CITY OF AUSTIN Development SERVICES DEPARTMENT
Building a Better and Safer Austin Together

Community Engagement Summary: 2024 Technical Code Changes Engagement #2 (UMC, UPC, IRC, IBC, IPMC, IECC, IFC, WUIC)

Overview

The City of Austin updates the technical codes in accordance with the International Code Council (ICC) and International Association of Plumbing & Mechanical Officials (IAPMO) code cycle schedules. The International Codes are the most trusted source of model codes and standards.

In preparation for the adoption of 2024 Technical Codes later this year, DSD provided stakeholder engagement opportunities for updates to the Uniform Mechanical Code (UMC), Uniform Plumbing Code (UPC), International Residential Code (IRC), International Building Code (IBC), International Property Maintenance Code (IPMC), International Energy Conservation Code (IECC), International Fire Code (IFC), and the Wildland Urban Interface Code (WUIC). These codes, along with any needed local amendments, will be reviewed by the Austin City Council prior to adoption.

2024 Technical Code Changes stakeholder engagement opportunities:

- **Public Input web page**
  The time frames below indicate the duration of the Public Input web page comment period for each code, during which the proposed amendments were available for review.
  - Uniform Mechanical Code (UMC): May 15 – June 16, 2024
  - Uniform Plumbing Code (UPC): May 15 – June 16, 2024
  - International Residential Code (IRC): June 25 – July 24, 2024
  - International Building Code (IBC): June 25 – July 24, 2024*
  - International Property Maintenance Code (IPMC): June 4 – July 5, 2024
  - International Energy Conservation Code (IECC) : June 12 – July 8, 2024
  - International Fire Code (IFC): May 28 – June 27, 2024
  - Wildland Urban Interface Code (WUIC): May 20 – June 28, 2024

  *Updates to the International Building Code (IBC) were posted for a second round of public input following the addition of additional language.

- **Stakeholder Webinar with Q&A**
  Monday, May 20, 2024 from 11:30 a.m. – 1:10 p.m.

- **In-Person Stakeholder Engagement**
  Thursday, May 30, 2024 from 6:00 to 8:00 p.m.
  City of Austin Permitting and Development Center
  6310 Wilhelmina Delco Dr., Austin, TX, 78752
  Event Center 1405

Stakeholders & Advertising Tactics

First Round: IBC, ISPSC

The week of March 25, 2024 an email invitation to participate in the first round of technical code changes engagements (focusing on the IBC and ISPSC) was sent to 3,322 stakeholder email addresses (148 specified stakeholders, 2,750 active building permit holders, and 528 pool permit holders; note: discrepancy due to duplicate removal). The email included promotion of the Public Input webpage, which is the main page for all the 2024 Technical Code Changes.

The IBC and ISPSC engagement opportunities and main Public Input webpage were also included in the in the January, February, and March 2024 Building Connections external e-newsletter; each issue was sent to between 5,655 and 5,726 subscribers. Additionally, the IBC and ISPC engagements and Public Input webpage were included in the internal e-newsletter, the DSD Insider, in March and April 2024. A bilingual (English and Spanish) social media post with a QR code linked to the Public Input webpage was published on Facebook (891 followers) and Instagram (464 followers) on March 29.

Second Round: UMC, UPC, IRC, IBC, IPMC, IECC, IFC, and WUIC

The second round of engagements for the 2024 Technical Code Changes (UMC, UPC, IRC, IPMC, IECC, IFC, and WUIC) was announced in the April issue of the external e-newsletter, Building Connections. It included promotion of the Public Input webpage and May 20 webinar. The May 30 in-person engagement and the Public Input webpage for the second round of Technical Code Changes engagement was featured in the external newsletter, Building Connections, on May 28, 2024. Each issue of Building Connections was sent to around 5,740 subscribers.

On May 14, 2024 an email invitation to participate in the second round of technical code changes engagements including the May 20 webinar and May 30 in-person meeting was sent to 3,156 target stakeholders and active building permit holders (148 specified stakeholders and 3,015 active building permit holders).

On June 7, 2024 Austin Water emailed their historic Landscape Transformation stakeholder list (450 emails) as well as all applicants for site plan and building plan permits in 2023 (approx. 4,200 emails). The email notified recipients of Austin Water's proposed 2024 UPC local amendments for single-family residential development (pressure-reduction devices, irrigation limitation, and laundry to landscape) and pointed them to the 2024 Technical Code Changes Public Input Webpage and comment section.

The week of June 24, 2024 Building Connections had an article with updates on the 2024 Technical Code Changes engagements which included a link to the IECC Public Input landing page. The June issue was sent to 5,751 subscribers. That same week an email was sent to 9,618 DSD stakeholders in English and Spanish regarding the comment period for the IBC and IRC, along with updates on other technical codes. The main Technical Code Changes Public Input Webpage was linked; IECC was not referenced.

Print and Digital Media Coverage

The following are samples of media coverage regarding the 2024 Technical Code Changes.

Universal Plumbing Code (UPC)

- Austin Water aims to transform landscape requirements for new homes | Austin Monitor

International Building Code (IBC)

- City emergency and development staff still opposed to single-stairwell apartment buildings | Austin Monitor
- Will Austin really be the next single-staircase city? | Austin Monitor
- Austin outlaws the construction of windowless bedrooms | KUT
- Austin Bans Windowless Bedrooms | Planetizen.com
- College students in Austin, Texas, have dwelled in windowless rooms for years – here's why the city finally decided to ban them | The Conversation

International Property Maintenance Code (IPMC)

- Austin inches closer to air conditioning mandates for residences | Community Impact

Feedback Summary

This second round of engagement for the 2024 Technical Code Changes received 156 Public Input Webpage comments and 32 webinar/in-person engagement attendees. The 2024 Technical Code Changes webpages, excluding main landing page, received over 4,716 views across individual technical codes.

The Public Input Web Page

Technical Code	Feedback Period	Views	Comments
Uniform Mechanical Code (UMC)	May 15 – June 16, 2024	104	2
Uniform Plumbing Code (UPC)	May 15 – June 16, 2024	166	4
International Residential Code (IRC)	June 25 – July 24, 2024	492	9
International Building Code (IBC)	June 25 – July 24, 2024*	1,050	67
International Property Maintenance Code (IPMC)	June 4 – July 5, 2024	101	1
International Energy Conservation Code (IECC)	June 12 – July 8, 2024	1,129	55
International Fire Code (IFC)	May 28 – June 27, 2024	260	3
Wildland Urban Interface Code (WUIC)	May 20 – June 28, 2024	513	15

*Updates to the International Building Code (IBC) were posted for this second round of public input due to language additions following the first round of input.

The table above specifies the number of Public Input webpage views and comments for each technical code during its noted feedback period. The beginning of each feedback period marks the date that the proposed code amendments were posted.

The comments and questions for each technical code page are summarized below.

Uniform Mechanical Code (UMC)

The UMC webpage received 104 views and two comments from one participant. The first comment includes “several proposed amendments to align with the change to A2L refrigerants” within Chapter 11 Refrigeration. The end of the first comment and the second comment suggest updating to more recently published standards from the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE). Please see the Public Input comments from the Feedback Compilation section at the end of this summary.

Uniform Plumbing Code (UPC)

The UPC webpage received 166 views and four comments from four participants. The commenters had several concerns with Laundry to Landscape, with only one positive note where the commenter states they “…understand the need for these adjustments…”. The feedback is summarized below. Participants provided the following comments:

- The laundry to landscape scheme should not be required; it is water inefficient, and it is “inherently problematic to be unilaterally left in the hands of a homeowner”. Instead, Austin Water should figure out how to optimize distributed reuse within our system.
- “50% of lot irrigated is too much. What types of grass are allowed and what types are banned? Based upon growth and drought, why would it be allowed at all?”
- The adjustments add more construction cost. Austin Water could include laundry to landscape or rainwater collection among their rebates for water recycling. Instead of the replacement of existing landscape which people want to keep, Austin Water might more successfully foster water consciousness by adjusting rebates to include laundry to existing landscape options/rainwater collection. Those existing landscape options save everyone time and money.
- To decrease citywide water loss, Austin Water could add more rebates around remedies that address old cast iron pipe leakage.
- The laundry to landscape requirement seems like a bad idea because it could lead to mosquitos breeding in catchment barrels, soapy water would be pumped onto lawns, and the penetration would be prone to winter freezing.

During the first few weeks of June 2024, Austin Water (AW) received feedback outside of the Public Input webpage regarding the UPC amendment issues listed below. AW provided some initial responses and planned for further AW staff follow-up where needed.

- Curtis Smith (Tx Nursery and Landscaping Association's Director of Regulatory and Legislative Affairs) requested a meeting with Austin Water to discuss their concerns regarding the "2024 UPC changes".
- Jason Haskins (Architect) asked for a copy of the UPC Affordability Impact Statement.
- Cody Carr (Partner with Carr Residential) raised concerns about the 50% irrigation rule and related ROW calculations.
- Susan Kenzie (no organization listed) asked about laundry to landscape installation costs.

International Residential Code (IRC)

The IRC webpage received 492 views and nine comments from nine participants. Their feedback is summarized below:

- Support for the adoption of IRC appendices: Appendix BJ – Strawbale Construction; Appendix BI – Light Straw-Clay Construction; Appendix BK – Cob Construction and Appendix BL – Hemp-Lime.
    - One commenter would like to see mandatory statewide adoption
    - The appendices are well developed and received input from experienced professionals in California and other states
    - The materials are highly fire resistant, climate beneficial, zero waste, etc.
    - *(Note: The above was echoed in emails received from an additional two commenters on July 24. The emails made an additional point about seismic safety. Email attached at the end of the summary.)*
- "These proposals would effectively have no change at all. We should just copy and paste what Seattle did."
- It seems unnecessary to require an 8' fence to require a permit. This is not helping anybody, only causing more city resources to be used to manage these efforts.
- Request to adopt an amendment allowing the Residential Code to apply to one-, two-, three- and four-unit buildings, instead of just one- and two-unit buildings. The state of North Carolina adopted such an amendment. Doing so will have a dramatic positive impact on the feasibility and affordable of small-scale multifamily infill projects, like those enabled by the HOME initiative.

Air-Conditioning Requirement

- One comment suggests the City help subsidize the costs associated with running air conditioning in order to make its use more accessible to low income families.
- One comment is against requiring air conditioning in all new or present housing in Austin, stating the requirement would increase housing costs would price people out of city limits.
- Residential property owners should not be required to keep rooms at least 15 degrees cooler than outdoor temperatures unless the outdoor temperature is at least 90 degrees Fahrenheit. Otherwise, the rule would be ridiculous during the winter (when it's 50 degrees outside, the equipment must be capable of cooling a house to 35 degrees?). The verbiage within the code is clearly not reviewed.
    - Heating for winter cases is not required?
- The requirement also removes autonomy from residents who like to keep their home at a warmer temperature.
- The AC requirement does not address some of the core issues such as lack of proper insulation and properly functioning HVAC systems.
- Architects/developers should be responsible for building with materials and designs that naturally stay cooler.
- Air conditioning is terrible for the environment, and we should be doing what we can to reduce, not increase, our reliance on it.

International Building Code (IBC)

During this second round of engagement for the IBC, from June 25 – July 24, 2024, the IBC webpage received 67 comments. Since the summary of the first round of engagements in March and April 2024 which included the IBC, the IBC page received an additional 1,050 views. The total views for the IBC webpage is 1,951. The comment total for the IBC is 239.

The 67 IBC comments received during this round of engagements are summarized below:

- Request to remove the language "by reference" when adopting the IBC in Austin as it means the law is not publicly available and IBC can charge fees to view it. Law should be accessible to all without barriers.
- The height of apartment buildings should not be increased without requiring additional mandatory off street parking options.
- The IBC amendments show a new section 420.12 for buildings with one exit. 25-12-1 (b) shows the chart of deleted sections from the IBC. The chart does not delete section 1006.3.4 (1). Does that mean that buildings with one exit are required to comply with the new section 420.12 and 1006.3.4 (1)?

Support for Single Stair Buildings

- Single stair buildings require less of a building footprint, a reduced upfront development cost in the form of land purchasing, are more usable-space efficient, allow for a wider variety of dwelling layouts, improve access to natural light, and permit a broader range of architectural expression. The safety risks are mitigated by improvements in building materials, implementation of automatic sprinkler systems, and fire buffers from nearby structures.
- By allowing single stair buildings, Austin can create more interesting and varied structures that contribute to neighborhood character. These buildings can also provide better ventilation, reduce reliance on HVAC systems, and offer more economic building options in limited space. Overall, the implementation of single stair buildings can address both housing diversity and cost challenges in Austin.
- Support for the revision. *(Note: Short, simple statements of support were submitted by 6 commenters.)*
- "Single-stair apartments have a proven track record around the world of providing safe, affordable housing and there is an absence of empirical data to support opponents' fears."
    - Many comments mention successful single stair in other cities and countries. Specific examples cited include: the Netherlands, Seattle, New York, Brooklyn, Paris, Boston

Safety and Fire Regulations Concerns

Opposing Commentary:

- IBC is meant to be a general baseline standard and is not geographically specific. Removing the dual staircase requirement in hot and dry Texas could heighten the risk of resident injury or death due to limited egress options. Instead of compromising safety, other cost-effective methods like adjusting height restrictions or setbacks should be explored.

- Skimping on safety measures will only benefit developers and officials monetarily, while putting lives at risk. Maintaining multiple egress routes is crucial for emergency situations, as having less than two could be fatal.
- Perhaps capping building height at 3 stories with a single stairwell could be a safer alternative to the current 5 stories limit.

Supportive Commentary:

- The two-stairs mandate is antiquated. We now have other safety features to mitigate fires like sprinkler systems.
- Proposed single exit stairway rules should be revised to remove unnecessary fire separation distances, as small single-stair buildings are not more fire prone than other buildings. If fire-rated separation walls can be used with zero separation distance in other buildings (including un-sprinklered attached wood frame houses), that condition should be allowed in single-stair buildings as well.
- Both domestic and international experiences prove point access blocks are safer than contemporary 5-over-1 mid-rise buildings, without many of the drawbacks inherent to that design.
- Support for single stair; however, the proposed amendment contains concerning differences from other U.S. cities such as Seattle and New York. The differences will reduce the construction of single stair buildings, for no real benefit to public safety. Experts agree that sprinklers and interior pressurization, already included in the draft amendment, are far more effective than any additional proposed restrictions. Consistent with modern empirical research on fire safety, please consider the following 5 changes to the proposed amendment:
  1. Change the ambiguous 5 story limit to 85’ height limit.
  2. Reduce minimum stair width to standard IBC width.
  3. Eliminate the 2 per property limit for single egress conditions.
  4. Eliminate 10ft setback requirement for adjacent single-stair buildings.
  5. Allow Type IIIA construction materials.

  Restrictions that go beyond the public safety purpose of the building code will only make our city more dangerous, by giving fewer people the chance to live in newer, safer buildings. Please make this code update the best possible version! In tackling both the climate crisis and the housing crisis, every second counts. Austin cannot afford to wait 3 years to start enjoying the carbon and cost saving benefits of single-stair point access blocks.

  (Note: the above comment was echoed by 35 additional commenters.)

- Austin should follow Seattle's lead and adopt some of the safest building codes globally for single stairs. It should not be limited to specific residential building classes, as it is safer than double loaded corridors. The IBC's base regulations, as seen in Seattle, have proven safe. The changes in the code should reflect this.
  - Seattle's approach has resulted in safer and more cost-effective apartments. Their amendment not only enhances fire safety but also promotes the construction of single stair buildings.

- Austin should emulate Seattle's success by incorporating best practices and draft the IBC amendment without ‘reinventing the wheel’.

Builder Choice

- The buildings standard should set requirements necessary for firefighting and require fire insurance. It should also allow builders the flexibility to meet these requirements in the way that best suits the building, including construction of a single-staircase building.
- Single-stair egress is deemed safer and better for the overall well-being of residents compared to the mandated multi-egress buildings with dark, windowless qualities. While the efforts to enhance fire safety with multiple redundancies are appreciated, there are concerns that the code may be overly restrictive by requiring too many redundancies. The restrictions on the number of floors and setbacks for such buildings may hinder their development. Instead, it is recommended to offer a menu of options where builders must comply with a minimum set of requirements, rather than all at once.
- Mandating outdated building techniques pushes developers to construct larger buildings for cost recovery. Allowing smaller, safer buildings to be built in greater numbers can be a more efficient approach.

Affordable Housing Advocacy

- Single stair will create more affordable housing types on smaller lots than can currently accommodate apartment buildings.
  (Note: This sentiment is found in two comments.)
- Support for single stair apartments is necessary to provide affordable housing for the majority of Austin who aren't uber-wealthy.
- Amending the code to allow more single-stair buildings will help facilitate a more equitable, affordable environment by removing barriers to building safe, and smaller-by-necessity housing.

Efficiency in Floor Plan Utilization

- Single stair buildings are more efficient for a building’s footprint and therefore less expensive for residents, builders, and property maintenance.
  (Note: This sentiment is found in two comments.)

Desire for Family-Friendly Housing Options

- Single stair buildings offer advantages in livability, cost, and safety compared to current designs. Austin needs more family-friendly apartments, and single-stair buildings make it easier to build them.
- Embracing point access blocks means more family-sized apartments, support for small-scale local infill developers, and added courtyard open space, etc.
- These changes are crucial for families in Austin and should be implemented.

Air-Conditioning Requirement

- Amend the requirement to have at least one room maintained at 65-85 degrees year-round, except during a power outage. Alternatively, specify that when it's over 100 degrees outside, the

inside temperature must be 15 degrees lower. Otherwise, code enforcement will be notified if the room temperature is not 70 when outside temperature is 85.
- Section 1203.1.1 should define the minimum outside temperature for applicability.
- Air conditioning in Austin is a necessity, and it should be provided by a landlord.
- Support for air conditioning requirement. *(Note: Simple statements of support were submitted by 6 commenters.)*

(Note: The above summary of IBC feedback was drafted with support from AI Summarizer, summarizer.org)

International Property Maintenance Code (IPMC)

The IPMC webpage received 101 views and one large comment from the Austin Apartment Association (AAA) which included several questions around 603.7 Cooling Facilities Required. The comment is summarized below.

- 102.3 Application of other codes. Proposed addition of Texas Property Code sections to supersede any conflicting provisions pertaining to process of timing and repairs.
- 103.3 Inspectors. Proposed addition for code official to maintain a comprehensive document encompassing code compliance inspector standards for inspections readily accessible on City of Austin website.
- 105.9 Corrective Action. Suggested addition to differentiate and mandate timelines and procedures within Texas Property Code including “tenant’s duty to report and a landlord’s obligation to comply with state mandates prior to the enforcement of corrective action”.
- 111.6 Responsibility of Owner. Proposed additional language to give code official the explicit authority to grant additional time to owners working to bring a newly purchased property into compliance.
- 111.1.3 Structure Unsafe for Human Occupancy. Suggested to strike this section.
- Suggested to strike “If the code official finds a structure unsafe, the owner of the property shall provide an action plan for repairs to the code official and provide approved accommodations for the occupants of the structure within two days of notice.” from:
    - 111.1.3 Structure Unsafe for Human Occupancy
    - 504.3 Plumbing system hazards.
    - 505.4 Water heating facilities.
- AAA Suggests Striking the Following Language: 604.3 Electrical System hazards. If the code official finds that the electrical system in the structure constitutes a hazard to the occupants or the structure by reason of inadequate service, the owner of the property shall provide an action plan for repairs to the code official and provide approved accommodations for the occupants of the structure within two days of notice.
- 309.1 Infestation. Structures and exterior property areas shall be kept free from insect and rodent infestation. Where insects and rodents are found, immediate action shall be taken to eliminate by approved processes that will not be injurious to human health. After (AAA Suggests Striking the Following Language: pest elimination), (Suggests Adding the following Language: pest control action has been executed), (AAA Suggests Striking the Following Language: proper

precautions shall be taken to eliminate insect and rodent harborage) (AAA Suggests Adding the Following Language: and prevent re-infestation prevent insect and rodent harborage re-infestation.)

- Once composting is enforced and bins containing food waste are placed in trash chutes, rental units, or outside in the Texas heat, will there be any additional measures or protections implemented to address the resultant issues? Given that composting is now mandated for multifamily properties and is known to attract rodents, the use of the term “elimination” in this context may be challenging to enforce and comply with. The goal is to exterminate all insects and rodents, but this new language gives the code official or inspector the flexibility to determine whether or not the property owner has taken all necessary steps to eliminate infestation surrounding composting bins, etc.

603.7 Cooling Facilities Required

- Grandfathering Units: Will units without existing air conditioning systems be grandfathered in? Given that most apartments built in the last 40 years include air conditioning, this regulation would primarily impact much older housing stock. If retrofitting is required, rental costs could increase significantly due to the associated upgrade expenses. This concern extends to single-family homes and smaller properties, where the financial burden on owners could be substantial.
- Temperature Compliance: How will the City of Austin measure temperature to ensure compliance with the new regulations?
- Repair Timelines: What is the expected timeline for repairing air conditioning units once an issue is reported?
- Power Outages: What provisions are there for power outages beyond the control of property owners or managers? Will these situations be taken into account in the enforcement of the new regulations?
- Portable A/C Units: How will the city address the limitations of portable air conditioning units in high-rise and mid-rise buildings where windows do not open above the fourth story? Additionally, HVAC work poses significant safety risks if conducted after certain hours, involving high voltage or other hazards.
- Compliance Measures: What specific compliance measures will be implemented to enforce this regulation?
- Standardized Inspections: Will code compliance inspectors have a clear, objective list of requirements for issuing violations and fines? Members are concerned about potential subjectivity and believe there should be definitive rules and standards to follow. Will fines be standardized?
- Notification and Due Process: According to state law and lease contracts, tenants must submit maintenance repair requests to property management. Will properties be subject to fines and code violations if they were never notified of a broken air conditioning unit?
- State Pre-emption under HB 2127: There are no state requirements mandating air conditioning in rental units. However, the Texas Property Code recognizes that excessive heat constitutes a condition materially affecting the health or safety of an ordinary tenant. Under Section 92.056, landlords are required to repair such conditions within a reasonable timeframe. Therefore, if air

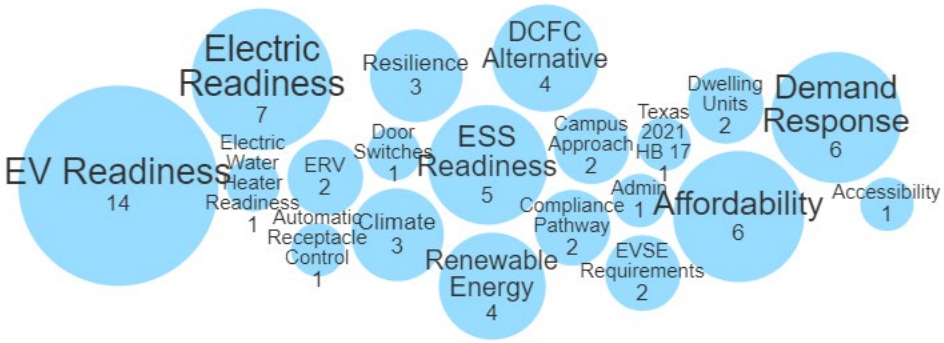
conditioning units are not adequately cooling, there is already a remedy available under existing law.

International Energy Conservation Code (IECC)

The IECC webpage received 1,129 views and 55 comments from 34 participants. Several comments were duplicate submissions. The comments are summarized below.

- The South-central Partnership for Energy Efficiency as a Resource (SPEER) submitted a letter on July 9, 2024, in support of both the residential and commercial IECC amendments.
- The American Gas Association (AGA) (73 million customers nationwide) asks that efforts to modify the IECC be based on "a published and publicly available edition of the 2024 IECC and not rely on a redline version that may have…differences then the published 2024 IECC".
- Atmos Energy (11,000 City of Austin customers) submitted a letter on July 8, 2024, urging the City not to include provisions which advance the electrification of homes and businesses, stating "efforts to affordably increase energy efficiency for the broadest number of residents and businesses should be fuel neutral. Currently, the proposed 2024 Technical Code amendments would adopt provisions that favor electrification."

Commercial



- Support for proposed adoption of 2024 Commercial IECC, including EV-ready, electric-ready, energy storage and demand response amendments. Increasing energy efficiency is important for reducing greenhouse gas emissions and local air pollution, keeping bills affordable and increasing electric grid and community resilience. *(Note: This sentiment was echoed in 4 comments, including one by Public Citizen.)*
- Sierra Club supports the proposed amendments to and adoption of the 2024 Commercial IECC. Sierra Club fully supports local amendments' adoption of appendices related to EV infrastructure and parking, demand responsive controls for space, lighting and water heating (with exceptions for water heater timers), electric energy storage systems, solar-ready, electric-ready and mandatory on-site renewable energy systems (with some exceptions). Assuring that new commercial buildings are incorporating new technology directly - through onsite renewable and storage systems and EV infrastructure - or at least being ready to incorporate will align with community values and ultimately reduce carbon and energy use.

