



**VIRTUAL/TELECONFERENCE
COMMERCIAL BUILDING CODE COUNCIL
4822 Madison Yards Way, Virtual, Madison
Contact: Brad Wojciechowski (608) 266-2112
September 13, 2021**

The following agenda describes the issues that the Council plans to consider at the meeting. At the time of the meeting, items may be removed from the agenda. Please consult the meeting minutes for a record of the actions of the Council.

AGENDA

10:00 A.M.

OPEN SESSION – CALL TO ORDER – ROLL CALL

- A. Adoption of Agenda (1-2)**
- B. Approval of Minutes from August 9, 2021 (3-4)**
- C. Reminders: Scheduling Concerns**
 - 1) Attendance Conflicts Impacting September 13, 2021 Meeting
 - 2) Attendance Confirmation for October 11, 2021 Meeting
- D. Administrative Matters – Discussion and Consideration**
 - 1) Department, Staff and Committee Updates
- E. Administrative Rules Matters – Discussion and Consideration**
 - 1) SPS Suggested Code Changes **(6-19)**
 - a. 2021 International Building Code (IBC)
 - b. SPS 362 – Buildings and Structures
 - c. 2021 International Mechanical Code (IMC)
 - d. SPS 364 – Heating, Ventilating and Air Conditioning
- F. Public Agenda Requests – Discussion and Consideration**
 - 1) IECC C404.5 **(20-21)**
- G. Public Comments**

ADJOURNMENT

NEXT MEETING: OCTOBER 11, 2021

MEETINGS AND HEARINGS ARE OPEN TO THE PUBLIC, AND MAY BE CANCELLED WITHOUT NOTICE.

Times listed for meeting items are approximate and depend on the length of discussion and voting. All meetings are held at 4822 Madison Yards Way, Madison, Wisconsin, unless otherwise noted. In order to confirm a meeting or to

request a complete copy of the board's agenda, please call the listed contact person. The board may also consider materials or items filed after the transmission of this notice. Times listed for the commencement of disciplinary hearings may be changed by the examiner for the convenience of the parties. Requests for interpreters for the deaf or hard of hearing, or other accommodations, are considered upon request by contacting the Affirmative Action Officer, 608-266-2112, or the Meeting Staff at 608-266-5439.

**VIRTUAL/TELECONFERENCE
COMMERCIAL BUILDING CODE COUNCIL
MEETING MINUTES
AUGUST 9, 2021**

PRESENT: Jennifer Emberson Acker, Michael Adamavich, Kevin Bierce, Steven Harms, William Hebert, Richard Paur, Irina Ragozin, Brian Rinke

EXCUSED: Justin Gavin, Steven Howard, Matthew Marciniak

STAFF: Brad Wojciechowski, Executive Director; Jameson Whitney, Legal Counsel; Eric Hansen, Consultant, Building Systems-Senior; Thomas Westlund, Consultant, Building Systems-Senior; Garry Krause, Bureau Director, Safety and Buildings; Megan Glaeser, Bureau Assistant; and other Department Staff

CALL TO ORDER

Richard Paur, Chairperson, called the meeting to order at 10:02 a.m. A quorum was confirmed with eight (8) members present.

ADOPTION OF AGENDA

MOTION: Jennifer Acker moved, seconded by Irina Ragozin, to adopt the Agenda as published. Motion carried unanimously.

APPROVAL OF MINUTES FROM JULY 12, 2021

MOTION: Michael Adamavich moved, seconded by Steven Harms, to approve the Minutes of July 12, 2021 as published. Motion carried unanimously.

ADMINISTRATIVE RULE MATTERS

MOTION: William Hebert moved, seconded by Steven Harms, to recommend approval of SPS 364 Heating, Ventilating, and Air Conditioning (sections 364.0001, 364.0100, 364.0101, 364.0202, 364.0300, 364.0301, 364.0304, 364.0307, 364.0309, 364.0312, 364.0313, 364.0401, 364.0402, 364.0403, 364.0404, 364.0501, 364.0502, 364.0506, 364.0507, 364.0513, 364.0514, 364.0601, 364.0602, 364.0606, 364.0607, 364.0701, 364.0801, 364.0802, 364.0918, 364.1001, 364.1101, 364.1500, 364.1600) as outlined in the 8/9/2021 agenda materials with appropriate notes. Motion carried unanimously.

MOTION: Steven Harms moved, seconded by Jennifer Emberson Acker, to recommend approval of the 2021 International Mechanical Code (IMC) chapters 1 through 15 as outlined in the 8/9/2021 agenda materials with appropriate notes. Motion carried unanimously.

MOTION: Brian Rinke moved, seconded by Irina Ragozin, to table discussion of Section 364.0505, until a future meeting. Motion carried unanimously.

ADJOURNMENT

MOTION: Brian Rinke moved, seconded by Michael Adamavich, to adjourn the meeting. Motion carried unanimously.

The meeting adjourned at 11:18 a.m.

