



1130 N. Bethlehem Pike
Spring House, PA 19477
215.646.5302 (p) 215.646.3357 (f)

APPLICATION FOR PERMIT

(All below relevant fields must be filled out prior to submission)

Parcel Information (must be filled out for all work):

Address of work to be performed: _____

Property Type: ☐ Residential ☐ Commercial Zoning District: _____

Parcel Owner Name: _____

(copy of signed contract must be included with submission)

Parcel Owner Address: (if different than address listed above)

_____ Parcel Owner Phone: _____

Parcel Owner Email: _____

Contractor Information (current COI is required with each submission):

Business Name: _____ Contractor Name: _____

Business Address: _____

Business Phone: _____ Cell Phone: _____

Email: _____

HIC PA License #(residential work): PA _____ LGT Contractor License # (commercial work): C- _____

Architect/Engineer information:

Name: _____

Phone: _____ Email: _____

Zoning Information: (a site plan showing existing setbacks to be included with submission)

Zoning District: _____ ZHB Approval Received: Yes () N/A () (copy of Decision & Order to be attached)

% of Current Impervious Coverage _____ % of Proposed Impervious Coverage: _____

Lot Frontage (width): _____ Lot Depth: _____

Current Front Yard Setback: _____ Current Rear Yard Setback: _____ Current Side Yard Setback: _____

Proposed Front Yard Setback: _____ Proposed Rear Yard Setback: _____ Proposed Side Yard Setback: _____

Height of Proposed Building: _____

Building Permit Information:

Type of construction (check off all that apply):

☐ New Construction (new homes require separate breakdown sheet of sq. footage of each level/patio/deck/garage/attic or crawl spaces)

☐ Pre-Submission Plan Review (Commercial) ☐ Pre-Submission Plan Review (Single Family Residential)

☐ Kitchen Alteration

☐ Oil Tank

☐ Reroof Commercial

☐ Reroof Residential (required only if sheathing is being replaced)

☐ Alteration/Addition

☐ Sheds (over 200 sf)

☐ Antenna/Cell Tower

☐ Solar Panels

☐ Accessory Structures (decks, garages, porches, pavilions etc..)

☐ Bathroom Remodel

☐ Swimming Pools, Tennis/Basketball Courts/Other Recreational Uses

☐ Demolition (SEE ATTACHED REQUIREMENT LIST)

☐ Storage Tank

☐ Gas Fireplace

☐ Stucco/Siding

☐ Generator (see generator requirement sheet)

☐ Tenant Fit-Out

☐ Interior Renovation (attach worklist)

☐ Tents (open sides > 700 sf / closed sides > 400 sf)

Sq. footage of work to be performed: _____ Cost of work: \$ _____

Type of Sewage: ☐ Public/Private ☐ Individual (septic tank etc.) Type of Water Supply: ☐ Public/Private ☐ Well

Automatic Fire Sprinkler System Installed ☐ Yes ☐ No Fire Alarm ☐ Yes ☐ No

Proposed Number of Employees: _____ Proposed Parking Spaces: _____

Description of work: _____

Approved By BCO: _____ Date: _____

Zoning Officer's Signature: _____ Date: _____ LGT PERMIT # _____

Electrical Permit Information:

Electrical Contractor Information (current COI is required with each submission)

Business Name: _____

Business Address: _____

LGT Current Master Electrician License #: EL-_____ Phone: _____

Email: _____ Cost of Work: \$ _____

Description of Electrical Work to be Performed:

Electrical Inspection Agency **(all electrical plans must have a third-party stamp prior to submission)**:

- ☐ Middle Department Inspection Agency ☐ Middle Atlantic Electrical Inspections
☐ Code Inspections ☐ Bureau Veritas North America
☐ United Inspection Agency

I do hereby attest that the information provided on this application is true and that I am versed in the National Electric Code and the Lower Gwynedd Township Electrical Ordinance; further, I understand that I am responsible for meeting the requirements of these codes on all work performed in Lower Gwynedd Township.

Signature of Master Electrician: _____

Printed Name: _____ Date: _____

Approved By BCO: _____ Date: _____

Zoning Officer's Signature: _____ Date: _____

LGT Permit #: _____

Plumbing Permit Information:

Plumbing Contractor Information (current COI is required with each submission)

Business Name: _____

Business Address: _____

LGT Current Master Plumber License #: P- _____ Phone: _____

Email: _____ Cost of Work: \$ _____

BELOW FIXTURE TABLE MUST BE FILLED OUT:

FLOORS	YARD	BASEMENT	1 ST	2 ND	3 RD	4 TH	5 TH	6 TH	7 TH	8 TH	9 TH	10 TH	TOTAL:
Toilets													
Bath Tubs													
Shower/Bath													
Lavatories													
Sinks													
Wash Tubs													
Slop Hopper													
Urinals													
Outlets													
Drainage Wells													
*\$35 Garbage Grinder													
*\$150 Ejector Pump													
Gasline LP/NG													
Water Heater													
BYPASS METER													

All proposed work under this application must be shown on plans and section. All vertical lines of soil, waste, leader and refrigerator pipes shall be designated by numbers or letters. A soil or waste line and its attendant vent line may be considered as one stack and so numbered or lettered. All work, materials and construction will be in accordance with the rules and regulations of the plumbing code. I do hereby attest that the information provided on this application is true, and that I am versed in the Lower Gwynedd Township Plumbing Ordinance; and further, I understand that I am responsible for meeting the requirements of these codes on all work performed in Lower Gwynedd Township

Approved By BCO: _____ Date: _____

Zoning Officer's Signature: _____ Date: _____ LGT PERMIT # _____



DETERMINING THE DIAMETER OF NG/LP PIPING

TOTAL BTU'S OF NG/LP APPLIANCES (INCLUDING GENERATOR) IN BUILDING: _____

TOTAL BTU'S ON DEDICATED LINE: _____

INLET PRESSURE: _____ OR _____
W.C. INCHES PSI

FT OF PIPE RUN PROPOSED: _____ + _____ = _____
FT. #BENDS X (FACTOR) TOTAL # FT.

FACTOR

GENERAC AND HONEYWELL NG AND LP ADD 2.5 FT. FOR EACH BEND

KOHLER NG AND LP ADD 8 FT. FOR EACH BEND

GAS PIPING MATERIAL PROPOSED (PLEASE CHECK MATERIAL PROPOSED)

GALV _____ PLASTIC _____ CSST _____ - TUBE SIZE(EHD) _____ COPPER _____

DIAMETER GAS PIPING PROPOSED: _____

NOTES:

- A. PRESSURE TEST OF 1.5x THE OPERATING PRESSURE FOR NG/LP REQUIRED (PERFORMED IN THE PRESENCE OF CODE INSPECTOR);
- B. GALVANIZED PIPE MUST BE A MINIMUM OF 3-1/2" ABOVE GROUND;
- C. PLASTIC, COPPER NOT PERMITTED ABOVE GROUND UNLESS SLEEVED; CSST MUST BE SLEEVED IF INSTALLED BETWEEN GROUND AND A HEIGHT OF 6' FEET.

Increase of Natural Gas Load

The information contained on this form is required to process your request to increase your natural gas load. Please complete this form and return as follows:

Delaware, York, & Chester Counties & Lower Merion mail to:
 1060 W. Swedesford Rd, Berwyn, PA. 19312
OR FAX to 610-648-7771
delchesternewbusiness@exeloncorp.com

Bucks & Montgomery counties mail to:
 400 Park Av, Warminster, PA. 18974
OR FAX to 215-956-3240
bucksmontnewbusiness@exeloncorp.com

QUESTIONS? CALL 1-800-454-4100

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From: _____

Phone: _____

1. Please provide the following information for the location of the gas service.

Note: If additional meter sets are required, please supply the billing information.

Customer Info: ☐ Own Property ☐ Lease Property

Square Footage of home _____

Customer Name _____

Service Address _____

City, State, Zip _____

Telephone _____

Acct. Number _____

Contractor 's Name _____

Company Name _____

Street Address _____

City, State, Zip _____

Telephone _____

E-Mail _____

2. _____ RESIDENTIAL _____ COMMERCIAL

3. TYPE OF BUSINESS: (COMMERCIAL ONLY)

- ☐ Separation of piping (need additional meter set (s))
☐ New Increase in Load
☐ New Increase in Pressure

- ☐ Retail Store ☐ Institutional
☐ Office/Commercial ☐ Governmental
☐ Restaurant ☐ Industrial
☐ Warehouse ☐ Other

****PLEASE NOTE THAT ALL REQUESTS FOR ADDITIONAL LOAD TO PECO GAS SYSTEMS MUST BE REVIEWED FOR CAPACITY. DO NOT INSTALL ANY NEW GAS FIRED APPLIANCES WITHOUT FIRST CONSULTING WITH A PECO REPRESENTATIVE****

4. EQUIPMENT LIST ITEMIZATION Will "heating load" Be added (i.e.: furnace, boiler, IR heater, rooftop heater)? Will "process load" be added (i.e.: water heater, paint dryers, fryer, grills)? Please provide the BTU input for EACH PIECE of equipment to be installed.

