CITY OF BINGHAMTON

OFFICE OF BUILDING CONSTRUCTION

BUILDING PERMIT TOOLKIT

2019 EDITION

REFERENCE CODES:

ICC 2015 (BUILDING, RESIDENTIAL, EXISTING BUILDING, FIRE, PLUMBING, MECHANICAL, FUEL GAS, PROPERTY MAINTENANCE, AND ENERGY)
2013 ASHRAE 90.1
NYS CODE SUPPLEMENT 2017
NYS ENERGY CODE SUPPLEMENT 2016

NEW YORK STATE DEPARTMENT OF STATE
Division of Code Enforcement and Administration

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TECHNICAL BULLETIN

Effective Date: **January 1, 2003**

Source Document: **19 NYCRR Parts 1220 through 1226 and 1240**

Topic: **Construction Without a Building Permit**

This document is provided as general information for code enforcement officials, regarding construction work performed on buildings without the benefit of a building permit. The responsibility for compliance with applicable codes is that of the building owner. Universally, regardless of the local regulations for administration and enforcement, it is the owners responsibility to ensure the construction is in compliance with the applicable codes in effect at the time of construction. The following are questions and answers to illustrate the requirements and methods to "legalize" such construction.

When building construction without a building permit, is discovered, it is the responsibility of the code enforcement official to pursue the process of determining the compliance of the structure in accordance with the code in effect at the time of the construction. There should be a reasonable effort to determine the time of construction and the compliance of the building to the code in effect at that time. The owner should be able to provide construction drawings, dated contracts, receipts and similar documents, or other records indicating when the construction took place to establish the time of construction and the level of compliance. If the time of construction cannot be demonstrated to the satisfaction of the code enforcement official, it is reasonable to require compliance with the code in effect at the time of the "legalization" of the building construction, as it is presumed that a building permit will be required. Again, the owner has the right to request a variance.

A Certificate of Occupancy (CO) dated 2003, for a building permit issued under the previous code and completed after January 1, 2003; or for a building permit issued in 2003 for a building constructed at an earlier date without a permit; where the CO implies conformance with the new code in effect January 1, 2003.

The CO could provide the date on the building permit, if that date indicates the code under which the permit was issued. The CO could also clearly state the date of construction. Furthermore, a CO should not be issued unless the building substantially conforms to the code in effect at the time of construction.

An in-ground pool built in 1983, without a building permit.

Since the pool was installed before the January 1, 1984, the effective date of the Uniform Code, section 302.7.2.1 of the *Property Maintenance Code of New York State* (PMCNYS) is applicable. Although it may be prudent for the owner to install a pool enclosure which complies with the requirements of the *Residential Code of New York State* (RCNYS), Appendix G; PMCNYS section 302.7.2.1 states that "An approved enclosure, at least 4 feet in height, shall be provided around outdoor swimming pools, so that such pools are inaccessible to children. The enclosure may surround either the pool area or the property."

A residential building built without a permit in 1996, has a walkout basement with a wood-frame wall on the low side, instead of masonry as required. The code changed a few months later to permit the wood frame wall.

At the time of construction, the requirement was "masonry construction extending the full height of the basement or cellar walls." The building as constructed does not comply with the code requirements in effect at the time of construction. In general, if compliance after the fact is unreasonable, the owner could apply for a variance to allow the existing construction to remain.

You ask regarding the availability of all the old versions of the codes. The Department of State Office of Administrative Rules is designated by the Secretary of State to maintain the historic records of official compilations of the series of the New York State Codes Rules and Regulations (NYCRR). Administrative Rules can provide certified copies for evidence in court. For your information, the Codes Division also maintains copies or can easily obtain copies of the following code documents:

- 1952 through 1981 State Building Construction Codes (SBCC)
- 1984 through 2002 (old) Uniform Fire Prevention and Building Code (9NYCRR)
- 2003 and amendments to (new) Uniform Fire Prevention and Building Code (19NYCRR)

Furthermore, the copies of various sections of the reference standard documents are retained in this office and copies of updated and outdated versions can be readily acquired.

You ask regarding the use of Appendix K of the building code and Appendix J of the residential code for these buildings constructed without a permit and which "do not legally exist." Appendix K and Appendix J cannot be used to legalize these non-conforming buildings. *Building Code of New York State* (BCNYS) Appendix K, section K101.2, entitled " Intent", states that the intent of these provisions is to encourage the continued use and reuse of legally existing buildings and structures ... Similarly, Residential Code of New York State (RCNYS) Appendix J, section J101.1, entitled " General, states that the purpose of these provisions is to encourage the continued use or reuse of legally existing buildings and structures.

Ronald E. Piester, R.A., Director
Division of Code Enforcement and Administration

CITY OF BINGHAMTON
OFFICE OF BUILDING CONSTRUCTION

BUILDING PERMIT TOOLKIT

Richard David, Mayor

Christopher Schleider, Supervisor of Building Construction

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CITY OF BINGHAMTON
OFFICE OF BUILDING CONSTRUCTION & CODE ENFORCEMENT

BUILDING PERMITAPPLICATION FORM

Tax Map No. _____ **Permit No.**

PROPERTY OWNER AND PROJECT LOCATION – Note: Property Owner is responsible for all permits. Property Owner may authorize designee to submit application on the Owner's behalf.

Owner Name_____ Project Address (#/Street) _____

Owner Phone _____Owner Email _____Mailing Address (if different)_____

Structure Occupancy (select all that apply) Owner Occupied _____ Rental _____

Structure Type (select one) 1 or 2 Family Residential Apartment _____ Non-Residential _____ Mixed

General Contractor (company) _____ FEIN _____

Contractor Representative _____ Business Address _____

Phone _____ Fax_____ Email _____

Plumbing Contractor (company) _____ FEIN _____

Licensed Master Plumber _____License # _____

Business Address _____ Phone _____ Email/Fax _____

Electrical Contractor (company) _____ FEIN _____

Licensed Master Electrician _____ License # _____

Business Address _____ Phone _____ Email/Fax _____

HVAC/Mechanical Contractor _____ FEIN _____

Contractor Representative _____ Business Address _____

Phone Fax Email

PROJECT DESCRIPTION – Provide an informal sketch and narrative description of project. If necessary, use additional sheets or provide formal design submittals, as described under "Project Design Documents," below.

PROJECT DESIGN DOCUMENTS AND SUBMITTAL REQUIREMENTS

Detailed design documents, prepared by a licensed design professional, and which includes a comprehensive Code Analysis, may be required for any work performed under a Building Permit.

Formal, design documents are always required for any of the following types of projects:

1.) RESIDENTIAL – NEW ENTIRE; RESIDENTIAL – NEW ADDITION; RESIDENTIAL ALTERATION / RECONSTRUCTION / RENOVATION at or above Level II action;

2.) COMMERCIAL – NEW ENTIRE, NEW ADDITION, AND ALTERATION / RECONSTRUCTION / RENOVATION above Level I action

Note: Additional, detailed information about the documents required for a Building Permit, including forms, is available at the municipal website: http://www.binghamton-ny.gov/apply-building-permit

PAGE 2 – BUILDING PERMIT APPLICATION (CONT.) **The permit fee is based on the attached Schedule of Building Permit Fees," Page 3, below**

PERMIT CATEGORY

A Separate Cost is required for each of the categories below. Provide additional description of work on Page 2, below.

GENERAL CONSTRUCTION New Structure ____ Addition _____ Alteration _____ Renovation _____ Interior ____ Exterior_____

FEE(S): Total Estimated Cost of Construction $ _____

1) **ELECTRIC WORK** Power Service Connection _____ Extension or modification of existing distribution system _____

FEE(S): Total Estimated Cost of Electric $ _____ # of Devices_____ Calculated Electrical Permit Fee $_____

2) **PLUMBING WORK** Water Service ____ Fire Service ____ Sewer Service_____ Plumbing_____

FEE(S): Total Estimated Cost of Plumbing $ _____ # of Devices_____ Calculated Plumbing Permit Fee $_____

3) **MECHANICAL WORK HVAC_____ Special System_____ (identify system) _____ Other _____**

FEE(S): Total Estimated Cost of HVAC $ _____ # of Devices_____ Calculated Mechanical Permit Fee $_____

4) **LIFE SAFETY SYSTEM(S) Sprinkler/Suppression _____ Smoke/Fire Detection _____ Other _____**

FEE(S): Total Estimated Cost of Life Safety System $ _____

5) **ELEVATOR/CONVEYANCE SYSTEM(S) Note: Additional "Operating Permit," from Fire Marshal's office, required for elevator(s)**

Passenger _____ Freight _____ New _____ Upgrade Existing _____ Decommission Existing _____

FEE(S): Total Estimated Cost of Elevator Work $ _____

6) **DEMOLITION WORK Demolish Entire Structure(s) ___Limited Demolition - Exterior _____ Limited Demolition - Interior ___**

FEE(S): Total Estimated Cost of Demolition $ _____

FEE(S): Total Estimated Cost of Entire Project $ _____Entire Project Fee $_____

Total Mechanical, Electric, Plumbing Fees $_____

TOTAL PERMIT FEE $_____

Please indicate form of payment here: Cash_____ Check____ Check #_____

The owner of the above described property hereby approved this application and agrees to comply with all ordinances of the City of Binghamton and to do no work not specifically covered by this application. ***"I declare, under penalties of perjury, that this application, including any accompanying plans, specifications, etc. has been examined by me and to the best of my knowledge and belief is a true, correct and complete statement of the work to be covered by this application."***

Applicant Name (print/type) _____

Applicant Signature_____

STAFF USE ONLY BELOW LINE

SUBMITTALS:

Approved Site Plan____ Building Design Plan(s)____ Code Analysis____ NYs Comp/Disability Insurance_____

Department	Date	Approved By	Notes
Planning / Zoning			
CAUD			
Building Group			

SCHEDULE OF PERMIT FEES

There are three (3) basic Categories of Construction

1. Residential "New"
2. Residential "Renovation/Reconstruction"
3. Commercial

There are four (4) Types of Fees: ***Total permit fee is the sum of all four (4) fees***

1. Entire Project **+** 2. Electrical **+** 3. Plumbing **+** 4. Mechanical **= TOTAL PERMIT FEE**

Note: The fee(s) for a Building Permit varies, based on the Category of Construction and Type of Work. The term, "Residential," as used above refers to a 1 or 2 family dwellings and single family Townhouses, as defined by NYS Code. "Commercial" includes all occupancy categories, including 3-family and multi-unit, not defined as Residential, above .

ENTIRE PROJECT PERMIT FEES

*Where the Estimated Cost of Construction for the **entire** project is **less than $20,000** there is a flat fee.*

Estimated Cost	Residential-New	Residential-Renovation	Commercial
$1 - $5,000	$25.00	$15.00	$25.00
$5,001 - $10,000	$50.00	$25.00	$50.00
$10,001 - $20,000	$100.00	$50.00	$100.00

*Where Estimated Cost of Construction for the **entire** project is **greater than $20,000** the fee is calculated, as follows*:

Estimated Total Cost of Constructionmultiplied by.75% (or .0075), with maximum fee of $25,000 for any single, Building Permit.

Note: If or when the estimated cost of construction is over $20,000, the Applicant is required to submit a written estimate prepared by the Engineer, Architect, or Contractor.

In addition to the Entire Project Fee, Trade Fees below must be calculated and added to the Total Permit Fee

ELECTRICAL, PLUMBING, AND MECHANICAL PERMIT FEES

The permit fee for skilled trade permits, as below, is levied independent of any fee paid for under the Entire Project Fee.

Residential New - Electric, Plumbing and/or Mechanical
$35.00 for the first five devices, plus $2.00 per device for any additional devices.

Residential Renovation of - Electric, Plumbing and/or Mechanical
$25.00 for the first five devices, plus $2.00 per device for any additional devices.

Commercial (all categories) - Electric, Plumbing and/or Mechanical
Plumbing and Electric, **$50.00** plus $2.00 per device.
Mechanical, **$50.00** plus $2.00 per device (major unit of equipment per design schedules).

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SUBMITTAL CHECKLIST - REQUIRED FOR ALL PROJECTS

Applicant: Provide a check mark, below, to identify any and all submittals provided in support of your application. A Permit Card will be transmitted to Applicant as soon as a complete set of submittals has been received, reviewed, and accepted by the Office of Building Construction

	YES	NO	TBD	
Required for ALL projects	X			**Application Form – complete, including detailed description of proposed work**
Due upon initial application	X			**Permit Fee**
	X			**Proof of Insurance or equivalent Waiver (NYS DOL Worker Compensation and Disability documents)**
	X			**Scope of work - Drawings, Description, Dimensions, Materials, Details**
Required for projects >$10k	X			**Plans and/or Design document(s) prepared by a qualified design professional**
Due upon initial application				Scope of work - Drawings, Description, Dimensions, Materials, Details
				Detailed Construction Schedule & Engineer's Cost Estimate
				Detailed Design Specifications
				Manufacturer's Specifications & Shop Drawings, appropriate to project elements
				Statement of Special Inspections (for Residential projects, SI's will include ACH 50 and HVAC Duct testing)
				Statement of Method for 2015 IECC – Section R406 compliance requirements
				Statement of Project Elements subject to and method of performing post-construction Commissioning per C-408
Other required				Planning Approval Letter
Due upon initial application				Approved Site Plan
				Approved Draft Urban Runoff Reduction Plan (URRP)
				Final Urban Runoff Reduction Plan
				Approved Draft Stormwater Pollution Prevention Plan (SWPPP)
				Final Stormwater Pollution Prevention Plan
				Infiltration & Inflow Program
				Trade Licensing
				Operating (Hot Work) Permit
				Street Permit
				Sign Permit
				Elevator Permit
				CAUD Review and Approval Letter (historic districts and structures
				Lead Certification(s)
				Asbestos Survey and Asbestos Licensing
				Lead Certification
Progress Documents				Field Record Plan Set (As Built)
Due as scheduled				Change Orders & Plan Amendments & SK Drawings
				Progress inspection reports
				SWPPP inspection reports
				Special inspection reports
				Correspondence & Transmittals
Project Close-out				Complete set of Record Drawings (derived from "as built field set.")
as required to obtain				AIA G704-2000 prepared and signed by Designer of Record
"Temporary Certificate of Occupancy				Special Inspection reports (final) and associated certifications, as below:
OR Certificate of Occupancy"				*Life safety systems (smoke/fire detection)*
				Sprinkler systems (general fire suppression)
				Speciolized fire suppression (hood-exhaust systems, principally commercial kitchens)
				Elevator(s)
				Structural
				Commissioning Report – C-408 2015 IECC, including HVAC System certification (Commercial)
				ACH 50 Report (Residential)
				HVAC Duct Test Report (Residential, as or where applicable)
				Special systems (project specific)
				Public Water & Sewer System verification
				Infiltration & Inflow Compliance & Close Out
				SWPPP Post-construction Plan & Close Out documentation
				Site Plan Final Inspection and Acceptance Letter
				Close-out documents for all related permits (Demolition, Mechanical, Electric, Plumbing, Life Safety Systems, Sign, Elevator, etc.)

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CITY OF BINGHAMTON
OFFICE OF BUILDING CONSTRUCTION

BUILDING PERMIT TOOL

Richard David, Mayor

Christopher Schleider, Supervisor of Building Construction

SECTION ONE

FREQUENTLY ASKED QUESTIONS (FAQS)
THE BUILDING PERMIT PROCESS

City Hall ▪ 38 Hawley Street ▪ Binghamton NY 13901
www.cityofbinghamton.com ▪ PH: (607) 772-7004 ▪ FX: (607) 772-7162

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CITY OF BINGHAMTON
OFFICE OF BUILDING CONSTRUCTION

FAQS – PROJECT PERMITTING

Richard David, Mayor

Christopher Schleider, Supervisor of Building Construction

APPLICATION AND MOBILIZATION PROCESS

1. ***What are the basic steps required to obtain a Building Permit for new construction or renovation of an existing building involving a Change of Use?***

PLANNING REVIEW – Before an applicant can obtain a Building Permit, the applicant must present evidence that no Planning review is required for the project OR the applicant must present written evidence that the Planning review has been completed properly.

The former case, "no review required" is determined through informal discussion between the applicant and Planning staff. Typically, this discussion occurs during a "Pre-Development" meeting, which addresses two specific goals: (1.) provide the applicant with comprehensive information about the Project Approval process and (2.) determine the appropriate level of Planning review required for compliance with municipal Zoning ordinance.

Certain types of projects, such as interior renovation or remodeling of existing structures, are typically exempt from Planning review ***unless*** the scope of proposed work includes a change in the way the structure is being used, i.e. a "change of use" as defined by the Zoning ordinance. Based on project information provided by the applicant, Planning staff make this initial determination.

Planning review is or can be a complex, time intensive process. Consequently, applicants should be fully informed about the process itself and allow adequate time for it to occur, in relation to the project schedule as a whole.

For additional information about the PLANNING REVIEW process, please contact:
Assistant Director of Planning – Tito Martinez, tlmartinez@cityofbinghamton.com, 607-772-7028

BUILDING PERMIT

A project may require a Building Permit to comply with provisions of the New York State Code and associated local ordinances. These codes address the planning, design, construction, operation, and demolition of new and existing structures of all types, including residential (one and two family homes) and commercial buildings. These codes also address ancillary or accessory structures, including decks, garages, and swimming pools. If you are unsure whether a project requires a Building Permit, please call the local building official at the following address: Building Inspector – Carson Jones, cajones@cityofbinghamton.com, 607-772-7010

The application for a Building Permit can be obtained online, here: http://www.binghamton-ny.gov/sites/default/files/documents/files/Building%20Permit%20Application_2.pdf or it may be obtained at the Office of Building Construction, 4th Floor-City Hall, 38 Hawley St, Binghamton, NY 13901

In addition to the application form, an applicant must submit one or more **APPLICATION DOCUMENTS**, as described below:

1. **Design documents** or plans and specifications, which address all proposed work of the project, including demolition, and which are typically prepared by a qualified design professional. At minimum, all designs must include a formal NYS Code Analysis document. Detailed information about the form and content of design documents can be found in Section Four, "Design Document Standards," of this manual.

   All permit applicants must submit written evidence of compliance **with NYS Department of Labor regulations for Workers Compensation and Disability**. These documents may be obtained online here: http://www.wcb.ny.gov

2. For any permit involving limited or complete demolition of an existing building, the applicant must submit written evidence of compliance with the requirements **NYS Code Rule 56**, which provides regulatory standards for **Asbestos Containing Material** subject to disturbance caused by demolition activities. A copy of the Executive Summary of Findings, taken from a **materials testing report** prepared by a qualified materials testing firm, is typically submitted for this purpose.

3. A Planning approval action, where required, must be completed and approved *before* the related Building Permit can be issued. Under these circumstances, an applicant must submit a copy of the **Planning Approval Letter** and related documents, including the approved Site Plan (if any).

4. **Fee** – An application fee is required for a Building Permit. A schedule of fees is attached to the Permit Application form included in this manual.

After the application package has been completed and submitted to the Office of Building Construction, it will be reviewed by Code staff. At this time, staff may request additional information from the applicant, such as: Code Analysis; site plan; construction design drawings; design specifications; technical reports; and manufacturer's technical documentation, if any of these document are required, but not previously submitted by the applicant.

In general, Building Permits are issued and transmitted to the Property Owner AFTER all required submittals, as described herein, have been received, reviewed, and accepted by the responsible Code official. For fully new construction or complex reconstruction projects, the Plan Review process may require a significant amount of time and resources. Consequently, applicants are encouraged make adequate allowance in the schedule for this phase of the project.

Property Owners may request that a copy of the Building Permit be transmitted to one or more contractors or design professionals, as well. The period required for review is a minimum of three (3) days. Building Permit is valid for a period of ONE YEAR from the date upon which it is issued. The applicant may request an extension for a period of six (6) months to complete unfinished work. If a request is not received prior to the expiration date, the Building Permit will becomes null & void

The Property Owner, or an approved designee, is responsible for requesting all Progress Inspection(s) and Final Inspection, pursuant to a Certificate of Occupancy/Compliance. The Certificate of Occupancy/Compliance is issued when field inspection of the work has been completed and all work governed by the Building Permit has been found to be in general conformance with the requirements of the NYS Code and related municipal ordinances. A Certificate of Occupancy/Compliance will NOT be issued until are close-out documents have been received and accepted by the Code Official (Authority Having Jurisdiction).

2. ***What type or version of the International Code is used by the Building Department to evaluate code compliance, in relation to the following code categories: Building, Fire, Mechanical, Plumbing, Electrical, Life Safety, Energy, Existing Building, Mechanical Codes?***

The prevailing code(s) that is applied by this office is the NYS Code 2016, which includes in entirety the ICC 2015, NYS Code Supplement 2017, and NYS Energy Code Supplement 2016, for all categories listed above. Please note that the Energy Code Update is pending; however, an official NYS Supplement to ECCC was issued in 2016. Refer to the NYS Department of State Codes Division for additional information, which includes a list of all formal, Technical Bulletins and any official Revisions of the Code, made subsequent to publication.

3. ***Are there any special provisions of the Energy Code that require very specific attention?***

Detailed information about the Energy Code and Energy Code compliance can be obtained from the NYSERDA website, https://nyserdacodetraining.com/ Reference the training section that is entitled "Energy Code Essentials." NYSERDA training will provide highly detailed information about the process, including submittals and design documents, required to achieve compliance with the Energy Code, in relation to the reconstruction of Existing Commercial Buildings. Please note that the end user must Register, by creating an account, in order to access training information. Design professionals are eligible for registration. Any questions about this site may be directed to codes@nyserda.ny.gov or https://www.NYSERDA.NY.GOV

4. ***What are the state or local municipal laws and codes that are most relevant to a development project?***

Local ordinances that pertain to this type of project are found in the City of Binghamton Code of Ordinances, and may include one or more of the following Chapters, based on project scoping:

Chapter 200 Building Construction – which provides administrative procedures related to Building Permits, in addition to other regulations applied to the planning, design, construction, renovation, and demolition of structures. This ordinance also adopts the NYS Code as the governing standard for Building Permits. Governing office – Office of Building Construction & Code Enforcement

Chapter 225 Electrical Standards – establishes procedures for the licensing of the Electrical skilled trade. Note: any workforce, including Contractor, engaged in Electrical trade, for project work located within the jurisdiction of the City of Binghamton, must be duly licensed as prescribed by this ordinance. Governing office – Electrical Inspector and Board of Examining Electricians

Chapter 226, Elevators – addresses the standards for the design, construction, operation, and decommissioning of elevators located within the municipal jurisdiction. Note: operation permit for elevators are required. Governing office – Fire Marshal and Elevator Board

Chapter 227 Erosion Control – addresses the standards for stormwater management prior to, during, and post construction with specific reference to Urban Runoff Reduction Plan (local standard) and Stormwater Pollution Prevention Plan (NYS Department of Environmental Conservation). In both cases, the NYS DEC Design Manual (current version) pertains. Binghamton is an MS4 community. Governing office – City Engineer and Department of Engineering

Chapter 227-A Illicit Discharges – governs the disposition of contaminants in relation to public infrastructure, with specific reference to sanitary and stormwater sewer systems. Principal relevance to this project is conduct of workforce and associated method/materials of construction, e.g. concrete/asphalt materials, throughout period of project. Governing office – City Engineer and Department of Engineering

Chapter 310 Plumbing - establishes procedures for the licensing of the Plumbing skilled trade. Note: any workforce, including Contractor, engaged in Plumbing trade, for project work located within the jurisdiction of the City of Binghamton, must be duly licensed as prescribed by this ordinance. Governing office – Plumbing Inspector and Board of Plumbing Examiners

Chapter 355 Streets and Sidewalks – provides the standards and administrative procedures, including Street Work Permit, for any work located in or associated with the municipal ROW. Note: a Street Work Permit is required for any work, permanent or temporary, that is located within or that is located so as to have an immediate impact on public ROW. Governing office – City Engineer and Department of Engineering

Chapter 391 Trees and Shrubs – provides standards for street trees and for similar plantings mandated as a condition of Planning Approval. Note: landscaping features may be subject to review and acceptance by the Shade Tree Commission. Governing office – Zoning Officer and Shade Tree Commission

Chapter 410 Zoning – provides standards for land use and development within municipal jurisdiction. Related topics include allowed uses, bulk requirements, parking, signage, etc. Note: Site Plan is the principal instrument associated with provisions of this ordinance. Governing office(s) – Zoning Officer and Zoning Board of Appeals; Planning Director and Planning Commission.

5. What are the requirements for preparing and submitting design documents and related documentation?

The City of Binghamton Office of Building Construction understands that each project is unique and that there is no single set of guidelines that can or will adequately, completely, or exhaustively address this process. For that reason, we have prepared a number of documents that provide general information about design documentation. We encourage you to review these guidelines and to then prepare a list of design documents and submittals that are appropriate for this project. Upon receipt, we will review the list and, if necessary, amend as appropriate.

Note: Additional requirements for design documentation or post-construction documentation may be imposed by applicable Code(s.) The design professional of record is responsible for ensuring that all submission requirements have been or will be met in an appropriate, code-compliant manner.

6. Who are key personnel who may or will be involved in a development project?

Supervisor – C. Schleider, cjschleider@cityofbinghamton.com, 607-772-7010
Assistant Supervisor – Dave Watson, dhwatson@cityofbinghamton.com, 607-772-7010
Building Inspector – Carson Jones, cajones@cityofbinghamton.com, 607-772-7010
Electrical Inspector – Jeremie Bell, jbbell@cityofbinghamton.com, 607-772-7010
Plumbing Inspector – Pat Knapp, pjknapp@cityofbinghamton.com, 607-772-7010
Fire Marshal – Alan Gardiner, aggardiner@cityofbinghamton.com, 607-772-7123
NYSDOS Codes Division Regional Office (Syracuse) – James King, James.King@dos.ny.gov, 315-428-4434
City Engineer – Ray Standish, ristandish@cityofbinghamton.com, 607-772-7010
Assistant Engineer (Street Work Permit) – Edward Egan, ejegan@cityofbinghamton.com, 607-772-7007
Water Department – Jeff Kruger, jakruger@cityofbinghamton.com, 607-772-7210
Sewer Department – Kurt Brown, , kajbrown@cityofbinghamton.com, 607-772-701
Director of Planning – Juliet Berling, PhD, jmberling@cityofbinghamton.com, 607-772-7028
Assistant Director of Planning – Tito Martinez, tlmartinez@cityofbinghamton.com, 607-772-7028
Deputy Commissioner of Public Works – Bernice St Clair, bgstclair@cityofbinghamton.com, 607-772-7021

7. In addition to the Building Permit, what other permits or approvals are, or may, be required prior to construction?

a) **Stormwater Pollution Prevention Plan (SWPPP**) – for projects involving disturbance of 1 or more acres. Preliminary approval by City Engineer or designee is typically required as an element of the Planning Commission Review application. Ref: NYSDEC Stormwater Management Design Manual (2015)
b) **Urban Runoff Reduction Plan (URRP**) – for projects involving disturbance 5000 SF or the construction of ≥20 parking spaces. Preliminary approval by City Engineer or designee is typically required as an element of the Planning Commission Review application. Contact City Engineer for design requirements.
c) **Planning Commission** (mandatory) – documented by approved Site Plan and Approval letter
d) **Zoning Board of Appeals** (projects requiring zoning variance) – documented by approved Site Plan and Variance Approval Letter
e) **CAUD** (for projects involving historic significance of structures or defined districts) – Approval letter issued by Commission on Architecture and Urban Design
f) **Street Work Permit** (mandatory for work in ROW) – A bond is required for this permit
g) **Backflow Prevention Certificate** (as required for compliance) – issued by Broome County Department of Health
h) **Hot Work Permit** (as required) – for welding and related construction activities. Issued by Office of the Fire Marshal
i) **Elevator Permit** (as required) – for design, construction, operation, and decommissioning of elevators. Issued by Office of the Fire Marshal
j) **License Verification** – for skilled trades work (Plumbing and Electrical only), as described above
k) **Infiltration & Inflow Compliance** – documents the impact of proposed sewage flow on the infrastructure of the municipal system.

