



Milford City Hall Council Chambers 201 South Walnut Street Milford DE 19963

CITY COUNCIL AGENDA Wednesday, February 23, 2022

Per the Declaration of a Public Health Emergency issued by Governor Carney on July 13, 2021 and the virtual meeting provisions as provided in Senate Bill 94, Milford City Council continues to meet in a virtual format.

This meeting is available for viewing by the public by accessing the following link:

<https://zoom.us/j/95859380584>

Members of the public may also dial in by phone using the following number:

Call 301 715 8592 Webinar ID: 958 5938 0584

Public Comments are encouraged on the items as noted on the agenda. Virtual attendees may alert the City Clerk that they wish to speak at the appropriate time by submitting their name, address, and agenda item on which they would like to comment via the Zoom Q&A function or by using the Raise Your Hand function during the meeting. Any written public comments received prior to the meeting will be read into the record.

6:00 P.M. WORKSHOP

Building Code Updates/Residential Sprinklers

Sidewalk Master Plan Review

**SUPPORTING DOCUMENTS MUST BE SUBMITTED TO THE CITY CLERK IN ELECTRONIC FORMAT
NO LATER THAN ONE WEEK PRIOR TO MEETING; NO PAPER DOCUMENTS WILL BE ACCEPTED OR DISTRIBUTED
AFTER PACKET HAS BEEN POSTED ON THE CITY OF MILFORD WEBSITE.**

TO: Mayor and City Councilmembers

FROM: Rob Pierce, AICP - Planning Director

DATE: February 23, 2022

RE: Chapter 88 – Building Construction

On January 10, 2022, City Council held a workshop prior to its regularly scheduled meeting to hear a presentation from the Planning Department involving representatives from the Delaware Sprinkler Coalition, State Fire Marshal's Office and Carlisle Fire Company pertaining to the update of the City's building code as adopted under Chapter 88 Building Construction. The presentation included proposed amendments which would adopt the 2018 International Residential Code (IRC), the 2018 International Building Code (IBC), the 2018 International Swimming Pool and Spa Code (ISPSC), and possibly require the installation of residential fire sprinkler systems in new single-family detached, semi-detached and townhome construction.

The City currently operates under the 2012 version of the IRC and IBC and pools and spas are governed under an appendix to the 2012 IRC. The City does not currently require single-family detached, semi-detached and townhomes to be sprinklered. Sprinkler requirements for commercial structures, including apartment complexes, are already governed by the Delaware Fire Code and the State Fire Marshal's Office.

Enclosed is a draft amendment to Chapter 88 – Building Construction along with copies of the presentation material from the January 10, 2022 workshop for review.

Staff is seeking feedback and guidance from City Council regarding the building code update and whether the City should require residential sprinkler systems in new residential construction.

The City has invited the Delaware Sprinkler Coalition, State Fire Marshal's Office, Carlisle Fire Company and the Delaware Homebuilders Association to be part of the discussion.

TO: Mayor and City Councilmembers

FROM: Rob Pierce, AICP - Planning Director

DATE: January 10, 2022

RE: Chapter 88 – Building Construction

Enclosed is a draft amendment to Chapter 88 – Building Construction that would adopt the 2018 International Residential Code (IRC), the 2018 International Building Code (IBC) and the 2018 International Swimming Pool and Spa Code (ISPSC). The City currently operates under the 2012 version of the IRC and IBC and pools and spas are governed under an appendix to the 2012 IRC.

The enclosed amendment includes additions, insertions and changes to the IRC, IBC and ISPSC. Below is a breakdown of those changes.

2018 IRC

Chapter 1, Administration

- Added language to the permitting section authorizing the requirement for State agency approvals as part of the permit review process.
- Defined construction activities that would be exempt from needing a building permit.
- Added “clean hands” language.
- Added the requirement for an as-built survey between the foundation and framing inspections to ensure the building is constructed in the proper location.

Chapter 3, Building Planning

- Updated the Climatic and Geographic Design Criteria table.
- Added a requirement for the installation of an egress window in sleeping rooms that are being added or gutted due to renovations.
- Added language requiring a 36” clearance along all edges of a roof and at the ridge pertaining to the placement of solar panels.
- Staff has currently proposed to make automatic fire sprinklers optional for townhouse, one-family and two-family dwellings.

Chapter 4, Foundations

- Added language to allow exceptions to the minimum footing sizes for decks, residential accessory structures less than 300 square feet and prefabricated room enclosures.
- Modified the language for concrete or masonry foundations and drainage systems to include both crawlspaces and basements, as opposed to just basements.

Chapter 5, Floors

- Added language for deck floor joist and deck girder spans to be constructed in accordance with the American Forest and Paper, Design for Acceptance #6, Prescriptive Residential Wood Deck Construction Guide.

Chapter 6, Wall Construction

- Added an exception to the wall bracing language for walls constructed of translucent or transparent plastic not more than 0.125 inches thick.
- Added requirements for post frame buildings.

Appendices

- Adopted Appendix C, Exit Terminals of Mechanical Draft and Direct-Venting Systems without changes.
- Adopted Appendix E, Manufactured Housing as Dwellings without changes.
- Adopted Appendix J, Existing Buildings and Structures without changes.
- Adopted Appendix Q, Tiny Houses without changes.

2018 IBC

Chapter 1, Administration

- Added language to the permitting section authorizing the requirement for State agency approvals as part of the permit review process.
- Defined construction activities that would be exempt from needing a building permit.
- Added “clean hands” language.
- Added the requirement for an as-built survey between the foundation and framing inspections to ensure the building is constructed in the proper location.

2018 ISPSC

Chapter 1, Administration

- Changed the language for permitting procedures, violation procedures and appeal procedures to the IRC or IBC depending on if the application is for a residential or commercial project.

Questions for City Council

1. Do we want to require residential fire sprinklers for single-family detached, semi-detached and townhouse dwelling units?
 2. Do we want to require a grading plan review for each lot prior to the issuance of a building permit to ensure proper drainage?
 3. Do we want to require an as-built survey of the property prior to the issuance of the Certificate of Occupancy to ensure compliance with building setbacks, zoning area regulations and proper grading?
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Next Steps

The City Solicitor would provide legal review of the proposed amendment. Upon completion of legal review, the ordinance would be advertised and a public hearing would be scheduled with the City Council in March.

Chapter 88 - BUILDING CONSTRUCTION

ARTICLE I - International Residential Code

§ 88-1. - Adoption of code.

That a certain document, three copies of which are on file in the office of the Department of Planning of the City of Milford, being marked and designated as the International Residential Code, 2012~~2018~~ edition, including Appendix Chapters C, ~~G, E, and J,~~ **and Q** be and is hereby adopted as the Residential Code of the City of Milford, in the State of Delaware, for regulating and governing the construction, alteration, movement, enlargement, replacement, repair, equipment, location, removal, and demolition of detached one- and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories in height with separate means of egress as herein provided; providing for the issuance of permits and collection of fees therefor; and each and all of the regulations, provisions, penalties, conditions, and terms of said Residential Code on file in the office of the City of Milford are hereby referred to, adopted, and made a part hereof, as if fully set out in this article, with the additions, insertions, deletions, and changes, if any, prescribed in § 88-2 of this chapter.

§ 88-2. - Additions, insertions and changes.

The following sections are hereby revised:

- A. Chapter 1, **Scope and** Administration.
 - (1) Section R101.1. Insert: City of Milford
 - (2) Section R105. Permits.

(a) Add: Section R105.1.

[1] Delaware Department of Transportation Approval. The building official may require an entrance/exit permit from the Delaware Department of Transportation upon application for a building permit for all nonresidential and residential buildings on state-maintained roads.

[2] Other permit approvals. Before a building permit is issued, additional agency approvals may be required. Such agency approvals include, but are not limited to, Delaware State Fire Marshal, Kent/Sussex Conservation District, Delaware Division of Public Health, Delaware Department of Natural Resources and Environmental Control, and a Delaware-recognized electrical inspection agency.

[3] Energy code compliance. Any energy code compliance certificate shall be submitted with each single-family dwelling permit application, or meet the prescriptive requirements of Section 402 of the International Energy Conservation Code currently adopted by the State of Delaware.

- (a**b**) Section R105.2, Work exempt from permit, is deleted in its entirety. Remove language under "Building:" and replace with the following:**

[1] One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed 24 square feet.

[2] Fences not over six feet in height.

[a] Exceptions:

[i] Fences required for pools

[ii] Fences required by the State of Delaware for home-based day cares.

[iii] Fences required by the City of Milford Planning Department as part of an approved subdivision or land development application.

[3] Retaining walls which are not over four feet in exposed height, unless supporting a surcharge or impounding class I, II or III-A liquids.

[4] Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.

[5] Water tanks supported directly on grade if the capacity is not greater than 5,000 gallons and the ratio of height to diameter or width is not greater than 2:1.

[6] Sidewalks and driveways.

[7] Replacement of roof covering that does not involve the repair or replacement of more than 25 percent of the roof.

[8] Prefabricated swimming pools accessory to a one- or two-family dwelling, which are less than 24 inches deep, do not exceed 5,000 gallons and are installed entirely above ground.

[9] Swings and other playground equipment accessory to one- and two-family dwellings.

[10] Window awnings supported by an exterior wall which do not project more than 54 inches from the exterior wall and do not require additional support.

[11] Non-fixed and movable fixtures, cases, racks, counters and partitions not over five feet nine inches in height.

(~~b~~c) Add: R105.5.1. Time limitation of permit. A permit for any activity for which a permit is required shall be valid for one year from the date of issuance.

(~~e~~d) Add: R105.5.2. Completion of construction. All construction for which a building permit is required must be completed and pass final inspection within one year after issuance of a building permit. One extension of six months, accompanied by a renewal fee of a minimum of \$50 or 10% of the original building permit fee, whichever is greater, may, at the discretion of the Code Official, be granted.

(3) Section R108, Fees.

(a) Add: R108.6.1. Violation fee. When obtaining a building permit after the start of construction, the building permit fee shall be assessed a violation fee as outlined in the adopted Planning and Economic Development Department Fee Schedule.

(b) Add: R108.7. Delinquent taxes and fees. No building permits, certificate of occupancy, or certificate of completion shall be issued for a property if any of the following parties, having an interest in the application or the property the application is filed for, are not in good standing with the city: the applicant, the property owner, the equitable owner, the permit holder, or any individual with a controlling interest in the property (controlling interest means the acquisition of sufficient dominance to determine the operational and financial policies, including disposition of its assets, of any legal entity that is an applicant, property owner, equitable owner or permit holder, but excluding mortgage holders). "Not in good standing" means that at the time of the request a municipal lien has been imposed upon the property or any of the above enumerated parties are delinquent in the payment of monies owed to the city.

(4) Add: 109.1.1.1. Waterproofing inspection. A waterproofing inspection will be required for all dwelling units with basements. The inspection will be required before the basement walls are backfilled.