DRAFT

**State of Wisconsin
Department of Safety & Professional Services**

AGENDA REQUEST FORM

1) Name and title of person submitting the request: Erik Hansen, Consultant Building Systems on behalf of Justin Gavin, Section Chief Commercial Buildings		2) Date when request submitted: 8/27/2021 Items will be considered late if submitted after 12:00 p.m. on the deadline date which is 8 business days before the meeting	
3) Name of Board, Committee, Council, Sections: Commercial Building Code Council			
4) Meeting Date: 9/13/2021	5) Attachments: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6) How should the item be titled on the agenda page? Recommendations and Proposed Changes to IBC and SPS 362 and follow up items from IMC and SPS 364.	
7) Place Item in: <input checked="" type="checkbox"/> Open Session <input type="checkbox"/> Closed Session	8) Is an appearance before the Board being scheduled? <i>(If yes, please complete Appearance Request for Non-DSPS Staff)</i> <input type="checkbox"/> Yes <input type="checkbox"/> No	9) Name of Case Advisor(s), if required:	
10) Describe the issue and action that should be addressed: Proposed changes to the 2021 International Building Code and Associated Wisconsin Amendments (SPS 362). Proposed changes to the 2021 International Mechanical Code Amendments SPS 364.0402 and 364.0505 - follow up from August Meeting. See attached spread sheets. Submitted for acceptance by the Council.			
11) Authorization			
Signature of person making this request Justin Gavin		Date	
Supervisor (if required)		Date	
Executive Director signature (indicates approval to add post agenda deadline item to agenda)			
Date			
Directions for including supporting documents: 1. This form should be attached to any documents submitted to the agenda. 2. Post Agenda Deadline items must be authorized by a Supervisor and the Policy Development Executive Director. 3. If necessary, provide original documents needing Board Chairperson signature to the Bureau Assistant prior to the start of a meeting.			

Wisconsin Department of Safety and Professional Services

DRAFT – SUBJECT TO CHANGE

Recommendations and Proposed Changes to IBC and SPS 362 (MINUS CHAPTER 9)

Final Draft for Code Committee Meeting

September 13, 2021

DRAFT

2021 INTERNATIONAL BUILDING CODE – IBC (SPS 362)

NO.	IBC/SPS	ISSUE/REASON FOR CHANGE	PROPOSED BY	EXISTING LANGUAGE/PROPOSED CHANGE	POTENTIAL IMPACT/COST	COMMENTS/STATUS
	GENERAL	CLARIFICATION / CORRECTIONS	DIS	<ul style="list-style-type: none"> • ICC SUMMARIZES THE CHANGES TO THE 2021 EDITION AS “NUMEROUS CHANGES IN FORMAT TO PROVIDE CONSISTANT LANGUAGE THROUGHOUT THE CODES”. MANY OF THE REQUIREMENTS HAVE NOT CHANGED SIGNIFICANTLY BUT THE LOCATION WITHIN THE CODE HAS. • CORRECT USE OF “EXCEPTION”, “CONDITION” AND “ITEM” IN AMENDMENT AND CODE LANGUAGE AS APPROPRIATE. • CORRECT CODE SECTION REFERENCES AND TITLES AS APPLICABLE TO 2021 EDITION. • VERIFY/CORRECT OTHER TESTING AGENCIES, REFERENCED CODES AND CODE SECTIONS AS APPLICABLE. • UNDERLINE DISTINCT CHANGE IN CODE WORDING WHERE APPLICABLE. • CORRECT AWKWARD WORDING WHERE APPLICABLE. • MINOR CHANGES TO THE CODE LANGUAGE THAT DO NOT SIGNIFICANTLY IMPACT STAKEHOLDERS, ADD SIGNIFICANT COST TO PROJECTS PHYSICALLY OR PROCEDURALLY OR IMPACT DEPARTMENT REQUIREMENTS OR PROCESSES ARE DEEMED ACCEPTABLE. 	N/A	ERIK
	CHAPTER 1	UPDATE	DIS	<p>SCOPE AND ADMINISTRATION</p> <ul style="list-style-type: none"> • NO MAJOR CHANGES, NOTE THAT WISCONSIN EXCLUDES ALL OF CHAPTER 1. 	NONE	ERIK
	362.0100	UPDATE	DIS	<p>362.0100 – ADMINISTRATION: RETAIN AMENDMENT AS WRITTEN. CONTAINS INSTRUCTIONAL INFO RELATIVE TO APPLICATION OF AMENDMENTS.</p>	NONE	ERIK