NOTE:

1. ***Prior to initiating any work on the project, under terms and conditions of the Building Permit, the Building Inspector will and must perform and document an inspection of existing conditions.***

   The initial inspection report may include assessment or evaluation of existing municipal or public utility infrastructure, including Water, Sewer, and Electrical services. The Property Owner may be required to provide technical support for this purpose.

2. ***A Building Permit will NOT be issued absent a complete and comprehensive Code Analysis, prepared and stamped by the Design Professional of record.***

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CITY OF BINGHAMTON
OFFICE OF BUILDING CONSTRUCTION

BUILDING PERMIT TOOL

Richard David, Mayor

Christopher Schleider, Supervisor of Building Construction

SECTION TWO

COMMERCIAL CODE ANALYSIS FORM
NYS CODE 2016

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www.cityofbinghamton.com ▪ PH: (607) 772-7004 ▪ FX: (607) 772-7162

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CODE ANALYSIS FOR PROJECTS INVOLVING NEW CONSTRUCTION, CHANGE OF USE, AND LEVEL III ALTERATION OF COMMERCIAL AND MULTI-STORY STUCTURES

Rev. 02/01/2017

Reference Standards

International Building Code 2015 (IBC) - 3rd printing 10/2015
International Fire Code 2015 (IFC) - 3rd printing 06/2015
International Plumbing Code 2015 (IPC) - 3rd printing 08/2015
International Mechanical Code 2015 (IMC) - 3rd printing 11/2015
International Fuel Gas Code 2015 (IFGC) - 3rd printing 06/2015
International Existing Building Code (IEBC) - 5th printing 11/2015
International Property Maintenance Code (IPMC) - 4th printing 12/2015
2017 Uniform Code Supplement (NYCS - 11/2017)
International Energy Code 2015 (IEC) - 2nd printing 05/2015
2016 Energy Code Supplement (NYECS - 08/2016)
2013 ASHRAE 90.1 - 07/2014 printing
NFPA 13 / NFPA 25 / NFPA 72
NEC 2014

Date:

Permit #:

Project Location:

Preparer:

Professional License #:

SIGNATURE & STAMP BELOW

Disclaimer: Reference to NYS Code Supplement sections (below) is not "exhaustive." Designer of record is encouraged/expected to reference text of NYSCS2016, in its entirety

No	TOPIC	IBC SECTION	NYS SUPPLEMENT SECTION	REQUIRED/ALLOWED	ACTUAL/PROPOSED	COMMENT
1	**Occupancy Classification**	**IBC-302 - 312**	NYSCS Chpt 3 Amdmt #2 (pg 88)			Amending Section IBC-307.7
	Existing					
	Proposed					
2	**Construction Classification**	**IBC-602**				
	Materials - Combustible / Non-Combust	**IBC-602.2-602.4**				
	Fire Resistance Rating Requirements					
	Structural Frame	**IBC-Table 601**				
	Bearing and Nonbearing Walls	**IBC-Table 601**				
	Floors	**IBC-Table 601**				
	Roof Construction	**IBC-Table 601**				
3	**Building Height & Area Limitations**	**IBC-503**				
	Tabular Height (feet)	**IBC-Table 504.3**				
	Tabular Height (stories)	**IBC-Table 504.4**				
	Tabular Area	**IBC-Table 506.2**				
4	**Height Modifications**					
	Increase Allowed - Sprinklers	**IBC-Table 504.3 footnotes**				**Total Height allowed =**
5	**Building Area and Area Modifications**	**IBC-506**				
	Allowable Area Determination	**IBC-506.2**				
	Single occupancy, one-story	**IBC-506.2.1 ref: Equation 5-1**				
	Mixed occupancy, one-story	**IBC-508.1 AND Equation 5-1**				$A_a = A_t+(NS \times I_f)$
	Single occupancy, multi-story	**IBC-506.2.3 ref: Equation 5-2**				$A_a = [A_t+(NS \times I_f)] \times S_a$
	Mixed occupancy, multi-story	**IBC-506.2.4 ref: Equation 5-3**				$A_a = [A_t+(NS \times I_f)]$
	Frontage Increase	**IBC-506.3**				
	Minimum frontage distance	**IBC-506.3.2 Equation 5-4**				$W=(L_1 \times w_1 + L_2 \times w_2 + L_3 \times w_3 \ldots)/P$
	Amount of Increase	**IBC-506.3.3 Equation 5-5**				$I_f = [F/P - 0.25]W/30$
						Total Area allowed =

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No	TOPIC	IBC SECTION	NYS SUPPLEMENT SECTION	REQUIRED/ALLOWED	ACTUAL/PROPOSED	COMMENT
6	**Unlimited Area Buildings**	**IBC-507**				
	Non-sprinklered, one-story	**IBC-507.3**				
	Sprinklered, one story	**IBC-507.4**				
	Two-story	**IBC-507.5**				
	Special occupancies	**IBC-507.6-507.13**				
7	**Mixed Use and Occupancy**	**IBC 508**				
	Accessory Occupancies	**IBC 508.2**				
	Non-separated occupancies	**IBC 508.3**				
	Separated occupancies	**IBC 508.4**				
8	**Incidental Uses**	**IBC 509**				
9	**Special Provisions**	**IBC 510**				
	Horizontal building separation allowance	**IBC 510.2**				
	Atriums	**IBC-404**				
	Definition	**IBC-404.1.1 (ref: Chpt 2)**				SECTION 202 DEFINITIONS
	Sprinkler Protection	**IBC-404.3**				
	Fire Alarm System	**IBC-404.4**				
	Smoke Control	**IBC-404.5**				
	Enclosure	**IBC-404.6**				
	Standby Power	**IBC-404.7**				
	Interior Finish	**IBC-404.8**				
	Travel Distance	**IBC-404.9**				
10	**Fire-Rated Construction**					
	FSD - "Fire Separation Distance"					
	Exterior Wall Rating (based on FSD)	**IBC-Table 602**				
	Exterior Wall Openings (based on FSD)	**IBC-Table 705.8**				
	Fire walls	**IBC-706**				
	Separate Buildings	**IBC-706.1**				
	Party Wall	**IBC-706.1.1**				
	Fire Barrier	**IBC-707**				
	Fire Areas	**IBC-Table 707.3.10**				
	Shaft Enclosure	**IBC-707.3.1 and 713.4**				
	Fire Partition	**IBC-708**				
	Smoke Barriers	**IBC-709**				
	Opening Protectives	**IBC-Table 716.5**				
	Concealed Spaces	**IBC-718**				
	Fire Blocking	**IBC-718.2**				
	Draft Stopping	**IBC-718.3 Floors**				
		IBC-718.4 Attics				
11	**Interior Finishes**					
	Wall and Ceiling	**IBC-803.1**				
		IBC-Table 803.11				
	Textiles	**IBC-803.6**				
	Floor Finishes	**IBC-804**				

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No	TOPIC	IBC SECTION	NYS SUPPLEMENT SECTION	REQUIRED/ALLOWED	ACTUAL/PROPOSED	COMMENT
12	**Interior Environment**					
	Ventilation	**IBC-1203.1**				
	Lighting	**IBC-1205.1**				
	Minimum Room Dimensions	**IBC-1208.1**				
	Minimum Ceiling Height	**IBC-1208.2**				
13	**Egress Standards**					
(a)	Occupant Load (Max. Floor Area Allowances)	**IBC-Table 1004.1.2**				(calculate Occupant Load)
	Egress Width	**IBC-1005.1**				
	Required capacity	**IBC-1005.3**				
	Number of Exits	**IBC-1006.2.1**				
	Spaces with one exit	**IBC-Table 1006.2.1**				
	Configuration	**IBC-1007.1.1**				
13	**Egress Components**					
(b)	Egress Illumination	**IBC-1008.1**				
	Emergency Power	**IBC-1008.3**				
	Exit Signs - location	**IBC-1011.1**				
	Doors, Gates, and Turnstiles					
	Door Size	**IBC-1010.1.1**				
	Door Swing	**IBC-1010.1.2**				
	Operation (locks)	**IBC-1010.1.9**				
	Panic Hardware	**IBC-1010.1.10**				
	Stairs					
	Width	**IBC-1011.2**				
	Headroom	**IBC-1011.3**				
	Tread/Riser	**IBC-1011.5.1-1011.5.5.3**				
	Handrails	**IBC-1011.11**				
14	**Accessibility**					
	Exceptions	**IBC-1103.2.1**				
	Route	**IBC-1104**				
	Multilevel Exception	**IBC-1104.4**				3000 SF aggregate
	Public Entrances	**IBC-1105.1**				60% accessible
	Parking	**IBC-Table 1106.1**				
	Signage	**IBC-1106**				
	Access Aisles	**IBC-1106.1**				
	Dwelling/Sleeping units	**IBC-1107**				
	Design	**IBC-1107.2**				
	Group R-1, R-2	**IBC-1107.6**				
	#/type of units	**IBC-Table 1017.6.1.1**				
	Apartment houses, monasteries, convents	**IBC-1107.6.2.2**				
	Group R-4 (only)	**IBC-1107.6.4**	)			
	Other Features and Facilities	**IBC-1109**				
	Toilet and Bathing Facilities	**IBC-1109.2**				

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No	TOPIC	IBC SECTION	NYS SUPPLEMENT SECTION	REQUIRED/ALLOWED	ACTUAL/PROPOSED	COMMENT
15	**Exterior Walls**					
	Weather Protection	**IBC-1403.2**				
	Condensation Protection	**IBC-1405.3**				
	Class III Vapor Retarders (allowed)	**IBC-Table 1405.3.2**				
	Combustible Finishes	**IBC-1406.2**				
		IBC-Table 1406.2.1.12				
	Balconies & projections	**IBC-1406.3**				
16	**Roof Assemblies**					
	Performance Requirements	**IBC Section 1504**				
	Gravel/Stone limitation	**IBC-1504.8**				
		IBC-Table 1504.8				
	Requirements for Roof Coverings	**IBC-1507**				
17	**Structural Design**	**IBC Section 1603**				
Memo to Designer: For Structural Analysis complete "Structural Analysis" tab (Excel) or "Structural Analysis pages (.pdf)						
18	**Fire Protection Equipment**					
	Supervisory Service	**IBC-901.6**				
	Sprinkler Systems	**IBC-903**				
	Where required	**IBC-903.2**				
		IBC-903.2.8				"
	Alternative Automatic Extinguishing Systems	**IBC-904**				
	Standpipe Systems	**IBC-905**				
	Portable Fire Extinguishers	**IBC-906**				
	Fire Alarm and Detection Systems	**IBC/IFC-907**				
	Where required	**IBC/IFC-907.2**				
		IBC/IFC-907.2.1				
	Smoke Alarms	**IBC/IFC-907.2.9.2**				
	Carbon Monoxide Detection	**IFC-915**				
	Hi-Rise Safety	**IBC/IFC-907.2.13**				
	Visible Alarms	**IBC/IFC-Table 907.5.2.3**				
		IBC/IFC-Table 907.5.2.3.2				
	Smoke Control	**IBC/IFC-909**				
	Smoke and Heat Vents	**IBC/IFC-910.3**				
	Kitchen Hood Exhaust	**IBC/IFC-904.2.2**				
19	**Plumbing Code**					
	Fixture Count	**IPC-Table 403.1**				
	General Requirements					
	Pipe Freezing	**IPC-305.4**				
	Pipe Hangers	**IPC-Table 308.5**				

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No	TOPIC	IBC SECTION	NYS SUPPLEMENT SECTION	REQUIRED/ALLOWED	ACTUAL/PROPOSED	COMMENT
	Water Supply					
	Service Pipe Size	**IPCP-603.1**				
	Fixture Pipe Size	**IPC-Table 604.5**				
	Pipe Material	**IPC-Table 605.4**				
	Required Valves	**IPC-606.1, IPC 606.2**				
	Pipe Insulation	*ref: International Energy Code*				
	Sanitary Drainage/Vent					
	DWV Pipe Material	**IPC-702**				
	Drain Fixture Units	**IPC-Table 709.1**				
	Building Drain Sizes	**IPC-Table 710.1(1)**				
	Stack and Branch Size	**IPC-Table 710.1(2)**				
	Waste Stack Vent Size	**IPC-Table 906.1**				
	Fixture Vent Location	**IPC-Table 909.1**				
	Air Admittance Valves	**IPC-918**				
20	**Mechanical Code**					
	Minimum Ventilation Rates	**IMC-Table 403.3.1.1**				
	Propane Ventilation (liquid propane)	**IMC/IFC-502.9.10.1**				Portable Container use or storage
	Dryer Exhaust	**IMC-504**				
	Commercial Kitchen Hood Ducts & Exhaust	**IMC-506**				
	Commercial Kitchen Hoods	**IMC-507**				
	Commercial Kitchen Make-up Air	**IMC-508**				
	Commercial Kitchen Fire Suppression	**IMC-509**				
	Chimney Construction/Clearance/Termination	**IMC-Table 511.2**				Single-wall, metal chimneys
	Air Plenums	**IMC-602**				
	Fire & Smoke Dampers	**IMC-607.5**				
	Combustion Air	**IMC-701**				
21	**Fuel Gas Code**					
	Appliance Location	**IFGC-303**				
	Combustion, Ventilation, and Dilution Air	**IFGC-304**				
	Clearance Reduction	**IFGC-Table 308.2**[a through k]				
	Pipe Sizing and Material	**IFGC-403 and IFGC-404**				
	Shut-off Valves	**IFGC-409**				
	Chimney Termination	**IFGC-Figure 503.5.4**				
	Gas Vent Termination	**IFGC-Figure 503.6.4**				
	Venting System Termination Location	**IFGC-503.8**				
	Clothes Dryer Exhaust	**IFGC-614**				
	Unvented Room Heaters	**IFGC-621**				
22	**Electrical**					
	Means of Egress Illumination	**IBC-1008.2.1**				
	Illumination Emergency Power	**IBC-1008.3**				
	Exit Signs	**IBC-1013**				

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No	TOPIC	IBC SECTION	NYS SUPPLEMENT SECTION	REQUIRED/ALLOWED	ACTUAL/PROPOSED	COMMENT
	ENERGY CODE COMPLIANCE					
	The Applicant or design professional of record will demonstrate compliance by using one of the following compliance paths: **(a)** ASHRAE Compliance Path: Compliance with the requirements of ASHRAE 90.1-2013, as amended by the 2016 Energy Code Supplement. **(b)** Prescriptive Compliance Path: Compliance with the requirements of (1) Sections C402 through C405 of the 2015 IECC, as amended by the 2016 Energy Code Supplement, (2) Section C406 of the 2015 IECC, as amended by the 2016 Energy Code Supplement, and (3) in the case of tenant spaces, Section C406.1.1 of the 2015 IECC, as amended by the 2016 Energy Code Supplement. **(c)** Performance Compliance Path: Compliance with the requirements of Sections C402.5, C403.2, C404, C405.2, C405.3, C405.5, C405.6, and C407 of the 2015 IECC, as amended by the 2016 Energy Code Supplement, with building energy cost to be equal to or less than 85 percent of the standard reference design building.					
	The design professional of record will prepare and the Applicant will submit a complete set of Design Documents for Construction that clearly indicate and itemize provisions for commissioning and completion requirements in accordance with Section C408 of the 2015 IECC.					
	Design documents prepared by a New York State registered architect, or licensed professional engineer, of record for this project will bear the seal or stamp and signature of that registered architect or licensed professional engineer and include, immediately above the signature, the following statement:					
	To the best of the knowledge, belief, and professional judgment of the undersigned [registered architect or licensed professional engineer], the plans and specifications depicted on these drawings are in compliance with the applicable provisions of the New York State Uniform Fire Prevention and Building Code and the New York State Energy Conservation Construction Code, as currently in effect.					
23	**Energy Code**					
	Climate Zone	E-Table 301.1				
	Compliance Path					
	ASHRAE	*ASHRAE*				
	Prescriptive Method	E-502-505				
	Totat Performance Method	E-506				
	(Mandatory issues)					
	Com Check	E-501.2 except software				
	Building Envelope	E-502				
	Opaque Elements	E-Table 502.2(1)				
	Fenestration	E-Table 502.3				
	Vapor Retarder	E-502.5				
	Mechanical System	E-503				
	Service Water Heating	E-504				
	Lighting and Power	E-505				

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SECTION THREE

PROJECT DESIGN

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OFFICE OF BUILDING CONSTRUCTION
ZONING & CODE ENFORCEMENT

DESIGN DOCUMENT REVIEW GUIDELINE

Richard David, Mayor
Christopher Schleider,
Supervisor

PRELIMINARY BUILDING REVIEW — At minimum, two sets of the following documents required to complete review:

1. Architectural/engineering design development drawings indicating size of the building, occupancy group(s),
2. and type of construction. Drawings to include building plans and sections with means of egress, fire separation
3. assembly locations and fire protection systems proposed.
4. Soil boring and geotechnical recommendations report
5. Foundation structural calculations

BUILDING REVIEW — At minimum, two sets of the following documents required to complete review:

1. Complete architectural/structural plans
2. Comprehensive Site Plan
3. Soil boring and geotechnical recommendations report, including the description and bearing value
4. Structural calculations or other substantiation of structural performance
5. General specifications
6. Fire-resistance rated assembly specifications

MECHANICAL SYSTEMS REVIEW (HVAC, Plumbing, Electrical and Special Systems) — At minimum, two sets of the following documents required to complete review:

1. Complete Mechanical plans and specifications
2. Complete Plumbing plans and specifications
3. Complete Electrical plans and specifications
4. Complete Special System plans and specifications

SPRINKLER REVIEW — one set of the following:
Complete Sprinkler plans and calculations, including hydraulic design calculations, current flow test and material/equipment specifications

ACCESSIBILITY REVIEW — one set of the following unless requested with a review for another discipline, then two sets are required:

1. Complete architectural/structural plans
2. General specifications

ENERGY CODE REVIEW — an additional set of the following documents in addition to any documents required for disciplines listed above:

1. Complete architectural plans, site plan and general specifications
2. Design conditions (interior and exterior) consistent with local climate
3. Envelope design method, including supporting calculations and documentation
4. Complete Mechanical plans, specifications and equipment schedules
5. Complete Plumbing plans and specifications
6. Complete Electrical plans and specifications
7. Interior lighting design method, including supporting calculations and documentation
8. Lighting fixture and control schedules (building interiors and exteriors)

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OFFICE OF BUILDING CONSTRUCTION
ZONING & CODE ENFORCEMENT

DESIGN DOCUMENT STANDARDS

Richard David, Mayor
Christopher Schleider, Supervisor

GENERAL REQUIREMENTS

Design documents may include plans, specifications, calculations, test results, and/or other documentation which describe in detail the proposed building or structure. Additional documents may include site plans, SWPP documentation, and any other details associated with related site work. All documentation shall be comprehensively indexed and shall sufficient detail, as described below.

Documents shall be prepared and submitted in accordance with the following guidelines. Deviation or omission of specific documents are permitted at the discretion of the Supervisor of Building Construction or designee

To ensure prompt, efficient, and accurate approval of a Building Permit, the applicant shall provide design documents in the format described below.

1. All documents submitted with the application shall be identified to indicate the applicant's name and location.
2. A minimum 3" x 6" clear box must be provided on all sheets of plans near the title box for the stamp(s) of approval. Provide the following note in small type along one edge of the box: "Space Reserved for the New York State Stamp of Approval."
3. Applicants shall submit plans showing all elements relating to specific systems on properly identifiable sheets. See minimum drawing scale requirements at the end of this document.
4. Design calculations and/or test reports shall be submitted. The applicant shall cross-reference all designs to appropriate calculations and/or test reports.
5. Documents shall indicate the location of the insignia of approval.
6. Drawings shall be dated and identified, and include an index which can be used to determine that the package is complete.
7. Calculations shall be dated and identified, and include an index which can be used to determine that the package is complete
8. The drawing set shall provide tabular information, labeled as "Code Analysis" (ref: *Code Analysis Form*, below)

CONSTRUCTION DETAILS

Documents for buildings or components shall provide or show, as appropriate, the details listed below. Documentation necessary to demonstrate each alternative possible within the system shall be required.

1) General Building/Architectural

- **a)** Details and methods of installation of buildings or components on foundations and/or to each other including distance separation requirements.
- **b)** Floor plan(s) and typical elevation(s) with dimensions and notations to satisfy space requirements including but not limited to: minimum room areas, minimum horizontal dimensions, location of space in regard to adjacent finished grade level, minimum ceiling height, and areas allowable under sloping roof construction.
- **c)** Cross sections necessary to identify all major building components
- **d)** Details of flashing, such as at openings and at penetrations through roofs and subcomponent connections that indicate type and gauge of flashing material
- **e)** Exterior wall, roof, and soffit material, including any required rated assemblies.

f) Interior wall and floor/ceiling material, including any required rated assemblies
g) Accessibility provisions, where applicable.
h) Sizes, locations, and types of doors and windows. Indicate location, minimum clear opening and operation specifications for Emergency Escape and Rescue Openings. Provide light and ventilation schedule, demonstrating that minimum requirements for each space are satisfied. Include thermal performance specifications for use in energy calculations.
i) Suggested foundation plans, vents, and access under floor.
j) Details of any elevator or escalator system, including method of emergency operation, when provided.

2) Fire Safety

a) Details of fire rated assemblies, including reference listing or test report for all stairway enclosures, doors, walls, floors, ceiling, partitions, columns, roof, and other enclosures.
b) Means of egress, including details of aisles exits, corridors, passageways, and stairway enclosures. Provide calculations for exit requirements.
c) Flame spread and smoke developed classification of interior materials.
d) Location of required draft-stops, fire-stops, and fire blocking.
e) Details of opening protectives in fire resistance rated systems and assemblies, including: reference listings for required door, frame, hardware, borrowed light, or window to complete opening protective specification.
f) Drawings of fire suppression systems, standpipes, fire alarms, and detection systems, when required. Provide design calculations for fire suppression systems. Provide riser diagrams for suppression systems, fire and smoke detection systems, and fire alarm systems. Provide model information and reference listing for pre-engineered fire suppression systems.

3) Structural Detail Requirements

a) Provide engineering analysis to support the selection of all structural members and connections in compliance with applicable codes.
  i) Design calculations must; identify reference standard(s) and/or code tables, present design methodology in a step-by-step reviewable format, including all applicable design loads and load paths.
  ii) Demonstrate compliance with maximum load parameters; alternatively, provide calculations for varying design parameters/varying load conditions.
b) Details of structural elements, including framing details, spacing, size, connections and fasteners.
c) Grade, species, and specifications of materials.
d) Schedule of roof, floor, wind, and seismic loads upon which design is based.
e) Column loads and column schedule.
f) Typical foundation plans, details, and assumed design soil bearing value.
g) Provide the resulting uniform and concentrated load magnitudes imposed by the structure, for use by the design professional to properly design supporting structure for construction.

4) Mechanical Detail Requirements

a) Location, size, and material specifications for all equipment and components including but not limited to: electric heating systems; hydronic heating systems; all air heating, ventilating and air-conditioning systems; and appliances.
b) Provide room by room heat loss and design calculations for each typical building. Identify duct work, registers, piping, radiation, etc., to supply the required heating and/or cooling, to overcome heat loss/and or gain for each space.
c) Indicate input/output rating and manufacturer's listings requirements of all equipment and appliances, as appropriate
d) Method of providing combustion air if required.
e) Method for providing ventilation air if required, with quantities identified.

f) Method of providing make-up air if required.
g) Location of flues, vents, and chimneys; and clearances from air intakes, combustible materials, and other vents and flues.
h) Demonstrate code compliance for installation of fuel burning equipment, including fireplaces, in confined and non-confined spaces and identify required clearances consistent with the listing. Provide details when necessary.

5) Plumbing Detail Requirements

a) Schematic drawing of the plumbing layout, including, but not limited to: size of piping, fittings, traps and vents, cleanouts and valves, for gas, water, and drainage systems.
b) Plumbing materials and location of all equipment, appliances, and safety controls to be used. Indicate the rating and capacity of equipment and appliances. Applicant will provide a list or schedule of plumbing materials indicating appropriate compliance standard.
c) Provide floor plan showing fixtures, equipment, and connecting piping.

6) Electrical Detail Requirements

a) A single line diagram of the entire electrical installation.
b) Location of outlets, junction boxes, fixtures, and appliances. Indicate all required locations of GFCI protected circuitry, and waterproof circuitry. Show compliance with appropriate reference standard for minimum dedicated circuits at kitchen appliance locations and circuitry serving all appliance/motor locations.
c) Indicate all exterior and interior lighting locations.
d) Indicate all required smoke detecting alarm device locations and circuitry.
e) Indicate provisions for emergency power generation and connection to required circuitry, where applicable.
f) Details of any service equipment provided by the manufacturer.
g) Method of grounding service equipment.
h) Load calculations for service and feeders.
i) Sizes of branch circuit conductors.
j) Size, rating, and location of main disconnect and over current protective devices.

7) Energy Conservation Requirements
a) Provide methodology of compliance, or tables and calculations which will demonstrate compliance.
b) Provide details of materials and assemblies for compliance with envelope requirements.
c) Provide equipment efficiencies and control methods.
d) Provide electronic file of model where computer documentation of compliance is provided.

BUILDING DRAWING SET – MINIMUM SCALES

Sheet Size:
11” x 17” Minimum size to provide room for drawing information, manufacturer’s title block and a minimum 3” x 6” space for the municipal approval stamp on every sheet. Plan sets measuring 30” x 42” are the maximum size allowable for file storage purposes.
Key Plans:
1/16” = 1’.0” Minimum for small scale key plans of larger buildings that will not fit on the sheet otherwise. Larger scale partial plans must be provided, since interior dimensions and notes will not be legible at this scale.
3/16” = 1’-0”Minimum scale for floor plans or partial plans (enlarged from Key Plans), where interior dimensions and notes are provided.
Partial Plans:
1/4”=1’.0” Minimum scale for partial plans, enlarge as needed to show increased detail and information.