(5) Add: 109.1.1.2. As-Built Survey. An as-built survey prepared by a State of Delaware licensed professional surveyor or civil engineer shall be required for new structures and additions to existing structures as follows:

(a) Foundation as-built survey shall be provided once the foundation has been constructed and prior to commencement of framing in the following instances:

- 1. All new structures other than residential accessory structures.**
- 2. At any time when a variance from required area requirements was required for construction approval.**
- 3. Where required by the building/code official.**

~~(5)~~ **(6) Replace:** Section R112. Board of Appeals, ~~is deleted in its entirety and replaced with the following:~~

R112.1. General. Appeals of orders, decisions, or determination made by the Building and/or Code Official relative to the application and interpretation of this code, shall proceed as described in Article III of this Chapter.

~~(6)~~ **(7) Replace:** R113.4. Violation penalties. Any person who shall violate a provision of this code or fails to comply with any of the requirements thereof or who shall erects, constructs, alters or repairs a building or structure in violation of the approved construction documents or directive of the Building Official, or of a permit or certificate issued under the provisions of this code shall be guilty of a misdemeanor, punishable by a fine of not more than \$500. Each day that a violation continues after due notice has been served shall be deemed as a separate offense.

~~(7)~~ **(8) Replace:** R114.2. Unlawful continuance. Any person who shall continue any work in or about the structure after having been served with a stop work order, except such work as the person is directed to perform to remove a violation or unsafe condition shall be liable to a fine of not less than \$500.

B. Chapter 2, Definitions. Adopt without changes.

C. Chapter 3, Building Planning.

(1) Add: TABLE R301.2(1)

Climatic and Geographic Design Criteria

Ground Snow Load	Wind Speed (mph)		Seismic Design Category	Subject To Damage From			Winter Design Temp	Ice Barrier Underlayment Required	Flood Hazards	Air Freezing Index	Mean Annual Temp	Assumed Soil Bearing
	Speed (mph)	Topo. Effects		Weathering	Frost line depth	Termite						
25	90	NO	A	SEVERE	24"	MOD-HEAVY	14	YES	9/14/92 3/16/15 7/7/14 1/6/05	368	55.7F	2000 psf

Gound Snow Load	Wind Design				Seismic Design Category	Subject to Damage From			Winter Design Temp	Ice Barrier Underlay-ment Required	Flood Hazards	Air Freezing Index	Mean Annual Temp
	Speed	Topo-graphic Effects	Special Wind Region	wind-Borne Debris Zone		Weather-ing	Frost Line Depth	Termite					
25 lbs./sq. ft.	115 mph	No	No	No	A	Severe	24"	Mod-Heavy	18° F	Yes	9/14/1992 1/06/2005 7/7/2014 3/16/2015	596	54° F
Manual J Design Criteria													
Elevation	Latitude	Winter Heating		Summer Cooling	Altitude Correct-ion Factor	Indoor Design Temp	Design Temp Cooling	Heating Temp Difference					
23 ft.	39°	18° F		89° F	1.0	72° F	75° F	56° F					
Cooling Temp Difference	Wind Velocity Heating	Wind Velocity Cooling	Coincident Wet Bulb		Daily Range	Winter Humidity	Summer Humidity						
14° F	15 mph	7.5 mph	75		M	50%	50%						

(2) Add: Section 310.2.5.1. Replacement Window. At least one emergency escape and rescue opening complying with Section 310.2 is required in any sleeping room that is being added or gutted due to renovation to a structure.

(23) Replace: Section R311, Means of Egress. Replace the following:

- ~~(a)~~ Section R 311.7.5.1 Risers. The maximum riser height shall be 8-1/4 inches (209.6 mm). The riser shall be measured vertically between leading edges of the adjacent reads. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm). The riser height at landings with hinged doors shall be measured from the landing vertically to the top of the threshold (not the compression strip). The riser height at landings with sliding doors shall be measured from the landing vertically to the top of the highest projection of the door track. Risers shall be vertical or sloped from the underside of the nosing of the tread above at an angle not more than 30 degrees (0.51 rad) from the vertical. Open risers are permitted provided that the opening between treads does not permit the passage of a 6-inch-diameter (102 mm) sphere.

Exceptions:

The opening between adjacent treads is not limited on stairs with a total rise of 8-1/4 inches (209.55 mm) or less.

(a) The opening between adjacent treads is not limited on spiral stairways.

(b) The riser height of spiral stairways shall be in accordance with Section R311.7.10.1.

~~(4)(b)~~ **Replace:** R311.7.5.2 Treads. The minimum tread depth shall be 9 inches (229 mm). The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm).

~~(3)~~ Section R313. Automatic Fire Sprinkler Systems. Deleted in its entirety.

(5) Replace: R313.1. Townhouse automatic fire sprinkler systems. An automatic residential fire sprinkler system may be installed in townhouses.

(6) Replace: R313.2. One- and two-family dwelling automatic fire sprinkler systems. An automatic residential fire sprinkler system may be installed in one- and two-family dwellings.

~~(4) Section R319. Site Address.~~

~~(a) Add: R319.1. Street Identification. Permanent street signs shall be in place prior to the issuance of the Certificate of Occupancy.~~

(7) Replace: R315.2.1. New Construction. For new construction, carbon monoxide alarms shall be provided in dwelling units.

(8) Replace: R324.6. Roof access and pathways. Roof access, pathways and setback requirements shall be provided in accordance with Sections R324.6.1 and R324.6.2, through R324.6.2.1. Access and minimum spacing shall be required to provide emergency access to the roof, to provide pathways to specific areas of the roof, to provide for smoke ventilation opportunity areas, and to provide emergency egress from the roof.

(9) Replace: R324.6.1. Pathways. A 36" pathway shall be provided on all edges, valleys and hips of roofs. Pathways on townhomes shall maintain at least 18" from the property line if the roof on either side of the property line shares the same plane. If the plan of the roof is different, a 36" pathway shall be provided on each side.

(10) Replace: R324.6.2. Setback at ridge. A 36" clear setback is required on each side of the horizontal ridge.

(11) Delete: R324.6.2.1. Alternative setback at ridge.

C.D. Chapter 4, Foundations. ~~Adopt without changes.~~

(1) Replace: R403.1.1. Minimum Size. All continuous footings shall be a minimum of 8" depth by 16" width. Footings shall be sized to support the imposed loads. Footing projections, P, shall not be less than 2 inches and shall not exceed the thickness of the footing. Footing thickness and projection for fireplaces shall be in accordance with Section R1001.2. The size of footings supporting piers and columns shall be based on the tributary load and allowable soil pressure in accordance with Table R401.4.1. Footings for wood foundations shall be in accordance with details set forth in Section R403.2, and Figures R403.1(2) and R403.1(3). Footings for precast foundations shall be in accordance with details set forth in Section R403.4, Table 403.4, and Figures R403.4(1) and R403.4(2).

Exceptions:

(a) Minimum footings for single-story decks shall be 3 times the widest nominally measured side of the post. Footings must also be sized to support the imposed loads; interior post locations support more weight than perimeter posts.

(b) Decks having vertical members spaced 6 feet on center or less may be placed on a 4-inch concrete pad, provided the vertical members are placed 12 inches inside the perimeter of the pad and are anchored on all corners with approved anchoring devices. Decks 20 feet or more in length shall have two additional anchors installed on each side mid-span.

(c) Residential accessory structures less than 300 square feet in area, with the exception of a pole building or garage, shall be leveled and secured with tie-downs or equivalent manufactured home anchoring devices, one in each corner. Structures 20 feet or more in length shall have two additional anchors installed on each side mid-span. All lumber and wood siding is to

be pressure treated from grade to 8 inches above finished grade. Pressure-treated lumber shall meet the requirements set forth in Section R317.

(d) Prefabricated room enclosures are to be placed on an approved support system per the manufacturer's installation instruction.

(2) Replace: R405.1. Concrete or masonry foundations. Drains shall be provided around concrete or masonry foundations that retain earth and enclose crawl space/basements of habitable or usable spaces located below grade. Drainage tiles, gravel or crushed stone drains, perforated pipe or other approved systems or materials shall be installed at or below the top of the footing or below the bottom of the slab and shall discharge by gravity or mechanical means into an approved drainage system. Gravel or crushed stone drains shall extend not less than 1 foot above the top of the footing and be covered with an approved filter membrane material. The top of open joints of the drain tiles shall be protected with strips of building paper. Except where otherwise recommended by the drain manufacturer, perforated drains shall be surrounded with an approved filter membrane or the filter membrane shall cover the washed gravel or crushed rock covering the drain. Drainage tiles or perforated pipe shall be placed on not less than two inches of washed gravel or crushed rock not less than one sieve size larger than the tile joint opening or perforation and covered with not less than six inches of the same material.

Exception: A drainage system is not required where the foundation is installed on well-drained ground or sand-gravel mixture soils according to the unified Soil Classification System, Group 1 soils, as detailed in Table R405.1

(3) Replace: R405.2.3. Drainage systems. In other than Group 1 soils, a sump shall be provided to drain the porous layer and footings. The sump shall be not less than 24 inches in diameter or 20 inches square, shall extend not less than 24 inches below the bottom of the crawl space or basement floor and shall be capable of positive gravity or mechanical drainage to remove any accumulated water. The drainage system shall discharge into an approved sewer system or to daylight.

DE. Chapter 5, Floors. Adopt without changes.

(1) Add: R502.3.4. Deck floor joist spans. Deck floor joist spans shall be in accordance with American Forest and Paper, Design for Acceptance #6, Prescriptive Residential Wood Deck Construction Guide.

(2) Add: R502.5.1. Deck girder spans. Deck girder spans shall be in accordance with the American Forest and Paper, Design for Acceptance #6, Prescriptive Residential Wood Deck Construction Guide.

EF. Chapter 6, Wall Construction. Adopt without changes.

(1) Replace: R602.10. Wall bracing. Buildings shall be braced in accordance with this section or, when applicable, Section R602.12. Where a building or portion thereof, does not comply with one or more of the bracing requirements in this section, those portions shall be designed and constructed in accordance with Section R301.1.

Exception: Porches with roofs and screen porches shall not be required to comply with the requirements of R602.10 Wall Bracing, when constructed with approved translucent or transparent plastic not more than 0.125 inch in thickness.

(2) Add: R611.1. Definitions. POST FRAME BUILDING: A structural building frame consisting of a wood truss or rafters connected to vertical timber columns or

sidewall posts, which function as the principal gravity and load resisting elements of the building. A building used for motor vehicles is considered a garage and must meet the requirements in Section R309 as well as Section 614 of this code.

