

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK CITY OF PORTLAND

BUILDING INSPECTION

Please Read Application And Notes, If Any, Attached

PERMIT ISSUED
Permit Number: 051202
OCT 17 2005
CITY OF PORTLAND

PERMIT

DD

This is to certify that Erin Associates Llc /Granite Construction

has permission to Build a new 2100 sq ft single family home

AT 60 Willow Ln L 191 B037001

provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statutes of Maine and of the ordinances of the City of Portland regulating the construction, maintenance and use of buildings and structures, and of the application on file in this department.

Apply to Public Works for street line and grade if nature of work requires such information.

Notification of inspection must be given and written permission procured before this building or part thereof is laid or occupied. CLOSED-IN. HOURS NOTICE IS REQUIRED.

A certificate of occupancy must be procured by owner before this building or part thereof is occupied.

OTHER REQUIRED APPROVALS

Fire Dept. _____

Health Dept. _____

Appeal Board _____

Other _____
Department Name

Expired
Janice Doute 10/17/05
Director - Building & Inspection Services
for TMM

PENALTY FOR REMOVING THIS CARD

City of Portland, Maine - Building or Use Permit Application

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No: 05-1202	Issue Date: OCT 17 2005	DBL: 191 037001
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Location of Construction: 60 Willow Ln Lot # 7	Owner Name: Erin Associates LLC	Owner Address: 13 Acorn Ln	Phone:
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Business Name:	Contractor Name: Granite Construction Co.	Contractor Address: P.O. Box 8790 Portland	Phone: 2076321124
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Lessee/Buyer's Name	Phone:	Permit Type: Single Family	Zone: R-5
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Past Use: Vacant Land	Proposed Use: Single Family Home/ Build a new 2100 sq ft single family home	Permit Fee: \$1,698.00	Cost of Work: \$178,000.00	CEO District: 3	PRWD
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FIRE DEPT: <input type="checkbox"/> Approved <input type="checkbox"/> Denied	INSPECTION: Use Group: 23 Type: SB IRC-2003 Signature: JMB 10/17/05
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Proposed Project Description:
Build a new 2100 sq ft single family home

Expired

PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.) for TMA		
Action: <input type="checkbox"/> Approved	<input type="checkbox"/> Approved w/Conditions	<input type="checkbox"/> Denied
Signature:	Date:	

Permit Taken By: Idehson	Date Applied For: 08/23/2005	Zoning Approval
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- This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.
- Building permits do not include plumbing, septic or electrical work.
- Building permits are void if work is not started within six (6) months of the date of issuance. False information may invalidate a building permit and stop all work..

Special Zone or Reviews <input type="checkbox"/> Shoreland NA <input type="checkbox"/> Wetland <input checked="" type="checkbox"/> Flood Zone Panel 13 Zone C <input type="checkbox"/> Subdivision <input checked="" type="checkbox"/> Site Plan #2005-0191 Maj <input type="checkbox"/> Minor <input type="checkbox"/> MM <input checked="" type="checkbox"/> ok with conditions Date: 8/26/05
--

Zoning Appeal <input type="checkbox"/> Variance <input type="checkbox"/> Miscellaneous <input type="checkbox"/> Conditional Use <input type="checkbox"/> Interpretation <input type="checkbox"/> Approved <input type="checkbox"/> Denied Date:

Historic Preservation <input checked="" type="checkbox"/> Not in District or Landmark <input type="checkbox"/> Does Not Require Review <input type="checkbox"/> Requires Review <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied Date:
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CERTIFICATION

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the application is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT	ADDRESS	DATE	PHONE
RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE		DATE	PHONE

City of Portland, Maine - Building or Use Permit

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No: 05-1202	Date Applied For: 08/23/2005	CBL: 191 B037001
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Location of Construction: 60 Willow Ln. Lot #7	Owner Name: Erin Associates Llc	Owner Address: 13 Acorn Ln	Phone:
Business Name:	Contractor Name: Erin Associates LLC	Contractor Address: 13 Acorn Ln South Portland	Phone (207) 838-8575
Lessee/Buyer's Name	Phone:	Permit Type: Single Family	