Building Elevations:
1/8"= 1.0" Minimum scale for building elevations, enlarge as needed to show increased detail and information.
Building Sections:
1/4"= 1.0" Minimum scale for building sections, enlarge as needed to show increased detail and information. Smaller scales may be allowed for large multi-story housing building sections.
Wall Sections:
1/4" = 1.0" Minimum scale for wall sections, enlarge as needed to show increased detail and information.
Details:
As needed to clearly communicate the required information.
Lettering:
3/32" High Minimum height for Notes and Dimensions. Line spacing between text lines will be≥1/16".

SITE PLAN REQUIREMENTS

A plan for any land use or activity requiring site plan review and approval shall be prepared by a qualified design professional and submitted to the Planning Department. Typically, a Site Plan will contain the following design information:

1. A bulk table (generally a bulk table lists pertinent information of the property, such as required and proposed square footage, setbacks, number of parking spaces, etc
2. The shape and dimensions of the lot
3. The existing zoning for the lot and for all adjacent lots
4. The existing and proposed physical characteristics of the site, including topography, vegetation and drainage
5. The location and size of all existing buildings that are to remain and all proposed new buildings and location of structures on adjoining lots within 25 feet
6. The existing and proposed use of each building or part thereof, and of the lot
7. The number of dwelling unites proposed for each building
8. The layout of required off-street parking and loading space with access and egress thereto
9. The location and type of any screening and landscaping
10. The location and type of proposed signage, exterior lighting, and proposed improvements other than a building
11. Dimensions of all items on the plan, including building, lots, parking spaces (handicapped spaces must be designated on site plan), and curb cuts
12. Any other information with respect to the lot, buildings or adjacent lots that may be necessary to determine compliance with the provisions of this chapter

SECTION FOUR

COMMERCIAL AND RESIDENTIAL ENERGY CODE COMPLIANCE

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DESIGN STANDARDS, SUBMISSION REQUIREMENTS, AND MANDATORY INSPECTIONS FOR DETACHED ONE AND TWO FAMILY STRUCTURES, TOWNHOUSES, & MULTIPLE FAMILY DWELLINGS (≤ 3 STORIES), AS REQUIRED TO COMPLY WITH ENERGY CODE

1. Design documents prepared by a New York State registered architect, or licensed professional engineer, of record for this project will bear the seal or stamp and signature of that registered architect or licensed professional engineer and include, immediately above the signature, a statement substantially similar to the following:

> *"To the best of the knowledge, belief, and professional judgment of the undersigned [registered architect or licensed professional engineer], the plans and specifications depicted on these drawings are in compliance with the applicable provisions of the New York State Uniform Fire Prevention and Building Code and the New York State Energy Conservation Construction Code, as currently in effect."*

2. The Applicant or design professional of record will provide a permanent certificate, prepared by the contractor or by the design professional, listing the predominant R-values of insulation installed for the permitted project and has that list been posted on a wall in the space where the furnace or primary heating system is located.

3. The Applicant or design professional of record will identify which of the following approved methods will be used to demonstrate that envelope values for the proposed one or two family structure comply with requirements of 2015 IECC Section R406:

(a) *Prescriptive* **(b)** *Trade-off method* **(c)** *(REScheck)* **(d)** *Energy Rating Index* **(e)** Other (specify, with Code citation)

4. The Applicant, design professional of record, or contractor will obtain an air leakage test (the "ACH 50 test" or "blower door test") on the building envelope, as required to demonstrate compliance for the proposed one- and two-family dwellings, townhouses, or multiple family dwellings of three stories or less.

a. The ACH 50 test will verify three (3) air changes or less per hour

b. The written results of the ACH 50 test will be signed by the party authorized to perform this test and will be submitted to Code Official, by the Applicant or design professional of record.

4. Where any part of a proposed HVAC duct system is located outside of the building envelope, a duct tightness test will be performed. A written report of the results of this test will be signed by the party conducting the test and submitted to the Code Official, by the Applicant or design professional of record.

Mandatory Inspection(s) to demonstrate compliance with requirements of 2015 IECC:

1. Inspections of footings and foundations to verify compliance with the Energy Code as to R-value, location, thickness, depth of burial and protection of insulation as required by the Energy Code and approved plans and specifications?

2. Inspections at framing and rough-in, made before application of interior finish and to verify compliance with the Energy Code as to types of insulation and corresponding R-values and their correct location and proper installation, fenestration properties (U-factor and SHGC and, in the case of a commercial building, VT), and proper installation and air leakage components as required by the Energy Code and approved plans and specifications?

3. Inspections at plumbing rough-in to verify compliance as required by the Energy Code and approved plans and specifications as to types of insulation and corresponding R-values and protection, required controls, and required heat traps on potable water heaters?

4. Inspections at mechanical rough-in to verify compliance as required by the Energy Code and approved plans and specifications as to installed HVAC equipment type and size, required controls, system insulation, and corresponding R-value; system and damper air leakage (in the case of a commercial building) or system air leakage control (in the case of a residential building); and required energy recovery and economizers (in the case of a commercial building) or programmable thermostats, dampers, whole-house ventilation, and minimum fan efficiency (in the case of a residential building).

5. Inspections at electrical rough-in to verify compliance as required by the Energy Code and approved plans and specifications as to installed lighting systems, components and controls and, if applicable, installation of an electric meter for each dwelling unit.

6. A final inspection that verifies, in the case of a commercial building, the installation and proper operation of all building controls required by the Energy Code, the receipt of documentation verifying that activities associated with building commissioning required by the Energy Code have been conducted and that findings of noncompliance corrected, and the receipt of the HVAC system certification required by the Energy Code; and the final inspection shall verify, in the case of a residential building, the installation of all building systems, equipment, and controls required by the Energy Code and their proper operation and the installation of the number of high-efficacy lamps and fixtures required by the Energy Code.

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DEPARTMENT OF PUBLIC WORKS
OFFICE OF BUILDING CONSTRUCTION
& CODE ENFORCEMENT

Richard David, Mayor **Christopher Schleider, Supervisor**

ADDENDA – DESIGN DOCUMENT STANDARDS
ENERGY CODE COMPLIANCE

THE FOLLOWING DESIGN DOCUMENTS OR ELEMENTS MUST BE SUBMITTED WITH A BUILDING PERMIT APPLICATION, AS REQUIRED TO DEMONSTRATE COMPLIANCE WITH THE CURRENT ENERGY CODE (IECC 2015 AND NYS ENERGY CODE SUPPLEMENT 2016) – PRIMARILY FOR NEW RESIDENTIAL AND COMMERCIAL CONSTRUCTION, INCLUDING ADDITIONS TO EXISTING STRUCTURES

1. Representation of thermal envelope for the proposed structure
2. Schedule and location of insulation materials, including associated R-value for each
3. Schedule of fenestration U-factor(s) and solar heat gain coefficient(s)
4. Area-weighted U-factor calculations and SHGC values (on drawings or drawing details)
5. Mechanical system design criteria (Manual “J” and Manual “S” for residential buildings)
6. Schedule of mechanical and service water heating system and equipment: types, sizes, and efficiencies
7. Technical description of economizer (commercial buildings)
8. Schedule of equipment and system controls (commercial buildings)
9. Schedule of fan motor horsepower (hp) and controls commercial buildings)
10. Schedule and location of duct sealing, duct, and pipe insulation, as applicable to proposed installation
11. Schedule of lighting fixtures, including: wattage and controls (commercial buildings)
12. Floor plan showing daylight zones (commercial buildings)
13. Air sealing details (on design documents)

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NEW YORK STATE OF OPPORTUNITY. | **Building Standards and Codes**

TB-1019--RCNYS

TECHNICAL BULLETIN

Code Effective Date: **October 3, 2016**

Source Document: **19NYCRR 1240—Energy Code of New York State-2016 (ECNYS)**

Topic: **Applicable Versions of Automated (Software) methods of Energy Code Compliance - RESCheck /COMCheck and notes on Mandatory Compliance.**

This document provides guidance to assist code enforcement officials in an understanding of the allowable versions of the compliance methods commonly known as RESCheck and COMCheck[1] for compliance with the 2016 New York State Energy Code. As of October 3, 2016, the most currently published versions of RESCheck (4.6.3) and COMCheck (4.0.5) in their generic formats are compatible with the 2016 Codes of New York State. There will be no NY Specific versions of RESCheck and COMCheck, since NY *did not* adopt substantial amendments to the IECC 2015, or ASHRAE 90.1-2013 Energy Codes.

For RESCheck, on the CODE dropdown menu, you must choose the **IECC 2015 tab**.
For COMCheck on the CODE dropdown menu, you must choose either the **IECC 2015**, or **ASHRAE 90.1-2013**. These are the appropriate compliance paths for the 2016 Energy Code of New York State.

Important notice regarding compliance;
There is a misnomer that as long as when you have a RESCheck or COMCheck compliance printout, you have complied with all provisions of the Energy Code. **This is not true.** The Compliance printout is simply proof of complying with *Building Envelope provisions* of the Energy Code, Additional Mandatory Provisions must be considered in addition to the *Building Envelope* Compliance printout. It is **essential** to also provide the Checklists which accompany the RESCheck or COMCheck Envelope compliance page... There are several mandatory building envelope provisions, as well as code provisions pertaining to mechanical, plumbing and electrical systems which must be addressed as a part of compliance with the Energy Code.

Additional information, including technical support documents for RESCheck and COMCheck may be found at; https://www.energycodes.gov

John R. Addario, PE, Director
Division of Building Standards and Codes

[1]RESCheck and COMCheck are recognized, automated methods of Energy Code Compliance provided by the US Department of Energy.

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NEW YORK STATE OF OPPORTUNITY. | **Building Standards and Codes**

TB-1003-RCNYS

TECHNICAL BULLETIN

Code Effective Date: **October 3, 2016**

Source Document: **19NYCRR 1240 - Energy Code of New York State-2016 (ECNYS)**
19NYCRR 1220 - Residential Code of New York State-2016 (RCNYS)

Topic **Section(s) R403.6 (ECNYS), (1103.6-RCNYS)-Mechanical Ventilation (Mandatory)**
Section M1507 - Whole House Mechanical Ventilation (RCNYS)

This document is to clarify the issue of the whole house mechanical ventilation as required by the 2016 Energy Code of New York State and Also the 2016 Uniform Code of New York State (Residential Code). The 2015 International Energy Conservation Code (IECC) requires whole house ventilation systems to be installed in new homes. The design parameters for Whole House Mechanical Ventilation are contained in the 2015 International Residential Code (IRC), Section M1507, and Mechanical Ventilation.

The IRC requires a whole house mechanical ventilation system to exhaust excessive moisture and to provide adequate fresh air for building occupants. The intake of outdoor air is a requirement of the code, See IRC Section M1507.3.3. The code does not specify a specific type of mechanical ventilation system. However, the code requirements for whole house ventilation systems requires that the ventilation system be designed to specified parameters (See 2015 IRC M1507.3) to meet the code criteria. Therefore, any system meeting all requirements of the code(s) may be utilized.

For purposes of clarification, the 2016 Supplement to the New York State Energy Conservation Construction Code (August 2016) defines Building System as follows: the term *"building system means a combination of central or terminal equipment or components or controls, accessories interconnecting means and terminal devices by which energy is transformed so as to perform a specific function, such a heating, ventilation and air conditioning, service water heating or illumination.*

All bathroom and kitchen fans are required to be vented to the exterior, see IRC Section M1501. Bathroom and kitchen fans are separate components of mandatory ventilation, serving to remove excessive moisture and contaminants. These two exhaust fan locations, are required in addition to whole house ventilation systems, *but may serve as a component of the whole house ventilation systems*. In a typical ventilation application, continuous run fans(s) or intermittent run fans(s) may be used as part of the system., however, the introduction of outside air is specifically required by the code (see 2015 International Residential Code, (IRC) Section M1507.3.3).

Required supplied airflow rates of outdoor air are found in the IRC Table M1507.3.3 (1). The code is silent on the method of supply of outdoor air, therefore any *quantifiable* method to provide outdoor air may be utilized.

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TB-1020-RCNYS

TECHNICAL BULLETIN

Code Effective Date: **October 3, 2016**

Source Document: **19NYCRR 1240—Energy Code of New York State-2016 (ECNYS)**
19NYCRR 1220—Residential Code of New York State-2016 (RCNYS)

Topic: **Municipal Code Enforcement and Administration**
Mandatory ACH 50 testing for Residential Construction
Exceptions for Non-Isolated Building Additions.

This document provides guidance to assist code enforcement officials in an understanding of the mandatory requirements for building envelope testing of Residential Buildings as required by the 2016 New York State Energy Code and the 2016 New York State Uniform Code (Residential Code).

As of October 3, 2016, all new Residential Construction must comply with the newly mandated ACH 50 or the so called "Blower Door " testing requirement which assures that the code required maximum allowable air leakage is not exceeded. This requirement is outlined in Section N1102.4.1.2 of the 2016 Uniform Code (Residential Code), and also Section R402.4.1.2 of the 2016 Energy Code. Since this testing requirement is now **mandatory**, the ACH 50 test must be performed on every dwelling unit constructed in New York State[1]. The maximum allowable rate of air leakage as verified by the ACH 50 test is 3 air changes per hour. The testing procedure is to be performed at any time after the creation (and completion) of all of the required building penetrations. The testing procedure is allowed to be conducted by a third party testing agency or individual with qualifications acceptable to the Code Enforcement Official. A written report of the result of the test shall be signed by the party conducting the test, and shall be provided to the Code Enforcement Official.

[1] In the case of Multiple Family dwelling units, in building of three stories or lesser in height, a sampling test protocol is allowable, in lieu of testing of every dwelling unit, or testing the entire building. Please refer to the 2016 Supplement to the New York State Energy Conservation Construction Code, Part 3, and Section 3.11 for specifics of the test protocol.

For convenience, a listing of available Third Party Energy Raters[2] who may be able to provide services to complete the required testing, please see;

http://www.nyserda.ny.gov/Contractors/Find-a-Contractor/Home-Energy-Raters
https://www.home-performance.org/members/directory/search.aspx

Documentation of the ACH 50 test result

A written report of the results of the test must be signed by the party conducting the test, and the report must be provided to the Code Enforcement Official having jurisdiction, as evidence of compliance with the Mandatory Air Leakage requirements of the New York State 2016 Uniform Code and the New York State 2016 Energy Code.

Exceptions for Non-Isolated Building Additions, and Building Alterations

In our opinion, it is not practical to require an ACH 50 test for building additions and alterations **except in the following situations;**

1.) The Building Addition envelope is isolated/separated from the envelope of the existing building.

2.) Existing, non-conditioned space which is isolated/separate from the envelope of the existing building, is converted to conditioned space.

3.) Alterations of existing buildings where the existing building envelope's air barrier, including all envelope components' (including windows and doors) is altered in its entirety.

In our opinion it is more practical, (and is applicable) to require full inspection of the building envelope in accordance with the provisions of the Energy Code specific to **Air Barrier and Insulation Installation.** These requirements are outlined in Section R402.4.1.1 (N1102.4.1.1) and Table R402.4.1.1 (N1102.4.1.1). These are provisions of the code, and remain the sole method of assurance of a complaint building envelope for Non-isolated Building Additions, and Building Alterations. The CEO at his/her discretion, may require a third party inspector to carry out the detailed inspections as is allowed by Section R402.4.1.1 (N1102.4.1.1).

John R. Addario, PE, Director
Division of Building Standards and Codes

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NEWPORT VENTURES

Rim Joists and Sill Plates at the Foundation

New York's energy code, the 2015 IECC, requires newly constructed homes to pass an air leakage or blower door test with a limit of ≤ 3 ACH@50Pascals. A failed test can be costly to fix, so it's important to make sure you pay attention to all the air sealing details during the construction process before insulation and drywall. Areas that often get overlooked are the rim joists and sill plates at the foundation. These areas can be major sources of air leakage if not properly air sealed and can result in high infiltration rates and failed tests.

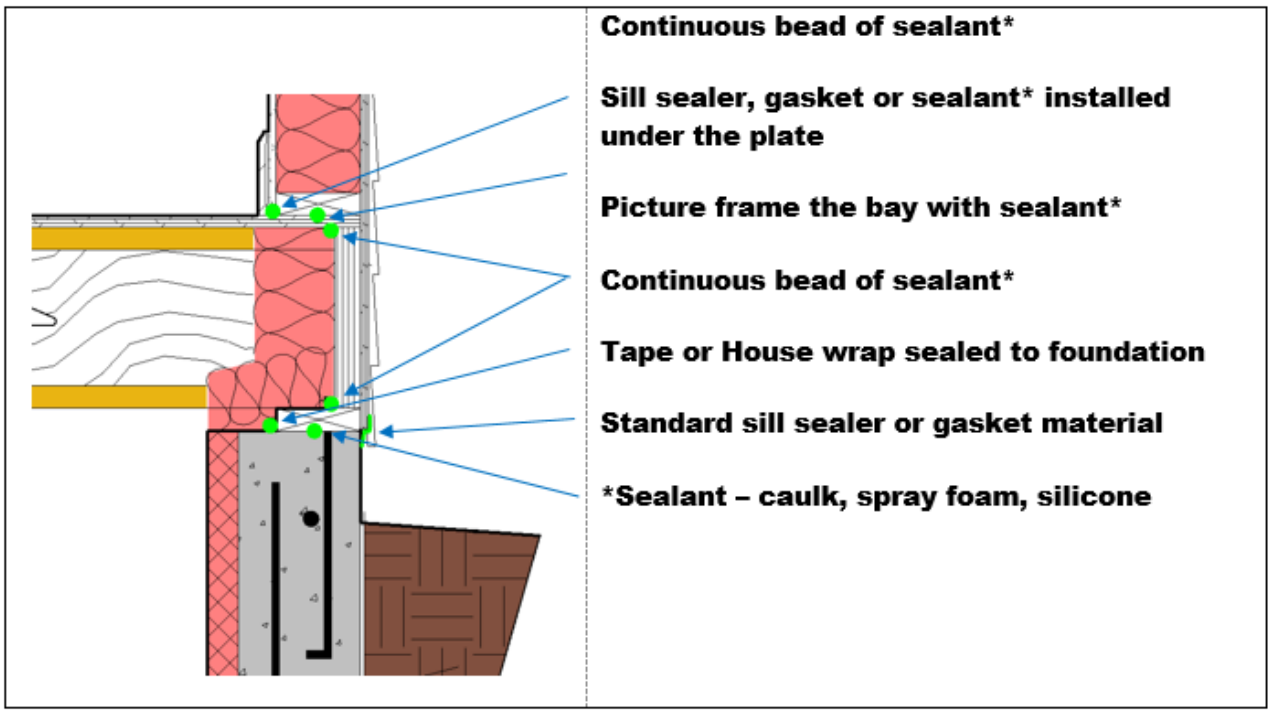
A common way to transition from a concrete or block foundation to the sill plates is by laying a thin layer of foam, often referred to as sill sealer. Sill sealer is primarily used as a capillary break, and does not provide an adequate air seal, particularly when the top of the foundation wall is rough or uneven. For these areas, additional air sealing methods are essential.

The good news is that these locations are easily accessible. They can be sealed from the outside or on the inside using various approaches and materials.

Figure 1: Flexible foam gasket installed to help reduce air infiltration between concrete foundation and sill plate. Notice the gaps and lack of air sealing.

On the inside of the home the concrete to wood transition can be caulked or foamed to create an air seal. On the outside, before siding is attached house wrap can be adhered down over a wall's sheathing to the foundation with tape or caulk. A flashing tape or ice/water barrier could be used from the outside as well. These measures can be done independent of each other or as a redundant, "belt and suspenders" approach.

Code officials can verify that the inside/outside surface has been air sealed before insulation is installed or before siding goes up. The builder should also verify that this location has been air sealed prior to insulating, as that is the best time to complete the work. If a builder uses spray foam in the rim joist area, then the spray foam should continue down to cover the sill plate as well. In all cases, it's best to caulk the sill sealer to the foundation, but this step is often missed.



Below are examples of sill plate installations and air leakage points. The 2015 IECC requires both the rim joist and the sill plate to be sealed. This applies for all foundation types and on all floors where a rim joist is used.

A nice, clean rim joist ready for air sealing. Caulk and/or spray foam can be used to picture frame the rim joist to the floor joist as well as sealing the sill plate to the foundation. Once sealed, insulation can be installed with the appropriate wall R-Value for the given climate zone. Be careful to consider the thickness of insulation, the location of the dew point, as well as the air and vapor permeability of the material when choosing an insulating product for the rim joist.

Here is an example of spray being used to insulate the rim joist location. The foam as applied covers the sill plate creating a complete air barrier from subfloor to foundation wall. The wood left exposed at the bottom of the foam can be a nailer for insulation, if necessary.

To increase air sealing, house should be installed even with the bottom side of the OSB or even 1-2" onto the foundation where caulk or tapes (like those used around window and door openings) could have been used to seal it to the foundation. *Note: house wrap is often not taped when only used as a weather barrier (this is common) but should be taped if relied on as part of the air barrier. Check the manufacturer's installation details and tape specs for using house wrap as an air barrier.*

This image shows a black rubber gasket adhered to the concrete below with a flexible caulk. A rubber gasket of this type can be an effective air sealing measure between the sill plate and the foundation. Use a caulk that is compatible with the gasket based on manufacturer specs.

NEWPORT VENTURES

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CLIMATE ZONE 6

Commercial Plan Review Checklist (Non-residential)

2015 IECC Commercial Provisions as amended by the 2016 Energy Code Supplement

Project #: 43.6220.02-_____ Date:_____ Name of Evaluator(s):_____

Building Contact: Name:_____ Phone:_____ Email:_____

Building Name & Address:_____

Jurisdiction:_____ Lot #:_____ Conditioned Floor Area:_____ ft^2

Climate Zone: 6 County:_____ Jurisdiction Contact:_____

Jurisdiction Contact Phone:_____ Jurisdiction Contact E-mail:_____

Compliance Approach: ☐ Not Indicated ☐ Prescriptive ☐ Trade-Off ☐ Performance ☐ Compliance Software ☐ ASHRAE 90.1

Compliance Software Used:_____ Green Building/Above-Code Program? ☐ Yes ☐ No

Building Use Type:_____ Building Construction Type:_____

Project Type: ☐ New Building ☐ Existing Building Addition ☐ Existing Building Renovation

Special Considerations: ☐ Residential Use ☐ Historic Building

Provisions Highlighted in Green are Mandatory, Regardless of Compliance Path

IECC Section #	Pre-Inspection/Plan Review	Code Value	Verified Value	Complies Y	Complies N	Complies N/A	Comments/ Assumptions
C402 Building Envelope	Construction drawings and documentation available. Documentation sufficiently demonstrates energy code compliance of the Building Thermal Envelope.			☐	☐	☐	
C402.1.3	Compliance with Table C402.1.3 for appropriate Climate Zone	Climate Zone: 6	Climate Zone: _____	☐	☐	☐	
Table C402.1.3	Below grade wall exterior insulation R-value.	R-7.5ci (C-0.119)	R-_____ U-_____	☐	☐	☐	
Table C402.1.3	Unheated Slab	R-10 for 24"	R-_____ _____ ft.	☐	☐	☐	
Table C402.1.3	Heated Slab	R-15 for 36"	R-_____ _____ ft.	☐	☐	☐	
C303.2.1	Exposed Foundation Insolation Protection	≥ 6" below grade		☐	☐	☐	
Table C402.1.3	Floor (Joist/framing)	R-30	R-_____	☐	☐	☐	
Table C402.1.3	Mass Floor	R-12.5 ci	R-_____	☐	☐	☐	
Table C402.1.3	Wood Framed Wall and Other	R-13+ R-7.5ci OR R-20+ R-3.8ci	R-_____	☐	☐	☐	
Table C402.1.3	Metal Framed Wall	R-13+ R-7.5ci	R-_____	☐	☐	☐	

IECC Section #	Pre-Inspection/Plan Review	Code Value	Verified Value	Complies			Comments/ Assumptions
				Y	N	N/A	
Table C402.1.3	Metal Building Wall	R-13+ R13ci	R-_____	☐	☐	☐	
Table C402.1.3	Mass Wall Assembly	R-13.3 ci	R-_____	☐	☐	☐	
Table C402.1.3	Roof, Insulation above Deck	R-30ci	R-_____	☐	☐	☐	
Table C402.1.3	Metal Building Roof (with thermal spacer blocks)	R- 25+ R-11LS	R-_____	☐	☐	☐	
Table C402.1.3	Attic and Other	R- 49	R-_____	☐	☐	☐	
Table C402.1.3	Opaque Door (Nonswinging)	R-4.75 U-0.21	R-_____ U-_____	☐	☐	☐	
Table C402.1.4	Opaque Door (Swinging)	U- 0.61	U-_____	☐	☐	☐	
C402.2.6	Fireplace Doors and Combustion Air	Tight fitting combustion air damper	☐ Flue Damper or ☐ Door	☐	☐	☐	
Table C402.4	Vertical Fenestration U-Factors	Fixed U-0.38	U-_____	☐	☐	☐	
Table C402.4	Vertical Fenestration U-Factors	Operable U-0.45	U-_____	☐	☐	☐	
Table C402.4	Vertical Fenestration U-Factors	Entrance Door U-0.77	U-_____	☐	☐	☐	
Table C402.4	Vertical Fenestration SHGC	PF < 0.2 (0.40)	SHGC-_____	☐	☐	☐	
Table C402.4	Vertical Fenestration SHGC	0.2 ≤ PF < 0.5 (0.48)	SHGC-_____	☐	☐	☐	
Table C402.4	Vertical Fenestration SHGC	PF ≥ 0.5 (0.64)	SHGC-_____	☐	☐	☐	
Table C402.4	Skylight Fenestration U-Factor	Skylight U-0.50	U-_____	☐	☐	☐	
Table C402.4	Skylight Fenestration SHGC	Skylight SHGC: 0.40	SHGC-_____	☐	☐	☐	
C402.2.2	Skylight Curbs	R-5 or NFRC 100	_____	☐	☐	☐	
C402.4.1	Vertical Fenestration Area	Glazing < 30% of gross above-grade wall area	_____%	☐	☐	☐	
C402.4.1	Skylight Area	< 3% of gross roof area	_____%	☐	☐	☐	
C402.4.1.1	Increased Vertical Fenestration	< 40 % With daylight responsive controls	☐ Meets requirements ☐ Exception	☐	☐	☐	
C402.4.1.2	Increased Skylight Area	<5% With daylight responsive controls	Complying with Section C405.2.3.1	☐	☐	☐	
C402.4.2	Minimum Skylight Fenestration Requirement	< 2,500 s.f. floor area. < 15' ceiling height	☐ Exception	☐	☐	☐	
Table C402.5.2	Air leakage. SELECT ASSEMBLY	Max. CFM/FT^2 SELECT	_____cfm/ ft^2	☐	☐	☐	

