Changes from the 2003 IRC to the 2009 IRC

DISCLAIMER

- This program is based on the model codes only with no state amendments.
- I am using the Hogan Hero's disclaimer ***I KNOW NOTHING***
- In order to follow this program you need the book

EXPLANATION

- This program is based on the 2003 IRC updates to the 2009 IRC.
- This program is presented as an overview of the changes in no way is a detailed over view.
- The State amendments are still in process as I was putting this program together.

OBSERVATION

- Many of the changes are word changes that have different meanings as you will see as we go through this program.
- One of the changes was to expand sections into sub-sections and to relocate sections through out the book to one chapter.

CHAPTER 1-ADMINISTRATION

- **R101.2 Scope-** has added "above grade plane" when referencing height.
- **The exception to this is the new live/work in the IBC 419 that allows the structure to be built in accordance with the IRC as long as there is a NFPA 13 system.**

CHAPTER 1-ADMINISTRATION

- **R101.3-intent**-adds the following wording "provide safety to fire fighters and emergency responders during emergency operations"
- **R105.2-work exempt from permits-**allows decks less than 200 sq. ft. and less than 30 inches from grade not serving an exit to be exempt from permits.

CHAPTER 1-ADMINISTRATION

- **R106.1.1 Information on construction documents-** Allows the Inspector to require additional information, such as braced wall lines, bracing methods, location and size on the plans.
- **R108.6 Work commencing before permit issuance-** now allows you to charge a ***fee*** for starting work without a permit you will no longer need your town ordinance.

CHAPTER 2-DEFINITIONS

- **Accessory structure-** is now limited to 3,000 sq. ft. and not over 2 stories in height.
- **Attic, habitable-** allows additional habitable space that is not considered a story above grade based on the following:
- **Minimum 70 sq. ft. area.**
- **Ceiling height in accordance with R305**
- **Enclosed by roof assembly above, knee walls if applicable, and a floor/ceiling assembly below.**

CHAPTER 2- DEFINITIONS

- **Story above grade-** Where the ***finished floor*** above grades meets any of the following:
- More than 6 feet above grade plane
- More than 6 feet above finished ground level for more than 50% of building perimeter
- More than 12 feet above finished ground level at ***any point.***
- **Mezzanine, loft-** an existing section that effect living areas.

CHAPTER 2- DEFINITIONS

- **Hurricane prone regions-** areas vulnerable to hurricanes, such as the Atlantic Ocean (see R301.2.1.1 Design criteria)
- **Ridge-** "With respect to topographic wind effects, an elongated crest of a hill characterized by strong relief in two directions."
- **Causes wind speed up applies where there is historical data of damage.**

CHATER 3- BUILDING PLANNING

- **R301.2.1.1 Design Criteria-** high wind design is now 100 mph in hurricane prone regions and 110 mph elsewhere
- **NOTE THAT** ICC now has it's own standard for high wind design ICC-600 Standard for residential construction in high wind regions.

CHAPTER 3- BUILDING PLANNING

- **R301.2.1.2-Protection of Openings-** has added the garage door glazing in windborne debris regions
- **Must meet the and approved impact resisting standard or ANSI/DASMA 115.**
- **When looking at the exception for the panel it now requires the panels to be secured to the framing surrounding the glazed opening.**

CHAPTER 3-BUILDING PLANNING

- **R301.2.1.4 Exposure category-** Allows the exposure category for and individual structure to be based on the site conditions that will exist when all structures on site have been constructed as long as construction has been started within one year.

CHAPTER 3-BUILDING PLANNING

- **R301.2.1.5 Topographic wind effects-** having historical data documenting structural damage caused by wind speed-up meeting the following:
- Average slope top half is 10% or greater
- 60 Ft. or greater in height for Exposure B, 30 Ft. for C, 15 for D.
- Isolated or unobstructed by other topographic.