- (3) Add: R612.1. Design loads. Plans are required to meet the minimum design loads noted in Table 301.2(1). Uplift reaction forces involved are required to be provided.
- (4) Add: R612.2. Truss design drawings. Truss design drawings are required at the time of plan submittal. The building plans should specify the permanent bracing for cords and webs to meet the bracing requirements shown on the truss design drawings.
- (5) Add: R612.3. Size, grade and species of wood members. All lumber shown on the submitted drawings should identify the size, grade and species or species group. Any engineered lumber should be identified by the product name, size and stress grade.
- (6) Add: R612.4. Isolation of siding. Methods and materials to isolate siding from preservative treated lumber should be specified and detailed on the submitted plans.
- (7) Add: R612.5. Construction of truss carrier to bearing post. Submitted plans shall specify a bearing notch, properly designed bearing block, or other means for positive load transfer.
- (8) Add: R612.6. Fastener schedule. Submitted plans are required to include a fastener schedule completely describing the fasteners and quantities required at each connection. Power-driven nails should specify the type, diameter and length.
- (9) Add: R612.7. Roofing and siding diaphragms. Submitted plans shall include metal roof and wall panel thickness, fastener type and size, and the fastener pattern for roof and siding panels. If stitch screws are required to attach metal sheet-to-sheet, the plans should show the locations. Shingles roofs shall meet the requirements of Section R905.
- (10) Add: R613.1. Footing depth. Footings for post frame structures shall extend a minimum of 40 inches below grade.
- (11) Add: R613.2. Footing size. Footings for all post frame structures shall be sized to support the loads imposed. Minimum footing sizes for all post frame structures shall be 18 inches diameter and a minimum of 12 inches thick concrete under the support posts.
- (12) Add: R613.3. Resistance to uplift. A lumber cleat shall be attached to the bottom of all vertical support posts to resist uplift. Exception: Other means to resist uplift may be used and should be noted on the submitted plans.
- (13) Add: R614.1. Preservative treatment. All wood in contact with the ground shall be preservative-treated meeting the requirements of Section R319.
- (14) Add: R614.2. Support posts. Support posts fabricated from multiple plies shall have the number of plies of lumber, lumber species, grade, and connection system between plies noted.
- (15) Add: R614.3. Truss carrier spans. The allowable spans for truss carriers shall support the load of the proposed roof structure and floor system if present. Fabricated or dimensional lumber shall not exceed the values set forth in Tables R617.4(1) through R617.4(3). Spans exceeding the values set forth in Tables R617.4(1) through R617.4(3) shall be engineered.

~~G. Chapter 7, Wall Covering. Adopt without changes.~~

~~H. Chapter 8, Roof-Ceiling Construction. Adopt without changes.~~

- I. ~~Chapter 9, Roof Assemblies. Adopt without changes.~~
- J. ~~Chapter 10, Chimneys and Fireplaces. Adopt without changes.~~
- K. ~~Chapter 11, Energy Efficiency. Deleted in its entirety. Refer to the current adopted State Energy Code~~
- L. ~~Chapter 12, Mechanical Administration. Adopt without changes.~~
- M. ~~Chapter 13, General Mechanical System Requirements. Adopt without changes.~~
- N. ~~Chapter 14, Heating and Cooling Equipment. Adopt without changes.~~
- O. ~~Chapter 15, Exhaust Systems. Adopt without changes.~~
- P. ~~Chapter 16, Duct Systems. Adopt without changes.~~
- Q. ~~Chapter 17, Combustion Air. Adopt without changes.~~
- R. ~~Chapter 18, Chimneys and Vents. Adopt without changes.~~
- S. ~~Chapter 19, Special Fuel-Burning Equipment. Adopt without changes.~~
- T. ~~Chapter 20, Boilers and Water Heaters. Adopt without changes.~~
- U. ~~Chapter 21, Hydronic Piping. Adopt without changes.~~
- V. ~~Chapter 22, Special Piping and Storage Systems. Adopt without changes.~~
- W. ~~Chapter 23, Solar Systems. Adopt without changes.~~
- X. ~~Chapter 24, Fuel Gas. Adopt without changes.~~
- Y. ~~Chapter 25, Plumbing Administration. Delete in its entirety. Refer to current adopted State Plumbing Code.~~
- Z. ~~Chapter 26, General Plumbing Requirements. Delete in its entirety. Refer to current adopted State Plumbing Code.~~
- AA. ~~Chapter 27, Plumbing Fixtures. Delete in its entirety. Refer to current adopted State Plumbing Code.~~
- BB. ~~Chapter 28, Water Heaters. Delete in its entirety. Refer to current adopted State Plumbing Code.~~
- CC. ~~Chapter 29, Water Supply and Distribution. Delete in its entirety. Refer to current adopted State Plumbing Code.~~
- DD. ~~Chapter 30, Sanitary Drainage. Delete in its entirety. Refer to current adopted State Plumbing Code.~~
- EE. ~~Chapter 31, Vents. Delete in its entirety. Refer to current adopted State Plumbing Code.~~
- FF. ~~Chapter 32, Traps. Delete in its entirety. Refer to current adopted State Plumbing Code.~~
- GG. ~~Chapter 33, Storm Drainage. Delete in its entirety. Refer to current adopted State Plumbing Code.~~
- HH. ~~Chapter 34, General Requirements. Delete in its entirety. Refer to current adopted State Electrical Code.~~
- II. ~~Chapter 35, Electrical Definitions. Delete in its entirety. Refer to current adopted State Electrical Code.~~
- JJ. ~~Chapter 36, Services. Delete in its entirety. Refer to current adopted State Electrical Code.~~
- KK. ~~Chapter 37, Branch Circuit and Feeder Requirements. Delete in its entirety. Refer to current adopted State Electrical Code.~~

~~LL. Chapter 38, Wiring Methods. Delete in its entirety. Refer to current adopted State Electrical Code.~~

~~MM. Chapter 39, Power and Lighting Distribution. Delete in its entirety. Refer to current adopted State Electrical Code.~~

~~NN. Chapter 40, Light Fixtures. Delete in its entirety. Refer to current adopted State Electrical Code.~~

~~OO. Chapter 41, Appliance Installation. Delete in its entirety. Refer to current adopted State Electrical Code.~~

~~PP. Chapter 42, Swimming Pools. Delete in its entirety. Refer to current adopted State Electrical Code.~~

~~QQ. Chapter 43, Class 2 Remote Control, Signaling and Power Limited Circuits. Delete in its entirety. Refer to current adopted State Electrical Code.~~

~~RR. Chapter 44, Referenced Standards. Adopt without changes.~~

FSS. Appendix C, Exit Terminals of Mechanical Draft and Direct-Venting Systems. **Adopt without changes.**

GTT. Appendix **EG**, Swimming Pools, Spas, and Hot Tubs **Manufactured Housing as Dwellings.**
Adopt without changes.

~~(1) Section AG102. Definitions.~~

~~(a) Add: Swimming Pool: Any structure intended for swimming or recreational bathing that contains or is capable of containing water over 24 inches (610 mm) deep or more water. This includes in-ground and on-ground swimming pools, hot tubs and spas.~~

~~(2) AG105.2 Outdoor swimming pool. Add:~~

~~11. For split rail fences, 14 gauge wire with opening no greater than 2 inches (51 mm) wide and 4 inches (102 mm) high shall be permitted. The fence must be 48 inches (1219 mm) high with the top edge securely fastened to the top rail. The wire must be applied on the side away from the pool (outside).~~

HUU. Appendix J, Existing Buildings and Structures. Adopt without changes.

I. Appendix Q, Tiny Houses. Adopt without changes.

§ 88-3. - Fee schedule.

Permit fees shall be set by resolution adopted by City Council and maintained by the City Clerk's Office.

ARTICLE II - International Building Code

§ 88-4. - Adoption of code.

A certain document, three copies of which are on file in the office of the Department of Planning of the City of Milford, State of Delaware, being marked and designated as the International Building Code, ~~2012~~**2018** edition be and is hereby adopted as the Building Code of the City of Milford for regulating and governing the conditions and maintenance of all property, buildings, and structures, by providing the standards for supplied utilities and facilities and other physical things and conditions essential to ensure that structures are safe, sanitary, and fit for occupation and use; and the condemnation of buildings and structures unfit for human occupancy and use and the demolition of such structures as herein provided; providing for the issuance of permits and collection of fees therefor; and each and all of the regulations; provisions, penalties, conditions and terms of said Building Code on file in the office of the City of Milford and hereby referred to, adopted, and made a part hereof, as if fully set out in this article, with the additions, insertions, deletions, and changes, if any, prescribed in § 88-5 of this chapter.

§ 88-5. - Additions, insertions and changes.

The following sections of the International Building Code, 2018 edition, are revised as follows. References to the International Fire Code, 2018 edition, as published by the International Code Council, specifically are not adopted. Provisions of the International Fire Code are addressed through the adoption of the National Fire Prevention Association (NFPA) Codes and Standards and the Delaware Fire Prevention Regulations as adopted by the Delaware State Fire Marshal's Office. ~~or portions are hereby revised as follows:~~

- A. Chapter 1, **Scope and** Administration.
- (1) Section R101.1. Insert: City of Milford
 - (2) Section 105, Permits.

(a) Add: Section R105.1.

[1] Delaware Department of Transportation Approval. The building official may require an entrance/exit permit from the Delaware Department of Transportation upon application for a building permit for all nonresidential and residential buildings on state-maintained roads.

[2] Other permit approvals. Before a building permit is issued, additional agency approvals may be required. Such agency approvals include, but are not limited to, Delaware State Fire Marshal, Kent/Sussex Conservation District, Delaware Division of Public Health, Delaware Department of Natural Resources and Environmental Control, and a Delaware-recognized electrical inspection agency.

[3] Energy code compliance. Any energy code compliance certificate shall be submitted with each single-family dwelling permit application, or meet the prescriptive requirements of Section 402 of the International Energy Conservation Code currently adopted by the State of Delaware.

- (a)** Section 105.2. Work exempt from permit. **Remove language under "Building:" and replace with the following;**

[1] One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed 24 square feet.

[2] Fences not over six feet in height.

[a] Exceptions:

[i] Fences required for pools

[ii] Fences required by the State of Delaware for home-based day cares.

[iii] Fences required by the City of Milford Planning Department as part of an approved subdivision or land development application.

[3] Retaining walls which are not over four feet in exposed height, unless supporting a surcharge or impounding class I, II or III-A liquids.

[4] Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.

[5] Water tanks supported directly on grade if the capacity is not greater than 5,000 gallons and the ratio of height to diameter or width is not greater than 2:1.

[6] Sidewalks and driveways.

[7] Replacement of roof covering that does not involve the repair or replacement of more than 25 percent of the roof.

[8] Prefabricated swimming pools accessory to a one- or two-family dwelling, which are less than 24 inches deep, do not exceed 5,000 gallons and are installed entirely above ground.

[9] Swings and other playground equipment accessory to one- and two-family dwellings.

[10] Window awnings supported by an exterior wall which do not project more than 54 inches from the exterior wall and do not require additional support.

[11] Non-fixed and movable fixtures, cases, racks, counters and partitions not over five feet nine inches in height.

(b~~c~~) Add: 105.5.1. Time limitation of permit. A permit for any activity for which a permit is required shall be valid for two years from the date of issuance.

