

Energy Efficiency

The insulation envelope shall meet the requirements of Chapter 4 of the Energy Conservation Construction Code of New York State for Climate Zone 6. Code compliance shall be demonstrated using the PRESCRIPTIVE ENERGY COMPLIANCE METHOD (Per Section 402.1 and comply with Requirements of Table 402.1.2)

All single Family Homes must be blower door tested with results not exceeding 3-ACH50

The Envelope Thermal values shall be as follows, unless noted otherwise on plans.

- Exterior wall ... R-20 Cavity + R-9 (min) Continuous
- Roofing ... R-49, (If Raised Heel Roof Trusses are used then R-38)
- Floor ... R-30
- Foundation wall (10-foot depth from top of wall or Full Height if less than 10') R-19 (R-8.4 where adjacent to basement stairs)
- Slab edge insulation (2'-depth) ... R-10 minimum
- Glazing ... U=.32 (U=.35 for basement sash windows)
- Entrance doors ... U=.15 to .23 (depending on amount of glazing)
- Doors located outside the thermal envelope ... R-8

Building insulation shall be full thickness fiberglass batt insulation in sizes and locations called for or shown on the plans.

Rigid insulation below grade shall be extruded polystyrene as manufactured by DOW Chemical Company or equal (R-5, 103/4inch).

Vapor Retarder shall be Class I or II vapor retarders on the interior side of frame walls in Climate Zones 5, 6, 7, 8 and Marine 4.

Ventilation of rafter and attic space shall be provided by vented soffit and raised ridge vent where shown or noted. Provide blocking and batties to ensure adequate air channel for ventilation.

HVAC equipment to be sized based on load calculations in accordance with ACCA Manual J.

All HVAC supply ducts, air handlers and filter boxes shall be sealed. Joints and seams shall comply with Section M1801.3 of the IRC or the NYS. Building envelope tightness verified by blower door test result not exceeding 3 ACH at 50 Pa. The building thermal envelope shall be sealed by caulking, gasketing, weather stripping or otherwise sealed with an air barrier material, suitable film or solid material.

- A. All joints and penetrations.
- B. Fill all voids between jambs and framing with loose or foam insulation.
- C. Walls and ceilings separating a garage from conditioned space.
- D. Bellows tubes and sleeves on exterior walls.
- E. Attic access openings.
- F. Rim joists junctions.
- G. Sill plates and headers.

All hot-water supply pipes shall be located within the thermal envelope. If the house is equipped with a circulating hot water system, the pipes shall be insulated with R-3 minimum and a control switch shall be provided to turn off the circulating pump when the system is not in use.

All exterior doors to be provided with weather stripping.

Allow 1/4" for caulking around perimeter of window and door units. Sealant (exterior) and caulking (interior) to be paintable silicon or latex compound gun and knife grades as required. All installations shall be in accordance with the IRC as adopted by NYS and manufacturer's specifications.

Sealant backer rod to be closed butyl round joint filler.

See attached Schedule for light, vent and emergency exit compliance and thermal values.

Mechanical systems are required to comply with: Chapter 12 Mechanical; Chapter 13 General Mechanical System Requirements; Chapter 14 Heating and Cooling Equipment; Chapter 15 Exhaust Systems; Chapter 16 Duct Systems; Chapter 17 Combustion Air; Chapter 18 Chimneys and Vents; Chapter 19 Special Fuel-Burning Equipment; Chapter 20 Boilers/Water Heaters; Chapter 21 Hydraulic Piping; Chapter 22 Special Piping and Storage Systems; Chapter 23 Solar Systems; and Chapter 24 Fuel Gas.

Plumbing systems are required to comply with Chapter 25 Plumbing; Chapter 26 General Plumbing Requirements; Chapter 27 Plumbing Fixtures; Chapter 28 Water Heaters; Chapter 29 Water Supply and Distribution; Chapter 30 Sanitary Drainage; Chapter 31 Vents; and Chapter 32 Traps.

Electrical systems are required to comply with Chapter 33 General Electrical Requirements; Chapter 34 Electrical Definitions; Chapter 35 Services; Chapter 36 Branch and Feeder Requirements; Chapter 37 Wiring Methods; Chapter 38 Power and Lighting Distribution; Chapter 39 Devices and Lighting Fixtures; and Chapter 40 Appliance Installation.

Additional provisions that apply, where shown, include Chapter 41 Swimming Pools and Chapter 42 Class 2 Remote-control, Signaling and Power-limited Circuits.