CHAPTER 3- Building planning

- **R301.2.1.5.1 Simplified topographic wind speedup methods-** same as the following slide except designer can use the table to determine wind speed increases.
- 10% slope 90 to 100mph
- 15% slope 90 to 110 mph
- 20% slope 90 to 120 mph.
- So as you can see even though there might not be 120mph winds in CT. this could still require design to 120 mph.

CHAPTER 3 BUILDING PLANNING

- **Table R301.5 Minimum uniformly distributed live loads-** New 30lbs. Live load for habitable attics.
- **Change-** Exterior balconies and decks are now 40 lbs. live load were 2003 had balconies at 60 lbs. live load

CHAPTER 3- BUILDING PLANNING

- **Table R301.5 footnote g-** limited attic storage with trusses has additional live load for bottom cord of trusses with the following:
- **Dimensional criteria rectangle 42" high x 24" wide**
- **Access to attic**
- **Bottom cord is less than 2:12**
- **And insulation depth is lower than bottom cord**
- **The bottom cord can be designed for the actual imposed load or 10 lbs. of uniform dead load.**

CHAPTER 3- BUIULDING PLANNING

- **Section 302 Fire Resistance Construction-** This is a complete new section made up of the following, exterior wall requirements, townhouse separating wall requirements, 2 family separation requirements, garage opening protection, penetration, fire blocking, draft stopping and interior finish requirements.

CHAPTER 3- BUILDING PLANNING

- **R302.1 Exterior walls & Table 302.1 Exterior Walls-** The minimum fire separation distance has been changed from 2003 IRC of 3' to the 2009 of 5'
- **R302.2 Townhouses-** The common wall rating has been reduced to one hour must be rated from both sides with no electrical, mechanical or plumbing in the wall.

CHAPTER 3 – BUILDING PLANNING

- **R302.3 Two-family dwellings-** Exception #2 allows the one hour dwelling separation to extend to the ceiling where there is 5/8" type x gypsum, the attic is draft stopped along the separation wall and all structure supporting the ceiling is protected by ½" gypsum board.

CHAPTER 3 – BUILDING PLANNING

- **R302.4.1 Through penetrations-** Through penetrations in concrete or masonry walls or ceilings allows concrete, grout or mortar for the full thickness as long as the maximum diameter is 6 inches or the area of the opening is 144 sq. inches or less. This applies only to steel, copper or ferrous metal tubing or conduit.

CHAPTER 3 – BUILDING PLANNING

- **R303.7 Required glazed openings-** allows the openings to face roofed porches if 65% unobstructed, or face under decks, balconies or cantilevers as long as there is a 36" headroom.

CHAPTER 3 – BUILDING PLANNING

- **R308.1 Identification-** last sentence " a label ***shall*** be permitted in lieu of the manufactures designation.
- **R308.4 Hazardous locations-** This section has been rewritten but contains the same general requirements just better defined.

CHAPTER 3 – BUILDING PLANNING

- **R310.1 EMERGENCY ESCAPE AND RESCUE REQUIRED-** Here they have added the requirement for emergency openings in habitable attics as well as all basements unless the basement is 200 sq. ft. or less and used only for mechanical equipment.
- **A bulkhead can still be counted also the window can be under the deck or porch with a clear opening of 36"**

CHAPTER 3 – BUILDING PLANNING

- **R311.2 Egress Door-** still requires only one egress door the change is in the description. "The door shall provide a minimum clear width of 32" when measured between the face of the door and the stop with the door open 90%. The minimum clear height of the door opening shall not be less than 78" in height measured from the top of the threshold to the bottom of the stop. This will also effect the width of landings as they are only required to be the width of the door.

CHAPTER 3 – BUILDING PLANNING

- **R311.8.1 Maximum slope-** Ramp slope has been changed from 1:8 to 1:12 unless there are site restraints then 1:8 allowed.
- **R312.1 Where required-** now requires the 30" to grade be taken within 36" horizontally to determine if guards are required.

