

2020 NYCECC Tabular Analysis
Residential Building

Energy Code Scope of Work

Proposed New Two Family Units on 2nd Floor and 3rd Floor portion of the building in a 3 stories building with an entry stair on 1st Floor

NYCECC Citation	Provision	Item Description	Code Prescriptive Value (ECC)	Proposed Design Value	Supporting Documentation
R401.30	Certificate (Mandatory)	Permanent certificate posted on the electrical distribution panel.	A permanent certificate shall be completed by the builder or registered design professional and posted on the wall in the space where the furnace is located, a utility room or an approved location inside the building. The certificate shall state insulation R-values, U-factors and the solar heat gain coefficient (SHGC) of fenestration, results from any required duct system and building envelope air leakage testing done on the building, and equipment efficiencies. When located on an electrical panel the certificate shall not cover or obstruct the visibility of any required labels.	Certificate provided as per code requirements.	See architectural cellar plan, A-100
R402.1.2, Table R402.1.2	Insulation and fenestration criteria	Above-grade Metal Stud-framed wall 2x6 framing, 24" o.c., with closed-cell spray foam insulation between studs as cavity insulation, XPS rigid insulation as continuous insulation at exterior side of sheathing. Exterior rain screens are either metal panels or thin-brick fascia systems.	Fenestration U-factor = 0.27 Skylight U-factor= 0.50 Glazed fenestration SHGC= 0.40 Ceiling R-value= 49 Wood Frame Wall R-value= 20+5 Mass wall value= 15/20 Floor R-value= 30 Basement wall R-value= 15/19 Slab R-value & depth= R-10, 4 ft. Crawl space wall R-value= 15/19	Fenestration U-factor = 0.27 Skylight U-Factor= N/A Glazed fenestration SHGC= 0.40 Ceiling R-value= N/A Wood Frame Wall R-value= N/A Mass wall value= N/A Floor R-value= N/A Basement wall R-value= N/A Slab R-value & depth= N/A Crawl space wall R-value= N/A	Vertical fenestration: A-200-A-201 (Building Elevations) A-600 (Schedules)
R402.1.3, Table R402.1.2	R-value computation	Exterior Metal Stud-framed wall 2x6 framing, 24" o.c.	R-20 + R-5ci	R-39 closed-cell spray foam cavity insulation (R-6.5/inch) and R-10 rigid insulation (R-5/inch). Note: Where there is more than one layer of insulation, the R-values are summed. Although other products and features, such as finish materials, air films and airspaces, may contribute to overall energy efficiency, when determining the R-value in the code, these additional items are not considered and do not contribute to the nominal R-value.	A-501-A-504 (Exterior Wall Details)
R402.2.6, Table R402.2.6, Table R402.1.4	Steel-frame ceilings, walls and floors	Steel frame walls	Code minimum R-20 + R-5ci	R-39 closed-cell spray foam cavity insulation (R-6.5/inch) and R-10 rigid insulation (R-5/inch).	A-501-A-504 (Exterior Wall Details)
R402.2.6, Table R402.2.6, Table R402.1.4	Steel-frame ceilings, walls and floors	Steel frame ceiling	Code minimum R-38 + R-5ci	R-39 closed-cell spray foam cavity insulation (R-6.5/inch) and R-30 rigid insulation (R-5/inch).	A-501-A-504 (Details)
R402.3.4	Opaque door exemption	Door U-factor requirement exemption	One side-hinged opaque door assembly up to 24 square feet (2.22 m ²) in area is exempted from the U-factor requirement in Section R402.1.4.	Door D03, U-0.27 (22 ft ² door exempt from U-factor requirements)	Vertical fenestration: A-201 (Building Elevations) A-600 (Schedules)
R402.4, R402.4.1.2, R402.4.1.3	Air leakage (Mandatory)	Air leakage testing statement	Less than 3 ACH. A written report of the test results shall be prepared and signed by the party conducting the test and provided to the code official and shall include the items listed in R402.4.1.2.	Building thermal envelope to be tested to no more than 3 ACH @ 50 PA and witnessed by the Progress Inspector as indicated on TR-8 inspection IA7.	EN-001 inspection table & notes
R402.4.1, R402.4.1.1, Table R402.4.1.	Building thermal envelope	Air sealing details	The building thermal envelope shall be durably sealed to limit infiltration. The sealing methods shall be in accordance with Table R402.4.1.1.	Building thermal envelope sealed as per code requirements. See air sealing details.	A-501-A-504 (Details) EN-003
R402.4.6	Tenant separation walls (Mandatory)	Tenant separation walls	Fire separations between dwelling units in two-family dwellings and multiple single-family dwellings (townhouses) shall be insulated to no less than R-10 and the walls shall be air sealed according to Section R402.4.	Two Family separated by different floor level, 2nd floor 1st family unit and 3rd floor second family unit.	A-102-A-102 (Floor Plans)
R402.6	Thermal bridges (Mandatory)	Thermal bridges	*Clear-field thermal bridges are identified on drawings and pre-calculated assembly values are from ASHRAE 90.1 Appendix A. Point thermal bridges greater than 8in2 are identified. Linear thermal bridges are outlined in tabular format including each linear thermal bridge type, the aggregate length for each, the relevant detail and cross-section through each thermal bridge, and the Psi-value for each thermal bridge.*	*Clear-field thermal bridges: all wall, roof and floor assemblies are derived from Appendix A of ASHRAE 90.1 Point thermal bridges: no point thermal bridges are in this design Linear thermal bridges: See Table 1 on sheet EN-001	A-501-A-504 (Details)
R404.1	Lighting equipment (Mandatory)	Interior lighting equipment	Not less than 80% of the lamps in permanently installed lighting fixtures shall use lamps with an efficacy of at least 65 lumens per watt, or have a total luminaire efficacy of at least 45 lumens per watt.	All lamps in fixtures are more than 45 lumens per watt.	A-201 (RCP)
R404.2	Electrical energy consumption (Mandatory)	Electric meters for individual dwelling units	In all buildings having individual dwelling units, provisions shall be made to determine the electrical energy consumed by each unit by separately metering individual dwelling units.	Electric meter provided for each dwelling unit.	See architectural cellar plan, A-100