Proposed Use: Single Family Home/ Build a new 2100 sq ft single family home	Proposed Project Description: Build a new 2100 sq ft single family home
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Dept: Zoning	Status: Approved with Conditions	Reviewer: Marge Schmuckal	Approval Date: 08/26/2005
Note:			Ok to Issue: <input checked="" type="checkbox"/>
<ol style="list-style-type: none"> 1) Separate permits shall be required for future decks, sheds, pools, and/or garages. 2) This property shall remain a single family dwelling. Any change of use shall require a separate permit application for review and approval. 3) This permit is being approved on the basis of plans submitted. Any deviations shall require a separate approval before starting that work. 			

Dept: Building	Status: Approved with Conditions	Reviewer: Jeanine Bourke	Approval Date: 10/17/2005
Note: 10/4/05 received revised plans, still need more detail 10/17 Jim M. Came in to make notes on plans, reviewed items on TM checklist, ok to issue			Ok to Issue: <input checked="" type="checkbox"/>
<ol style="list-style-type: none"> 1) The design load spec sheets for any engineered beam(s) must be submitted to this office. 2) Permit approved based on the plans submitted and reviewed w/owner/contractor, with additional information as agreed on and as noted on plans. 			

Dept: DRC	Status: Approved with Conditions	Reviewer: Jay Reynolds	Approval Date: 08/30/2005
Note:			Ok to Issue: <input checked="" type="checkbox"/>
<ol style="list-style-type: none"> 1) Two (2) City of Portland approved species and size trees must be planted on your street frontage prior to issuance of a Certificate of Occupancy. 2) All Site work (final grading, landscaping, loam and seed) must be completed prior to issuance of a certificate of occupancy. 3) The Development Review Coordinator reserves the right to require additional lot grading or other drainage improvements as necessary due to field conditions. 4) A sewer permit is required for your project. Please contact Carol Merritt at 874-8300, ext . 8822. The Wastewater and Drainage section of Public Works must be notified five (5) working days prior to sewer connection to schedule an inspector for your site. 5) PRIVATE ACCESS EASEMENTS MAY NEED TO BE CONVEYED BETWEEN LOTS 7 AND 8 TO PROPERLY GIVE RIGHTS TO EACH LOT OWNER (IF THE SHARED DRIVEWAY TURNAROUND IS BUILT). 6) THE EXISTING CATCH BASIN LOCATED ON LOT 7 SHALL BE PROTECTED FROM EROSION WITH SILT FENCE AND/OR OTHER METHODS. 			

Dept: Planning	Status: Not Applicable	Reviewer: Jay Reynolds	Approval Date: 08/30/2005
Note:			Ok to Issue: <input checked="" type="checkbox"/>

Comments:
9/27/2005-tmm: left message w/builder - need to get copy of review list. Spoke w/Jim - will pick up list

Location of Construction: 60 Willow Ln. Lot #7	Owner Name: Erin Associates Llc	Owner Address: 13 Acorn Ln	Phone:
Business Name:	Contractor Name: Erin Associates LLC	Contractor Address: 13 Acorn Ln South Portland	Phone (207) 838-8575
Lessee/Buyer's Name	Phone:	Permit Type: Single Family	

1/9/2007-dmartin: Granite construction is no longer the GC on this project it will be done by the property owner...Erin Associates & Dana Ireland.

9/24/2008-jmb: Dana Ireland came in on 9/8/08 inquiring about reactivating the permit. This has expired (see letter) and a new application will need to be submitted.