	CHAPTER 2	CLARIFICATION	DIS	DEFINITIONS <ul style="list-style-type: none"> DEFINITIONS FOR ATRIUM, CHANGE OF OCCUPANCY, IMPACT PROTECTION SYSTEMS, *MASS TIMBER, NAILABLE SUBSTRATE, PENTHOUSE, PUZZLE ROOM AND STRUCTURAL MEMBERS ADDED. 	MINIMAL	ERIK
71, 96	362.0202	<i>CHANGE/ CLARIFICATION</i>	DIS	362.0202 – DEFINITIONS: RETAIN AMENDMENT AS WRITTEN BUT <i>REVISE DEFINITION OF “COMMERCIAL MOTOR VEHICLE” TO MORE CLEARLY STATE REQUIREMENTS AND NOTE THE DIFFERENCE BETWEEN “COMMERCIAL MOTOR VEHICLE” AND “MOTOR VEHICLE” USED IN THE IMC AND PROVIDE EXAMPLES (FIRE FIGHTING APPARATUS)</i> MAINTAINS CONSISTANT TERMINOLOGY AND BETTER CLARIFIES THE INTENT. <i>REVISE DEFINITION OF “PROPERTY LINE” TO INCLUDE LEGAL LAND PARCEL SEPARATION OR PERMANENT RECOGNIZED EASEMENT.</i> <i>CREATE DEFINITION FOR “TOILET ROOM” WHICH STIPULATES THAT THERE MUST BE A WATERCLOSET AND A LAVATORY IN A SINGLE SPACE THAT PROVIDES PRIVACY FOR THE INDIVIDUAL WHO IS USING IT.</i> <i>REMOVE DEFINITION OF “LIVE WORK UNIT” – 2021 DEFINITION LANGUAGE IS MORE APPROPRIATE FOR A COMMERCIAL BUILDING APPLICATION.</i>	NONE	ERIK
	CHAPTER 3	CLARIFICATION	DIS	OCCUPANCY CLASSIFICATION AND USE <ul style="list-style-type: none"> CHANGES MADE TO MORE APPROPRIATELY ADDRESS ALCOHOLIC BEVERAGE STORAGE FOR HAZARDOUS/NON-HAZARDOUS OCCUPANCIES AND CLEAR DELINIATION FOR ABOVE AND BELOW 16% ALCOHOL CONTENT WITHOUT REFERENCE TO CONTAINER TYPE. 	MINIMAL	ERIK
	362.0306	UPDATE	DIS	362.0306 – CHEESE FACTORIES CLASSIFIED AS F-2 OCCUPANCY: RETAIN AMENDMENT AS WRITTEN. IDENTIFIES SPECIFIC DEPARTMENT INTERPRETATION.	NONE	ERIK

362.0307	UPDATE	DIS	362.0307 – PYROPHORIC MATERIALS: RETAIN AMENDMENT AS WRITTEN. PROVIDES REFERENCE TO SPS 314 – FIRE PREVENTION.	NONE	ERIK
362.0308	UPDATE	DIS	362.0308 – CLASSIFICATION OF INSTITUTIONS WITH 5 OR FEWER PERSONS RECEIVING MEDICAL CARE: RETAIN AMENDMENT AS WRITTEN. IDENTIFIES SPECIFIC DEPARTMENT INTERPRETATION.	NONE	ERIK
362.0310	UPDATE	DIS	362.0310 – USE AND OCCUPANCY CLASSIFICATION: RETAIN AMENDMENT AS WRITTEN. IDENTIFIES SPECIFIC DEPARTMENT INTERPRETATION AND DEFINITIONS.	NONE	ERIK
CHAPTER 4	ADDITIONS	DIS	SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE <ul style="list-style-type: none"> • <u>*WATER SUPPLY TO FIRE PUMPS FOR BUILDINGS OF MASS TIMBER CONSTRUCTION HIGHER THAN 120'.</u> • ADDITIONAL PROVISIONS FOR ATRIUMS • FLOOR SURFACES IN PARKING GARAGES • ADDITIONAL PROVISIONS FOR 1-2 OCCUPANCIES • REQUIREMENTS FOR PUZZLE ROOMS • FIRE WALL USE IN CONTROL AREAS • PROVISIONS FOR COOKING IN AMBULTORY CARE FACILITIES • EXPANDED REQUIREMENTS FOR PLAY STRUCTURES. 	SIGNIFICANT	ERIK
362.0400	UPDATE	DIS	362.0400 – SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY: RETAIN AMENDMENT AS WRITTEN. ADDITIONAL REQUIREMENTS/CONCERNS REGARDING SPECIFIC OCCUPANCIES OR USES NOT ADDRESSED IN 2021 CODE.	NONE	ERIK
362.0401	UPDATE	DIS	362.0401 – CHAPTER ATCP 93 COMPLIANCE: RETAIN AMENDMENT AS WRITTEN. ADDITIONAL REQUIREMENT/CONCERNS REGARDING MOTOR FUEL DISPENSING FACILITIES AND REPAIR GARAGES COMPLYING WITH ATCP 93 NOT ADDRESSED IN 2021 CODE.	NONE	ERIK