New	Btu Input	Existing (Boiler, Furnace, WH, Grill)	BTU Input
Sample: Pool Heater	400,000 BTU's	Sample: Furnace	100,000 BTU's
TOTAL NEW		TOTAL EXISTING	

5. WHICH NATURAL GAS DELIVERY PRESSURE IS REQUIRED TO YOUR BUILDING:

☐ LOW 6" w.c. (0.21 PSIG) ☐ 12.2" w.c. (0.44 PSIG) ☐ 2 PSIG ☐ 5 PSIG ☐ 10 PSIG ☐ LINE

HVAC Permit Information:

RESIDENTIAL WORK: ATTACHED ACCA FORM AND MANUAL CALCULATION MUST BE SUBMITTED WITH YOUR APPLICATION

COMMERCIAL WORK: ALL INFORMATION REQUIRED TO DETERMINE CODE COMPLIANCE MUST BE PROVIDED WITH YOUR APPLICATION (Lower Gwynedd Contractor's License is required for all commercial work)

HVAC Contractor Information (current COI is required with each submission)

Business Name: _____

Business Address: _____

HIC PA License # (residential work): PA_____ LGT Contractor License #: C-_____

Phone: _____ Email: _____

Cost of Work: \$_____

Description of HVAC Work to be Performed:

LGT PERMIT # _____

Permit Package Approved By BCO: _____

Date: _____

Zoning Officer's Signature: _____

Date: _____



Residential Plans Examiner Review Form for HVAC System Design (Loads, Equipment, Ducts)

Form
RPER 1.01
8 Mar 10

County, Town, Municipality, Jurisdiction
Header Information

Contractor _____
Mechanical License # _____
Building Plan # _____
Home Address (Street or Lot#, Block, Subdivision) _____

REQUIRED ATTACHMENTS¹

Manual J1 Form (and supporting worksheets):
or MJ1AE Form² (and supporting worksheets):
OEM performance data (heating, cooling, blower):
Manual D Friction Rate Worksheet:
Duct distribution system sketch:

ATTACHED

Yes ☐ No ☐
Yes ☐ No ☐
Yes ☐ No ☐
Yes ☐ No ☐
Yes ☐ No ☐

HVAC LOAD CALCULATION (IRC M1401.3)

Design Conditions

Winter Design Conditions

Outdoor temperature _____ °F
Indoor temperature _____ °F
Total heat loss _____ Btu

Summer Design Conditions

Outdoor temperature _____ °F
Indoor temperature _____ °F
Grains difference _____ Δ Gr @ _____ % Rh
Sensible heat gain _____ Btu
Latent heat gain _____ Btu
Total heat gain _____ Btu

Building Construction Information

Building

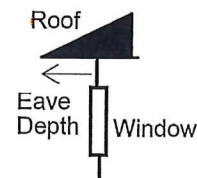
Orientation (Front door faces) _____
North, East, West, South, Northeast, Northwest, Southeast, Southwest

Number of bedrooms _____
Conditioned floor area _____ Sq Ft

Number of occupants _____

Windows

Eave overhang depth _____ Ft
Internal shade _____
Blinds, drapes, etc _____
Number of skylights _____



HVAC EQUIPMENT SELECTION (IRC M1401.3)

Heating Equipment Data

Equipment type _____
Furnace, Heat pump, Boiler, etc.
Model _____
Heating output capacity _____ Btu
Heat pumps - capacity at winter design outdoor conditions
Auxiliary heat output capacity _____ Btu

Cooling Equipment Data

Equipment type _____
Air Conditioner, Heat pump, etc.
Model _____
Sensible cooling capacity _____ Btu
Latent cooling capacity _____ Btu
Total cooling capacity _____ Btu

Blower Data

Heating CFM _____ CFM
Cooling CFM _____ CFM

HVAC DUCT DISTRIBUTION SYSTEM DESIGN (IRC M1601.1)

Design airflow _____ CFM
External Static Pressure (ESP) _____ IWC
Component Pressure Losses (CPL) _____ IWC
Available Static Pressure (ASP) _____ IWC
ASP = ESP - CPL
Longest supply duct: _____ Ft
Longest return duct: _____ Ft
Total Effective Length (TEL) _____ Ft
Friction Rate: _____ IWC
Friction Rate = (ASP × 100) ÷ TEL
Duct Materials Used (circle)
Trunk Duct: Duct board, Flex, Sheet metal, Lined sheet metal, Other (specify) _____
Branch Duct: Duct board, Flex, Sheet metal, Lined sheet metal, Other (specify) _____

I declare the load calculation, equipment selection, and duct system design were rigorously performed based on the building plan listed above, I understand the claims made on these forms will be subject to review and verification.

Contractor's Printed Name _____ Date _____
Contractor's Signature _____

Reserved for use by County, Town, Municipality, or Authority having jurisdiction.

¹ The AHJ shall have the discretion to accept Required Attachments printed from approved ACCA software vendors, see list on page 2 of instructions.

² If abridged version of Manual J is used for load calculation, then verify residence meets requirements, see Abridged Edition Checklist on page 13 of instructions.



Residential Energy Efficiency Worksheet – 2018

2015 IRC, 2015 IECC & PA Alternative Residential Energy Provisions

Address of Project: _____ Building Permit #: _____

Print Name-Title: _____ Signature: _____ Date: _____

PA UCC Energy Compliance Path (Check One)

- ☐ 1. Pennsylvania Alternate Energy Provisions – Choose Entry Option on Page #2
- ☐ 2. IRC Chapter 11
- ☐ 3. IECC – Chapter 4
- ☐ 4. Above Code Program -REScheck or other: _____

Insulation and Fenestration Requirements by Component (PA Alternate & IRC Chapter 11)

Wood Frame Walls (R-value)	R-20 cavity or R-13 cavity + R-5 insulated sheathing
Ceilings with Attic Space (R-value)	R-49 (R-38 approved if not compressed over wall top plates)
Ceilings without Attic Space (R-value)	R-30 where roof/ceiling assemblies do not allow R-38 <u>Limited to lesser of 500 square feet or 20% of area - IRC only</u>
Floors (R-value)	R-30 (or insulation to fill framing cavity, min R-19) R-19 permitted in basement floors per PA Alt.
Basement Walls (R-value)	IRC R-15 continuous insulation or R-19 cavity insulation PA Alt. R-10 continuous insulation or R-13 cavity insulation
Crawl Space Walls (R-value)	IRC R-15 continuous insulation or R-19 cavity insulation PA Alt. R-10 continuous insulation or R-13 cavity insulation
Unexcavated Foundation (R-value)	R-10 to a depth of 2 feet (add R-5 if slab heated)
Mechanical System Piping	R-3 HVAC piping <55 deg or > 105 deg
HVAC Duct Insulation	Attic Ducts R-8 for 3" diameter & greater, R-6 less than 3" Other Ducts R-6 for 3" diameter & greater, R-4.2 less than 3" No insulation required for ducts completely inside thermal envelope 0.32 maximum (15 sqft. window exemption) (Opaque Door Exemptions - 24 sq. ft. IRC, 54 sq. ft. PA Alt.)
Window & Door (U-factor)	R-24 Ceilings, R-13 Walls, 0.45 Glazing U-factor
Thermally Isolated Sunroom	IC rated and <i>labeled</i> ASTM E283
Recessed Lights in Thermal Envelope	Minimum 75% high-efficacy lamps in permanent light fixtures
Lighting Equipment	

Air Leakage – Building Thermal Envelope. Building envelope air tightness and insulation installation shall be demonstrated to comply with one of the following options. **Testing does not apply to additions & alterations.**

- ☐ **Testing of Building Thermal Envelope.** Tested air leakage is less than **5 ACH** when tested with a blower door at a pressure of 50 Pascals (0.007 psi) in accordance with RESNET/ICC380, ASTM E779 or ASTM E1827. Testing shall occur after rough in and after installation of penetrations of the building envelope, including penetrations for utilities, plumbing, electrical, ventilation and combustion appliances. See IRC Section N1102.4.1.2 or PA Alt. 304.1.2 for complete requirements.
- ☐ Approved Testing Agency (RESNET Certified or BPI Envelope Specialist) providing evidence of blower door testing or Contractor performing testing with Lower Gwynedd Township Code Official present

Duct Sealing. Ducts, air handlers, filter boxes and building cavities used as ducts shall be sealed. Joints and seams shall comply with the 2015 IMC or IRC Section M1601.4.1.