CHAPTER 3 – BUILDING PLANNING

- **R312.2 Height-** Now requires the height of the guard rails to be measured not only form the adjacent walking surface as well as adjacent fixed seating.

CHAPTER 3 – BUILDING PLANNING

- **R313 Automatic Fire Sprinkler Systems-**Is a completely new section that will require sprinkler systems in all new townhouses and detached one-and two-family dwellings. If adopted additions and renovations will not be required and the system must be installed to NFPA 13D or the requirements in section P2904

Chapter 3 – Building Planning

- **R314.1 Smoke detection and notification-** Adds the requirement for all smoke detectors to be listed in accordance with UL 217
- **R314.2 Smoke detection systems-** Permits an NFPA 72 household fire alarm system with smoke detection as an equivalent to smoke detectors.

CHAPTER 3 – BUILDING PLANNING

- **R321 Elevators and Platform lifts-** Provides the ASME A17.1 standard for elevators and the ASME A18.1 for lifts if installed. (Those that are part of a required accessible route must comply with chapter 11 of the IBC)
- **R323 Storm Shelters-** Provides a reference to ICC/NSSA-500 for detached storm shelters or safe rooms if they chose to install not required.

CHAPTER 4 - FOUNDATIONS

- **R401.3 Drainage-** The exception requires all impervious surfaces, such as driveways, walks, patios, etc. within the 10 foot requirement shall be sloped a minimum of 2% away from the foundation.

CHAPTER 4 - FOUNDATIONS

- **R401.4 Soil tests-** Here is where some of the interesting wording is used.
- **2003 IRC** In areas likely to have expansive, compressible, shifting or other unknown soil characteristics.
- **2009 IRC** Where quantifiable data created by accepted soil science methodologies indicate

CHAPTER 4 - FOUNDATIONS

- **R403.4 Footings for precast concrete foundations-** This section references the requirements for the footings as well as a new table to determine minimum depth of crushed stone footings and the requirements for concrete footings if used.
- **Note stone footings are only allowed in seismic design categories A, B, and C.**

CHAPTER 4 - FOUNDATIONS

R404.1.2.2 Reinforcement for foundation walls- There are now a number of tables related to foundation walls do not assume all walls do not need reinforcement **the tables deal with the amount of unbalanced fill.** All walls will require horizontal reinforcement . This is a section you must read and then read again.

CHAPTER 4 - FOUNDATIONS

- **R405.1 Foundation drainage-** requires perforated drainage piping installed below the base of the wall, on the interior or exterior, one foot beyond edge of the wall.
- **R406 Foundation waterproofing and damp proofing-** has added the following systems sixty-mil flexible polymer cement, one-eight inch cement-based, fiber-reinforced, water proof coating and sixty-mil solvent-free liquid-applied synthetic rubber

CHAPTER 4 - FIUNDATIONS

- **R406.4 Precast concrete foundation system damp proofing-** Allows damp proofing unless there is a high water table or other severe soil-water condition.
- **Note** If water proofing required all joints must be sealed full height.

CHAPTER 4 - FOUNDATIONS

- **R408.1 Ventilation-** ground surface covered with class 1 vapor retarder minimum net area of opening not less than 1 sq. ft. for each 1,500 sq. ft.
- **R408.6 Flood resistance-**Finished ground level of under-floor space must be equal to or higher than the outside finished ground level on at least one side.

CHAPTER 5 - FLOORS

- **R502.1.6 Structural log members-** Structural logs members of non rectangular shapes must be in accordance with ASTM D3957. Identified by grade mark, or no grade mark certificate of inspection.

CHAPTER 5 -FLOORS

- **R502.2.2 Decks-** Deck ledger connection to band joist requires ½" lags or bolts placed 2" from bottom or top, 2 to 5" from ends and staggered top to bottom. The fasteners must be installed to Table R502.2.2.1 or accepted engineering, girders shall not be supported on ledgers or band joist, ledgers shall not be supported on stone or masonry veneer. There must be a minimum of two lateral load connection for each deck.