35	362.0406	CHANGE	DIS	362.0406 – FLOOR SURFACES IN MOTOR VEHICLE RELATED OCCUPANCIES: ADD LANGUAGE THAT PROHIBITS THE USE OF UNSURFACED GRAVEL OR OTHER SIMILAR ABSORBANT PAVING MATERIALS AS A FLOOR SURFACE IN THESE OCCUPANCIES.	MINIMAL	ERIK
	362.0412	CHANGE	DIS	362.0412 – AIRCRAFT STORAGE: EDIT AMENDMENT TO PROVIDE CLARIFICATION. <i>MODIFY REFERENCE TO SPS 382 (PLUMBING CODE) TO ADDRESS COMPLIANCE WITH DRAIN REQUIREMENTS.</i> <i>ADD REFERENCE TO FLOOR SURFACE REQUIREMENTS IN 406.2.4.</i>	MINIMAL	ERIK
	362.0415	UPDATE	DIS	362.0415 – HAZARDOUS MATERIALS: RETAIN AMENDMENT AS WRITTEN. ADDITIONAL REQUIREMENT/CONCERNS REGARDING MAGAZINES FOR DETONATORS NOT ADDRESSED IN 2021 CODE.	NONE	ERIK
184	362.0420	CHANGE	DIS	362.0420 – SEPARTION WALLS: ADD LANGUAGE TO DESCRIBE REQUIREMENTS FOR SEPARATION BETWEEN SINGLE TENANT R OCCUPANCY COVERED UNDER THE WISCONSIN UDC FROM OTHER COMMERCIAL TENANTS.	NONE	ERIK
	362.0423	UPDATE	DIS	362.0423 – STORM SHELTERS: RETAIN AMENDMENT AS WRITTEN. CODE LANGUAGE REQUIRES STORM SHELTERS FOR EMERGENCY SERVICES AND SCHOOLS OR ICC 500 SHELTER DESIGN COMPLIANT CONSTRUCTION WHICH PLACES AN UNECESSARY BURDEN ON MUNICIPALITES.	NONE	ERIK

165	CHAPTER 5	ADDITIONS/ CHANGES	DIS	GENERAL BUILDING HEIGHTS AND AREAS <ul style="list-style-type: none"> • OCCUPIED ROOF PROVISIONS • <u>*BUILDING HEIGHTS, NUMBER OF STORIES AND AREA TO ADDRESS MASS TIMBER CONSTRUCTION</u> • FRONTAGE INCREASE SIMPLIFIED • SEPARATED OCCUPANCIES TABLE “COMPLETED” • <u>*FIRE SEPARATION/THERMAL BARRIER OF MASS TIMBER CONSTRUCTION ADDRESSED</u> • LIVE/WORK UNITS RELOCATED TO SECTION 508 W/O CHANGE TO TECHNICAL REQUIREMENTS • STATIONARY STORAGE BATTERY SYSTEMS MOVED FROM 509.1 INCIDENTAL USES TO IFC 1207 • PROVISIONS FOR STAIRWAY CONSTRUCTION IN PEDESTAL BUILDINGS. 	MINIMAL	ERIK
	362.0504	UPDATE	DIS	362.0504 – BUILDING HEIGHT AND NUMBER OF STORIES: RETAIN AMENDMENT AS WRITTEN. EXEMPTS TEMPORARY OR PERMANENT USE OF FARM PREMISE BUILDINGS FOR A-2 OCCUPANCIES.	NONE	ERIK
	362.0506	<i>CHANGE</i>	DIS	362.0506 – ALLOWABLE BUILDING AREA: <i>DELETE AMENDMENT – AREA MISTAKE CORRECTED IN 2021 TABLE.</i>	NONE	ERIK
	362.0509	UPDATE	DIS	362.0509 – INCINERATOR ROOMS: RETAIN AMENDMENT AS WRITTEN. IDENTIFIES CREMATORIUMS SEPARATE FROM INCINERATOR ROOMS.	NONE	ERIK
	CHAPTER 6	CHANGES	DIS	TYPES OF CONSTRUCTION <ul style="list-style-type: none"> • <u>*PROVISIONS FOR MASS TIMBER CONSTRUCTION ADDED</u> • EXPANDED USE OF WOOD AND FRTW IN TYPE I AND II CONSTRUCTION. 	SIGNIFICANT	ERIK

	362.0603	UPDATE	DIS	362.0603 – ALLOWABLE MATERIALS: RETAIN AMENDMENT AS WRITTEN. ALLOWS CERTAIN TESTED AND APPROVED FIRE-RESISTANT COATINGS.	MINIMAL	ERIK
	CHAPTER 7	CHANGES/ ADDITIONS	DIS	FIRE AND SMOKE PROTECTION FEATURES <ul style="list-style-type: none"> • *PROVISIONS FOR MASS TIMBER • FIREPROOFING AT SECONDARY STEEL ATTACHMENT. • RELOCATION OF EXTERIOR WALL RATING REQUIREMENTS. • PROVISIONS FOR ENERGY STORAGE SYSTEMS. • CONTINUITY OPTION FOR FIRE BARRIERS. • CHANGES TO FIRE PARTITION SUPPORTING CONSTRUCTION. • SMOKE COMPARTMENT CONTINUITY INTENT AND PERMITTED OPENINGS CLARIFIED. • TOP OF RATED SHAFT ENCLOSURES CLARIFIED. • JOINT AND VOID PROTECTION REFORMATTED. • PROHIBITED USE OF TERMINATED (HOSPITAL) DOOR STOPS IN RATED ASSEMBLIES. • PERFORMANCE REQUIREMENTS FOR RATED CURTAIN ASSEMBLIES. • PROVISIONS FOR DOORS IN DOUBLE FIRE WALLS. • PROVISIONS FOR STATIC AND DYNAMIC CEILING RADIATION DAMPERS. • FIRE DAMPER ACCESS AND MINIMUM SIZE REQUIREMENT. • PERMITTED USE OF FLEXIBLE CONNECTIONS AT FULLY DUCTED HVAC SYSTEMS. • *MASS TIMBER PRESCRIPTIVE FIRE RESISTANCE PROVISIONS. 	SIGNIFICANT	ERIK
	362.0702	UPDATE	DIS	362.0702 - DEFINITIONS: RETAIN AMENDMENT AS WRITTEN. SUBSTITUTES DEFINITION FOR “FIRE SEPARATION DISTANCE”.	NONE	ERIK
	362.0705	CHANGE	DIS	362.0705 – EXTERIOR WALLS: DELETE AMENDMENT – ERROR IN TABLE FROM ORIGINAL AMENDMENT HAS BEEN CORRECTED, 2021 IBC CONTAINS CORRECT WORDING.	NONE	ERIK
18, 74	362.0706	CHANGE	DIS	362.0706 – FIRE WALL IDENTIFICATION: <i>EDIT AMENDMENT TO INCLUDE FIRE RATING (IN HOURS) TO SIGNAGE REQUIREMENTS AT EXTERIOR OF BUILDING.</i> <i>ADD EXCEPTION FOR EXTENDING FIRE WALL 4’ IN ONE DIRECTION AT PARTYWALLS TO FORMALIZE DEPARTMENT INTERPRETATION.</i>	MINIMAL	ERIK