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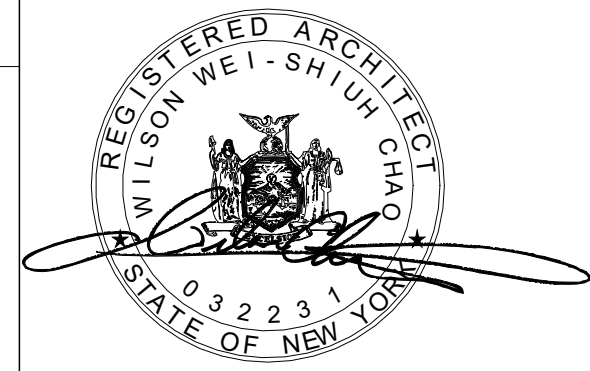
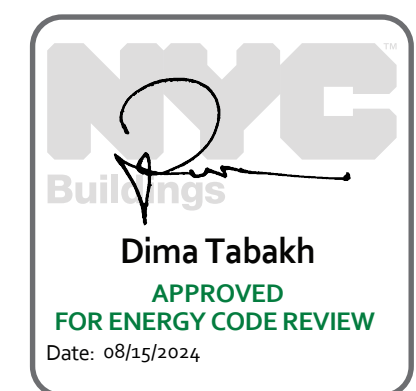
Energy Code Scope of Work

Proposed new Commercial use at 1st floor and cellar floor portion of the building in a 3 stories building