CHAPTER 5 - FLOORS

- **R502.7 Lateral restraint supports-** Has added and exception for trusses, structural composite lumber, structural glue-laminated members and I-joist to be lateral supported in accordance with manufactures specifications.
- **R502.7.1 Bridging-** Has added the same exception

CHAPTER 5 - FLOORS

- **R505.1.1 Applicability limits-** Width parallel to joist spans now 40 ft. *was 36ft,* stories now states less than or equal to three stories above grade plan, *was not greater than two stories.*
- **R505.1.3 Floor joist-** cold form steel trusses must be designed and braced in accordance with AISI S100,section D4. no notching, cutting or altering without and approved design.

CHAPTER 5 - FLOORS

- **R506.2.3 Vapor retarder-** The two new exceptions are as follows:
- Detached garages, utility buildings, and unheated accessory structures.
- Unheated storage areas od less than 70 sq. ft. and carports.

CHAPTER 6 – WALL CONSTRUCTION

- **R506.2.3 Vapor retarder-** completely rewritten with table for class III vapor retarders. In reviewing this new section it is important to read the definition of vapor retarder class.
- Class I- Sheet polyethylene, unperforated aluminum foil.
- Class II- Kraft-faced fiberglass batts.
- Class III- Latex or enamel paint.

CHAPTER 6 – WALL CONSTRUCTION

- **R602.10 Wall bracing-** The exception for seismic bracing is 1&2 family dwelling in Seismic Design Category C not required still need to meet wind requirements. According to the map only the southwest tip of CT is in the C the rest is in B. Mixing of brace wall methods is allowed.

CHAPTER 6 WALL CONSTRUCTION

- **R602.10.2 Intermittent braced wall panel construction-** Refers to table R602.10.2 for the methods of wall bracing. The table gives you 11 methods, they are now longer # they now have abbreviations. Minimum length if intermittent bracing is 48 to 96”. There are now three alternative brace wall methods that can be substituted on a one for one basis.

CHAPTER 6 – WALL CONSTRUCTION

R610.10.4.1 Continuous sheathing braced wall panels- Allows continuous sheathing for brace wall panels as long as the braced wall is constructed in accordance with table R602.10.4.1. The three methods are:

CS-WSP- wood structural panels

CS-G- wood structural panels adjacent to garage openings and supporting roof load only (see foot notes)

CS-PF- continuous portal frame

CHAPTER 6 – WALL CONSTRUCTION

- **R611 Exterior concrete wall construction-** Now covers above-grade concrete exterior walls with removable and stay in place forms. Including requirements for dimensional criteria, strength, reinforcing, anchor bolts, wind bracing, lintels, floor and roof anchorage and more.

CHAPTER 6 – WALL CONSTRUCTION

- **R612.2 Window sills-** Dwelling unit windows with the sill more than 72” above exterior grade must have the lowest part of the opening a minimum of 24” above finished floor or the operable parts cannot allow the passage of a 4”sphere.
- **Exception-** windows with fall prevention devices or window opening limiting devices normally allowing 4” maximum opening but with emergency escape release.

CHAPTER 7 WALL COVERING

R702.2.2 Cement plaster- list of standards for the plaster. Installed to ASTM C1063. 24 hours between each coat. 3 coats over metal lath required, 2 coats over permitted bases.

R702.3.7 Horizontal gypsum board diaphragm ceilings- permits gypsum board on wood joist to create the diaphragm which transmits the lateral forces to vertical resisting elements. Table R702.3.7 gives the construction requirements and shear values.

CHAPTER 7 WALL COVERING

- **R702.4.2 Fiber cement, fiber mat reinforced cement, glass mat gypsum backers and fiber reinforced gypsum backers-** are all materials that are allowed under ceramic tile. Water resistant gypsum board no longer allowed.
- **R703.2 Water-resistive barrier-** All sidings now require a water resistive barrier such as 15# felt or other approved barrier.