(e~~d~~) Add: 105.5.2. Completion of construction. All construction for which a building permit is required must be completed and pass final inspection within two years after issuance of a building permit. One extension of six months, accompanied by a renewal fee of a minimum of \$50 or 10% of the original building permit fee, whichever is greater, may, at the discretion of the Code Official, be granted.

(3) Section 109. Fees.

(a) Add: 109.4.1. Violation fee. When obtaining a building permit after the start of construction, the building permit fee shall be assessed a violation fee as outlined in the adopted Planning and Economic Development Department Fee Schedule.

(b) Add: R109.7. Delinquent taxes and fees. No building permits, certificate of occupancy, or certificate of completion shall be issued for a property if any of the following parties, having an interest in the application or the property the application is filed for, are not in good standing with the city: the applicant, the property owner, the equitable owner, the permit holder, or any individual with a controlling interest in the property (controlling interest means the acquisition of sufficient dominance to determine the operational and financial policies, including disposition of its assets, of any legal entity that is an applicant, property owner, equitable owner or permit holder, but excluding mortgage holders). "Not in good standing" means that at the time of the request a municipal lien has been imposed upon the property or any of the above enumerated parties are delinquent in the payment of monies owed to the city.

(4) Add: 110.3.1.1. As-Built Survey. An as-built survey prepared by a State of Delaware licensed professional surveyor or civil engineer shall be required for new structures and additions to existing structures as follows:

(a) Foundation as-built survey shall be provided once the foundation has been constructed and prior to commencement of framing in the following instances:

1. All new structures other than residential accessory structures.

2. At any time when a variance from required area specifications was required for construction approval.

3. Where required by the building/code official.

(4) (5) Section 113, Board of Appeals, is deleted in its entirety and replaced with the following;

113.1. General. Appeals of orders, decisions, or determination made by the Building and/or Code Official relative to the application and interpretation of this code, shall proceed as described in Article III of this Chapter.

(5) (6) Replace: 114.4. Violation penalties. Any person who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, construct, alter or repair a building or structure in violation of an approved plan or directive of the Code Enforcement Official, or of a permit or certificate issued under the provisions set forth under this code shall be guilty of a misdemeanor, punishable by a fine of not more than \$500. Each day that a violation continues after due notice has been served shall be deemed as a separate offense.

(6) (7) Replace: 115.3. Unlawful continuance. Any person who shall continue any work in or about the structure after having been served with a stop-work order, except such work as would be necessary to correct said violation(s) or unsafe conditions, shall be liable to a fine of not less than \$500.

(7) (8) Replace: 116.5. Restoration. A building or structure condemned by the Code Enforcement Official is permitted to be restored to a safe and fully code compliant condition, provided that said restoration or repairs do not exceed 50% of the value of said building or structure as determined by the assessment given by the City for tax purposes. This valuation figure shall be exclusive of foundations. Said repairs shall be made to comply, in all respects, with the requirements for materials and methods of construction of structures hereafter erected. To the extent that the repairs, alterations or additions are made or a change of occupancy occurs during the restoration of the structure, such repairs, alterations, additions or change of occupancy shall comply with the requirements of Section 105.2.2 and Chapter 34.

~~B. Chapter 2, Definitions. Adopt without changes.~~

~~C. Chapter 3, Use and Occupancy Classification. Adopt without changes.~~

~~D. Chapter 4, Special Detailed Requirements Based on Use and Occupancy. Adopt without changes.~~

~~E. Chapter 5, General Building Heights and Areas. Adopt without changes.~~

~~F. Chapter 6, Types of Construction. Adopt without changes.~~

~~G. Chapter 7, Fire Resistance Rated Construction. Adopt without changes.~~

~~H. Chapter 8, Interior Finishes. Adopt without changes.~~

~~I. Chapter 9, Fire Protection Systems. Adopt without changes.~~

~~J. Chapter 10, Means of Egress. Adopt without changes.~~

~~K. Chapter 11, Accessibility. Adopt without changes.~~

~~L. Chapter 12, Interior Environment. Adopt without changes.~~

~~M. Chapter 13, Energy Efficiency. Delete in its entirety. Refer to current State Energy Code.~~

~~N. Chapter 14, Exterior Walls. Adopt without changes.~~

~~O. Chapter 15, Roof Assemblies and Rooftop Structures. Adopt without changes.~~

~~P. Chapter 16, Structural Design.~~

~~1612.3. Establishment of flood hazard areas. Insert: "City of Milford" for Name of Jurisdiction and "dated most recently enacted" for Date of Issuance.~~

~~Q. Chapter 17, Structural Tests and Special Inspections. Adopt without changes.~~

- ~~R. Chapter 18, Soils and Foundations. Adopt without changes.~~
- ~~S. Chapter 19, Concrete. Adopt without changes.~~
- ~~T. Chapter 20, Aluminum. Adopt without changes.~~
- ~~U. Chapter 21, Masonry. Adopt without changes.~~
- ~~V. Chapter 22, Steel. Adopt without changes.~~
- ~~W. Chapter 23, Wood. Adopt without changes.~~
- ~~X. Chapter 24, Glass and Glazing. Adopt without changes.~~
- ~~Y. Chapter 25, Gypsum Board and Plaster. Adopt without changes.~~
- ~~Z. Chapter 26, Plastic. Adopt without changes.~~
- ~~AA. Chapter 27, Electrical. Delete in its entirety. Refer to current adopted State Electric Code.~~
- ~~BB. Chapter 28, Mechanical Systems. Adopt without changes.~~
- ~~CC. Chapter 29, Plumbing Systems. Delete in its entirety. Refer to current adopted State Plumbing Code.~~
- ~~DD. Chapter 30, Elevators and Conveying Systems. Adopt without changes.~~
- ~~EE. Chapter 31, Special Construction. Adopt without changes.~~
- ~~FF. Chapter 32, Encroachments into the Public Right-of-Way. Adopt without changes.~~
- ~~GG. Chapter 33, Safeguards During Construction. Adopt without changes.~~
- ~~HH. Chapter 34, Existing Structures. Adopt without changes.~~
- ~~II. Chapter 35, Referenced Standards. Adopt without changes.~~
- ~~JJ. Appendix E, Supplementary Accessibility Requirements. Adopt without changes.~~
- ~~KK. Appendix F, Rodentproofing. Adopt without changes.~~
- LL.** Appendix H, Signs. Adopt without changes.

§ 88-6. - Fee schedule.

Permit fees shall be set by resolution adopted by City Council and maintained by the City Clerk's Office.

ARTICLE III - Board of Appeals

§ 88-7. - General.

In order to hear and decide appeals of orders, decisions, or determinations made by the building or code official relative to the application and interpretation of the code, there shall be and is hereby created a board of appeals. The Board of Appeals shall be appointed by City Council and shall hold office at its pleasure. The Board shall adopt rules of procedure for conducting its business, and shall render all decisions and findings in writing to the appellant with a duplicate copy to the building official.

§ 88-8. - Limitations on authority.

An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The board shall have no authority to waive requirements of this code.

§ 88-9. - Membership of the board.

The Board of Appeals shall consist of members who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. City Council shall appoint three members for terms of three years, provided that the terms of the original members shall be established in a manner that the term of at least one member shall expire each year and the successor shall be appointed for a term of three years.

§ 88-10. - Alternate members.

City Council shall appoint an individual of its choice to be an alternate during those times where one of the permanent members is unable to attend an appeals hearing or in cases where a conflict of interest may exist. Said appointment shall be made for a two-year term.

§ 88-11. - Chairperson.

The Board shall annually select one of its members to serve as chairperson.

§ 88-12. - Disqualification of member.

A member shall not hear an appeal in which that member has a personal, professional or financial interest.

§ 88-13. - Secretary.

The City Manager shall designate a qualified clerk or staff as Secretary to the Board. The Secretary shall file a detailed record of all proceedings with the office of the City Clerk. Secretary shall have no right to vote on matters coming before the board.

§ 88-14. - Compensation of members.

Compensation of members shall be determined by ordinance of City Council.

§ 88-15. - Application for appeal.

Any person directly affected by a decision of the Code Official or an notice or order issued under this code shall have the right to appeal a decision of the Code Enforcement and/or Building Official to the Board of Appeals provided the application is filed within 20 days of the day the decision, notice, or order was served. An application for appeal shall be based on a claim that the true intent of the code or the rules legally adopted thereunder have been incorrectly interpreted, that the provisions of this code do not apply or that an equivalent form of construction is to be used.

§ 88-16. - Hearing fee.

The following nonrefundable fee schedule shall apply for hearings of the Board of Appeals:

International Residential Code:\$300.00

International Building Code:\$1,000.00

International Property Maintenance Code:\$300.00

§ 88-17. - Notice of meeting.

The Board shall meet upon notice from the Chairperson. The meeting date and time shall be scheduled in accordance with the state guidelines for public hearings. Surrounding property owners within 200 feet of the property or building in question shall be notified by mail.

§ 88-18. - Open hearing.

All hearings before the Board shall be open to the public. The appellant's representative, the Code Official and any other person or persons that may be deemed necessary as witnesses and all other persons whose interests are affected shall be given an opportunity to be heard.

§ 88-19. - Procedure.

The hearing shall address only those issues or items that may be deemed relevant to the case being heard. The Board shall adopt and publish, for public information, the procedures under which the hearing will be conducted.

§ 88-20. - Postponed hearing.

When there are fewer than two members of the Board available and the authorized or appointed alternate is unavailable, notification shall be given to the interested parties.

§ 88-21. - Board decision.

The Board shall affirm, modify or reverse the decision of the Code Official by means of a simple majority.

§ 88-22. - Records and copies.

The decision of the board shall be recorded. Copies shall be furnished to the appellant and to the appropriate Building or Code Official.

§ 88-23. - Administration.

The appropriate Building or Code Official shall take immediate action in accordance with the decision of the Board.

§ 88-24. - Court review.

Any person, whether or not a previous party of the appeal, shall have the right to apply to the Superior Court of the State of Delaware in the applicable county for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law, following the filing of the Board's decision in the Office of the City Clerk.

§ 88-25. - Stays of enforcement.

Appeals of notices and orders (other than Imminent Danger Notices) shall stay the enforcement of the notice and order until the appeal is complete or the stay is lifted by the Superior Court.

ARTICLE IV - International Swimming Pool and Spa Code

§ 88-26. - Adoption of code.

A certain document, three copies of which are on file in the office of the Department of Planning of the City of Milford, State of Delaware, being marked and designated as the International Swimming

Pool and Spa Code, 2018 edition be and is hereby adopted by the City of Milford for regulating and governing the conditions and maintenance of all swimming pools, spas, hot tubs and aquatic facilities. Any additions, insertions, deletions, and changes, if any, are prescribed in § 88-27 of this chapter.

§ 88-27. - Additions, insertions and changes.

A. Chapter 1, Scope and Administration.

(1) Section R101.1. Insert: City of Milford

(2) Section 105, Permits. Replace. Permitting and fees for residential permits shall be subject to the permit requirements of the IRC as adopted by the City of Milford. Permitting and fees for commercial permits shall be subject to the permit requirements of the IBC as adopted by the City of Milford.