PORTLAND MAINE

Strengthening a Remarkable City, Building a Community for Life • www.portlandmaine.gov

Director of Planning and Urban Development
Penny St. Louis Littell

Inspection Services, Director
Jeanie Bourke

September 24, 2008

Erin Associates, LLC
Attn. Dana Ireland
13 Acorn Lane
South Portland, ME 04106

RE: 60 Willow Lane
CBL: 191 B037001
Permit #: 05-1202

Dear Mr. Ireland,

This letter serves as notification that the above referenced building permit is considered expired per the building code adopted by the City of Portland.

The International Residential Code 2003 Sec. R105.5 states: **Every permit issued shall become invalid unless the work authorized by such permit is commenced within 180 days after its issuance, or if the work authorized by such permit is suspended or abandoned for a period of 180 days after the time the work is commenced. The building official is authorized to grant, in writing, one or more extensions of time, for periods not more than 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.**

This permit was approved on October 17, 2005, and based on the inspection entry notes; the foundation backfill was performed on January 20, 2006. There is a comment in the computer program from the administrative assistant on January 9, 2007 that you came to this office to report that Granite Construction was no longer the general contractor. This office did not receive a letter of request for an extension of this permit.

Based on that information and the suspension of work well in excess of 180 days, this permit is no longer valid. If you wish to resume work on this project, an application must be submitted for review for zoning, building and site plan approvals. Please feel free to access the previously approved plans when you submit the new application.

Feel free to contact me if you need additional information.

BUILDING PERMIT INSPECTION PROCEDURES

Please call 874-8703 or 874-8693 to schedule your inspections as agreed upon

Permits expire in 6 months, if the project is not started or ceases for 6 months.

The Owner or their designee is required to notify the inspections office for the following inspections and provide adequate notice. Notice must be called in 48-72 hours in advance in order to schedule an inspection:

By initializing at each inspection time, you are agreeing that you understand the inspection procedure and additional fees from a "Stop Work Order" and "Stop Work Order Release" will be incurred if the procedure is not followed as stated below.


A Pre-construction Meeting will take place upon receipt of your building permit.

- Footing/Building Location Inspection: Prior to pouring concrete
- Re-Bar Schedule Inspection: Prior to pouring concrete
- Foundation Inspection: Prior to placing ANY backfill
- Framing/Rough Plumbing/Electrical: Prior to any insulating or drywalling
- Final/Certificate of Occupancy: Prior to any occupancy of the structure or use. NOTE: There is a \$75.00 fee per inspection at this point.

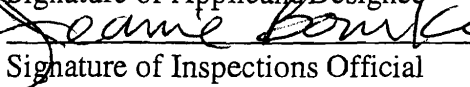
Certificate of Occupancy is not required for certain projects. Your inspector can advise you if your project requires a Certificate of Occupancy. All projects DO require a final inspection

If any of the inspections do not occur, the project cannot go on to the next phase, REGARDLESS OF THE NOTICE OR CIRCUMSTANCES.

CERIFICATE OF OCCUPANICES MUST BE ISSUED AND PAID FOR, BEFORE THE SPACE MAY BE OCCUPIED


Signature of Applicant/Designee

10/17/05
Date


Signature of Inspections Official

10/17/05
Date

CBL: 191-B-37

Building Permit #: 05-1202



Residential Building Permit Application

If you or the property owner owes real estate or personal property taxes or user charges on any property within the City, payment arrangements must be made before permits of any kind are accepted.

Location/Address of Construction: Lot 7 Willow Lane

Total Square Footage of Proposed Structure 2100 Square Footage of Lot 16,543

Tax Assessor's Chart, Block & Lot
Chart# 191 Block# B Lot# 37

Owner: ERIN + ASS.

Telephone: 632 1124

Lessee/Buyer's Name (If Applicable)
Spec.