Window selections shown on drawings are provided to demonstrate general conformity with code requirements. The contractor shall coordinate with the supplier to ensure proper specification for door and door-window combinations. Verify all rough opening requirements with field conditions and the supplier. See attached opening schedule.

Door selections shown on drawings are provided to demonstrate general conformity with code requirements. The contractor shall coordinate with the supplier to ensure proper specification for door and door-window combinations. Verify all rough opening requirements with field conditions and the supplier. See attached opening schedule.

Finishes shall be as selected by the Owner, confirmed for compliance with related provisions of the RCNYS and install as required and/or specified by the manufacturer.

Compliance Statement: The proposed building design described here is consistent with the building plans, specifications and other calculations submitted with the permit application. This proposed building is in compliance with Section 405.3 of the ICC Energy Conservation Construction Code as adopted by NYS to the best of my knowledge, belief and professional judgment.

Prescriptive Energy Compliance Method
Per R402 of the 2015 ICC Energy Conservation Code as adopted by NYS

2016 Energy Code Requirements - ZONE 6

Climate Zone	Fenestration U-Factor	Skylights U-Factor	Glazing R-Value	Minimum Exterior Wall R-Value	Floor R-Value	Basement Wall R-Value	Slab R-Value & Depth
6	.32	.55	49 (1)	20 + 5 cr 13 + 5	30	15 / 19	R 10 to 48"

Exceptions: (per R402.2.1)

1.) If Raised Heel Roof Trusses are used then R-38 ceiling insulation may be used

The following Requirements shall be met to show compliance with the 2015 ICC Energy Conservation Construction Code as adopted by NYS.

303.1 IDENTIFICATION

All installed insulation labeled or installed R-values provided.

401.3 CERTIFICATE

Compliance certificate posted.

402.4.2.1 TESTING

Building envelope tightness verified by blower door test result not exceeding 3 ACH at 50 Pa.

402.4.2 FIREPLACES

New wood burning fireplaces that are designed to allow an open burn and new wood burning fireplace units that are designed to allow an open burn shall have tight fitting flue dampers or tight fitting doors, and shall be provided with a source of outdoor combustion air in accordance with this code. Tight fitting doors used on a factory built fireplace listed and labeled in accordance with UL 127 or on a factory built fireplace unit listed and labeled in accordance with UL 127 shall be tested and listed for such fireplace or fireplace unit. Tight fitting doors used on a masonry fireplace shall be listed and labeled in accordance with UL 507.

402.4.3 FENESTRATION

Fenestration air leakage. Windows, skylights and sliding glass doors shall have an air infiltration rate of no more than 0.3 cfm per square foot and awning doors no more than 0.5 cfm per sq ft

Fenestration that is not airtight is listed and labeled as meeting AAMA/WDMA/CSA 1011.5.2/A449 or has infiltration rates per NFRC 400 that do not exceed code limits

402.4.5 RECESSED LIGHTING

IC rated recessed lighting fixtures sealed at housing/interior finish and labeled to indicate not more than 2.0 cfm leakage at 75 Pa.

402.4.1 PROGRAMMABLE THERMOSTATS

Programmable thermostats installed on the primary heating and cooling system of the dwelling.

402.3.1 DUCT INSULATION

Supply ducts outside the thermal envelope greater than 3" dia in attics are insulated to R-6. All other ducts in unconditioned spaces or outside the building envelope are insulated to R-6. Not applicable if all systems are ductless.

402.3.2 DUCT LEAKAGE

All joints and seams of air ducts, air handlers, filter boxes, and building cavities used as return ducts are sealed Post-construction Duct tightness with maximum leakage of 4 cfm per 100 sq ft of conditioned floor area with air handler installed.

Rough-in tests, verification may need to occur during framing inspection, with maximum leakage of 4 cfm across systems and 3 cfm without air handler.

402.3.3 DUCT TESTING (MANDATORY)

Duct testing is mandatory if any part of the ducts and air handlers are outside of the buildings thermal envelope If any portion of the duct work is outside the buildings thermal envelope a duct leakage test is required

402.3.5 BUILDING CAVITIES

Building cavities are not to be used as ducts or plenums

402.6 MECHANICAL VENTILATION (MANDATORY)

Building shall be provided with ventilation that meets the requirements of the IRC as applicable. Outdoor intakes and exhausts shall have automatic or gravity dampers that close when ventilation system is not operating.