IECC Section #	Pre-Inspection/Plan Review	Code Value	Verified Value	Complies Y	N	N/A	Comments/ Assumptions
Table C402.5.2	Air leakage. SELECT ASSEMBLY	Max. CFM/FT² SELECT	_____cfm/ ft²	☐	☐	☐	
Table C402.5.2	Air leakage. SELECT ASSEMBLY	Max. CFM/FT² SELECT	_____cfm/ ft²	☐	☐	☐	
Table C402.5.2	Air leakage. SELECT ASSEMBLY	Max. CFM/FT² SELECT	_____cfm/ ft²	☐	☐	☐	
Table C402.5.2	Air leakage. SELECT ASSEMBLY	Max. CFM/FT² SELECT	_____cfm/ ft²	☐	☐	☐	
Table C402.5.2	Air leakage. SELECT ASSEMBLY	Max. CFM/FT² SELECT	_____cfm/ ft²	☐	☐	☐	
C402.5.3	Rooms Containing Fuel-burning Appliances	Outside the Building thermal Envelope. <u>Or</u> Enclosed in an Isolated Room	**Exceptions:** ☐ Direct intake/Exhaust ☐ Fireplaces and stoves complying with IMC and IBC	☐	☐	☐	
C402.5	Continuous Air Barrier	ASTM E-779 ASTM E-2178	☐ Assembly ☐ Material	☐	☐	☐	
C402.5.5	Outdoor Air Intake/exhaust leakage. Ref. C403.2.4.3	Motorized, w/ gravity exceptions 3 story or 300 cfm	☐ Motorized ☐ Gravity ☐ Exemption _____cfm/ ft²	☐	☐	☐	
C402.5.6	Loading Docks Weather sealed	Sealed with doors open	Seals	☐	☐	☐	
C402.5.7	Vestibules (equipped with self-closing devices)	Required Mechanical space Sleeping unit or dwelling unit < 3,000 sq. ft. Revolving doors Vehicular door	☐ Exempt	☐	☐	☐	
C402.5.8	Recessed Lighting (within building thermal envelope)	IC-rated, Sealed	ASTM E-283	☐	☐	☐	
C403 Mechanical Systems	Construction drawings and documentation available. Documentation sufficiently demonstrates energy code compliance of the Mechanical Systems and Equipment.			☐	☐	☐	
C403.2.2	Mechanical System, HVAC sizing	Shall not exceed calculated loads	<u>Heating</u> kBtu: _____ <u>Cooling</u> kBtu: _____	☐	☐	☐	
C403.2.1	HVAC Calculations	ANSI/ASHRAE/ACCA Standard 183 or *Approved* equivalent		☐	☐	☐	
C403.2.3	HVAC Performance Requirements	Tables C403.2.3 (1) – (9)	Verified in Specification	☐	☐	☐	
C403.2.4.1	HVAC Controls, Thermostatic	Each Zone	Verified in Specification or on drawings	☐	☐	☐	
C403.2.4.1.3	Set Point Overlap	5 degree dead band	Dead band ____degrees	☐	☐	☐	
C403.2.4.2.2	Off Hour Controls	Automatic Setback (each zone)	55 degrees	☐	☐	☐	

IECC Section #	Pre-Inspection/Plan Review	Code Value	Verified Value	Complies Y	Complies N	Complies N/A	Comments/ Assumptions
C403.2.4.2.2	Off Hour Controls	Time Clock	7 day control	☐	☐	☐	
C403.2.4.2.2	Off Hour Controls	Optimum Start Controls	>10,000 cfm	☐	☐	☐	
C403.2.4.3	Damper Controls	Motorized (Automatic) < 4 cfm/ ft^2	_____cfm/ ft^2	☐	☐	☐	
C403.2.4.5	Snow Melt Systems	Automatic	Cut off @ 50°F	☐	☐	☐	
C403.2.4.7	Economizer Fault Detection and Diagnostics (FDD)	Does the Fault Detection and Diagnostics meet the requirements?		☐	☐	☐	
C403.2.6	Ventilation	Per MCNY		☐	☐	☐	
C403.2.6.1	Demand Control Ventilation	>500 Sq. Ft. & 25 people/1K sq. ft.	Economizer Automatic Modulating Control Outdoor air > 3K cfm	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	
C403.2.6.2	Enclosed Parking Garage Ventilation Controls	Fan reduction	**Exceptions:** ☐ Exhaust capacity < 22,500cfm ☐ Ratio exceeds 1125 cfm/hp	☐	☐	☐	
C403.2.7	Energy Recovery Ventilation System	When supply airflow rate of fan exceeds values in Tables C403.2.7(1) and (2)	>50% change in enthalpy of difference between outdoor & return air ☐ Meets exception	☐	☐	☐	
C403.2.8	Kitchen Exhaust Systems	< 10% of exhaust rate > 5,000 cfm		☐	☐	☐	
C403.2.9	Duct insulation (supply, return, plenums)	Unconditioned Space, R-6	R-_____	☐	☐	☐	
C403.2.9	Duct insulation (supply, return, plenums)	Outside of Building, R-12	R-_____	☐	☐	☐	
C403.2.9	Duct sealing complies with listed sealing methods.	MCNY 603.9		☐	☐	☐	
C403.2.10	HVAC piping insulation.	Per Table C403.2.10	Below: Circle all that apply	☐	☐	☐	

TABLE C403.2.8
MINIMUM PIPE INSULATION THICKNESS (thickness in inches)[a]

FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (inches)				
	Conductivity Btu · in./(h · ft^2 · °F)[b]	Mean Rating Temperature, °F	< 1	1 to < 1 1/2	1 1/2 to < 4	4 to < 8	≥ 8
> 350	0.32 – 0.34	250	4.5	5.0	5.0	5.0	5.0
251 – 350	0.29 – 0.32	200	3.0	4.0	4.5	4.5	4.5
201 – 250	0.27 – 0.30	150	2.5	2.5	2.5	3.0	3.0
141 – 200	0.25 – 0.29	125	1.5	1.5	2.0	2.0	2.0
105 – 140	0.21 – 0.28	100	1.0	1.0	1.5	1.5	1.5
40 – 60	0.21 – 0.27	75	0.5	0.5	1.0	1.0	1.0
< 40	0.20 – 0.26	75	0.5	1.0	1.0	1.0	1.5

a. For piping smaller than 1 1/2 inch (38 mm) and located in partitions within *conditioned spaces*, reduction of these thicknesses by 1 inch (25 mm) shall be permitted (before thickness adjustment required in footnote b) but not to a thickness less than 1 inch (25 mm).

b. For insulation outside the stated conductivity range, the minimum thickness (T) shall be determined as follows:

$$T = r\{(1 + t/r)^{K/k} - 1\}$$

where:

T = minimum insulation thickness,
r = actual outside radius of pipe,
t = insulation thickness listed in the table for applicable fluid temperature and pipe size,
K = conductivity of alternate material at mean rating temperature indicated for the applicable fluid temperature (Btu × in/h × ft^2 × °F) and
k = the upper value of the conductivity range listed in the table for the applicable fluid temperature.

c. For direct-buried heating and hot water system piping, reduction of these thicknesses by 1 1/2 inches (38 mm) shall be permitted (before thickness adjustment required in footnote b but not to thicknesses less than 1 inch (25 mm).

IECC Section #	Pre-Inspection/Plan Review	Code Value	Verified Value	Complies			Comments/ Assumptions
				Y	N	N/A	
C403.2.12.2	Total Fan Motor bhp	Verify motor size per Table C403.2.10.1(1) < 6bhp w/ 50% ≥ 6bhp w/ 30%	☐ **Exempt** ☐ **Exempt**	☐	☐	☐	
C403.2.13	Heating outside areas	Radiant Heat Only	Occupancy sensing device or timer switch	☐	☐	☐	
C403.2.14	Refrigeration Equipment Performance	Verify per Tables C403.2.14(1) and C403.2.14(2)		☐	☐	☐	
C403.2.15	Coolers and Freezers (Not site assembled or constructed)	Verify Requirements		☐	☐	☐	
C403.2.16	Coolers and Freezers (Site assemble or site constructed)	Verify Requirements		☐	☐	☐	
C403.2.17	Refrigerated Display Cases	Verify Requirements		☐	☐	☐	
C403.3	Economizers required (Air or water)	Over 54,000 Btu/h Efficiency Exception	100% outside air Table 403.3(1) ☐ **Exempt**	☐	☐	☐	
C403.3.1	Economizer Controls	Verify Requirements		☐	☐	☐	
C403.3.3	Air Economizer Controls	Verify compliance with Sections C403.3.3.1 thru C403.3.3.5		☐	☐	☐	
C403.3.4	Water-side Economizers	Verify compliance with Sections C403.3.4.1 and C403.3.4.2		☐	☐	☐	
C403.4	Hydronic or Multi-zone HVAC Systems	Fan Controls: DX Airside economizer Other	☐ < 30% fan motor demand	☐	☐	☐	
C403.4.2	Hydronic System Controls	Temperature Dead Band. Heat Rejection	☐ Meets Exceptions	☐	☐	☐	
C403.4.2.3.2.2	Climate Zones 5 and 6 Heat Exchanger	Isolation controls		☐	☐	☐	
C403.4.2.4	Hydronic System Part Load Controls	Sequencing boilers or modulating single ≥ 500K Btu/h	☐Auto reset ☐Fluid flow ☐Pump flow	☐	☐	☐	
C403.4.2.5	Boiler Turndown	> 1,000,000 Btu/h	☐ 3 to 1 ☐ 4 to 1 ☐ 5 to 1	☐	☐	☐	
C403.4.3	Heat Rejection Fan Controls	≥7.5 Hp		☐	☐	☐	
C403.4.4	Complex Systems, Multiple Zones	VAV System	Per C403.4.4.1 through C403.4.6.4	☐	☐	☐	
C403.4.4.6	Multi-zone VAV System Ventilation Optimization Control	Outdoor air intake reduction controls below design rate	Exceptions: ☐ VAV zone transfer fans ☐ Energy Recovery ☐ >70% exhaust airflow	☐	☐	☐	

IECC Section #	Pre-Inspection/Plan Review	Code Value	Verified Value	Complies Y	Complies N	Complies N/A	Comments/ Assumptions
C403.5	Refrigeration Systems	Condensers Compressors	Per 403.5.1 Per 403.5.2	☐	☐	☐	
C404 Service Water Heating	Construction drawings and documentation available. Documentation sufficiently demonstrates energy code compliance Service Water Heating Systems and Equipment.			☐	☐	☐	
C404.2	Service Water (SW) Heating Equipment Efficiency	Per Table C404.2		☐	☐	☐	
C404.3	SW Heat Traps Non circulation system	Required	☐ Piped Heat trap ☐ Integral	☐	☐	☐	
C404.4	SW Pipe Insulation	Per Table C403.2.10 Full length	☐ Meets exception	☐	☐	☐	
C404.5	Efficient Heated Water Supply Piping	Per Section C404.5.1 Per Section C404.5.2	☐ ☐	☐	☐	☐	
C404.6.3	Pump Controls for Hot Water Storage	<5 min. operation cycle		☐	☐	☐	
C404.7	Demand Recirculation Controls	> 5 minutes after end of cycle		☐	☐	☐	
C404.9.1	Swimming Pool Heaters	Accessible Controls		☐	☐	☐	
C404.9.2	Pool Heater Time Switch	Automatic		☐	☐	☐	
C404.9.3	Pool Covers	Required Vapor Retardant 70% recovered energy	 ☐ Exempt	☐	☐	☐	
C404.11	Service Water Heating System Commissioning	Per Section C408.2		☐	☐	☐	
C405 Lighting and Electrical Systems	Construction drawings and documentation available. Documentation sufficiently demonstrates energy code compliance Lighting and Electrical Systems and Equipment.			☐	☐	☐	
C405.2	Lighting Controls	Within each enclosed area	☐ Dwelling Unit Exception	☐	☐	☐	
C405.2.1	Occupant Sensor Controls	Required: 1) 30 min. shutoff 2) Manual 50% power 3) Manual Control		☐	☐	☐	
C405.2.2.1	Time-switch Controls	In areas with no occupant sensor controls	☐ Meets function requirements ☐ Meets exception	☐	☐	☐	
C405.2.2.2	Occupant Override	If Automatic Controls	50%	☐	☐	☐	
C405.2.3	Daylight Controls	Only in defined daylight zones		☐	☐	☐	
C405.2.4	Specific Application Controls	Display Accent/task Sleeping Units		☐	☐	☐	
C405.3	Exit Signs	Internally illuminated 5 watts per side		☐	☐	☐	
C405.4	Interior Lighting Power Requirements	Table C405.4.2(1) ≤ Interior Lighting Power C405.4.2	Show Calculations	☐	☐	☐	

IECC Section #	Pre-Inspection/Plan Review	Code Value	Verified Value	Complies			Comments/ Assumptions
				Y	N	N/A	
C405.5	Exterior Lighting Total	Base + Table C405.5.2(2)	Lighting Zone_____	☐	☐	☐	
C405.6	Electrical Energy Consumption	Group R-2 Separate Electrical Meter		☐	☐	☐	
C405.7	Electrical Transformers	Per Table C405.7	☐ Meets exception	☐	☐	☐	
C405.8	Electrical Motors	Per Tables C405.8(1) thru C405.8(4)		☐	☐	☐	
C405.9	Vertical Transport	Verify Requirements		☐	☐	☐	
C408.3	Lighting System Commissioning	Testing of control hardware and software	☐ Documents state who performs the test	☐	☐	☐	
C406.2	Additional Efficiency Package (Efficient HVAC Performance)	Meets min. efficiency Req. of C403 and Tables C406.2(1) thru C406.2(7)		☐	☐	☐	
C406.3	Additional Efficiency Package (Reduced Lighting Power Density)	Whole Building Reduced Lighting Power Density (w/ft$^{2)}$	w/ft^2-_____	☐	☐	☐	
C406.4	Additional Efficiency Package (Enhanced Lighting Controls)	Specific controls and operation of luminaires		☐	☐	☐	
C406.5	Additional Efficiency Package (On-site Renewable Energy)	**Either:** Not less than 1.75 btu or 0.50 w/ft^2 Provide not less than 3% for mech., service water and lighting	☐ ☐	☐	☐	☐	
C406.6	Additional Efficiency Package (Dedicated outdoor air system)	100% outdoor air to each occupied space Supply air temperature reset controls	☐ ☐	☐	☐	☐	
C406.7	Additional Efficiency Package (High-efficiency service water heating)	≤ 60% of requirements. Waste heat recovery. Solar water heating	Group_____	☐	☐	☐	
C407.6.1	Specific Approval	Documentation per C407 tested Per ASHRAE 140		☐	☐	☐	
C408.2	Mechanical System Commissioning	Commissioning provisions on construction documents < 480,000 Btu/h cooling and 600,000 Btu/h heating Dwelling units	 ☐ **Exempt** ☐ **Exempt**	☐	☐	☐	

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CLIMATE ZONE 6

Commercial Inspection Checklist (Non-residential)

2015 IECC Commercial Provisions as amended by the 2016 Energy Code Supplement

Project #: 43.6220.02-_____ Date:_____ Name of Evaluator(s):_____

Building Contact: Name:_____ Phone:_____ Email:_____

Building Name & Address:_____

Jurisdiction:_____ Lot #:_____ Conditioned Floor Area:_____ ft^2

Climate Zone: 6 County:_____ Jurisdiction Contact:_____

Jurisdiction Contact Phone:_____ Jurisdiction Contact E-mail:_____

Compliance Approach: ☐ Not Indicated ☐ Prescriptive ☐ Trade-Off ☐ Performance ☐ Compliance Software ☐ ASHRAE 90.1

Compliance Software Used:_____ Green Building/Above-Code Program? ☐ Yes ☐ No

Building Use Type:_____ Building Construction Type:_____

Project Type: ☐ New Building ☐ Existing Building Addition ☐ Existing Building Renovation

Special Considerations: ☐ Residential Use ☐ Historic Building

Provisions Highlighted in Green are Mandatory, Regardless of Compliance Path

IECC Section #	Pre-Inspection/Plan Review	Code Value	Verified Value	Complies Y	Complies N	Complies N/A	Comments/ Assumptions
C402 Building Envelope	Construction drawings and documentation available. Documentation sufficiently demonstrates energy code compliance of the Building Thermal Envelope.			☐	☐	☐	
C402.1.3	Compliance with Table C402.1.3 for appropriate Climate Zone	Climate Zone: 6	Climate Zone: _____	☐	☐	☐	
Table C402.1.3	Below grade wall exterior insulation R-value.	R-7.5ci (C-0.119)	R-_____ U-_____	☐	☐	☐	
Table C402.1.3	Unheated Slab	R-10 for 24"	R-_____ _____ ft.	☐	☐	☐	
Table C402.1.3	Heated Slab	R-15 for 36"	R-_____ _____ ft.	☐	☐	☐	
C303.2.1	Exposed Foundation Insolation Protection	≥ 6" below grade		☐	☐	☐	
Table C402.1.3	Floor (Joist/framing)	R-30	R-_____	☐	☐	☐	
Table C402.1.3	Mass Floor	R-12.5 ci	R-_____	☐	☐	☐	
Table C402.1.3	Wood Framed Wall and Other	R-13+ R-7.5ci OR R-20+ R-3.8ci	R-_____	☐	☐	☐	
Table C402.1.3	Metal Framed Wall	R-13+ R-7.5ci	R-_____	☐	☐	☐	

IECC Section #	Pre-Inspection/Plan Review	Code Value	Verified Value	Complies			Comments/ Assumptions
				Y	N	N/A	
Table C402.1.3	Metal Building Wall	R-13+ R13ci	R-_____	☐	☐	☐	
Table C402.1.3	Mass Wall Assembly	R-13.3 ci	R-_____	☐	☐	☐	
Table C402.1.3	Roof, Insulation above Deck	R-30ci	R-_____	☐	☐	☐	
Table C402.1.3	Metal Building Roof (with thermal spacer blocks)	R-25+ R-11LS	R-_____	☐	☐	☐	
Table C402.1.3	Attic and Other	R-49	R-_____	☐	☐	☐	
Table C402.1.3	Opaque Door (Nonswinging)	R-4.75 U-0.21	R-_____ U-_____	☐	☐	☐	
Table C402.1.4	Opaque Door (Swinging)	U-0.61	U-_____	☐	☐	☐	
C402.2.6	Fireplace Doors and Combustion Air	Tight fitting combustion air damper	☐ Flue Damper or ☐ Door	☐	☐	☐	
Table C402.4	Vertical Fenestration U-Factors	Fixed U-0.38	U-_____	☐	☐	☐	
Table C402.4	Vertical Fenestration U-Factors	Operable U-0.45	U-_____	☐	☐	☐	
Table C402.4	Vertical Fenestration U-Factors	Entrance Door U-0.77	U-_____	☐	☐	☐	
Table C402.4	Vertical Fenestration SHGC	PF < 0.2 (0.40)	SHGC-_____	☐	☐	☐	
Table C402.4	Vertical Fenestration SHGC	0.2 ≤ PF < 0.5 (0.48)	SHGC-_____	☐	☐	☐	
Table C402.4	Vertical Fenestration SHGC	PF ≥ 0.5 (0.64)	SHGC-_____	☐	☐	☐	
Table C402.4	Skylight Fenestration U-Factor	Skylight U-0.50	U-_____	☐	☐	☐	
Table C402.4	Skylight Fenestration SHGC	Skylight SHGC: 0.40	SHGC-_____	☐	☐	☐	
C402.2.2	Skylight Curbs	R-5 or NFRC 100	_____	☐	☐	☐	
C402.4.1	Vertical Fenestration Area	Glazing < 30% of gross above-grade wall area	_____%	☐	☐	☐	
C402.4.1	Skylight Area	< 3% of gross roof area	_____%	☐	☐	☐	
C402.4.1.1	Increased Vertical Fenestration	< 40 % With daylight responsive controls	☐ Meets requirements ☐ Exception	☐	☐	☐	
C402.4.1.2	Increased Skylight Area	<5% With daylight responsive controls	Complying with Section C405.2.3.1	☐	☐	☐	
C402.4.2	Minimum Skylight Fenestration Requirement	< 2,500 s.f. floor area. < 15' ceiling height	☐ Exception	☐	☐	☐	
Table C402.5.2	Air leakage.	Max. CFM/FT^2	_____cfm/ ft^2	☐	☐	☐	

IECC Section #	Pre-Inspection/Plan Review	Code Value	Verified Value	Complies Y	N	N/A	Comments/ Assumptions
Table C402.5.2	Air leakage.	Max. CFM/FT^2	_____cfm/ ft^2	☐	☐	☐	
Table C402.5.2	Air leakage.	Max. CFM/FT^2	_____cfm/ ft^2	☐	☐	☐	
Table C402.5.2	Air leakage.	Max. CFM/FT^2	_____cfm/ ft^2	☐	☐	☐	
Table C402.5.2	Air leakage.	Max. CFM/FT^2	_____cfm/ ft^2	☐	☐	☐	
Table C402.5.2	Air leakage.	Max. CFM/FT^2	_____cfm/ ft^2	☐	☐	☐	
C402.5.3	Rooms Containing Fuel-burning Appliances	Outside the Building thermal Envelope. Or Enclosed in an Isolated Room	**Exceptions:** ☐ Direct intake/Exhaust ☐ Fireplaces and stoves complying with IMC and IBC	☐	☐	☐	
C402.5	Continuous Air Barrier	ASTM E-779 ASTM E-2178	☐ Assembly ☐ Material	☐	☐	☐	
C402.5.5	Outdoor Air Intake/exhaust leakage. Ref. C403.2.4.3	Motorized, w/ gravity exceptions 3 story or 300 cfm	☐ Motorized ☐ Gravity ☐ Exemption _____cfm/ ft^2	☐	☐	☐	
C402.5.6	Loading Docks Weather sealed	Sealed with doors open	Seals	☐	☐	☐	
C402.5.7	Vestibules (equipped with self-closing devices)	Required Mechanical space Sleeping unit or dwelling unit < 3,000 sq. ft. Revolving doors Vehicular door	☐ Exempt	☐	☐	☐	
C402.5.8	Recessed Lighting (within building thermal envelope)	IC-rated, Sealed	ASTM E-283	☐	☐	☐	
C403 Mechanical Systems	Construction drawings and documentation available. Documentation sufficiently demonstrates energy code compliance of the Mechanical Systems and Equipment.			☐	☐	☐	
C403.2.1	Mechanical System, HVAC sizing	Shall not exceed calculated loads	Heating kBtu: _____ Cooling kBtu: _____	☐	☐	☐	
C403.2.1	HVAC Calculations	ANSI/ASHRAE/ACCA Standard 183 or *Approved* equivalent		☐	☐	☐	
C403.2.3	HVAC Performance Requirements	Tables C403.2.3 (1) – (9)	Verified in Specification	☐	☐	☐	
C403.2.4.1	HVAC Controls, Thermostatic	Each Zone	Verified in Specification or on drawings	☐	☐	☐	
C403.2.4.1.3	Set Point Overlap	5 degree dead band	Dead band ____degrees	☐	☐	☐	
C403.2.4.2.2	Off Hour Controls	Automatic Setback (each zone)	55 degrees	☐	☐	☐	

IECC Section #	Pre-Inspection/Plan Review	Code Value	Verified Value	Complies Y	Complies N	Complies N/A	Comments/ Assumptions
C403.2.4.2.2	Off Hour Controls	Time Clock	7 day control	☐	☐	☐	
C403.2.4.2.2	Off Hour Controls	Optimum Start Controls	>10,000 cfm	☐	☐	☐	
C403.2.4.3	Damper Controls	Motorized (Automatic) < 4 cfm/ ft^2	_____cfm/ ft^2	☐	☐	☐	
C403.2.4.5	Snow Melt Systems	Automatic	Cut off @ 50°F	☐	☐	☐	
C403.2.4.7	Energy Recovery Ventilation Systems	Exceeds values in Table C403.2.7(1) and C403.2.7(2) (≥ 50% Change in Enthalpy)	☐ Meets exception	☐	☐	☐	
C403.2.6	Ventilation	Per MCNY		☐	☐	☐	
C403.2.6.1	Demand Control Ventilation	>500 Sq. Ft. & 25 people/1K sq. ft.	Economizer Automatic Modulating Control Outdoor air > 3K cfm	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	
C403.2.6.2	Enclosed Parking Garage Ventilation Controls	Fan reduction	**Exceptions:** ☐ Exhaust capacity < 22,500cfm ☐ Ratio exceeds 1125 cfm/hp	☐	☐	☐	
C403.2.7	Energy Recovery Ventilation System	When supply airflow rate of fan exceeds values in Tables C403.2.7(1) and (2)	>50% change in enthalpy of difference between outdoor & return air ☐ Meets exception	☐	☐	☐	
C403.2.8	Kitchen Exhaust Systems	< 10% of exhaust rate > 5,000 cfm		☐	☐	☐	
C403.2.9	Duct insulation (supply, return, plenums)	Unconditioned Space, R-6	R-_____	☐	☐	☐	
C403.2.9	Duct insulation (supply, return, plenums)	Outside of Building, R-8	R-_____	☐	☐	☐	
C403.2.9	Duct sealing complies with listed sealing methods.	MCNY 603.9		☐	☐	☐	
C403.2.10	HVAC piping insulation.	Per Table C403.2.10	Below: Circle all that apply	☐	☐	☐	

TABLE C403.2.8
MINIMUM PIPE INSULATION THICKNESS (thickness in inches)[a]

FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (inches)				
	Conductivity Btu · in./(h · ft^2 · °F)[b]	Mean Rating Temperature, °F	< 1	1 to < 1 1/2	1 1/2 to < 4	4 to < 8	≥ 8
> 350	0.32 – 0.34	250	4.5	5.0	5.0	5.0	5.0
251 – 350	0.29 – 0.32	200	3.0	4.0	4.5	4.5	4.5
201 – 250	0.27 – 0.30	150	2.5	2.5	2.5	3.0	3.0
141 – 200	0.25 – 0.29	125	1.5	1.5	2.0	2.0	2.0
105 – 140	0.21 – 0.28	100	1.0	1.0	1.5	1.5	1.5
40 – 60	0.21 – 0.27	75	0.5	0.5	1.0	1.0	1.0
< 40	0.20 – 0.26	75	0.5	1.0	1.0	1.0	1.5

a. For piping smaller than 1 1/2 inch (38 mm) and located in partitions within *conditioned spaces*, reduction of these thicknesses by 1 inch (25 mm) shall be permitted (before thickness adjustment required in footnote b) but not to a thickness less than 1 inch (25 mm).

b. For insulation outside the stated conductivity range, the minimum thickness (T) shall be determined as follows:

$$T = r\{(1 + t/r)^{K/k} - 1\}$$

where:

T = minimum insulation thickness,
r = actual outside radius of pipe,
t = insulation thickness listed in the table for applicable fluid temperature and pipe size,
K = conductivity of alternate material at mean rating temperature indicated for the applicable fluid temperature (Btu × in/h × ft^2 × °F) and
k = the upper value of the conductivity range listed in the table for the applicable fluid temperature.

c. For direct-buried heating and hot water system piping, reduction of these thicknesses by 1 1/2 inches (38 mm) shall be permitted (before thickness adjustment required in footnote b but not to thicknesses less than 1 inch (25 mm).