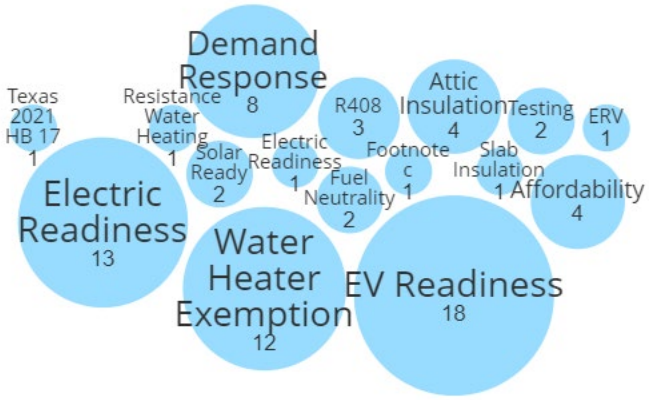
- In addition to submitting several suggested language amendments, detailed discussion of the below recommendations, and further issues for consideration, Texas Gas Service (235,000 Austin customers, 40,000 Austin Metro customers) recommendations include:
    - Electric Readiness – Sections 8.4.5 and RK101: reject this portion of the 2024 IECC appendix requirements in the City's energy code or revise the language to align more closely with the manner of adoption by the 2024 IECC, which made the use of the information as non-mandatory guidance only.
    - Partnership with Interested Parties: City of Austin is encouraged to build partnerships with local home builder associations to understand the true cost implications of electric-ready code provisions. Until true costs are determined, the City should delay its final decision on the IECC given the importance of affordable new housing.
    - Section R408 "additional energy credits" and Table R408.2: City of Austin is encouraged to withhold adoption of this section until it has had the opportunity to independently review and justify the credit assignments to address the lack of technical consensus and justification during the 2024 IECC deliberations, with a specific focus on climate and emissions factors. Texas Gas Service also recommends revision of its proposal for "additional energy credits" to recognize efficiency improvements over the current 80% baseline.
    - Texas Utility Code §181.903 (Texas 2021 HB 17) – Restriction on Regulation of Utility Services and Infrastructure: To avoid potential conflict with this recent state law, the City is encouraged to conduct a legal review of the proposed new codes in light of the legislative intent to ensure preservation of fuel choice for commercial and residential customers.
- Section C405.11.1 Automatic Receptacle Control: Code amendment should exclude this requirement completely. The energy needed in wire, devices, and labor required to achieve this likely exceed any energy savings. In the end owners tend to override or not use the controlled receptacles. Controlled receptacles are not safe. These are 120V 20A outlets completely capable of starting a fire. Outlets would be turned off to save energy, but keep in mind they can also be turned on unexpectedly. Consider if someone puts something on top a space heater that is off at night, the next day it will turn automatically. These will be in schools.
- Regrading EV Capable, recommend being as specific as possible to leave out the guess work from developers on how to size level2 conduit, circuit requirements for all level2: - min of 1" conduit per future EVSE pedestal - a service panel or subpanel(s) should be provided with panel space and electrical load capacity for a dedicated 208/240 Volt, 40-ampere minimum branch circuit for each EV capable space, with the delivery of 30-ampere minimum to an installed EVSE. - EVSE capable panel should be clearly labelled "EVSE future".
- For EV-capable spaces, please specify 1" or greater conduit, 4-wire, 50A capacity. This eliminates under sizing the capacity or conduit.
- Please ensure 208/240v is required for all EV-Capable, EV-Ready, and EVSE installs - while 120v is fine for many owners, 240v incentivizes off-peak charging and helps improve adoption rates - consumers always over plan for their needs. This is especially critical for apartments.
- Observation. EV Ready speaks in KVA. consideration to speak to KW and/or amperage as KVAis typically not a name plate listing or how loads are sized with NEC.

- Proposed EV Ready/ and EVSE install code: Add a requirement for commercial applications to follow US board of access EV accessibility requirements; at least (1) stall @ 11' in width with a 5' Access aisle. https://www.access-board.gov/tad/ev/ California has similar requirements but goes a bit further.
- Regarding Appendix CI: proposing an exception/exemption for buildings or campuses that are participating in the Austin Energy Resilience as a Service (Raas) program or utilizing the AE-TES rider. In each of these situations associated facilities will already be effectively performing demand response actions that are either led by AE (RaaS) or performed daily due to the TES rider and not have additional large load to shed during the standard demand response windows. This would not exempt buildings on a campus that are not connected to TES or included in the RaaS evaluation of a campus.
- 25-12-263 (A): "The following provisions are local amendments to the commercial provisions of the 2021 International Conservation Code. Each provision in this subsection is a substitute for an identically numbered provision deleted by Section 25-12-261(B) or an addition to the 2021 International Energy Conservation Code." This is supposed to reference 2024 IECC now, yes?
- 6.5.10 Door Switches. If understood correctly, this effectively turns off HVAC systems in a zone if an exterior door is propped open for more than 5 minutes. This makes pretty good sense to avoid buildings heating/cooling the entire neighborhood. No sense in making extremely tight building enclosures if the whole thing can be circumvented by a $0.50 wood doorstop or a landscaping rock from the sidewalk. On the flip side, is it allowed to automatically turn the systems back on at the previous set points when the door is closed? If not, it could play havoc on the comfort and humidity levels in buildings with multiple tenants.
- Future Water Heater Space: Why require a 3'x3'x7' area for the water heater? The largest heat pump unit the commenter found is only 28" in diameter. If the intent is to ensure an air volume large enough for the heat exchanger, there are many other solutions including louvered doors, transfer grilles, or ducted supply/return runs. The industry has provided enough variety within the market that code should not mandate a specific design solution; especially one that increases current industry footprint standards.
- 10.5.1.1 On-Site Renewable Energy: Is this section one of the optional points-based energy reduction methods? Mandating some sort of Solar Readiness on commercial buildings is understandable, but the public should not be required to privately subsidize electrical production by paying for and installing solar on their building.
- Please include an ERV exemption for multi-family dwelling units. IECC C403.7.4.1 The commercial section of the IECC requires ERVs to be installed in all buildings. ERVs are not currently a sufficiently effective nor cost-effective solution for multi-family dwelling units in Austin’s climate. While most commercial buildings require a relatively small number of larger, more efficient ERVs that can serve large areas, dwelling units each require their own smaller, less-efficient, and more expensive ERVs. Most projects that come across this requirement use a performance path to avoid the requirement and easily meet the overall code requirements without them. Some projects have paid the additional fees for an energy model solely to avoid the more expensive path of providing ERVs. Note that this is not just an issue for non-transient dwelling units - there may be instances where transient units for shelters and other short-term housing is impacted; however, the impact on hotels and non-housing related transient units and the needs/benefits in those scenarios is outside the scope of the housing impact.

Recommendations: Modify IECC C403.7.4.1 to refer to dwelling units and add exemptions that cover multi-family housing and shelter housing. Edit C403.7.4.2 to conform language. *(Note: This sentiment is echoed in two comments.)*

- 1. Appendix CJ speaks to required storage of electricity on site. Are other forms of energy storage also acceptable responses to the requirement? 2. These changes appear to treat every project/site as a separate entity. For larger facilities there may be many facilities on a single or adjacent sites. LEED and other rating entities have provisions for campus type accommodations of energy requirements to enable innovation on larger scales than individual projects might initiate. Will the City accept such campus wide solution options?

Residential



- Home thermostats with the option of reducing power use during certain times of day available for free from the City or for purchase at a reasonable price would provide a lot of saved electric energy.
- Changing R-49 to R-3: will this affect the U-values used in the IC3 calculation?
- R-20 to R-25 entirely above roof decking: does IC3 distinguishing between above and below roof deck insulation. Making sure IC3 doesn't default foamed roofs to the "entirely above" R-25 vs. current R-20.
- Support for removal of the R-15 by filling 2x4 cavity.
- Support for ERV exceptions in multifamily and shelters.
- Request to remove resistance water heating from residential buildings when it is the main hot-water supply. The use of this energy-wasteful technology affects the poor the most, since many multifamily and tract-home units are built with this equipment. Continued installation of resistance water heat not only adversely affects these specific consumers directly. It raises the summer peak demand (and the cost of summer peak demand) for all consumers who are Austin Energy customers. A resident expert at the City of Austin legal department has not provided any solid legal rationale as to why there would be a problem with this proposal.
- Duct Testing Targets: Gratitude for opting for the less complicated.
- The Sierra Club fully supports the adoption of the 2024 IECC for both commercial and residential buildings. The Sierra Club reviewed both proposals and appreciates in particular for the residential IECC, the adoption of the solar-ready, EV-ready and electric-ready, as well as water

heater demand response requirements. Sierra Club also supports the additional energy savings required for those builders choosing the performance path.

  - While Sierra Club understands that the 2024 IECC did lower the R-value requirement for ceiling insulation in residential buildings from 49 to 38 for the prescriptive path, the Sierra club asks that the City of Austin consider as a requirement an R-value of 42, as the City of San Antonio recently adopted. This would be a good compromise for those builders picking the prescriptive path.

- Insulation Requirements: Support for attic insulation reduction from R49 to R38. Independent analysis shows dwindling returns for the cost above R38. The distinction between attic/ceiling insulation, under roof deck insulation, and above roof deck insulation is also appreciated. It is nice that the code recognizes that those are all very different assemblies.
- Heated Slab Insulation: Does this requirement also apply to heated floor assemblies NOT embedded in the slab? Schluter's Ditra-Heat for example? Also, inspectors have failed slab edge insulation because it prevents a termite separation/inspection gap between the ground and the framing. Are there examples of how to accomplish both?
- R402.5.1.2 Air Leakage Testing: "During testing Exterior or Interior terminations of continuous ventilation systems shall be sealed." What about discontinuous ventilation? Bathroom exhaust fans, Hood vents, Intermittent Fresh Air Intake systems, etc.? Can those be taped off for the blower door testing as well?
- The HBA states it is difficult to fully weigh in on these proposed changes before the model code is finally released and requests that the city reopen the public input process once the model code is released and can be reviewed along with the proposed amendments.
  - A July 5, 2024 email from a different stakeholder echoed this concern, stating that “to recommend amendments on a draft, could miss changes from the current draft to what is eventually released.” That stakeholder requested the comment period be extended to a period of 30 days after the final draft is released.
    - That same stakeholder email also asked several detailed questions. The full email can be found in the Feedback Compilation section of this summary.
- The HBA's biggest concern with the 2024 IECC is centered around affordability. HBA appreciates that the 2024 code is more performance based and less prescriptive than the 2021 code, which allows builders the necessary flexibility they need to meet the code. However, there are some elements that are a step too far and will unnecessarily add additional cost to the price of a home.
  1. Electric vehicle capable / electric vehicle ready / EVSE space – Whether or not a home is built to accommodate an electric vehicle should lie solely with the homebuyer. EV capable has a minimal impact on affordability of approximately $500. However, electric ready and the full EVSE space would likely add $1,000+ to the price of a home. Since this code will affect all new construction, it will increase the cost of even the most affordable homes. HBA would request that the city leave this decision up to the homebuyer. However, if the city decides to move forward with this proposal, HBA asks that the city maintain the current draft that allows the least expensive method (electric vehicle capable) to meet the new code.
  2. Do not go above or beyond the model code, specifically regarding the residential all-electric appendix that was not included in the base code. There are many reasons why a

homebuyer might prefer gas appliances over electric, some of which are personal preference and others which are safety related. For example, during the freeze, when much of the city lost power, many homes with gas appliances were still able to prepare food and boil water. HBA would suggest the city consider strong incentives for the homebuilder and the homebuyer to switch over to electric appliances if they choose to do so.

Water Heater Space Requirement

- RK 101.1.5 Water Heater Space: Why require a 3'x3'x7' area for the water heater? The largest heat pump unit the commenter found is only 28" in diameter. If the intent to ensure an air volume large enough for the heat exchanger, there are many other solutions including louvered doors, transfer grilles, or ducted supply/return runs. The industry has provided enough variety within the market that code should not mandate a specific design solution; especially one that increases current industry footprint standards.
- Support for the proposed adoption of the 2024 Residential IECC, including the EV-ready, electric-ready, and demand response amendments. Increasing energy efficiency is important for reducing greenhouse gas emissions and local air pollution, keeping bills affordable and improving electric grid and community resilience. Building homes so that future residents can easily and affordably choose electric appliances and electric vehicles is important. There is one change desired to allow for full efficient electrification of all new homes. Remove the exemption for providing the required space if a home has a water heater on the outside of the house. *(Note: This sentiment is echoed in 5 comments.)*
- Upon further examination, Sierra Club believes that the exemption from the space requirement to accommodate a heat pump water heater for homes with an external tankless water heater is unnecessary and will inhibit beneficial electrification of homes. Sierra Club recommends that exception be removed. *(Note: There were a few Sierra Club comments from different Sierra Club representatives, and some conflicted regarding support for the exception for water heater space requirements in scenarios with external tankless water heaters. This portion is the most recent Sierra Club comment and may be meant to be taken as final since it begins with "Upon further examination"?)*
    - Sierra Club is very appreciative of the inclusion of water heater demand response and spacing requirements and agrees that an exception for those water heaters that have predetermined timing controls would not need to meet the demand response requirements. Sierra Club also supports the spacing requirements for water heaters, as well as the exceptions provided for tankless water heaters located on the outside of dwellings, heat pump water heaters and those serving more than one unit. The City of Austin should consider other exceptions to the water heater space requirements as appropriate. Finally, the City of Austin should consider formally prohibiting space heaters that rely on resistance heating given the availability of space electric pump heating. *(Note: This is a portion of the least recent Sierra Club comment from Public Input).*
- Public Citizen strongly supports the City of Austin adopting the IECC 2024 Technical Code for residential buildings, as proposed by staff, with one exception. Public Citizen requests that exception number 2 to section "RK101.1 Electric readiness" be removed. This exception to the

requirement to provide space for a heat pump water heater contradicts the goal of electrifying and decarbonizing buildings. It would leave future homeowners without an easy option to switch to an efficient heat pump water heater without incurring the significant cost of creating a space for it in the home and hiring a plumber and an electrician to connect a heat pump where one was not designed for. Additionally, including this exception could encourage more builders to install tankless water heaters on the exterior of homes, leaving them vulnerable during freezing temperatures. Public Citizen requests a conversation with the appropriate staff to discuss removing this exception.

- There are two changes desired to allow for full efficient electrification of all new homes. 1) Adopt the EV-Ready amendment to allow for affordable installation of a car charger. 2) Remove the exemption for providing the required space if a home has a water heater on the outside of the house. *(Note: This sentiment is echoed in 3 comments.)*
- Future space for HP Water heaters may cause issue in smaller homes where they tuck the mechanical closet under stairs.

Residential and Commercial Electric Vehicle Readiness

- In addition to submitting several suggested language amendments, the Alliance for Transportation Electrification (ATE) and Tesla
  - Support the residential electric vehicle (EV) readiness proposal for one and two-family dwellings, townhomes, and R-2 occupancies; it allows owners flexibility in establishing the level of EV readiness while still providing the necessary minimum EV charging load.
  - Recommend increasing EV-ready requirements and including EVSE-installed spaces for certain commercial occupancy types, specifically multi-family dwellings. Tenants in multifamily dwellings often don't have authority to retrofit parking spaces and the cost of retrofitting is 4-6 times higher than if done during new construction. It is recommended that Austin meet or exceed the ambition of peer cities in adopting EV-ready and EVSE-installed requirements for new commercial buildings.
  - Recommend including a Direct Current Fast Charging (DCFC) compliance pathway that provides new commercial buildings the option to meet compliance with charging that mirrors dwell times.
- Section10.4.10.1 - EV Make Ready: Consideration for a DCFC alternative for those business operations are more in-line with fast serve / quick serve where driver dwell time is <1 hour. see Cal Green Code 5.106.5.3.2.1 "The installation of each DCFC EVSE shall be permitted to reduce the minimum number or required EV capable spaces without EVSE or EVCS with Level 2 EVSE by five and reduce proportionally the required electrical load capacity to serve panel or subpanel." For Travel Plaza, Quick Serve Restaurant and neighborhood fueling stations, installing level2 is not applicable to use case, additionally it has the tendency to add additional cost for excess panel capacity that is likely to be stranded. The State of Colorado has a similar exemption 1DCFC:10 EVSE Capable/installed stalls.
- The American Gas Association (AGA) requests the City of Austin to remove both the Electric Vehicle provisions and the Electric-Ready Commercial Building Provisions from the compliance requirements of the 2024 IECC and remove Appendix CG and Appendix CH from consideration. They also request removal of Appendix RE and Appendix RK from consideration during this code development process. AGA also submitted comments regarding:

  - Proposed revision to add Appendix CG EV Charging Infrastructure and additional requirements, Appendix CH-Electric-Ready Commercial Building Provisions, and Appendix RE Electric Power Transfer provisions, Appendix RK- Electric Ready provisions: AGA does not believe these additions help the city to meet its energy and emissions reduction goals and in fact, will result in an overall increase in both as well as an increase in construction cost that will impact the affordability of new and existing structures.
  - EV Infrastructure, etc. requirements and EV power transfer provisions: This will add significant cost and electricity usage with no specific documentation and analysis that justifies the benefits of such and extensive requirement for commercial or residential building installations.
  - Appendix CH-Electric-Ready Commercial Building Provisions and Appendix RK-Electric-Ready provisions: troublesome; adds a costly requirement that may never be used in the commercial/residential applications and if used, can add more source energy use than the fossil fuel appliances that it targets for possible future replacement.
- Electrify America submitted a 5-page letter of support for the inclusion of a power-allocation method (power-based threshold) as part of the EV-readiness requirement to serve as an alternative to the benchmark based on percentage of parking spaces in a new facility. This method was adopted by California, and Electrify America attached 60 pages of California codes for reference.
- SWTCH supports the proposed amendments to adopt the 2024 IECC Appendix code provisions on electric vehicle (EV) readiness.
  - SWTCH supports the EV-capable, EV-ready, and EVSE requirements for homes (one- and two- family dwellings, townhouses) and multifamily buildings (R-2 occupancies); the 2024 IECC Appendix code sets cost-effective and flexible EV readiness standards, especially for R-2 occupancies.
- SWTCH advocates for 2024 IECC Appendix code provisions for EV charging load management. Section R404.7.4.4 sets appropriate minimum capacity standards per EVSE space, with options for EVSE spaces controlled by an EV energy 1 management system (EVEMS). These standards promote a 4:1 circuit sharing ratio1 when using EVEMS. SWTCH supports this circuit ratio for multifamily building use cases, in which higher ratios reduce power output and charging speeds beyond what is a positive user experience, and lower ratios prevent buildings from realizing the full potential and value of EVEMS. Moreover, Section R404.7.5 sets forth electrical system capacity requirements that align with NFPA 70, National Electrical Code (NEC), a widely accepted standard that addresses installation of EVEMS. This section right sizes infrastructure for electrical load served to EV-capable, EV-ready, and EVSE that allows for properties to leverage EVEMS.

International Fire Code (IFC)

The IFC webpage received 260 views and three comments from three participants. The comments are summarized below.

- Amend the IFC by adding the option to use break-glass covers to prevent malicious false alarms. Break-glass covers could improve the odds of prompt activation in actual fires (more alarm access) while still preventing malicious false alarms, thus increasing life safety; in contrast, the

IFC currently allows removal of all manual fire alarm boxes except for one in order to prevent malicious false alarms.

- Target the problem materials – combustible components. Avoid blanket rules that would require the removal of "everything". One should not be forced to remove a non-combustible metal item like a $1000 grill or frying pan simply because it is associated with a combustible component.
- Electricians should be required to use metal clad electrical conductors/metal sheathing of a certain standard instead of plastic-sheathed individual conductors in order to prevent house fires in wooden structures. Plastic sheaths sheared by a nail, sharp bend, or some other damaging event can cause not only an electrical shock but can also start house fires.

Please see the Public Input comments from the Feedback Compilation section at the end of this summary.

Wildland Urban Interface Code (WUIC)

The WUIC webpage received 513 views and 15 comments from five participants. Four of the 15 comments mention concerns with the Ember Ignition Zones. The comments are summarized below. For the complete, unedited comments, please see the Public Input comments from the Feedback Compilation section at the end of this summary.

- HBA of Greater Austin (membership of 750 plus their thousands of employees in the Association; builders represent approx. 85% of all homes built in Central Texas) is primarily focused on the reduction of housing cost and mitigation of any issues that would reduce or further restrict housing supply. In addition, HBA of Greater Austin has practical and aesthetic concerns with some elements of the proposed amendments and requests additional time for conversation. Per the comment, the updated WUI map wasn't available online until a few days before the comment period close. Their numbered suggestions follow:
    1. Reduce or eliminate Zone C.
    2. Maintain the current definition of wildland.
    3. Eliminate Ember Ignition Zones.
    4. Maintain current standards for fence clearances.
    5. Expand the number of units provided on a single driveway.
    6. Codify current code leniency practices.
    7. Update the map regularly.
    8. Ensure that reviews and inspections happen in a timely manner.
    9. Maintain current standards for flashing and eaves in Class C.

- Zone C requirements for rafter tails are unnecessarily strict. As proposed, and with the updated map proposed, it would prohibit light wood rafter tails in almost the entire city - even areas that are over a mile from significantly large wildland areas. Many traditional architectural forms built throughout Austin use light wood exposed rafter tails, and prohibiting them adds an undue cost and aesthetic burden with absolutely no real benefit to fire safety.

- General Question - Prior to submitting a project for permit, how can one find out if a site is in Proximity Zone B? Currently the online map only shows two zones (light blue/dark blue).
- Sec. 506.2.3 - Why are copper sheets allowed on top of combustible decks? Copper conducts heat very well, right?
- Sec. 504.6 (and similar in 505/506) - Why no mention of using non-combustible columns and beams such as poured concrete and steel?
- Sec. 504.7.1 – Support for removing required 6" opening at the base of the wall; seemed counterintuitive for keeping embers out from under a deck.
- Sec. 504.3.4 (and 505.3.4) - Says here that the roof deck must meet ASTM E84 Class A. Does this mean the 10-minute test and not the extended 30-minute test? Please clarify.

Wording Adjustments Requested To Improve Clarity

- Sec. 503.2.3 - the heading says FRTW but the text that follows doesn't mention FRTW. This is confusing. Please explicitly state whether FRTW roofing is allowed or not.
- Sec. 504.3.2 (and the similar paragraphs in 505 & 506) regarding fasciae “protected on the exterior”
- Sec. 504.3.3 (and similar paragraphs in 505 & 506) regarding gap between a soffit and a roof surface vs walls and fasciae
- Sec. 504.3.4 (and similar paragraphs in 505 & 506) regarding protecting the “backside” of a fascia board
- Sec. 504.3.5 regarding exterior ceilings

Ember Ignition Zones (EIZ)

- The 5’ EIZ around the house is impractical and overly restrictive.
    - Prohibits mulch and vegetation around house and limits landscaping to gravel beds
        - Provide additional options for landscaping, like succulents or other fire resistant vegetation
        - This is not sensible for the zone 2 hot and humid climate of Austin.
    - Will require removal of nonprotected trees (18” or less)
    - At minimum, exempt Zone C from EIZ requirements
- Will this rule effect 40% of the City of Austin?
- Do these new rules only apply to newly built single-family housing?
- Has the Watershed Department been consulted regarding the effect on runoff from this proposal?
- Sec. 603.2.1. - it appears that the EIZ will be required on all WUI projects regardless of Proximity Zone. Will it be required to show the EIZ on site plans for permit?

Stakeholder Webinar with Q&A

26 stakeholders attended the Monday, May 20, 2024 Stakeholder Webinar which took place from 11:30 a.m. – 1:10 p.m. The engagement began with a presentation and slide deck which reviewed the proposed code amendments, language, and meaning for the UMC, UPC, IPMC, and WUIC.

During the presentation, subject matter experts noted that the IRC draft amendments were not available because of their dependency upon pending changes to related codes. Attendees were informed that further information and engagement opportunities for the IRC would be available in the future.

The subject matter experts also shared that the content for IECC and IFC, was an overview of expected proposed amendments, but that the information was not yet final. The presentation was followed by about five minutes of Question & Answer (Q&A), during which four stakeholder questions were raised. Attendees were invited to ask verbal or written questions which were answered by Subject Matter Experts on staff.

In-Person Stakeholder Engagement

Six stakeholders attended the Thursday, May 30, 2024 In-Person Stakeholder Engagement which took place from 6:00 p.m. to 7:30 p.m. Since all six attendees had attended the May 20 Stakeholder webinar, staff was able to tailor the presentation and discussion to the small group's interests. The engagement began with a presentation from Austin Energy on the IECC, and stakeholders were able to pose questions. The summary of those questions and answers is attached.

Feedback Compilation

The following pages include the entirety of the community feedback received from Public Input as well as the Q&A Summary for the Webinar Engagement and the In-Person Engagement.

Public Input Comments: UMC

2024 Technical Code Changes
Uniform Mechanical Code (UMC)
Web Page Question/Comment Summary
May 15 – June 16, 2024

CITY OF AUSTIN Development SERVICES DEPARTMENT
Building a Better and Safer Austin Together

Question/Comment:

Below are several proposed amendments to align with the change to A2L refrigerants.

Chapter 11 Refrigeration

[Add] 1101.2.1 Group A2L, A2, A3 and B1 high-probability equipment. High-probability equipment using Group A2L, A2, A3 or B1 refrigerant shall comply with UL/CSA 60335-2-40, or UL/CSA 60335-2-89.

[Add] 1102.1 General. Refrigeration systems using a refrigerant other than ammonia shall comply with this chapter and ASHRAE 15 [or ASHRAE 15.2]. …

[Modify] Table 1104.1 - High probability systems. Occupancy groups where high-probability systems are listed as "Any" revised to "Any except A2, A3 and B2."

[Add] 1109.2.1 Flexible Connectors for Expansion and Vibration. Flexible connectors, expansion/vibration control devices and similar components shall be listed to UL 207 or CSA C22.2 No. 140.3 for the specific refrigerant used in the refrigeration systems, and design pressure.

[Substitute] 1109.3(5) with ASHRAE 15-2022 Section 9.12.1.5 and 9.12.2.

[Add] 1109.7 Exception (3) When installed within the building elements in a concealed location where aluminum tube, copper tube, or steel tube is installed through holes or notches in studs, joists, or similar members less than 1.5 in from the nearest edge of the member, the tube shall be protected by steel shield plates no less than 0.0575 in (1.461 mm) (ASTM 16 gage galvanized steel) (ASTM 15 gage plain steel). Protective steel shield plates shall cover the area of the tube the full length of the pipe and shall extend not less than 2.0 in. (51 mm) in all directions to prevent mechanical damage.

[Modify] 1109.10 Identification. Piping shall be in accordance with the reference standard for identification. The type of refrigerant, function and pressure shall be indicated. For Group A2L and B2L refrigerants, the identification shall also include the following statement: "WARNING - Risk of Fire. Flammable Refrigerant."