402.7 EQUIPMENT SIZING & EFFICIENCY RATING

Heating & cooling equipment shall be sized in accordance with ACCA Manual S in accordance with ACCA Manual J



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Point
Professional Engineer

DOB	
Professional Seal No.	
NO.	
Project Name	Maddalone Lake House 108 Montayne Lane Caroga Lake, NY (Fulton county)
Energy Code Compliance	ERB
As Noted	
Date	8/15/2018
Signature	A-12

IRC 2015 - R301.2 (1) CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

Ground Snow Load	Wind Design			Subject to Damage From:	Winter Design Temp.	Ice-Barrier Underlayment Req'd	Flood Hazards	AIR FREEZING INDEX	MEAN ANNUAL TEMP
	Speed (mph)	Topographic effects	Special Wind region						
50	115	NO	NO	NO	B	Severe	4*	NO	1500

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To the best of our knowledge these plans are drawn to comply with the owner's and/or the builder's specifications and any changes made on these drawings once they leave our control are made at the owner's and/or builder's sole risk, responsibility and expense. It is the sole responsibility of any interested party to verify all dimensions including any other aspect of the enclosed drawing. While every effort has been made in the preparation of this plan to avoid mistakes, the maker can not guarantee against human error. The inclusion or specification of building materials included in this drawing does not in any way constitute a warranty of those materials as to their strength, durability, usability and/or other and the maker specifically disclaims all such warranties.

2015 International Residential Code as Adopted by NYS-REVIEW

Occupancy: Single Family Dwelling
 Classification by Construction Type: Frame Construction
 Building Height: 2-1/2 story
 Number of Stories: 2 Stories (Story 1st of walls +11'-7")
 Minimum Ceiling Height: 7'-6"
 Special Kitchen Extinguishing System: Not Required
 Fire & Smoke Detection: Required

ZONING INFORMATION
 Residential Use
 Sq Ft not including Garage: 1st Floor = 660 Sq Ft
 2nd Floor = 665 Sq Ft
 Total = 1325



CONSTRUCTION DOCUMENTS:

- The Architect / Engineer has not been retained for construction observation or administration and assumes no responsibility for field changes, contractor methods, material selections, product performance or warranty, or safety during construction.
- Law does not permit alterations to these documents. The Architect / Engineer must approve any alterations to the drawings. Absent such approval, the Architect / Engineer is not responsible for additional changes.
- These plans are instruments of service for the construction of one building only and are not to be copied in any form whatsoever without the express written consent of the Architect / Engineer.
- The plans are not valid for use in obtaining a building permit without the application of the original "wet seal" and signature of the Architect / Engineer.
- These documents were prepared for the construction of a single project. Any unauthorized use of these documents is expressly prohibited and constitutes theft of professional services. The documents may not be used for procurement of a building permit without bearing the original seal and signature of the Architect / Engineer.

GENERAL NOTES:

- All General Notes on this sheet shall apply to all drawings.
- The Contractor shall be responsible for all construction means, methods, and sequencing and shall be responsible to the Owner for providing a safe work environment during the construction period.
- These drawings do not include necessary components for construction safety. Contractor is responsible for the design and construction of all temporary supports. Brace building until all structural elements needed for stability are installed.
- This building has been designed in compliance with the requirements of the current Residential Energy Conservation Code of New York State & The Residential Construction Code of New York State, Adopted Code is IRC 2015 version as Adopted by NYS.
- All materials shall be installed in accordance with the manufacturer's written instructions and recommendations. The contractor shall deliver to the owner all manufacturers' warranties, guarantees, literature and operating instructions for all products and equipment.
- Dimensions and details are based on the best available information and contractor shall be responsible for verifying field dimensions before ordering materials and prefabricated items.
- The contractor shall provide all required materials and components of non-specified items, such as nails, flashing, etc. to provide a complete construction project, sound and weather tight, and to comply with current standards of quality construction.
- The Contractor shall be responsible for inspecting his own workmanship, to the extent that satisfies the owner.
- All work shall be performed in the best in most professional manner by mechanics skilled in their respective trades.
- Contractor shall verify all dimensions in field and report all discrepancies to the Architect / Engineer for resolution.
- All owners and builder shall comply with all laws, statutes, and rules that govern construction of this residence.
- All means and methods of construction are the responsibility of the contractor, including but not limited to shoring, support and bracing of existing structures as required for the work. Consult with the Architect / Engineer where necessary.
- Coordinate selection of all materials and products not specifically called out in the specifications and on the drawings such as painting materials and colors, interior finishes, light fixtures, bathroom fixtures, cabinetry, appliances and accessories, with the owner.
- The contractor shall provide a one-year guarantee of materials and workmanship for all work undertaken, commencing at substantial completion. The work is also subject to applicable provisions of the home warranty act of New York State.