IECC Section #	Pre-Inspection/Plan Review	Code Value	Verified Value	Complies			Comments/ Assumptions
				Y	N	N/A	
C403.2.12.2	Total Fan Motor bhp	Verify motor size per Table C403.2.10.1(1) < 6bhp w/ 50% ≥ 6bhp w/ 30%	☐ **Exempt** ☐ **Exempt**	☐	☐	☐	
C403.2.13	Heating outside areas	Radiant Heat Only	Occupancy sensing device or timer switch	☐	☐	☐	
C403.2.14	Refrigeration Equipment Performance	Verify per Tables C403.2.14(1) and C403.2.14(2)		☐	☐	☐	
C403.2.15	Coolers and Freezers (Not site assembled or constructed)	Verify Requirements		☐	☐	☐	
C403.2.16	Coolers and Freezers (Site assemble or site constructed)	Verify Requirements		☐	☐	☐	
C403.2.17	Refrigerated Display Cases	Verify Requirements		☐	☐	☐	
C403.3	Economizers required (Air or water)	Over 54,000 Btu/h Efficiency Exception	100% outside air Table 403.3(1) ☐ **Exempt**	☐	☐	☐	
C403.3.1	Economizer Controls	Verify Requirements		☐	☐	☐	
C403.3.3	Air Economizer Controls	Verify compliance with Sections C403.3.3.1 thru C403.3.3.5		☐	☐	☐	
C403.3.4	Water-side Economizers	Verify compliance with Sections C403.3.4.1 and C403.3.4.2		☐	☐	☐	
C403.4	Hydronic or Multi-zone HVAC Systems	Fan Controls: DX Airside economizer Other	☐ < 30% fan motor demand	☐	☐	☐	
C403.4.2	Hydronic System Controls	Temperature Dead Band. Heat Rejection	☐ Meets Exceptions	☐	☐	☐	
C403.4.2.3.2.2	Climate Zones 5 and 6 Heat Exchanger	Isolation controls		☐	☐	☐	
C403.4.2.4	Hydronic System Part Load Controls	Sequencing boilers or modulating single ≥ 500K Btu/h	☐Auto reset ☐Fluid flow ☐Pump flow	☐	☐	☐	
C403.4.2.5	Boiler Turndown	> 1,000,000 Btu/h	☐ 3 to 1 ☐ 4 to 1 ☐ 5 to 1	☐	☐	☐	
C403.4.3	Heat Rejection Fan Controls	≥7.5 Hp		☐	☐	☐	
C403.4.4	Complex Systems, Multiple Zones	VAV System	Per C403.4.4.1 through C403.4.6.4	☐	☐	☐	
C403.4.4.6	Multi-zone VAV System Ventilation Optimization Control	Outdoor air intake reduction controls below design rate	Exceptions: ☐ VAV zone transfer fans ☐ Energy Recovery ☐ >70% exhaust airflow	☐	☐	☐	

IECC Section #	Pre-Inspection/Plan Review	Code Value	Verified Value	Complies Y	Complies N	Complies N/A	Comments/ Assumptions
C403.5	Refrigeration Systems	Condensers Compressors	Per 403.5.1 Per 403.5.2	☐	☐	☐	
C404 Service Water Heating	Construction drawings and documentation available. Documentation sufficiently demonstrates energy code compliance Service Water Heating Systems and Equipment.			☐	☐	☐	
C404.2	Service Water (SW) Heating Equipment Efficiency	Per Table C404.2		☐	☐	☐	
C404.3	SW Heat Traps Non circulation system	Required	☐ Piped Heat trap ☐ Integral	☐	☐	☐	
C404.4	SW Pipe Insulation	Per Table C403.2.10 Full length	☐ Meets exception	☐	☐	☐	
C404.5	Efficient Heated Water Supply Piping	Per Section C404.5.1 Per Section C404.5.2	☐ ☐	☐	☐	☐	
C404.6.3	Pump Controls for Hot Water Storage	<5 min. operation cycle		☐	☐	☐	
C404.7	Demand Recirculation Controls	> 5 minutes after end of cycle		☐	☐	☐	
C404.9.1	Swimming Pool Heaters	Accessible Controls		☐	☐	☐	
C404.9.2	Pool Heater Time Switch	Automatic		☐	☐	☐	
C404.9.3	Pool Covers	Required Vapor Retardant 70% recovered energy	 ☐ Exempt	☐	☐	☐	
C404.11	Service Water Heating System Commissioning	Per Section C408.2		☐	☐	☐	
C405 Lighting and Electrical Systems	Construction drawings and documentation available. Documentation sufficiently demonstrates energy code compliance Lighting and Electrical Systems and Equipment.			☐	☐	☐	
C405.2	Lighting Controls	Within each enclosed area	☐ Dwelling Unit Exception	☐	☐	☐	
C405.2.1	Occupant Sensor Controls	Required: 1) 30 min. shutoff 2) Manual 50% power 3) Manual Control		☐	☐	☐	
C405.2.2.1	Time-switch Controls	In areas with no occupant sensor controls	☐ Meets function requirements ☐ Meets exception	☐	☐	☐	
C405.2.2.2	Occupant Override	If Automatic Controls	50%	☐	☐	☐	
C405.2.3	Daylight Controls	Only in defined daylight zones		☐	☐	☐	
C405.2.4	Specific Application Controls	Display Accent/task Sleeping Units		☐	☐	☐	
C405.3	Exit Signs	Internally illuminated 5 watts per side		☐	☐	☐	
C405.4	Interior Lighting Power Requirements	Table C405.4.2(1) ≤ Interior Lighting Power C405.4.2	Show Calculations	☐	☐	☐	

IECC Section #	Pre-Inspection/Plan Review	Code Value	Verified Value	Complies			Comments/ Assumptions
				Y	N	N/A	
C405.5	Exterior Lighting Total	Base + Table C405.5.2(2)	Lighting Zone_____	☐	☐	☐	
C405.6	Electrical Energy Consumption	Group R-2 Separate Electrical Meter		☐	☐	☐	
C405.7	Electrical Transformers	Per Table C405.7	☐ Meets exception	☐	☐	☐	
C405.8	Electrical Motors	Per Tables C405.8(1) thru C405.8(4)		☐	☐	☐	
C405.9	Vertical Transport	Verify Requirements		☐	☐	☐	
C408.3	Lighting System Commissioning	Testing of control hardware and software	☐ Documents state who performs the test	☐	☐	☐	
C406.2	Additional Efficiency Package (Efficient HVAC Performance)	Meets min. efficiency Req. of C403 and Tables C406.2(1) thru C406.2(7)		☐	☐	☐	
C406.3	Additional Efficiency Package (Reduced Lighting Power Density)	Whole Building Reduced Lighting Power Density (w/ft$^{2)}$	w/ft^2-_____	☐	☐	☐	
C406.4	Additional Efficiency Package (Enhanced Lighting Controls)	Specific controls and operation of luminaires		☐	☐	☐	
C406.5	Additional Efficiency Package (On-site Renewable Energy)	**Either:** Not less than 1.75 btu or 0.50 w/ft^2 Provide not less than 3% for mech., service water and lighting	☐ ☐	☐	☐	☐	
C406.6	Additional Efficiency Package (Dedicated outdoor air system)	100% outdoor air to each occupied space Supply air temperature reset controls	☐ ☐	☐	☐	☐	
C406.7	Additional Efficiency Package (High-efficiency service water heating)	≤ 60% of requirements. Waste heat recovery. Solar water heating	Group_____	☐	☐	☐	
C407.6.1	Specific Approval	Documentation per C407 tested Per ASHRAE 140		☐	☐	☐	
C408.2	Mechanical System Commissioning	Commissioning provisions on construction documents < 480,000 Btu/h cooling and 600,000 Btu/h heating Dwelling units	 ☐ **Exempt** ☐ **Exempt**	☐	☐	☐	

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Residential Plan Review Checklist

2015 Residential Provisions as amended by the 2016 Energy Code Supplement

Project #: 43.6220.02-_____ Date:_____ Name of Evaluator(s):_____

Building Contact: Name:_____ Phone:_____ Email:_____

Building Name & Address:_____

Subdivision:_____ Lot #:_____ Conditioned Floor Area:_____ ft^2

Climate Zone:_____ County:_____ Jurisdiction:_____

Compliance Approach: ☐ Prescriptive ☐ Trade-Off ☐ Performance ☐ Compliance Software ☐ Other

Compliance Software Used:_____ Green Building/Above-Code Program? ☐ Yes ☐ No

Building Type: 1- and 2-Family, Detached: ☐ Single Family ☐ Modular ☐ Townhouse

Multifamily: ☐ Apartment ☐ Condominium

Project Type: ☐ New Building ☐ Existing Building Addition ☐ Existing Building Renovation

Special Considerations: ☐ Historic Building ☐ Commercial Space

Provisions Highlighted in Blue are Mandatory, Regardless of Compliance Path

IECC Section #	Pre-Inspection/Plan Review	Code Value	Verified Value	Complies Y	Complies N	Complies N/A	Comments/Assumptions[1]
R103.2	Construction drawings and documentation available. Documentation sufficiently demonstrates energy code compliance.			☐	☐	☐	
Insulation materials and their R-values				☐	☐	☐	
Fenestration U-factors				☐	☐	☐	
Area-weighted U-factor				☐	☐	☐	
Mechanical system design criteria				☐	☐	☐	
Mechanical and service water heating system and equipment types, sizes and efficiencies				☐	☐	☐	
Equipment and systems controls				☐	☐	☐	
Duct sealing, duct and pipe insulation and location				☐	☐	☐	
Lighting fixture schedule with wattage				☐	☐	☐	
Air sealing				☐	☐	☐	
R403.7	HVAC loads calculations: Heating system size(s): Cooling system size(s):		 kBtu: _____ kBtu: _____	☐	☐	☐	
Written Statement of Compliance from Design Professional				☐	☐	☐	

[1] Use Comments/Assumptions to document code requirements that pass due to exceptions, and specify the exception. Also use Comments/Assumptions to document multiple values observed for a given code requirement, such as multiple equipment efficiencies.

IECC Section #	Requirement	Code Value	Verified Value	Complies Y	Complies N	Complies N/A	Comments/Assumptions
R401.3	Certificate Posting	In furnace/ utility room or approved location	Identify location	☐	☐	☐	
Table R402.1.2	Slab edge insulation R-value.	Unheated: R-10 Heated: R-15	R-____ ☐ Unheated ☐ Heated	☐	☐	☐	
Table R402.1.2	Slab edge insulation depth/length.	2 ft. Z- 4 & 5 4 ft. Z-6	____ ft.	☐	☐	☐	
Table R402.1.2	Basement wall insulation R-value[i].	**Continuous:** R-10 Z-4 R-15 Z-5, Z-6 **Cavity:** R-13 Z-4 R-19 Z-5, Z-6	R-____ R-____	☐	☐	☐	
R402.2.9	Basement wall insulation depth.	10 ft. or to basement floor	____ ft.	☐	☐	☐	
Table R402.1.2 And R402.2.11	Crawl space wall insulation R-value. From floor to finished grade, plus 2' vertical or horizontal	**Continuous:** R-10 Z-4 R-15 Z-5, Z-6 **Cavity:** R-13 Z-4 R-19 Z-5, Z-6	R-____ R-____	☐	☐	☐	
R402.2.11	Crawl space continuous vapor retarder	Required Class I		☐	☐	☐	
R303.2.1	Exposed foundation insulation protection.	6" below grade		☐	☐	☐	
R403.9	Snow melt controls.	Automatic controls over 50°F		☐	☐	☐	
Table R402.1.2	Fenestration U-factor[ii]	Max: U-0.35 Z-4 U-0.32 Z5, Z-6	U-____	☐	☐	☐	
R402.5	Maximum Fenestration U-factor, Area weighted average (trade-offs)	Max: U-0.48 Z-4, Z-5 U-0.40 Z-6	U-____	☐	☐	☐	
Table R402.1.2	Glazed Fenestration SHGC	Max: 0.40 Z-4 NR Z-5, Z-6	SHGC-____	☐	☐	☐	
R402.4.3	Glazed fenestration air leakage.	0.3 cfm/ft^2 max	____ cfm/ ft^2	☐	☐	☐	
	Window Manufacturer						
R402.4.3	Sliding door air leakage.	0.3 cfm/ft^2 max	____ cfm/ ft^2	☐	☐	☐	
R402.4.3	Swinging door air leakage	0.5 cfm/ft^2 max	____ cfm/ ft^2	☐	☐	☐	
	Door Manufacturer						
Table R402.1.2	Floor insulation R-value.	Wood: R-19 Z-4 R-30 Z- 5 & 6[iii] Steel:[iv] See footnote	R-____ ☐ Wood ☐ Steel	☐	☐	☐	
Table R402.1.2	Wall insulation R-value	Wood: Z-4 and Z-5 = R-20 or R-13+5 Z-6 = R-20+5 or 13+10 Steel:[v] See footnote	R-____ ☐ Wood ☐ Steel	☐	☐	☐	

IECC Section #	Requirement	Code Value	Verified Value	Complies Y	Complies N	Complies N/A	Comments/Assumptions
Table R402.1.2	Ceiling insulation R-value	Wood: R-49 (All Zones) Steel Truss[vi] R-38+5	R-_____ ☐ Wood ☐ Steel	☐	☐	☐	
R402.2.3	Eave Baffle	For air-permeable insulation		☐	☐	☐	
Table R402.1.2	Mass wall insulation R-value.	R-8/13 Z-4[vii] R-13/17 Z-5[vii] R-15/20 Z6[vii]	R-_____	☐	☐	☐	
R402.2.13	Sunroom wall insulation (Enclosing conditioned space)	Per Table R402.1.2	R-_____	☐	☐	☐	
R402.2.13	Sunroom wall insulation (Thermally isolated and conditioned)	R-13 All climate zones	R-_____	☐	☐	☐	
R402.2.13	Sunroom ceiling insulation (Enclosing conditioned space)	Per Table R402.1.2	R-_____	☐	☐	☐	
R402.2.13	Sunroom ceiling insulation (Thermally isolated and conditioned)	R-19 Z-4 R-24 Z-5, Z-6	R-_____	☐	☐	☐	
R402.3.5	Sunroom glazing U-factor (Enclosing conditioned space)	Per Table R402.1.2	U-_____	☐	☐	☐	
R402.3.5	Sunroom glazing U-factor (Thermally isolated and conditioned)	U-0.45 max. (All Zones)	U-_____	☐	☐	☐	
R402.3.5	Sunroom skylight U-factor (Enclosing conditioned space)	Per Table R402.1.2	U-_____	☐	☐	☐	
R402.3.5	Sunroom skylight U-factor (Thermally isolated and conditioned)	U-0.70 max. (All Zones)	U-_____	☐	☐	☐	
	Skylight Manufacturer						
R402.2.4	Attic access hatch and door (insulation)	R-49 (All Zones)	R-_____	☐	☐	☐	
R402.2.4	Attic access hatch and door (weather-stripping)	Wood frame or equivalent insul. retainer		☐	☐	☐	
R402.4.6	Tenant separation walls	R-10 w/ air seal	R-_____	☐	☐	☐	
R402.4	Air Leakage (Building Thermal Envelope)	All building materials installed per Table R402.1.1		☐	☐	☐	
R402.4.1.2	Air Leakage Testing	3 air changes per hour (All zones) Blower door test	☐ Stated ☐ Stated	☐	☐	☐	
R402.4.5	IC-rated recessed lighting fixtures meet infiltration criteria.	≤ 2.0 cfm air leakage Sealed	☐ Stated ☐ Stated	☐	☐	☐	
R402.4.4	Rooms containing fuel burning appliances	Outside or enclosed in a room	☐ Meets exceptions	☐	☐	☐	
R402.1.1	Vapor Retarder (IRC R702.7)	Class I or II (Zones 5 and 6 only)		☐	☐	☐	
R403.1.1	Thermostat	Programmable		☐	☐	☐	

IECC Section #	Requirement	Code Value	Verified Value	Complies			Comments/Assumptions
				Y	N	N/A	
R403.3.1	Duct insulation.	Supply & Return in Attics: R-8 for ≥3" Dia. R-6 for <3" Dia. Other: R-6 for ≥3" Dia. R-4.2 for <3" Dia.	☐ Inside building thermal envelope exception	☐	☐	☐	
R403.3.2	Duct sealing complies with listed sealing methods.	All joints and seams	☐ Meets exception	☐	☐	☐	
R403.3.3	Duct Testing	0.1 inch w.g. pressure differential Rough-in test required Post construction test required	☐ Stated ☐ Stated ☐ Stated ☐ Exception	☐	☐	☐	
R403.3.5	Building cavities NOT used as ducts or plenums	Stated? Shown?		☐	☐	☐	
R403.4	HVAC piping insulation.	R-3 (>105°For <55°F)	R-_____	☐	☐	☐	
R403.5.1	Heated water circulation and temperature maintenance system	Per requirements of Section R403.5.1.1 or R403.5.1.2	☐ Circulation System ☐ Heat Trace System	☐	☐	☐	
R403.5.3	Hot water pipe insulation	R-3 per specified locations		☐	☐	☐	
R404.1	Lighting – Minimum 75% of lamps are high efficacy.			☐	☐	☐	
R402.4.2	Wood burning fireplace	Tight-fitting flue damper or doors		☐	☐	☐	
R403.10	Pool heaters, covers, and automatic or accessible manual controls.	Accessible on/off switch. Time Switch		☐	☐	☐	

[ii] One side-hinged door up to 24 ft^2 can be exempted from the prescriptive door U-factor requirements.
[iii] Or insulation sufficient to fill the cavity, R-19 minimum.
[iv] Floor steel frame equivalent: See Table R402.2.6
[v] Wall steel frame equivalent: See Table R402.2.6
[vi] Steel truss equivalent: See Table R402.2.6
[vii] The second R-value applies when more than half the insulation is on the interior of the mass wall.

Table R402.4.1.1
Air Barrier and Insulation Installation

Component	Air Barrier Criteria	Insulation Installation Criteria
General requirements	A continuous air barrier shall be installed in the building envelope. The exterior thermal envelope contains a continuous air barrier. Breaks or joints in the air barrier shall be sealed.	Air-permeable insulation shall not be used as a sealing material.
Ceiling/attic	The air barrier in any dropped ceiling/soffit shall be aligned with the insulation mid any gaps in the air barrier shall be scaled. Access openings, drop down stairs or knee wall doors to unconditioned attic spaces shall be sealed.	The insulation in any dropped ceiling/soffit shall be aligned with the air barrier.
Walls	The junction of the foundation and sill plate shall be sealed. The junction of the top plate and the top of exterior walls shall be sealed Knee walls shall be sealed.	Cavities within comers and headers of frame walls shall be insulated by completely filling the cavity with a material having a thermal resistance of R-3 per inch minimum. Exterior thermal envelope insulation for framed walls shall be installed in substantial contact and continuous alignment with the air barrier.
Windows, skylights and doors	The space between window/door jambs and framing, and skylights and framing shall be sealed.	
Rim Joists	Rim joists shall include the air barrier.	Rim joists shall be insulated.
Floors (including above garage And cantilevered floors)	The air barrier shall be installed at any exposed edge of insulation.	Floor framing cavity insulation shall be installed to maintain permanent contact with (he underside of subfloor decking, or floor framing cavity insulation shall be permitted to be in contact with the top side of sheathing, or continuous insulation installed on the underside of floor framing and extends from the bottom to the top of all perimeter floor framing members.
Crawl space walls	Exposed earth in unvented crawl spaces shall be covered with a Class I vapor retarder with overlapping joints taped.	Where provided instead of floor insulation, insulation shall be permanently attached to the Crawlspace walls.
Shafts, penetrations	Duct shafts, utility penetrations, and flue shafts opening to exterior or unconditioned space shall be sealed.	
Narrow cavities		Batts in narrow cavities shall be cut to fit, or narrow cavities shall be filled by insulation that on installation readily conforms to the available cavity space.
Garage separation	Air sealing shall be provided between the garage and conditioned spaces.	
Recessed lighting	Recessed light fixtures installed in the building thermal envelope shall be sealed to the drywall.	Recessed light fixtures installed in the building thermal envelope shall be air tight and IC rated.
Plumbing and wiring		Batt insulation shall be cut neatly to fit around wiring and plumbing in exterior walls, or insulation that on installation readily conforms to available space shall extend behind piping and wiring
Shower/tub on exterior wall	The air barrier installed at exterior walls adjacent to showers and tubs shall separate them from the showers and tubs.	Exterior walls adjacent to showers and tubs shall Be installed.
Electrical/phone box on exterior wall	The air barrier shall be installed behind electrical or communication boxes or air-sealed boxes shall be installed.	
HVAC register boots	HVAC register boots that penetrate building thermal envelope shall be sealed to the subfloor or drywall.	
Concealed sprinklers	When required to be sealed, concealed fire sprinklers shall only be scaled in a manner that is recommended by the manufacturer. Caulking or other adhesive sealants shall not be used to fill voids between fire sprinkler cover plates and walls or ceilings.	

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Residential Inspection Checklist

2015 IECC Commercial Provisions as amended by the 2016 Energy Code Supplement

Project #: 43.6220.02-_____ Date:_____ Name of Evaluator(s):_____

Building Contact: Name:_____ Phone:_____ Email:_____

Building Name & Address:_____

Subdivision:_____ Lot #:_____ Conditioned Floor Area:_____ ft^2

Climate Zone:_____ County:_____ Jurisdiction:_____

Compliance Approach: ☐ Prescriptive ☐ Trade-Off ☐ Performance ☐ Compliance Software ☐ Other

Compliance Software Used:_____ Green Building/Above-Code Program? ☐ Yes ☐ No

Building Type: 1- and 2-Family, Detached: ☐ Single Family ☐ Modular ☐ Townhouse

Multifamily: ☐ Apartment ☐ Condominium

Project Type: ☐ New Building ☐ Existing Building Addition ☐ Existing Building Renovation

Special Considerations: ☐ Historic Building ☐ Commercial Space

Provisions Highlighted in Blue are Mandatory, Regardless of Compliance Path

IECC Section #	Pre-Inspection/Plan Review	Code Value	Verified Value	Complies Y	Complies N	Complies N/A	Comments/Assumptions[1]
R103.2	Construction drawings and documentation available. Documentation sufficiently demonstrates energy code compliance.			☐	☐	☐	
Insulation materials and their R-values				☐	☐	☐	
Fenestration U-factors				☐	☐	☐	
Area-weighted U-factor				☐	☐	☐	
Mechanical system design criteria				☐	☐	☐	
Mechanical and service water heating system and equipment types, sizes and efficiencies				☐	☐	☐	
Equipment and systems controls				☐	☐	☐	
Duct sealing, duct and pipe insulation and location				☐	☐	☐	
Lighting fixture schedule with wattage				☐	☐	☐	
Air sealing				☐	☐	☐	
R403.7	HVAC loads calculations: Heating system size(s): Cooling system size(s):		 kBtu: _____ kBtu: _____	☐	☐	☐	
Written Statement of Compliance from Design Professional				☐	☐	☐	

[1] Use Comments/Assumptions to document code requirements that pass due to exceptions, and specify the exception. Also use Comments/Assumptions to document multiple values observed for a given code requirement, such as multiple equipment efficiencies.

IECC Section #	Requirement	Code Value	Verified Value	Complies Y	Complies N	Complies N/A	Comments/Assumptions
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Table R402.1.2	Slab edge insulation R-value.	Unheated: R-10 Heated: R-15	R-____ ☐ Unheated ☐ Heated	☐	☐	☐	
Table R402.1.2	Slab edge insulation depth/length.	2 ft. Z- 4 & 5 4 ft. Z-6	____ ft.	☐	☐	☐	
Table R402.1.2	Basement wall insulation R-value[i].	**Continuous:** R-10 Z-4 R-15 Z-5, Z-6 **Cavity:** R-13 Z-4 R-19 Z-5, Z-6	R-____ R-____	☐	☐	☐	
R402.2.9	Basement wall insulation depth.	10 ft. or to basement floor	____ ft.	☐	☐	☐	
Table R402.1.2 And R402.2.11	Crawl space wall insulation R-value. From floor to finished grade, plus 2' vertical or horizontal	**Continuous:** R-10 Z-4 R-15 Z-5, Z-6 **Cavity:** R-13 Z-4 R-19 Z-5, Z-6	R-____ R-____	☐	☐	☐	
R402.2.11	Crawl space continuous vapor retarder	Required Class I		☐	☐	☐	
R303.2.1	Exposed foundation insulation protection.	6" below grade		☐	☐	☐	
R403.9	Snow melt controls.	Automatic controls over 50°F		☐	☐	☐	
Table R402.1.2	Fenestration U-factor[ii]	Max: U-0.35 Z-4 U-0.32 Z5, Z-6	U-____	☐	☐	☐	
R402.5	Maximum Fenestration U-factor, Area weighted average (trade-offs)	Max: U-0.48 Z-4, Z-5 U-0.40 Z-6	U-____	☐	☐	☐	
Table R402.1.2	Glazed Fenestration SHGC	Max: 0.40 Z-4 NR Z-5, Z-6	SHGC-____	☐	☐	☐	
R402.4.3	Glazed fenestration air leakage.	0.3 cfm/ft^2 max	____ cfm/ ft^2	☐	☐	☐	
	Window Manufacturer						
R402.4.3	Sliding door air leakage.	0.3 cfm/ft^2 max	____ cfm/ ft^2	☐	☐	☐	
R402.4.3	Swinging door air leakage	0.5 cfm/ft^2 max	____ cfm/ ft^2	☐	☐	☐	
	Door Manufacturer						
Table R402.1.2	Floor insulation R-value.	Wood: R-19 Z-4 R-30 Z- 5 & 6[iii] Steel:[iv] See footnote	R-____ ☐ Wood ☐ Steel	☐	☐	☐	
Table R402.1.2	Wall insulation R-value	Wood: Z-4 and Z-5 = R-20 or R-13+5 Z-6 = R-20+5 or 13+10 Steel:[v] See footnote	R-____ ☐ Wood ☐ Steel	☐	☐	☐	

IECC Section #	Requirement	Code Value	Verified Value	Complies Y	Complies N	Complies N/A	Comments/Assumptions
Table R402.1.2	Ceiling insulation R-value	Wood: R-49 (All Zones) Steel Truss[vi] R-38+5	R-_____ ☐ Wood ☐ Steel	☐	☐	☐	
R402.2.3	Eave Baffle	For air-permeable insulation		☐	☐	☐	
Table R402.1.2	Mass wall insulation R-value.	R-8/13 Z-4[vii] R-13/17 Z-5[vii] R-15/20 Z6[vii]	R-_____	☐	☐	☐	
R402.2.13	Sunroom wall insulation (Enclosing conditioned space)	Per Table R402.1.2	R-_____	☐	☐	☐	
R402.2.13	Sunroom wall insulation (Thermally isolated and conditioned)	R-13 All climate zones	R-_____	☐	☐	☐	
R402.2.13	Sunroom ceiling insulation (Enclosing conditioned space)	Per Table R402.1.2	R-_____	☐	☐	☐	
R402.2.13	Sunroom ceiling insulation (Thermally isolated and conditioned)	R-19 Z-4 R-24 Z-5, Z-6	R-_____	☐	☐	☐	
R402.3.5	Sunroom glazing U-factor (Enclosing conditioned space)	Per Table R402.1.2	U-_____	☐	☐	☐	
R402.3.5	Sunroom glazing U-factor (Thermally isolated and conditioned)	U-0.45 max. (All Zones)	U-_____	☐	☐	☐	
R402.3.5	Sunroom skylight U-factor (Enclosing conditioned space)	Per Table R402.1.2	U-_____	☐	☐	☐	
R402.3.5	Sunroom skylight U-factor (Thermally isolated and conditioned)	U-0.70 max. (All Zones)	U-_____	☐	☐	☐	
	Skylight Manufacturer						
R402.2.4	Attic access hatch and door (insulation)	R-49 (All Zones)	R-_____	☐	☐	☐	
R402.2.4	Attic access hatch and door (weather-stripping)	Wood frame or equivalent insul. retainer		☐	☐	☐	
R402.4.6	Tenant separation walls	R-10 w/ air seal	R-_____	☐	☐	☐	
R402.4	Air Leakage (Building Thermal Envelope)	All building materials installed per Table R402.1.1		☐	☐	☐	
R402.4.1.2	Air Leakage Testing	3 air changes per hour (All zones) Blower door test	☐ Stated ☐ Stated	☐	☐	☐	
R402.4.5	IC-rated recessed lighting fixtures meet infiltration criteria.	≤ 2.0 cfm air leakage Sealed	☐ Stated ☐ Stated	☐	☐	☐	
R402.4.4	Rooms containing fuel burning appliances	Outside or enclosed in a room	☐ Meets exceptions	☐	☐	☐	
R402.1.1	Vapor Retarder (IRC R702.7)	Class I or II (Zones 5 and 6 only)		☐	☐	☐	
R403.1.1	Thermostat	Programmable		☐	☐	☐	

IECC Section #	Requirement	Code Value	Verified Value	Complies Y	Complies N	Complies N/A	Comments/Assumptions
R403.3.1	Duct insulation.	Supply & Return in Attics: R-8 for ≥3" Dia. R-6 for <3" Dia. Other: R-6 for ≥3" Dia. R-4.2 for <3" Dia.	☐ Inside building thermal envelope exception	☐	☐	☐	
R403.3.2	Duct sealing complies with listed sealing methods.	All joints and seams	☐ Meets exception	☐	☐	☐	
R403.3.3	Duct Testing	0.1 inch w.g. pressure differential Rough-in test required Post construction test required	☐ Stated ☐ Stated ☐ Stated ☐ Exception	☐	☐	☐	
R403.3.5	Building cavities NOT used as ducts or plenums	Stated? Shown?		☐	☐	☐	
R403.4	HVAC piping insulation.	R-3 (>105°For <55°F)	R-_____	☐	☐	☐	
R403.5.1	Heated water circulation and temperature maintenance system	Per requirements of Section R403.5.1.1 or R403.5.1.2	☐ Circulation System ☐ Heat Trace System	☐	☐	☐	
R403.5.3	Hot water pipe insulation	R-3 per specified locations		☐	☐	☐	
R404.1	Lighting – Minimum 75% of lamps are high efficacy.			☐	☐	☐	
R402.4.2	Wood burning fireplace	Tight-fitting flue damper or doors		☐	☐	☐	
R403.10	Pool heaters, covers, and automatic or accessible manual controls.	Accessible on/off switch. Time Switch		☐	☐	☐	

[ii] One side-hinged door up to 24 ft^2 can be exempted from the prescriptive door U-factor requirements.
[iii] Or insulation sufficient to fill the cavity, R-19 minimum.
[iv] Floor steel frame equivalent: See Table R402.2.6
[v] Wall steel frame equivalent: See Table R402.2.6
[vi] Steel truss equivalent: See Table R402.2.6
[vii] The second R-value applies when more than half the insulation is on the interior of the mass wall.