Residential Energy Efficiency Worksheet – 2018

2015 IRC, 2015 IECC & PA Alternative Residential Energy Provisions

Duct Testing. Please choose either Option 1, 2a or 2b for duct tightness testing, or the exception if it applies.
Choose one of the following: (duct testing applies to additions and alterations only when new HVAC system(s) installed)

Rough-In Test Options. (Partial system testing is not permitted. i.e. ducts in exterior walls)

- ☐ Option 1a. **Rough-in test (Air handler installed):** Total leakage shall be less than or equal to 4 cfm (113.3 L/min) per 100 sq.ft. (9.29 m²) of conditioned floor area when tested at a pressure differential of 0.1 inch w.g. (25 Pa). IRC Section N1103.3.4 or PA Alternative Section 402.3
- ☐ Option 1b. **Rough-in test (no air handler):** Total leakage shall be less than or equal to 3 cfm (85 L/min) per 100 sq.ft. (9.29 m²) of conditioned floor area when tested at a pressure differential of 0.1 w.g. (25 Pa). IRC Section N1103.3.4 or PA Alternative Section 402.3

Post Construction Test Option. (Partial system testing is not permitted. i.e. ducts in exterior walls)

- ☐ Option 2. **Post-construction test (Air handler installed):** Total leakage less than or equal to 4 cfm (113.3 L/min) per 100 sq. ft. (9.29m²) of conditioned floor area when tested at a pressure differential of 0.1 inch w.g. (25 Pa). IRC Section N1103.3.4 or PA Alternative Section 402.3
- ☐ Approved Testing Agency (for example: RESNET Certified, BPI Envelope Specialist) providing evidence of duct testing or Contractor performing duct testing with Lower Gwynedd Township Code Official present
- ☐ Conditioned Floor Area Square Footage _____
- ☐ **Exception: Duct tightness test is not required if the air handler and all ducts (supply & return) are located within conditioned space. Ducts located in exterior walls are not within conditioned space.** When ducts are installed in exterior walls, duct testing is required.
- ☐ **PA – Alternate Residential Provisions Entrance Requirements (Chose One)**

<input checked="" type="checkbox"/>	Option	Description	Minimum efficiency	
			Climate Zone (4)	
	1	Ductless heat pumps	8.5 HSPF	
	2	All air ducts located inside the thermal envelope	Compliant	
	3	Solar photovoltaic system installed	1.4 kW	
	4	Geothermal or water source heat pump installed	Compliant	
	5	Improved efficiency air source heat pump installed	8.7 HSPF	
	6	Improved efficiency furnace installed	90 AFUE	
	7	Exterior continuous insulation	R20+10	
	8	Improved airtightness	3.0 ACH50	
	9	Improved efficiency windows	U-factor = 0.25	
	10	Package: Improved efficiency windows and higher attic R-value with raised heel truss ^a	Windows	U-factor = 0.27
			Attic	R-value = 60
	11	Package: Improved efficiency windows and heat pump water heater	Windows	U-factor = 0.27
			Heat Pump Water Heater	Compliant

Note a. Full height of uncompressed insulation shall extend over the top plate at the eaves.



Residential Plans Examiner Review Form for HVAC System Design (Loads, Equipment, Ducts)

Form
RPER 1.01
8 Mar 10

County, Town, Municipality, Jurisdiction
Header Information

Contractor _____
Mechanical License # _____
Building Plan # _____
Home Address (Street or Lot#, Block, Subdivision) _____

REQUIRED ATTACHMENTS¹

Manual J1 Form (and supporting worksheets):
or MJ1AE Form² (and supporting worksheets):
OEM performance data (heating, cooling, blower):
Manual D Friction Rate Worksheet:
Duct distribution system sketch:

ATTACHED

Yes ☐ No ☐
Yes ☐ No ☐
Yes ☐ No ☐
Yes ☐ No ☐
Yes ☐ No ☐

HVAC LOAD CALCULATION (IRC M1401.3)

Design Conditions

Winter Design Conditions

Outdoor temperature _____ °F
Indoor temperature _____ °F
Total heat loss _____ Btu

Summer Design Conditions

Outdoor temperature _____ °F
Indoor temperature _____ °F
Grains difference _____ Δ Gr @ _____ % Rh
Sensible heat gain _____ Btu
Latent heat gain _____ Btu
Total heat gain _____ Btu

Building Construction Information

Building

Orientation (Front door faces) _____
North, East, West, South, Northeast, Northwest, Southeast, Southwest

Number of bedrooms _____

Conditioned floor area _____ Sq Ft

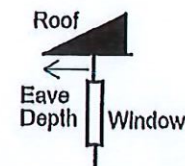
Number of occupants _____

Windows

Eave overhang depth _____ Ft

Internal shade _____
Blinds, drapes, etc

Number of skylights _____



HVAC EQUIPMENT SELECTION (IRC M1401.3)

Heating Equipment Data

Equipment type _____
Furnace, Heat pump, Boiler, etc.
Model _____
Heating output capacity _____ Btu
Heat pumps - capacity at winter design outdoor conditions
Auxiliary heat output capacity _____ Btu

Cooling Equipment Data

Equipment type _____
Air Conditioner, Heat pump, etc.
Model _____
Sensible cooling capacity _____ Btu
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Total cooling capacity _____ Btu

Blower Data

Heating CFM _____ CFM
Cooling CFM _____ CFM

HVAC DUCT DISTRIBUTION SYSTEM DESIGN (IRC M1601.1)

Design airflow _____ CFM
External Static Pressure (ESP) _____ IWC
Component Pressure Losses (CPL) _____ IWC
Available Static Pressure (ASP) _____ IWC
ASP = ESP - CPL

Longest supply duct: _____ Ft
Longest return duct: _____ Ft
Total Effective Length (TEL) _____ Ft
Friction Rate: _____ IWC
Friction Rate = (ASP × 100) ÷ TEL

Duct Materials Used (circle)
Trunk Duct: Duct board, Flex, Sheet metal,
Lined sheet metal, Other (specify) _____
Branch Duct: Duct board, Flex, Sheet metal,
Lined sheet metal, Other (specify) _____

I declare the load calculation, equipment selection, and duct system design were rigorously performed based on the building plan listed above. I understand the claims made on these forms will be subject to review and verification.

Contractor's Printed Name _____ Date _____

Contractor's Signature _____

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Print Name-Title: _____ Signature: _____ Date: _____

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- ☐ 1. Pennsylvania Alternate Energy Provisions – Choose Entry Option on Page #2
- ☐ 2. IRC Chapter 11
- ☐ 3. IECC – Chapter 4
- ☐ 4. Above Code Program -REScheck or other: _____

Insulation and Fenestration Requirements by Component (PA Alternate & IRC Chapter 11)

Wood Frame Walls (R-value)	R-20 cavity or R-13 cavity + R-5 insulated sheathing
Ceilings with Attic Space (R-value)	R-49 (R-38 approved if not compressed over wall top plates)
Ceilings without Attic Space (R-value)	R-30 where roof/ceiling assemblies do not allow R-38
Floors (R-value)	<u>Limited to lesser of 500 square feet or 20% of area - IRC only</u>
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Unexcavated Foundation (R-value)	IRC R-15 continuous insulation or R-19 cavity insulation
Mechanical System Piping	PA Alt. R-10 continuous insulation or R-13 cavity insulation
HVAC Duct Insulation	IRC R-15 continuous insulation or R-19 cavity insulation
Window & Door (U-factor)	PA Alt. R-10 continuous insulation or R-13 cavity insulation
Thermally Isolated Sunroom	R-10 to a depth of 2 feet (add R-5 if slab heated)
Recessed Lights in Thermal Envelope	R-3 HVAC piping <55 deg or > 105 deg
Lighting Equipment	Attic Ducts R-8 for 3" diameter & greater, R-6 less than 3"
	Other Ducts R-6 for 3" diameter & greater, R-4.2 less than 3"
	No insulation required for ducts completely inside thermal envelope
	0.32 maximum (15 sqft. window exemption)
	<u>(Opaque Door Exemptions - 24 sq. ft. IRC, 54 sq. ft. PA Alt.)</u>
	R-24 Ceilings, R-13 Walls, 0.45 Glazing U-factor
	IC rated and labeled ASTM E283
	Minimum 75% <i>high-efficacy</i> lamps in permanent light fixtures

Air Leakage – Building Thermal Envelope. Building envelope air tightness and insulation installation shall be demonstrated to comply with one of the following options. Testing does not apply to additions & alterations.

- ☐ **Testing of Building Thermal Envelope.** Tested air leakage is less than 5 ACH when tested with a blower door at a pressure of 50 Pascals (0.007 psi) in accordance with RESNET/ICC380, ASTM E779 or ASTM E1827. Testing shall occur after rough in and after installation of penetrations of the building envelope, including penetrations for utilities, plumbing, electrical, ventilation and combustion appliances. See IRC Section N1102.4.1.2 or PA Alt. 304.1.2 for complete requirements.
- ☐ Approved Testing Agency (RESNET Certified or BPI Envelope Specialist) providing evidence of blower door testing or Contractor performing testing with Lower Gwynedd Township Code Official present

Duct Sealing. Ducts, air handlers, filter boxes and building cavities used as ducts shall be sealed. Joints and seams shall comply with the 2015 IMC or IRC Section M1601.4.1.