NYCECC Citation	Provision	Item Description	Code Prescriptive Value (ECC)	Proposed Design Value	Supporting Documentation
C401.2.1	Application to Group R-3 buildings, Permanent Certificate	Permanent certificate posted on the electrical distribution panel.	A permanent certificate shall be completed by the builder or registered design professional and posted on the wall in the space where the furnace is located, a utility room or an approved location inside the building. The certificate shall state insulation R-values, U-factors and the solar heat gain coefficient (SHGC) of fenestration, results from any required duct system and building envelope air leakage testing done on the building, and equipment efficiencies. When located on an electrical panel the certificate shall not cover or obstruct the visibility of any required labels.	Certificate provided as per code requirements.	See architectural cellar plan, A-100
C401.2.1	Application to Group R-3 buildings, air leakage testing	Air leakage testing statement	Less than 3 ACH. A written report of the test results shall be prepared and signed by the party conducting the test and provided to the code official and shall include the items listed in R402.4.1.2.	Building thermal envelope to be tested to no more than 3 ACH @ 50 PA and witnessed by the Progress Inspector as indicated on TR-8 inspection IA7.	EN-001 notes
Tables C402.1.3, C402.1.4 or Section C402.2	Walls, above-grade: Metal framed	Sample text: Steel-framed wall, 2x4 framing 16" O.C	Sample text: Minimum R-13 + R-8.5ci	* Sample text: R-13 batt insulation installed between framing + R-10 ci installed on the exterior of the building*	A-501-A-504 (Exterior Wall Details)
Tables C402.1.3, C402.1.4 or Section C402.2	Below-grade walls	Sample text: Thermal insulation on the interior of new basement wall.	Sample text: Minimum R-10ci	Sample text: 2" Extruded Polystyrene (XPS) = R-10	A-501-A-504 (Exterior Wall Details)
Tables C402.1.3, C402.1.4 or Section C402.2	Slab-on-grade floors: Heated slabs	Sample text: Slab-on-grade with radiant heating.	Sample text: Minimum R-15 for 24"below plus R-5ci under full slab	Sample text: R-5ci under full slab, R-15 extending from the top of the footing to 24" below	A-501-A-504 (Details)
C402.2.1	Multiple layers of continuous insulation	Sample text: Installation of multiple layers of continuous insulation.	Two or more insulation boards in construction assemblies shall be in accordance with Section C303.2. If the manufacturer does not call for multiple layers the edge joints between each layer of continuous insulation boards shall be staggered.	Sample text: Stagger the edge joints between each layer of continuous insulation boards.	A-501-A-505 (Details)
C402.2.9	Continuous insulation	Parapet design	Parapet shall be wrapped with continuous insulation having minimum R-value equivalent to the adjacent wall assembly. Above-grade wall assembly - 10ci.	Parapet wrapped in R-10ci	A-501-A-505 (Details)
C402.4, Table C402.4	Fenestration (Prescriptive)	Fenestration requirements Elevation below 95'	Window U-factor below 95 feet Umax-0.30 (fixed) SHGCmax - 0.36 Umax-0.77 (door)	(fixed) - installed below 95 feet U-0.27, SHGC - 0.35 (door) U-0.27, SHGC - 0.35	A-600 (door schedule)
C402.4.1	Maximum area	Fenestration to wall Ratio	30% Maximum	30%	EN-001 (1st floor plan)
C402.5	Air leakage-thermal envelope (Mandatory)	Air leakage-thermal envelope	The thermal envelope of the building must comply with Sections C402.5.1 through C402.5.8. Pressure differential of 0.3 inch water gauge. Air leakage rate 0.40 cfm/ft ² maximum. Must comply with Sections C402.5.5, C402.5.6, and C402.5.7.	Building thermal envelope to be tested to no more than 0.4 cfm/ft ² of envelope area @ 75 PA and witnessed by the Progress Inspector as indicated on TR-8 inspection IA7.	Notes (EN-001)
C402.5.1	Air barriers	Air barrier material	A continuous air barrier for the opaque buildings envelope shall comply with Section C402.5.1.2.1 or C402.5.1.2.2.	Continuous air barrier - min. 1/2 inch XPS with all joints sealed according to mfg.'s instructions.	A-501-A-505 (Details)
C402.5.1.2.1	Materials	Materials	Items 1 through 15 listed in this section must comply with the requirements of this section.	Gypsum plaster (G.W.B.) with a thickness of not less than 5/8 inch meet the requirements of Section C402.5.1.2.1.	A-501-A-505 (Details)