SECTION FIVE

STATEMENT OF SPECIAL INSPECTIONS

- **GO TO NEXT PAGE -**

Instructions – Preparation of the Statement of Special Inspections

1. Who Prepares the Form:
   The program of inspection and testing for a project should be prepared by the Registered Design Professional (RDP) that is in responsible charge of the building system requiring inspections and testing. The Structural Engineer of Record (SER) should prepare the sections required for the structural elements such as foundations, concrete, structural steel, etc. The Architect and MEP Engineer of Record should prepare the corresponding sections of the SSI for the building systems that they are responsible for. For further explanation, please refer to the "Guide to Special Inspections and Quality Assurance".

2. The Front Page:
   - 2-1. At the top of the page indicate the project name and location as they appear on the Contract Documents, provide the Owner's name (individual, private company, municipality, government agency, etc.), and indicate the Design Professional In Responsible Charge. This should be the RDP in responsible charge of the building systems for which this Statement of Special Inspections is being prepared. See explanation in item 1 above.
   - 2-2. Next, read the first paragraph and check the box below indicating the discipline(s) that this SSI will encompass (Structural, Architectural, Mechanical/Electrical/Plumbing, or Other).
   - 2-3. After reading the remaining paragraphs, the RDP must indicate the frequency of "Interim Reports" required from the Special Inspection Coordinator for the project. This can be indicated directly on the page, i.e. "weekly", or the adjacent box can be checked to attach a more specific schedule.
   - 2-4. Near the bottom of the page, the RDP must print, sign, and date the form, and stamp the form with their professional seal in the box provided.
   - 2-5. The Owner or Owner's agent must sign and date the front page after the SSI has been completed by the RDP.
   - 2-6. The Building Official must sign and date the form upon acceptance.

3. Page 2 – Schedule of Inspection and Testing Agencies:
   - 3-1. The top of the page lists all of the categories of building systems with a box next to each. The RDP must check the boxes for <u>only</u> the building systems that are going to be covered in this SSI. A completed inspection program page must be attached for each building system that is checked off. (See instruction #5 below.)
   - 3-2. The chart below is where the members of the Special Inspection Program are listed. Their names, addresses, telephone numbers, and emails should be filled out in the appropriate boxes. If the Inspectors and Testing Agencies have not been determined yet, the RDP can fill in the boxes with "To Be Determined".

4. Page 3 – Quality Assurance Plan:
   - 4-1. The RDP must review sections 1705 and 1706 in Chapter 17 of the IBC to determine if the project requires a Quality Assurance Plan for the seismic force and wind force resisting systems and components.
   - 4-2. The RDP must indicate whether or not a Quality Assurance Plan is required by filling in the information requested on the page. It is only necessary to provide descriptions of the seismic and wind force resisting systems if it is determined that a Quality Assurance Plan is required.

5. Inspection Program Pages For Each Building System:
   - 5-1. There is a page attached for each building system where the RDP identifies the inspection requirements of each system. Fill out the pages for <u>only</u> the building systems included in this SSI. <u>Do not</u> include blank pages for building systems not covered under this SSI.
   - 5-2. Indicate the inspection or testing firm (Agency #) that will perform each inspection task. The Agency # is the number listed next to the Inspector or Testing Laboratory on the chart on page 2 of the SSI.
   - 5-3. Indicate the required qualifications of the Inspector for each inspection. A list of qualifications of Inspectors and testing technicians is provided on page 4 of the SSI for reference. The RDP may require additional qualifications beyond the ones listed if they feel it is appropriate. Suggested qualifications have been included for consideration. The RDP must determine what qualifications are appropriate for the particular project and confirm that the selected agency employs individuals with the specified qualifications.
   - 5-4. The scope of each inspection must be filled in by the RDP. The editable text provided in italics reflects the code mandated minimum inspection requirements designated in section 1704 of IBC Chapter 17. The editable text does <u>not</u> include the inspections requirements for seismic and wind resisting systems listed in sections 1705 through 1708. The RDP must determine if the project falls under the requirements of sections 1705 to 1708 and add the required inspections to the building systems. The final scope of the inspections required for the project must be determined by the RDP.
   - 5-5. Descriptions of all inspections must include the required frequency of each inspection or test.

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CITY OF BINGHAMTON
OFFICE OF BUILDING CONSTRUCTION
STATEMENT OF SPECIAL INSPECTIONS

Richard David, Mayor **Christopher Schleider, Supervisor of Building Construction**

Project:

Location:

Owner:

Design Professional in Responsible Charge:

This *Statement of Special Inspections* is submitted as a condition for permit issuance in accordance with the Special Inspection and Structural Testing requirements of the Building Code. It includes a schedule of Special Inspection services applicable to this project as well as the name of the Special Inspection Coordinator and the identity of other approved agencies to be retained for conducting these inspections and tests. This *Statement of Special Inspections* encompass the following disciplines:

☐ Structural ☐ Mechanical/Electrical/Plumbing
☐ Architectural ☐ Other: _____

The Special Inspection Coordinator shall keep records of all inspections and shall furnish inspection reports to the Building Official and the Registered Design Professional in Responsible Charge. Discovered discrepancies shall be brought to the immediate attention of the Contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the Building Official and the Registered Design Professional in Responsible Charge. The Special Inspection program does not relieve the Contractor of his or her responsibilities.

Interim reports shall be submitted to the Building Official and the Registered Design Professional in Responsible Charge.

A *Final Report of Special Inspections* documenting completion of all required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted prior to issuance of a Certificate of Use and Occupancy.

Job site safety and means and methods of construction are solely the responsibility of the Contractor.

Interim Report Frequency: or ☐ per attached schedule.

Prepared by:

_____
(type or print name)

_____
Signature Date

Design Professional Seal

Owner's Authorization:

_____
Signature Date

Building Official's Acceptance:

_____
Signature Date

Schedule of Inspection and Testing Agencies

This Statement of Special Inspections / Quality Assurance Plan includes the following building systems:

- ☐ Soils and Foundations
- ☐ Cast-in-Place Concrete
- ☐ Precast Concrete
- ☐ Masonry
- ☐ Structural Steel
- ☐ Cold-Formed Steel Framing
- ☐ Spray Fire Resistant Material
- ☐ Wood Construction
- ☐ Exterior Insulation and Finish System
- ☐ Mechanical & Electrical Systems
- ☐ Architectural Systems
- ☐ Special Cases

Special Inspection Agencies	Firm	Address, Telephone, e-mail
1. **Special Inspection Coordinator**		
2. Inspector		
3. Inspector		
4. Testing Agency		
5. Testing Agency		
6. Other		

Note: The inspectors and testing agencies shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official, prior to commencing work.

Quality Assurance Plan

Quality Assurance for Seismic Resistance

Seismic Design Category

Quality Assurance Plan Required (Y/N)

Description of seismic force resisting system and designated seismic systems:

Quality Assurance for Wind Requirements

Basic Wind Speed (3 second gust)

Wind Exposure Category

Quality Assurance Plan Required (Y/N)

Description of wind force resisting system and designated wind resisting components:

Statement of Responsibility

Each contractor responsible for the construction or fabrication of a system or component designated above must submit a Statement of Responsibility.

Qualifications of Inspectors and Testing Technicians

The qualifications of all personnel performing Special Inspection and testing activities are subject to the approval of the Building Official. The credentials of all Inspectors and testing technicians shall be provided if requested.

Key for Minimum Qualifications of Inspection Agents:

When the Registered Design Professional in Responsible Charge deems it appropriate that the individual performing a stipulated test or inspection have a specific certification or license as indicated below, such designation shall appear below the *Agency Number* on the Schedule.

PE/SE	Structural Engineer – a licensed SE or PE specializing in the design of building structures
PE/GE	Geotechnical Engineer – a licensed PE specializing in soil mechanics and foundations
EIT	Engineer-In-Training – a graduate engineer who has passed the Fundamentals of Engineering examination

American Concrete Institute (ACI) Certification

ACI-CFTT	Concrete Field Testing Technician – Grade 1
ACI-CCI	Concrete Construction Inspector
ACI-LTT	Laboratory Testing Technician – Grade 1&2
ACI-STT	Strength Testing Technician

American Welding Society (AWS) Certification

AWS-CWI	Certified Welding Inspector
AWS/AISC-SSI	Certified Structural Steel Inspector

American Society of Non-Destructive Testing (ASNT) Certification

ASNT	Non-Destructive Testing Technician – Level II or III.

International Code Council (ICC) Certification

ICC-SMSI	Structural Masonry Special Inspector
ICC-SWSI	Structural Steel and Welding Special Inspector
ICC-SFSI	Spray-Applied Fireproofing Special Inspector
ICC-PCSI	Prestressed Concrete Special Inspector
ICC-RCSI	Reinforced Concrete Special Inspector

National Institute for Certification in Engineering Technologies (NICET)

NICET-CT	Concrete Technician – Levels I, II, III & IV
NICET-ST	Soils Technician - Levels I, II, III & IV
NICET-GET	Geotechnical Engineering Technician - Levels I, II, III & IV

Exterior Design Institute (EDI) Certification

EDI-EIFS	EIFS Third Party Inspector

Other

Soils and Foundations

Item	Agency # (Qualif.)	Scope
1. Shallow Foundations	*PE/GE*	*Inspect soils below footings for adequate bearing capacity and consistency with geotechnical report.* *Inspect removal of unsuitable material and preparation of subgrade prior to placement of controlled fill*
2. Controlled Structural Fill	*PE/GE*	*Perform sieve tests (ASTM D422 & D1140) and modified Proctor tests (ASTM D1557) of each source of fill material.* *Inspect placement, lift thickness and compaction of controlled fill.* *Test density of each lift of fill by nuclear methods (ASTM D2922)* *Verify extent and slope of fill placement.*
3. Deep Foundations	*PE/GE*	*Inspect and log pile driving operations. Record pile driving resistance and verify compliance with driving criteria.* *Inspect piles for damage from driving and plumbness.* *Verify pile size, length and accessories.* *Inspect installation of drilled pier foundations. Verify pier diameter, bell diameter, lengths, embedment into bedrock and suitability of end bearing strata.*
4. Load Testing		
4. Other:		

Cast-in-Place Concrete

Item	Agency # (Qualif.)	Scope
1. Mix Design	*ACI-CCI* *ICC-RCSI*	*Review concrete batch tickets and verify compliance with approved mix design. Verify that water added at the site does not exceed that allowed by the mix design.*
2. Material Certification		
3. Reinforcement Installation	*ACI-CCI* *ICC-RCSI*	*Inspect size, spacing, cover, positioning and grade of reinforcing steel. Verify that reinforcing bars are free of form oil or other deleterious materials. Inspect bar laps and mechanical splices. Verify that bars are adequately tied and supported on chairs or bolsters*
4. Post-Tensioning Operations	*ICC-PCSI*	*Inspect placement, stressing, grouting and protection of post-tensioning tendons. Verify that tendons are correctly positioned, supported, tied and wrapped. Record tendon elongations.*
5. Welding of Reinforcing	*AWS-CWI*	*Visually inspect all reinforcing steel welds. Verify weldability of reinforcing steel. Inspect preheating of steel when required.*
6. Anchor Rods		*Inspect size, positioning and embedment of anchor rods. Inspect concrete placement and consolidation around anchors.*
7. Concrete Placement	*ACI-CCI* *ICC-RCSI*	*Inspect placement of concrete. Verify that concrete conveyance and depositing avoids segregation or contamination. Verify that concrete is properly consolidated.*
8. Sampling and Testing of Concrete	*ACI-CFTT* *ACI-STT*	*Test concrete compressive strength (ASTM C31 & C39), slump (ASTM C143), air-content (ASTM C231 or C173) and temperature (ASTM C1064).*
9. Curing and Protection	*ACI-CCI* *ICC-RCSI*	*Inspect curing, cold weather protection and hot weather protection procedures.*
10. Other:		

Precast Concrete

Item	Agency # (Qualif.)	Scope
1. Plant Certification / Quality Control Procedures ☐ Fabricator Exempt	*ACI-CCI* *ICC-RCSI*	*Review plant operations and quality control procedures.*
2. Mix Design	*ACI-CCI* *ICC-RCSI*	*Inspect concrete batching operations and verify compliance with approved mix design*
3. Material Certification		
4. Reinforcement Installation	*ACI-CCI* *ICC-RCSI*	*Inspect size, spacing, position and grade of reinforcing steel. Verify that reinforcing bars are free of form oil or other deleterious materials.*
5. Prestress Operations	*ICC-PCSI*	*Inspect placement, stressing, grouting and protection of prestressing tendons*
6. Connections / Embedded Items		
7. Formwork Geometry		
8. Concrete Placement	*ACI-CCI* *ICC-RCSI*	*Inspect placement of concrete. Verify that concrete conveyance and depositing avoids segregation or contamination. Verify that concrete is properly consolidated .*
9. Sampling and Testing of Concrete	*ACI-CFTT* *ACI-STT*	*Test concrete compressive strength (ASTM C31 & C39), slump (ASTM C143), air-content (ASTM C231 or C173) and temperature (ASTM C1064).*
10. Curing and Protection	*ACI-CCI* *ICC-RCSI*	*Inspect curing, cold weather protection and hot weather protection procedures.*
11. Erected Precast Elements	*PE/SE*	*Inspect erection of precast concrete including member configuration, connections, welding and grouting.*
12. Other:		

Masonry

Required Inspection Level: ☐ 1 ☐ 2

Item	Agency # (Qualif.)	Scope
1. Material Certification		
2. Mixing of Mortar and Grout	*ICC-SMSI*	*Inspect proportioning, mixing and retempering of mortar and grout.*
3. Installation of Masonry	*ICC-SMSI*	*Inspect size, layout, bonding and placement of masonry units.*
4. Mortar Joints	*ICC-SMSI*	*Inspect construction of mortar joints including tooling and filling of head joints.*
5. Reinforcement Installation	*ICC-SMSI* *AWS-CWI*	*Inspect placement, positioning and lapping of reinforcing steel.* *Inspect welding of reinforcing steel.*
6. Prestressed Masonry	*ICC-SMSI*	*Inspect placement, anchorage and stressing of prestressing bars.*
7. Grouting Operations	*ICC-SMSI*	*Inspect placement and consolidation of grout. Inspect masonry clean-outs for high-lift grouting.*
7. Weather Protection	*ICC-SMSI*	*Inspect cold weather protection and hot weather protection procedures. Verify that wall cavities are protected against precipitation.*
9. Evaluation of Masonry Strength	*ICC-SMSI*	*Test compressive strength of mortar and grout cube samples (ASTM C780).* *Test compressive strength of masonry prisms (ASTM C1314).*
10. Anchors and Ties	*ICC-SMSI*	*Inspect size, location, spacing and embedment of dowels, anchors and ties.*
11. Other:		

Structural Steel

Item	Agency # (Qualif.)	Scope
1. Fabricator Certification/ Quality Control Procedures ☐ Fabricator Exempt	*AWS/AISC-SSI ICC-SWSI*	*Review shop fabrication and quality control procedures.*
2. Material Certification	*AWS/AISC-SSI ICC-SWSI*	*Review certified mill test reports and identification markings on wide-flange shapes, high-strength bolts, nuts and welding electrodes*
3. Open Web Steel Joists		*Inspect installation, field welding and bridging of joists.*
4. Bolting	*AWS/AISC-SSI ICC-SWSI*	*Inspect installation and tightening of high-strength bolts. Verify that splines have separated from tension control bolts. Verify proper tightening sequence. Continuous inspection of bolts in slip-critical connections.*
5. Welding	*AWS-CWI* *ASNT*	*Visually inspect all welds. Inspect pre-heat, post-heat and surface preparation between passes. Verify size and length of fillet welds.* *Ultrasonic testing of all full-penetration welds.*
6. Shear Connectors	*AWS/AISC-SSI ICC-SWSI*	*Inspect size, number, positioning and welding of shear connectors. Inspect suds for full 360 degree flash. Ring test all shear connectors with a 3 lb hammer. Bend test all questionable studs to 15 degrees.*
7. Structural Details	*PE/SE*	*Inspect steel frame for compliance with structural drawings, including bracing, member configuration and connection details.*
8. Metal Deck	*AWS-CWI*	*Inspect welding and side-lap fastening of metal roof and floor deck.*
9. Other:		

Cold-Formed Steel Framing

Item	Agency # (Qualif.)	Scope
1. Member Sizes		
2. Material Thickness		
3. Material Properties		
4. Mechanical Connections		
5. Welding		
6. Framing Details		
7. Trusses		
8. Permanent Truss Bracing		
9. Other:		

Spray-Applied Fire Resistant Material

Item	Agency # (Qualif.)	Scope
1. Material Specifications		
2. Laboratory Tested Fire Resistance Design	*ICC-SFSI*	*Review UL fire resistive design for each rated beam, column, or assembly.*
3. Schedule of Thickness	*ICC-SFSI*	*Review approved thickness schedule.*
4. Surface Preparation	*ICC-SFSI*	*Inspect surface preparation of steel prior to application of fireproofing*
5. Application	*ICC-SFSI*	*Inspect application of fireproofing.*
6. Curing and Ambient Condition	*ICC-SFSI*	*Verify ambient air temperature and ventilation is suitable for application and curing of fireproofing.*
7. Thickness	*ICC-SFSI*	*Test thickness of fireproofing (ASTM E605). Perform a set of thickness measurements for every 1,000 SF of floor and roof assemblies and on not less than 25% of rated beams and columns.*
8. Density	*ICC-SFSI*	*Test the density of fireproofing material (ASTM E605).*
9. Bond Strength	*ICC-SFSI*	*Test the cohesive/adhesive bond strength of fireproofing ASTM E736). Perform not less than one test for each 10,000 SF.*
10. Other:		

Wood Construction

Item	Agency # (Qualif.)	Scope
1. Fabricator Certification/ Quality Control Procedures ☐ Fabricator Exempt		*Inspect shop fabrication and quality control procedures for wood truss plant.*
2. Material Grading		
3. Connections		
4. Framing and Details		
5. Diaphragms and Shearwalls		*Inspect size, configuration, blocking and fastening of shearwalls and diaphragms. Verify panel grade and thickness.*
6. Prefabricated Wood Trusses		*Inspect the fabrication of wood trusses.*
7. Permanent Truss Bracing		
8. Other:		

Exterior Insulation & Finish Systems (EIFS)

Item	Agency # (Qualif.)	Scope
1. Material Submittals		
2. Condition of Substrate		
3. Application of Foam Plastic Board		
4. Application of Coatings		
5. Application of Mesh		
6. Ambient Condition and Curing		
7. Flashing and Joint Details		
8. Sealants/Caulks		
9. Other:		

Mechanical & Electrical Systems

Item	Agency # (Qualif.)	Scope
1. Smoke Control		
2. Mechanical, HVAC & Piping		
3. Electrical System		
4. Other:		

Architectural Systems

Item	Agency # (Qualif.)	Scope
1. Wall Panels & Veneers		
2. Suspended Ceilings		
3. Access Floors		
4. Other:		

Special Cases

Item	Agency # (Qualif.)	Scope

SECTION SIX

MUNICIPAL TRUSS FORM

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DEPARTMENT OF PUBLIC WORKS

OFFICE OF BUILDING CONSTRUCTION ZONING & CODE ENFORCEMENT

Richard David, Mayor
Christopher Schleider, Supervisor

To:_____

Owner:_____

Subject Property: _____

_____

Tax Map No.: _____

Please take notice that the (check applicable line):

____ New residential structure

____ Addition to existing residential structure

____ Rehabilitation to existing residential structure to be constructed or performed at the subject property referenced above will utilize (check each applicable line):

- ____ Truss type construction (TT)
  - ____ Floor framing, including girders and beams (F)
  - ____ Roof framing (R)
  - ____ Floor framing and roof framing (FR).
- ____ Pre-engineered wood construction (PW)
  - ____ Floor framing, including girders and beams (F)
  - ____ Roof framing (R)
  - ____ Floor framing and roof framing (FR).
- ____ Timber construction (TC)
  - ____ Floor framing, including girders and beams (F)
  - ____ Roof framing (R)
  - ____ Floor framing and roof framing (FR).

Applicant Name::_____

Signature: _____ Date:_____

Capacity [either "Owner" or "Owner's Representative," as applicable]: _____

--- **Staff Comments Below** ---

_____ **BC EMS Notified** ____ **Fire Dept. Notified**

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SECTION SEVEN

STATEMENT OF SUBSTANTIAL COMPLETION

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AIA® Document G704™ – 2000

Certificate of Substantial Completion

PROJECT:
(Name and address)

PROJECT NUMBER: /
CONTRACT FOR: General Construction
CONTRACT DATE:

OWNER: ☐
ARCHITECT: ☐
CONTRACTOR: ☐
FIELD: ☐
OTHER: ☐

TO OWNER:
(Name and address)

TO CONTRACTOR:
(Name and address)

PROJECT OR PORTION OF THE PROJECT DESIGNATED FOR PARTIAL OCCUPANCY OR USE SHALL INCLUDE:

The Work performed under this Contract has been reviewed and found, to the Architect's best knowledge, information and belief, to be substantially complete. Substantial Completion is the stage in the progress of the Work when the Work or designated portion is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The date of Substantial Completion of the Project or portion designated above is the date of issuance established by this Certificate, which is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below:

Warranty **Date of Commencement**

ARCHITECT	BY	DATE OF ISSUANCE

A list of items to be completed or corrected is attached hereto. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Unless otherwise agreed to in writing, the date of commencement of warranties for items on the attached list will be the date of issuance of the final Certificate of Payment or the date of final payment.

Cost estimate of Work that is incomplete or defective: $0.00

The Contractor will complete or correct the Work on the list of items attached hereto within Zero (0) days from the above date of Substantial Completion.

CONTRACTOR	BY	DATE

The Owner accepts the Work or designated portion as substantially complete and will assume full possession at (time) on (date).

OWNER	BY	DATE

The responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance shall be as follows:
(Note: Owner's and Contractor's legal and insurance counsel should determine and review insurance requirements and coverage.)

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SECTION EIGHT

INFILTRATION AND INFLOW PROGRAM

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DEPARTMENT OF PUBLIC WORKS
OFFICE OF BUILDING CONSTRUCTION
& CODE ENFORCEMENT

FLOW MANAGEMENT PROGRAM

Richard David, Mayor
Christopher Schleider, Supervisor

At: Applicant
Re: BJCJSTF Flow Management Program (Infiltration & Inflow) Worksheet

Please be advised that all new development, located in the City of Binghamton, that may affect the flow of sanitary or stormwater within municipal infrastructure is required to comply with the requirements of the Binghamton-Johnson City Sewage Treatment Facility Flow Management Program.

Based on the scope of work proposed for your project, we hereby request that you and/or your design representative complete the attached ***Flow Management Program (Infiltration & Inflow) Worksheet***.

Directions for completing this application are provided on the form. If you, as the applicant, have any **technical questions** in regard to the form or content of your application, do NOT contact the Office of Building Construction or the Plumbing Inspector.

Direct ALL technical questions about this application or this program, to the following address:

Ray Standish, PE, City Engineer
Department of Engineering – Binghamton City Hall
38 Hawley St Binghamton NY 13901
Phone: 607-772-7018 Email: rlstandish@cityofbinghamton.com

When you have fully completed the application, please submit two (2) copies of the Application Form (attached) and any supporting documentation to the following address:

Patt Knapp, Plumbing Inspector
Office of Building Construction – Binghamton City Hall
38 Hawley St Binghamton NY 13901
Phone: 607-772-7010 Email: pjknapp@cityofbinghamton.com

Note: Design calculations and related design documentation shall be prepared by a qualified design professional. Formal design documents shall be signed and stamped, accordingly.