Residential Energy Efficiency Worksheet – 2018

2015 IRC, 2015 IECC & PA Alternative Residential Energy Provisions

Duct Testing. Please choose either Option 1, 2a or 2b for duct tightness testing, or the exception if it applies.
Choose one of the following: (duct testing applies to additions and alterations only when new HVAC system(s) installed)

Rough-In Test Options. (Partial system testing is not permitted, i.e. ducts in exterior walls)

- ☐ Option 1a. Rough-in test (Air handler installed): Total leakage shall be less than or equal to 4 cfm (113.3 L/min) per 100 sq.ft. (9.29 m²) of conditioned floor area when tested at a pressure differential of 0.1 inch w.g. (25 Pa). IRC Section N1103.3.4 or PA Alternative Section 402.3
- ☐ Option 1b. Rough-in test (no air handler): Total leakage shall be less than or equal to 3 cfm (85 L/min) per 100 sq.ft. (9.29 m²) of conditioned floor area when tested at a pressure differential of 0.1 w.g. (25 Pa). IRC Section N1103.3.4 or PA Alternative Section 402.3

Post Construction Test Option. (Partial system testing is not permitted, i.e. ducts in exterior walls)

- ☐ Option 2. Post-construction test (Air handler installed): Total leakage less than or equal to 4 cfm (113.3 L/min) per 100 sq. ft. (9.29m²) of conditioned floor area when tested at a pressure differential of 0.1 inch w.g. (25 Pa). IRC Section N1103.3.4 or PA Alternative Section 402.3
- ☐ Approved Testing Agency (for example: RESNET Certified, BPI Envelope Specialist) providing evidence of duct testing or Contractor performing duct testing with Lower Gwynedd Township Code Official present
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<input checked="" type="checkbox"/>	Option	Description	Minimum efficiency	
			Climate Zone (4)	
	1	Ductless heat pumps	8.5 HSPF	
	2	All air ducts located inside the thermal envelope	Compliant	
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	4	Geothermal or water source heat pump installed	Compliant	
	5	Improved efficiency air source heat pump installed	8.7 HSPF	
	6	Improved efficiency furnace installed	90 AFUE	
	7	Exterior continuous insulation	R20+10	
	8	Improved airtightness	3.0 ACH50	
	9	Improved efficiency windows	U-factor = 0.25	
	10	Package: Improved efficiency windows and higher attic R-value with raised heel truss*	Windows	U-factor = 0.27
			Attic	R-value = 60
	11	Package: Improved efficiency windows and heat pump water heater	Windows	U-factor = 0.27
			Heat Pump Water Heater	Compliant

Note a. Full height of uncompressed insulation shall extend over the top plate at the eaves.

KEYSTONE

Municipal Services, Inc.

801 Yale Avenue - Suite 622, Swarthmore, PA 19081
Lower Gwynedd Township Contact Kelli J. Scarlett
1130 N Bethlehem Pike, PA Box 625, Springhouse, PA 19477
Phone: 215-646-5302 ext. 368 | Email: kellifromkeystone@gmail.com

CONSTRUCTION DOCUMENTS MINIMUM DESIGN GUIDELINES

TABLE R301.2 (1)

CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

GROUND SNOW LOAD	WIND	SEISMIC DESIGN CATEGORY ^{f,g}	SUBJECT TO DAMAGE FROM				DESIGN TEMP ^h
	Speed ^e (mph).		Weathering ^a	Frost line depth ^b	Termite ^c	Decay ^d	
30	115 Exposure C	B	Severe	36"	Moderate to heavy	Slight to moderate	Win 6 Sum 91

BUILDING CODE DESIGN DATA

All construction within Lower Gwynedd Township shall comply with the following codes and amendments per their adopting ordinances:

2018 International Residential Code
2018 International Fire Code

APPLICANT: Plan submittal shall include the following plans:

- ☐ Site Plan
- ☐ Floors
- ☐ Foundation and Roof Plans
- ☐ Elevations and Building Sections (minimum two building sections)
- ☐ Building Details
- ☐ Plumbing Plan (water supply line sizes, gas supply line sizes, water-heating equipment, hot water recirculation pump controls, fixture flow and flush rates)
- ☐ Mechanical Plan (equipment type/size, supply/return, outside air ventilation, exhaust fan systems)
- ☐ Electrical Plan (lighting, power, load calculation, single line diagram)
- ☐ Plans must be readable and to "scale".
- ☐ Place all required notes on the drawings.

A. Standard Plans

1. Provide a soils report and a compaction tests for the subdivision.
2. Per the soils report provide over-excavation and / or re-compaction for foundations and slabs on grade.
3. Note a provision for a continuous three foot wide path of travel from all bedroom egress windows to a public way.
4. Show minimum allowable dimensions from stem wall to property lines on foundation plan.
5. Remove all parcel/lot specific information from plan set. (i.e. site plan).
6. The cover sheet must have key plans drawn to scale indicating each possible combination of footprint options with corresponding building ridge lines to ensure conformance with varying lot configurations.

B. Add/ Alt/ Remodels

1. Provide scope of work.
2. Provide separate existing and demolition plans.
3. Clearly identify throughout, existing vs. new vs. remodeled area.
4. Complete and return fire sprinkler worksheet. (IFC903)
5. Address smoke and CO detectors throughout house with additions/alterations/remodels. (R314-315)

C. Site Plan

1. Provide a complete site plan, grading and drainage where required. Show flow direction arrows, contour grades, and top of curb grades
2. Provide a complete project address. (R319.1)
3. Show location of structure(s) with setback dimensions on site plan. (IBC 107.2.5 & R302.1).
4. Show location of all site fences and retaining walls on site plan. Provide lineal footage of fences and retaining walls including wall grades.
5. Reference on site plan, structural details for each site retaining wall and fence. (TF, T/RW, TW, TR)
6. Provide structural calculations for retaining walls.
7. Show sewer tap and water meter locations at street with sizes indicated.
8. Include lowest floor elevation of livable space. Show and identify next upstream manhole rim location and elevation, address backwater valve. (P3008.1).
9. If septic system, provide copy of septic system permit application from Montgomery County. (P2602.1)

D. Floor plans

a) Doors and Windows

1. Provide a 1-3/8" solid wood / solid or honeycomb-core steel / 20-minute fire-rated self-closing doors between residence and garage. (R302.5.1)
2. Provide permanent landing at exterior doors. (R311.3)
3. Doors shall not open directly between a sleeping room and a garage. (R302.5.1)
4. Shower doors shall have safety glazing; hinged shower doors shall open outward. (R308.4.5 & P2708.1)
5. Provide and identify all required safety glazing. (R308)
6. Indicate emergency escape and rescue openings in basements and bedrooms. (R310.1)
7. Show direction of door swing. (R311.3)
8. Show size of each window and type of operation. (R303.1 & 310.2)
9. Site built windows shall comply with section 2404 of the IBC. (R308.5)
10. Glazing maximum U-factor 0.35, Solar Heat Gain Coefficient (SHGC) maximum 0.40 (N1102)
11. Skylight - maximum U-factor 0.55, SHGC maximum 0.40. Provide manufacture and ICC-ES number. (N1102.1.2)

b) Light and Ventilation

1. Provide required natural light and ventilation for habitable rooms- Light: 8%, ventilation: 4%. (R303.1)
2. Provide mechanical exhaust ventilation for bathrooms, water closet rooms, laundry room, and kitchen, ducted direct to outside. (R303.3 & M1507.2)
3. Provide attic ventilation per (R806.1) unless insulation is applied on the under-side of roof sheathing. (R806.5)

c) Stairways, handrails, guardrails

1. Show handrail, notes and dimensions. (R311.7.8)
2. Show guardrails where required. (R312.1)
3. Provide a floor or landing at the top and bottom of each stairway. (R311.7.6)
4. Provide code complying stairways. Address tread and riser dimensions per type of stairway. (R311.7)
5. Provide stairway illumination per (R303.7 & R303.8)
6. Stairway maximum 12'-3" vertical rise between floor/landing (R311.7.3)

d) Stairways, handrails, guardrails

7. Show handrail, notes and dimensions. (R311.7.8)
8. Show guardrails where required. (R312.1)
9. Provide a floor or landing at the top and bottom of each stairway. (R311.7.6)
10. Provide code complying stairways. Address tread and riser dimensions per type of stairway. (R311.7)
11. Provide stairway illumination per (R303.7 & R303.8)
12. Stairway maximum 12'-3" vertical rise between floor/landing (R311.7.3)

e) Fire Places/Gas Appliances

1. Provide manufacture, model number and ICC report or equal for each fireplace. (R1002, R1004 & R1005)
2. Provide a permanently installed approved decorative appliance/gas log set. (R1004.4)
3. Fireplace dampers: Where a listed decorative appliance is installed, the fireplace damper opening shall comply with listed decorative appliance manufacture's installation instructions. (G2453.1)
4. Decorative shrouds shall not be installed at the termination of chimneys of factory-built fireplaces except where listed and labeled for such use. (R1004.3)
5. Provide outside combustion air for interior fireplaces. (R1006.2).

