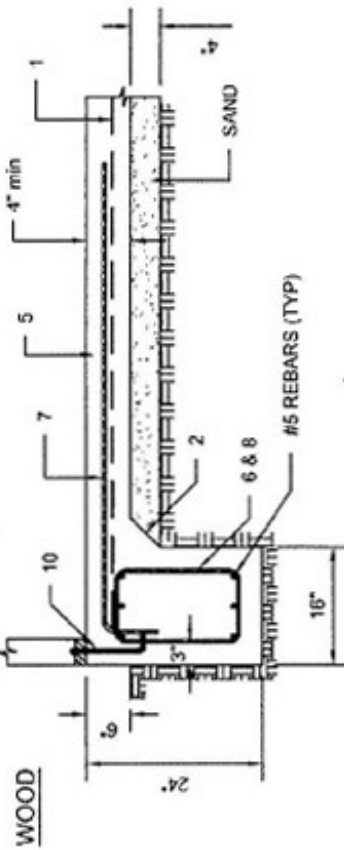
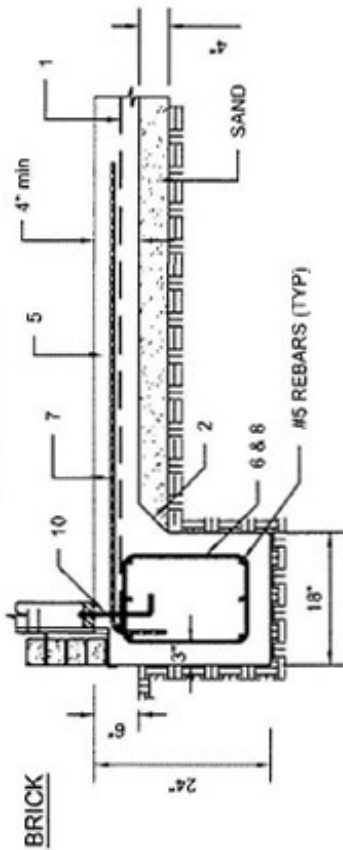
1. A public work that involves electrical or mechanical engineering, if the contemplated expense for the completed project is \$8000.00 or less.
2. A public work that does not involve electrical or mechanical engineering, if the contemplated expense for the completed project is \$20,000.00 or less.

Plans submitted for permits will require engineer seals in accordance with state law unless specifically exempt.

The Office of the Attorney General of the State of Texas has determined that the design of air conditioning systems that licensed air conditioning contractors are permitted to perform under the Air Conditioning Contractor License Law (Article 8861 of V.T.C.S), serves as an exception to the Engineering Practice Act (Article 3271a of V.T.C.S.).

Similarly, the design of electrical and plumbing systems that licensed electrical and plumbing contractors are permitted to perform serves as an exception to the Engineering Practice Act.

TWO STORY



CONSTRUCTION NOTES:

1. All slabs shall be reinforced with #6 web wire mesh 6"x6" min.
2. All house slabs shall have a 6 mil vapor barrier using poly or other approved material.
3. All slabs shall be a minimum of 4" thick with a 4" sand cushion.
4. Concrete shall have a minimum of 2500 psi in 28 days.
5. Steel shall be covered with 2" of concrete.
6. Stirrups to be #3 rebar @ 18" O.C.
7. Shear reinforcing at intersection of slab and all beams to be #4 rebar, 5' long, 5' on center.
8. Steel shall be covered with 3" of concrete.
9. Interior beams every 20 linear ft. or under bearing partition.
10. 1/2" anchor bolts, 10' long. Extend a minimum of 7" into concrete.