C402.5.1.3	Air barrier testing	Air barrier testing	New buildings 10,000 to 50,000 square feet, and less than or equal to 75 feet in height must show compliance through testing.	Sample text: All air barrier testing to be in accordance with ASTM E 779.	Notes (EN-001)
C402.5.2, Table C402.5.2	Air leakage of fenestration	1st Floor fixed glass storefront system, and entry doors	Max Air Leakage Rates: Curtain walls and storefront glazing = 0.06 cfm/sf Commercial glazed swinging entrance doors and revolving doors = 1.0 cfm/sf of door area	Curtain walls and storefront glazing = 0.06 cfm/sf Commercial glazed swinging entrance doors and revolving doors = 1.0 cfm/sf of door area	A-600 (windows and door schedule)
C402.5.4	Doors and access openings to shafts, chutes, stairways, and elevator lobbies	Sample text: Doors from corridor to stairwell A & stairwell B	Access openings from conditioned space to shafts, chutes, stairways, and elevator lobbies shall meet C402.5.2 or be gasketed, weatherstripped, or sealed.	All doors from corridor to stairway to be gasketed, weatherstripped or sealed.	see EN-004
C402.6	Thermal bridges (Mandatory)	Thermal bridges	*Clear-field thermal bridges are identified on drawings and pre-calculated assembly values are from ASHRAE 90.1 Appendix A. Point thermal bridges greater than 8in2 are identified. Linear thermal bridges are outlined in tabular format including each linear thermal bridge type, the aggregate length for each, the relevant detail and cross-section through each thermal bridge, and the Psi-value for each thermal bridge.*	*Clear-field thermal bridges: all wall, roof and floor assemblies are derived from Appendix A of ASHRAE 90.1 Point thermal bridges: no point thermal bridges are in this design Linear thermal bridges: See Table 1 on sheet EN-3*	See EN-003
C405.2	Lighting controls (Mandatory)	Interior lighting controls include occupancy sensors, daylight responsive controls, bi-level controls, and automatic shut-off	Lighting systems shall be provided with controls as specified in Sections C405.2.1 through C405.2.6.	Occupancy sensors in restrooms, conference rooms, rest room; MEP rooms; cellar storage area; bi-level controls in stairwells	A-120(RCP)
C405.2.1, C405.2.1.1, C405.2.1.2	Occupant sensor controls	Occupant sensor controls are provided in each conference room, restroom, storage area, corridor, stairwell and open plan office	Occupant sensors required in each restroom, storage area, corridor, stairwell and open plan office.	Occupancy & vacancy sensors provided with 15 minute shut off limit.	A-120(RCP)
C405.2.1.4	Occupant sensor control function for egress illumination	Occupant sensor controls for egress illumination	All luminaires serving the exit access, corridors, stairwells shall contain occupancy sensors that reduce the lighting power by 50 percent when unoccupied for a period longer than 15 minutes.	Exception 1 applies to all corridors and stairwells. The total lighting is less than 0.02 watts /sq ft.	A-120(RCP)
C405.3	Interior lighting power requirements	Interior lighting power requirements	Retail: 0.75 W/SF MEP Rm: 0.39 W/SF Stairwell: 0.50 W/SF Restroom: 0.75 W/SF Storage Room: 0.43 W/SF Total LPD Allowance = 723 w	Total Proposed LPD = 214 w LPD value for building is less than the interior lighting power calculated under Section C405.3.2. See drawing A-120	A-120(RCP)
C405.5	Electrical meter (Mandatory)	Separate electrical meters have been provided for each dwelling unit and usages.	Each dwelling unit in Group R-3 building shall have a separate electrical meter.	Sub Meters been provided for each dwelling units and different occupancy.	A-100 (Cellar Floor Plan)
C405.12	Whole building electrical monitoring	Whole building electrical metering	Measurement devices shall be installed to record electrical energy use every 60 minutes.	Whole building meter provided for electricity.	A-100 (Cellar Floor Plan)
C406.3	Reduced lighting power density	Reduced lighting power density	Lighting exceeds code min. by 10%	Total Allowance = 803 w x 0.9 = 723 w	A-120(RCP)

TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK CITY 2020, USING CHAPTER R4 and CHAPTER C4.

DOB APPROVAL



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