[Modify] 1116.2 Field Tests. Refrigerant-containing parts of a systems that is field-erected shall be tested and proved tight after complete installation and before the operation [in accordance with ASHRAE 15-2022 9.13]…

Chapter 18 Reference Standards

ASHRAE

15-2022 - Safety Standard for Refrigeration Systems

15.2-2022 - Safety Standard for Refrigeration Systems in Residential Applications

34-2022 - Designation and Safety Classification of Refrigerants

UL

UL/CSA 60335-2-40-2019 change to 2022

UL/CSA 60335-2-89-2017 change to 2021

Question/Comment:

Chapter 18

Page 286 https://epubs.iapmo.org/2024/UMC/#p=286

ASHRAE 15-2019 change to ASHRAE 15-2022

ASHRAE 34-2019 change to ASHRAE 34-2022

Public Input Comments: UPC

2024 Technical Code Changes
Uniform Plumbing Code (UPC)
Web Page Question/Comment Summary
May 15 – June 16, 2024

CITY OF AUSTIN Development SERVICES DEPARTMENT
Building a Better and Safer Austin Together

Question/Comment:
You are REQUIRING the very low efficiency, and inherently problematic to be unilaterally left in the hands of a homeowner, "laundry to landscape" scheme?!! Are you nuts? Who the heck ever recommended such a thing? The same people who so very studiously refuse to even consider the various ways in which we can apply the decentralized concept to the "organized" wastewater system? So now they are saying in essence, we're too lazy to figure out how to optimize distributed reuse within our system, so why don't you folks try to do some of that, in a very water inefficient and rather problematic manner, for us? Is Austin Water really that *? Thank you.

Question/Comment:
50% of lot irrigated is too much. what types of grass are allowed and what types are banned? Based upon growth and drought, why would it be allowed at all?
Response:
The technical codes do not specify what types of grass are allowed. DSD's Environmental Inspections team will inspect for the 95% revegetation requirement on all active sites. There is no requirement for specific species of grass unless it refers to a revegetation requirement on a commercial site. Typical turf grass for residential properties is not currently regulated nor is it required to meet the pervious coverage requirement for compliance. Drought tolerant native plants and grasses can be used to meet this requirement.

Question/Comment:
While I absolutely understand the need for these adjustments, they just add more costs to an already high construction environment. Austin Water has rebates for water recycling, but laundry to landscape nor rainwater collection for landscaping are options... if you adjusted the rebates from replacing existing landscaping to more rainwater/laundry collection options, you might find more success in fostering a more water conscious community. People want their landscaping, and instead of having the water from even just laundry go straight to the sewer, it can be put into the existing landscaping. This saves everyone time and money. Additionally hundreds of gallons of water are being lost due to decades old cast iron pipes. There have been plenty of local new stories on this... but adding more rebates there would help fix water leakage all over the city.

Question/Comment:
Requiring homes with a clothes washer on the exterior wall to have landscape-ready piping seems like a bad idea. Presumably this would be piped to catchment barrels where mosquitoes would breed. We're going to pump soapy water onto our lawns? It's also another penetration that would be prone to winter freezing.

*edited for language

Public Input Comments: IRC

2024 Technical Code Changes
International Residential Code (IRC)
Web Page Question/Comment Summary
June 25 – July 24, 2024

Building a Better and Safer Austin Together

Question/Comment:

As a native Austinite I am well aware that Austin is typically at the forefront of the energy efficiency frontier. From Energy Star to AEGB turning into LEED it is something I have always admired. Now, as an architect for Passive House in Austin with Forge Craft, an Earthen Builder and an advocate for healthy building materials, it only makes to me to adopt appendices: Appendix BJ - Strawbale Construction; Appendix BI - Light Straw-Clay Construction; Appendix BK - Cob Construction and Appendix BL - Hemp-Lime. I have explicitly worked with all of these materials through the Cal Earth Institute and Earthships and know that they can make a huge impact on the health of the individual living there. I also understand the fear behind adopting such "strange" materials, but ask yourself the question, what are we building with now and where did we come from?

Question/Comment:

As part of a team that constructed the monolithic adobe (cob) test walls for the ASTM E119 2 hour fire test and as a local natural construction business owner, I am now encouraging the city of Austin to adopt the following IRC appendices: Appendix BJ - Strawbale Construction [formerly Appendix AS] Appendix BI - Light Straw-Clay Construction [formerly Appendix AR] Appendix BK - Cob Construction (Monolithic Adobe) [formerly Appendix AU] Appendix BL - Hemp-Lime (Hempcrete) Construction [new appendix in the 2024 IRC] Each one describes and regulates an alternative wall system.

I and my code development team, feel strongly that these appendices should be made readily available to design professionals, builders, building officials, and the public, with mandatory adoption statewide. The appendices are well-developed, comprehensive, tied directly to other requirements of the well-established IRC/CRC, and well vetted through the code development process. In addition to our core team, they received input from experienced design and building professionals, industry representatives, and building officials, in California and other states.

Other compelling reasons for Austin adoption of these appendices and their building systems include:
• High resistance to fire, now a concern through much of the US due to seasonal wildfires. Cob walls earned a 2-hour fire-resistance rating with ASTM E119 tests. Light straw-clay and hemp-lime walls are inherently fire resistant by virtue of their required plaster finishes.

• Climate beneficial, with low embodied carbon and/or high carbon sequestration of the constituent materials of straw, clay, earth, hemp and lime.

• Zero waste, with the construction industry contributing over 30% of waste to landfills (most of which being highly toxic), using natural materials in construction is the only way that Austin will achieve it's goals set forth to become a 90% zero waste city by 2030.

• Ensure safe and proper use of these (and other) building systems through plan check and inspections, especially for citizens who have been known to otherwise build without permits when faced with permitting obstacles.

• Use of low-cost, locally sourced, rapidly renewable, bio-degradable materials. • Hemp-lime (hempcrete) is a burgeoning industry, gaining popularity and use since the cultivation of hemp was legalized in the U.S. in 2018.

• Removes impediments to greater use of these building systems.

We are happy to provide additional information, including Reason statements from the original ICC proposals, and to answer questions you may have. We strongly believe that current times demand ready access to these building systems and the myriad benefits they offer.

Question/Comment:

The changes proposed to require all homes and apartment buildings to install air conditioning in Austin is a harsh mandate from the standpoint of fiscal costs and responsibility. Sure, it is nice to have a cool home during the hot summer months however, the cost associated with running an AC can be quite prohibitive especially to low-income families. My proposal in order to ameliorate that potential problem and concern is for the City to help subsidize the costs associated in running air conditioning. That would be a tremendous help to thousands of poor, elderly and retired families who would be tempted to turn on their air conditioning but who would be without the means to pay for a high monthly electricity bill afterward. Thank you for your attention to this matter.

Question/Comment:

I do not want the City of Austin to require air conditioning for all new construction or present housing in the Austin. This will increase the price of housing for some people to the point they cannot afford to rent or buy a home in Austin. This will price people out of living within the city limits.

Question/Comment:

I do not think residential property owners should be required to keep rooms at least 15 degrees cooler than outdoor temperatures UNLESS the outdoor temperature is at least 90 degrees Fahrenheit. Otherwise, the rule would be absolutely ridiculous in the wintertime. Also, it removes autonomy from residents who like to keep their home at a warmer temperature (for example, if it is 80 degrees outside, not everyone wants their home automatically set at 65 degrees Fahrenheit). Additionally, I think this requirement does not address some of the core issues, which is that presidential property owners are not ensuring their properties are as well-insulated as possible and that their HVAC systems are in good shape. Similarly, onus should also start being put on the architects/developers to build buildings that are made of materials and designed to naturally stay cooler (there are buildings like this all around the world). Air conditioning is terrible for the environment, and we should be doing what we can to reduce, not increase, our reliance on it.

Question/Comment:

R325.9 Required Air Conditioning. BC) The required room temperatures shall be measured 3 feet (914 mm) above the floor near the center of the room and 2 feet (610 mm) inward from the center of each exterior wall.

(A) An owner shall:

(i) provide, and maintain, in operating condition, refrigerated air equipment capable of maintaining a room temperature of at least 15 degrees cooler than the outside temperature, but in no event higher than 85° F. in each habitable room;

So, are you telling me by code, when it's 50 degrees outside, the equipment MUST be capable of cooling a house to 35 degrees? Because the verbiage within the code is clearly not reviewed. Also, do you not require HEATING for winter cases? Due to the ineptitude of the authors, please omit these requirements before the state legislature gets involved.

Response:

The Ordinance intent is for an owner to provide, and maintain, in operating condition, refrigerated air equipment capable of maintaining a room temperature of no greater than 85 degrees in each habitable room.

Heating is required under the IPMC Sections 602.2 Residential occupancies, 602.3 Heat supply, and 602.4 Occupiable work spaces. The IPMC proposed language requires the temperature to be maintained at 68°F (20°C) in residential and commercial structures, and at 65°F (18°C) in occupiable work spaces.

Question/Comment:

These proposals would effectively have no change at all. We should just copy and paste what Seattle did

Question/Comment:

It seems unnecessary to require an 8' fence to require a permit. This is not helping anybody, only causing more city resources to be used to manage these efforts.

Question/Comment:

(AAA Suggests Striking the Following Language: 604.3 Electrical System hazards. If the code official finds that the electrical system in the structure constitutes a hazard to the occupants or the structure by reason of inadequate service, the owner of the property shall provide an action plan for repairs to the code official and provide approved accommodations for the occupants of the structure within two days of notice.)

Question/Comment:

Please adopt an amendment allowing the Residential Code to apply to one-, two-, three- and four-unit buildings, instead of just one- and two-unit buildings. The state of North Carolina adopted such an amendment. Doing so will have a dramatic positive impact on the feasibility and affordable of small-scale multifamily infill projects, like those enabled by the HOME initiative.

Emails submitted during feedback period: IRC

2024 Technical Code Changes
International Residential Code (IRC)
Email Question/Comment Summary
June 25 – July 24, 2024

CITY OF AUSTIN Development SERVICES DEPARTMENT
Building a Better and Safer Austin Together

Question/Comment:

Esteemed Planning Commission Members,

My name is Rebecca Kennedy, and I am an Austin resident. I am writing today to advocate for the adoption of the below IRC code appendices in the upcoming adoption cycle:

Appendix BJ- Strawbale Construction [formerly Appendix AS]

Appendix BI - Light Straw-Clay Construction [formerly Appendix AR]

Appendix BK - Cob Construction (Monolithic Adobe) [formerly Appendix AU]

Appendix BL - Hemp-Lime (Hempcrete) Construction [new appendix in the 2024 IRC]

To provide some background about myself and why this is an important issue to me, I have a Masters in Architecture from UT Austin and currently work for a high-end residential construction company. I also have a background in natural, earthen, and pre-industrial construction systems. I have performed scholarly published research on these topics in a historical context and have also been a practitioner of modern-day "natural building" techniques. I am currently a member of the Board of the Cob Research Institute (CRI), an organization that spearheaded and organized the writing and adoption of Appendix BK (formerly AU) to the IRC. While I did not participate in the initial code writing process, I have worked on subsequent revisions. CRI, and other nonprofits, engineers, architects, and community members, have dedicated extensive time and funding to testing and code writing for four IRC appendices dedicated to natural wall systems. We are currently advocating that the City of Austin consider the appendices listed above for adoption during this cycle.

As a design professional and a builder, I think these building practices should be readily available and adopted statewide. I know from personal experience that many Austin architects, designers, builders, and home/business owners are very interested in building using the techniques in these appendices in a safe and standardized manner. These techniques have historically been relegated to small non-code-compliant structures which are sometimes poorly built or not aesthetically pleasing due to a lack of willingness from the design profession to be involved in something non-compliant. This made sense previously, as there was little scientific study of how these systems performed other than common sense and historical evidence. Now that their safety and strength has been well documented, there is no reason to not allow Austin residents and professionals who are interested in using them the chance to. Especially when considering the environmental benefits of these systems, It would behoove the City to look forward and pioneer new and exciting strategies with reduced carbon footprint and superb life cycle analysis.

The appendices listed above are well-developed, comprehensive, tied directly to other requirements of the well-established IRC/CRC, and well vetted through the code development process. In addition to our core team, they received input from experienced design and building professionals, industry representatives, and building officials, in California and other states.

Other compelling reasons for Austin adoption of these three appendices and their building systems include:

- **High resistance to fire**, now a concern through much of the US due to seasonal wildfires. Cob walls earned a 2-hour fire-resistance rating with ASTM E119 tests. Light straw-clay and hemp-lime walls are inherently fire resistant by virtue of their required plaster finishes.

- **Climate beneficial**, with low embodied carbon and/or high carbon sequestration of the constituent materials of straw, clay, earth, hemp and lime.
- **Ensure safe and proper use** of these (and other) building systems through plan check and inspections, especially for citizens who have been known to otherwise build without permits when faced with permitting obstacles.
- **Use of low-cost, locally sourced, rapidly renewable, bio-degradable materials. Hemp-lime (hempcrete)** is a burgeoning industry, gaining popularity and use since the cultivation of hemp was legalized in the U.S. in 2018.
- **Removes impediments to greater use** of these building systems.
- **Seismic safety**, by using established testing protocol such as reverse cyclic in-plane testing and out-of-plane testing in university settings (for cob construction) or by making adjustments to the IRC's lateral force- resisting system requirements by compensating for additional system weight (for light straw-clay and hemp-lime). Prescriptive structural use in Seismic Design Categories A, B, and C, and with an approved engineered design required in SDC D. All non-structural provisions apply when an engineered design is employed. All three appendices were reviewed by and received input from multiple California civil and structural engineers and representatives of FEMA.

We at the Cob Research Institute and other organizations involved in writing these codes are happy to provide additional information, including Reason statements from the original ICC proposals, and to answer questions you may have. We strongly believe that current times demand ready access to these building systems and the myriad benefits they offer.

Sincerely,

Rebecca Kennedy

Question/Comment:

My name is Carol Fraser and I am a climate change and sustainable design professional. I am a graduate of UT Austin's Sustainable Design program and I am a former City of Austin employee (Economic Development Department and Austin Resource Recovery). I am writing to express my support for adopting the IRC Appendices as described below. Adopting these appendices is an important step to continue Austin's leadership in sustainable building practices and address climate change through improved energy use and resilience in buildings.

I encourage the city of Austin to adopt the following IRC appendices. Each one describes and regulates an alternative wall system.

Appendix BJ- Strawbale Construction [formerly Appendix AS]

Appendix BI - Light Straw-Clay Construction [formerly Appendix AR]

Appendix BK - Cob Construction (Monolithic Adobe) [formerly Appendix AU]

Appendix BL - Hemp-Lime (Hempcrete) Construction [new appendix in the 2024 IRC]

I feel strongly that these appendices should be made readily available to design professionals, builders, building officials, and the public, with mandatory adoption statewide. The appendices are well-developed, comprehensive, tied directly to other requirements of the well-established IRC/CRC, and well vetted through the code development process. In addition to our core team, they received input from experienced design and building professionals, industry representatives, and building officials, in California and other states. Other compelling reasons for Austin adoption of these three appendices and their building systems include:

High resistance to fire, now a concern through much of the US due to seasonal wildfires. Cob walls earned a 2-hour fire-resistance rating with ASTM E119 tests. Light straw-clay and hemp-lime walls are inherently fire resistant by virtue of their required plaster finishes.

Climate beneficial, with low embodied carbon and/or high carbon sequestration of the constituent materials of straw, clay, earth, hemp and lime.

Seismic safety, by using established testing protocol such as reverse cyclic in-plane testing and out-of-plane testing in university settings (for cob construction) or by making adjustments to the IRC's lateral force- resisting system requirements by compensating for additional system weight (for light straw-clay and hemp-lime). Prescriptive structural use in Seismic Design Categories A, B, and C, and with an approved engineered design required in SDC D. All non-structural provisions apply when an engineered design is employed. All three appendices were reviewed by and received input from multiple California civil and structural engineers and representatives of FEMA.

Ensure safe and proper use of these (and other) building systems through plan check and inspections, especially for citizens who have been known to otherwise build without permits when faced with permitting obstacles.

Use of low-cost, locally sourced, rapidly renewable, bio-degradable materials. Hemp-lime (hempcrete) is a burgeoning industry, gaining popularity and use since the cultivation of hemp was legalized in the U.S. in 2018.

Removes impediments to greater use of these building systems.

We are happy to provide additional information, including Reason statements from the original ICC proposals, and to answer questions you may have. We strongly believe that current times demand ready access to these building systems and the myriad benefits they offer.

Sincerely,

Carol Fraser

Public Input Comments: IBC

International Building Code (IBC) (2024 Amendments)

Project Engagement

VIEWS	PARTICIPANTS	RESPONSES	COMMENTS	SUBSCRIBERS
1,951	227	0	239	1

All participants

Filtered by Date

Please provide a comment or question about the **Proposed International Building Code (IBC) 2024 Technical Code Changes** in the space below. Please respond by **Wednesday, July 24, 2024.**

I support the building code amendment to allow more single stair apartment buildings.
However, the proposed amendment contains a number of concerning differences from other cities around the country, such as Seattle and New York. These differences will greatly reduce the construction of single stair buildings, for no real benefit to public safety.

I strongly urge you to consider the following changes to the proposed amendment to support more affordable & livable apartments:

* Change the 5 story limit to a 85’ height limit.
* Reduce the minimum stair width to the standard IBC code width.
* Eliminate the 2 per property limit for single egress conditions.
* Eliminate the 10 ft setback requirement for adjacent single-stair buildings.
* Allow Type IIIA construction materials.

The five changes above are consistent with modern empirical research on fire safety and bring Austin’s code closer to other cities where point access blocks are common. Experts agree that sprinklers and interior pressurization, already included in the draft amendment, are far more effective than any additional proposed restrictions. Restrictions that go beyond the public safety purpose of the building code will only make our city more dangerous, by giving fewer people the chance to live in newer, safer buildings.

Please make this code update the best possible version we can! In tackling both the climate crisis and the housing crisis, every second counts. We cannot afford to wait 3 years to start enjoying the carbon and cost saving benefits of single-stair point access blocks

2 days ago

Hi,
I strongly support the building code amendment to allow more single-stair apartment buildings! I have recently been on vacation in the Netherlands and noticed how even large apartment complexes have single stairs.

However, the proposed amendment contains a number of concerning differences from other cities around the country such as Seattle and New York. These differences will greatly reduce the construction of single stair buildings, for no real benefit to public safety. I strongly urge you to consider the following changes to the proposed amendment to support more affordable & livable apartments:

- Change the 5 story limit to a 85’ height limit.

- Reduce the minimum stair width to the standard IBC code width.

- Eliminate the 2 per property limit for single egress conditions.

- Eliminate the 10 ft setback requirement for adjacent single-stair buildings.

- Allow Type IIIA construction materials.

6 days ago

I strongly support the building code amendment to allow more single-stair apartment buildings! However, the proposed amendment contains a number of concerning differences from other cities around the country such as Seattle and New York. These differences will greatly reduce the construction of single stair buildings, for no real benefit to public safety. I strongly urge you to consider the following changes to the proposed amendment to support more affordable & livable apartments:

- Change the 5 story limit to a 85’ height limit.

- Reduce the minimum stair width to the standard IBC code width.

- Eliminate the 2 per property limit for single egress conditions.

- Eliminate the 10 ft setback requirement for adjacent single-stair buildings.

- Allow Type IIIA construction materials.

The five changes above are consistent with modern empirical research on fire safety and bring Austin’s code closer to other cities where point access blocks are common. Experts agree that sprinklers and interior pressurization, already included in the draft amendment, are far more effective than any additional proposed restrictions. Restrictions that go beyond the public safety purpose of the building code will only make our city more dangerous, by giving fewer people the chance to live in newer, safer buildings.

Please make this code update the best possible version we can!

7 days ago

Two issues are important to me. The first is single stair reform, a.k.a., point access blocks. Everyone wants safe buildings, but there are many ways to make buildings safe. Currently the code mandates one very expensive way to make buildings safe: having two fire-safe staircases. We have developed many other ways since this requirement was first put into place: fire alarms, sprinklers, flame-retardant building materials, and more. The buildings standard should set requirements necessary for firefighting and require fire insurance. But the builder should be given the freedom to meet those requirements by whatever means suits the building. This includes the freedom to build a single-staircase building.

The second issue is very technical and legalistic. Austin includes the IBC in our laws "by reference". This means the law is not publicly available but owned by IBC. IBC retains copyright to it and can charge Austinites a fee to see the law. I am morally opposed to any law that is not freely available to the public. I encourage the City of Austin to remove "by reference" from its language adopting the IBC.

Sincerely,

Michael Nahas

9 days ago

Please allow more and taller single-stair buildings! I strongly support the building code amendment to allow more single-stair apartment buildings! Single-stair buildings are a win over current designs in livability, cost, safety, and more. Also, Austin could use more family-friendly apartments, and single-stair will make it a lot easier to build them. However, the current proposed amendment contains concerning differences from other single-stair-friendly codes. I strongly urge you to consider the following changes to the proposed amendment to support more affordable & livable apartments:

- Change the 5 story limit to a 85’ height limit
- Reduce the minimum stair width to the standard IBC code width
- Eliminate the 2 per property limit for single egress conditions
- Eliminate the 10 ft setback requirement for adjacent single-stair buildings
- Allow Type IIIA construction materials

The five changes above are consistent with modern empirical research on fire safety and bring Austin’s code closer to other cities where point access blocks are common. Experts agree that sprinklers and interior pressurization, already included in the draft amendment, are far more effective than any additional proposed restrictions. Restrictions that go beyond the public safety purpose of the building code will only make our city more dangerous, by giving fewer people the chance to live in newer, safer buildings and by increasing car-dependency when motor vehicles are one of the leading causes of injury and death.

Please make this code update the best possible version we can! In tackling both the climate crisis and the housing crisis, every second counts. We cannot afford to wait 3 years to start enjoying the carbon and cost saving benefits of single-stair point access blocks.

14 days ago

I strongly support the proposed building code amendment for single-stair apartments, but urge adjustments to maximize affordability and safety.

Here's what I recommend:

Increase height limit from 5 stories to 85 feet (consistent with fire safety research).
Adopt standard IBC code minimum stair width.
Allow more than 2 units per single egress (sprinklers provide adequate safety).
Eliminate 10ft setback requirement for adjacent single-stair buildings.
Permit Type IIIA construction materials.
These changes align with other cities and prioritize sprinklers for safety, ultimately creating more affordable and livable apartments. Modern building codes and faster permitting are crucial in tackling housing and climate challenges.

15 days ago

I strongly support the building code amendment to allow more single-stair apartment buildings! However, the proposed amendment contains a number of concerning differences from other cities around the country such as Seattle and New York. These differences will greatly reduce the construction of single stair buildings, for no real benefit to public safety. I strongly urge you to consider the following changes to the proposed amendment to support more affordable & livable apartments:

- Change the 5 story limit to a 85’ height limit.

- Reduce the minimum stair width to the standard IBC code width.

- Eliminate the 2 per property limit for single egress conditions.

- Eliminate the 10 ft setback requirement for adjacent single-stair buildings.

- Allow Type IIIA construction materials.

The five changes above are consistent with modern empirical research on fire safety and bring Austin’s code closer to other cities where point access blocks are common. Experts agree that sprinklers and interior pressurization, already included in the draft amendment, are far more effective than any additional proposed restrictions. Restrictions that go beyond the public safety purpose of the building code will only make our city more dangerous, by giving fewer people the chance to live in newer, safer buildings.

Please make this code update the best possible version we can! In tackling both the climate crisis and the housing crisis, every second counts. We cannot afford to wait 3 years to start enjoying the carbon and cost saving benefits of single-stair point access blocks.

15 days ago

Thank you for updating the building code to allow single-stair apartment buildings! I believe it will create more affordable housing types on smaller lots than can currently accommodate apartment buildings. In addition, speaking as a resident of a modern condominium, I can speak to the distress caused when the HVAC goes out and it isn't possible to get a cross-breeze because units are built facing an interior hallway instead of having windows facing the exterior, like a modern home or townhouse do.
Still, the proposed amendment contains some differences from best practices identified by other cities around the country, which could greatly reduce the construction of single stair buildings. I strongly urge you to consider the following changes to the proposed amendment to support more affordable & livable apartments:
1. Change the 5 story limit to a 85' height limit.
2. Reduce the minimum stair width to the standard IBC code width.
3. Eliminate the 2 per property limit for single egress conditions.
4. Eliminate the 10 ft setback requirement for adjacent single-stair buildings.
5. Allow Type 3 A construction materials.

The five changes above are consistent with empirical research on fire safety and bring Austin's code closer to other cities where point access blocks are common. Experts agree that sprinklers and interior pressurization, already included in the draft amendment, are far more effective than any additional proposed restrictions. Restrictions that go beyond the public safety purpose of the building code will only make our city more dangerous, by giving fewer people the chance to live in newer, safer buildings.

Thank you for considering these recommendations. I'm eager to see these code changes take effect as soon as possible so that residents can start enjoying the carbon and cost saving benefits of single-stair point access blocks!

16 days ago

I SUPPORT the changes with modifications. Follow Seattle's example when implementing the single stair regulations. They have done wonderful work copying some of the safest codes in cities across the world when implementing single stair. There is no reason to restrict this to any particular types of residential building classes, as it is a safer choice than double loaded corridors. Remove that from the code changes as stated. There is no reason to make sure staircases are doubly wide, when the IBC's base regulations have proven safe in other cities, including Seattle.

Single stair buildings have unparalleled improved safety over double loaded corridors and are simply more efficient for a building's footprint and therefore less expensive for residents.

16 days ago

As an addition to my earlier comments, please ensure the following are integrated into the code changes for single stair buildings:

- Change the 5 story limit to an 85' height limit.
- Reduce the minimum stair width to the standard IBC code width.
- Eliminate the 2 per property limit for single egress conditions.
- Eliminate the 10 ft setback requirement for adjacent single-stair buildings.
- Allow Type IIIA construction materials.

16 days ago

I strongly support the building code amendment to allow more single-stair apartment buildings! However, the proposed amendment contains a number of concerning differences from other cities around the country such as Seattle and New York. These differences will greatly reduce the construction of single stair buildings, for no real benefit to public safety. I strongly urge you to consider the following changes to the proposed amendment to support more affordable & livable apartments:

- Change the 5 story limit to a 85’ height limit.

- Reduce the minimum stair width to the standard IBC code width.

- Eliminate the 2 per property limit for single egress conditions.

- Eliminate the 10 ft setback requirement for adjacent single-stair buildings.

- Allow Type IIIA construction materials.