ONE STORY

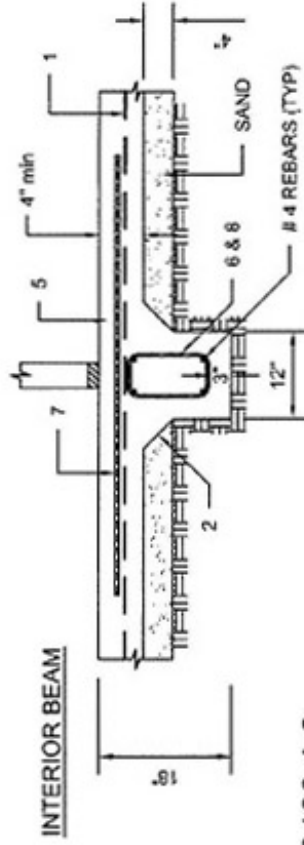
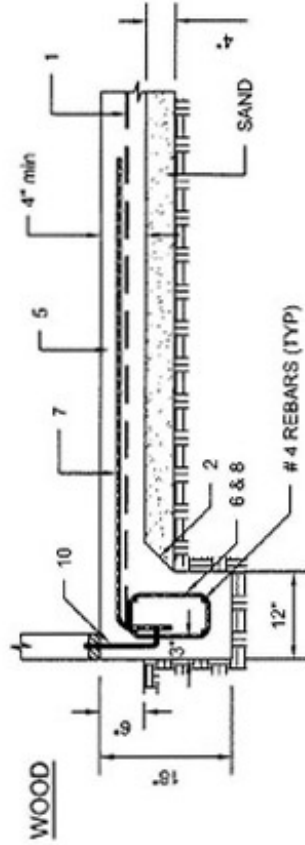
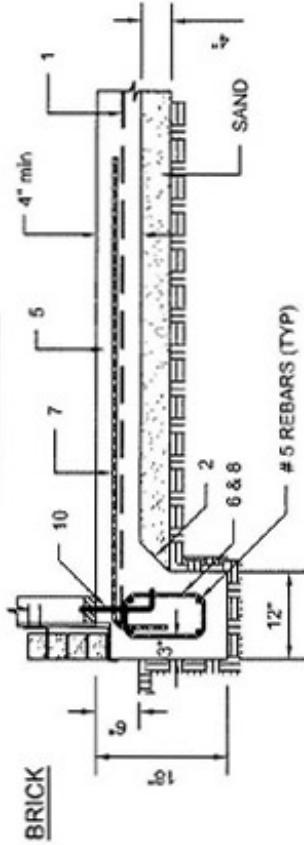


FIGURE R403.1.9

(Not To Scale)

CITY OF HOUSTON

Department of Public Works and Engineering

FOUNDATIONS FOR ADDITIONS

DATE: 12 / 29 / 09 DWG No: 09R15 1 of 1

APPENDIX L

CONVENTIONAL LIGHT-FRAME WOOD CONSTRUCTION FOR HIGH-WIND AREAS

SECTION AL101 GENERAL

AL101.1 Scope. This chapter applies to regular-shaped buildings that are not more than three stories in height and are of conventional light-frame construction.

EXCEPTION: Detached carports and garages not exceeding 700 square feet (65 m²) and accessory to Group R, Division 3 Occupancies need only comply with the roof-member-to-wall-tie requirements of Section AL103.8.

SECTION AL102 DEFINITION

CORROSION RESISTANT or NONCORROSIVE is material having a corrosion resistance equal to or greater than a hot-dipped galvanized coating of 1.5 ounces of zinc per square foot of surface area. When an element is required to be corrosion resistant or noncorrosive, all of its parts, such as screws, nails, wire, dowels, bolts, nuts, washers, shims, anchors, ties and attachments, shall also be corrosion resistant or noncorrosive.

SECTION AL103 COMPLETE LOAD PATH AND UPLIFT TIES

AL103.1 General. Blocking, bridging, straps, approved framing anchors or mechanical fasteners shall be installed to provide continuous ties from the roof to the foundation system.

Tie straps shall be 1 1/8-inch (28.6 mm) by 0.036-inch (0.91 mm) (No. 20 gage) sheet steel and shall be corrosion resistant as herein specified. All metal connectors and fasteners used in exposed locations or in areas otherwise subject to corrosion shall be of corrosion-resistant or noncorrosive material.

The number of common nails specified is the total required and shall be equally divided on each side of the connection. Nails shall be spaced to avoid splitting of the wood.

EXCEPTION: Pre-manufactured connectors that provide equal or greater tie-down capacity may be used provided that they comply with all the manufacturer's specifications.

AL103.2 Wall-to-foundation tie. Exterior walls shall be tied to a continuous foundation system or an elevated foundation system in accordance with Section AL105.