184	362.0708	CHANGE	DIS	362.0708 – SEPARTION WALLS: ADD LANGUAGE TO DESCRIBE REQUIREMENTS FOR SEPARATION BETWEEN SINGLE TENANT R OCCUPANCY COVERED UNDER THE WISCONSIN UDC FROM OTHER COMMERCIAL TENANTS.	NONE	ERIK
	362.0713	UPDATE	DIS	362.0713 – CHUTE DISCHARGE ROOM: RETAIN AMENDMENT AS WRITTEN. APPLIES REQUIREMENTS TO RECYCLING CHUTES.	NONE	ERIK
	362.0717	UPDATE	DIS	362.0717 – DUCTS AND AIR TRANSFER OPENINGS: RETAIN AMENDMENT AS WRITTEN. PROVIDES ADDITIONAL METHOD FOR SMOKE DAMPER ACTUATION AND EXEMPTS SMOKE DAMPERS IN LABORTORY VENTILATING SYSTEMS IF DESIGNED AND INSTALLED PER NFPA 45.	NONE	ERIK
	362.0722	UPDATE	DIS	362.0722– FIRE-RESISTANT RATINGS: RETAIN AMENDMENT AS WRITTEN. CLARIFIES REQUIREMENTS FOR EXTERIOR WALLS WHERE SEPARATION DISTANCE IS GREATER THAN 10’.	NONE	ERIK
	CHAPTER 8	ADDITION	DIS	INTERIOR FINISHES <ul style="list-style-type: none"> MOVES COMBUSTIBLE LOCKERS FROM IFC TO IBC AND TREATS AS A FINISH REQUIREMENT. 	MINIMAL	ERIK
	CHAPTER 9			ADDITIONAL RESEARCH UNDERWAY – PRESENT AT OCTOBER MEETING		BOB

CHAPTER 10	MODIFICATION / CLARIFICATION	DIS	MEANS OF EGRESS <ul style="list-style-type: none"> • COMMON PATH OF TRAVEL LIMIT ELIMINATED FOR UNOCCUPIED MECHANICAL SPACES • SPECIFICS OF EGRESS FROM OCCUPIED ROOFS AND STORIES WITH A SINGLE EXIT ADDRESSED • INCREASE IN STAIRWAY ILLUMINATION LEVELS • ELEVATORS SERVING OCCUPIED ROOFS ABOVE THIRD FLOOR TO SERVE AS ACCESSIBLE MEANS OF EGRESS (AMOE) • INTERIOR AREA OF REFUGE IN LIEU OF EXTERIOR AREA OF ASSISTED RESCUE PERMITTED • MINIMUM SIZE OF AREA OF RESCUE INCREASED TO MATCH 2017 A117.1 • DOOR SIZE REGULATIONS CHANGED • ADDITIONAL DOOR COMPONENTS PERMITTED TO PROJECT INTO OPENING HEIGHT • DOOR OPENING FORCE COORDINATED WITH 2017 A117.1 • DOOR LOCKS AND LATCHES USE EXPANDED • STAIR LANDING MINIMUM WIDTH CLARIFIED • EGRESS THRU ELEVATOR LOBBIES PERMITTED FOR SINGLE EXIT SPACES • REQUIREMENTS FOR EXIT ACCESS STAIRWAYS SERVING TWO STORIES CLARIFIED • DEAD END CORRIDORES NOT SERVING PATIENT OR TREATMENT ROOMS EXTENDED TO 30' • PROVISIONS FOR HANDRAILS AT "SOCIAL STAIRS" INCLUDED • EMERGENCY ESCAPE AND RESCUE OPENINGS COORDINATED BETWEEN IBC AND IRC. 	MINIMAL	ERIK
362.1004	<i>CHANGE</i>	DIS	362.1004– EGRESS FOR OUTDOOR AREAS: <i>DELETE AMENDMENT, PREVIOUS CONCERNS ARE ADDRESSED IN 2021 SECTION 1004.7.</i>	NONE	ERIK
362.1006	UPDATE	DIS	362.1006– EXITS: RETAIN AMENDMENT. PROVIDES ADDITIONAL REQUIREMENTS NOT ADDRESSED IN THE 2021 IBC.	NONE	ERIK