FOUNDATION NOTES:

- Concrete footings shall develop minimum compressive strength of 2500 psi @ 28 days. Concrete walls shall develop minimum compressive strength of 3,000 psi.
- All footings and piers to be below local frost depth and have minimum 4" earth cover.
- All piers and grider pockets constructed of cmu's shall have block voids filled solid with concrete down to footing.
- Concrete footing sizes based on minimum 2000 psi soil bearing capacity.
- All footings to be placed on undisturbed soil.
- Contractor to coordinate location of all utility penetrations.
- Concrete Slabs to be 4" (min) monolithic finish (readjust per plan) install in accordance with R506 & industry standards.
- 1/2" diameter x 12" anchor bolts placed in the middle third of the slab plate at all exterior walls 12" from each corner openings 6" o.c. max (min 24" min).
- Provide #4 dowels @ 24" o.c. (unless otherwise noted) w/ embedment into footing and 24" min penetration into wall.
- Contractor shall extend excavation for a minimum 36" around entire building perimeter. Backfill w/ well draining material (sand, gravel) to facilitate subsurface drainage.
- Sump pit, sewer main, and water meter to be field located.
- Window well size and depth to be determined in field as required.
- Dampproof exterior of foundation wall from top of footing to grade. Remove form pins from each face of wall, inside and out and patch area smooth prior to application of dampproofing.
- Brace foundation wall as required during backfill.
- 3/4" diameter Sch 40 Steel Adjustable steel pipe columns to have 15,000 lb. capacity (MIN) w/ 4" x 6" steel caps (unless otherwise noted) as manufactured by Tel-O-Post or Eq.
- Install R-15 FSK full faced batt insulation Full height at perimeter of foundation exposed to cold.(Min)
- Location of boiler, electrical panel, and water service sleeves to be determined in the field.
- All lumber that will come in contact with masonry shall be pressure treated.
- Grade not to exceed dimension specified in wall section. (see detail).
- Foundation Wall not to exceed 40'-0" length without pierlot.

STRUCTURAL NOTES:

- All structural design elements and components are derived from applicable provisions of the 2015 International Residential Code as adopted by New York State unless otherwise noted on the drawings. Where noted, certain structural members may be designed using:
 - The American Forest and paper association (AF&PA) national design specifications (nds)
 - Minimum design loads for buildings and other structures (ASCE 7)
 - Chapter 18 of the 2015 International Residential Code as adopted by New York State
- No geotechnical evaluation has been done in connection with the foundation design. In accordance with table R401.4.1 the load bearing pressure used for the design of all foundation supporting elements is 2,000 psf for sand, silt sand, clayey sand, silty gravel and clayey gravel. If other soil types are encountered in the excavation, or if the actual soil bearing pressure is questionable, consult with the Architect / Engineer.
- It is not anticipated that ground water will be encountered in excavations. Footings shall not be poured within seasonal high ground water zones. consult Architect / Engineer if high ground water is encountered.

FRAMING NOTES:

- All windows & door headers to be two (2) 2x10's unless otherwise noted (see framing plans). All headers in openings 72" or more must be supported by dual jack studs
- All wood framing to be 1/2" minimum above adjoining finish grade.
- All Framing to be fastened in accordance with table R602.3 (1) of the 2015 International Residential Code as Adopted by NYS
- All exterior walls to be Continuously Sheathed 2x6 @ 16" o.c. w/ R-21 fiberglass batt insulation unless noted otherwise.
- All interior partitions to be 2x4 @ 16" o.c. except where noted.
- Install all metal or wood bridging at the midpoint of all joist spans except where noted. Not Req'd w/ Engineered Joists.
- Provide double framing around all floor openings and under all bearing partitions parallel with joist direction. Modify floor framing as required to accommodate plumbing and mechanical requirements without affecting structural integrity.
- Inspect all lumber for defects before installing. Discard any such lumber. All rafters and floor joists to be installed with crown up.
- All framing Studs to be minimum #2 construction grade unless noted otherwise. Rafters & Joists to be SPP No.2 or btr. Do not change size or spacing on any structural elements without engineer's written consent. (s=1-150/psi, E=1,400,000 psi) (For relative use members)
- Provide concealed wood blocking in all walls to secure surface mounted items such as cabinets, hose bibs, fireplace mantels, molding, railings, towel bars, etc.
- Provide firestopping where required by The 2015 International Residential Code as adopted by New York State.
- All dimensions are taken to Rth Framing unless otherwise noted.
- Roof Trusses to be Confined by Truss Manufacturer. Contractor to coordinate and consult with Architect / Engineer prior to truss fabrication if trusses are to be used in framing.
- 1.1E Micro-Lam Lumber Design Stress = E=1,900,000 psi fb=2,600 psi