AL103.3 Sills and foundation tie. Foundation plates resting on concrete or masonry foundations shall be bolted to the foundation with not less than 1/2-inch-diameter (13mm) anchor bolts with 7-inch-minimum (178 mm) embedment into the foundation and spaced not more than 6 feet (1829 mm) on center.

AL103.4 Floor-to-foundation tie. The lowest-level exterior wall studs shall be connected to the foundation sill plate or an approved elevated foundation system with bent tie straps spaced not more than 48 inches (1219 mm) on center. Tie straps shall be nailed with a minimum of 4 ten penny nails.

AL103.5 Wall framing details. The spacing of studs in exterior walls shall be in accordance with Chapter 6.

Mechanical fasteners complying with this chapter shall be installed at a maximum of 48 inches (1219 mm) on center as required to connect studs to the sole plates, foundation sill plate and top plates of the wall. The fasteners shall be nailed with a minimum of 8 eight penny nails.

Where openings exceed 4 feet (1219 mm) in width, the required tie straps shall be at each edge of the opening and connected to a doubled full-height wall stud. When openings exceed 12 feet (3658 mm) in width, two ties at each connection or a manufactured fastener designed to prevent uplift shall be provided.

AL103.6 Wall sheathing. All exterior walls and required interior main cross-stud partitions shall be sheathed in accordance with Chapter 7.

AL103.7 Floor-to-floor tie. Upper-level exterior wall studs shall be aligned and connected to the wall studs below with tie straps placed a minimum of 48 inches (1219) on center and connected with a minimum of 6 eight penny nails per strap.

AL103.8 Roof-members-to-wall tie. Tie straps shall be provided from the side of the roof-framing member to the supporting members below the roof. Tie straps shall be placed no further apart than every other roof-framing member and connected with a minimum of 8 eight penny nails.

AL103.9 Ridge ties. Opposing common rafters shall be aligned at the ridge and be connected at the rafters with tie straps spaced a maximum of 4 feet (1219 mm) on center and connected with 8 eight penny nails.

AL103.10 Gable-end walls. Gable-end wall studs shall be continuous between points of lateral support which are perpendicular to the plane of the wall. Gable-end wall studs shall be attached with approved mechanical fasteners at the top and bottom. Eight 8 penny nails shall be required for each fastener. Fasteners shall be spaced a maximum of 48 inches (1219 mm) on center.

SECTION AL104 ROOFS

AL104.1 Roof sheathing. Solid roof sheathing shall be applied and shall consist of a minimum 1-inch-thick (25.4 mm) nominal lumber applied diagonally or a minimum 15/32-inch-thick (11.9 mm) wood structural panel or particle board (OSB) or other approved sheathing applied with the long dimension perpendicular to supporting rafters. Sheathing shall be nailed to roof framing in an approved manner. The end joints of wood structural panels or particle board shall be staggered and shall occur over blocking, rafters or other supports.

AL104.2 Roof covering. Roof coverings shall be approved and shall be installed and fastened in accordance with Chapter 9 and with the manufacturer's instructions.

AL104.3 Roof overhang. The roof eave overhang shall not exceed 3 feet (914 mm) unless an analysis is provided showing that the required resistance is provided to prevent uplift.

The roof overhang at gabled ends shall not exceed 2 feet (610 mm) unless an analysis showing that the required resistance to prevent uplift is provided.

SECTION AL105 ELEVATED FOUNDATION

AL105.1 General. When approved, elevated foundations supporting not more than one story and meeting the provisions of this section may be used. A foundation investigation may be required by the building official.

AL105.2 Material. All exposed wood-framing members shall be treated wood. All metal connectors and fasteners used in exposed locations shall be corrosion-resistant or noncorrosive steel.

AL105.3 Wood piles. The spacing of wood piles shall not exceed 8 feet (2438 mm) on center. Square piles shall not be less than 10 inches (254 mm) and tapered piles shall have a tip of not less than 8 inches (203 mm). Eight-inch-square (51613 mm²) piles shall have a minimum embedment length of 5 feet (1524 mm) and shall project not more than 8 feet (2438 mm) above undisturbed ground surface. Eight-inch (203 mm) taper piles shall have a minimum embedment length of 6 feet (1828 mm) and shall project not more than 7 feet (2134 mm) above undisturbed ground surface.