(3) Section 107, Violations. Replace. Violations for residential permits shall be subject to the violation requirements of the IRC as adopted by the City of Milford. Violations for commercial permits shall be subject to the violation requirements of the IBC as adopted by the City of Milford.

(4) Section 108, Appeals. Replace. Means of appeal for residential permits shall follow the appeal procedures of the IRC as adopted by the City of Milford. Means of appeal for commercial permits shall follow the appeal procedures of the IBC as adopted by the City of Milford.



Chapter 88 - Building Construction 2018 IRC/IBC

Draft Revisions
January 10, 2022



Purpose of the Code Review

- ▶ Update the City Building Code for residential construction from the 2012 International Residential Code (IRC) to the 2018 IRC.
- ▶ Update the City Building Code for commercial construction from the 2012 International Building Code (IBC) to the 2018 IBC.



Draft Revisions

- ▶ Enclosed are draft revisions of Chapter 88 Building Construction.
- ▶ Language to be added is underlined.
- ▶ Language to be removed is stricken.



Article I - International Residential Code

▶ Chapter 1 - Administration

- ▶ Added State agency requirements associated with building permit applications.
- ▶ Defined which construction activities were exempt from permits. Previously, nothing was exempt from needing a building permit.
- ▶ Added language related to “clean hands.”
- ▶ Added requirement for as-built survey of building footprint between foundation and framing inspections to ensure proper placement of building.



Article I - International Residential Code

- ▶ Chapter 3 - Building Planning
 - ▶ Updated Climatic and Geographic Design Criteria.
 - ▶ Added statement requiring proper egress window to be installed in any sleeping room being added or gutted due to renovations.
 - ▶ Added requirement for the installation of carbon monoxide alarms in dwelling units.
 - ▶ Added language to require a 36” pathway along the perimeter of a roof and at the ridge clear of any solar panels.
 - ▶ Will need to determine whether the City wants to require domestic sprinklers. Currently, we are proposing residential sprinkler systems to be optional. (Second half of the presentation is devoted to this subject)



Article I - International Residential Code

▶ Chapter 4 - Foundations

- ▶ Revised footings language to allow exceptions for decks, residential accessory structures and prefabricated room enclosures.
- ▶ Revised concrete or masonry foundation language to include both crawlspaces and basements. Standard language only pertains to basements.
- ▶ Revised drainage systems to include both crawlspaces and basements. Standard language only pertains to basements.



Article I - International Residential Code

- ▶ Chapter 5 - Floors

- ▶ Added language to refer to the American Forest and Paper, Design for Acceptance #6, Prescriptive Residential Wood Deck Construction Guide for deck floor joist spans and deck girder spans.



Article I - International Residential Code

- ▶ Chapter 6 - Wall Construction
 - ▶ Added exception to wall bracing requirements for walls made of translucent or transparent plastic not more than 0.125 inch in thickness.
 - ▶ Added design and construction requirements for Post Frame Buildings.



Article I - International Residential Code

- ▶ Appendices
 - ▶ Adopted Appendix C - Exit Terminals of Mechanical Draft and Direct-Venting Systems without changes.
 - ▶ Adopted Appendix E - Manufactured Housing as Dwellings without changes.
 - ▶ Adopted Appendix J - Existing Buildings and Structures without changes.
 - ▶ Adopted Appendix Q - Tiny Houses without changes.



Article II - International Building Code

▶ Chapter 1 - Administration

- ▶ Added State agency requirements associated with building permit applications.
- ▶ Defined which construction activities were exempt from permits. Previously, nothing was exempt from needing a building permit.
- ▶ Added language related to “clean hands.”
- ▶ Added requirement for as-built survey of building footprint between foundation and framing inspections to ensure proper placement of building.



Article IV - International Swimming Pool and Spa Code

- ▶ Adopted 2018 International Swimming Pool and Spa Code
- ▶ Directs applicants to the permit procedures, violation procedures and appeal procedures for the IRC or IBC depending on whether the application is for a residential use or for a commercial use.



FIRE SPRINKLER INITIATIVE
Bringing Safety Home



Delaware Fire Sprinkler Coalition: An Overview

Fall 2015 | Paul Eichler | Chairman

America's Home Fire Problem

In 2019:

- More than **361,500** U.S. home fires
- Close to **3,700** civilian fire deaths
- Nearly **16,600** civilian fire injuries
- **75 percent** of all civilian fire deaths resulted from home fires



Source: 2019 NFPA Fire Loss in the U.S. Report



Delaware's Home Fire Problem

In 2013:

- **10** civilian fire deaths (All)
- **9** civilian fire deaths (1 & 2 Family)
- **1** civilian fire deaths (Type Other)
- **90-100** percent of all civilian fire deaths resulted from 1 & 2 family home fires

Source: USFA Home fire fatalities in the news



Delaware's Home Fire Problem

For FY2020:

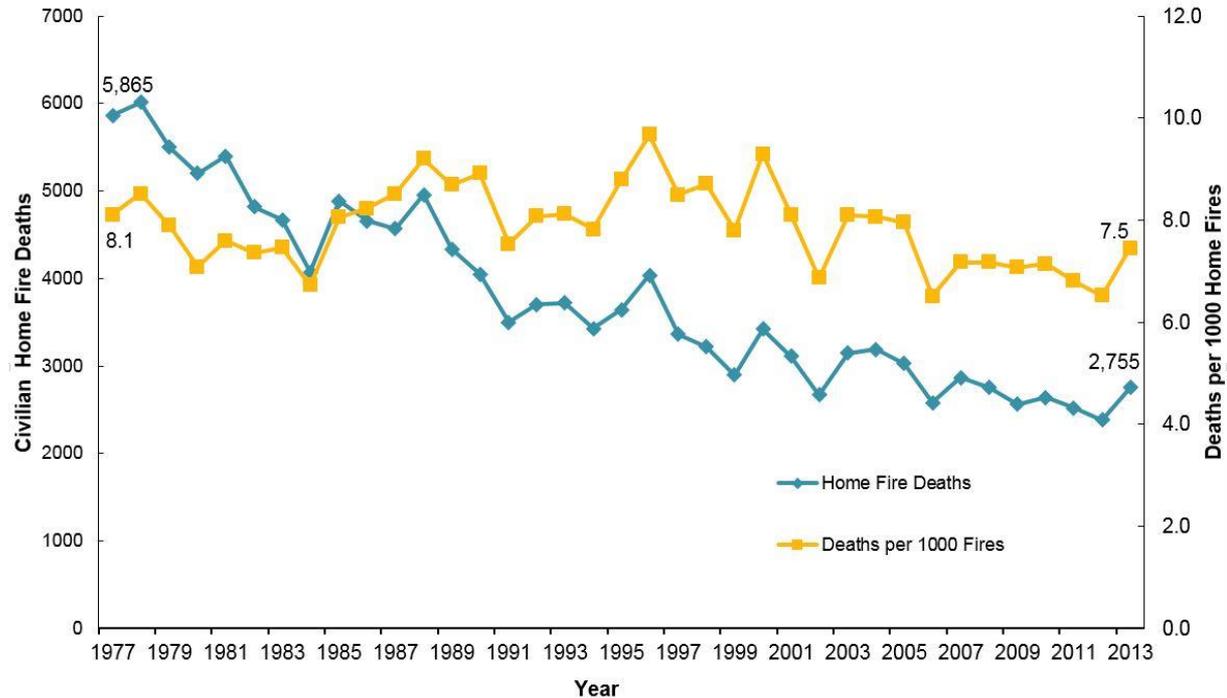
- **10** civilian fire deaths (1 & 2 Family)
- firefighter death (1 & 2 Family)
- firefighter injuries
- **\$31.2 Million** damage to 1 & 2 family homes

Source: DE SFMO



America's Home Fire Problem

Figure 3. Civilian Home Fire Deaths and Rates per 1000 Fires, 1977-2013



Who is at Highest Risk?

Children under **five years old**

Adults over **65 years old**

Groups unable to exit on their own, even if working smoke alarms are present



The Solution Exists

Home Fire Sprinklers: An Historical Perspective

1975: NFPA 13D, *Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes*, is first issued

2006: NFPA 5000, *Building Construction and Safety Code®*, includes first-of-its kind requirement in a U.S. building code for sprinklers in one- and two-family dwellings.

2009: All model building codes in the U.S. include mandate for sprinklers in all new, one- and two-family homes; NFPA launches Fire Sprinkler Initiative



NFPA's Fire Sprinkler Initiative



FIRE SPRINKLER INITIATIVE®
Bringing Safety Home

*A coordinated effort to provide resources for the
fire service and other sprinkler advocates*

NFPA's Fire Sprinkler Initiative

Campaign Objectives

Increase the number of jurisdictions considering and implementing home fire sprinkler mandates across North America

Increase the number of those involved in public safety who are actively engaged in getting such mandates passed



FIRE SPRINKLER INITIATIVE
Bringing Safety Home

Delaware Fire Sprinkler Coalition

The Delaware Fire Sprinkler Coalition is dedicated to promoting home fire sprinklers. This voluntary coalition is a resource for information about home fire sprinklers in Delaware. The coalition actively works to educate stakeholder groups on home fire sprinklers and collaborates with key state fire service organizations to address and overcome barriers to home fire sprinkler requirements.



FIRE SPRINKLER INITIATIVE
Bringing Safety Home

FireSprinklerInitiative.org

The screenshot shows the homepage of FireSprinklerInitiative.org. At the top left is the NFPA logo, and next to it is the Fire Sprinkler Initiative logo with the tagline "Bringing Safety Home". A search bar is located at the top right. Below the header is a navigation menu with links for "ABOUT", "CONTACT", and "FOR THE MEDIA". A secondary menu contains "Advocacy Tools", "Research", "State Coalitions", "Legislation & Adoptions", and "Blog". The main content area features a large video player with a thumbnail for "Tragedy strikes twice for family" and a smaller video player for "Emotional torment follows home fire". Below the video player is a "POPULAR" section with a list of articles, and a "BLOG" section with a list of articles. At the bottom right is a "Read our newsletter" section with a thumbnail of the newsletter.