Applicant name, address & telephone:
Granite Const.
PO Box 8790
Port Me 04104 632 1124

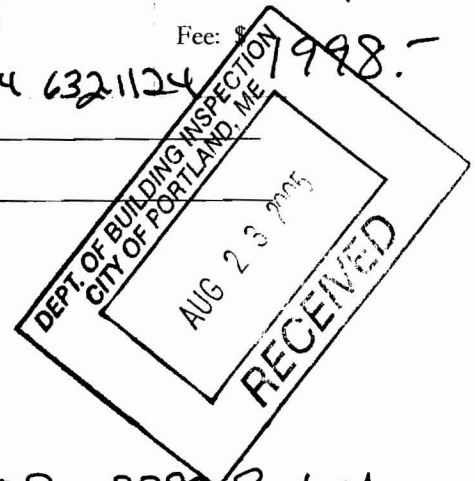
Cost Of Work: \$ 178,000

Fee: \$ 1998.-

Current Specific use: LAND

Proposed Specific use: Single Family

Project description: 2100 sq ft



Contractor's name, address & telephone: Granite Const. PO Box 8790 Port Me 04104

Who should we contact when the permit is ready: JIM MESSER

Mailing address: PO Box 8790
Portland ME 04104

Phone: 632-1124

Please submit all of the information outlined in the Residential Application Checklist. Failure to do so will result in the automatic denial of your permit.

At the discretion of the Planning and Development Department, additional information may be required prior to permit approval. For further information stop by the Building Inspections office, room 315 City Hall or call 874-8703.

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Code Official's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

Signature of applicant: [Signature]

Date: 8/1/05

Permit Fee: \$90.00 for the first \$1000.00 Construction Cost, \$9.00 per additional \$1000.00 cost

This is not a Permit; you may not commence any work until the Permit is issued.

Applicant/Owner: Jim Messer

Date: 8/26/05

Address: 60 Willow Lane
(called lot #)

C-B-L: 191-B-037

CHECK-LIST FOR ZONING COMPLIANCE - PRUDS

Permit Application Number: # 05-1202

New or Existing Development: empty lot in existing Willow Dev.

Zone Location: R-5 PRUD

30' x 36'

Proposed Work/Use to construct new single family with 1 car garage wrap around front deck ^{attached}

Interior or corner lot:

Sewage Disposal: City

Street Frontage: 50' m - 159' sh

Max. Height: 35' MAX - 29.5' to lowest grade

Max. Length of Bldg - with/without attached garage(s): -140' - 41' with deck

check in field →

Min. Setbacks from External Subdivision Property Lines: (length 100' across) - 25' m - 25' exactly

Min. Distance Between Detached PRUD Buildings: N/A in R-5 PRUD

Required Recreation Open Space: See Existing Approval

Lot Area Required: 6,000[#] m - 16,543[#] given

Net Land Area Per Dwelling Unit: 3,000[#]

Off-street Parking: 2 pkg spaces req - 1 car garage sh + 1 in drive

Site Plan: mm or/mm or # 2005-0191

Shoreland/Stream Protection: N/A

Flood Plain: panel 13 Zone C

5x16 & 5x18 wrap around deck
2x4 rear steps

**CITY OF PORTLAND, MAINE
DEVELOPMENT REVIEW APPLICATION
PLANNING DEPARTMENT PROCESSING FORM
Zoning Copy**

2005-0191
Application I. D. Number

8/23/2005
Application Date

Single Family Home Lot #7
Project Name/Description

Erin Associates Llc
Applicant
13 Acorn Ln , South Portland, ME 04106
Applicant's Mailing Address
Jim Messer
Consultant/Agent
Agent Ph: _____ Agent Fax: _____

Marge Schmuckal

60 - 60 Willow Ln, Portland, Maine
Address of Proposed Site
191 B037001
Assessor's Reference: Chart-Block-Lot

Applicant or Agent Daytime Telephone, Fax
Proposed Development (check all that apply): New Building Building Addition Change Of Use Residential Office Retail
 Manufacturing Warehouse/Distribution Parking Lot Other (specify) _____
2100 **16543**
Proposed Building square Feet or # of Units Acreage of Site Zoning

Check Review Required:

- | | | | |
|---|--|--|--|
| <input checked="" type="checkbox"/> Site Plan (major/minor) | <input type="checkbox"/> Subdivision # of lots _____ | <input type="checkbox"/> PAD Review | <input type="checkbox"/> 14-403 Streets Review |
| <input type="checkbox"/> Flood Hazard | <input type="checkbox"/> Shoreland | <input type="checkbox"/> Historic Preservation | <input type="checkbox"/> DEP Local Certification |
| <input type="checkbox"/> Zoning Conditional Use (ZBA/PB) | <input type="checkbox"/> Zoning Variance | | <input type="checkbox"/> Other _____ |

Fees Paid: Site Pla **\$50.00** Subdivision _____ Engineer Review **\$250.00** Date **8/24/2005**

Zoning Approval Status:

Reviewer _____

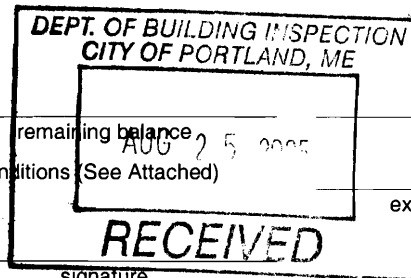
- Approved Approved w/Conditions See Attached Denied

Approval Date _____ Approval Expiration _____ Extension to _____ Additional Sheets Attached
 Condition Compliance _____ signature _____ date _____

Performance Guarantee Required* Not Required

* No building permit may be issued until a performance guarantee has been submitted as indicated below

- | | | | |
|---|----------------|-----------|-----------------|
| <input type="checkbox"/> Performance Guarantee Accepted | _____ | _____ | _____ |
| | date | amount | expiration date |
| <input type="checkbox"/> Inspection Fee Paid | _____ | _____ | |
| | date | amount | |
| <input type="checkbox"/> Building Permit Issue | _____ | _____ | |
| | date | | |
| <input type="checkbox"/> Performance Guarantee Reduced | _____ | _____ | _____ |
| | date | | signature |
| <input type="checkbox"/> Temporary Certificate of Occupancy | _____ | _____ | _____ |
| | date | | expiration date |
| <input type="checkbox"/> Final Inspection | _____ | _____ | _____ |
| | date | signature | |
| <input type="checkbox"/> Certificate Of Occupancy | _____ | _____ | |
| | date | | |
| <input type="checkbox"/> Performance Guarantee Released | _____ | _____ | _____ |
| | date | signature | |
| <input type="checkbox"/> Defect Guarantee Submitted | _____ | _____ | _____ |
| | submitted date | amount | expiration date |
| <input type="checkbox"/> Defect Guarantee Released | _____ | _____ | _____ |
| | date | signature | |



1

QUITCLAIM DEED WITHOUT COVENANT

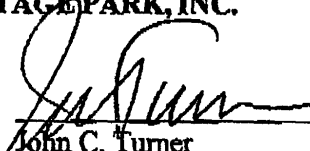
KNOW ALL BY THESE PRESENTS, that **COTTAGE PARK, INC.**, a Maine corporation, for good and valuable consideration, **RELEASES** to the **BANKRUPTCY ESTATE OF FREDERIC D. WEINSCHENK, D/B/A RIC WEINSCHENK BUILDERS, INC.**, whose mailing address is c/o J.C. Turner & Associates, Inc., 37 Mountain View Drive (Poland), P.O. Box 1897, Auburn, ME 04211-1897, certain real estate located in the City of Portland, County of Cumberland, and State of Maine, which is more particularly described in Exhibit A attached hereto and made a part hereof.

IN WITNESS WHEREOF, **COTTAGE PARK, INC.** has caused this instrument to be executed by its duly authorized undersigned representative, this 27th day of May, 2004.

SIGNED, SEALED AND DELIVERED
IN THE PRESENCE OF:



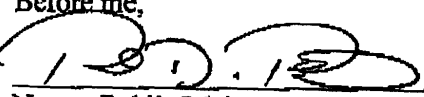
COTTAGE PARK, INC.