The five changes above are consistent with modern empirical research on fire safety and bring Austin’s code closer to other cities where point access blocks are common. Experts agree that sprinklers and interior pressurization, already included in the draft amendment, are far more effective than any additional proposed restrictions. Restrictions that go beyond the public safety purpose of the building code will only make our city more dangerous, by giving fewer people the chance to live in newer, safer buildings.

Please make this code update the best possible version we can! In tackling both the climate crisis and the housing crisis, every second counts. We cannot afford to wait 3 years to start enjoying the carbon and cost saving benefits of single-stair point access blocks.

16 days ago

I support this revision.

16 days ago

In 1203.1.12 (1) Required Air conditioning, you don't stipulate conditions under which this rule is in effect. People are going to abuse this rule. Would make more sense to stipulate a temperature range the dwelling unit needs to be maintained in. Something like 65-85. Alternatively, stipulate when outside temperature is over 100 the inside temperature needs to be 15 degrees less. Otherwise, as an example, people are going to call code enforcement when the outside temp is 85 and the room isn't 70.
Another potential issue with this is older multiple story homes. Wide temp variances can exist upstairs vs downstairs regardless of landlord intent.
Power reliability is also a factor in this rule. A landlord has no control over Austin Energy and the ability of Austin Energy to provide reliable, consistent power.

Suggest a rewrite of the language to read - at least one room must be conditioned to maintain a temperature range of 65-85 at all times of the year with the exception of during an area wide power outage.

16 days ago

I'm writing in support of the proposed local amendment to the International Build Code which will allow single stair buildings in Austin which is currently scheduled to be taken up by Planning Commission on July 23rd.

The point access block buildings made possible by this amendment can be a multi-purpose tool for creating affordable housing, lowering climate emissions, and developing more resilient communities. By supporting these changes, Austin will be joining peer cities like Seattle in allowing this higher quality, more traditional form of urban living. Both domestic and international experiences show that point access blocks are even safer than contemporary 5-over-1 mid-rise buildings, without many of the drawbacks inherent to that design.

By saying yes to point access blocks, we will be saying yes to more family-sized apartments, yes to small-scale local infill developers, yes to added courtyard open space, and so much more.

But in order for this amendment to deliver on the promise of single-stair reform, 5 important changes are needed to the proposed text as presented to the Planning Commission:

* Change the height limit to 85’ above the grade plane. This will not change the 75’ habitable floor limit for mid-rise construction, but it will replace an ambiguous requirement measured in building stories with a more rational linear measurement that directly relates to fire safety.

* Remove extra stair width requirements. No other jurisdiction in the United States has this requirement because double-width stairs and landings would make it very difficult to fit a point access block on most lots. In fact, the stairs required in the current code language are actually so wide they would present a tripping hazard and would likely require the installation of safety railing.

* Remove the two per property limit. Our building code should reflect physical constraints, not invisible lines. Where a property has been subdivided has no effect on how a fire spreads, and this limitation explicitly discourages greater use of point access buildings on a single site.

* Eliminate 10’ separation and allow fire-rated walls between single-egress structures. For years, Seattle has safely permitted attached point access blocks to be built under their amended version of the IBC. In fact, many large cities with a strong record of fire safety consist primarily of attached point access blocks, from Brooklyn’s classic Brownstones to nearly all of urban Paris.

* Allow Type IIIA materials. The construction speed & pricing of Type IIIA materials will make single-stair buildings financially viable, and without this change affordable housing developers will be unable to take advantage of the tools this amendment is trying to give them. These materials are already tested for their safety performance during a fire and are considered safe by the current code for 5-over-1s of equal or greater height than any future single-stair building in Austin.

I urge you to include these in the Commission's recommendations to Austin City Council. With these changes, we can build something better - a more livable, sustainable, and affordable city - one block at a time.

16 days ago

I strongly support the building code amendment to allow more single-stair apartment buildings! However, the proposed amendment contains a number of concerning differences from other cities around the country such as Seattle and New York. These differences will greatly reduce the construction of single stair buildings, for no real benefit to public safety. I strongly urge you to consider the following changes to the proposed amendment to support more affordable & livable apartments:

- Change the 5 story limit to a 85’ height limit.

- Reduce the minimum stair width to the standard IBC code width.

- Eliminate the 2 per property limit for single egress conditions.

- Eliminate the 10 ft setback requirement for adjacent single-stair buildings.

- Allow Type IIIA construction materials.

The five changes above are consistent with modern empirical research on fire safety and bring Austin’s code closer to other cities where point access blocks are common. Experts agree that sprinklers and interior pressurization, already included in the draft amendment, are far more effective than any additional proposed restrictions. Restrictions that go beyond the public safety purpose of the building code will only make our city more dangerous, by giving fewer people the chance to live in newer, safer buildings.

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16 days ago

I support the addition of single stair access access buildings as part of Austin‘s housing mix. One of the main criticisms from neighborhood advocates about density in our city are buildings look uninteresting, are bulky, not neighborhood scale, and just generally architecturally dull and allowing single stair buildings within the city will address all of those concerns. I understand fire and life safety Concerns from city staff, but sometimes city staff needs to listen to the community and adapt rather than write a memo, and voice one, four or seven concerns that will make staff’s life more difficult. Frankly, it is staff who should be coming to the community with these changes rather than the community demanding them of staff. We are a professional organization and to be the most livable city in the country, this is a necessary improvement and policy change that needs to happen.

16 days ago

Hello,

I strongly support the building code amendment to allow more single-stair apartment buildings! However, the proposed amendment contains a number of concerning differences from other cities around the country such as Seattle and New York. These differences will greatly reduce the construction of single stair buildings, for no real benefit to public safety. I strongly urge you to consider the following changes to the proposed amendment to support more affordable & livable apartments:

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17 days ago

Hi, I'm a senior citizen and a homeowner in City Council District 8/

I strongly support the building code amendment to allow more single-stair apartment buildings! However, the proposed amendment contains a number of concerning differences from other cities around the country such as Seattle and New York. These differences will greatly reduce the construction of single stair buildings, for no real benefit to public safety. I strongly urge you to consider the following changes to the proposed amendment to support more affordable & livable apartments:

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17 days ago

I support removing the second stair requirement for multifamily housing. As a former resident of an apartment building with two stairwells I found them to be extraneous to any real or hypothetical needs and wastes of space. We have a housing crisis here and need to leverage any change we can in order to bring down the cost of construction and maintenance of multifamily housing.

I also support the following reforms.

Change the 5 story limit to a 85’ height limit.

Reduce the minimum stair width to the standard IBC code width.

Eliminate the 2 per property limit for single egress conditions.

Eliminate the 10 ft setback requirement for adjacent single-stair buildings.

Allow Type IIIA construction materials.

17 days ago

I support the changes to allow 5 story buildings with a single stair. I also think we should use the standard IBC stair width rather than requiring a larger width. It should also be possible to build more than two of these types of single stair buildings on a single property.

17 days ago

Hello, in section 1203.1.1, what is the minimum outside temperature at which this is applicable?

(e.g. " … capable of maintaining a room temperature of at least 15 degrees cooler than the outside temperature *when the outside temperature is above 80 degrees (or similar reasonable number)* …"

It does not make sense to go 15 degrees cooler if the outside temperature is 70. The bottom limit needs to be defined.

17 days ago

I'm a Downtown resident and board member of the Downtown Austin Neighborhood Association that has lived in single-stair buildings in the past and I strongly support the building code amendment to allow more single-stair apartment buildings! In fact, I own a condo in a single-stair building in Boston. However, the proposed amendment contains a number of concerning differences from other cities around the country such as Seattle and New York. These differences will greatly reduce the construction of single stair buildings, for no real benefit to public safety. I strongly urge you to consider the following changes to the proposed amendment to support more affordable & livable apartments:

- Change the 5 story limit to a 85' height limit.
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Please make this code update the best possible version we can! In tackling both the climate crisis and the housing crisis, every second counts. We cannot afford to wait 3 years to start enjoying the carbon and cost saving benefits of single-stair point access blocks.

17 days ago

I'm glad the proposed changes included single stair buildings but we need to go further if we want any of them to be built:

- Change the 5 story limit to a 85' height limit.
- Reduce the minimum stair width to the standard IBC code width.
- Eliminate the 2 per property limit for single egress conditions.
- Eliminate the 10 ft setback requirement for adjacent single-stair buildings.
- Allow Type IIIA construction materials.

Single stair buildings have been proven to be safe elsewhere, so why is Austin exceptional? Let's bring our code in line with other cities.

18 days ago

The amendments added are not going to lead to better outcomes. We should just copy exactly what Seattle did for their building codes. It has lead to safer and more liveable outcomes for bigger and more affordable apartments.

18 days ago

I strongly support the building code amendment to allow more single-stair apartment buildings! However, the proposed amendment contains a number of concerning differences from other cities around the country such as Seattle and New York. These differences will greatly reduce the construction of single stair buildings, for no real benefit to public safety. I strongly urge you to consider the following changes to the proposed amendment to support more affordable & livable apartments:

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- Eliminate the 10 ft setback requirement for adjacent single-stair buildings.
- Allow Type IIIA construction materials.

The five changes above are consistent with modern empirical research on fire safety and bring Austin's code closer to other cities where point access blocks are common. Experts agree that sprinklers and interior pressurization, already included in the draft amendment, are far more effective than any additional proposed restrictions. Restrictions that go beyond the public safety purpose of the building code will only make our city more dangerous, by giving fewer people the chance to live in newer, safer buildings.

Please make this code update the best possible version we can! In tackling both the climate crisis and the housing crisis, every second counts. We cannot afford to wait 3 years to start enjoying the carbon and cost saving benefits of single-stair point access blocks.

18 days ago

I strongly support the building code amendment to allow more single-stair apartment buildings! However, the proposed amendment contains a number of concerning differences from other cities around the country such as Seattle and New York. These differences will greatly reduce the construction of single stair buildings, for no real benefit to public safety. I strongly urge you to consider the following changes to the proposed amendment to support more affordable & livable apartments:

- Change the 5 story limit to a 85' height limit.
- Reduce the minimum stair width to the standard IBC code width.
- Eliminate the 2 per property limit for single egress conditions.
- Eliminate the 10 ft setback requirement for adjacent single-stair buildings.
- Allow Type IIIA construction materials.

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18 days ago

I want Austin to join the increasing number of US states, along with the great majority of the rest of the world, in legalizing single stair housing for medium density multi family.

I would like the following amendments to the currently proposed resolution:
1.) Change the 5 story limit to a 85’ height limit.

2.) Reduce the minimum stair width to the standard IBC code width.

3.) Eliminate the 2 per property limit for single egress conditions.

4.) Eliminate the 10 ft setback requirement for adjacent single-stair buildings.

5.) Allow Type IIIA construction materials.

I do not believe these changes would impose significant safety risk, and that they would help to create many desperately needed homes throughout the city.

18 days ago

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18 days ago

I am writing in support of permitting the construction of point access blocks (sometimes known as single-stair apartments) in Austin. Such buildings require less of a building footprint, a reduced upfront development cost in the form of land purchasing, are more usable-space efficient, allow for a wider variety of dwelling layouts, improve access to natural light, and permit a broader range of architectural expression. The safety risks are mitigated by improvements in building materials, implementation of automatic sprinkler systems, and fire buffers from nearby structures.

Austin is desperate for more diverse housing options to combat the cost of living crisis. The cumulative effect of these changes will help address both of these issues.

I submit my support for the adoption of this resolution.

19 days ago

Single-stair apartments would help massively with affordability throughout the Austin area.

19 days ago

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- Reduce the minimum stair width to the standard IBC code width.

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19 days ago

Please allow single stair cases in austin. Also please allow:
Change the 5 story limit to a 85’ height limit.

Reduce the minimum stair width to the standard IBC code width.

Eliminate the 2 per property limit for single egress conditions.

Eliminate the 10 ft setback requirement for adjacent single-stair buildings.

Allow Type IIIA construction materials.

19 days ago

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19 days ago

I fully support allowing for single-stair apartments to be built.

19 days ago

I support both the air condition requirements and single stair reform. If it works in other cities, it can absolutely work here.

19 days ago

Fully support to drive more liveable density

19 days ago

Allowing single stair buildings will allow for more unique and economic building options using limited space more efficiently.

19 days ago

The purpose of this rule is to limit housing, regardless of what it was claimed to achieve. Please, legalize all housing everywhere, including single stair, and get rid of hidden disincentives. It should be as easy to build a multi-unit on a lot as it is to build the giant single family homes that are too prevalent close to downtown.

19 days ago

I'm very excited to see the city considering single-stair egress for MF buildings and I further appreciate the care that has clearly been put into ensuring that such buildings would be built as safely as possible. I believe that single-stair egress is better, for safety as well as the well being of residents holistically, than the dark, cave-like, windowless multi-egress buildings that we currently mandate.

As a journeyman electrician, I take the potential of building fires very seriously and I'm highly trained in how to safeguard against them. I appreciate that this proposed code change, as currently written, does call for several levels of redundancies aimed at reducing fire threats. As an Austin resident who does require shelter, prefers multi-family living over SFHs, and if a big fan of lots of natual lights and being able to get a cross breeze going in my home on a cool day, I'm concerned that this code is requiring too many redundancies.

Again, I do appreciate the city wanting to go above and beyond in the name of safety, but all of these redundancies being required to be in place for every one of these builds are both unnecessary and so incredibly cost prohibitive that it feels like they're meant to discourage any such projects from ever actually being considered.

Why have all of these measures in place, yet still restrict such buildings to five floor mid-rises?
Why have 10 ft set backs yet still restrict this to two buildings of this type per lot?

I'm not going to advocate for getting rid of any specific safety requirement listed in the name of safety, but this does call for far too many redundancies in a single space. I would suggest making these requirements a menu of options where builder are required to accept a minimum amount of these restrictions, but not all simultaneously.

Again, I say this as someone who would love to live in one of these buildings myself and someone who does not currently work in construction, real estate development, or anything like that. I am a long-time Austinite who would love to one day own a home or at least be able to live in a home that doesn't feel like a depressing cave. Thank you!

20 days ago

I support single stair apartments! We need more affordable housing for the majority of Austin who aren't uber-wealthy!

20 days ago

- Change the 5 story limit to a 85’ height limit.

- Reduce the minimum stair width to the standard IBC code width.

- Eliminate the 10 ft setback requirement for adjacent single-stair buildings.

- Allow Type IIIA construction materials.

20 days ago

I strongly support the building code amendment to allow more single-stair apartment buildings! However, the proposed amendment contains a number of concerning differences from other cities around the country such as Seattle and New York. These differences will greatly reduce the construction of single stair buildings, for no real benefit to public safety. I strongly urge you to consider the following changes to the proposed amendment to support more affordable & livable apartments:

- Change the 5 story limit to a 85' height limit.
- Reduce the minimum stair width to the standard IBC code width.
- Eliminate the 2 per property limit for single egress conditions.
- Eliminate the 10 ft setback requirement for adjacent single-stair buildings.
- Allow Type IIIA construction materials.

The five changes above are consistent with modern empirical research on fire safety and bring Austin's code closer to other cities where point access blocks are common. Experts agree that sprinklers and interior pressurization, already included in the draft amendment, are far more effective than any additional proposed restrictions. Restrictions that go beyond the public safety purpose of the building code will only make our city more dangerous, by giving fewer people the chance to live in newer, safer buildings.

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20 days ago

I strongly support the building code amendment to allow more single-stair apartment buildings! However, the proposed amendment contains a number of concerning differences from other cities around the country such as Seattle and New York. These differences will greatly reduce the construction of single stair buildings, for no real benefit to public safety. I strongly urge you to consider the following keepers to the proposed amendment to support more affordable & livable apartments:

- Keep the 5 story 60 ft. limit.
- Keep the minimum stair width as is for safety.
- Keep the 2 per property limit for single egress conditions for safety.
- Keep the 10 ft setback requirement for adjacent single-stair buildings for access safety.
- Don't allow Type IIIA construction materials.

The five keepers above are consistent with modern empirical research on fire safety and bring Austin's code closer to other cities where point access blocks are common. Experts agree that sprinklers and interior pressurization, already included in the draft amendment, are far more effective than any additional proposed restrictions. Restrictions that go beyond the public safety purpose of the building code will only make our city more dangerous, by giving fewer people the chance to live in newer, safer buildings.

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20 days ago

I support this change as an Austin resident. It sounds good for making apartments easier to be made available for those needing a home

20 days ago

IBC is meant to be a general baseline standard, and is not geographically specific. With hit and dry conditions in Texas for many months of the year, eliminating our dual staircase requirement would increase risk of injury or death to residents.

There are other ways to decrease costs and improve density without these risks such as relaxing height requirements and decreasing setbacks which should be considered instead.

20 days ago

This will only put people in danger and fatten the wallets of developers and local officials (since bribery is legal now according to SCOTUS) If you care at all about people being safe you'll keep the need for multiple egress routes. Anything less than 2 could literally cause people to die in an emergency.

20 days ago

The height of apartment buildings should not be increased without requiring additional mandatory off street parking options above what is currently mandated. Growth at all costs is killing this city.

20 days ago

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20 days ago

Hello,

I'm excited about the future of Austin, and I believe amending the code to allow more single-stair buildings will benefit our city and help facilitate a more equitable, affordable environment because an amendment will remove barriers to building safe, and smaller-by-necessity housing. It's not just a belief, though. There is a proven track record of the practice working in other cities.

I strongly support the building code amendment to allow more single-stair apartment buildings. However, the proposed amendment contains a number of concerning differences from other cities around the country such as Seattle and New York. These differences will greatly reduce the construction of single stair buildings, for no real benefit to public safety. I strongly urge you to consider the following changes to the proposed amendment to support more affordable & livable apartments:

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I'm confident that you'll see the benefits that single-stair buildings can make. There is no reason we can't adopt beneficial practices from other cities and incorporate them into our own. In a city whose urban fabric is ripe for vibrant activity but requires more affordable housing options, forcing developers to build one type of building according to outdated techniques forces them to build as large buildings as possible to recoup the costs of construction.

We can permit people to build smaller buildings, and more of them, and all the while building them to be safe.

20 days ago

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20 days ago

Please incorporate the building code amendment to allow more single-stair apartment buildings in Austin and put us in a position to follow tried best practices from other cities. We are in a moment and a future where we have to maximize building, of course with in the bounds of safety.

As you know, people in Austin need more affordable places to live so let's borrow wisely and efficiently from what we know works. Think big in this moment, please. Consider how we can raise height limits and reduce setbacks to allow for more space while also allowing Type IIIA materials to improve efficiency (with proper protections, of course).

Please work for jumps toward our future, rather than tidy, timid, incremental change out of line with current research and known practices in other places. Stair access blocks are a starting point toward the Austin we need.

20 days ago

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20 days ago

Thank you for addressing housing affordability. Please continue to support the construction of mid-density and high-density housing. The two-stairs mandate is antiquated. We now have other safety features to mitigate fires like sprinkler systems. Many other cities and countries have benefited from single-stair apartments without sacrificing safety.

20 days ago

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20 days ago

Single-stair apartments have a proven track record around the world of providing safe, affordable housing and there is an absence of empirical data to support opponents fears.

20 days ago

- Reduce the minimum stair width to the standard IBC code width.

- Eliminate the 2 per property limit for single egress conditions.

20 days ago

I'm writing today to voice my strong support to the building code amendment to allow more single-stair apartment buildings. I further would support the following changes to make it more expansive and bring more single-stair apartments online:

- Change the 5 story limit to a 85' height limit.
- Reduce the minimum stair width to the standard IBC code width.
- Eliminate the 2 per property limit for single egress conditions.
- Eliminate the 10 ft setback requirement for adjacent single-stair buildings.
- Allow Type IIIA construction materials.

Thank you for your consideration.

20 days ago

I support the building code amendment to allow more single stair apartment buildings.
However, the proposed amendment contains a number of concerning differences from other cities around the country, such as Seattle and New York. These differences will greatly reduce the construction of single stair buildings, for no real benefit to public safety.

I strongly urge you to consider the following changes to the proposed amendment to support more affordable & livable apartments:

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20 days ago

I am in support of loosening the restrictions on single stair buildings, including allowing them to be built higher (up to 100 ft). I am also in favor of removing setback requirements and in favor of removing the requirement to leave gaps between buildings.

20 days ago

There are five changes that are necessary to ensure this amendment enables the construction of single stair buildings while still preserving fire safety. Those changes are:

1.) Changing the height limit to 85 ft rather than 5 stories (420.12.1). Building stories can be different heights, and this limit is both more predictable and in line with safety data.

2.) Allowing Type IIIA construction material (420.12.4). These materials are fire-tested and used throughout Seattle for their single stair buildings.

3.) Removal of condition that no more than two single stair buildings can occupy the same property (420.12.5). There is no safety rationale for this requirement since fire doesn't care about subdivision lines. The net effect would make it hard to redevelop large lots into multiple single stair buildings.

4.) Removal of 10 ft separation distance between single stair buildings (420.12.5). This is the norm in Seattle and internationally for single stair buildings.

5.) Removal of double stair width requirement (420.12.16). This would mandate 6 ft to 7.5 ft stairwells that would be impractical to build and a tripping hazard. No city with single stair buildings has this requirement.

These changes comply with modern empirical research on fire safety and bring us in line with Seattle's very successful single-stair amendment. Experts agree that sprinklers and interior pressurization, already included in the draft amendment, are the most effective means of preventing fire deaths. This is reflected in the fact that single stair jurisdictions have lower building fire rates than most US cities.

Without these changes it will likely be impractical to build any single stair buildings. Given that code amendments are on a three year schedule, if we fail to develop an effective amendment in this cycle then we will likely need to duplicate this work in 2027. Seattle's amendment has proven effective in both improving fire safety and encouraging the construction of single stair buildings. In drafting our IBC amendment for this year we should follow best practices and not try to reinvent the wheel.

21 days ago

Please revise the proposed single exit stairway rules to eliminate the unnecessary required fire separation distance. There is ZERO evidence to support the implication that small single-stair buildings are more prone to fire than other buildings, and if fire-rated separation walls can be used with zero separation distance in other buildings (including un-sprinklered attached wood frame houses), that condition should be allowed in single-stair buildings as well.

27 days ago

I strongly support these changes to our city code.

Air conditioning in Austin is a necessity, and it should be provided by a landlord.

Single-stair buildings allows for many more designs and structures to allow for greater variety and character as we build density, without posing a greater fire risk when built to modern standards.

Please adopt these changes.

27 days ago

Can we limit the height of construction to 3 stories rather than 5 stories when using a single stairwell regardless of building type?

27 days ago

The proposed change to number of required stairwells for multifamily residential would allow for substantial new development in this city. It sounds unsafe but due to fire separation walls and building sprinklering, this is not a worry in modern construction as it was before. We don't require two stairwells in single family homes, this doesn't become an issue there.

https://youtu.be/iRdwXQb7CfM?si=D98i3mv5hz7wikmd

27 days ago

The IBC amendments show a new section 420.12 for buildings with one exit. 25-12-1 (b) shows the chart of deleted sections from the IBC. The chart does not delete section 1006.3.4 (1). Does that mean that buildings with one exit are required to comply with the new section 420.12 and 1006.3.4 (1)?

27 days ago

2024 Technical Code Changes
International Building Code (IBC)
Web Page Question/Comment Summary
June 25 – July 24, 2024

Building a Better and Safer Austin Together

Question/Comment:
Hello, in section 1203.1.1, what is the minimum outside temperature at which this is applicable? (e.g. " ... capable of maintaining a room temperature of at least 15 degrees cooler than the outside temperature*when the outside temperature is above 80 degrees (or similar reasonable number)* ..." It does not make sense to go 15 degrees cooler if the outside temperature is 70. The bottom limit needs to be defined.
Response:
The Ordinance intent is for an owner to provide, and maintain, in operating condition, refrigerated air equipment capable of maintaining a room temperature of no greater than 85 degrees in each habitable room.

Question/Comment:
I'm very excited to see the city considering single-stair egress for MF buildings and I further appreciate the care that has clearly been put into ensuring that such buildings would be built as safely as possible. I believe that single-stair egress is better, for safety as well as the well-being of residents holistically, than the dark, cave-like, windowless multi-egress buildings that we currently mandate. As a journeyman electrician, I take the potential of building fires very seriously and I'm highly trained in how to safeguard against them. I appreciate that this proposed code change, as currently written, does call for several levels of redundancies aimed at reducing fire threats. As an Austin resident who does require shelter, prefers multi-family living over SFHs, and if a big fan of lots of natural lights and being able to get a cross breeze going in my home on a cool day, I'm concerned that this code is requiring too many redundancies. Again, I do appreciate the city wanting to go above and beyond in the name of safety, but all these redundancies being required to be in place for every one of these builds are both unnecessary and so incredibly cost prohibitive that it feels like they're meant to discourage any such projects from ever actually being considered. Why have all of these measures in place, yet still restrict such buildings to five floor mid-rises? Why have 10 ft setbacks yet still restrict this to two buildings of this type per lot? I'm not going to advocate for getting rid of any specific safety requirement listed in the name of safety, but this does call for far too many redundancies in a single space. I would suggest making these requirements a menu of options where builders are required to accept a minimum amount of these restrictions, but not all simultaneously. Again, I say this as someone who would love to live in one of these buildings myself and someone who does not currently work in construction, real estate development, or anything like that. I am a long-time Austinite who would love to one day own a home or at least be able to live in a home that doesn't feel like a depressing cave. Thank you!
Response:
A maximum height of 5 stories is allowable per the IBC Table 504.4 Allowable Building Heights for construction type 2-A. The City of Austin (COA) intends to minimize IBC modification and adhere to the model code everywhere possible.

Two buildings per lot is in keeping with the infill nature of these buildings. The modified IBC life safety requirements are not intended for large scale development, but rather to allow development of otherwise unfeasible properties to help create urban density. The ten-foot set back is to allow façade access for emergency services.

Question/Comment:

The IBC amendments show a new section 420.12 for buildings with one exit. 25-12-1 (b) shows the chart of deleted sections from the IBC. The chart does not delete section 1006.3.4 (1). Does that mean that buildings with one exit are required to comply with the new section 420.12 and 1006.3.4 (1)?

Response:

IBC section 102.1 – "Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable". Table 1006.3.4(1) allows three story R-2 buildings with one exit per IBC model code which is still allowable. Our amendments are specific to single-exit R-2s of 4 or 5 stories. If COA needs to amend Table 1006.3.4 (1) to bring clarity to this specific issue, and not rely on 102.1, the table will be amended.