CHAPTER 7 – WALL COVERING

- **R703.7.3 Lintels-** steel lintels must be shop coated with rust-inhibitive paint unless corrosion resistant or treated.
- **R703.11 Vinyl siding-** new section with requirements for vinyl siding and accessories including requirements based on wind speed and exposure.

CHAPTER 8 – ROOF/CEILING CONSTRUCTION

- **R802.3.1 Ceiling joist and rafter connections-** revised to include information for when ceiling joist are raised above the wall plate such as floor joist running opposite of rafters. Joists must be installed as rafter ties as close as possible to the ceiling joist or the use of a structural ridge can be used. Collar ties or ridge straps to resist wind uplift must be in the upper 1/3 of the attic space.

CHAPTER 8 – ROOF/CEILING CONSTRUCTION

- **R806.4 Unvented attic assemblies-** Provides for unvented attics with special conditions.

Within the thermal envelope

No vapor retarder in attic floor

Vented air space at wood shingles or shakes

Vapor retarder at underside od insulation

Special insulation requirements based on air-permeable or air-impermeable.

CHAPTER 8 – ROOF/CEILING CONSTRUCTION

- **R807.1 Attic access-** 30” clear height measured from the top of ceiling joist to bottom of rafter. Now allows location in a wall as long as the opening is a minimum of 22x30.
- **The section also references M1305.1.3 for access requirements where mechanical equipment is located in attics.**

CHAPTER 9 – ROOF ASSEMBLIES

- **R905.2.4.1 Wind resistance of asphalt shingles-** tested to ASTM D7158 and must meet the classification requirements of Table R905.2.4(1)
- Table for ASTM D1758
- 90 mph=D,G or H, 100, 110 and 120 mph=G or H
- Table for ASTM D3161
- 90 & 100= A,D, or F, 110 & 120= F
- ASTM D1758 sealed shingles ASTM D3161 unsealed shingles

CHAPTER 9 – ROOF ASSEMBLIES

- **R905.2.7.1 Ice Barrier-** now determines the requirement based on historical data.
- "In areas where there has been a history of ice forming along the eaves causing a backup of water as designated in table R301.2(1)
- **R905.8.6 Application-** has changed the spacing between shakes and tapered shakes to be 3/8" to 5/8"

CHAPTER 10 CHIMNEYS AND FIREPLACES

- **Chapter 10-** has been reorganized to put masonry fireplaces first, then heaters, chimneys, factory-built units and air supply. There are additional requirements for masonry heaters for clearances.
- **R1001.8 Smoke chamber-** The parging must be ASTM C199 refractory cement

CHAPTER 11 – Energy EFFICIENCY

- **N1101.2 Compliance-** Allows the use of either the now adopted 2009 International Energy Conservation or this chapter.
- **N1101.8 Above code programs-** Allows the BO to deem national, state or local energy efficiency programs to exceed this chapter. Must be in writing
- **This may include LEEDS, energy star and the likes.**

CHAPTER 11 – ENEREGY EFFICIENCY

- **N1101.9 Certificate-** requires a permanent certificate on or in the electrical panel, can't obstruct the circuit labeling, must be completed by the builder or design professional, list R-values including ducts, u-factors, and solar heat gain, plus the types and efficiency of heating, cooling and service water heating equipment

CHAPTER 11 – ENERGY EFFICIENCY

- **N1102 Building thermal envelope-** Table N1102.1 is the new prescriptive approach, CT is now in one climate zone 5, establishes the general requirements for components and fenestrations, allows 3 forms of compliance.
- R-value computation
- U-factor alternative or
- total UA alternative

CHAPTER 11 – ENERGY EFFICIENCY

- **N1102.2 Specific insulation requirements-** allows ceilings with attic space to reduce from R-38 to R-30 if not compressed as it extends over top plate at eaves.
- This reduction is not allowed to be used with the U-factor or UA-alternative method.