PLUMBING, HEATING, VENTILATING, AND AIR CONDITIONING SYSTEMS:

- All HVAC work, equipment, etc. shall be in accordance with the 2015 International Residential Code as Adopted by NYS
- The HVAC Contractor shall conduct all tests and inspections for the installation of this work as required by the Owner and the local enforcement authority.
- The HVAC Contractor shall coordinate his work with the work of all other trades.
- All work shall be performed by mechanics skilled in this mechanical trade.
- The Contractor shall provide all control wiring. All control wiring shall be concealed from view.
- The Contractor shall provide opening, and maintenance instructions on all equipment to the owner. Information shall be bound neatly and in a comprehensible manner.
- Provide fireplace where indicated complete with fresh air intake, glass doors, fireproof flue, spark arrestor, required flashings, and parts required AS NECESSARY for a complete installation. Model as selected by owner if applicable.
- Bathroom and dryer exhaust to vent to exterior per code.
- The Contractor and the Owner shall be responsible for the specification of all heating and ventilating equipment not specifically noted on these drawings. The Heating Contractor shall submit catalog cuts on all heating equipment and materials to the Owner and/or General Contractor for approval.
- All new spaces shall be provided with equipment capable of maintaining a room temperature of at least 68 degrees at a point 3 feet above the floor and 2 feet from exterior walls.
- Programmable thermostats shall be provided.
- PLUMBING - Contractor shall comply with the 2015 International Residential Code as Adopted by NYS for the design and installation of all plumbing system components. All work shall be inspected as required during construction and approved at the end of the project by the local enforcement authority.

ELECTRICAL NOTES:

- All work shall comply with the 2015 International Residential Code as adopted by NYS.
- The Electrical Contractor shall coordinate his work with the work of all other trades & all work shall be performed by mechanics skilled in the electrical trade.
- All wiring shall be concealed above ceilings or within walls unless otherwise noted. All exposed wiring shall be located so that it is out of view as much as possible. All exposed conduit shall be done in the neatest and most orderly fashion.
- HVAC equipment shall be by others. Coordinate with the Heating and Plumbing Contractors and provide all line voltage wiring and connections to their equipment as required.
- Ground Fault Receptacles must be provided per the residential code of New York state
- AFCI receptacles shall be provided in all bedrooms.
- Minimum of 75% of permanently installed light fixtures shall be rated for energy efficiency. (i.e.-CFL, LED, etc)

FIRE, CARBON MONOXIDE & SMOKE DETECTION:

- Unless otherwise indicated in the drawings, hard-wired smoke detecting devices must be installed in each new sleeping room, outside all new sleeping areas; on each story without sleeping rooms, in basements with or without habitable space. None are required in uninhabitable attics. All detectors in new construction must be inter-connected.
- Carbon monoxide alarms in dwelling units shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms. Where a fast-burning appliance is located within a bedroom or its attached bathroom, a carbon monoxide alarm shall be installed within the bedroom.
- Smoke & Carbon monoxide alarms must be provided with battery backup, either internal or remote.
- Hard-wired detecting devices must be powered from a lighting circuit with no intervening switches. Electronic, low-voltage systems are allowed provided the system complies with NFPA 72

ENERGY NOTES:

- To the best of my knowledge, belief and professional judgment, Attached plans and specifications are in compliance with Chapter 11 of the 2015 International Residential Code as adopted by NYS.
- Builder shall place an approved New York State Residential Building Energy Standards certificate on or near the electrical panel per Chapter 4 Section 401.3 of NYS ECCC.

STRUCTURAL DESIGN LOADS - Live loads

sleeping rooms.....	30 psf
non-sleeping rooms.....	40 psf
exterior decks.....	40 psf
exterior balconies.....	40 psf
Habitable attic.....	30 psf
attic without storage.....	10 psf

Soil Classification
SP-SM (Sandy type Soil)

Soeila Engineering L.L.C.
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 (518) 424-6599

Date	
Prepared by/Reviewed by	
By	

Maddalone Lake House
 108 Montayne Lane
 Caroga Lake, NY
 (Fulton county)

Project Name	
General Notes Code Compliance	
E.R.S.	
As Noted	
8/15/2018	
A-13	