f) General Floor Plan

1. Show ceiling heights for all rooms, spaces and hallways. (R305)
2. Show thermal envelope (exterior insulated walls) that encloses interior conditioned space. (N1101.5.1)
3. Show minimum clearances from centerline of water closets to finished wall, cabinets, and other plumbing fixtures. (R307.1)
4. **Gypsum Board applied to a ceiling shall be 1/2" when framing members are 16" o.c. or 5/8" when framing members are 24" o.c. or use labeled 1/2" sag-resistant gypsum ceiling board. (Table R702.3.5)**

g) Manufacturers' Installation Instructions

1. Manufacture's installation instructions, as required by this code, shall be available on the job site at the time of inspection (R106.1.2)
2. **RANGES AND COOKTOPS:** Show note on plans. Provide a listed and approved range and/or cooktop unit installed in accordance with the listing and with the manufacturer's

installation instructions. **VERIFY AND MAINTAIN REQUIRED HORIZONTAL AND VERTICAL CLEARANCES ABOVE THE FINISHED COUNTERTOP SURFACE BEFORE ORDERING OR INSTALLING CABINETS.**

E Braced/Shear wall Plan

1. Provide a complete braced/shear wall plan and reference a braced /shear wall schedule at each braced/shear wall location. (R602.10)
2. Braced/Shear wall schedule to include anchor bolts, holdowns, studs and spacing, sheathing and nailing. (R602)
3. Address "alternate braced wall panels" per (R602.10.6)
4. Coordinate post locations with holdowns on foundation plan. (R602.11)
5. Show and identify each required holdown on foundation plan.
6. Provide Wood-Stud wall Engineering Analysis for bearing walls Over 10 Feet High (T. R602.3 (5))

F. Elevation Plan

1. Provide minimum of four elevation drawings of building: typical front, back, left and right.
2. Show building heights and dimensions.
3. Show and label all exterior surface building materials. (R703)
4. Show manufacture, model number and ICC/NER Report Number for stucco, roof materials, stone veneer. (R703.7)
5. Provide weather flashing/proofing and exterior wall penetrations/openings. (R703.1 & 703.2)

G. Sections

1. Provide minimum two building cross sections.
2. Cut cross-sections on foundation, floor and roof framing plans.
3. Show thermal envelope (insulated walls, floors, ceilings, roofs) with continuous air barrier around interior conditioned space. (N1101.5.1)
4. Foam plastics shall be separated from the interior of a building including attics and crawl spaces by an approved thermal barrier. (R316.4)
5. Show required fire blocking on each section. (R602.8)
6. Show height dimensions on each cross-section.
7. Label all rooms, spaces, and hallways on each section.
8. Provide and reference/key structural details for critical connections for cross-sections.

I. Wall Construction

1. Provide a cross section detail and wall legend for each type of wall.
2. Callout exterior materials, including, stucco system, lath, building paper, foam, and sheathing where required. (R703)
3. Specify on plans, interior wall materials. (R702)
4. Specify on plans, interior wall construction, coverings, and backings for tile and in wet locations. (R702.1)
5. Provide weepscreed and dimensions from soil and paved surfaces. (R703.7.2.1)
6. Provide nailing schedule. (R602.3)

J. Foundation Plan

1. For single-family custom submittal, provide a soils report or a soils waiver signed by owner.
2. Provide a complete fully dimensioned and detailed foundation plan.
3. Address foundation drainage per (R405.1)
4. Address foundation damp proofing (R406.1)
5. Show isolated footing dimensions, and reinforcing. (R403.1)
6. Show note: Exterior and interior footings shall bear minimum 36 inches below undisturbed soil or engineers certified compacted fill. (R403.1)

7. Show required reinforcing steel for all footings and stem. (R 403.1.3.5)
8. Reference a complete set of structural details, footing, stem, turndown, pad footing, post at stem, etc.
9. Clearly show, dimension and detail interior bearing footings and shearwall footings.
10. Clearly show each required post location on foundation plan, coordinate with shearwall and roof framing plans.
11. Clearly show and label each required holdown on foundation plan. (R403.1.6)
12. Show and detail building retaining walls and basement and foundation walls, including drainage. (R405.1)
13. Provide any/all slab elevations.

K. Floor and Roof Framing Plans

1. Provide a complete fully detailed floor and/or roof-framing plan. (R107.2)
2. Clearly identify all framing members, including posts/columns, headers, beams, joists, and trusses. (R107.2).
3. Clearly show each required post and size, coordinate with foundation plan.
4. Show and identify posts from above framing.
5. Show floor-to-floor tie, mechanical connectors.
6. Clearly show and identify all truss/joist hangers.
7. Clearly show and identify beam to post mechanical connectors.
8. Clearly show and key detail reference(s) for each beam to post, beam-to-beam, and girder to beam connections.
9. Detail typical truss/joist to wall, beam, and girder connections.
10. If pre-qualifying conditions are met, **deferred submittals** for truss design drawing may be allowed.
11. Show lateral full height blocking at braced/shear wall line for joists, rafters and trusses.
12. Framing details shall reflect types of framing members, trusses flat and sloped, I-joists, dimension lumber rafters, etc.
13. Show stair mechanical attachment at top and bottom.
14. Framing members to accommodate masonry fireplace clearances to combustibles. (Table R1001.11)
15. Provide seismic strap per (R1003.4)
16. Provide detail showing how lateral forces are transferred from roof diaphragm into shear wall.
17. Identify all trusses used as drag struts, and show loads on framing plan

18. Framing members to accommodate mechanical equipment requirements if installed in attic.

L. Structural Calculations

1. Provide the following structural engineering calculations:
 - a. Gravity loads analysis.
 - b. Lateral loads analysis.
 - c. Retaining wall calculations.
 - d. Provide special inspection.

M. Building Thermal Envelope

1. Energy compliance shall be demonstrated by prescriptive, UA trade-off (REScheck) or performance (REM/Rate) compliance path.
2. Mechanical closets requiring outside combustion air for gas furnace or water heater shall be thermally isolated from the building unless the equipment is direct-vent.
3. Recessed luminaires installed in the building thermal envelope shall be sealed to limit air leakage between conditioned and unconditioned spaces. All recessed luminaires shall be IC-rated and labeled as having an air leakage rate not more than 2.0 cfm. All recessed luminaires shall be sealed with a gasket or caulk between the housing and the interior wall or ceiling covering. (N1102.4.5).
4. The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding five air changes per hour for detached dwelling units. Testing shall be conducted with a blower door at a pressure of 0.2 inches w.g. (50 Pascal's). Testing shall be conducted by an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the building official. Testing shall be performed at any time after creation of all penetrations of the building thermal envelope. (N1102.4.1.2).

N. Mechanical plan

1. Show mechanical equipment and water heaters on 18-inch platform if placed in garage or room with direct access to garage. (M1307.3).
2. Provide combustion air and show hi and low vent opening sizes for gas fuel appliances located in *confined* spaces. (G2407).

3. Provide and reference approved detail for gas piping to gas island cooktop. (G2415.14).
4. Provide kitchen exhaust fan vented direct to outside. (M1507.2 Table M1507.4).
5. Show mechanical system design criteria, types, sizes, efficiencies and controls (N1101.5).
6. Provide HVAC equipment sizing calculations. Heating and cooling equipment shall be sized in accordance with ACCA Manual S based on building loads calculated in accordance with ACCA Manual J or other approved calculation methodologies (N1103.7).
7. Provide minimum 13 SEER (Seasonal Energy Efficiency Ratio) for air conditioning equipment.
8. Provide minimum 92% AFUE (Annual Fuel Utilization Efficiency) for weatherized gas heating equipment.
9. Each separate heating and cooling system shall be provided with at least one programmable thermostat (N1103.1.1).
10. Show how the building is provided with outside air ventilation in accordance with Section M1507. Outdoor air intakes and exhausts shall have automatic or gravity dampers that close when the ventilation system is not operating. (N1103.6).
11. Bathrooms, water closet compartments and other similar rooms shall be provided with:
a mechanical ventilation system, with a minimum ventilation rate of 50 cfm (23.6 L/s) for intermittent ventilation, or 20 cfm (9.4 L/s) for continuous ventilation. Ventilated air shall be exhausted directly to the outside. Except where functioning as a component of a whole house ventilation system, exhaust fans in bathrooms with a shower or tub shall be provided with a delay timer or humidity/condensation control sensor. Exhaust fans shall be switched separately from lighting systems.
12. Duct systems serving heating, cooling and ventilation equipment shall be installed in accordance with the provisions of this section and ACCA Manual D or other approved methods. (M1601.1)
13. Show supply and return air ducts and registers. (IBC 107.2.1).
14. Supply and return ducts in attics shall be insulated to a minimum **R-8** where 3 inches in diameter or greater. Ducts in other portions of the building shall be insulated to minimum R-6 where 3 inches in diameter or greater

Ducts and air handlers located completely inside the building thermal envelope are exempt. (N1103.3.1).