CHAPTER 11 – ENERGY EFFICIENCY

- **N1102.2.4 Mass walls-** Has been simplified, read definition of mass wall, use table N1102.1 for the R-values. Exception K explains the second R-value applies when more than 50% of the insulation is interior.
- **N1102.2.11 Thermally isolated sunroom insulation-** CT. will require R-24 in ceilings, R-13 in walls. The separation wall must meet building thermal envelope requirements.

CHAPTER 11 – ENERGY EFFICIENCY

- **N1102.3.3 Glazed fenestration exemption-** 2003 IRC allowed up to 1% of the total glazing area from U-factor requirements, the 2009 IRC states up to 15 sq. ft.
  This exemption can not be used with the U-factor or UA- alternative methods.

CHAPTER 11 – ENERGY EFFICIENCY

- **N1102.4 Air leakage-** 12 areas that must be sealed to limit infiltration, two forms of compliance. 1) blower door test with specific requirements, 2) A visual inspection of the 12 items, allows BO to approved independent party, Table N1102.4.2 gives the inspector the criteria for air barrier and insulation inspection.

CHAPTER 11 – ENERGY EFFICIENCY

- **N1102.4.3 Fireplaces-** "wood burning fireplaces shall have gasketed doors and outside combustion air.
- **N1102.4.5 Recessed lighting-** this section has eliminated the gypsum box around the fixture.
- **N1103.1.1 Programmable thermostat-** requires forced air furnace systems to have at least one programmable thermostat per dwelling.

CHAPTER 11 – ENERGY EFFICIENCY

- **N1103.2.1 Insulation-** requires supply ducts in attics have a minimum of R-8 all others R-6, exception for ducts within the thermal envelope.
- **N1103.2.2 Sealing-** duct tightness verified by 2 methods. 1) post construction test, 2) rough in test.

CHAPTER 11 – ENERGY EFFICIENCY

- **N1103.3 Mechanical system piping insulation-** Minimum R-3 pipe insulation.
- **N1103.4 Circulating hot water systems-** requires minimum of R-2 pipe insulation as will as either an automatic or readily accessible manual switch to turn of the circulating pump when not in use.
- **N1104.1 Lighting equipment-** 50% of all permanent lighting fixtures require high-efficiency lamps.

CHAPTER 13 – GENERAL MECHANICAL SYSTEM REQUIREMENTS

- **M1302.1 Listed and labeled-** appliances must be listed and labeled for the application they are installed.
- **M1305.1.3 Appliances in the Attics-** new exception permits 50' long access when unobstructed and at least 6' high by 22"wide.

CHAPTER 13 – GENERAL MECHANICAL SYSTEM REQUIREMENTS

- **M1305.1.4.1 Ground clearance-** requires the slab or other approved material to be 3" above grade.
- **M1307.3.1 Protection form impact-** appliances in locations subject to vehicular damage must be protected by approved barriers. (this will include garages, carports, etc.)

CHAPTER 14 – HEATING AND COOLING

- **M1411.3.1 Auxiliary and secondary drain system-** adds a 4th method of a water level device that shuts the equipment off when the primary drain is blocked.
- **M1411.5 Auxiliary drain pan-** applies to category 4 condensing appliances that create condensate from combustion fuel.

CHAPTER 15 – EXHAUST SYSTEMS

- **M1502 Clothes dryer exhaust-** rewritten and expanded, there is new information on termination, material, installation, length, and protection. Ducts must be installed where there is dryer space.
- **M1503.4 Makeup air required.-** now requires make up air for exhaust hoods in excess of 400 CFM starts simultaneously with exhaust.

CHAPTER 16 – DUCT SYSTEMS

- **M1601.3 Duct insulation materials-** allows polyurethane spray foam, flame spread 25 smoke development 450, protected in accordance with R316, installed thickness given to owner at time of install.
- **M1601.5 Under-floor plenums-** no longer allowed in new construction and modifications or repairs to existing must comply with this section.