Public Input Comments: IPMC

2024 Technical Code Changes
International Property Maintenance Code (IPMC)
Web Page Question/Comment Summary
June 4 – July 5, 2024

CITY OF AUSTIN Development SERVICES DEPARTMENT
Building a Better and Safer Austin Together

All question/comments submitted are from the Austin Apartment Association (AAA).

Question/Comment:

102.3 Application of other codes: Repairs, additions, or alterations to a structure, or changes of occupancy must be done in accordance with the provisions and procedures of Title 25 (Land Development Code) (Proposed Additional Language by AAA: and, where applicable, Sections 92.052 and 92.056 of the Texas Property Code.)

AAA Comments: Adding these sections of the Texas Property code should supersede any conflicting provisions pertaining to the process of timing and repairs.

Question/Comment:

103.3 Inspectors. The code official may designate inspectors to assist with enforcement of this code. The code official shall delegate powers and duties to inspectors (Proposed Additional Language by AAA: and shall maintain a comprehensive document encompassing current and consolidated code compliance standards for inspectors' use during inspections. This comprehensive document shall be made readily accessible on the City of Austin's official website.)

AAA Comments: This language has been included to establish a clear and objective consolidated list of code compliance standards for inspectors to follow and for property owners to read and comprehend.

Question/Comment:

105.9 Corrective Action: The code official is authorized to require the owner of the property or other responsible person to take action to correct a violation of this code. If the owner or other responsible person does not take corrective action within a specified time period, the code official may serve notice to the person(s) to appear before the Building and Standards Commission to show cause why the structure or premise should not be ordered repaired, boarded, fenced, vacated, occupants relocated, or demolished.

(Proposed Additional Language by AAA for 105.9 Corrective Action:

If the owner or responsible person is subject to compliance under Texas Property Code Sections 92.052 and 92.056, and the tenant has fulfilled their obligation to report to the landlord, but the required response mechanisms under the law were not met, the code official is authorized to mandate corrective actions to address a violation of this code.

For those governed by Texas Property Code Sections 92.052 and 92.056, the specified minimum timeframe for compliance is as outlined within that section.

For property owners or responsible individuals not subject to Texas Property Code Sections 92.052 and 92.056, the code official may determine an appropriate minimum timeframe for corrective action.

Failure to comply within the stipulated timeframe may result in the code official serving notice to the concerned parties, compelling them to appear before the Building and Standards Commission. At such hearing, the parties must demonstrate just cause as to why the structure or premises should not be ordered to be repaired, boarded, fenced, vacated, occupants relocated, or demolished.)

AAA Comments: This language has been included to clearly differentiate and mandate the timelines and procedures within the Texas Property Code. This includes a tenant's duty to report and a landlord's obligation to comply with state mandates prior to the enforcement of corrective action.

Question/Comment:

111.6 Responsibility of Owner: 111.6 Responsibility of Owner. It shall be unlawful for the owner of any dwelling unit or structure who has received a compliance order or upon whom a notice of violation has been served to sell, transfer, mortgage, lease or otherwise dispose of such dwelling unit or structure to another until the provisions of the compliance order or notice of violation have been complied with, or until such owner or the owner's authorized agent shall first furnish the grantee, transferee, mortgagee or lessee a true copy of any compliance order or notice of violation issued by the code official and shall furnish to the code official a signed and notarized statement from the grantee, transferee, mortgagee or lessee, acknowledging the receipt of such compliance order or notice of violation and fully accepting the responsibility without condition for making the corrections or repairs required by such compliance order or notice of violation. (Proposed Additional Language by AAA: Upon thorough assessment of the circumstantial processes required to bring a property into compliance under new ownership, the code official shall have the authority to grant a reasonable extension of time beyond the period outlined in Title 4, Section 4-14-7 (Business Regulation and Permit Requirements Code). This extension is granted specifically to the new property owner or the person responsible to facilitate full compliance with all applicable regulations. If the property is brought into compliance within the extended timeframe granted by the code official, this section shall supersede the original timeframe stipulated in Title 4 Section 4-14-7 hereby establishing the extended period as the authoritative compliance deadline.)

AAA Comments: This language was included as way to give the Code Official the explicit authority to grant additional time to owners working to bring their newly purchased property into compliance, which will prevent a Repeat Offender Program (ROP) registration.

Question/Comment:

(AAA Suggests Striking the Following Language: 111.1.3 Structure Unsafe for Human Occupancy. A structure is unfit for human occupancy whenever the code official finds that such structure is unsafe, unlawful or, because of the degree to which the structure is in disrepair or lacks maintenance, is insanitary, vermin or rat infested, contains filth and contamination, or lacks ventilation, illumination, sanitary or heating facilities or other essential equipment required by this code, or because the location of the structure constitutes a hazard to the occupants of the structure or to the public. If the code official finds a structure unsafe, the owner of the property shall provide an action plan for repairs to the code official and provide approved accommodations for the occupants of the structure within two days of notice.)

AAA Comments: Section 111.1.3 is redundant as the city already possesses the authority to revoke a permit if a structure is deemed unsafe. Chapter 92 of the Texas Property Code, Title 25 (Land Development Code), along with other applicable provisions, sets forth comprehensive and effective measures for addressing displaced occupants. Additionally, the Building and Standards Commission has been explicitly authorized to enforce the provisions outlined in section 111.1.3, thereby creating conflicting language with the existing stipulations in Chapter 9 of this code. Moreover, granting subjective enforcement authority to a single code official to remove occupants without first affording the property owner the opportunity to present evidence and testimony regarding the alleged code violations infringes upon due process rights.

Question/Comment:

504.3 Plumbing system hazards. Where it is found that a plumbing system in a structure constitutes a hazard to the occupants or the structure by reason of inadequate service, inadequate venting, cross connection, back siphonage, improper installation, deterioration, or damage or for similar reasons, the code official shall require the defects to be corrected to eliminate the hazard. (AAA Suggests Striking the following language: If the code official finds a structure unsafe, the owner of the property shall

provide an action plan for repairs to the code official and provide approved accommodations for the occupants of the structure within two days of notice.)

AAA Comments: Granting subjective enforcement authority to a single code official to remove occupants without first affording the property owner the opportunity to present evidence and testimony regarding the alleged code violations infringes upon due process rights.

Question/Comment:

505.4 Water heating facilities. A water heating facility must be properly installed, maintained and capable of providing an adequate amount of water to be drawn at each sink, lavatory, bathtub, shower, and laundry facility at a temperature of not less than 110°F (43°C). (AAA Suggests Striking the Following Language: If the code official finds a structure unsafe, the owner of the property shall provide an action plan for repairs to the code official and provide approved accommodations for the occupants of the structure within two days of notice.)

AAA Comments: Granting subjective enforcement authority to a single code official to remove occupants without first affording the property owner the opportunity to present evidence and testimony regarding the alleged code violations infringes upon due process rights.

Question/Comment:

602.2 Residential occupancies. Heating facilities that are capable of maintaining a room temperature of 68°F (20°C) in habitable spaces, bathrooms, and toilet rooms are required in each dwelling unit. Cooking appliances and unvented fuel-burning space heaters cannot be used to meet or maintain the room temperature required by this section. A portable electric space heater may be used on a temporary basis if used consistent with manufacturer's specifications. Strike: If the code official finds a structure unsafe, the owner of the property shall provide an action plan for repairs to the code official and provide approved accommodations for the occupants of the structure within two days of notice.

(AAA Suggests Striking the Following Language: 604.3 Electrical System hazards. If the code official finds that the electrical system in the structure constitutes a hazard to the occupants or the structure by reason of inadequate service, the owner of the property shall provide an action plan for repairs to the code official and provide approved accommodations for the occupants of the structure within two days of notice.)

Question/Comment:

(AAA Suggests Striking the Following Language: 604.3 Electrical System hazards. If the code official finds that the electrical system in the structure constitutes a hazard to the occupants or the structure by reason of inadequate service, the owner of the property shall provide an action plan for repairs to the code official and provide approved accommodations for the occupants of the structure within two days of notice.)

Question/Comment:

309.1 Infestation. Structures and exterior property areas shall be kept free from insect and rodent infestation. Where insects and rodents are found, immediate action shall be taken to eliminate by approved processes that will not be injurious to human health. After (AAA Suggests Striking the Following Language: pest elimination), (Suggests Adding the following Language: pest control action has been executed), (AAA Suggests Striking the Following Language: proper precautions shall be taken to eliminate insect and rodant harborage) (AAA Suggests Adding the Following Language: and prevent re-infestation prevent insect and rodent harborage re-infestation.)

Question/Comment:

AAA Comments: This comment and concern pertains to the implementation of mandatory composting: once composting is enforced and bins containing food waste are placed in trash chutes, rental units, or outside in the Texas heat, will there be any additional measures or protections implemented to address the resultant issues? Given that composting is now mandated for multifamily properties and is known to attract rodents, the use of the term “elimination” in this context may be challenging to enforce and comply with. The goal is to exterminate all insects and rodents, but this new language gives the code official or inspector the flexibility to determine whether or not the property owner has taken all necessary steps to eliminate infestation surrounding composting bins, etc.

Response:

Staff is evaluating the proposed code language to develop flexibility to address infestation issues with differing environments and contexts.

Question/Comment:

603.7 Cooling Facilities Required. An owner shall: (A).(i) Provide, and maintain, in operating condition, refrigerated air equipment capable of maintaining a room temperature of at least 15 degrees cooler than the outside temperature, but in no event higher than 85° F in each habitable room. (ii). Maintain all air conditioning systems, including air conditioning unit covers, panels, conduits, and disconnects, properly attached, and in operating condition. Proposed Draft (B) The required room temperature shall be measured 3 feet (914mm) above the floor near the center of the room and 2 feet (610mm) inward from the center of each exterior wall. (C) It is a defense to prosecution under this paragraph that at least one habitable room is 85°F, if the outside temperature is over 110°F.

AAA Comments & Questions:

Grandfathering Units: Will units without existing air conditioning systems be grandfathered in? Given that most apartments built in the last 40 years include air conditioning, this regulation would primarily impact much older housing stock. If retrofitting is required, rental costs could increase significantly due to the associated upgrade expenses. This concern extends to single-family homes and smaller properties, where the financial burden on owners could be substantial.

Temperature Compliance: How will the City of Austin measure temperature to ensure compliance with the new regulations?

Repair Timelines: What is the expected timeline for repairing air conditioning units once an issue is reported?

Power Outages: What provisions are there for power outages beyond the control of property owners or managers? Will these situations be taken into account in the enforcement of the new regulations?

Portable A/C Units: How will the city address the limitations of portable air conditioning units in high-rise and mid-rise buildings where windows do not open above the fourth story? Additionally, HVAC work poses significant safety risks if conducted after certain hours, involving high voltage or other hazards.

Compliance Measures: What specific compliance measures will be implemented to enforce this regulation?

Standardized Inspections: Will code compliance inspectors have a clear, objective list of requirements for issuing violations and fines? Members are concerned about potential subjectivity and believe there should be definitive rules and standards to follow. Will fines be standardized?

Notification and Due Process: According to state law and lease contracts, tenants must submit maintenance repair requests to property management. Will properties be subject to fines and code violations if they were never notified of a broken air conditioning unit?

State Pre-emption under HB 2127: Firstly, there are no state requirements mandating air conditioning in rental units. However, the Texas Property Code recognizes that excessive heat constitutes a condition materially affecting the health or safety of an ordinary tenant. Under Section 92.056, landlords are required to repair such conditions within a reasonable timeframe. This period is presumed to be seven days, although this presumption can be rebutted based on factors such as the external temperature, the internal temperature of the apartment, and the availability of necessary parts and materials. Therefore, if air conditioning units are not adequately cooling, there is already a remedy available under existing law.

Response:

Grandfathering Units: Existing units would be required to comply with the proposed code language and provide refrigerated air capable of meeting the standard.

Temperature Compliance: Standard operating procedures will be developed to create consistency and provide clear guidance for compliance.

Repair Timelines: Standard operating procedures will be developed to create consistency and provide clear guidance for compliance.

Power Outages: Standard operating procedures will be developed to create consistency and provide clear guidance for compliance.

Portable A/C Units: Standard operating procedures will be developed to create consistency and provide clear guidance for compliance.

Compliance Measures: Standard operating procedures will be developed to create consistency and provide clear guidance for compliance.

Standardized Inspections: Standard operating procedures will be developed to create consistency and provide clear guidance for compliance. Fines are not assessed directly by inspection staff. These are set by either a third-party hearing officer or the municipal court.

Notification and Due Process: If a property owner fails to remedy a violation after the timeframe for repair provided in the written notice of violation, the city will utilize existing enforcement options as authorized by state law.

Public Input Comments: IECC

International Energy Conservation Code (IECC)

Commercial - IECC [2024]

Project Engagement

VIEWS	PARTICIPANTS	RESPONSES	COMMENTS	SUBSCRIBERS
220	20	0	26	2

Please provide a comment or question about the proposed Commercial provisions of the International Energy Conservation Code (IECC) 2024 Technical Code Amendments in the space below. **Please respond by July 9, 2024**.

City of Austin
Council Meeting Backup: April 10, 2025 File ID: 25-0615

July 8, 2024
Attention: Public Comments
Dear Austin Energy Green Building Staff,

Vehicle Readiness proposals of the 2024 International Energy Conversation Code (IECC)

The Alliance for Transportation Electrification appreciates the opportunity to comment on Austin Energy's Residential and Commercial Electric Vehicle Readiness proposals of the 2024 International Energy Conversation Code (IECC). We applaud the City's leadership in pushing forward the energy code in a timely manner. Although many cities and states have adopted energy codes, only a handful have been proactive in adopting, updating, and enforcing the most up-to-date codes. Energy codes ensure that a building's energy use is included as a fundamental part of the design and construction process of new buildings; making an early investment in building energy improvements will pay dividends to Austin residents for years into the future.

We offer the following comments on the 2024 IECC Electric Vehicle Readiness proposals for both commercial and residential buildings.

1. We support the residential electric vehicle readiness proposal for one-and two- family dwellings, townhomes, and R-2 occupancies.

The residential proposal derived from Appendix RE of the 2024 IECC Residential code requires that new one- and two-family dwellings and townhouses with designated parking provide one EV capable, EV ready, or EVSE space per dwelling unit. Multifamily buildings with four stories or less must provide an EV capable space, EV ready space, or EVSE space for 40 percent of dwelling units or automobile parking spaces, whichever is less. These requirements give building owners flexibility in establishing the level of EV readiness that will fit their current and future needs, while still providing the necessary minimum EV charging load that the distribution system needs to be sized for. Moreover, the language in Appendix RE was developed as a consensus proposal during the IECC code development process with input from a diverse group of stakeholders including representatives from the home builders, electrical manufacturers, EV charging providers, and utilities. It went through several rounds of public comment and editorial changes to ensure clarity, consistency, enforceability, and technical soundness. Adopting Appendix RE outright would help staff streamline and quicken the public input process given that the language has already been thoroughly vetted.

2. We strongly recommend increasing EV-ready requirements and including EVSE- installed spaces for certain commercial occupancy types

We are concerned that the omission of EV-ready and EVSE-installed spaces in Table CG101.2.1 from all commercial occupancy types expect Groups R-1 and R-2 will result in an under-investment in necessary charging infrastructure to support current and future EV drivers in Austin. The current proposal heavily stacks EV-capable requirements across nearly all commercial building types, which puts the burden on building owners, EV drivers, or tenants to have an outlet or EVSE wired and installed at their parking space. While an EV capable space requires panel capacity, a dedicated circuit and raceway, it does not include a way for someone to drive up to a parking spot and plug in and charge. In particular, this barrier presents a significant obstacle to installing EV infrastructure at multi-family dwellings, which have proven to be the most challenging sector to deploy EV infrastructure.

Unlike residents of single-family homes, multi-family tenants are commonly renters without the authority to retrofit parking spaces to install charging equipment. When retrofitting to provide EV charging is possible, tenants and owners can face costs of 4-6 times higher than if done during new construction2. The ability to charge an EV overnight is additionally important for multifamily tenants who are rural, low-income, and in disadvantaged communities, who typically have longer commutes and drive older EVs with shorter ranges.

Several cities and counties across the country have included ambitious EVSE-installed and EV- ready requirements for commercial building types, including Scottsdale, Tucson, Coral Gables, St. Petersburgh, St. Louis County, Charlotte, Columbus, Orlando, Chicago, Seattle, and many others. We recommend that Austin match or exceed the ambition of its peer cities and adopt EV-ready and EVSE-installed requirements for new commercial buildings. Tesla

proposes revisions to Table CG101.2.1 in the Appendix 1.
3. We recommend including a Direct Current Fast Charging (DCFC) compliance pathway that provides new commercial buildings the option to meet compliance with charging that mirrors dwell times.
Depending on the type of nonresidential building and the typical dwell time a vehicle is parked, a higher power level for charging beyond a standard Level 2 charger may be most beneficial. A DCFC compliance pathway would allow new non-residential buildings the option to meet EV- capable and EVSE compliance either through Level 2 or DCFC. For example, commercial buildings with short dwell times, such as grocery stores, would have the ability to use a DCFC compliance ratio of 5:1 EVSE installed if minimum requirements are met and at least one Level 2 EVSE is installed. A DCFC compliance option is important as it provides building owners with the incentive to go beyond minimum EVSE requirements and the optionality to install the level of EV charging, either Level 2 or DCFC, that best fits customer needs. This optionality also results
2 https://caletc.aodesignsolutions.com/assets/files/CALGreen-2019-Supplement-Cost-Analysis-Final-1.pdf
in a more efficient use of state and private infrastructure investment given more optimal charging station usage. ATE proposes recommended language in the attached Appendix 2.
.
ATE appreciates the opportunity to provide feedback on 2024 IECC Electric Vehicle Readiness proposals for both commercial and residential buildings. We look forward to continued work with the City of Austin on its transportation electrification efforts.

Thank you for the opportunity to
submit these comments.

Sincerely,
Rick Tempchin
Alliance for Transportation Electrification
rick@evtransportationalliance.org
202-258-2912

***

APPENDIX 1
Language to be added is underlined. Language to be removed is struck.
TABLE C405.14.1
REQUIRED EV POWER TRANSFER INFRASTRUCTURE
Occupancy Group A Group B Group E Group F Group H Group I Group M Group R-1 Group R-2 Group R-3 and R-4 Group S exclusive of parking garages Group S-2 parking garages
EVSE Spaces
5% 0% 5% 0% 5% 0% 2% 0% 1% 0% 5% 0% 5% 0% 10% 0% 10% 0% 0%
0%
5% 0%
EV Ready Spaces
5% 0% 10% 0% 10% 0% 0%
0%
10% 0% 10% 0% 5% 5% 0% 0%
10% 0%
EV Capable Spaces 10%
30%
30%

5%
0%
30%
30%
35%
35%
5%
0%
30%

1 Tesla Road, Austin, TX 78725 P 650 681 5100 F 650 681 5101
APPENDIX 2
Language to be added is underlined. Language to be removed is struck.
CG101.2.1 Quantity. The number of required electric vehicle (EV) spaces, EV capable spaces and EV ready spaces shall be determined in accordance with this section and Table CG101.2.1 based on the total number of automobile parking spaces and shall be rounded up to the nearest whole number. For R-2 buildings, the Table CG101.2.1 requirements shall be based on the total number of dwelling units or the total number of automobile parking spaces, whichever is less.
1. Where more than one parking facility is provided on a building site, the number of required automobile parking spaces required to have EV power transfer infrastructure shall be calculated separately for each parking facility.
2. Where one shared parking facility serves multiple building occupancies, the required number of spaces shall be determined proportionally based on the floor area of each building occupancy.
3. Installed electric vehicle supply equipment installed spaces (EVSE spaces) that exceed the minimum requirements of this section may be used to meet the minimum requirements for EV ready spaces and EV capable spaces.
4. Installed EV ready spaces that exceed the minimum requirements of this section may be used to meet the minimum requirements for EV capable spaces.
5. Where the number of EV ready spaces allocated for R-2 occupancies is equal to the number of dwelling units or to the number of automobile parking spaces allocated to R-2 occupancies, whichever is less, requirements for EVSE spaces for R-2 occupancies shall not apply.
6. Requirements for a Group S-2 parking garage shall be determined by the occupancies served by that parking garage. Where new automobile spaces do not serve specific occupancies, the values for Group S-2 parking garage in Table CG101.2.1 shall be used.
7. Group S-2 parking garages with no less than 50% long term parking spaces shall provide no less than 10% EV capable spaces. Long term parking spaces are considered as parking spaces where users generally park for more than 8 hours at a time, including overnight, at places such as airports, transit hubs, etc.
8. The installation of Direct Current Fast Charging (DCFC) EVSE shall be permitted to reduce the minimum number of required EV capable or EV ready spaces without EVSE or EVCS with Level 2 EVSE by five and reduce proportionally the required electrical load capacity to the service panel or subpanel.

17 days ago

Please see attached letter in support of IECC 2024 Technical Code Amendments from SPEER.

2024 Proposed Code Adoption Austin Letter.pdf

17 days ago

Please see the Atmos Energy's comment letter.

2024.07.08 - Atmos Energy Comments - 2024 Technical Code Amendments - Commercial.pdf

17 days ago

We support the proposed adoption of the 2024 Commercial IECC, including the EV-ready, electric-ready, energy storage and demand response amendments. Increasing energy efficiency is important for reducing greenhouse gas emissions and local air pollution, keeping bills affordable and increasing electric grid and community resilience.

Thank you

17 days ago

I support the proposed adoption of the 2024 Commercial IECC, including the EV-ready, electric-ready, energy storage and demand response amendments.

17 days ago

The American Gas Association (AGA) represents more than 200 local energy companies committed to the safe and reliable delivery of clean natural gas to more than 73 million customers throughout the nation. AGA appreciates the opportunity to comment on the proposed changes to the City of Austin's commercial energy code. Our first concern is the city is not referencing a published 2024 edition of the IECC but relies on a redline version that may not be what is eventually published by the ICC. We would ask that the efforts to modify the commercial and the residential Austin Texas energy codes be based on a published and publicly available edition of the 2024 IECC and not rely on a redline version that may have, for a number of reasons, differences then the published 2024 IECC.
Regarding the proposed revisions to add Appendix CG Electric Vehicle Charging Infrastructure and additional requirements and Appendix CH – Electric-Ready Commercial Building Provisions, we do not believe these additions help the city to meet its energy and emissions reduction goals and in fact, will result in an overall increase in both as well as an increase in construction cost that will impact the affordability of new and existing structures. Regarding the Electric Vehicle infrastructure, etc. requirements, it is clear that this will add significant cost and electricity usage with no specific documentation and analysis that justifies the benefits of such and extensive requirement for commercial building installations. The Appendix CH – Electric-Ready Commercial Building Provisions is even more troublesome since it adds a costly requirement that may never be used in the commercial application and if used, can actually add more source energy use than the fossil fuel appliances that it targets for possible future replacement. The ICC Board of Directors took the logical action at the end of the 2024 International Energy Conservation Code development process to remove both the Electric Vehicle provisions and the Electric-Ready Commercial Building Provisions from the compliance requirements of the 2024 IECC and we urge that the City of Austin, Texas do the same. The AGA March 20, 2024 Press Release that provides the March 18, 2024 ICC Board of Directors action on these requirements can be found here. In summary, AGA respectfully request that the city of Austin, Texas remove Appendix CG and Appendix CH from consideration during this code development process.

18 days ago

Comments from Electrify America in support of including a power-allocation method as part of the EV-readiness requirement.

City of Austin- Power-allocation method EV Building Code Requirements.pdf

18 days ago

Please see attached comments on behalf of Texas Gas Service Company, a division of ONE Gas, Inc. (“Texas Gas Service”) .

2024.07.08 - FINAL TGS Comments for Austin Energy Code.xps

18 days ago

July 8, 2024
Austin Energy Green Building
EV Ready Building Code
Commercial IECC [2024] Comment

Electrify America applauds the City of Austin for recognizing the need for EV-ready buildings and appreciates the opportunity to submit comments on the city's proposed building codes.

With respect to compliance with these EV-ready codes, Electrify America proposes that the city include a power-based threshold, known as a "power-allocation method," for meeting these requirements that would serve as an alternative to the benchmark based on percentage of parking spaces in a new facility. Setting a power-based requirement allows a property owner to meet EV charging requirements using the type of charger that best complements the use-case of their parking spaces. And, by doing so, the property owner can provide a better charging service to the driver using their parking space. California adopted the power-allocation method for meeting EV-ready requirements in 2023 which went into effect in 2024.So this is not a novel idea.

Not all EV chargers provide the same charging speeds, and not all parking spaces are used the same. So, EV charging minimums should be flexible to allow property owners to comply by installing chargers that best match the use case of their spaces. At parking facilities that host vehicles for long periods of time, like residences and workplaces, slower level 2 chargers requiring hours to provide a meaningful charge can be appropriate. In contrast, at parking facilities that service commercial properties, parking sessions are much shorter. So, level 2 chargers are less effective because they do not offer significant range during the session. In these cases, Direct Current Fast Chargers (DCFC) are a much more appropriate solution because they provide a meaningful amount of range in a short amount of time.

Thresholds for compliance with EV charging minimums based on a percentage of spaces disincentivize the build-out of fast chargers where they would be most effective. The reason is that the threshold is typically detrimentally high to be met with DCFC. The thresholds in the proposed language greatly exceed the number of chargers per station that is typical or even possible for fast charging providers. Under the proposed language, a parking facility with as few as 100 spaces would require between 15 and 30 chargers to be in compliance. Larger facilities, with about 1000 spaces could require 150-300 chargers. Even on the lower end of this spectrum, in smaller commercial parking facilities, the required number of stations is extremely high for DCFC providers.

For reference, the typical Electrify America station has between 4-6 chargers; though, stations of 8-12 chargers are becoming more common in larger lots. A station of 15 chargers, as could be required in a smaller 100-space lot under the proposed language, would be among the five largest stations in Electrify America's network. And the lot would likely be too small to host such a large station. 250 fast chargers, even in larger lots, is all but impossible with current technological, infrastructure, and resources limitations.