33	362.1009	UPDATE/ CHANGE	DIS	<p>362.1009– ACCESSIBLE MEANS OF EGRESS: RETAIN AMENDMENT AS WRITTEN. PROVIDES CLARIFICATION FOR EXEMPTING AREAS OF REFUGE WHERE ACCESS TO FLOOR IS NOT REQUIRED.</p> <p><i>ADD REQUIREMENT FOR DESIGN OF TWO-WAY COMMUNICATION SYSTEM TO BE PER NFPA 72.</i></p>	NONE	BOB
	362.1010	CHANGE	DIS	<p>362.1010– DOORS, GATES AND TURNSTYLES: <i>DELETE AMENDMENT, PREVIOUS CONCERNS ARE ADDRESSED IN 2021 SECTION 1010.1.1 EXCEPTION 11, 1010.1.7 AND 1010.2.9.2. CONFIRMED AS PARALLEL WITH ELECTRICAL CODE.</i></p>	NONE	ERIK
	362.1011	CHANGE	DIS	<p>362.1011– STAIRWAY WIDTH: RETAIN (1) – PROVIDES CLARIFICATION FOR THE INSTALLATION OF STAIRWAY CHAIRLIFTS.</p> <p><i>DELETE (2) – STAIR SHAFT CONSTRUCTION IN PEDASTAL BUILDINGS IS ADDRESSED IN 2021 IBC.</i></p>	NONE	ERIK
	362.1013	CHANGE	DIS	<p>362.1013– FLOOR LEVEL EXIT SIGNS: <i>DELETE AMENDMENT WHICH REMOVES REQUIREMENT FOR FLOOR LEVEL EXIT SIGNS.</i></p>	NONE	ERIK
	362.1015	UPDATE	DIS	<p>362.1015– GUARDS: RETAIN AMENDMENT – PROVIDES ADDITIONAL CLARIFICATION FOR LOCATION, APPLICATION AND USE OF GUARDS.</p>	NONE	ERIK
28	362.1016	CREATE	DIS	<p>362.1016 – EGRESS THRU INTERVENING SPACES: <i>ADD “TOILET ROOMS” TO ITEM 5.</i></p>		
	362.1020	UPDATE	DIS	<p>362.1020– CORRIDOR CONTINUITY: RETAIN AMENDMENT – PROVIDES ADDITIONAL CLARIFICATION FOR APPLICATION OF INTERVENING ROOMS.</p>	NONE	ERIK
	362.1029	CHANGE	DIS	<p>362.1029– SPACES UNDER BLEACHERS AND GRANDSTANDS: <i>REVISE AMENDMENT TO CLARIFY THAT DELETION APPLIES ONLY TO OUTDOOR GRANDSATANDS AND BLEACHERS.</i></p>	MINIMAL	ERIK

CHAPTER 11	ADDITION/ UPDATE/ MODIFICATION	DIS	<p>ACCESSIBILITY</p> <ul style="list-style-type: none"> • A117.1 – 2017 ADOPTED WHICH PRIMARILY ENHANCES THE CLEAR FLOOR SPACE AND MANEUVERING CLEARANCES FOR NEW CONSTRUCTION. • 3,000 SF EXCLUSION PROHIBITED IF 4 OR MORE DWELLING UNITS TO ALIGN WITH FAIR HOUSING ACT. • AUTO DOOR OPENERS REQUIRED AT PUBLIC ENTRANCES FOR SPECIFIC OCCUPANCIES. • ACCESSIBLE ELECTRIC VEHICLE CHARGING STATIONS IF/WHERE PROVIDED. • ASSISTED TOILET AND BATHING DESIGN OPTIONS (IN IBC, NOT A117.1). • REQUIREMENT FOR ACCESSIBLE BOTTLE FILLING STATIONS IF/WHERE PROVIDED. • ACCESSIBILITY REQUIREMENTS FOR SERVICE WINDOWS • DELETION OF REDUNDANT REQUIREMENTS FOR OPERABLE PARTS IN IBC. 	SIGNIFICANT	ERIK
362.1101	UPDATE	DIS	362.1101– DESIGN OF TYPE A AND B UNITS: RETAIN AMENDMENT – PROVIDES CLARIFICATION FOR CIRCUIT BREAKER INSTALLATION AND PROVISIONS FOR RENTER REQUEST FOR CONTROL ACCOMODATIONS.	NONE	ERIK
362.1103	UPDATE	DIS	362.1103– SCOPING REQUIREMENTS – LIMITED ACCESS SPACES: RETAIN AMENDMENT – PROVIDES CLARIFICATION FOR SPECIFIC SPACES AND AREAS NOT REQUIRED TO BE ACCESSIBLE.	NONE	ERIK
362.1104	<i>CHANGE</i>	DIS	362.1104– ACCESSIBLE ROUTE: RETAIN AMENDMENT – DISTINGUISHES GOVERNMENT OWNED OR OPERATED FACILITIES. <i>REWORD FOR CLARITY, APPLIES ONLY TO PRESS BOXES.</i>	NONE	ERIK
362.1107	UPDATE	DIS	362.1107– DWELLING UNITS AND SLEEPING UNITS: RETAIN AMENDMENT. PROVIDES CLARIFICATION FOR THE INCLUSION OF TYPE B UNITS FOR SPECIFIC OCCUPANCIES.	NONE	ERIK
362.1111	UPDATE	DIS	362.1111– SIGNAGE: RETAIN AMENDMENT – PROVIDES ADDITONAL REQUIREMENTS FOR PARKING SIGNAGE.	NONE	ERIK