AL105.4 Girders. Floor girders shall be solid sawn timber, built- up 2-inch-thick (51 mm) lumber or trusses. Splices shall occur over wood piles. The floor girders shall span in the direction parallel to the potential floodwater and wave action.

AL105.5 Connections. Wood piles may be notched to provide a shelf for supporting the floor girders. The total notching shall not exceed 50 percent of the pile cross section. Approved bolted connections with 1/4-inch (6.4 mm) corrosion-resistant or noncorrosive steel plates and 3/4-inch-diameter (19 mm) bolts shall be provided. Each end of the girder shall be connected to the piles using a minimum of two 3/4-inch-diameter (19 mm) bolts.

RIDGE TIES

Tie straps spaced at 48" max,
connected with 8-8d nails.
(Section AL103.9)

Angle tie straps as
needed to maintain
required nail spacing.

ROOF MEMBERS TO WALL TIES

Tie straps spaced at every other rafter,
connected with a minimum of 8-8d nails.
(Section AL103.8)

FLOOR TO FLOOR TIES

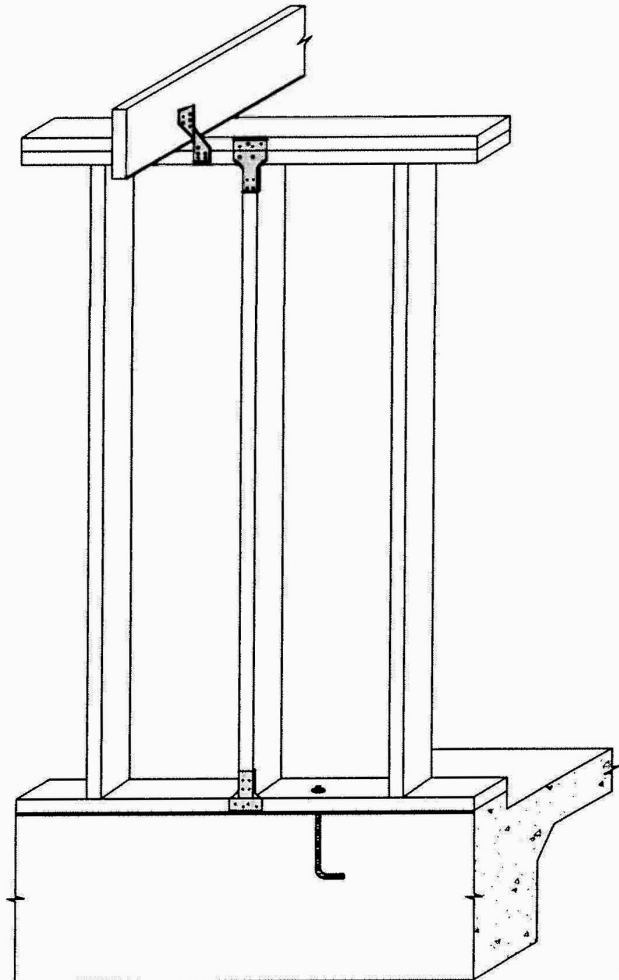
Tie straps spaced at 48"
max, connected with a
minimum of 6-8d nails.
(Section AL103.7)

FLOOR TO FOUNDATION TIES

Tie straps spaced at 48" max,
connected with a minimum of 4-10d
nails.
(Section AL103.4)

SILL TO FOUNDATION TIES

$\frac{1}{2}$ "X10" J-bolt spaced
@ 6' max. O.C.
(Section AL103.3)



WALL FRAMING DETAILS

Mechanical fasteners shall be installed at 48" max. to
connect studs to top plates, sole plates and sill plates.
Fasteners shall be nailed with a minimum of 8-8d nails.
(Section AL103.5)

Notes:

1. Tie straps shall be $1\frac{1}{8}$ " X .036" (20 gage) sheet steel
and shall be corrosion-resistant.
2. Pre-manufactured connectors that provide equal or
greater tie-down capacity may be used provided that
their application complies with all the manufacturer's
specifications.