Thank you. Your cooperation is appreciated

Thomas Burke
Plumbing Inspector

INSTRUCTIONS FOR COMPLETING "APPLICATION FOR NEW OR MODIFIED SEWER CONNECTION PERMIT"

Please note: Under provisions of the NYSDEC Consent Order, the proposed Sewer connection may be subject to review and approval by the City Engineer and the Board of the Binghamton-Johnson City Sewage Treatment Facility, prior to any construction. In general, a Building Permit for a Sewer Service Connection cannot be issued until the approval process has been completed. To determine whether proposed work is subject to review, please complete the attached form and worksheet, in accordance with directions provided below. A completed worksheet is required for all work/projects.

Item 1: APPLICANT Provide name of Property Owner and contact information, including email address.

Item 2: PROJECT LOCATION and PARCEL ID Specify street number/name, municipality, zip and Tax Parcel ID
The name of the appropriate I/I Remediation Basin can be obtained at http://www.gobroomecounty.com

Item 3: ESTIMATED COMPLETION DATE Provide estimate based on most current information available

Item 4: PART I – FLOW & FEE CREDIT WORKSHEET (Pages 1 and 3)

Use the table in the Flow & Fee Credit Worksheet to determine whether proposed Sewer Connection/Modification will yield a net change in flow >2500 , based on the peak rate of water consumption, in Gallons per Day (GPD), during the period from 01/01/1998 to present.

Where previous use/occupancy is known and where no change in use/occupancy is proposed, use "FLOW & FEE CREDIT PRELIMINARY WORKSHEET (attached) to determine the value of "Pre-Application Flow." Under these circumstances, do not include Peaking Factor in your calculation. For Residential occupancy, the "Unit" value = # of Bedrooms (ref: Table of Values, Page 3). For Office/Business occupancies the "Unit" value = # of Employees AND Area (sf) of occupied space. For Restaurant occupancy, the "Unit" value = # of Employees + # of Seats. Calculation for Mixed occupancy shall include combined result. Calculation for ALL other types of occupancies shall be calculated by a qualified design professional, using an accepted standard design practice for this purpose.

Where a change in use or occupancy, new connection, or physical modification of existing connection (size or number) is proposed , the Applicant will request the water billing records for the property, as recorded for the period 01/01/1998 – 12/31/2012, as required to determine the peak rate of water consumption (GPD) for that period. This data will provide the appropriate value of "Pre-Application Flow," under these conditions. Preliminary calculation of Total Net Flow Change will be made, independent of Peaking Factor, to verify that project is subject to additional compliance requirements. Application will be referred to a qualified design professional, who will perform Capacity Analysis, as well as more comprehensive calculations to determine Total Net Flow Change and corresponding Inflow & Infiltration Offset.

Item 4: PART II – FLOW & FEE CREDIT WORKSHEET (Page 1)

For projects where previous use/occupancy is known and where no change in use/occupancy is proposed, section NOT required.

Part II required for all projects where preliminary calculation of "Total Net Flow Change" is >2500 gpd. An Applicant subject to this process will retain a qualified design professional to complete a Sewer System Capacity Analysis and calculate a definitive value for the Total Net Flow Change. When this documentation is submitted for review by the City Engineer, the Applicant will complete this section and thereby indicate the preferred method of Inflow & Infiltration Offset, i.e. to purchase or to earn Flow Credits.

All Applicants will sign and date application.

Signed application and any required supplementary documentation will be submitted to the Supervisor of Building Construction at Binghamton City Hall, 38 Hawley St, Binghamton, NY, 13901.

Department of Public Works

Building Construction - Engineering

APPLICATION FOR NEW OR MODIFIED SEWER CONNECTION PERMIT

1. Applicant

Name _____ Telephone[s] _____

Street Address (and, if different, Mailing Address) _____ Fax (or "NONE" if no Fax #) _____

_____ e-mail (or "NONE" if no e-mail) _____

2. Project Location

Address _____ Parcel ID No. _____

I/I Remediation Basin _____

3. Estimated Date for Completion and/or Occupancy

Date _____

FLOW & FEE/CREDIT WORKSHEET (Attach supporting Engineering Report if more than +2,500 gpd net flow change)

Part I

	Source of Flow (check all that apply)	Unit Flow Rate		No. of Units		Peaking Factor		Total Flow Rate (gpd)
	Pre-Application Flow (if applicable)							(-) _____
_____	Residential (people)	_____	X	_____	X	_____	=	_____
_____	Commercial/Office Bldg (employees)	_____	X	_____	X	_____	=	_____
_____	Restaurant (employees + seats)	_____	X	_____	X	_____	=	_____
_____	Industrial or Other Sources ----------> (Stores, Motels and Hotels, Recreational Facilities, etc)	Flow rate to be determined based on accepted standards for similar industry or business type and size.						

Total Net Flow Change = _____

PART II (check A or B) -- ONLY APPLICABLE IF NET FLOW CHANGE EXCEEDS A POSITIVE 2,500 gpd

___ A. Purchase / Acquire Flow Credits (Fees in Lieu of Mitigation) **Yes** or **No**

___ B. Earn Flow Credits (I/I Remediation Agreement for Developers / Builders only) **Yes** or **No**
Applicant agrees to carry-out or fund acceptable I/I Remediation Project(s) under the terms and conditions of the I/I Offset Program to earn flow credits at the time new/modified sewer construction is certified as complete.

BY SIGNING BELOW, THE UNDERSIGNED ATTESTS ON BEHALF OF THE APPLICANT THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND COMPLETE TO THE BEST OF THE APPLICANT'S KNOWLEDGE AND BELIEF.

Applicant Signature _____ (print name and title of person signing below) _____ Date _____

Department of Public Works

Building Construction - Engineering

FLOW & FEE/CREDIT PRELIMINARY WORKSHEET

Source of Flow	# - of Bedrooms/ Employees/Sq. Ft./ Seats	Flow Rate to be added to the POTW In Gallons /Per Day	Total Gallons	Reference
Residential Homes				
Bedrooms	1	150		**Design**
Bedrooms	2	300		**Standards**
Bedrooms	3	400		**For**
Bedrooms	4	475		**Wastewater**
Bedrooms	5	550		**Treatment**
Apartments				**Works**
Bedrooms	1	150		**1988 edition**
Bedrooms	2	300		**NYSDEC**
Bedrooms	3	400		
Office Bldgs				
Employees	X	15		
Square Footage	Y	0.1		
Restaurants				
>50 Seats=Zx35	Z	35		
24Hr >50 Seats=Zx50	Z	50		
Industrial Flows		TBD		
Other sources- Stores, Motels, Hotels, Recreational Facilities		TBD		
Total				

SECTION NINE

STREET WORK PERMIT
DEPARTMENT OF PUBLIC WORKS ENGINEERING

- **GO TO NEXT PAGE -**

CITY OF BINGHAMTON
ENGINEERING DEPARTMENT
Phone 607/772-7007; Fax 607/772-7056

APPLICATION FOR STREET WORK PERMIT

Date of Application: _____

MINIMUM 72-HOURS NOTICE REQUIRED
MINIMUM 72-HOURS NOTICE FOR CRANE

Contractor: _____ Phone #: _____

Address: _____Fax #: _____

Location of Work: _____

Proposed Start Date: _____Proposed Completion Date_____

Description of Contractors operations in right-of-way: _____

_____

_____

Maintenance/Protection of Traffic	**Type of Work**		
☐ Lane Shift of Shoulder Restriction	**Underground**	**On Ground**	**Above Ground**
(maintain 2-Way Traffic)	☐ Gas	☐ Curb	☐ Pole Maintenance
☐ One Lane, Two Way Traffic with Flaggers	☐ Water *	☐ Sidewalk	☐ Tree Removal
☐ Road Closure (Detour Plan Required – Attach)	☐ Electric	☐ Pavement	☐ New Pole
☐ Sidewalk Closure	☐ Telephone	☐ Equipment	☐ Pole Relocation
☐ Parking Restriction	☐ Sewer *	☐ Scaffolds	**Other**
	☐ Signals	☐ Crane	☐ Contract
	☐ Conduit	☐ Dumpster	☐ Miscellaneous
*** Contractor Responsible to Notify Water Dept at [607] 772-7219 or Sewer Dept at [607] 772-7233 prior to the start of work**			

Proposed Trench Backfill in Pavement	**Proposed Excavation Dimensions in Pavement**		
	Length [Ft]	Width [Ft]	Depth [Ft]
☐ Select Granular Fill			
☐ Control Low Strength Material [Flowable Fill]			
☐	Square Footage (L x W) =		
☐			

APPLICATION REVIEW BY CITY

Application Received: _____

Year Last Paved: _____Within 5 Years (Y/N)_____Year Last Reconstructed: _____Within 10 Years (Y/N)_____

1. Insurance: _____On File _____Not On File
2. Performance Bond: _____On File _____Not On File
3. Maintenance of Traffic: _____Proposed Plan Acceptable _____Revise As Noted _____N/A
4. Trench Backfill: _____Proposed Fill Acceptable _____Revise As Noted _____N/A
5. Overlay Required: _____No _____Yes From_____ To _____
6. Addition Requirements/Restrictions:

_____

_____

Application Approved: _____ Application Denied: _____

By: _____ Date: _____

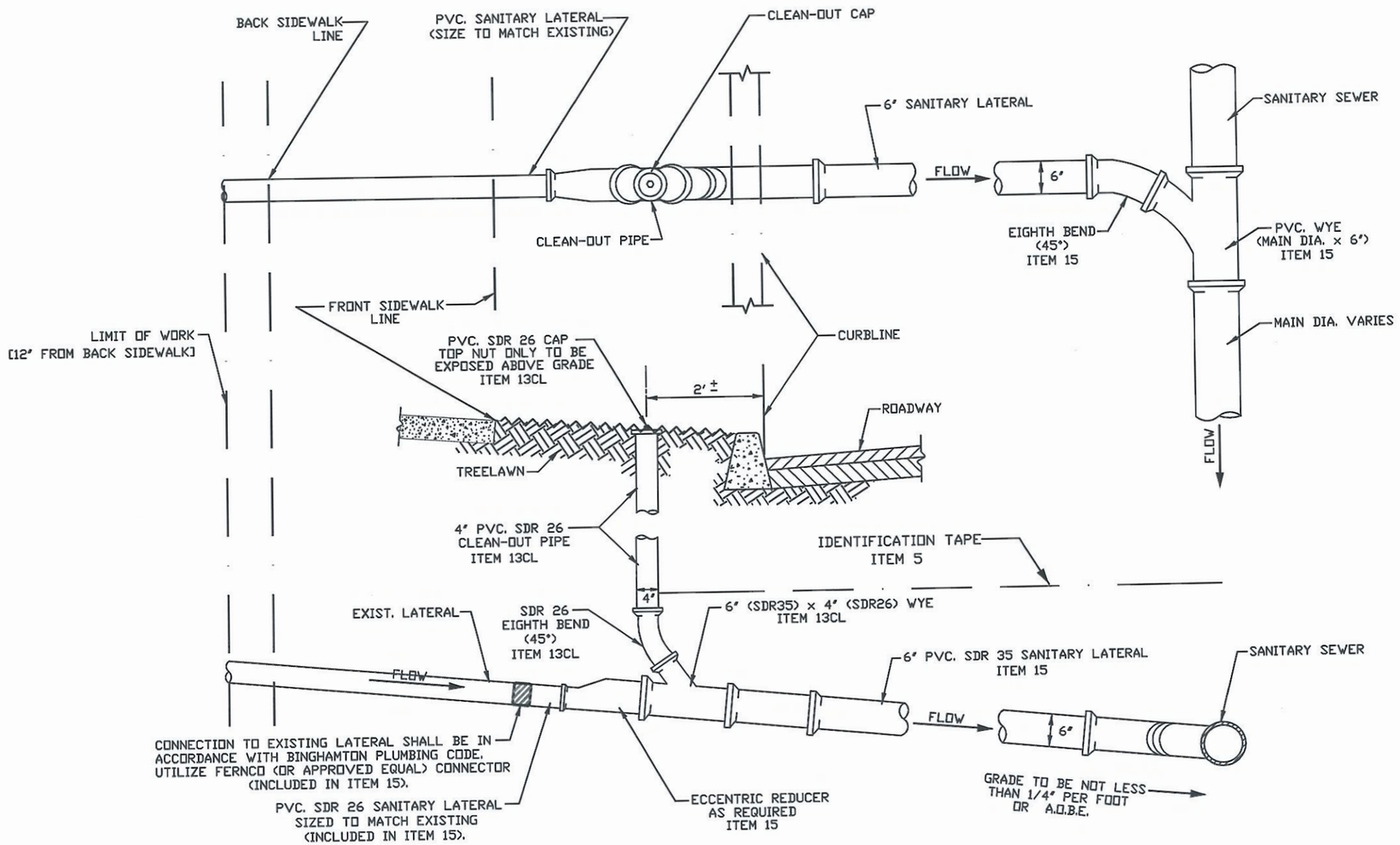
- **GO TO NEXT PAGE -**

SECTION TEN

DESIGN DETAILS FOR WATER AND SEWER SERVICES

City Hall ▪ 38 Hawley Street ▪ Binghamton NY 13901
www.cityofbinghamton.com ▪ PH: (607) 772-7004 ▪ FX: (607) 772-7162

- **GO TO NEXT PAGE -**

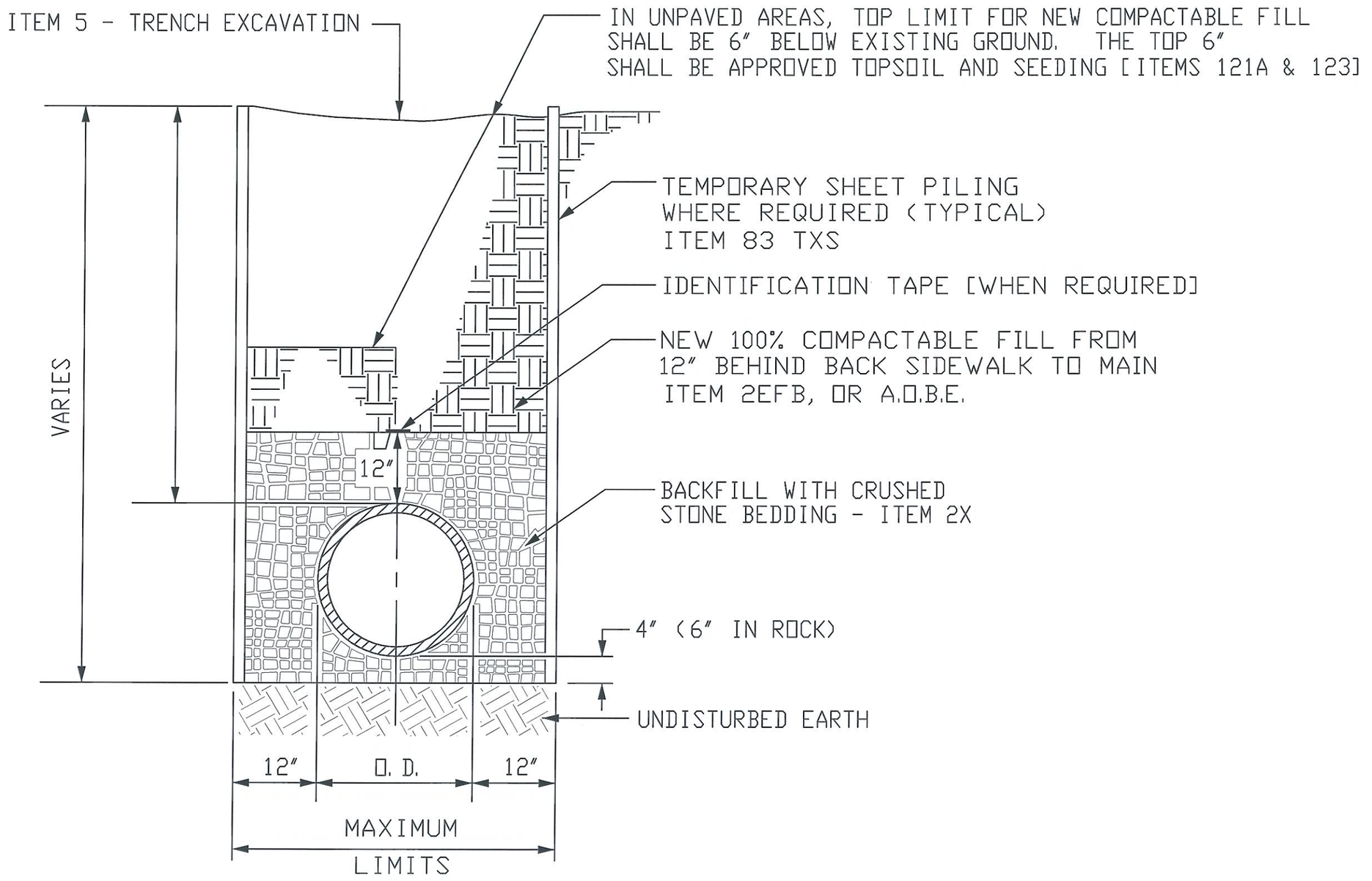


TYPICAL SANITARY SEWER LATERAL & CLEAN-OUT DETAIL

NOT TO SCALE

SANITARY SEWER LATERAL NOTES:

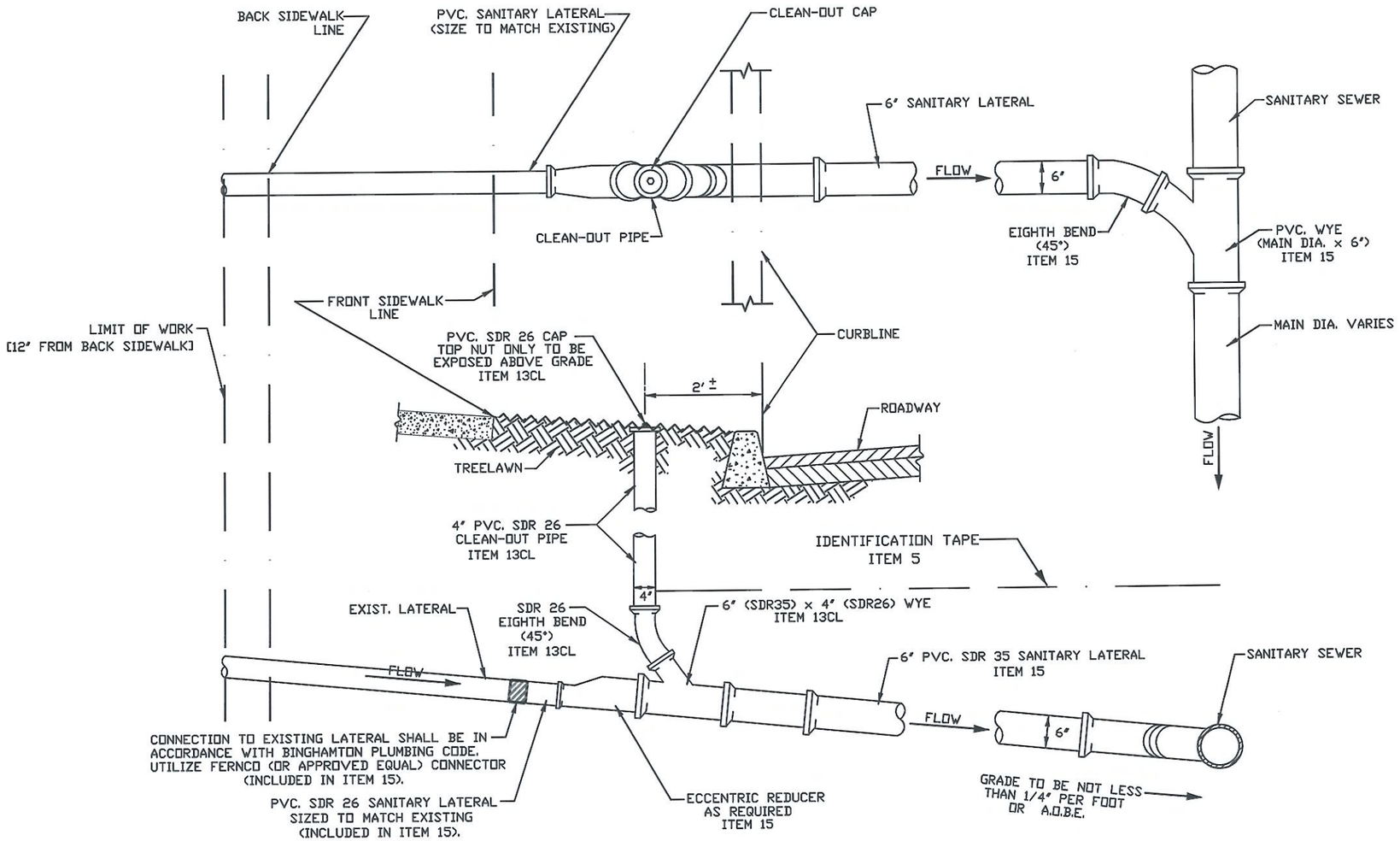
1. IN ACCORDANCE WITH CODE RULE 753, IT IS THE CONTRACTORS' RESPONSIBILITY TO LOCATE ALL EXISTING SANITARY SEWER LATERALS WHERE THE "TOLERANCE ZONE" OVERLAPS THE WORK AREA. CONTRACTOR SHALL ASSURE BY HAND DIGGING THAT THE TOP OF EACH LATERAL IS AT LEAST 18" BELOW THE LOWEST POINT OF HIS EXCAVATION. IF THIS IS NOT THE CASE, CONTRACTOR SHALL NOTIFY E.I.C. AND CONCRETE ENCASE OR REPLACE LATERAL A.O.B.E.
2. ANY EXISTING SANITARY SEWER LATERAL DAMAGED DUE TO CONTRACTOR NONCOMPLIANCE WITH CODE 753 OR THE PLANS AND SPECIFICATIONS SHALL BE REPLACED WITH PVC. PIPE FROM THE MAIN TO A POINT MIDWAY BETWEEN THE THE CURB AND SIDEWALK (OR A.O.B.E.), WHERE A NEW CLEAN-OUT SHALL BE INSTALLED. WORK SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.
3. WHERE SEWER MAINS ARE BEING REPLACED BY THE CONTRACTOR, HE SHALL ASSURE THAT ALL LATERALS (UNLESS CLEARLY ABANDONED) ARE CONNECTED TO THE NEW SEWER. IF AT LEAST ONE ACTIVE LATERAL IS NOT FOUND AT EACH PROPERTY, CONTRACTOR SHALL NOTIFY ENGINEER AND PROCEED AS DIRECTED. CONTRACTOR SHALL DETERMINE IF LATERALS ARE ACTIVE BY OBSERVING VISIBLE FLOW.
4. 100% NEW COMPACTABLE FILL FROM 12" BEHIND SIDEWALK TO MAIN.



DETAIL

EXCAVATION AND BACKFILL FOR PIPES UNDER 24" DIA. NOT UNDER PAVEMENT

NOT TO SCALE



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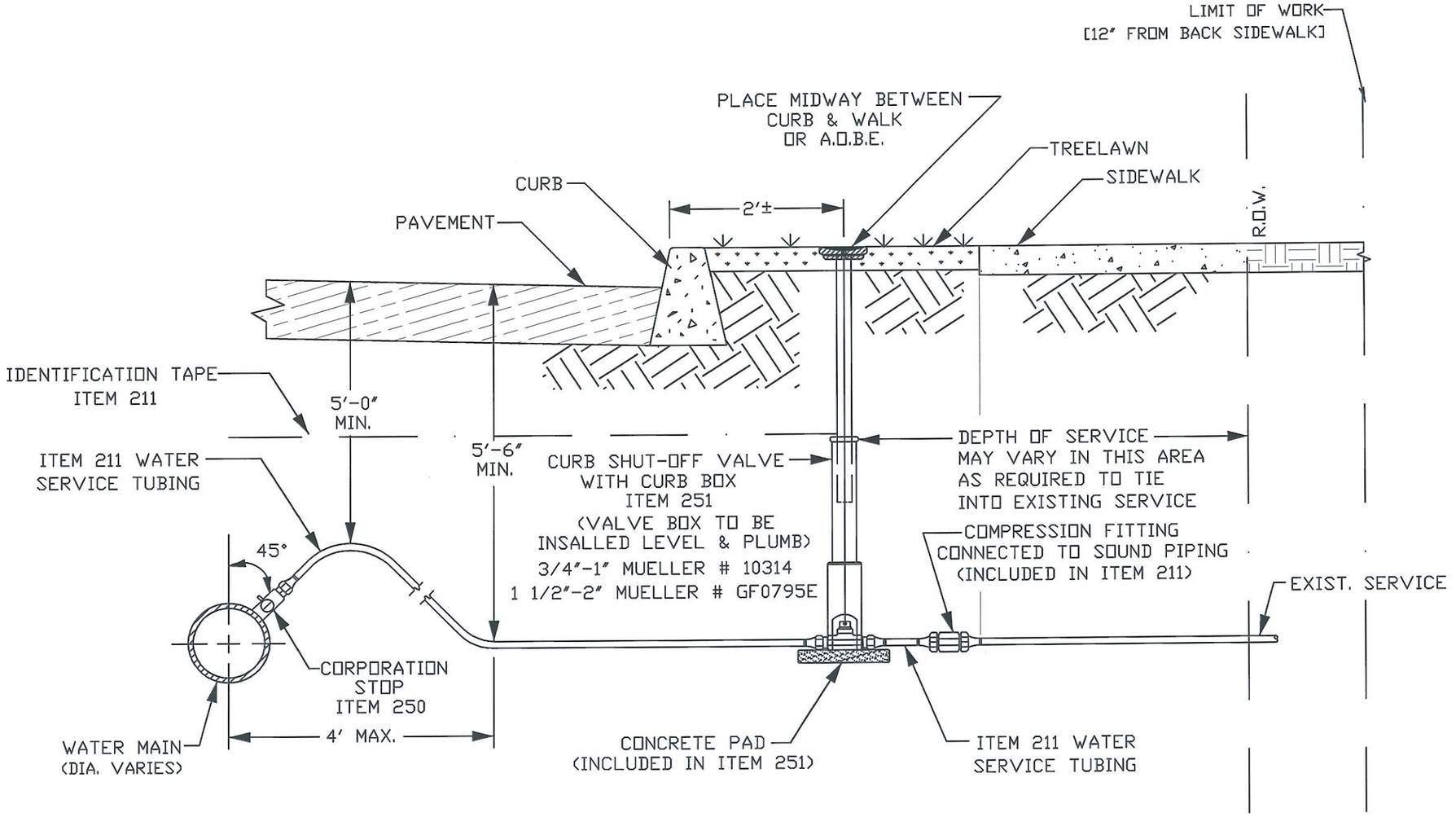
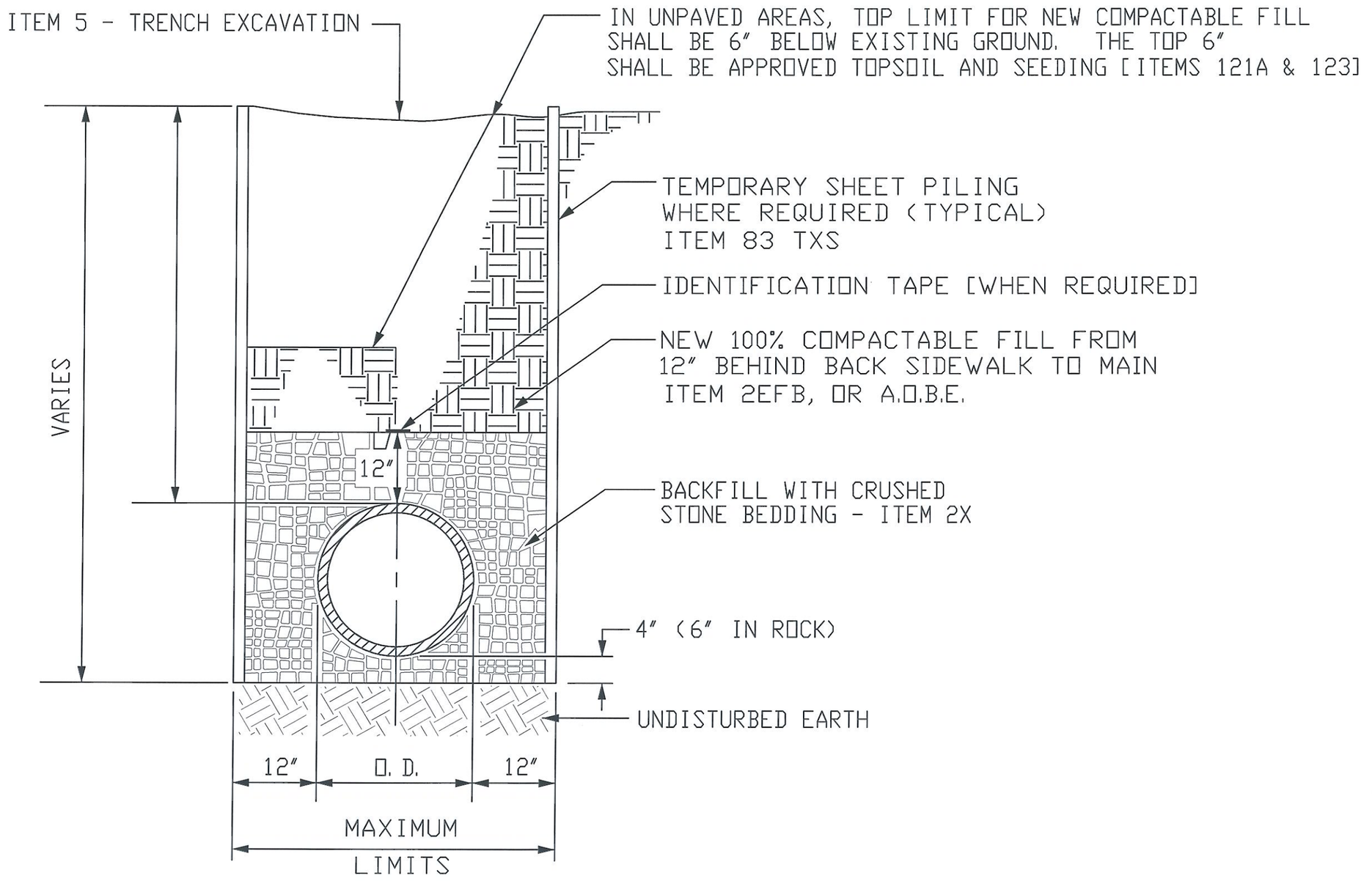