SEARCH

NFPA FIRE SPRINKLER INITIATIVE[®]
Bringing Safety Home

ABOUT CONTACT FOR THE MEDIA

Advocacy Tools Research State Coalitions Legislation & Adoptions Blog

Emotional torment follows home fire

Tragedy strikes twice for family
Two separate home fires, years apart, result in death

Firefighter Survivor story
"FACES OF FIRE"
More videos

POPULAR

- > Quiz: Test your knowledge on home fire sprinklers
- > Free presentation: the dangers of lightweight construction
- > Report: The cost of home fire sprinklers
- > Report: Sprinkler successes in one- and two- family homes
- > What builders need to know about home fire sprinklers

BLOG

- > Entire town considers sprinkler ordinance following sprinkler successes in one of its communities
- > Two families say hello to their sprinklered homes, courtesy of Habitat of Humanity
- > State's code-making body "dysfunctional" for not updating its building code
- > Tragedy strikes twice as separate home fires, years apart

Read our newsletter



Website Resources

- Home fire and sprinkler research reports
- Sprinkler legislation information
- State sprinkler coalition information
- Fact sheets countering sprinkler myths
- Op-ed templates
- Infographics
- Fire Sprinkler Initiative blog
- Videos

Make a Convincing Case for
Home Fire Sprinklers

Home fire sprinklers are cost effective

A report commissioned by the Fire Protection Research Foundation places the average national cost of installing sprinklers in new homes at \$1.35 per sprinklered square foot, or about **one percent** of the total construction cost. While costs can vary from jurisdiction to jurisdiction, people tend to pay more for granite countertops.

FireSprinklerInitiative.org
Visit NFPA's Fire Sprinkler Initiative website for more information.

NFPA FIRE SPRINKLER INITIATIVE Bringing Safety Home

*Data referenced by NFPA and other sources

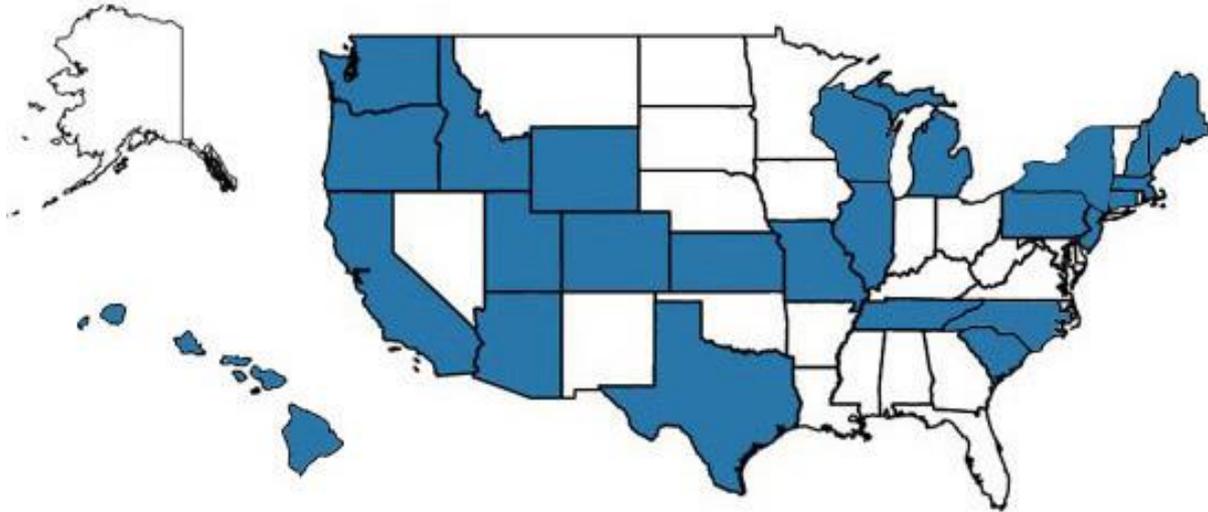


“FACES OF FIRE”



FIRE SPRINKLER INITIATIVE
Bringing Safety Home

Take Action: Join a State Sprinkler Coalition



Wanted: Sprinkler Myth Busters

- Join a coalition and use Fire Sprinkler Initiative tools to combat the many myths perpetuated by sprinkler opponents

“Sprinklers are expensive!”

“One sprinkler activates, they all activate!”

“Newer homes are safer homes!”

“Sprinklers are ugly!”



Home Fire Sprinklers 101

- Only activated by heat, not smoke
- Rapid response, typically between 135-160 degrees Fahrenheit
- Only the sprinkler nearest the fire will activate
- More than 90 percent of fires controlled by single sprinkler
- Most new sprinkler heads are unobtrusive



Sprinkler Myths: Delving Deeper

“Smoke alarms offer adequate protection during a fire!”

FACT

Smoke alarms are still critical in cutting the risk of dying in fire, but do nothing to suppress fire



Sprinkler Myths: Delving Deeper

“The fire problem is in older homes, since newer homes are safer!”

FACT

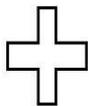
New homes have larger open spaces, lightweight construction materials, and furniture stuffed with combustible materials—all factors that lead to homes burning hotter and faster



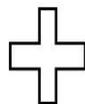
Characteristics of Modern Homes



Larger homes



Open Spaces



Increased fuel loads



Void spaces



Changing bldg. materials



- **Faster fire propagation**
- **Shorter time to flashover**
- **Rapid changes in fire dynamics**
- **Shorter escape times**
- **Shorter time to collapse**

Characteristics of Modern Homes



Large rooms



Open floor plans



Open foyers



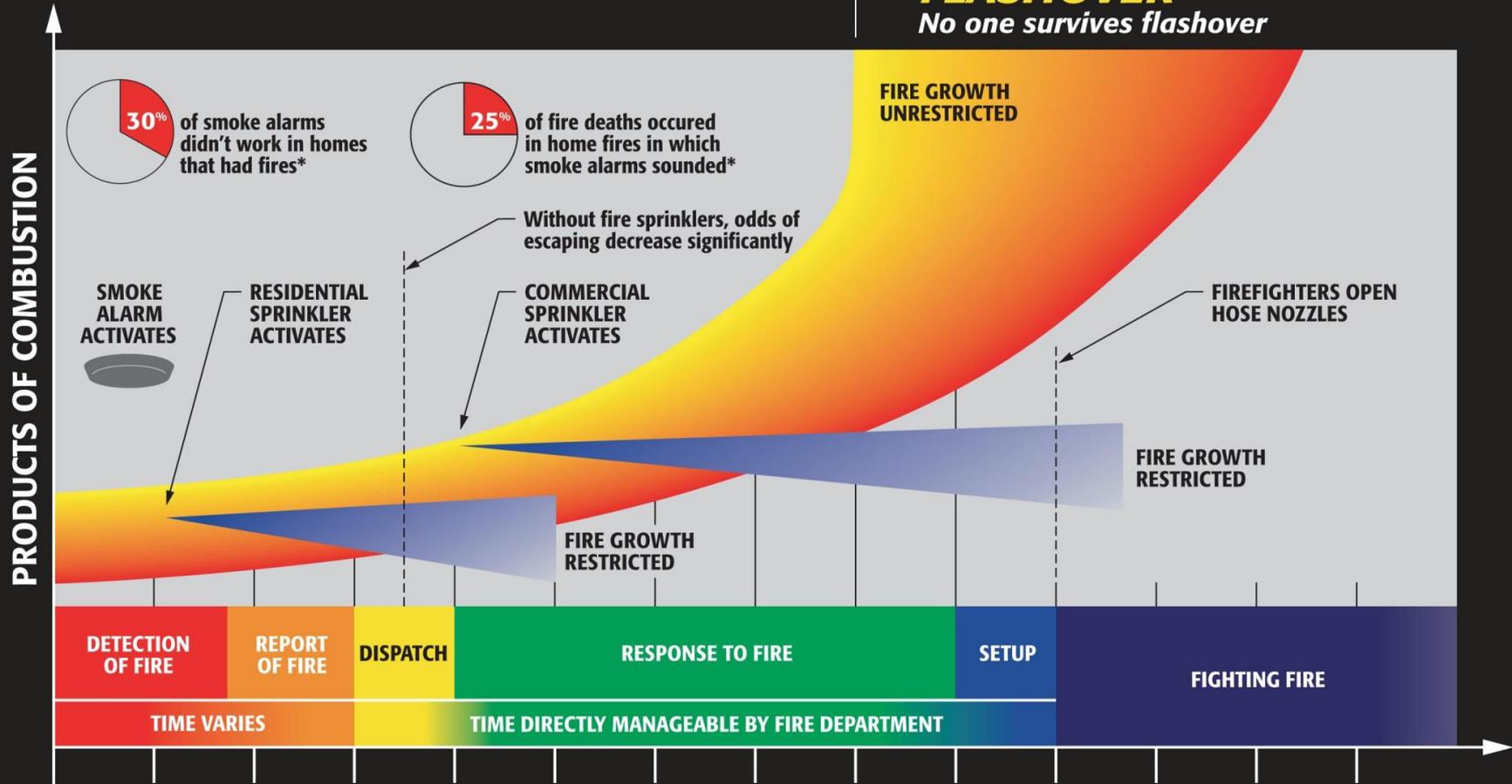
High/Vaulted ceilings

These features add volume/air contributing to faster smoke and fire spread

TIME vs. PRODUCTS of COMBUSTION

FLASHOVER

No one survives flashover



Sprinkler Arguments: Delving Deeper

“Sprinklers should be a matter of consumer choice!”

FACT

All model building codes in the U.S. **require** sprinklers in new, one- and two-family homes

Model code=minimum standard

Removing requirement=substandard housing



Sprinkler Myths: Delving Deeper

“Sprinklers are expensive and will price people out of homes!”

FACT

The average cost per sprinklered square foot is \$1.35



Source: 2013 Fire Protection Research Foundation study



Research Confirms Our Facts

“Comparative Analysis of Housing Cost and Supply Impacts of Sprinkler Ordinances” report

FINDINGS

- No detrimental effects to home construction
- Relative increase in construction



Research Confirms Our Facts

“The Environmental Impact of Automatic Fire Sprinklers” report

FINDINGS

- Fire sprinklers are green!
- Reduce water use to fight a fire by 90% compared with fire hose
- Reduce greenhouse gases by 98%
- Reduce fire damage by up to 97%



NFPA 13D: The Sprinkler Standard

“...shall be expected to prevent flashover (total involvement) in the room of origin, where sprinklered, and to improve the chance of occupants to escape or be evacuated.”

NFPA 13D: An Overview

- Life safety is its aim; property protection an added bonus
- Required only in living areas
- Omitted from
 - Closets (<24 square feet)
 - Bathrooms (<55 square feet)
 - Garages and attics

NFPA 13D: Water Supply

Municipal Water

- Standard operating pressure

Private water supply

- Well with pump
- Storage tank with pump
- Pressure tank



But Wait, There's More @ FireSprinklerInitiative.org

The screenshot shows the homepage of the Fire Sprinkler Initiative website. At the top left is the NFPA logo, and next to it is the Fire Sprinkler Initiative logo with the tagline "Bringing Safety Home". A search bar is located in the top right corner. Below the logo area is a navigation menu with links for "ABOUT", "CONTACT", and "FOR THE MEDIA". A secondary navigation bar features "Advocacy Tools", "Research", "State Coalitions", "Legislation & Adoptions", and "Blog". The main content area displays two featured articles. The first article, titled "Tragedy strikes twice for family", includes a video player with a thumbnail of a man and a child. The second article, titled "Emotional torment follows home fire", includes a video player with a thumbnail of a firefighter. Below the main content are sections for "POPULAR" and "BLOG" articles, each with a list of links. A "Read our newsletter" section is located in the bottom right corner, showing a preview of the newsletter content.