CITY OF HOUSTON

Department of Public Works and Engineering

APPENDIX L ILLUSTRATION

DATE: 6 / 15 / 11

DWG No: 11-3-R

1 of 1

7/22/2011

FORMS

*This package was prepared by the
Customer Assistance & Code Development Office
1002 Washington Avenue – 1st Floor
Houston, TX 77002
Phone: 832-394-9494*



GRADING PERMITS FOR EXCAVATION AND FILL WORKSHEET

Appendix E of the Houston Adopted 2006 International Building Code as Amended specifies permit requirements for grading a lot of any size on private property. Section 1 - Identifies when a separate "Grading Permit" is required. Section 2 - Identifies the type of grading permit required, "Engineered Grading or Regular Grading", when a "Geotechnical Report" is required in the plans, and when a "Storm Availability Letter" is required to be attached to the submittal documents.

Grading Permits are required for any excavations or fill, or combination thereof, and includes:

- **Excavation Permits** - Including work proposing the mechanical removal of earth material.
- **Fill Permits** - Including a deposit and/or relocation of earth material placed by artificial means.

IMPORTANT NOTE: THERE SHALL BE NO FILL WITHIN THE PUBLIC RIGHT-OF-WAY

SECTION 1: Are Permits And Plans Required?

A Grading Excavation permit & plans are required if "Yes" is answered to any question 1 through 4.

- _____ (1) Does the excavation work affect the lateral support or increase the stresses in, or pressure upon any adjacent or contiguous property?
- _____ (2) When excavating below finish grade for basements and footings of a building, retaining wall or other structures authorized by a valid building permit, will there be an unsupported excavation height greater than 5 feet after completion of such structure?
- _____ (3) Will there be any excavation greater than 5 feet in depth?
- _____ (4) Will the excavation create a cut slope 2 feet or more in height but less than 5 feet, with a slope steeper than 1 unit vertical in 1.5 units horizontal? (66.7% slope)

A Grading Fill permit and plans are required if "Yes" is answered to any question 5 through 10.

(50 cubic yards = 1350 sq. ft. @ 1 ft depth)

- _____ (5) Does the fill work affect the lateral support or increase the stresses in, or pressure upon any adjacent, or contiguous property?
- _____ (6) Does the scope of work include fill that is 3 feet or more in depth?
- _____ (7) Does the scope of work include fill greater than 1 foot but less than 3 feet, with a slope that is equal to or greater than 1 unit vertical in 5 units horizontal? (20% slope)
- _____ (8) Does the scope of work include fill that is greater than 50 cubic yards on any one lot?
- _____ (9) Does the proposed fill obstruct any natural and/or previously constructed drainage course?
- _____ (10) Is proposed fill greater than 1 ft in depth and intended to support a structure, "now or in the future"?

SECTION 2: What Type Of Permits And Plans Are Required?

NOTE: When the building official has cause to believe that geologic factors may be involved, grading will be required to conform to recommended grading, inspection, and testing by a *Professional Engineer*.

Engineered grading plans are required if "Yes" is answered to question 11. Plans shall be designed, sealed, signed, and dated by a professional engineer. These grading permits shall be designated as "Engineered Grading".

(5000 cubic yards = 135,000 sq. ft. @ 1 ft depth)

- _____ (11) Does the grading project exceed 5000 cubic yards?

Grading plans shall be designated "Regular Grading" if "Yes" is answered on question 12: (no engineer req.)

- _____ (12) Does the grading involve less than 5000 cubic yards?

A Geotechnical Report is required if "Yes" is answered to any one of questions 13, 14 or 15:

- _____ (13) Will there be any cut slopes steeper than 1 unit vertical in 2 units horizontal (50% slopes)?
- _____ (14) Is there any grading that requires an engineered design? (*Reference item 11 above.*)
- _____ (15) Does the site include any special geological features and/or considerations for any grading?

A Storm Availability Letter is required to be included with the submitted documents if "Yes" is answered to questions 16 or 17:

- _____ (16) Does the scope of work to lots exceeding 15,000 sq. ft., include any new impervious cover?
- _____ (17) Does the project include connection to the city's public storm sewer system?