Meeting these EV charging requirements through a combination of DCFCs and level 2 chargers does not alleviate these challenges. The proposed threshold based on the number of spaces could require the installation of dozens, or even hundreds, of level 2 chargers in addition to the fast chargers included in the station. Because demand for fast chargers is highest in facilities where parking sessions are often brief, these level 2 chargers installed merely to meet the statute's requirements are not likely to provide a meaningful service and not likely to be economically viable. So, the disincentive created by a space-based threshold remains despite compliance being possible.

As an alternative, Electrify America supports a requirement that sets a minimum power level, scaled to the size of the parking facility, to be provided by EV chargers. A power-allocation method for compliance would permit a property owner to install the type of charger that best complements their land use and to provide a charging service

that best complements their land use and to provide the service that meets the needs of the drivers using their parking facility.

The state of California, in the 2023 update to its green building code, known as "Calgreen," proposed and adopted a power-allocation threshold as an alternative and in addition to one based on the number of spaces. In the "Final Express Terms for Proposed Building Standards…." attached, the Buildings Standards Commission approved a framework that would require, for example, parking facilities of 100 spaces to provide, effectively, 165 kW of power and lots of 1000 spaces to provide 1300 kW of power. This framework right-sizes the EV charging minimums to reflect the large amount of power offered by DCFCs.

Charging stations compliant with the National Electric Vehicle Infrastructure (NEVI) program's standards must include four chargers each providing at least 150 kW charging speeds, though the DCFC industry is capable of reaching 350 kW. So, a power-based requirement also complements the nationwide effort to expand fast charging infrastructure by encouraging the proliferation of NEVI-compliant stations.

Although this power-based threshold produces fewer chargers, DCFCs provide greater amounts of charge and range than their level 2 counterparts and service more vehicles during a given time. Utilization data from Electrify America's public DCFCs and level 2 chargers show that fast chargers dispense nearly 10x the number of kilowatt hours and enable 10x the number of driving miles per year as level 2 chargers. Additionally, level 2 chargers typically experience a number of charging sessions in the hundreds, annually, whereas a DCFC station performs thousands of charging sessions per year. DCFCs' faster charging speeds provide more range in shorter period of time and result in more frequent turnovers from one session to the next. So, despite producing fewer chargers, the power-based threshold encourages the build-out of charging infrastructure that provides an equal, if not better, service to EV drivers.

Power-based requirements provide property owners the flexibility to install the types of chargers, including DCFCs, that best meet the needs of their facility's users. A power-allocation method of compliance, adopted in California, removes the disincentive to expanding fast charging infrastructure presented by the need for superfluous level 2 chargers simply to meet a minimum. And it does so while enhancing the charging services provided to the EV driver. As Austin considers ways to best support the proliferation of fast charging infrastructure, the city has a unique opportunity to be a leading voice on this matter and positively influence other states nation-wide as they consider doing the same.

Electrify America appreciates the opportunity to submit these comments and would be happy to discuss this matter further and answer any questions the Committee may have.

Respectfully submitted,

/s/ Anthony Willingham
Anthony Willingham
Government Affairs & Public Policy Lead—State
Electrify America LLC
1950 Opportunity Way, Reston, VA 20190
anthony.willingham@electrifyamerica.com

Attachment

FINAL EXPRESS TERMS
FOR PROPOSED BUILDING STANDARDS
OF THE CALIFORNIA BUILDING STANDARDS COMMISSION

REGARDING THE 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE,
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 11
(BSC 04/22)

...

Power allocation method shall include the following:
1. Use any kVA combination of EV capable spaces, Low Power Level 2, Level 2 or DCFC EVSEs.
2. At least one Level 2 EVSE shall be provided.
TABLE 5.106.5.3.6
TOTAL NUMBER OF ACTUAL PARKING SPACES MINIMUM TOTAL kVA @ 6.6 kVA TOTAL kVA REQUIRED IN ANY COMBINATION
OF EV CAPABLE, LOW-POWER LEVEL 2,
LEVEL 2 OR DCFC
0-9 0 0
10-25 26.4 26.4
26-50 52.8 52.8
51-75 85.8 85.8
76-100 112.2 112.2
101-150 165 165
151-200 231 231
201 and over 20 percent of actual parking spaces x 6.6 Total required kVA =P x .20 x 6.6 Where
P=Parking spaces in facility
1. Level 2 EVSE @ 6.6 kVA minimum.
2. At least one Level 2 EVSE shall be provided.
3. Maximum allowed kVA to be utilized for EV capable spaces is 75 percent.
4. If EV capable spaces are utilized, they shall meet the requirements of Section 5.106.5.3.1 EV capable spaces.

18 days ago

Section C405.11.1 Automatic Receptacle Control - Code amendment should exclude this requirement completely.

I am a professional electrical engineer on commercial buildings. Myself and every professional I have asked think the energy needed in wire, devices, and labor required to achieve this likely exceed any energy savings. I have attempted to look up the research and it is very thin. You are doubling the amount of plugs and copper line voltage drops down the wall, plus whatever control system you install to turn them off and on. In the end owners tend to override or not use the controlled receptacles in my experience.

Furthermore, in my opinion, controlled receptacles are not safe. These are 120V 20A outlets completely capable of starting a fire. You are turning off outlets to save energy, but keep in mind you are also turning them on unexpectedly. Consider if someone puts something on top a space heater that is off at night, the next day it will turn automatically. We are putting these in schools.

Thomas Ingram, P.E.
Licensed Texas Professional Engineer #126808

18 days ago

Regrading EV Capable, recommend being a specific as possible to leave out the guess work from developers on how to size level2 conduit, circuit requirements

for alllevel2:
- min of1" conduit per future EVSE pedestal
- a service panel or subpanel(s) should be provided with panel space and electrical load capacity for a dedicated 208/240Volt, 40-ampere minimum branch circuit for each EV Capbal space, with the delivery of 30-ampere minimum to an installed EVSE.
- EVSE capable panel should be clearly labelled "EVSE future"

18 days ago

Please ensure 208/240v is required for all EV-Capable, EV-Ready, and EVSE installs - while 120v is fine for many owners, 240v incentivizes off-peak charging and helps improve adoption rates - consumers always overplan for their needs. This is especially critical for apartments.

18 days ago

Observation. EV Ready speaks in KVA. consideration to speak to KW and/or amperage as KVAis typciallynot a name plate listing or how loads are sized with NEC.

18 days ago

Prosped EV Ready/ and EVSE install code, consideration to add a requirement for commercial applications to follow US board of access EV accessibility requirements. in short.at least(1) stall @ 11' in width with a 5' Access aisle.

https://www.access-board.gov/tad/ev/

California has similar requirements however goes a bit further. see attached guide

18 days ago

Section10.4.10.1 - EV Make Ready Code

Consideration for a DCFC alternative for those business operations are more in-line with fast serve / quick serve where driver dwell time is <1 hour. see Cal Green Code 5.106.5.3.2.1
“The installation of each DCFC EVSE shall be permitted to reduce the minimum number or required EV capable spaces without EVSE or EVCS with Level 2 EVSE by five and reduce proportionally the required electrical load capacity to serve panel or subpanel.”
For Travel Plaza, Quick Serve Restaurant and neighborhood fueling stations, installing level2 is not applicable to use case, additionally it has the tendency to add additional cost for excess panel capacity that is likely to be stranded. The State of Colorado has a similar exemption 1DCFC:10 EVSE Capable/installed stalls.

Happy to collaborate and share like-kind scenarios ChargePoint is helping its customers across the country navigate the right product mix for their specific use case and customer experience.

18 days ago

Public Citizen strongly supports the City of Austin adopting the IECC 2024 Technical Code for commercial buildings, as proposed by staff. This code update is important for meeting the city's climate, energy and affordability goals. It will improve energy efficiency and the ability to participate in demand response programs for new buildings, while enabling easier and more affordable electrification of transportation and buildings. We support adopting the proposed base code and the proposed electric-ready, EV-ready, demand response and energy storage appendixes. These provisions will reduce greenhouse gas emissions, reduce other air pollution emissions and make buildings more resilient and flexible for future occupants.

The EV-ready requirement is important for enabling wider adoption of electric vehicles. Electric vehicles are more affordable than ICE vehicles over time, but access to charging is still a challenge. The cost of installing a charger is significantly less if it is included in the original design of the building. Likewise, planning for future installation of electric appliances is cost-effective. These are important provisions for enabling beneficial electrification and decarbonization, as called for in the Austin Climate Equity Plan.

Likewise, demand response and energy storage provisions align with the Austin Climate Equity Plan and the Austin Energy Resource, Generation and Climate Protection Plan.

18 days ago

Regarding Appendix CI - proposing an exception/exemption for buildings or campuses that are participating in the Austin Energy Resilience as a Service (Raas) program or utilizing the AE-TES rider. In each of these situations associated facilities will already be effectively performing demand response actions that are either led by AE (RaaS) or performed daily due to the TES rider and not have additional large load to shed during the standard demand response windows. This would not exempt buildings on a campus that are not connected to TES or included in the RaaS evaluation of a campus. Glad to work on language to make this clear.

21 days ago

I support the proposed adoption of the 2024 Commercial IECC, including the amendments. Increasing energy efficiency is important for reducing greenhouse gas emissions and local air pollution, keeping bills affordable and increasing electric grid and community resilience.

22 days ago

Sierra Club also supports the proposed amendments to and adoption of the 2024 Commercial IECC. In particular, we fully support with local amendments the adoption of appendices related to EV infrastructure and parking, demand responsive controls for space, lighting and water heating (with exceptions for water heater timers), electric energy storage systems, solar-ready, electric-ready and mandatory on-site renewable energy systems (with some exceptions). Assuring that new commercial buildings are incorporating new technology directly - through onsite renewable and storage systems and EV infrastructure - or at least being ready to incorporate will align with community values and ultimately reduce carbon and energy use.

23 days ago

Sierra Club also supports the proposed amendments to and adoption of the 2024 Commercial IECC. In particular, we fully support with local amendments the adoption of appendices related to EV infrastructure and parking, demand responsive controls for space, lighting and water heating (with exceptions for water heater timers), electric energy storage systems, solar-ready, electric-ready and mandatory on-site renewable energy systems (with some exceptions). Assuring that new commercial buildings are incorporating new technology directly - through onsite renewable and storage systems and EV infrastructure - or at least being ready to incorporate will align with community values and ultimately reduce carbon and energy use. Cyrus Reed, Sierra Club, Cyrus.reed@sierraclub.org

23 days ago

25-12-263 (A): "The following provisions are local amendments to the commercial provisions of the 2021 International Conservation Code. Each provision in this subsection is a substitute for an identically numbered provision deleted by Section 25-12-261(B) or an addition to the 2021 International Energy Conservation Code." -- I think this is supposed to reference 2024 IECC now yes?

6.5.10 Door Switches. If I understand this correctly, we are effectively turning off HVAC systems in a zone if an exterior door is propped open for more than 5 minutes. This makes pretty good sense. We do not want our buildings to heat/cool the entire neighborhood. No sense in making extremely tight building enclosures if the whole thing can be circumvented by a $0.50 wood doorstop or a landscaping rock you pick up off the sidewalk. On the flip side, is it allowed to automatically turn the systems back on at the previous set points when the door is closed? If not, I can see this playing havoc on the comfort and humidity levels in buildings with multiple tenants. Imagine someone moving into an apartment or dorm building. If you have to manually reset the HVAC systems, the common areas will be wildly uncomfortable before anyone with access to the thermostat will think about turning the system back on.

Future Water Heater Space: I included this in the comments to the residential code as well. Why are we requiring a 3'x3'x7' area for the water heater? Even the largest heat pump unit I can find is only 28" in diameter. If the intent to ensure an air volume large enough for the heat exchanger, there are many other solutions including louvered doors, transfer grilles, or ducted supply/return runs. We believe the industry has provided enough variety within the market that we should not be code mandating a specific design solution; especially one that increases current industry footprint standards.

10.5.1.1 On-Site Renewable Energy: Is this section one of the optional points-based energy reduction methods? I understand mandating some sort of Solar Readiness on commercial buildings, that part of the code makes sense, but I certainly hope we are not going to require the general public to privately subsidize electrical production. I don't see how we can force people to pay for and install solar on their building.

one month ago

Please include an ERV exemption for multi-family dwelling units.

IECC C403.7.4.1

The commercial section of the IECC requires ERVs to be installed in all buildings. ERVs are not currently a sufficiently effective nor cost-effective solution for multi-family dwelling units in Austin's climate.

While most commercial buildings require a relatively small number of larger, more efficient ERVs that can serve large areas, dwelling units each require their own smaller, less-efficient, and more expensive ERVs. The majority of projects that come across this requirement use a performance path to avoid the requirement and easily meet the overall code requirements without them. Some projects have paid the additional fees for an energy model solely to avoid the more expensive path of providing ERVs. Note that this is not just an issue for non-transient dwelling units - there may be instances where transient units for shelters and other short-term housing is impacted; however, the impact on hotels and non-housing related transient units and the needs/benefits in those scenarios is outside the scope of the housing impact.

Recommendations: Modify IECC C403.7.4.1 to refer to dwelling units and add exemptions that cover multi-family housing and shelter housing. Edit C403.7.4.2 to conform language

one month ago

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Recommendations: Modify IECC C403.7.4.1 to refer to dwelling units and add exemptions that cover multi-family housing and shelter housing. Edit C403.7.4.2 to conform language

Chris Gannon, Architect
Co-chair of Austin AIA Housing Advocacy Committee

one month ago

1. Appendix CJ speaks to required storage of electricity on site. Are other forms of energy storage also acceptable responses to the requirement?
2. These changes appear to treat every project/site as separate entities. For larger facilities there may be many facilities on a single or adjacent sites. LEED and other rating entities have provisions for campus type accommodations of energy requirements to enable innovation on larger scales than individual projects might initiate. Will the City accept such campus wide solution options?

one month ago

Residential - IECC [2024]

Project Engagement

VIEWS	PARTICIPANTS	RESPONSES	COMMENTS	SUBSCRIBERS
181	27	0	29	2

Please provide a comment or question about the proposed Residential provisions of the International Energy Conservation Code (IECC) 2024 Technical Code Amendments in the space below. **Please respond by July 9, 2024**.

July 8, 2024
Attention: Public Comments
Dear Austin Energy Green Building Staff,

Vehicle Readiness proposals of the 2024 International Energy Conversation Code (IECC)

The Alliance for Transportation Electrification supports Tesla's comments and appreciates the opportunity to comment on Austin Energy's Residential and Commercial Electric Vehicle Readiness proposals of the 2024 International Energy Conversation Code (IECC). We applaud the City's leadership in pushing forward the energy code in a timely manner. Although many cities and states have adopted energy codes, only a handful have been proactive in adopting, updating, and enforcing the most up-to-date codes. Energy codes ensure that a building's energy use is included as a fundamental part of the design and construction process of new buildings; making an early investment in building energy improvements will pay dividends to Austin residents for years into the future. We offer the following comments on the 2024 IECC Electric Vehicle Readiness proposals for both commercial and residential buildings.

1. We support the residential electric vehicle readiness proposal for one-and two- family dwellings, townhomes, and R-2 occupancies.

The residential proposal derived from Appendix RE of the 2024 IECC Residential code requires that new one- and two-family dwellings and townhouses with designated parking provide one EV capable, EV ready, or EVSE space per dwelling unit. Multifamily buildings with four stories or less must provide an EV capable space, EV ready space, or EVSE space for 40 percent of dwelling units or automobile parking spaces, whichever is less. These requirements give building owners flexibility in establishing the level of EV readiness that will fit their current and future needs, while still providing the necessary minimum EV charging load that the distribution system needs to be sized for. Moreover, the language in Appendix RE was developed as a consensus proposal during the IECC code development process with input from a diverse group of stakeholders including representatives from the home builders, electrical manufacturers, EV charging providers, and utilities. It went through several rounds of public comment and editorial changes to ensure clarity, consistency, enforceability, and technical soundness. Adopting Appendix RE outright would help staff streamline and quicken the public input process given that the language has already been thoroughly vetted.

2. We strongly recommend increasing EV-ready requirements and including EVSE- installed spaces for certain commercial occupancy types

We are concerned that the omission of EV-ready and EVSE-installed spaces in Table CG101.2.1 from all commercial occupancy types expect Groups R-1 and R-2 will result in an under-investment in necessary charging infrastructure to support current and future EV drivers in Austin. The current proposal heavily stacks EV-capable requirements across nearly all commercial building types, which puts the burden on building owners, EV drivers, or tenants to have an outlet or EVSE wired and installed at their parking space. While an EV capable space requires panel capacity, a dedicated circuit and raceway, it does not include a way for someone to drive up to a parking spot and plug in and charge. In particular, this barrier presents a significant obstacle to installing EV infrastructure at multi-family dwellings, which have proven to be the most challenging sector to deploy EV infrastructure.

Unlike residents of single-family homes, multi-family tenants are commonly renters without the authority to retrofit parking spaces to install charging equipment. When retrofitting to provide EV charging is possible, tenants and owners can face costs of 4-6 times higher than if done during new construction2. The ability to charge an EV overnight is additionally important for multifamily tenants who are rural, low-income, and in disadvantaged communities, who typically have longer commutes and drive older EVs with shorter ranges.

Several cities and counties across the country have included ambitious EVSE-installed and EV- ready requirements for commercial building types, including Scottsdale, Tucson, Coral Gables, St. Petersburgh, St. Louis County, Charlotte, Columbus, Orlando, Chicago, Seattle, and many others. We recommend that Austin match or exceed the ambition of its peer cities and adopt EV-ready and EVSE-installed requirements for new commercial buildings. Tesla

proposes revisions to Table CG101.2.1 in the Appendix 1.
3. We recommend including a Direct Current Fast Charging (DCFC) compliance pathway that provides new commercial buildings the option to meet compliance with charging that mirrors dwell times.
Depending on the type of nonresidential building and the typical dwell time a vehicle is parked, a higher power level for charging beyond a standard Level 2 charger may be most beneficial. A DCFC compliance pathway would allow new non-residential buildings the option to meet EV- capable and EVSE compliance either through Level 2 or DCFC. For example, commercial buildings with short dwell times, such as grocery stores, would have the ability to use a DCFC compliance ratio of 5:1 EVSE installed if minimum requirements are met and at least one Level 2 EVSE is installed. A DCFC compliance option is important as it provides building owners with the incentive to go beyond minimum EVSE requirements and the optionality to install the level of EV charging, either Level 2 or DCFC, that best fits customer needs. This optionality also results
2 https://caletc.aodesignsolutions.com/assets/files/CALGreen-2019-Supplement-Cost-Analysis-Final-1.pdf
in a more efficient use of state and private infrastructure investment given more optimal charging station usage. ATE proposes recommended language in the attached Appendix 2.
.
ATE appreciates the opportunity to provide feedback on 2024 IECC Electric Vehicle Readiness proposals for both commercial and residential buildings. We look forward to continued work with the City of Austin on its transportation electrification efforts.

Thank you for the opportunity to
submit these comments.

Sincerely,
Rick Tempchin
Alliance for Transportation Electrification
rick@evtransportationalliance.org
202-258-2912

***

APPENDIX 1
Language to be added is underlined. Language to be removed is struck.
TABLE C405.14.1
REQUIRED EV POWER TRANSFER INFRASTRUCTURE
Occupancy Group A Group B Group E Group F Group H Group I Group M Group R-1 Group R-2 Group R-3 and R-4 Group S exclusive of parking garages Group S-2 parking garages
EVSE Spaces
5% 0% 5% 0% 5% 0% 2% 0% 1% 0% 5% 0% 5% 0% 10% 0% 10% 0% 0%
0%
5% 0%
EV Ready Spaces
5% 0% 10% 0% 10% 0% 0%
0%
10% 0% 10% 0% 5% 5% 0% 0%
10% 0%
EV Capable Spaces 10%
30%
30%

5%
0%
30%
30%
35%
35%
5%
0%
30%

APPENDIX 2
Language to be added is underlined. Language to be removed is struck.
CG101.2.1 Quantity. The number of required electric vehicle (EV) spaces, EV capable spaces and EV ready spaces shall be determined in accordance with this section and Table CG101.2.1 based on the total number of automobile parking spaces and shall be rounded up to the nearest whole number. For R-2 buildings, the Table CG101.2.1 requirements shall be based on the total number of dwelling units or the total number of automobile parking spaces, whichever is less.
1. Where more than one parking facility is provided on a building site, the number of required automobile parking spaces required to have EV power transfer infrastructure shall be calculated separately for each parking facility.
2. Where one shared parking facility serves multiple building occupancies, the required number of spaces shall be determined proportionally based on the floor area of each building occupancy.
3. Installed electric vehicle supply equipment installed spaces (EVSE spaces) that exceed the minimum requirements of this section may be used to meet the minimum requirements for EV ready spaces and EV capable spaces.
4. Installed EV ready spaces that exceed the minimum requirements of this section may be used to meet the minimum requirements for EV capable spaces.
5. Where the number of EV ready spaces allocated for R-2 occupancies is equal to the number of dwelling units or to the number of automobile parking spaces allocated to R-2 occupancies, whichever is less, requirements for EVSE spaces for R-2 occupancies shall not apply.
6. Requirements for a Group S-2 parking garage shall be determined by the occupancies served by that parking garage. Where new automobile spaces do not serve specific occupancies, the values for Group S-2 parking garage in Table CG101.2.1 shall be used.
7. Group S-2 parking garages with no less than 50% long term parking spaces shall provide no less than 10% EV capable spaces. Long term parking spaces are considered as parking spaces where users generally park for more than 8 hours at a time, including overnight, at places such as airports, transit hubs, etc.
8. The installation of Direct Current Fast Charging (DCFC) EVSE shall be permitted to reduce the minimum number of required EV capable or EV ready spaces without EVSE or EVCS with Level 2 EVSE by five and reduce proportionally the required electrical load capacity to the service panel or subpanel.

17 days ago

Please see attached letter in support of IECC 2024 Technical Code Amendments from SPEER.

PDF 2024 Proposed Code Adoption Austin Letter.pdf

17 days ago

Please see the attached comments.

2024.07.08 - Atmos Energy Comments - 2024 Technical Code Amendments - Residential.pdf

17 days ago

I support the proposed adoption of the 2024 Residential IECC, including the EV-ready, electric-ready, and demand response amendments. Increasing energy efficiency is important for reducing greenhouse gas emissions and local air pollution, keeping bills affordable and improving electric grid and community resilience. Building homes so that future residents can easily and affordably choose electric appliances and electric vehicles is important. There is one change I'd like to see to allow for full efficient electrification of all new homes. Remove the exemption for providing the required space if a home has a water heater on the outside of the house.

17 days ago

Today is the final day to submit a comment on the City of Austin's proposed adoption of the 2024 International Energy Conservation Code (IECC). This part of the building code ensures that new buildings are built to conserve energy and allow for the use of clean energy.

Improving building energy efficiency is key to combating climate change, keeping electric bills affordable, and avoiding electric grid collapse. This code update will make new buildings more airtight and more efficient, and will include a few key provisions that will allow future building owners to choose electric appliances without expensive retrofits. (When a resident or business owner can simply buy an appliance and plug it in, the choice to use clean electric options becomes a lot more attractive!)

There will also be a new requirement to leave sufficient space for a hot water heat pump, which looks much like a standard water heater tank but uses much less energy. Heat pumps take up about the same space as a standard hot water tank, so the problem mostly arises when replacing a tankless water heater with a heat pump.

However, we need one important change to the Austin Residential IECC proposal to allow for full and efficient electrification of all homes: Remove the exemption for providing the required space if a home has a water heater on the outside of the house.

We support the proposed adoption of the 2024 Residential and Commercial International Energy Conservation Codes.

We support the proposed adoption of the 2024 Residential IECC, including the EV-ready, electric-ready, and demand response amendments. Increasing energy efficiency is important for reducing greenhouse gas emissions and local air pollution, keeping bills affordable and improving electric grid and community resilience. Building homes so that future residents can easily and affordably choose electric appliances and electric vehicles is important. There is one change I'd like to see to allow for full efficient electrification of all new homes. Remove the exemption for providing the required space if a home has a water heater on the outside of the house.

Thank you

17 days ago

I support the proposed adoption of the 2024 Residential IECC, including the EV-ready, electric-ready, and demand response amendments. There is one change I'd like to see to allow for full efficient electrification of all new homes. Remove the exemption for providing the required space if a home has an existing water heater on the outside of the house.

17 days ago

I support the proposed adoption of the 2024 Residential IECC, including the EV-ready, electric-ready, and demand response amendments. Increasing energy efficiency is important for reducing greenhouse gas emissions and local air pollution, keeping bills affordable and improving electric grid and community resilience. Building homes so that future residents can easily and affordably choose electric appliances and electric vehicles is important. However, there is one change I'd like to see to allow for full efficient electrification of all new homes. Remove the exemption for providing the required space if a home has a water heater on the outside of the house.

17 days ago

The city had one time provided for free home thermostats, which had the option of turning down or off the power during certain parts of the day. Those are still available or citizens could be allowed to purchase them at a reasonable price, that would provide a lot of saved electric energy. Thank you.

17 days ago

The HBA's biggest concern with the 2024 IECC is centered around affordability. We appreciate that the 2024 code is more performance based and less prescriptive than the 2021 code, which allows builders the necessary flexibility they need to meet the code. However, there are some elements that we believe are a step too far and will unnecessarily add additional cost to the price of a home.

1. Electric vehicle capable / electric vehicle ready / EVSE space – Whether or not a home is built to accommodate an electric vehicle should lie solely with the homebuyer. EV capable has a minimal impact on affordability of approximately $500. However, electric ready and the full EVSE space would likely add $1,000+ to the price of a home. Since this code will affect all new construction, it will increase the cost of even the most affordable homes. We would request that the city leave this decision up to the homebuyer. However, if the city decides to move forward with this proposal, we ask that the city maintain the current draft that allows the least expensive method (electric vehicle capable) to meet the new code.
2. Do not go above or beyond the model code, specifically regarding the residential all-electric appendix that was not included in the base code. There are many reasons why a homebuyer might prefer gas appliances over electric, some of which are personal preference and others which are safety related. For example, during the freeze, when much of the city lost power, many homes with gas appliances were still able to prepare food and boil water. We would suggest the city consider strong incentives for the homebuilder and the homebuyer to switch over to electric appliances if they choose to do so.