SEARCH

NFPA FIRE SPRINKLER INITIATIVE[®]
Bringing Safety Home

ABOUT CONTACT FOR THE MEDIA

Advocacy Tools Research State Coalitions Legislation & Adoptions Blog

Emotional torment follows home fire

Tragedy strikes twice for family
Two separate home fires, years apart, result in death

Firefighter Survivor story
"FACES OF FIRE"
More videos

POPULAR

- > Quiz: Test your knowledge on home fire sprinklers
- > Free presentation: the dangers of lightweight construction
- > Report: The cost of home fire sprinklers
- > Report: Sprinkler successes in one- and two- family homes
- > What builders need to know about home fire sprinklers

BLOG

- > Entire town considers sprinkler ordinance following sprinkler successes in one of its communities
- > Two families say hello to their sprinklered homes, courtesy of Habitat of Humanity
- > State's code-making body "dysfunctional" for not updating its building code
- > Tragedy strikes twice as separate home fires, years apart

Read our newsletter

Fire Sprinkler Initiative NEWS
Bringing Safety Home



Free Newsletter @ FireSprinklerInitiative.org/Newsletter



FIRE SPRINKLER INITIATIVE NEWS

Information for fire service and sprinkler advocates

Advocacy Tools

Research

State Coalitions

Legislation & Adoptions

June 2015



Advocates receive up to \$10,000 to initiate local sprinkler campaigns

Capitalizing on the local momentum taking place around home fire sprinklers, NFA's Fire Sprinkler Initiative awarded 16 grants aimed at furthering efforts that showcase their importance. View the list of recipients and what they have planned this year.

[Read More >>](#)

Share this story: [f](#) [t](#) [in](#)



Sprinkler installation cost a scorching topic during radio show

Listeners inundated the call-in line during a radio interview with NFPA staff about home fire sprinklers. Concerns over costs were countered by NFPA research and new case studies throughout the U.S. that show how affordable sprinkler installation really is.

[Read More >>](#)

Share this story: [f](#) [t](#) [in](#)

GET THE FACTS



FREE FACT SHEETS



FIRE SPRINKLER INITIATIVE
Bringing Safety Home

Want a peek at the future of home fire

Follow Us @NFPA_FSI

NFPA_FSI
@NFPA_FSI

NFPA's Fire Sprinkler Initiative is an effort to increase the use of home fire sprinklers in North America's new homes via adoptions of sprinkler requirements.

Quincy, MA
firesprinklerinitiative.org

7 Photos and videos

Tweets Tweets & replies Photos & videos

NFPA_FSI @NFPA_FSI · Jun 12
NFPA announces recipients of its Fire Sprinkler Initiative Grant Program - congrats to all! [ow.ly/OeGzb](#)

NFPA_FSI @NFPA_FSI · Jun 12
Home Fire Sprinkler Coalition (@HFSCorg) welcomes @NFFF_News and @NVFC to its Board of Directors [ow.ly/OBLJK](#)

NFPA_FSI retweeted **Nonprofit HFSC** @HFSCorg · Jun 11
Ron Farr (@ulenvironment), HFSC's Peg Paul & Dennis Gentzel (@usfire) talking home fire sprinklers at NFA today.

NFSA West @NFSAWest

Nonprofit HFSC @HFSCorg

Fred Durso Jr. @FredDursoJr

AFSA @AFSA

NFSA @NFSAorg

Trends

#SelenaXPantene
Promoted by Pantene Pro-V

#XboxE3

#MondayMotivation

#Iamdefensesquad

#WoodGate

Tom Brady

Janet Jackson

#3YearsOfBelieveAlbum

Smash Mouth

Spokane NAACP

Sam Baker

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Join the Delaware Fire Sprinkler Coalition





National Fire Protection Association
The authority on fire, electrical, and building safety

Thank You!
Paul Eichler
ike653@Hotmail.com
302 359 3057

TO: Mayor and City Councilmembers

FROM: Rob Pierce, AICP - Planning Director

DATE: February 23, 2022

RE: Sidewalk Master Plan

Enclosed in your packet is a presentation on the City's Sidewalk Master Plan. Staff compiled information on the existing sidewalk network, including 1) sidewalk gap locations, 2) prioritization of where sidewalk gap construction should be focused, 3) the type of improvements required to fill in the sidewalk gaps, and 4) which sidewalk gaps are to be constructed as part of planned or proposed projects.

There are four exhibits in the packet, each showing overall the location of existing sidewalks, proposed bicycle shared-use paths and proposed sidewalks.

The first exhibit entitled "Proposed Sidewalk Locations" illustrates where staff believes sidewalks should be installed throughout the City. Staff would like to utilize the time during the workshop for City Council to review the "Proposed Sidewalk Location" exhibit in order to ensure the plan has captured where Council desires to see sidewalks installed.

The second exhibit entitled "Prioritization" breaks the proposed sidewalk segments into three categories; low priority, medium priority and high priority. Staff would like to utilize the time during the workshop for City Council to review the "Prioritization" exhibit to make sure it is in alignment with Council's goals. The high priority area should be the focal point of near-term Capital Improvement Plan (CIP) funding.

Feedback from City Council will be used to update these two exhibits which will feed into the next two exhibits related to constructability and timing.

The third exhibit entitled "Level of Construction" demonstrates the level of construction difficulty for the proposed sidewalk sections within the high priority area. Things that affect difficulty include the need to construct curbing, road widening, drainage concerns, encroachments and grading issues.

The fourth exhibit entitled "Estimated Completion" highlights those sidewalk sections that are to be constructed as part of planned or proposed City, State or private development projects in the next 5 years within the high priority area.

Staff has provided cost estimates for easy and moderate difficulty projects within the high priority area and will need guidance from City Council on how these sidewalks should be funded and paid for. The City needs to determine who will be financially responsible for the construction of the sidewalk gaps

and three possible options are provided in the presentation material. Additionally, City Council needs to determine what amount of money will be allocated each year in the CIP to fund the “Sidewalk Connectivity Initiative.” City Council has currently appropriated \$100,000 per year over the next five years in the current CIP.

Upon receipt of feedback from City Council, staff will update the exhibits, sidewalk lengths and cost estimates and prepare a more detailed implementation plan, similar to what has been done for the street condition analysis in recent years.



Sidewalk Master Plan

February 23, 2022

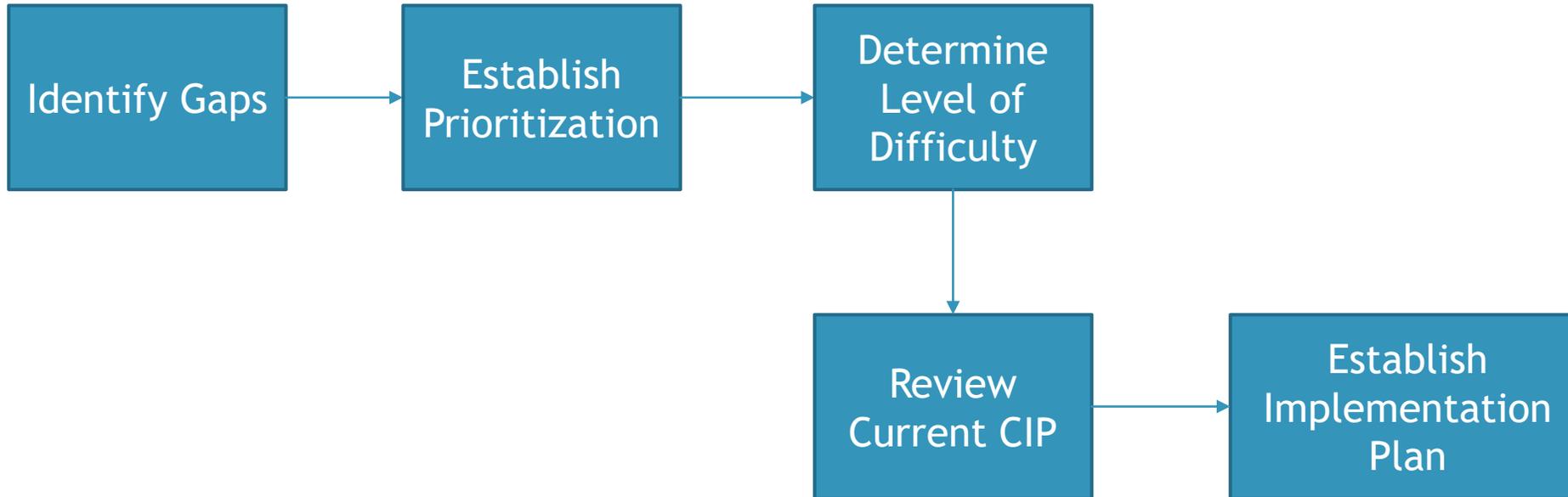


Purpose of the Master Plan

- ▶ Determine the location of proposed sidewalks in relationship to the recently completed update to the City's Bicycle Master Plan.
- ▶ Determine the prioritization of sidewalk installation.
- ▶ Determine the level of improvements needed to construct sidewalks.
- ▶ Review current capital projects and private development that impact sidewalk gaps.
- ▶ Evaluate current capital program to address remaining sidewalk gaps.
- ▶ Determine financial responsibility of sidewalk improvements.