By: 
_____ **John C. Turner**
Its Authorized Representative

STATE OF MAINE
County of Cumberland, SS.

May 27th, 2004

Then personally appeared the above-named John C. Turner, Authorized Representative of **COTTAGE PARK, INC.**, and acknowledged the foregoing instrument to be his free act and deed in his said capacity, and the free act and deed of said **COTTAGE PARK, INC.**

Before me,


Notary Public/Maine Attorney-at-Law
Printed Name: PAUL D. PIETROPAOLI
Commission Expires: _____

①

File No: Q4030767

Exhibit A - Deed

Certain real property located in the City of Portland, County of Cumberland and State of Maine, being more particularly described as follows:

Lots 6,7,8, and 9 as shown on a plan entitled "Lot Configuration Plan, Willow, Lassell and Mitton Streets" dated August 6, 1996, and revised through December 2, 1996, and recorded in the Cumberland County Registry of Deeds in Plan Book 197, Page 1.

Together with all right title and interest in and to development rights, if any, of the grantor, and other rights, if any, as set forth in the Declaration of Covenants and Restrictions of "Cottage Park" as described in said Declaration at Book 11144, Page 333 of the Cumberland County Registry of Deeds and the "limited joinder" of said Declaration as set forth in Book 11339, Page 335 and the further declaration of Covenants and Restrictions as set forth in Book 11339, Page 336 of the Cumberland County Registry of Deeds.

ST Together with
All other real property owned by Grantor and located in the State of Maine.

Received
Recorded Register of Deeds
Jan 02, 2004 11:28:02A
Cumberland County
John B O'Brien

ST



Residential Building Permit Application Checklist

All of the following information is required and must be submitted in order to help insure an expeditious permitting process.

A complete set of construction drawings must include:

- Cross sections w/framing details
- Detail of any new walls or permanent partitions
- Floor Plans & Elevations
- Window and door schedules
- Foundation plans with required drainage and damp proofing (if applicable)
- Electrical and plumbing layout. Mechanical drawings for any specialized equipment such as furnaces, chimneys, gas equipment, HVAC equipment (air handling) or other types of work that may require special review must be included.

Separate permits are required for internal & external plumbing, HVAC, and electrical installations.

If there are any additions to the footprint or volume of the new or existing structure(s), a plot plan is required and must include:

- The shape and dimension of the lot, footprint of the proposed structure and the distance from the actual property lines drawn to scale. Structures include decks porches; a bow windows cantilever sections and roof overhangs, sheds, pools, garages and any other accessory structures must be shown.
- Boundary survey to scale showing north arrow; zoning district and setbacks
- First floor sill elevation (based on mean sea level datum)
- Location and dimensions of parking areas and driveways
- Location and size of both existing utilities in the street and the proposed utilities serving the building
- Location of areas on the site that will be used to dispose of surface water
- Existing and proposed grade contours
- Silt fence locations

Surveyor's monuments must be in place and the lot staked for a setback inspection.

Please submit all of the information outlined in this Residential Application Checklist. Failure to do so will result in the automatic denial of your permit.

At the discretion of the Planning and Development Department, additional information may be required prior to permit approval. For further information stop by the Building Inspections office, room 315 City Hall or call 874-8703.

Permit Fee: \$30.00 for the first \$1000.00 Construction Cost, \$9.00 per additional \$1000.00 cost

This is not a Permit; you may not commence any work until the Permit is issued.



Generated by REScheck Package Generator
REScheck Inspection Checklist

Project Title: Untitled

Ceilings:

- Ceiling: , R-40.0 cavity insulation

Comments: _____

Above-Grade Walls:

- Wall: , R-20.0 cavity insulation

Comments: _____

Windows:

- Window: , U-factor: 0.280

For windows without labeled U-factors, describe features:

#Panes ____ Frame Type _____ Thermal Break? ____ Yes ____ No

Comments: _____

Doors:

- Door: , U-factor: 0.350

Comments: Front door exempt

Floors:

- Floor: , R-19.0 cavity insulation

Comments: _____

Air Leakage:

- Joints, penetrations, and all other such openings in the building envelope that are sources of air leakage must be sealed.
- Recessed lights must be 1) Type IC rated, or 2) installed inside an appropriate air-tight assembly with a 0.5" clearance from combustible materials. If non-IC rated, the fixture must be installed with a 3" clearance from insulation.