We understand that the ICC process is rigorous and has taken longer than anticipated. However, as stakeholders, it is difficult to fully weigh in on these proposed changes before the model code is finally released. We would request that the city open up the public input process again once the model code is released and can be reviewed along with the proposed amendments.

The HBA is working with AE staff to provide more educational opportunities for our members. We ask that the City not rush to adoption and allow for a back-and-forth conversation with users and practitioners. If you have any questions, please reach out to David Glenn at david@hbaaustin.com.

17 days ago

Upon further examination, Sierra Club believes that the exemption from the space requirement to accommodate a heat pump water heater for homes with an external tankless water heater is unnecessary and will inhibit beneficial electrification of homes. We recommend that exception be removed. We strongly support code changes to increase energy efficiency as an important action to reduce greenhouse gas emissions and local air pollution, keep bills affordable, and increase electric grid and community resilience. We hope to emphasize the importance of code that builds homes so that future residents can easily and affordably choose electric appliances and electric vehicles is important.

18 days ago

I support the proposed adoption of the 2024 Residential IECC, including the EV-ready, electric-ready, and demand response amendments. Increasing energy efficiency is important for reducing greenhouse gas emissions and local air pollution, keeping bills affordable and improving electric grid and community resilience. Building homes so that future residents can easily and affordably choose electric appliances and electric vehicles is important. There is one change I'd like to see to allow for full efficient electrification of all new homes. Remove the exemption for providing the required space if a home has a water heater on the outside of the house.

18 days ago

Revised

The American Gas Association (AGA) represents more than 200 local energy companies committed to the safe and reliable delivery of clean natural gas to more than 73 million customers throughout the nation. AGA appreciates the opportunity to comment on the proposed changes to the City of Austin's residential energy code. Our first concern is the city is not referencing a published 2024 edition of the IECC but relies on a redline version that may not be what is eventually published by the ICC. We would ask that the efforts to modify the residential Austin, Texas energy code be based on a published and publicly available edition of the 2024 IECC and not rely on a redline version that may have, for a number of reasons, differences then the published 2024 IECC.

Regarding the proposed revisions to add Appendix RE Electric Power Transfer provisions Appendix RK – Electric-Ready provisions, we do not believe these additions help the city to meet its energy and emissions reduction goals and in fact, will result in an overall increase in both as well as an increase in construction cost that will impact the affordability of new and existing structures. Regarding the Electric Vehicle power transfer provisions, it is clear that this will add significant cost and electricity usage with no specific documentation and analysis that justifies the benefits of such and extensive requirement for residential building installations. The Appendix RK – Electric-Ready provisions is even more troublesome since it adds a costly requirement that may never be used in residential applications and if eventually used, can actually add more source energy use than the fossil fuel appliances that it targets for possible future replacement. The ICC Board of Directors took the logical action at the end of the 2024 International Energy Conservation Code development process to remove both the Electric Vehicle provisions and the Electric-Ready residential building provisions from the compliance requirements of the 2024 IECC and we urge that the City of Austin, Texas to do the same. The AGA March 20, 2024 Press Release that provides the March 18, 2024 ICC Board of Directors action on these requirements can be found here. In summary, AGA respectfully request that the city of Austin, Texas remove Appendix RE and Appendix RK from consideration during this code development process.

18 days ago

The American Gas Association (AGA) represents more than 200 local energy companies committed to the safe and reliable delivery of clean natural gas to more than 73 million customers throughout the nation. AGA appreciates the opportunity to comment on the proposed changes to the City of Austin's residential energy code. Our first concern is the city is not referencing a published 2024 edition of the IECC but relies on a redline version that may not be what is eventually published by the ICC. We would ask that the efforts to modify the residential Austin, Texas energy code be based on a published and publicly available edition of the 2024 IECC and not rely on a redline version that may have, for a number of reasons, differences then the published 2024 IECC.
Regarding the proposed revisions to add Appendix RE Electric Power Transfer provisions Appendix RK – Electric-Ready provisions, we do not believe these additions help the city to meet its energy and emissions reduction goals and in fact, will result in an overall increase in both as well as an increase in construction cost that will impact the affordability of new and existing structures. Regarding the Electric Vehicle power transfer provisions, it is clear that this will add significant cost and electricity usage with no specific documentation and analysis that justifies the benefits of such and extensive requirement for residential building installations. The Appendix RK – Electric-Ready provisions is even more troublesome since it adds a costly requirement that may never be used in residential applications and if eventually used, can actually add more source energy use than the fossil fuel appliances that it targets for possible future replacement. The ICC Board of Directors took the logical action at the end of the 2024 International Energy Conservation Code development process to remove both the Electric Vehicle provisions and the Electric-Ready Commercial Building Provisions from the compliance requirements of the 2024 IECC and we urge that the City of Austin, Texas do the same. The AGA March 20, 2024 Press Release that provides the March 18, 2024 ICC Board of Directors action on these requirements can be found here. In summary, AGA respectfully, request that the city of Austin, Texas remove Appendix RE and Appendix RK from consideration during this code development process.

18 days ago

Please see attached comments on behalf of Texas Gas Service Company, a division of ONE Gas, Inc. ("Texas Gas Service").

2024.07.08 - FINAL TGS Comments for Austin Energy Code.docx

18 days ago

For EV-capable spaces, please specify 1" or greater conduit, 4-wire, 50A capacity. This eliminates undersizing the capacity or conduit.

18 days ago

Public Citizen strongly supports the City of Austin adopting the IECC 2024 Technical Code for residential buildings, as proposed by staff, with one exception. This code update is important for meeting the city's climate, energy and affordability goals. It will improve energy efficiency and the ability to participate in demand response programs for new buildings while enabling easier and more affordable electrification of transportation and buildings. We support adopting the proposed based code and the proposed electric-ready, EV-ready, and demand response appendixes. These provisions will reduce greenhouse gas emissions, reduce other air pollution emissions and make buildings more resilient and flexible for future occupants.

The EV-ready requirement is important for enabling wider adoption of electric vehicles. Electric vehicles are more affordable than ICE vehicles over time, but access to charging is still a challenge. The cost of installing a charger is significantly less if it is included in the original design of the building. Likewise, designing for future installation of electric appliances is cost-effective. These are important provisions for enabling beneficial electrification and decarbonization, as called for in the Austin Climate Equity Plan.

Likewise, the demand response provision aligns with the Austin Climate Equity Plan and the Austin Energy Resource, Generation and Climate Protection Plan.

The one change that we request is for the exemption is for exception number 2 to section “RK101.1 Electric readiness” to be removed. This exception to the requirement to provide space for a heat pump water heater contradicts the goal of electrifying and decarbonizing buildings. It would leave future homeowners without an easy option to switch to an efficient heat pump water heater without incurring the significant cost of creating a space for it in the home and hiring a plumber and an electrician to connect a heat pump where one was not designed for. Additionally, including this exception could encourage more builders to install tankless water heaters on the exterior of homes, leaving them vulnerable during freezing temperatures. Many water heaters on the exterior of homes were damaged and required replacing after Winter Storm Uri. Not only does this inconvenience residents, it is also a waste of resources. The City of Austin should be encouraging resilient design of homes. Including this exception could encourage more such poor design because a builder may want to avoid the water heater space requirement and the only way to do so would be to place the tankless water heater outside. We request a conversation with the appropriate staff to discuss removing this exception.

18 days ago

I received this sample input from Public Citizen and completely agree with the proposals below. The largest portion of my energy bill is air conditioning and appliances. As the owner of several EVs since 2013, I can tell you that the main deterrent to faster adoption is the lack of reliable and widespread charging infrastructure. In-home charging is the most accessible and convenient way to charge. These proposals will help tremendously to reduce air pollution and CO2 emissions, and increase access to solutions.

I support the proposed adoption of the 2024 Residential IECC, including the amendments. Increasing energy efficiency is important for reducing greenhouse gas emissions and local air pollution, keeping bills affordable and increasing electric grid and community resilience. Building homes so that future residents can easily and affordably choose electric appliances and electric vehicles is important. There are two changes I’d like to see to allow for full efficient electrification of all new homes. 1) Adopt the EV-Ready amendment to allow for affordable installation of a car charger. 2) Remove the exemption for providing the required space if a home has a water heater on the outside of the house.

22 days ago

The Sierra Club fully supports the adoption of the 2024 IECC for both commercial and residential buildings. Indeed, lowering energy use and incorporating new technology is a key tool to meet our long-term energy and climate goals, and because buildings can last well over 50 years, making sure new and refurbished buildings use less energy is of paramount importance. Austin has been a leader on energy codes, and adoption of the 2024 IECC would help cement this leadership.

We have reviewed both proposals and appreciate in particular for the residential IECC, the adoption of the solar-ready, EV-ready and electric-ready, as well as water heater demand response requirements. We also support the additional energy savings required for those builders choosing the performance path. Adoption of the residential 2024 IECC with local amendment and required appendices should save energy (and water), lower carbon, and make future apartments and homes better prepared to embrace new technologies like electric vehicles, electric appliances and onsite solar and storage. According to the DOE's Pacific Northwest National Laboratory, in climate zone 2, the improvements to the 2024 IECC should result in 5.16% energy savings, 7.10% energy cost savings and 7.07% carbon cost savings.

While we understand that the 2024 IECC did lower the R-value requirement for ceiling insulation in residential buildings from 49 to 38 for the prescriptive path, we ask that the CIty of Austin consider as a requirement an R-value of 42, as the City of San Antonio recently adopted. This would be a good compromise for those builders picking the prescriptive path.

We are very appreciative of the inclusion of water heater demand response and spacing requirements and agree that an exception for those water heaters that have predetermined timing controls would not need to meet the demand response requirements. We also support the spacing requirements for water heaters, as well as the exceptions provided for tankless water heaters located on the outside of dwellings, heat pump water heaters and those serving more than one unit. The City of Austin should consider other exceptions to the water heater space requirements as appropriate. Finally, the City of Austin should consider formally prohibiting space heaters that rely on resistance heating given the availability of space electric pump heating.

23 days ago

After reviewing here are my comments, questions:

1. changing R-49 to R-38, will this will affect the U-values used in the IC3 calculation?
2. R-20 to R-25 entirely above roof decking - does IC3 distinguishing between above and below roof deck insulation. Making sure IC3 doesn't default foamed roofs to the "entirely above" R-25 vs. current R-20.
3. Hallelujah, glad your getting rid of the magical R-15 by filling 2x4 cavity!!!
4. Duct Testing Targets, thank you for opting for the less complicated.
5. Future space for HP Water heaters may cause issue in smaller homes where they tuck the mech. closet under stairs.

All is I have no issues with and have heard nothing from our COA clients.

29 days ago

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one month ago

Insulation Requirements: Thank you for reducing attic insulation from R49 to R38. Our own analysis shows dwindling returns for the cost above R38. We also appreciate the distinction between attic/ceiling insulation, under roof deck insulation, and above roof deck insulation. It is nice that our code recognizes that those are all very different assemblies.

Heated Slab Insulation: Does this requirement also apply to heated floor assemblies NOT embedded in the slab? Schluter's Ditra-Heat for example? Also, we have had inspectors fail slab edge insulation because it prevents a termite separation/inspection gap between the ground and the framing. Are there examples of how to accomplish both?

R402.5.1.2 Air Leakage Testing: "During testing Exterior or Interior terminations of continuous ventilation systems shall be sealed." What about discontinuous ventilation? Bathroom exhaust fans, Hood vents, Intermittent Fresh Air Intake systems, etc.? Can those be taped off for the blower door testing as well?

RK101.1.5 Water Heater Space: What is the purpose of the required 3'x3'x7' area? Even the largest heat pump water heater I can find only has a 28" diameter. If a water heater closet does not have enough volume for the air exchange, there are PLENTY of design options to make the system work; ducting, louvered doors, transfer grilles, etc. Why are we mandating one specific design solution when the industry already provides enough flexibility in the market?

one month ago

I am asking to remove resistance water heating from Residential buildings when it is the main hot-water supply.

The use of this energy-wasteful technology affects the poor the most, since many multifamily and tract-home units are built with this equipment.

Continued installation of resistance water heat not only adversely affects these specific consumers directly. It raises the summer peak demand (and the cost of summer peak demand) for all consumers who are Austin Energy customers.

I have spoken with a resident expert on the legality of this at the City of Austin legal department, and he has not provided any solid legal rationale as to why there would be a problem with this proposal.

one month ago

Support for ERV exceptions in multi family and shelters.

one month ago

Letters submitted via Public Input Comment Submission: IECC

SPEER
The South-central Partnership for Energy Efficiency as a Resource

To: Austin Mayor and City Council
From: Todd McAlister, Executive Director, South-central Partnership for Energy Efficiency as a Resource
Date: July 9, 2024
Re: International Energy Conservation Code 2024 Technical Code Amendments

Honorable Mayor Watson and City Council Members,

The South-central Partnership for Energy Efficiency as a Resource (SPEER) is the U.S. Department of Energy (DOE) recognized Regional Energy Efficiency Organization supporting energy and building code education, adoption and compliance throughout Texas and Oklahoma. Through this work, SPEER facilitates educational trainings and acts as a resource for local governments and the state as they seek to adopt new energy and building codes. In this capacity, SPEER supports the efforts of the City of Austin to review and consider adoption of the 2024 International Energy Conservation Code (IECC 2024) with amendments.

The review, adoption, and enforcement of updated energy codes across the state will enhance efficiency in new buildings, lower energy costs for homeowners, and increase reliability and resiliency to the region's energy grid. As new technologies flow into the region and the state prepares for a more diverse resource mixture to the wholesale electricity market, it is imperative for cities like Austin to adopt new codes to adequately prepare and receive the added efficiency gains which provide passive survivability and lower bills to the ratepayer.

Residential Amendments:
Relating to the IECC 2024 Residential Code Amendments outlined by the current proposal, SPEER supports the proposal for adoption with amendments by the City of Austin. The proposal provides consumers with adequate choice in fuel types through requiring electric ready homes, however, stops short of mandating specific fuel type requirements. This change allows for easier adoption of electric vehicles and backup generation for residents while not limiting their options for implementing new measures. Additionally, the changes to the ceiling insulation portions of the code protects residents of Austin from incoming heat transfer from their roofs which will ultimately aid in conserving energy in heating and cooling of homes. Lastly, the updated "pick-a-package" for home appliances will work as a force multiplier for conserving energy and reducing costs for customers. Maintaining an updated home envelope and with new energy efficient appliances will build the city's resiliency and reliability during peak summer months and extreme weather events year-round. These savings are noted in the Pacific Northwest National Labs reporting on the 2024 IECC suite. The Residential updates will result in increases of 5% energy savings, 7% energy cost savings, and reductions of carbon emissions for the region of 7%.

Commercial Amendments:
SPEER supports the proposed amendments for the 2024 IECC Commercial Model Codes. Similar to the Residential Model Codes, the Commercial amendments provide electric ready commercial buildings without limiting consumer choice for implementation of measures. Through providing electric ready

buildings, consumers have the opportunity to install their choice of fuel type for backup generation resources, as well as being prepared for increased electric vehicle adoption in the region.

Conclusion:
SPEER appreciates the opportunity to submit this letter of support for adoption and implementation of the 2024 IECC suite and looks forward to working with the City of Austin for additional amendments and adoption in the future.

Sincerely,

Todd McAlister
Executive Director, SPEER

Cc: Randy Plumlee, Codes Program Manager, SPEER
Noah Oaks, State and Local Policy Manager, SPEER

Eric.Tate@atmosenergy.com

July 8, 2024

City of Austin
Austin City Hall
301 W. Second St.
Austin, TX 78701

Re: Comments on Proposed 2024 Technical Code Amendments

Dear City of Austin:

Atmos Energy Corporation ("Atmos Energy") supports fuel-neutral energy codes that are consistent with state and federal law. As proposed, the 2024 Technical Code would adopt provisions of the International Energy Conservation Code ("IECC") and 2024 IECC appendices that advance the electrification of homes and businesses. Atmos Energy urges the City not to include these provisions in the final 2024 Technical Code.

Atmos Energy is the nation's largest natural-gas-only distributor, serving more than three million natural gas distribution customers in over 1,400 communities in eight states, from the Blue Ridge Mountains in the East to the Rocky Mountains in the West. Included in Atmos Energy's service territory is the City of Austin, within which Atmos Energy serves approximately 11,000 customers. Atmos Energy's vision is to be the safest provider of natural gas services and the company is committed to the safety and success of our communities, the environment, delivering a reliable source of energy, and providing exceptional customer service. This vision continues to fuel Atmos Energy's investment in modernizing its system, which is integrated with our comprehensive environmental strategy focused on reducing the environmental impact from our operations. This strategy includes a robust set of programs that improve consumer energy efficiency within our service territories.

Efforts to affordably increase energy efficiency for the broadest number of residents and businesses should be fuel neutral. Currently, the proposed 2024 Technical Code amendments would adopt provisions that favor electrification.[1] Before finalizing the amendments, Atmos encourages the City to consider the following—

1. **Fuel neutral measures promote efficient appliances and reliable energy**. Atmos Energy's SmartChoice Energy Efficiency Program offers rebates and incentives for businesses and residential customers, including those in the City, who install energy-efficient natural gas

[1] Attachment A lists the 2024 IECC provisions the City has proposed to include in the 2024 Technical Code amendments that advance electrification.

Atmos Energy Corporation | 5430 LBJ Freeway | 1800 Three Lincoln Centre | Dallas, TX 75240 | 972-855-3756 Office | 972-855-3080 Fax

appliances such as furnaces, tankless water heaters, smart thermostats, and more.[2] The efficiency benefits of natural gas appliances are heightened when considering the energy consumed to generate and distribute the resource—transporting natural gas from wellhead to consumer's meter results in less than 10% of energy lost, compared to a 63% energy loss in transporting electricity from powerplant to consumer home.[3]

2. Fuel neutrality is the most affordable approach to achieving emission reductions. Costs are a significant factor in a consumer's decision to replace an appliance in their home, and natural gas appliances are often a more affordable option for improving energy efficiency. For example, in the forecast of the Department of Energy ("DOE") of the average unit costs of residential energy sources, the DOE found that electricity is 3.3 times more expensive than the equivalent energy through the direct use of natural gas.[4] Atmos Energy recommends that the City work with local industry to fully understand the actual cost impacts of imposing the provisions being considered.

3. Whether the codes at issue cost effectively increase energy efficiency is untested. In considering electric-favoring provisions, fuel neutral alternatives were not adequately evaluated as part of the 2024 IECC code development process. For example, the underlying analyses supporting the electric-readiness appendices were flawed and oversimplified—only comparing costs at time of construction versus retrofitting.[5] Further, earlier this year, the Board of the International Code Council—the organization responsible for developing the 2024 IECC—found that certain provisions, including some in the 2024 Technical Code amendments, were not consistent with the intended purpose of "providing the minimum efficiency requirements for buildings that result in the maximum level of energy efficiency that is safe, technologically feasible, and life cycle cost effective considering economic feasibility, including potential costs and saving for consumers and building owners, and return on investment."[6]

4. The codes at issue do not concern energy conservation. The International Code Council Board evaluated the function of the codes at issue here and found that they do ***not*** "concern[] . . . building energy conservation."[7,8] Accordingly, these codes do not accomplish the Technical Code's foundational purpose of conserving energy use by homes and businesses and should not be included in the final 2024 Technical Code.[9]

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[2] Atmos Energy, *Mid-Tex SmartChoice Rebates*, https://www.atmosenergy.com/ways-to-save/mid-tex-appliance-rebate-program/.
[3] Atmos Energy, *Natural Living: Natural Gas: The Natural Choice for a Better Home, a Better Environment* (Spring/Summer 2024) at 11, https://www.atmosenergy.com/static/6678f502ccd0cdf430497f5b2c934daf/Natural%20Living%20Spring%202024.pdf.
[4] Energy Conservation Program for Consumer Products: Representative Average Unit Costs of Energy, 88 Fed. Reg. 58,575, 58,576 (Aug. 28, 2023).
[5] Such analysis overlooks the possibility that electric readiness measures may never be fully utilized, as well as the varying timelines on which buildings will begin to utilize their readiness infrastructure.
[6] International Code Council, *2024 IECC Appeals: ICC Board of Directors Actions Report*, Apr. 11, 2024, at 6.
[7] *Id.* at 10.
[8] Also of note, the Board went on to determine that all-electric requirements pose a "significant risk of preemption based on case law" and added "[a] cautionary note regarding the risk of preemption." *Id.* at 5
[9] *See* Austin, Texas Code, Section 25-12-261 (entitled "International Energy Conservation Code")

* * *

To aid in the City's review of the proposed 2024 Technical Code amendments, a list of the 2024 IECC provisions that should not be included in the final 2024 Technical Code amendments is attached. Atmos Energy sincerely appreciates the City's consideration of these comments.

Please do not hesitate to reach out to Eric Tate at 469-975-4615 if you have questions or would like to discuss these comments further. Atmos looks forward to continuing to engage with the City on the code amendment process.

Sincerely,

Eric Tate

Eric Tate
Manager of Public Affairs
Atmos Energy Corporation

cc: Austin Energy Green Building Staff

Attachment A

As explained in Atmos Energy's comments, we ask that the City omit or make optional the following proposed provisions which directly or indirectly preference electrification:

Commercial:

- Section C8.4.5: Additional Electric Infrastructure
- Appendix CB: Solar-Ready Zone – Commercial
- Appendix CG: Electric Vehicle Charging Infrastructure
- Appendix CH: Electric-Ready Commercial Building Provisions

Eric.Tate@atmosenergy.com

July 8, 2024

City of Austin
Austin City Hall
301 W. Second St.
Austin, TX 78701

Re: Comments on Proposed 2024 Technical Code Amendments

Dear City of Austin:

Atmos Energy Corporation ("Atmos Energy") supports fuel-neutral energy codes that are consistent with state and federal law. As proposed, the 2024 Technical Code would adopt provisions of the International Energy Conservation Code ("IECC") and 2024 IECC appendices that advance the electrification of homes and businesses. Atmos Energy urges the City not to include these provisions in the final 2024 Technical Code.

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Efforts to affordably increase energy efficiency for the broadest number of residents and businesses should be fuel neutral. Currently, the proposed 2024 Technical Code amendments would adopt provisions that favor electrification.[1] Before finalizing the amendments, Atmos encourages the City to consider the following—

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Atmos Energy Corporation | 5430 LBJ Freeway | 1800 Three Lincoln Centre | Dallas, TX 75240 | 972-855-3756 Office | 972-855-3080 Fax

appliances such as furnaces, tankless water heaters, smart thermostats, and more.[2] The efficiency benefits of natural gas appliances are heightened when considering the energy consumed to generate and distribute the resource—transporting natural gas from wellhead to consumer's meter results in less than 10% of energy lost, compared to a 63% energy loss in transporting electricity from powerplant to consumer home.[3]

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[3] Atmos Energy, *Natural Living: Natural Gas: The Natural Choice for a Better Home, a Better Environment* (Spring/Summer 2024) at 11, https://www.atmosenergy.com/static/6678f502ccd0cdf430497f5b2c934daf/Natural%20Living%20Spring%202024.pdf.
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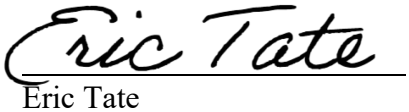
* * *

To aid in the City's review of the proposed 2024 Technical Code amendments, a list of the 2024 IECC provisions that should not be included in the final 2024 Technical Code amendments is attached. Atmos Energy sincerely appreciates the City's consideration of these comments.

Please do not hesitate to reach out to Eric Tate at 469-975-4615 if you have questions or would like to discuss these comments further. Atmos looks forward to continuing to engage with the City on the code amendment process.

Sincerely,



Eric Tate
Manager of Public Affairs
Atmos Energy Corporation

cc: Austin Energy Green Building Staff

Attachment A

As explained in Atmos Energy's comments, we ask that the City omit or make optional the following proposed provisions which directly or indirectly preference electrification:

Residential:

- Section R408: Additional Efficiency Requirements
- Appendix RB: Solar-Ready Provisions – Detached One- And Two-Family Dwellings and Townhouses
- Appendix RE: Electric Vehicle Charging Infrastructure
- Appendix RK: Electric Readiness

July 8th, 2024

Submitted via SpeakUp Austin and via email to: **energcode@austinenergy.com**

Austin Energy
Green Building Program
4815 Mueller Blvd.
Austin, TX 78723

Re: Texas Gas Service Company's Comments on City of Austin's Proposed Adoption of Certain 2024 IECC Building Codes

Austin Energy Staff and City of Austin Department of Development Services:

Texas Gas Service Company, a division of ONE Gas, Inc. ("Texas Gas Service") proudly provides over 235,000 customers inside the City of Austin ("City) and another 40,000 customers in the Austin Metro area with affordable, reliable and clean natural gas service. We are excited to work with the City and industry stakeholders in the development of a fuel neutral energy code, designed to achieve building energy conservation while maintaining building safety, energy affordability, and energy reliability and resilience within both the commercial and residential sectors. As a stakeholder, Texas Gas Service appreciates the City's willingness to grant the public time to review the proposed inclusion of all (or only parts) of the 2024 IECC (International Energy Conservation Code) within the City of Austin's building codes. Because the affordability of housing in the Austin area is important to current and potential residents,[1] and the adoption of certain portions of the latest energy codes will likely increase the prices of new homes, these adoption proceedings are important. As such, Texas Gas Service strongly supports the City of Austin's decision to organize public hearing(s) and to provide the opportunity for public comment surrounding any recommendations for adoption prior to taking final action.

In 2024, ONE Gas, Inc. ("ONE Gas"), Texas Gas Service's parent company received a rating of AAA (on a scale of AAA to CCC) in the MSCI ESG Ratings assessment. ONE Gas, also holds a "Prime" corporate rating in ESG from Institutional Shareholder Services (ISS) and is a member of

[1] *See*, data.austiontexas.gov, "Percentage of Households Paying More Than 30 Percent (and more than 50 percent) of Income Toward Housing," ttps://data.austintexas.gov/stories/s/EOA-C-1-Percentage-of-households-paying-more-than-/tevy-4u2b/; see also, The Texas Tribune, "Austin Will Try Again to Tame its Housing Affordability Crisis with Zoning Reforms. Can It Do It This Time?" September 19, 2023.