15. Ducts, air handlers, and filter boxes shall be sealed in accordance with Sections N1103.3.2 and M1601.4.1. Ducts shall be pressure tested to determine air leakage by one of the following methods (N1103.3.3):

- a) Rough-in test: Total leakage shall be measured with a pressure differential of 0.1 inch w.g. (25 Pa) across the system, including the manufacturer's air handler enclosure if installed at the time of the test. All registers shall be taped or otherwise sealed during the test.
- b) Post construction test: Total leakage shall be measured with a pressure differential of 0.1 inch w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure. Registers shall be taped or otherwise sealed during the test.

A written report of results shall be signed by the party conducting the test and provided to the code official. A duct air leakage test shall not be required where the ducts and air handlers are located completely inside the building thermal envelope. (N1103.3.3)

O. Electrical Plan and Lighting

1. Provide a complete Electrical Plan (IBC 107.2)
2. Provide fully noted plan showing, all required receptacles, light fixtures, switches, exhaust fans, smoke detectors, service panels and sub-panels. (E3703 & E3901)
3. Provide notes and symbols legend.
4. Show and label all required **GFCI** and **WP/GFCI** receptacles. (E3902)
5. Show and label all required **AFCI** circuits. (E3902.16)
6. In areas specified in Section E3901.1, 125-volt, 15- and 20-ampere receptacles shall be listed tamper-resistant receptacles. (E4002.14)
7. Show that a minimum 90 percent of the permanently installed lighting fixtures contain only high-efficacy lamps (N1104.1)
8. Show and label all **WP/DP** lighting fixtures as **SUITABLE FOR WET OR DAMP LOCATIONS** accordingly. (E4001.7)
9. Show and label all smoke alarms. Smoke alarms shall be installed in the following locations:
 - 1) In each sleeping room.
 - 2) Outside each separate sleeping area in the immediate vicinity of the bedrooms.

3) On each additional story of the dwelling, including basements and habitable attics but not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

4) Smoke alarms shall be installed not less than 3 feet horizontally from the door or opening of a bathroom that contains a bathtub or shower unless this would prevent placement of a smoke alarm required by Section R314.3.

10. Show and label all **carbon monoxide alarms**, an approved carbon monoxide alarm shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms in dwelling units within which fuel-fired appliances are installed and in dwelling units that have attached garages. (R315)
11. For Electrical Services greater than 400 amps, **PROVIDE ELECTRICAL LOAD CALCULATIONS.**
12. Provide an **ELECTRICAL SINGLE LINE DIAGRAM** for Services 200 amps and larger.

P. Plumbing Plan

1. Provide a single line gas-piping diagram; include all gas burning appliances and BTUs of each appliance, show pipe *lengths* and *sizes* from gas meter to each branch line and to each appliance. (G2413)
2. Show type of gas piping. (G2414)
3. Do not place gas piping under slab. (G2415.14)
4. Provide approved detail for gas piping to kitchen island gas cook top. (G2415.14)
5. Show all drainage/sewer piping materials. (Tables P3002.1, P3002.2)
6. Show high efficiency plumbing fixtures that meet the following maximum flow and flush rates: Faucets: 2.2 gal. /minute, Shower heads: 2.5 gal. /minute, water closets: 1.6 gal. /flush. (Table P2903.2.).

2018 IRC CHECKLIST

7. Provide roof drains and over-flow/scuppers. (R903.4).
8. Show service water heating system design criteria, types, sizes, efficiencies and controls (N1101.5).
9. Storage-tank type water heaters shall be installed with a drain pan and drain line. (P2801.6)
10. WH-pan drain-line shall terminate per (P2801.6.2)
11. Show minimum R-3 insulation for hot water pipes. (N1103.5.3).

Q. Fire Sprinklers

1. Provide fire sprinklers per LGT Code and (IFC903) *if required*.

R. Additional Energy Requirements

1. A permanent energy certificate shall be completed by the builder or registered design professional and posted in accordance with N1101.14 and U103.8.

REQUIRED RESIDENTIAL NOTES

The following notes shall be incorporated into the plans. If these notes are reproduced on the plans as a block, it will facilitate the review of the project.

PLACE THE FOLLOWING REQUIRED NOTES ON THE DRAWING

2018 International Building Code

2018 International Residential Code

2018 International Fire Code

1. All products listed by an Evaluation Service Report (ESR) shall be installed per the report and the manufactures written instructions. Product substitutions shall also be listed by an ESR.
2. Provide Fire Sprinkler System per LGT Code and Fire Code (IRC R313)
3. Separate permits required: generators, pools, spas, fences, site walls, retaining walls, and gas storage tanks.
4. Foundation & Footing depth shall be a minimum of 36 inches **below grade** (provide a minimum of 3-inch clearance between Rebar and soil. (R403.1)
5. Doors between the garage and residence shall be self-closing minimum 1 3/8" thick solid core or 20-minute fire rated. (R302.5.1)
6. Exterior wall penetrations by pipes, ducts or conduits shall be sealed. (R703.1)
7. Wood sill plates shall be pressure treated or decay resistant. Exterior sill plates shall bear a minimum of 6 inches above finish grade. (R317.1)
8. Gypsum board applied to a ceiling shall be 1/2" when framing members are 16" o.c. or 5/8" when framing members are 24" o.c. or use labeled 1/2" sag-resistant gypsum ceiling board. (Table R702.3.5 (d))
9. Showers and tub-shower combinations shall be provided with individual control valves of the pressure balance or thermostatic mixing valve type. (P2708.4)
10. Shower area walls shall be finished with a smooth, hard non-absorbent surface, such as ceramic tile, to a height of not less than 72 inches above the drain inlet. Cement, fiber-cement or glass mat gypsum backers installed in accordance with manufacturers' recommendations shall be used as backers for wall tile in tub and shower areas and wall panels in shower areas. (R702.4.2)
11. Plumbing fixtures shall comply with the following conservation requirements: Water closets-Tank type 1.6 gal. /flush. Shower heads- 2.5 gpm. Sinks-2.2 gpm. Lavatory-2.2 gpm (Table P2903.2)
12. Storage-tank type water heaters shall be installed with a drain pan and drain line. (P2801.6)
13. A demand-controlled hot water circulation system shall be provided in accordance with Sections N1103.5.1.1 and N1103.5.1.2.
14. Provide roof/attic ventilation unless insulation is applied directly to underside of roof sheathing. (R806.1)
15. The building thermal envelope shall comply with climate zone 4 nonmarine. Energy compliance shall be demonstrated by UA trade- off (REScheck) **OR** performance (REM/Rate) compliance path **OR** PAAEP **OR** by the following prescriptive values (Table N1102.1.2):
 - i. Prescriptive **minimum** R-values : Ceiling=R-49 / <Walls=R-20 or 13 +5
 - ii. Prescriptive **maximum** Window Fenestration values: U-Factor=0.35 / <SHGC=0.40
16. Provide Minimum R-3 insulation on hot water pipes. (N1103.5.3)