ADDRESS _____ PROJECT # _____ DATE _____
PRINT
NAME OF APPLICANT _____ SIGNATURE _____



2009 RESIDENTIAL ENERGY CONSERVATION FORM

PROJECT INFORMATION																																
Address:			Project Number: (CITY OF HOUSTON ASSIGNED)																													
Building Type:	<input type="checkbox"/> Single Family <input type="checkbox"/> Multi-family (3 stories or less) <input type="checkbox"/> Townhouse <input type="checkbox"/> Other: _____																															
Scope of Work:	<input type="checkbox"/> New Construction <input type="checkbox"/> Addition of _____ square feet <input type="checkbox"/> Remodel																															
Project affects: (Check all that apply)	<div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <input type="checkbox"/> Walls/Ceilings/Floors that separate conditioned and unconditioned space <input type="checkbox"/> Window/doors that separate conditioned and unconditioned space </div> <div style="width: 35%;"> <input type="checkbox"/> Service Water Heating Eqpt. <input type="checkbox"/> Heating or Air Cond. Eqpt./Ducts <input type="checkbox"/> None of the items listed --- STOP. </div> </div>																															
The building is exempt due to: (Check all that apply) -----STOP-----	<div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <input type="checkbox"/> Historical (Attach certificate) – Must comply with code provisions unless the provision will invalidate the historical designation. </div> <div style="width: 35%;"> <input type="checkbox"/> Non-conditioned <input type="checkbox"/> Low Energy (less than 1wt/sq.ft) <input type="checkbox"/> Other: _____ </div> </div>																															
BUILDING ENVELOPE COMPLIANCE METHOD (CHOOSE ONLY ONE OF THE BELOW METHODS IN THIS SECTION)																																
A Window to wall method. This requires slightly more calculation but allows up to 30% glazing.																																
(A1) Calculate. % glazing of wall area.	_____ Glazing (sq. ft.) ÷ _____ Wall area (sq. ft) x 100 = %																															
(A2) Fenestration. Using the table, check the applicable box to indicate how glazing meets code criteria.	<table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">REFERENCE TABLE</th> <th>Window to Wall %</th> <th>Max. U-factor</th> <th>Max. SHGC</th> </tr> <tr><td rowspan="4" style="writing-mode: vertical-rl; transform: rotate(180deg);">REFERENCE TABLE</td> <td>15</td> <td>.65</td> <td>.40</td> </tr> <tr><td>20</td> <td>.55</td> <td>.40</td> </tr> <tr><td>25</td> <td>.51</td> <td>.35</td> </tr> <tr><td>30</td> <td>.46</td> <td>.35</td> </tr> </table>			REFERENCE TABLE	Window to Wall %	Max. U-factor	Max. SHGC	REFERENCE TABLE	15	.65	.40	20	.55	.40	25	.51	.35	30	.46	.35	<input type="checkbox"/> All glazing meets values in table. OR <input type="checkbox"/> Glazing is averaged with some glazing not meeting the criteria. (Attach calculations)											
REFERENCE TABLE	Window to Wall %	Max. U-factor	Max. SHGC																													
REFERENCE TABLE	15	.65	.40																													
	20	.55	.40																													
	25	.51	.35																													
	30	.46	.35																													
(A3) Insulation. Using the table, indicate what R-values and type of insulation will be used.	<table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">REFERENCE TABLE</th> <th>Window to Wall Area</th> <th>Ceiling R-Value</th> <th>Wood Frame Wall R-Value</th> <th>Floor R-Value</th> <th>Crawl Space Wall R-Value</th> </tr> <tr><td rowspan="4" style="writing-mode: vertical-rl; transform: rotate(180deg);">REFERENCE TABLE</td> <td>15</td> <td>30</td> <td>13</td> <td>15</td> <td>6</td> </tr> <tr><td>20</td> <td>30</td> <td>13</td> <td>15</td> <td>6</td> </tr> <tr><td>25</td> <td>30</td> <td>13</td> <td>19</td> <td>10</td> </tr> <tr><td>30</td> <td>38</td> <td>16</td> <td>19</td> <td>10</td> </tr> </table>			REFERENCE TABLE	Window to Wall Area	Ceiling R-Value	Wood Frame Wall R-Value	Floor R-Value	Crawl Space Wall R-Value	REFERENCE TABLE	15	30	13	15	6	20	30	13	15	6	25	30	13	19	10	30	38	16	19	10	PROPOSED VALUES (Use the Predominant R-Value) R-_____ Ceiling R-_____ Wall R-_____ Floor R-_____ Crawlspace Insulation Type: _____	
REFERENCE TABLE	Window to Wall Area	Ceiling R-Value	Wood Frame Wall R-Value	Floor R-Value	Crawl Space Wall R-Value																											
REFERENCE TABLE	15	30	13	15	6																											
	20	30	13	15	6																											
	25	30	13	19	10																											
	30	38	16	19	10																											
B Conditioned Floor Area Method. This method is an easier method, than the above but is limited to 18% glazing.																																
(B1) Calculate. % glazing of conditioned floor area.	_____ Glazing (sq. ft.) ÷ _____ Cond. Floor Area (sq. ft.) x 100 = %																															
(B2) Insulation and Fenestration.	<table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <th>Max U-factor</th> <th>Max. SHGC</th> <th>Ceiling R-Value</th> <th>Wall R-Value</th> <th>Floor R-value</th> </tr> <tr> <td>0.65</td> <td>0.30</td> <td>30</td> <td>13</td> <td>13</td> </tr> </table>					Max U-factor	Max. SHGC	Ceiling R-Value	Wall R-Value	Floor R-value	0.65	0.30	30	13	13	<i>All values shall meet or exceed the minimums provided by this table when showing compliance with this method.</i> Indicate insulation type: _____																
Max U-factor	Max. SHGC	Ceiling R-Value	Wall R-Value	Floor R-value																												
0.65	0.30	30	13	13																												
GENERAL PRESCRIPTIVE REQUIREMENTS																																
Radiant Barrier	<input type="checkbox"/> No <input type="checkbox"/> Yes - Ceiling insulation may be reduced to R-19 from R-30 when using an approved radiant barrier when using method A above.																															
HVAC	Equipment Type: _____ SEER: _____ **Duct insulation shall be R-8 in attics and R-6 otherwise . Excpt: Ducts located inside conditioned space .**																															