	CHAPTER 12	ADDITION/ MODIFICATION	DIS	INTERIOR ENVIRONMENT <ul style="list-style-type: none"> • UNVENTED ATTIC ALTERNATIVE DESIGN PERMITTED. • ADDITIONAL CLASSROOM ACOUSTIC REQUIREMENTS. • 190 SF (INCREASED FROM 120 SF) EFFICIENCY DWELLING UNIT MINIMUM. • SCREENING REQUIREMENTS AT RESTROOM ENTRIES. 	MINIMAL	ERIK
362.1203		UPDATE	DIS	362.1203– NATURAL VENTILATION: RETAIN AMENDMENT – PROVIDES ADDITIONAL DESIGN OPTIONS.	NONE	ERIK
362.1204		UPDATE/	DIS	362.1204– INTERIOR ENVIRONMENT: RETAIN AMENDMENT – REQUIRES COMPLIANCE WITH IMC.	NONE	ERIK
362.1206		<i>CHANGE</i>	DIS	362.1206– COURTS: <i>DELETE AMENDMENT – OPTION TO DRAIN VIA APPROVED METHOD OTHER THAN PUBLIC UTILITY IS PROVIDED FOR IN 2021 IBC.</i>	NONE	ERIK
362.1210		UPDATE	DIS	362.1210– TOILET ROOMS: RETAIN AMENDMENT AS WRITTEN, PROVIDING DEFINITION FOR TOILET ROOM CORRECTS PREVIOUS ISSUE.	NONE	ERIK
	CHAPTER 13	N/A	DIS	ENERGY EFFICIENCY <ul style="list-style-type: none"> • THIS CODE SECTION DEFERS TO THE IECC. 	N/A	ERIK
	CHAPTER 14	ADDITION/ MODIFICATION	DIS	EXTERIOR WALLS <ul style="list-style-type: none"> • VAPOR RETARDERS CLARIFIED AND LINKED TO CLIMATE ZONE REQUIREMENTS. • DOUBLE VAPOR BARRIERS REQUIRE SPECIAL APPROVAL. • CLARIFICATION ON THE USE OF CLASS II AND CLASS III VAPOR RETARDERS. • SIMPLIFIED REQUIREMENTS FOR THE USE OF METAL COMPOSITE MATERIALS ON BUILDING EXTERIORS. 	MINIMAL	ERIK

	362.1405	<i>CHANGE</i>	DIS	362.1405– EXTERIOR WALLS: <i>DELETE (1M) AND (2M) WHICH ARE ADDRESSED IN THE 2021 IBC.</i> RETAIN (3M) WHICH PROVIDES REQUIREMENTS IN ADDITION TO THOSE IN THE 2021 IBC FOR USE OF FOAM SHEATHING UNDER VINYL SIDING.	NONE	ERIK
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DRAFT – SUBJECT TO CHANGE

Recommendations and Proposed Changes – Follow Up
Final Draft for Code Committee Meeting
September 13, 2021

2021 INTERNATIONAL CODES AND SPS 361-366						
NO.	IMC/SPS	ISSUE/REASON FOR CHANGE	PROPOSED BY	EXISTING LANGUAGE/PROPOSED CHANGE	POTENTIAL IMPACT/COST	COMMENTS/STATUS
	364.0402	CHANGE	DIS	364.0402 – NATURAL VENTILATION: REMOVE KITCHENS FROM TABLE 364-0402 – KITCHENS SHALL BE REQUIRED TO HAVE MECHANICAL VENTILATION WHERE DOMESTIC COOKING EQUIPMENT IS PRESENT/USED.	SIGNIFICANT	ERIK
	364.0505	CHANGE	DIS	364.0505 – DOMESTIC KITCHEN EXHAUST EQUIPMENT: DELETE AMENDMENT – DOMESTIC RANGE HOODS AND EXHAUST SYSTEMS TO BE REQUIRED IN OTHER THAN GROUP R OCCUPANCIES AS STATED IN 2021 CODE LANGUAGE.	SIGNIFICANT	ERIK



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First Name: Paul

Last Name: Lippitt

Association/Organization: Private Citizen – Master Plumber

Subject: IECC C404.5

Issue to Address:

My feeling is that the plumbing industry doesn't have to just accept this position from DPS without questions and appropriate discussion. The decision to apply this code requirement as opposed to that which has been in our code for many years has been very costly, doesn't save energy and could very well cause degradation of the water supply in buildings. I won't touch on the cost issue because I think it's self-evident to anyone that would have an interest in reading this. I will go into the other two in some detail, one at a time. I will focus on the traditional method of temperature maintenance of building hot water with the use of water circulation. The other options of point of use heating and heat tracing temperature maintenance cable are clearly not energy efficient because they use electricity to heat the water and have many other issues associated with their use.