2018 IRC CHECKLIST

17. Supply and return ducts in attics shall be insulated to a minimum **R-8**. Ducts in other portions of the building shall be insulated to minimum R-6. Ducts and air handlers located completely inside the building thermal envelope are exempt. (N1103.3.1).
18. Registers, diffusers and grilles shall be mechanically fastened to rigid supports or structural members on at least two opposite sides.
19. Exhaust air from bathrooms and toilet rooms shall be exhausted directly to the outdoors, not recirculated or discharged indoors. (M1507.2)
20. Exhaust fans in bathrooms with a shower or tub shall be provided with a delay timer or humidity/condensation control sensor. Exhaust fans shall be switched separately from lighting systems. (R303.3)
21. Provide a wall mounted GFCI protected receptacle outlet within 36" of a bathroom or powder room lavatory. (E3901.6)
22. Receptacles serving kitchen countertops installed in bathrooms, garages, unfinished accessory buildings, outdoors and located within 6 feet of sinks shall have **GFCI** protection for personnel. (E3902)
23. All branch circuits that supply 15- and 20-ampere outlets installed in kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreations rooms, closets, hallways, laundry areas and similar rooms or areas shall be protected by a combination type arc-fault circuit interrupter (**AFCI**) installed to provide protection of the branch circuit. (E3902.12)
24. General purpose 15- and 20-ampere receptacles shall be listed **tamper-resistant**. (E4002.14)
25. Provide **Smoke Alarms** in new and existing areas of home. (R314)
26. Approved **Carbon Monoxide Alarms** shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms in dwelling units within which fuel-fired appliances are installed and in dwelling units that have attached garages. (R315)
27. A minimum of 75 percent of the permanently installed lighting fixtures shall contain only high-efficacy lamps. (N1104.1)
28. Recessed luminaires installed in the building thermal envelope shall be IC-rated and labeled as having an air leakage rate not more than 2.0 cfm. All recessed luminaires shall be sealed with a gasket or caulk between the housing and the interior wall or ceiling covering. (N1102.4.5).
29. Provide illumination with wall switches for stairways when there are 6 or more risers. (R303.7)
30. Receptacle outlets shall be installed so that no point along the floor line in any wall space is more than 6 feet, measured horizontally, from an outlet in that space, including any wall space 2 feet or more in width. (E3901.2)
31. Provide a minimum of two 20-amp small appliance branch circuits for the kitchen/dining/breakfast. (E3703.2)
32. Both metal piping systems and grounded metal parts in contact with the circulating water associated with a hydro massage tub shall be bonded together using an insulated, covered, or bare solid copper bonding jumper not smaller than 8 AWG. (E4209)
33. Provide outside combustion air to all indoor fireplaces with air intake located not higher than the firebox. (R1006.1)
34. At least one thermostat shall be provided for each separate heating and cooling system. (N1103.1)

The following three notes are applicable to New Construction only

35. The building shall be provided with a whole-house mechanical ventilation system that meets the requirements of Section M1507. Outdoor air intakes and exhausts shall have automatic or gravity dampers that close when the ventilation system is not operating. (N1103.6)
36. The building or dwelling unit shall be tested and verified as having an air leakage rate not exceeding five air changes per hour for detached dwelling units and seven air changes per hour for attached dwelling units. Testing shall be conducted in accordance with ASTM E 779 or ASTM E 1827 and reported at a pressure of 0.2 inch w.g. (50 Pascals). Testing shall be conducted by an approved third party (RESNET certified). A written report of the results of the test shall be signed by the party conducting the test and provided to the code official. (N1102.4.1.2)

37. Ducts, air handlers, and filter boxes shall be sealed in accordance with N1103.3.2. Joints and seams shall comply with Section M1601.4.1. Ducts shall be pressure tested to determine leakage by one of the following methods (N1103.3.3):
1. Rough-in test: Total leakage shall be measured with a pressure differential of 0.1 inches w.g. (25 Pa) across the system, including the manufacturer's air handler enclosure if installed at the time of the test. All registers shall be taped or otherwise sealed during the test.
 2. Post-construction test: Total leakage shall be measured with a pressure differential of 0.1 inches w.g. (25 Pa) across the system, including the manufacturer's air handler enclosure. Registers shall be taped or otherwise sealed during the test.

Exception: A duct leakage test shall not be required where the ducts and air handlers are located entirely within the building thermal envelope.

A written report of the results shall be signed by the party conducting the test and provided to the code official prior to the Building Final.

**CERTIFICATE OF INSURANCE LISTING
LOWER GWYNEDD TOWNSHIP MUST
ACCOMPANY APPLICATION**



(TO BE FILLED OUT BY LOWER GWYNEDD TOWNSHIP:)

DATE: _____

LICENSE NO. _____

RECEIPT NO. _____

LICENSE VALID: JAN. 1st – DEC. 31st

1130 N. Bethlehem Pike, PO Box 625, Spring House, PA 19477

Phone: 215-646-5302 Fax: 215-646-3357 www.lowergwynedd.org

APPLICATION FOR MASTER PLUMBER LICENSE

A VALID CERTIFICATE OF INSURANCE IS REQUIRED WITH YOUR APPLICATION

APPLICATION FOR:

☐ **NEW** Master Plumber Application (**must fill out master proof section below**): \$125.00

☐ **RENEWAL: Master Plumber: \$125.00**

Add on: ☐ Journeyman: \$50.00 ☐ Apprentice \$10.00 (list of names of Journeymen and Apprentices below:)

JOURNEYMAN: _____ APPRENTICE: _____

JOURNEMAN: _____ APPRENTICE: _____

JOURNEYMAN: _____ APPRENTICE: _____

MASTER PLUMBER NAME:	COMPANY NAME:	BUSINESS ADDRESS:
EMAIL:	PHONE:	FAX:

MASTER PROOF: LIST STATE TESTS/EXAMINATIONS/REGISTRATIONS IN OTHER MUNICIPALITIES/TOWNSHIPS
COPIES OF BELOW TESTS/REGISTRATIONS ARE REQUIRED WITH YOUR APPLICATION:

- 1) _____
- 2) _____
- 3) _____

(I do hereby attest that the information provided on this application is true, and that I am versed in the National Plumbing Code and the Lower Gwynedd Township Plumbing Ordinance; and further, I understand that I am responsible for meeting the requirements of these codes on all work performed in Lower Gwynedd Township).

Signature of Master Plumber: _____

Printed Name: _____ Date: _____

**CERTIFICATE OF INSURANCE LISTING
LOWER GWYNEDD TOWNSHIP MUST
ACCOMPANY APPLICATION**



DATE: _____

LICENSE NO. _____

RECEIPT NO. _____

APPLICATION VALID: Jan. 1ST – DEC. 31st

FEE: \$125.00

1130 N. Bethlehem Pike, PO Box 625, Spring House, PA 19477

Phone: 215-646-5302 Fax: 215-646-3357 www.lowergwynedd.org

APPLICATION FOR CONTRACTOR'S LICENSE

Pursuant to Lower Gwynedd Township Code I (we) hereby apply for a Contractor's License and I submit the following statement:

COMPANY NAME:	ADDRESS:	CITY/STATE/ZIP:
EMAIL:	PHONE:	FAX:

TYPE OF BUSINESS: <input type="checkbox"/> INDIVIDUAL PROPRIETORSHIP <input type="checkbox"/> PARTNERSHIP <input type="checkbox"/> CORPORATION	FEDERAL TAX ID #:
---	-------------------

INSURANCE CARRIER AND POLICY(S) #:	AGENT(S):
------------------------------------	-----------

I HEARBY CERTIFY THAT THE STATEMENT CONTAINED HEREIN ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I UNDERSTAND THAT IF I KNOWINGLY MAKE ANY FALSE STATEMENTS HEREIN I AM SUBJECT TO SUCH PENALTIES AS MAY BE PRESCRIBED BY LAW OR ORDINANCE.

APPLICANT: _____ (CORPORATE

AUTHORIZED SIGNATURE: _____ SEAL)

TITLE: _____

DATE: _____

**CERTIFICATE OF INSURANCE LISTING
LOWER GWYNEDD TOWNSHIP MUST
ACCOMPANY APPLICATION**



(TO BE FILLED OUT BY LOWER GWYNEDD TOWNSHIP:)

DATE: _____

LICENSE NO. _____

RECEIPT NO. _____

LICENSE VALID: JAN. 1st – DEC. 31st

1130 N. Bethlehem Pike, PO Box 625, Spring House, PA 19477

Phone: 215-646-5302 Fax: 215-646-3357 www.lowergwynedd.org

APPLICATION FOR MASTER ELECTRICIAN LICENSE

A VALID CERTIFICATE OF INSURANCE IS REQUIRED WITH YOUR APPLICATION

APPLICATION FOR:

☐ **NEW** Master Electrician Application (**must fill out master proof section below**): \$50.00

☐ **RENEWAL: MASTER ELECTRICIAN \$50.00**

☐ **INSPECTION AGENCY: \$200.00**

Add on: ☐ **Journeyman: \$35.00** ☐ **Apprentice \$10.00** (list of names of Journeymen and Apprentices below:)

JOURNEYMAN: _____ APPRENTICE: _____

JOURNEMAN: _____ APPRENTICE: _____

JOURNEYMAN: _____ APPRENTICE: _____

MASTER ELECTRICIAN NAME:	COMPANY NAME:	BUSINESS ADDRESS:
EMAIL:	PHONE:	FAX:

MASTER PROOF: LIST STATE TESTS/EXAMINATIONS/REGISTRATIONS IN OTHER MUNICIPALITIES/TOWNSHIPS
COPIES OF BELOW TESTS/REGISTRATIONS ARE REQUIRED WITH YOUR APPLICATION:

- 1) _____
- 2) _____
- 3) _____

(I do hereby attest that the information provided on this application is true, and that I am versed in the National Electrical Code and the Lower Gwynedd Township Electrical Ordinance; and further, I understand that I am responsible for meeting the requirements of these codes on all work performed in Lower Gwynedd Township).