CHAPTER 17 – COMBUSTION AIR

- **M1701.1 Scope-** All new with reference to NFPA 31-2006.
- **M1701.2 Opening locations-** requires that combustion air openings must be located above design flood elevation. (you think)

CHAPTER 21 – HYDRONIC PIPING

- **M2103 Floor heating system-** radiant heat for slabs must have R-5 insulation under piping, R-11 in the floor, thermal break at slab to foundation and 2 new pipe joints for PE, socket-type heat-fused and PEX, cold expansion insert or compression fittings.

CHAPTER 22 – SPECIAL PIPING AND STORAGE

- **M2201.2 Above ground tanks-** allows more than 660 gals. Of fuel oil above ground or inside a building in compliance with NFPA 31
- **M2201.7 Tank abandoned or removed-** requires abandonment and removal of fuel oil tanks in accordance with IFC and the removal of all exterior above-grade piping.

CHAPTER 24 FUEL GAS

- **G2411.1.1 CSST-** now requires the bonding to take place where the gas service enters the building.
- **G2414.6 Plastic pipe, tubing and fittings-** This section no longer states for outside use only, it simply says to supply gas.
- **G2415.4 Underground penetration-** no longer allowed must enter and exit above grade

CHAPTER 24 – FUEL GAS

- **G2421.3.1 Venting piping-** the regulator vent piping shall not exceed the manufactures specified length.
- **G2427.5.5.1 Chimney lining-** Now requires chimneys to be lined in accordance with NFPA 211 not chapter 10

CHAPTER 24 – FUEL GAS

- **G2427.10.4.1 Two or more openings-** how allows the openings to be opposite of each other as long as the connectors are at a 45 degree angle and the angle shall not cause restrictions.
- **G2428.3.9.1 Tee and Wye fittings-** considered part of the common vent, must be of the same material.

CHAPTER 24 – FUEL GAS

- **G2447.5 Vertical clearance above cooking top-** requires 30" from top to combustible unless it can meet one of three requirements:
- **The underside protected with 1 ¼" insulating millboard covered with sheet metal.**
- **A metal ventilating hood with a ¼" clearance or**
- **A listed cooking appliance or microwave oven installed to manufactures specification, then the clearance is 24".**

CHAPTER 25 – PLUMBING ADMINISTRATION

- **P2503.6 Shower liner test-** now requires liners to be tested with a minimum of 2" of standing water at the Threshold. If no Threshold a temp. must be installed to test.

CHAPTER 27 – PLUMBING FIXTURES

- **P 2703.6 General-** allows for a 25" dimension in a shower as long as the compartment has 1,300 sq. ins.
- **P2708.1.1 Access-** allows a clear and unobstructed opening the minimum width being 22".
- **P2713.3 Bathtub and whirlpool bathtub-** maximum temperature 120 degrees, ASSE 1070 device

CHAPTER 27 – PLUMBING FIXTURES

- **P2720.1 Access to pump-** requires a 12x12 access to the pump. If the pump is 2" from access opening the opening must be 18x18 or manufactures requirements.
- **P2721.2 Bidet water temperature-** limited to 110 degrees by use of an ASSE 1070 device.

CHAPTER 28 WATER HEATERS

- **P2801.3 Location-** references M1305 for additional requirements for level working space in front, minimum width for access and removal, support on ground and illumination for service.
- **P2803.7 Vacuum relief valve-** bottom fed water heaters and tanks will require vacuum relief valve complying with ANSI Z21.22

CHAPTER 29 WATER SUPPLY AND DISTRIBUTION

- **P2904 Dwelling unit Fire Sprinkler systems-** It is important to realize that P2904 applies to stand alone and multipurpose ***wet***-pipe systems P2904 can't be used with anti-freeze systems or dry systems.

CHAPTER 30 – SANITARY DRAINAGE

- **P3007 Sumps and ejectors-** other that existing buildings sumps shall not receive drainage form gravity piping. Sumps and ejectors handling waste from water closets must pass a 2: solid and all others must pas a 1” solid.