Master Plan Process





Identification of Gaps

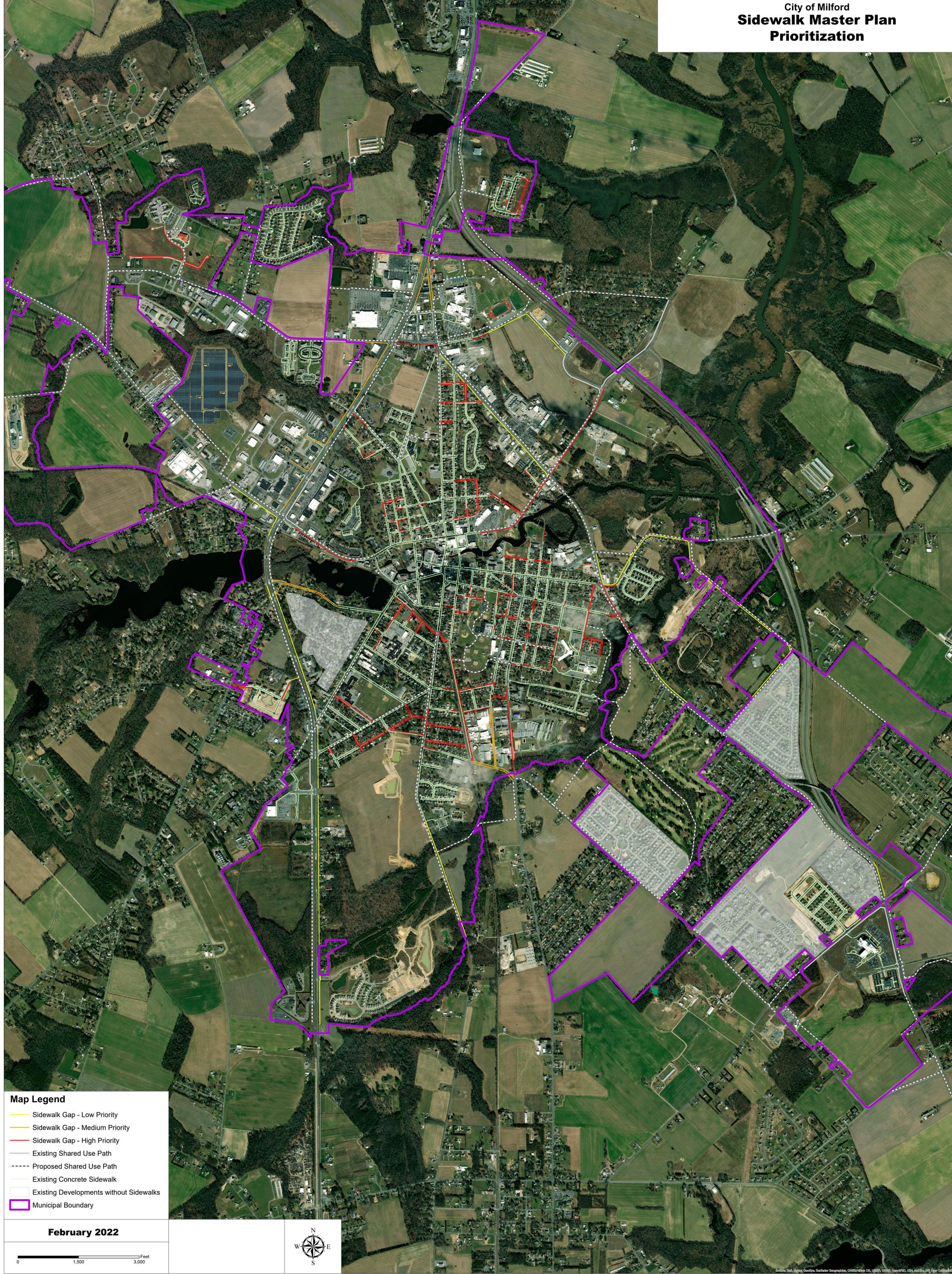
- ▶ Determine the location of proposed sidewalks in relationship to the recently completed Bicycle Master Plan update.
- ▶ See attached exhibit titled **“Proposed Sidewalk Locations.”**



Prioritization

- ▶ **High Priority** - Town Center Area, which primarily includes the older areas of Milford with interconnected, grid-like street systems. Primarily including the area north of Herring Branch/Deep Branch, east of Route 113, west of Rehoboth Boulevard and South of 10th Street comprised the central business district, surrounding residential neighborhoods and public facilities (schools, library, parks, etc).
- ▶ **Medium Priority** - Commercially developed areas along Route 113 in the northern portion of the City which connect neighborhoods on the east side of Route 113 with goods and services on the west side of Route 113.
- ▶ **Low Priority** - Route 113 and other State Maintained roads in the undeveloped and underdeveloped portions of Milford. These areas will likely be connected to the Town Center by shared use paths.
- ▶ See attached exhibit titled “**Prioritization**”.

City of Milford
**Sidewalk Master Plan
Prioritization**



- Map Legend**
- Sidewalk Gap - Low Priority
 - Sidewalk Gap - Medium Priority
 - Sidewalk Gap - High Priority
 - Existing Shared Use Path
 - Proposed Shared Use Path
 - Existing Concrete Sidewalk
 - Existing Developments without Sidewalks
 - Municipal Boundary

February 2022



Source: Bing, Google, Esri, DeLorme, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, AeroGRID, IGN, and the GIS User Community



Level of Improvements

- ▶ Determine the extent of improvements needed to install sidewalk along sections of City and State maintained roadways.
 - ▶ Sidewalk (easy)
 - ▶ Curb (moderate)
 - ▶ Road widening (difficult)
 - ▶ Drainage issues (difficult)
 - ▶ Grading/slope issues (difficult)
- ▶ See attached exhibit titled “**Level of Construction**” for the high priority areas.



Map Legend

Level of Construction Difficulty

- Easy
- Moderate
- Difficult
- Existing Shared Use Path
- - - Proposed Shared Use Path
- Existing Concrete Sidewalk
- Existing Developments without Sidewalks
- Municipal Boundary

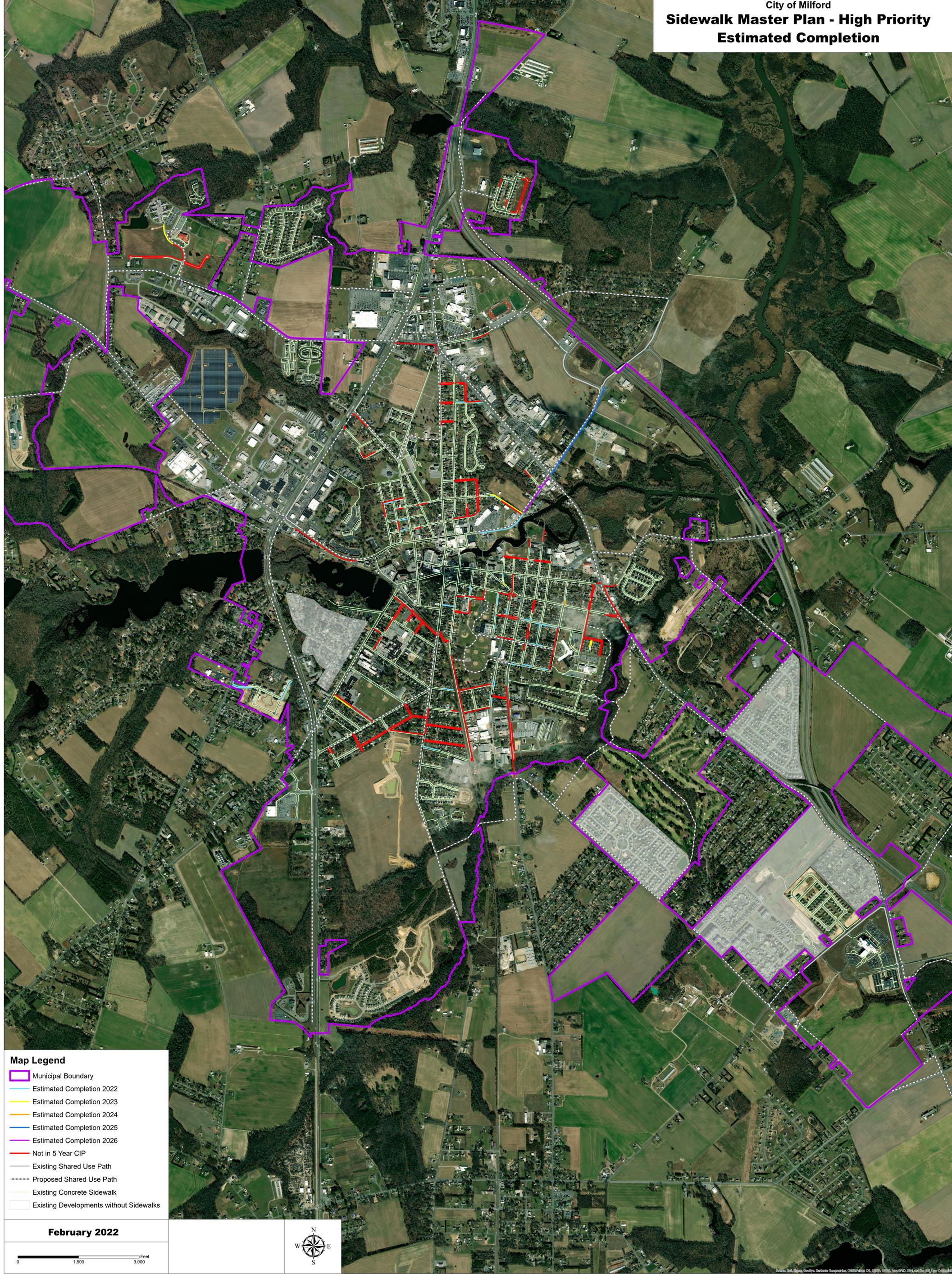
February 2022





Current Construction & Implementation

- ▶ City of Milford - Current 5-Year Capital Improvement Plan
- ▶ DelDOT Capital Projects
- ▶ DelDOT TAP Projects
- ▶ Private Development (new subdivision or infill development)
- ▶ 2022-2025 Capital Streets Projects
- ▶ 2022 Sidewalk Repair Program Contract (small gaps)
- ▶ See attached exhibit titled “**Estimated Completion**” for the high priority areas.



Map Legend

- Municipal Boundary
- Estimated Completion 2022
- Estimated Completion 2023
- Estimated Completion 2024
- Estimated Completion 2025
- Estimated Completion 2026
- Not in 5 Year CIP
- Existing Shared Use Path
- Proposed Shared Use Path
- Existing Concrete Sidewalk
- Existing Developments without Sidewalks

February 2022

0 1,500 3,000 Feet

Source: Bing, Google, Esri, DeLorme, GeoEye, Earthstar Geographics, CNRS/Airbus DS, USDA, AeroGRID, IGN, and the GIS User Community



Cost Breakdown - High Priority

Type of Construction	Length (feet)	Cost per Linear Foot	Total Cost
Sidewalk Only	24,570	\$75	\$1,842,750
Curb & Sidewalk	12,560	\$150	\$1,884,000
Difficult Projects	19,430	Unknown	Unknown

- ▶ Excludes development projects where sidewalk is constructed as homes or projects are built.
- ▶ Excludes NE Front Street TAP Project and NE Front Street DelDOT project.



Future Implementation

- ▶ City Council established a Capital Improvement Plan (CIP) item titled “Sidewalk Connectivity Initiative” and allocated \$100,000 each year for the next five (5) years.
- ▶ **QUESTION:** How should the sidewalk gap construction be paid for?



Future Implementation

- ▶ **Option 1**: Sidewalk gaps are fully paid for by the property owner.
- ▶ **Option 2**: Sidewalk gaps are partially subsidized by the City, similar to what is done for the sidewalk repair program.
- ▶ **Option 3**: Sidewalk gaps are fully paid for by the City.

**All three options could take advantage of State/Federal grants including but not limited to Safe Routes to School program (SRTS), Community Development Block Grants (CDBG), and Community Transportation Funds (CTF).



Recommendations

- ▶ Temporary Sidewalk Waivers should not be issued for gaps identified as high priority.
- ▶ Continue to require sidewalks to be installed with infill development and new projects to promote connectivity.
- ▶ Continue to fund the “Sidewalk Connectivity Initiative” in the 5-year CIP to address easy and moderate difficulty sidewalk gaps in high priority areas. **Need to determine the amount of funds appropriated.**
- ▶ Establish individual Capital projects in the 5-year CIP for difficult projects and assign appropriate allocation.