Signature of Master Electrician: _____

Printed Name: _____ Date: _____



Residential Plan/Drawing Requirements

Zoning Plan Requirements:

For a zoning review, the following specifications, drawings and details must be submitted:

Site plan drawn to scale or site plan from a property survey showing the following:

- Location of existing and proposed structures
- Dimensions of all structures (including roof overhangs)
- Property lines and dimensions
- Existing and proposed structures setbacks
- Easements & rights-of way
- Location of utilities/stormwater management facilities
- Existing or proposed streets, curb cuts & driveways/access
- Signs, fences, stone walls, and any other accessory structures/buildings on the property
- Other important information relevant to your application

Building Plan Documentation Requirements:

For a Building Plan Review, the following specifications, drawings and details must be submitted:

- Three (3) Sets of Construction Plans (1/4" scale minimum)
- Plumbing Plan (including natural gas and propane-2 copies)
- Electrical Plan (2 copies signed and sealed and approved by your underwriter)
- Mechanical Plan (2 copies)
- Sprinkler plans if applicable (3 copies)

Building Plans Must Show:

- Foundation Plan
- Footing location and size with reinforcement steel location and size
- Shear wall location and size
- Floor Framing Plan
- Floor joist or floor truss location and size

- Sill plate location and size
- Blocking location
- Floor Plan
- Finished grade to eave height
- Floor to ceiling height
- Floor to roof peak height
- Finished grade to stem wall height (if applicable)
- Roof pitch
- Eave projection length at sidewalls and gable end walls (if applicable)
- Indicate balloon frame gable or gable end truss (if applicable)
- Wall Sections/Details
- Typical wall sections for each continuous load path from foundation through roof
- Header size over openings
- Roof Framing Plan
- Bearing walls and girders
- Calculated uplift loads
- Fastener schedule

New homes require additional details. This information is provided to help you prepare your plans, it is not a complete recitation of the code or a replacement for a licensed design professional.

Plumbing Plan Info and Natural Gas/Propane Info:

Water and waste

Plumbing requires a riser diagram (schematic diagram) that shows how plumbing will be configured and what type and size pipe are being used and how drain and waste systems are vented. It must show all systems, lengths, diameters and pipe type and connections. Include product specifications for any pumps, tanks or other equipment to be included in the system.

Please check that your permit documents include:

- Riser diagram
- All fixtures are shown
- All pipe and venting shown
- Dimensions of all required access openings
- Manufacturers specifications are included for any mechanical vents

Natural Gas and Propane:

Installing gas piping? A plumbing permit is required when gas piping is being installed, extended or a new gas fired appliance is being added to an existing system. Your application must include a gas riser diagram is required showing all gas piping on the system from the gas meter to each gas appliance tied into the gas piping.

A gas riser diagram consists of size and length and type of each section of gas pipe starting at the meter, to each take-off tee branch, including sections between take-off tee branches as well as size and length of all branches coming off the main gas line that supplies each appliance, including any new appliances.

Label and indicate BTUs for each appliance presently tied into the gas line and do the same for any proposed new appliances.

Indicate outlet pressure in water column or psi and identify the table used to calculate size.

Here is an example of how to calculate pipe size and more info

Plans must show:

- Provide gas piping layout on the floor plan for each floor. Include pipe sizes, water column, and type of material.
- Provide a schedule of connected equipment, total BTUH demand, total equivalent length, and most remote gas appliance.

Heating, Ventilation and Air Conditioning Plan Info:

HVAC is any heating, cooling or ventilation equipment. Plan review includes a review of the proper sizing of the unit.

HVAC Permits require the following plans/ documentation:

- Complete venting information for combustion appliances
- ACCA form, Manual J calculations
- Product spec sheets for any equipment
- If you are installing a unit that gets combustion air from the room it is in you must provide calculations.

Your plans must show:

- Mechanical plans for each floor. These shall show the ductwork layouts, schedules, notes, legends, piping schematics, and details necessary to define the system being installed.
- Indicate air distribution devices and show cfm for all supply, return and exhaust devices.
- Indicate the location of all equipment components required for a complete system.
- Provide manufacturers information sheets for equipment.
- Fresh air supplied.
- All natural gas and propane supply needs permit and plans – see this page for that info

HVAC contractors, please review this guide if you have questions about the necessary documentation for permit applications: [HVAC Quality Installation Specification Minimum Design and Installation Requirements for Residential and Commercial Heating, Ventilating, and Air Conditioning \(HVAC\) Applications.](#)

Electrical Plan Info:

Electrical plans must be reviewed and stamped by an underwriter before being brought in to the office. Select an underwriter from the list here. They should be the ones you will also use for your inspection.

- Receptacles set-backs, outlets, switches, 3 way switches, electrical outlets, light, fans, smoke detectors, fire sprinklers, heaters, fireplaces, AFI's, GFCI's, dimmers, ceiling fans, sub-panels, switches, light locations and distributions, 3-ways light switches, bathroom fans.
- Microwave receptacles, refrigerator outlet, stove location, sink location, washer and dryer room location, ventilation location. Main meter box location, size, brand name, capacity AMPS.

The information provided in this guide is intended only to assist individuals in understanding the code requirements. It is not a complete recitation of the code. Property owners should consult the Lower Gwynedd Township Code of Ordinance for answers to specific questions.



Lower Gwynedd Township

1130 N. Bethlehem Pike, P.O. Box 625

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LOWER GWYNEDD TOWNSHIP PERMIT APPLICATION FOR GRADING/EXCAVATION/STORMWATER MANAGEMENT

1. **Location of Proposed Project**

At (Location) _____
No. _____ Street _____

Between _____ and _____
Cross Street _____ Cross Street _____

Subdivision _____ Lot _____

2. **Identification**

Owner

Name: _____ Phone #: _____

Address: _____

City: _____ Zip Code: _____

Email: _____

Contractor

Name: _____ Phone #: _____

Address: _____

City: _____ Zip Code: _____

Email: _____

License No. _____ Expiration Date: _____

3. **Type of Disturbance or Improvement**

New ☐ Alteration/Renovation ☐ Repair/Replacement ☐ SWM ☐
Grading ☐ Addition of Impervious surface and/or building/structure ☐

4. **Proposed Earth Disturbance**

0-1000 sf ☐ 1001-5000 sf ☐ Greater than 5,001 sf ☐

5. **Proposed Impervious Surface Coverage**

0-1000 sf ☐ 1001-5000 sf ☐ Greater than 5,001 sf ☐

6. **Grading Plan** (Attach five copies)

Title_____

Registered Professional Engineer_____

Date_____ Last Revised_____

The plan shall show all of the following information or the application will automatically be denied: present contours, proposed contours, lot lines, streets, buildings, trees over 6 inches in diameter, description of soil type and classification, details and location of proposed drainage facilities. All plans shall be dated and bear the name of (1) person who prepared plan, (2) the applicant, (3) the owner of the land.

7. **Proposed Stormwater Controls:**

List the type of controls being proposed and attach the required supporting calculations and maintenance program.

8. **Erosion and Sedimentation Plan**

If an erosion and sedimentation control plan has not previously been approved, it must accompany this application.

Erosion and sedimentation control plan has been previously approved ()

Title_____

Date_____ Date Approved_____

Erosion and Sedimentation Control Plan attached. ()

9. **Estimated Dates**

Starting Date_____ Completion Date_____

10. **Purpose**

State the Purpose for which the Grading Application is filed.

11. **Permit Fee**

Lower Gwynedd Township has an approved fee schedule that is updated from time to time. Please refer to the current schedule and list the corresponding fee for this application _____.

12. **Clean Fill**

No grading permit shall be issued for the filling of materials other than clean fill without special approval.

Clean Fill will be used: _____Yes _____No

I hereby certify the above information to be correct and hereby state that the work to be performed will be as presented herein and agree to sign an escrow agreement providing for the deposit of funds (if required by township engineer) and responsibility for payment of professional and/or testing fees related to this application upon the issuance of this permit.

Name of Applicant_____

(please print)

Address_____

Phone_____ Signature_____

For Official Use:

Permit Number: _____

Permit Issued: _____

Permit Fee: \$_____

Payment Received: _____

Required Information Received: _____

Approval: Yes ☐ No ☐

APPROVED BY

Lower Gywedd Township Engineer

Township Zoning Officer

Date

Date

This section of the approved fee schedule pertains to Grading/Excavation/Stormwater Management Permits. You may request a complete fee schedule from the Township or access it online at www.lowergwynedd.org.

Building Permit Other Fees.

Type	Fee
Driveway/Road Opening Permit- reviewed by Public Works Director	\$250 + calculated as per the application fee schedule
Grading/Excavation/Stormwater Management- reviewed by Township Engineer	\$500 flat fee; grading permit in lieu of land development requires cost estimate & escrow