WATER SERVICE DETAIL

NOT TO SCALE

WATER SERVICE NOTES:

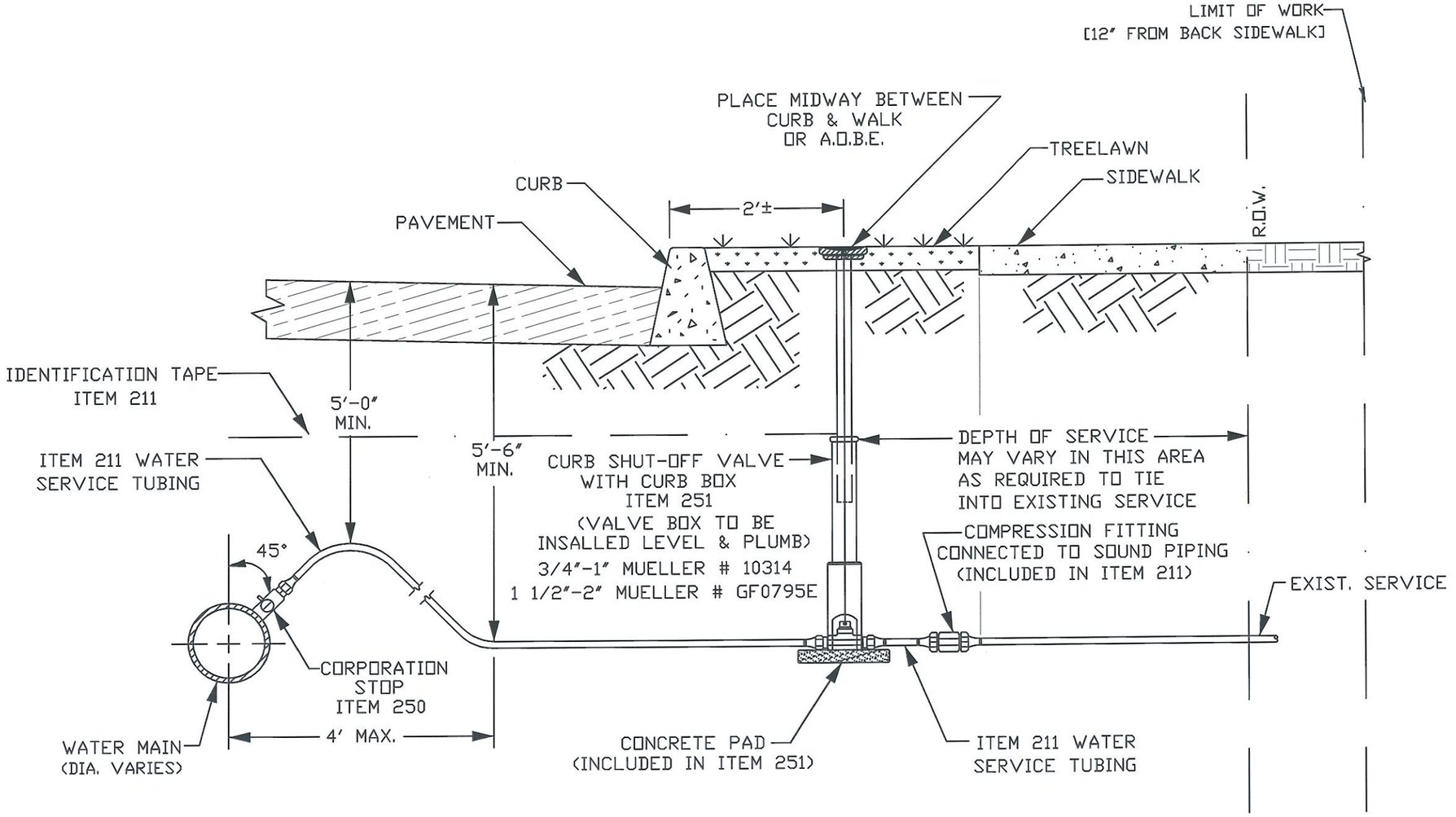
1. CONTRACTOR SHALL COMPLY WITH ALL CURRENT CITY OF BINGHAMTON WATER DEPARTMENT POLICIES FOR RECONNECTION OF EXISTING WATER SERVICES.
2. WATER SERVICE EXCAVATION MAY NEED TO BE LEFT OPEN AND GUARDED, OR PLATED, UNTIL WATER METERS ARE CHECKED AND SERVICES TESTED UNDER PRESSURE BY THE WATER DEPARTMENT.
3. IF OTHER UTILITIES ARE ENCOUNTERED DURING THE INSTALLATION OF THE WATER SERVICE THAT WILL AFFECT THE MINIMUM COVER, THEN THE CONTRACTOR IS TO NOTIFY THE INSPECTOR. THE WATER SERVICE SHALL BE INSTALLED UNDER THE UTILITY TO MAINTAIN MINIMUM COVER UNLESS OTHERWISE AUTHORIZED BY ENGINEER.
4. 100% NEW COMPACTABLE FILL FROM 12" BEHIND SIDEWALK TO MAIN.



DETAIL

EXCAVATION AND BACKFILL FOR PIPES UNDER 24" DIA. NOT UNDER PAVEMENT

NOT TO SCALE



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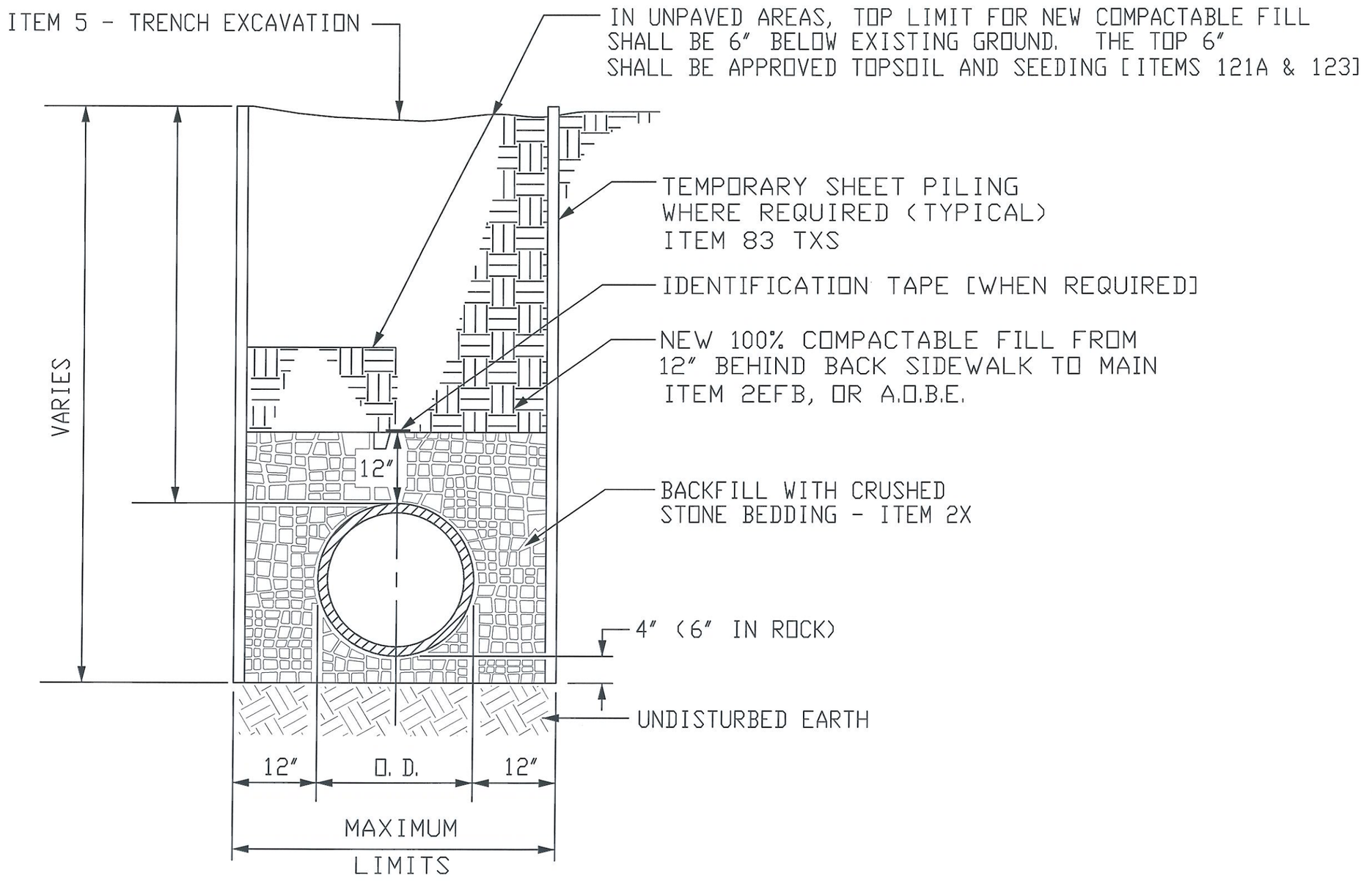

DETAIL

EXCAVATION AND BACKFILL FOR PIPES UNDER 24" DIA. NOT UNDER PAVEMENT

NOT TO SCALE

Richard David, Mayor

Christopher Schleider, Supervisor of Building Construction

SECTION ELEVEN

BACKFLOW PREVENTION

- **GO TO NEXT PAGE -**

DEPARTMENT OF PUBLIC WORKS
OFFICE OF BUILDING CONSTRUCTION
& CODE ENFORCEMENT

BACKFLOW APPLICATION

Richard David, Mayor
Thomas F. Costello, Supervisor

At: Applicant
Re: Application to Install Backflow Prevention Apparatus

Please be advised that Backflow Protection is required by NY State Plumbing Code, Section 608, and by municipal ordinance, Chapter 405.

For domestic, potable water systems in commercial buildings of all types, a Reduced Pressure Principle backflow prevention device is required.

For sprinkler systems that provide fire protection, a Double Check type backflow prevention device is required.

The application to for an installation permit should be completed by the applicant and transmitted to the following address:

City of Binghamton Water Department
25 Broome St
Binghamton NY 13903
At: Kevin Carr, Backflow Application

Submit four (4) copies of per application. Each application shall include the Application Form (attached); specification submittal for each device proposed for use; and a formal drawing, with design detail(s) for proper installation of device. Design documents shall be signed and stamped by a qualified, professional engineer. **Exception**: Design documents for devices that measure 2" or less do not require an Engineer's signature or stamp.

If you have any questions or require further information to complete this application, contact **Kevin Carr**, at the City of Binghamton Water Department. Mr. Carr may be reached in the following manner:

Office phone 607-772-7239
Cell phone 607-343-9626
Email kjcarr@cityofbinghamton.com

Note: Digital submissions are acceptable for this application

Thank you. Your cooperation is appreciated

Thomas P. Burke

Thomas Burke
Plumbing Inspector

- **GO TO NEXT PAGE -**

NEW YORK STATE DEPARTMENT OF HEALTH

Bureau of Public Water Supply Protection

Application for Approval of Backflow Prevention Devices

PRINT OR TYPE ALL ENTRIES EXCEPT SIGNATURES
Please completed items 1 through 12a + Block and Lot Numbers

Block #	Lot #	FOR DEPARTMENT USE ONLY Log No.

1. Name of Facility	2. City, Village, Town	3. County

4. Location of Facility (Street)	City	state	zip

4a. Phone Numbers	5. Contact Person

5. Approx. Location of Device(s)	6. Mfg. Model #	Size of Device(s)

# of Fire Services	# of Domestic Services	# of Combined Services	Total # of Services	Total # of Buildings

7. Name of Owner	Title	Phone Number	8. Nature of works
			☐ Initial Device Installation ☐ Replace Existing Device

Full Mailing Address
Address (street) _____
City _____ state _____ zip _____

8a.
☐ New Service
☐ Existing Service

Owner's Signature _____ Date ___/___/___ (M D Y)

8b.
☐ New Building
☐ Existing Building
☐ Major Renovations

9. Name of Design Engineer or Architect

Address (Street) _____
City _____
State _____ Zip _____

Signature _____

Original ink signature and seal required on all copies

10. NYS License # _____
☐ PE ☐ RA ☐ Other

10a. Telephone Number(s) _____

Date ___/___/___ (M D Y)

11. Water System Pressure (psi) at Point of Connection	12. Estimate Installation Cost	12a. Estimate Design Cost
Max _____ Avg _____ Min _____		

13. Degree of Hazard
☐ Hazardous
☐ Aesthetically Objectionable

List of processes or reasons that lead to degree of hazard checked:
_____
_____

14. Public water supply name

Mailing Address
_____ (street)
_____ (City) (state) (zip)

Telephone No. ( )

Name of supplier's designate representative

Title _____

Signature _____ ___/___/___ (M D Y)

Note: All applicants must be accompanied by plans, specifications and an engineer's report describing the project in detail. The project must first be submitted to the water supplier, who will forward it to the local public health engineer. This form must be prepared in quadruplicate with four copies of all plans, specifications and descriptive literature.

DOH-347 (5/91)

- **GO TO NEXT PAGE -**

Richard David, Mayor

Christopher Schleider, Supervisor of Building Construction

SECTION TWELVE

DEVELOPMENT IN THE FLOODPLAIN (SPECIAL FLOOD HAZARD AREAS)

- **GO TO NEXT PAGE -**

DEPARTMENT OF PUBLIC WORKS
OFFICE OF BUILDING CONSTRUCTION & CODE ENFORCEMENT

Richard David, Mayor **Christopher Schleider, Supervisor**

AT: Building Permit Applicant
RE: Development and Construction within Special Flood Hazard Areas

Effective immediately, all applicants for development are hereby strongly advised that any proposed design for new construction or, as appropriate, reconstruction should fully comply with standards for Flood Resistance in Flood Hazard Areas, by using the "Best Information Available" to identify the boundaries of Special Flood Hazard Area(s).

Under advisement, both the Office of Building Construction & Code Enforcement and the Planning Department for the City of Binghamton have determined that current, "Best Available Information", or "BAI", is provided by the Preliminary FIRM Map (2010), which is available on the GIS website of the Broome County Department of Planning.

This advisory recommendation is being made with the understanding that current ordinance and codes reference the officially adopted FIRM mapping as the compulsory standard for design and construction. Nevertheless, our recommendation is consistent with and supported by verbal advisory from FEMA and NYSDEC. Policies and procedures for development have been changed accordingly, as described below.

> *Going forward PHCD will be using the most current and available data in making flood plain development and permitting determinations. This data set currently consists of the 2010 preliminary FEMA Flood Insurance Rate Maps (DFIRMs) that were submitted to Broome County local officials February 1, 2010, after the 2006 flood and before the 2011 floods. According to the new maps, approximately 8,000 structures (for the County) are located in the flood zone. The flood zone includes Floodway and Special Flood Hazard Area (100 and 500 yr) and consequently, flood insurance for these owners will be required if the structures and properties have a federally regulated mortgage. We are looking into when we can expect the NFIP rates to go into effect for our community.*
>
> *PHCD determination is based on data indicating that our levees do not meet federal requirements for flood protection. Our floods and high water stages have increased over the years to within the freeboard restriction, which is set at three feet above the Base Flood Elevation. BFE is the one-hundred year flood level. This means that our levees no longer meet federal requirement. Structures and property behind our levees are now considered to be in a SFHA and will be required (sic) to meet Flood Damage Prevention requirements as outlined in Chapter 240 of our Code of Ordinances. This includes preparing and submitting a Floodplain development application in addition to a Series A Site Plan review application. -* ***Juliet Berling, Director of Planning***

Most urgently, this recommendation is based on legitimate concern that a project that is not designed on BAI may result in an adverse circumstance or outcome for the applicant, if or when new information is presented and adopted as the prevailing FIRM. At this time, the effect or consequence of NOT using BAI are unknown; however, this Office has received sufficient information to know that current Flood Hazard Area boundaries will change, in the future, and will most likely be more extensive than current limits.

If you have further questions, please contact this office at your earliest convenience. Thank you.

Christopher Schleider
Supervisor of Building Construction

- **GO TO NEXT PAGE -**

Department of Planning, Housing & Community Development

Mayor, Richard C. David
Director, Dr. Juliet Berling

City of Binghamton Floodplain Development Permit Application

§240-4 of the City of Binghamton Flood Damage Prevention Ordinance requires a development permit be obtained prior to the start of any construction or other development within the area of special flood hazard, as established in §240-3B. Local law must adhere to the minimum requirements set forth by NFIP and may be made more restrictive than NFIP, with process compliance and notification.

All applications must be approved by the Local Floodplain Administrator, the Planning Commission, prior to the issuance of a Floodplain Development permit and/or a Building permit.
All applications are subject to review by the Planning staff, Engineering staff, Building and Construction staff, as appropriate to the scope of proposed action and prior to that action being placed on the Planning Commission agenda. You will receive adequate notice prior to your Planning Commission appearance.
This application must be accompanied by the **REQUIRED $1,000 APPLICATION FEE**. A permit fee will be due and payable upon issuance of the floodplain development permit.

1) **GENERAL PROVISIONS** (to be read and signed by *the Applicant*)
   1. No work, within the scope of this action and this permit, may commence until a floodplain development permit is issued.
   2. The permit may be revoked if any false statements are made herein.
   3. If revoked, all work must cease until a permit is re-issued.
   4. Development shall not be used or occupied until the *Certificate of Compliance* is issued.
   5. The permit is invalid if no work, within the scope of this action and this permit, has commenced within six (6) months of issuance as determined by the Local Floodplain Administrator.
   6. The floodplain development permit expires two (2) years from the date of issuance.
   7. Applicant is hereby informed that other permits may be required to fulfill local, state and federal regulatory requirements.
   8. Applicant hereby gives consent to the Local Administrator or his/her representative to make reasonable inspections required to verify compliance.
   9. By signing below, I/we acknowledge that all information presented herein is true to the best of my/our knowledge. I/we further understand that any false information intentionally provided or omitted is grounds for the revocation of any variance.

Date: _____ _____
Applicant's Signature

Date: _____ _____
Property Owner's Signature (if different than Applicant)

APPLICANT INFORMATION

1. Property/Project Location Information

Address of Property: _____ Tax Map #: _____

Dimensions: Frontage_____ ft. Depth _____ft. Square Footage: _____sf.

Zoning District: _____

2. Applicant: _____

Address: _____
(Street) (City) (State) (Zip)

Telephone: _____ Email: _____

Applicant's relationship to property: ☐ Owner ☐ Contract Vendee ☐ Other _____

3. Property Owner: _____

Address: _____
(Street) (City) (State) (Zip)

Telephone: _____ Email: _____

4. Engineer/Architect: _____

Address: _____
(Street) (City) (State) (Zip)

Telephone: _____ Email: _____

5. Attorney: _____

Address: _____
(Street) (City) (State) (Zip)

Telephone: _____ Email: _____

2) PROPOSED DEVELOPMENT (to be completed by *THE APPLICANT*)

Description of Work:

Estimated Cost of Project:_____

STRUCTURAL DEVELOPMENT (please check ALL that apply)

PROPOSED ACTIVITY	STRUCTURE TYPE/USE
☐ New Structure	☐ Residential, 1-2 Family
☐ Addition	☐ Residential, multifamily
☐ Alteration	☐ Non-residential
☐ Relocation	☐ Mixed-Use
☐ Demolition	
☐ Replacement	

OTHER DEVELOPMENT ACTIVITIES

☐ Fill ☐ Mining ☐ Drilling ☐ Grading

☐ Excavation (unless for structural development, checked above)

☐ Watercourse alteration (including dredging and channel modification)

☐ Drainage improvement (including culvert work, stormwater control structure(s) or ponds)

☐ Subdivision (new or expansion)

☐ Individual water or sewer system

☐ Other_____

3) **DETERMINATION** (to be completed by the *LOCAL ADMINISTRATOR*)

The proposed development is located on FIRM Panel No._____, Dated_____

Given the location on FIRM, the proposed development has been determined to be:

☐ (1) Reasonably safe from flooding (entire property is in Zone B, C, or X).

☐ (2) adjacent to a flood prone area.

100-year flood elevation at the site is:

_____Ft. _____NGVD 1929/ _____NAVD 1988 (MSL) _____Unavailable

☐ (3) within or may be within flood prone area. **Continue to section 5.**

DETERMINED BY

LOCAL ADMINISTRATOR _____

SIGNED_____ DATE _____

4) ADDITIONAL REQUIRED INFORMATION

(Provided by *THE APPLICANT*, completed by the *LOCAL ADMINISTRATOR*)

The following documents must be submitted by the applicant prior to the processing of this application.

☐ Site Plan(s) showing the location of all existent structures, water bodies, adjacent roads, lot dimensions and proposed development.

☐ Development plans and specifications, drawn to scale. Including, but not limited to: anchoring structures, proposed elevation of the lowest floor, types of water resistant materials used below the first floor, details of floodproofing for utilities located below the first floor, details of enclosures below the first floor, openings in foundation entry/exit of floodwaters.

☐ Elevation certificate *(FEMA 81-31 or FEMA 81-65)*

☐ Subdivision or other development plans (if the subdivision/development exceeds one acre).

☐ Plans showing the watercourse location, proposed relocation, floodway location.

☐ Topographic information showing the existing and proposed grades of all proposed fill.

☐Top of new fill: _____Ft. _____NGVD 1929/ _____NAVD 1988 (MSL) _____Unavailable

☐ PE certification of soil compaction.

☐ Floodproofing protection level (non-residential only)_____NGVD 1929/ _____NAVD 1988 (MSL). For flood proofed structures, applicant must attach certification from a registered engineer/ architect.

☐ Other documentation: _____

5) PERMIT DETERMINATION (to be completed by the *LOCAL ADMINISTRATOR*)

The proposed activity has been determined to be:

A. In conformance ☐

B. Not in conformance ☐

with the provisions of Chapter 240 of the Code of the City of Binghamton, adopted in 1987 and all amendments. This permit is hereby issued subject to conditions attached to and made part of this permit.

DETERMINED BY

LOCAL ADMINISTRATOR _____

SIGNED_____ DATE _____

If the proposed activity is in conformance, box A of this section, the local administrator may issue a Development permit upon receipt of payment of the determined permitting fee.

If the proposed activity is not in conformance, box B of this section, the local administrator will provide a summary of deficiencies with the proposal. The applicant may revise and resubmit the application to the local administrator, or alternatively may request a hearing before the Zoning Board of Appeals.

APPEAL:

Appealed/will appeal to the ZBA? ☐ Yes ☐ No

Hearing Date: _____

Decision: ☐ Approved ☐Denied

Conditions:

6) AS-BUILT ELEVATIONS (to be submitted by *THE APPPLICANT*, prior to certificate issuance)

The following information is necessary for project structures. This section must be completed by a registered engineer, architect or land-surveyor. Complete either A or B below.

A. As-built elevation at the top of the lowest floor, including basement is:

_____Ft. _____NGVD 1929/ _____NAVD 1988 (MSL)

ATTACH FEMA Form 81-31, Elevation Certificate.

B. As-built elevation of floodproofing is:

_____Ft. _____NGVD 1929/ _____NAVD 1988 (MSL)

ATTACH FEMA Form 81-65, Elevation Certificate.

Engineer/Architect: _____

Signature: _____Date:_____

7) **COMPLIANCE ACTION** (carried out by the *LOCAL ADMINISTRATOR*)

The Local Administer will designate a representative that will carry out periodic inspections, in order to ensure compliance with local law for flood damage prevention.

INSPECTIONS:

DATE_____Representative:_____Deficiencies:_____

DATE_____Representative:_____Deficiencies:_____

DATE_____Representative:_____Deficiencies:_____

8) **CERTIFICATE OF COMPLIANCE** (to be completed by the *LOCAL ADMINISTRATOR*)

Certificate of Compliance issued: _____

BY, LOCAL ADMINISTRATOR _____

SIGNED_____ DATE _____