The pumps normally used for hot water circulating systems are very small, fractional horsepower units that use very little energy. Of the small amount of electrical energy that is used, a part is imparted to the passing water in the form of heat. Therefore, there is very little if any energy to be saved with these pumps. The requirement for piping the circulated water to within 24" of every lavatory or hand washing station will actually use considerably more energy for several reasons. Circulation or other means of meeting this requirement add cost and wasted energy in many installations that wouldn't have required it under our existing plumbing code. Adding this additional pipe will create significantly more heat loss from the pipe regardless of how well it is insulated. Adding circuits will create a more complex system will increase the size of the pump and piping to allow the system to be balanced and functional. I've seen a dramatic increase in the size and complexity of these system on state and UW system projects due to the IECC requirement. Often the number of necessary circuits can be 4 or 5 times what they should have been. This means the circulating pumps are that much larger as well and this is clearly not conserving energy. Another issue I commonly see is the oversizing of circulating pumps and placing a balancing valve immediately downstream of the pump to fine tune the flow rate. This means pumping against a dead head and the additional waste of energy.

Much more could be accomplished on energy conservation in building hot water systems by focusing on the larger energy use issues. Actual code requirements for balancing and hot water return sizing guidance would be a good start. Right sizing of the piping systems and water heating equipment would be the biggest improvement.

Another issue with this code section is allowing what I refer to a hot to cold cross over circulating system. IECC 404 allows this as a solution and SPS 363 includes a Wisconsinism that mentions its use as well. The EPA makes it clear on their website that hot water should never be used for human consumption and particularly for mixing with baby formula. This is due to the possibility of excessive lead levels in the hot water system. While hot water is considered to be potable and acceptable for bathing and hygiene purposes, it's not intended for drinking or food preparation. This cross over circulation method is intentionally mixing lower quality water with water that is intended for drinking and it should be prohibited. Another point that isn't made by the EPA, but should be, is that the highest levels of microbial activity occur in the building hot water system. This would include pathogens like Legionella.

This brings me to the second issue of the deterioration of the general water quality of the hot water system. There are several national standards and documents on the web that would indicate that the IECC requirements shouldn't be followed, but I will confine myself to just two scientific papers for reference and backup. The first is the EPA "Technologies for Legionella Control in Premise Plumbing Systems: Scientific Literature Review" (EPA 2016), which is a compilation of information from numerous studies conducted in the last 25 years. The second is from the National Academies of Science, Engineering and Medicine, "Management of Legionella in Water Systems" (NASEM 2019), which is more complete and includes more recent information. Both of these studies can be downloaded off the web if you have lots of time to read them.

There can be many causes or contributing factors that cause the growth of pathogens and non-pathogenic microbes in building potable water systems. I will focus on those that are most applicable to the subject at hand.

1. High water age, or excessive retention time in the system piping. This means a lack of turnover with fresh water and disinfection chemical. Hot water supply and return systems are especially prone to this because the water is continually circulated and mixed with the incoming cold supply. When this happens, the system will tend to produce microbial activity that results in a slimy growth of biofilm on the pipe internal wall. This growth will result in further and faster depletion of the chlorine and begin a cycle of general degradation of the water quality in the system. The biofilm also protects the bacteria that live within it from chemical disinfection and temperature extremes.
2. Excessive surface area. This is the result of adding unnecessary pipe length or oversized pipe. Water treatment equipment such as softeners and oversized hot water storage tanks are another example of excessive surface area. These surface areas are where the biofilm attaches, and the microbes live.
3. Poor system hydraulic properties. Caused for the most part by oversized piping and poorly balanced hot water return systems. This results in excessively low velocity in the actual use conditions. Occasional higher velocity in the system will tend to scrub or clean the biofilm from the pipe wall and provide for improved disinfection residual.

Both of the scientific papers noted above mention these contributing factors many times, and both note that the worst results are most often found in so called "green" buildings. The plumbing industry has done an excellent job in helping to conserve energy and water, but there is an unintended consequence that we must now address. When we reduced the water use, nothing was done to compensate for the sizing of the piping systems and equipment. The premise of "if it's oversized a bit, it won't hurt anything" has proven to be false.

Obviously, the dramatic increase in in the footage of additional piping required by increasing the hot water return system to comply with the IECC code will lead to numbers 1 and 2 above taking place. Number 3 comes into play because we've never really had a specific mandate or guidance on the balancing of hot water return systems and quadrupling the number of circuits is making this problem much worse. The initial setup and balancing of the system are one thing but keeping it that way over the life of a building will prove to be impossible. Another point of concern that many people don't know is that by heating the water, the disinfection chemical is used up, and the higher the temperature the faster this takes place. It's common to find no chlorine residual at distal points in building hot water systems.