Skylights:

- Minimum insulation requirement for skylight shafts equal to or greater than 12 inches is R-19.

Vapor Retarder:

- Required on the warm-in-winter side of all non-vented framed ceilings, walls, and floors.

Materials Identification:

- Materials and equipment must be installed in accordance with the manufacturer's installation instructions.
- Materials and equipment must be identified so that compliance can be determined.
- Manufacturer manuals for all installed heating and cooling equipment and service water heating equipment must be provided.
- Insulation R-values and glazing U-factors must be clearly marked on the building plans or specifications.

Duct Insulation:

- Supply ducts in unconditioned attics or outside the building must be insulated to R-8.
- Return ducts in unconditioned attics or outside the building must be insulated to R-4.
- Supply ducts in unconditioned spaces must be insulated to R-8.
- Return ducts in unconditioned spaces (except basements) must be insulated to R-2.
- Where exterior walls are used as plenums, the wall must be insulated to R-8.
- Insulation is not required on return ducts in basements.

Duct Construction:

- Duct connections to flanges of air distribution system equipment must be sealed and mechanically fastened.
- All joints, seams, and connections must be securely fastened with welds, gaskets, mastics (adhesives), mastic-plus-embedded-fabric, or tapes. Tapes and mastics must be rated UL 181A or UL 181B.
Exception: Continuously welded and locking-type longitudinal joints and seams on ducts operating at less than 2 in. w.g. (500 Pa).
- The HVAC system must provide a means for balancing air and water systems.

Temperature Controls:

- Thermostats are required for each separate HVAC system. A manual or automatic means to partially restrict or shut off the heating and/or cooling input to each zone or floor shall be provided.

Service Water Heating:

- Water heaters with vertical pipe risers must have a heat trap on both the inlet and outlet unless the water heater has an integral heat trap or is part of a circulating system.
- Insulate circulating hot water pipes to the levels in Table 1.

Circulating Hot Water Systems:

- Insulate circulating hot water pipes to the levels in Table 1.

Swimming Pools:

- All heated swimming pools must have an on/off heater switch and require a cover unless over 20% of the heating energy is from non-depletable sources. Pool pumps require a time clock.

Heating and Cooling Piping Insulation:

- HVAC piping conveying fluids above 105°F or chilled fluids below 55°F must be insulated to the levels in Table 2.

Table 1: *Minimum Insulation Thickness for Circulating Hot Water Pipes*

Heated Water Temperature (°F)	Insulation Thickness in Inches by Pipe Sizes			
	Non-Circulating Runouts		Circulating Mains and Runouts	
	Up to 1"	Up to 1.25"	1.5" to 2.0"	Over 2"
170-180	0.5	1.0	1.5	2.0
140-169	0.5	0.5	1.0	1.5
100-139	0.5	0.5	0.5	1.0

Table 2: *Minimum Insulation Thickness for HVAC Pipes. Hot Water Pipes*

Piping System Types	Fluid Temp. Range(°F)	Insulation Thickness in Inches by Pipe Sizes			
		2" Runouts	1" and Less	1.25" to 2.0"	2.5" to 4"
Heating Systems					
Low Pressure/Temperature	201-250	1.0	1.5	1.5	2.0
Low Temperature	106-200	0.5	1.0	1.0	1.5
Steam Condensate (for feed water)	Any	1.0	1.0	1.5	2.0
Cooling Systems					
Chilled Water, Refrigerant and Brine	40-55	0.5	0.5	0.75	1.0
	Below 40	1.0	1.0	1.5	1.5

NOTES TO FIELD: (Building Department Use Only)