CALCULATION OF IMPERVIOUS PERCENTAGE

PROJECT INFORMATION

Project Number: _____

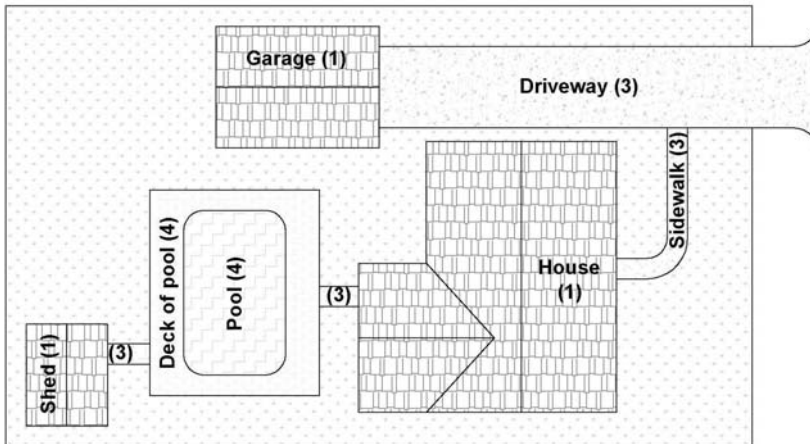
Date: _____

Address: _____

Applicant's Printed Name: _____ Applicant's Signature: _____

CALCULATION OF IMPERVIOUS AREA PERCENTAGE

A. Total area of impervious cover



This diagram is to assist in identifying the various items considered impervious. Approved permeable pavers or permeable concrete may not be considered as impervious.

	Existing Sq. Ft.		Addition Sq. Ft.		Final Sq. Ft.
1. Building(s) (e.g., house, garage, storage)		+		=	
2. Parking Lot		+		=	
3. Driveway/Sidewalk/Patios/Carports		+		=	
4. Swimming Pool/Detention Ponds		+		=	
5. Others		+		=	
Totals		+		=	sq. ft. (A)

B. Total Area of Lot: _____ sq. ft.

C. Percentage Impervious area Calculation

$$\left(\frac{\text{A}}{\text{B}} \right) \times 100 = \text{C} \%$$

NOTE: If > 65% , refer the Infrastructure Design Manual, Chapter 9, Section H for additional provisions.