CHAPTER 33 STORM DRAINAGE

- A NEW CHAPTER WITH REQUIREMENTS FOR SUBSOIL DRAINS, INCLUDING STANDARDS FOR PIPE, AND REQUIREMENTS FOR SUMPS AND PUMPING SYSTEMS THAT ARE PART OF THE STORM DRAINAGE

CHAPTER 34-36 – GENERAL REQUIREMENTS/SERVICES

- **E3405.4 Location of working space and equipment-** can’t install panel board or over current protection devices over stairs.
- **E3608.1.5 Plate electrodes-** allows a 2 sq. ft. plate electrode not less than 30” below grade as an alternative to rod & pipe

CHAPTER 37 – Branch circuit and feeder requirements

- **E3705.4.4-Conductors of type NM cable-** requires adjustment factor of table E3705.3 for 3 or more NM cables in same hole of wood framing sealed or 3 NM cables in contact with insulation without maintaining spacing.

CHAPTER 38 WIRING METHODS

- **E3802.4 In unfinished basements and crawl spaces-** Allows NM and SE cable to be run in listed conduit or tubing on walls, requires insulated bushings and cable to be secured within 12” of conduit or tubing.
- **E3802.6 Raceways exposed to different temperatures-** must fill with approved material to prevent passage of warm to cold.

CHAPPTER 39 – POWER AND LIGHTING DISTRIBUTION

- **E3901.4 Counter top receptacles-** has added the following areas; pantries, breakfast rooms, and similar areas. Also if the area behind a range, counter-mounted cooking unit or sink is less than 12” in a peninsular or island it is considered to areas each requiring a receptacle.

CHAPTER 39 – POWER AND LIGHTING DISTRIBUTION

- **E3901.6 Bathroom-** allows the required receptacle to be installed on the side of the cabinet within 12” of the top of the counter.
- **E3901.7 outdoor outlets-** balconies ,decks and porches, 20 Sq. Ft. or larger that are accessible form inside, requires an outlet maximum of 6’6’’ above the floor.

CHAPTER 39 - POWER AND LIGHTING DISTRIBUTION

- **E3902.2 Garage and accessory building receptacles-** the exception for 2 appliances in place and readily accessible have been removed.
- **E3902.7 Laundry, utility and bar sink receptacles-** outlets within 6’ of laundry and utility sinks must be GFCI protected.

CHAPTER 39- POWER AND LIGHTING DISTRIBUTION

- **E3902.11 Arc-fault circuit-interrupter protection-** branch circuits serving all habitable spaces, closets and halls. (important to read the 2 exceptions)
- **E39005.9 Boxes at fan outlets-** recognizes boxes specially made to support fans up to 70lbs. Must be marked for that purpose.

CHAPTER 40 – DEVICES AND LUMINARIES

- **E4003.11 Bathtub and shower areas-** luminaries above tub or shower within 8' vertically of rim must be listed for damp location-if subject to spray must be listed for wet location.
- **E4003.12 Luminaires in cloths closets-** treats LED lighting the same as incandescent unless LED is listed for storage space.

CHAPTER 42 – SWIMMING POOLS

- **E4203.1.1 Location-** The location of the pool pump outlet has moved to 6'.
- **E4203.1.2 Where required-** now allows the convenience outlet to be between 6' and 20'.
- **E4203.1.3 GFCI protection-** now requires the pump outlet to be GFCE protected no matter where it is, even if direct wired as well as 240 volt single phase.

CHAPTER 42 SWIMMING POOLS

- **E4204 Bonding-** Completely rewritten, not required to extend or attach to remote panel boards, service equipment or **electrodes,** 3 feet horizontally from pool wall including unpaved surfaces. most important change is the requirement for the ***pool water*** to be bonded.

THE END

- **I HOPE I HAVE NOT BORED YOU TO SLEEP IF SO IT'S TIME TO WAKE UP AND GET YOUR CREDITS.**
- **QUESTIONS, COMMENTS, RESIGNATIONS.**