ONE Future, a coalition of companies across the natural gas value chain that are committed to keeping emissions intensity below 1%, a goal the coalition has beaten every year ONE Gas has been a participant.

Further, natural gas has proven to be affordable, reliable and a clean energy source which works in tandem with the electrical grid. In support of our customers and our environment, Texas Gas Service offers a robust energy efficiency program throughout the State of Texas. Texas Gas Service was one of the first natural gas utility companies in the country to offer rebates for high efficiency appliances in Austin and have done so for 30 years. In the Central Texas Region alone, during 2023 and up until May 2024, TGS has provided over $750,000 in rebates to residential and commercial customers, including builders, for the installation and purchase of various high efficiency natural gas appliances, as well as weatherization strategies to improve building efficiency and reduce emissions. In 2023, our energy efficiency program avoided 44,400 metric tons of CO2e, which is equivalent to removing over 10,000 passenger vehicles off the road.

The availability of natural gas for end-use in commercial and residential buildings is vital to the City of Austin's ability to put forth a viable energy portfolio. As proven on numerous occasions over the past few years, natural gas is a critical component to a comprehensive energy plan. Because our infrastructure is located primarily below ground, our natural gas system has a 99% reliability rating. During Winter Storm Uri, (and the subsequent ice storms) we kept the gas flowing to provide life-saving services to our customers. During URI, service was interrupted to only 300 of our more than 690,000 customers that we serve throughout the state of Texas, and most of these outages lasted less than 24 hours.

It is important to us that our customers continue to have access to safe and reliable natural gas in both good and difficult circumstances. And so, ONE Gas and members of each of its divisions (including Texas Gas Service) monitored and participated (both on its own and where possible in collaboration with others), in the IECC's process of drafting, reviewing and adoption of the 2024 IECC codes. Along the way, we and other collaborators with interests tied to the Austin community have worked diligently to provide relevant input on a variety of issues raised during the IECC's code adoption process. As can be expected some of our recommendations were considered while others went unacknowledged and unheard. However, we recognize that local government is more likely to have the ability recognize and to consider the real impacts that certain actions may have on its residents, industry and community. It is with this understanding that we are highlighting certain important issues that may have negative impacts on our customers ability to make reasonable and affordable choices related to building construction, the appliances they may desire and their ability to choose safe and reliable energy to warm their homes or businesses and/or to operate their appliances. We respectfully request your careful and thoughtful consideration of our recommendations below. Additionally, we are attaching, in *Appendix I*, proposed code language, that if adopted would implement building energy conservation measures in an equitable, affordable, and reliable manner for all Austinites.

Summary of Recommendations:

- **Electric Readiness – Sections 8.4.5 and RK101**: This portion of the code is intended to prepare such buildings for electrification if and when fossil fuels are no longer a permissible or viable, cost-effective option. However, requirements for "electric readiness" for residential and commercial buildings were not properly justified in the IECC drafting process and as a result, led to these proposed requirements being relegated by the IECC committee as guidance material only and placed in an appendix of the 2024 IECC.[2] Based on the lack of confidence in the justification and general uncertainty surrounding this proposed code, we recommend that the City of Austin reject the promulgation of this portion of the 2024 IECC appendix as requirements in the City of Austin energy code. Instead, should the City find some value in this proposed section, we encourage the City to revise the code language to align more closely with the manner of adoption by the 2024 IECC, which made the use of the information as non-mandatory guidance only for builders, building operators, and homeowners.
- **Partnership with Interested Parties**: We strongly encourage the City of Austin to take steps to invite and build a close partnership with the local home builder associations to afford ready opportunities to understand the true cost implications of electric-ready code provisions that may be imposed upon Austinites, builders, and building operators, should the City choose to enforce or the building owner opt to pay for such electric-readiness preparations. Until true costs are determined, we recommend the City delay its final decision on this proposed code provision, given the importance of making sure there is an adequate supply of affordable new housing for all. Austin housing costs for both new homes and rental properties continue to climb, shutting out many potential new and low-income community home buyers and renters. The City of Austin needs to integrate housing affordability considerations in its consideration of 2024 IECC code adoption, looking at both the impact upon housing costs of construction and affordability directly affected by 2024 IECC and code amendment provisions.
- **Section R408 "additional energy credits" and Table R408.2:** Publication of the revised Section R408 was done without broad stakeholder consensus concerning justification of the credit values, or the development of sound definitions of technology categories used for Table R408.2 credit assignments. Further, we are also raising a concern regarding the level of consideration given to the issues of relative site energy, full fuel cycle energy, and emissions reductions, and to the quantitative basis for numerical credit values across envelope and mechanical system options. among technology options for specific fuels and end uses, or between competing electric and gas options for residential buildings. We encourage the City of Austin to withhold adoption of this section until it has had an opportunity to independently review and justify these credit assignments from its adoption of the Table R408.2 credits as published to address the lack of technical consensus and justification during the 2024 IECC deliberations, with a specific focus on climate and emissions factors relevant to City of Austin energy supply alternatives foreseeable over the current IECC code cycle.

[2] https://www.iccsafe.org/products-and-services/i-codes/code-development/2024-iecc-appeals/

In addition, the "additional energy credits" in Table R408.2, presume a federal minimum energy efficiency for non-weatherized residential natural gas central furnaces of 95% AFUE and base additional credits on this minimum energy efficiency as a baseline. However, the federal minimum efficiency standard of 95% AFUE is under challenge in lawsuits filed by the American Gas Association (AGA) and other petitioners[3] and as a result cannot simply be presumed as the baseline for Table R408.2 credits. If the *AGA, et. al.* petitions are successful, the federal minimum efficiency for non-weatherized residential natural gas central furnaces would remain at 80% AFUE, and "additional energy credits" available in Table R408.2 would have to be adjusted to account for the 80% AFUE baseline. Texas Gas Service recommends that the City of Austin revise its proposal for "additional energy credits" to recognize efficiency improvements over the current 80% baseline. This should begin at 90% AFUE for incentivizing installation of Category IV natural gas furnaces (i.e., condensing combustion, positive venting pressure) as a first tier of "additional energy credits" as available, to builders for both singularly credited measures and in combination with other measures such as installation of high efficiency air conditioning as currently offered in Table R408.2. We recommend this revision be made applicable at least until a court order is issued.

- **Texas Utility Code §181.903 (Texas 2021 HB 17) – Restriction on Regulation of Utility Services and Infrastructure**: In 2021, the Texas Legislature took steps by adopting HB 17 (now codified as Tex. Util. Code § 181.903) to protect builders and property owners from facing the negative impacts of regulation that either encourages or discourages the installation of certain utility facilities based on energy type. To avoid potential conflict with this recent state law, we strongly encourage the city to conduct a comprehensive and thorough legal review of the proposed new codes in light of the legislative intent to ensure preservation of fuel choice for commercial and residential customers.

For a more detailed discussion and support of our positions as summarized points above, please see "Texas Gas Service Attachment A" as attached hereto. Again, we appreciate the opportunity to meaningfully participate in the City's process of reviewing the 2024 IECC code provisions for consideration of adoption and implementation by the City. We stand ready to provide additional details or to respond to questions on this subject upon the City's request.

Sincerely,

Jason Ketchum
VP Commercial

[3] *AGA, et al., v. DOE*, D.C. Cir. Nos. 22-1030 and 23-1337.

TEXAS GAS SERVICE – ATTACHMENT A

Discussion of Recommendations

2024 IECC and Electric-Readiness Provisions (Sections 8.4.5 and RK101.1)

As proposed, the City of Austin's draft technical code language requires infrastructure for water heaters, clothes dryers, and cooking appliances that utilize fuel gas or liquid fuel, to also include installation of a dedicated 240-volt branch circuit outlet to be installed within 3 feet of each appliance specified above. During the 2024 IECC appeals process and final decision-making period, the ICC Board of Directors specifically recognized that the 'electric-ready' code provisions (and other associated requirements) did not comport with traditional "Scope" and "Intent" of the IECC. As a compromise, the Board agreed to place the problematic language into appendices based upon the Board's understanding that such coverages **could not be justified as IECC requirements**, which represent minimum energy conservation requirements. (*emphasis added*.)

Texas Gas Service's concern with the 'electric-ready' code provisions is that the economic analysis presented within the IECC code process was fundamentally flawed by the reliance on the presumption as a matter of course, that replacement of gas appliances with electric alternatives will take place in 100% of occupancies. The cost comparison used to support the presumption was restricted to the incorporation of electric infrastructure at the time of construction versus the possibility of future retrofit installation of electric infrastructure. The presumption did not allow for consideration of the facts that: (1) replacement of gas appliances with electric alternatives will not occur in all occupancies; and, (2) policies that would require such replacement in all cases, would run counter to cautions expressed by the ICC Board that could be challenged on federal preemption of EPCA covered products, discuss later in these comments. Additionally, any replacement not so mandated would need to be accounted for in actuarial predictions of gas appliance retirements. None of these considerations were taken into account in the development phase of the 'electric ready' provisions, now residing in IECC's Appendix RK.

The City of Austin, in their code changes summary, specifically states that electric-readiness code provisions are adopted to align with their Climate Equity Plan. According to the plan, the city will achieve energy efficient, net-zero carbon buildings with "equity principles" in mind to ensure that impacts to low-income communities and communities of color are fully understood and taken into consideration.[4] Texas Gas Service stands with the City in its pursuit of a reduction in green house gas ("GHG") emissions, in an equitable manner. However, we believe that it necessary to work toward achieving such a goal through a fuel agnostic approach to the adoption of the 2024 IECC. We also believe that natural gas emissions reduction strategies must be developed and deployed in a fair and equitable manner. Further, Texas Gas Service also believes that such emission reduction strategies should be achieved with consideration of economic justice for all Austinites.

[4] Austin Climate Equity Plan
https://www.austintexas.gov/sites/default/files/files/Sustainability/Climate%20Equity%20Plan/Climate%20Equity%20Plan%20Full%20Document_FINAL.pdf

We define economic justice to encompass three primary pillars: affordability, energy choice, and energy access. Like environmental justice, economic justice is the fair treatment of all people, regardless of income level, with respect to the City's enforcement of energy regulation, or in this case, the development, adoption and enforcement of building codes.

Language within the Climate Equity Plan specifically provides that such strategies designed to reduce natural gas emissions "may include but are not limited to" use of renewable natural gas and expansion of energy efficiency programs, and other "new technologies and programs."[5] However, if the proposed electric-readiness language is adopted as a requirement for new residential and commercial buildings, the ability for the City to utilize new technologies and programs to reduce natural gas emissions will no longer be an option because electric-readiness language is adopted upon the premise that electrification of the building sector will indeed occur and natural gas end-use will no longer be a viable option. By requiring placement of a branch circuit to include labels such as "for future electric clothes drying equipment", the City is indirectly banning natural gas by requiring use of electric appliances. TGS is concerned that if such language is finalized and adopted, a dangerous precedent will occur by limiting the City and its residents to one single energy source - electricity. An equal important concern is that adoption of this strategy would also be contrary to the legislative intent expressed in Texas 2021 HB 17 (Tex. Util. Code § 181.903).

In support of the legitimacy of our concern, during the May 30th, 2024, in-person code engagement meeting, Austin Energy staff stated that the reason for electric-readiness language adoption is to prevent the higher cost of electrifying the residential and commercial building sectors in the future. They also stated that the driver behind electric-readiness is to "allow these projects to have a choice when the homeowner decides in the future to replace that equipment, they can have an option of what fuel source to use." We found this reasoning confusing as today, homeowners already have a choice to choose electric appliances as well as natural gas appliances. There is nothing now that prevents Austinites from choosing electric appliances. In addition, Austin Energy staff stated that electric-readiness provisions are drafted for adoption "based off of the equipment we have now" not on potential future additions which is contrary to the actual intent of the 'electric ready' provisions.[6] Before the City moves forward with any serious considerations for the adoption of the proposed 'electric ready' provisions, we ask that the City encourage staff to further explain what equipment is available now that wouldn't be available to consumers but for an adoption of the proposed code requirements.

Electric-Readiness Cost Concerns

According to the Pacific Northwest National Laboratory (PNNL), the entity that conducts the energy savings calculations of the newest IECC provisions, 'electric readiness' provisions are simply a measure in place in case natural gas is no longer a viable option. Specifically, the lab states that electric-readiness codes prevent homeowners from incurring "future costs should fossil

[5] https://www.austintexas.gov/sites/default/files/files/Sustainability/Climate%20Equity%20Plan/Climate%20Equity%20Plan%20Full%20Document_FINAL.pdf, pg. (50, 94)

[6] Technical Code Amendments In-Person Document, https://publicinput.com/g4245?lang=en

fuels become less affordable or even unavailable over the life of the building." [7] PNNL also states that electric readiness codes will help "improve the cost effectiveness of electrification in the future," not in the present. Again, these statements are based on an assumption that such required additional electrical infrastructure will be used and useful to consumers in a timely manner.

In the City's proposal for adoption of the 'electric ready' provisions, it has not provided a definition of "future" in a manner to permit the City the ability to consider the costs against any 'future' benefits of the proposed adoption.

Also, in addition to PNNL analysis, the New Building Institute (NBI), another stakeholder in the 2024 IECC process and strong proponent of electric-readiness code language, stated that the cost of electrical panel upgrades and associated electric-readiness infrastructure for a new build "is equivalent to the expense of upgrading to an average stone kitchen countertop," or between $1,000-$1,800.[8] This analysis assumes that the average homeowner can afford the cost equivalent of upgrading to a kitchen countertop and that they will in fact reap the "thousands of dollars" saved from using such infrastructure.

Finally, in 2021, Home Innovation Research Labs published cost analyses conducted for the National Association of Home Builders for four major U. S. cities comparing gas equipped houses to all electric houses.[9] For new home construction in Houston, Texas (the metropolitan area closest to Austin), the study showed that costs of electrification (including costs of appliances for cooking, clothes drying, space heating (and cooling), and service water heating) averaged $24,282 **more** than the average baseline gas house . This total cost, while not specific to electric-ready equipment, addresses appliance costs, and illustrates two impacts. First, the increased cost of going all-electric in an average home is, on its own, an inducement not to later switch or add new fuels and to instead, make use of the already installed electric-ready infrastructure. This burden will force builders and owners to forgo consideration of the benefits of alternative fuel sources in favor of avoiding stranding the costs of that alternative infrastructure as a direct result of the mandated code compliance. Second, the added total cost to residential construction is likely to negatively impact economically disadvantaged and first-time home buyers by escalating home prices generally. Of course, these costs do not capture direct costs of electric-ready provisions such as branch circuits and panel upgrades. However, the U. S. Energy Star program estimates that panel upgrades for new builds (compared to that of standard systems) may add $1,000 to $2,500 and branch circuit costs of $300 to $1,000 per end use appliance with higher costs, where runs of circuits increase in length and increasing numbers of wall penetrations.[10] In cases where these added expenses become

[7] https://www.pnnl.gov/main/publications/external/technical_reports/PNNL-32183.pdf
[8] https://newbuildings.org/wp-content/uploads/2022/04/BuildingDecarbCostStudy.pdf

[9] Home Innovation Research Labs, "Cost and Other Implications of Electrification Policies on Residential Construction," prepared for National Association of Home Builders, February 2021.

[10] U. S. Energy Star, "Make Your Home Electric Ready:"
https://www.energystar.gov/products/energy_star_home_upgrade/make_your_home_electric_ready

stranded costs in particular, the added cost to home construction would represent a decidedly negative impact on consumer resources and financing capacity.

Conflict with Chapter 181, Section 181.903 of the Utilities Code

Texas Gas Service believes that draft language regarding electric-readiness codes for both commercial and residential end-uses may be in direct violation of Tex. Util. Code § 181.903 (Texas 2021 HB 17), which was signed into law on May 18th, 2021. The law specifically states that no regulatory or planning authorities, or political subdivision "may adopt or enforce an ordinance, resolution, regulation, code, order, policy, or other measure that has the purpose, intent, or effect of directly or indirectly banning, limiting, restricting, discriminating against, or prohibiting the connection or reconnection of a utility service or the construction, maintenance, or installation of residential, commercial, or other public or private infrastructure for a utility service based on the type or source of energy to be delivered to the end-use customer."[11]

As discussed above, the electric-ready code provisions for commercial and residential buildings have a purpose and intent to indirectly ban, limit, and discriminate against natural gas end-use. The provisions serve to prohibit the connection of a utility service based on the type of energy source, in this case, natural gas, and to prevent it from being delivered to the end-use customer in the future. By requiring installation of branch circuits with labels that state 'for future electric appliance,' next to natural gas appliances, and by specifically targeting those buildings that operate natural gas appliances, the City would be prohibiting fuel choice.

Due to our stated concerns, we strongly encourage a comprehensive and thorough legal review of state law to ensure that fuel choice for commercial and residential customers is preserved as intended under Texas law.

[11] See, Tex. Util. Code § 181.903(b)(May 18, 2021).

Additional Considerations for Deliberation by City of Austin:

A. Recent Electricity Cost and Reliability Projections

Austin Energy provides valuable electricity services via various renewable resources such as solar, wind, and biomass. Because these resources are dependent upon weather patterns, which are drastically changing due to climate change, additional fuel resources like nonrenewables and natural gas distribution services are critical to meeting the ongoing (and increasing) high demand for electricity.

Growing electricity demand from residential and commercial customers, increasing use of AI, and a transition away from fossil fuels is pushing the US electric grid to the brink, according to McKinsey & Company, the Federal Energy Regulatory Commission (FERC) and multiple news outlets.[12] In FERC's May 2024 summer energy market and reliability report, it explained that U.S. electric demand is expected to increase 2.7% this summer to 1,487 TWh compared to last summer. Similarly, U.S. data center load is expected to grow to nearly 21 GW this year, up from 19 GW in 2023, FERC staff said in the report. Electric demand from such facilities across the U.S. is expected to climb to 35 GW by the end of this decade, according to the report.[13]

A report released in June 2024, by the National Energy Assistance Directors Association (NEADA) and the Center for Climate and Energy Poverty shows increases in the US electricity bill average since 2014. Specifically, for the Southwest Region of the US, (which includes Texas), consumers can expect an average electricity bill to be upwards of $858 during the cooling season from June - September 2024. This burden weighs heaviest on low-income consumers. According to the report, the high costs are exacerbated by extreme heat events caused by climate change. The report recommends policy alternatives that are inclusive of low-income communities, such as weatherization assistance and installation of heat pumps. However, the heat pump recommendation does not take into consideration the impacts of climate zone differentiation and may not be suitable for the Southwest Region. Nonetheless, Texas Gas Service provides weatherization assistance throughout the Central Texas Region as well as rebates to make high efficiency natural gas appliances affordable for low-income customers.[14] This report provides a snapshot into the importance of a fuel agnostic approach to energy usage via all policy avenues, including building code development.

In addition to the NEADA report, the North American Electric Reliability Corporation (NERC) predicts a "potential for insufficient operating reserves" for ERCOT this summer if demand is at its highest. The report specifically states that although solar PV is added at a rate outpacing demand, energy risks are growing when solar output is at its lowest. Transmission permitting and development delays also contribute to this energy risk concern for ERCOT. Natural gas end-use

[12] https://www.washingtonpost.com/business/2024/05/13/power-grid-transmission-lines-electricity/ https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/investing-in-the-rising-data-center-economy
[13] https://www.ferc.gov/news-events/news/report-2024-summer-energy-market-and-electric-reliability-assessment
[14] https://neada.org/wp-content/uploads/2024/06/2024summeroutlook.pdf

offers certainty when the electric grid is not able to perform at its highest and meet the demand of the growing Texas population.[15]

B. **The Berkeley Gas Ban and Court Challenges to State and Local Codes Disproportionately Affecting Fuel Gas Installation**.

Earlier this year, the City of Berkeley, California, repealed their ban on natural gas end-use in new residential and commercial buildings after the Ninth Circuit Court of Appeals ruled that such a ban was in violation of the Energy Policy and Conservation Act (EPCA). The ruling states that EPCA preempts state regulation or building code from regulating the efficiency of natural gas appliances; instead, the US Department of Energy oversees this concern. Many stakeholders including the California Restaurant Association and builders, were in opposition to a direct ban on natural gas end-use. As a result of the decision, other cities throughout California have repealed their bans on natural gas end-use. Although the City of Austin's proposed energy code is not a direct ban on natural gas use in new residential and commercial buildings, the premise of electric-readiness code language is to prepare for a future for electrifying buildings and a hypothetical world without natural gas end-use, all of which is to be paid for by customers who may or may not want to discontinue their use of natural gas appliances.

C. **Legal Interpretation of Federal Preemption Risks Forewarned by 2024 IECC Cautionary Notices of Appendix Adoptions as Requirements**

As several appendices of the 2024 IECC note the potential for federal preemption issues with the use of appendix material as requirements, ONE Gas recognizes that all requirements that set criteria for EPCA "cover product" federal minimum efficiency standards other than the promulgated minimum efficiency standard subject the City of Austin to these risks if adopted as building requirements. Based upon court cases involving the EPCA statute and its prohibition of federal minimum efficiency standards, these risks are not manifest just for incidents where a local jurisdiction is setting conflicting minimum standard and can include energy efficiency programs that create biases against such minimum efficiency standard "covered products." [16] As discussed for Table R408.2 above, ONE Gas strongly recommends that the City conduct a review of 2024 IECC requirements for "covered products" and determine whether or not such adoption of the proposed electric ready provisions would impose a risk of the City of violating federal preemption prohibitions. Although in its comments to the 2024 IECC, ONE Gas recommended that ICC conduct its own legal analysis of potential conflicts and associated risks for the benefit of potential adopting jurisdictions, the ICC Board, in recommending advisory language in appendix material covering this issue "punted" the consideration of the issue of potential risks to local jurisdictions to assess.

[15] https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_SRA_2024.pdf
[16] Air Conditioning, Heating and Refrigeration Institute v. City of Albuquerque, Docket No. 08-633 MV/RLP, October 3, 2008.

D. Impacts of Additional Electricity Demand Upon Carbon Emissions Under Scenarios of Grid Makeup.

The City of Austin neither provides nor documents usage of any impact analysis covering expanded electricity demand that might arise as a consequence of electric-ready provisions in the code and replacement of natural gas end use applications that may result. This is a serious deficiency in the ability of the City to assess benefits as well as costs of electric-ready requirements. Based upon federal grid electricity data published by the U. S. Environmental Protection Agency (EPA) in its eGRID database and employed in energy emissions estimating tools such as GTI Energy's EPAT tool for the City of Austin,[17] current grid electricity consumed in the City accounts for 916.5 pounds of carbon dioxide (CO2) per megawatt of power. Unless the City can demonstrate dramatic reductions in this CO2 emission rate in the future, electric-ready provisions in buildings (if put into effect) will proportionately increase the City's CO2 emissions in the future. Also, these data sources document that current source energy consumption factors for the City of Austin to be 2.38 times the energy delivered to building sites in comparison to natural gas, which only accounts for a 1.09 times source energy factor. Emissions are proportional to these source energy factors and the current electricity grid mix. As a result, forced fuel switching to grid electricity based upon current data would likely increase the City's emissions contribution over maintaining use of natural gas for many applications. ONE Gas strongly recommends that the City, prior to agreeing to promulgate electric-ready building requirements, take these effects into account. If the City bases its code on a different grid electricity future, that forecast should be made available to the public for review.

[17] https://cmicepatcalc.gti.energy/BuildCityHouse.aspx.

APPENDIX I

Texas Gas Service's Proposed Code Language Update

(Austin's Commercial Code Provisions with PROPOSED Changes Highlighted in Blue)[18]

8.4.5 **Additional electric infrastructure.** Electric infrastructure in *buildings* that contain combustion equipment ~~shall~~ may be installed in accordance with this section.

1. Combustion space heating. Spaces containing combustion equipment for space heating ~~shall~~ may comply with **Sections 8.4.5.1.1, 8.4.5.1.2** and **8.4.5.1.3**

1.4.5.1.1 **Designated exterior locations for future electric space-heating equipment.** Spaces containing combustion equipment for space heating ~~shall~~ may be provided with designated exterior location(s) shown on the plans and of sufficient size for outdoor space-heating heat pump equipment, with a chase that is sized to accommodate refrigerant lines between the exterior location and the interior location of the space heating equipment, and with natural drainage for condensate from heating operation or a condensate drain located within 3 feet (914 mm) of the location of the future exterior space-heating heat pump equipment.

2.4.5.1.1 **Dedicated branch circuits for future electric space-heating equipment.** Spaces containing combustion space-heating equipment with a capacity not more than 65,000 Btu/h (19 kW) ~~shall~~ may be provided with a dedicated 240-volt branch circuit with ampacity of not less than 50. The branch circuit ~~shall~~ may terminate within 6 feet (1829 mm) of the space heating equipment and be in a location with ready *access*. Both ends of the branch circuit ~~shall~~ may be *labeled* with the words "For Future Electric Space Heating Equipment" and be electrically isolated. Spaces containing combustion equipment for space heating with a capacity of not less than 65,000 Btu/h (19 kW) shall be provided with a dedicated branch circuit rated and sized in accordance with **Section 8.4.5.1.3**, and terminating in a junction box within 3 feet (914 mm) of the location the space heating equipment in a location with ready *access*. Both ends of the branch circuit ~~shall~~ may be *labeled* "For Future Electric Space Heating Equipment."

Exceptions:

1. Where a branch circuit provides electricity to the space heating combustion equipment and is rated and sized in accordance with **Section 8.4.5.1.3**.
2. Where a branch circuit provides electricity to space cooling equipment and is rated and sized in accordance with **Section 8.4.5.1.3**.
3. Where future electric space heating equipment would require three-phase power and the space containing combustion equipment for space heating is provided with an electrical panel with a label stating "For Future Electric Space Heating Equipment" and a bus bar rated and sized in accordance with **Section 8.4.5.1.3**.

[18] Please note, in addition to the proposed edits as highlighted in blue, TGS added formatting edits only to the City's original draft document to improve readability of the same information upon inclusion into the Company's comments.

4. *Buildings* where the 99.6 percent design heating temperature is not less than 50°F (10°C).

TABLE 8.4.5.1

ALTERNATE ELECTRIC SPACE HEATING EQUIPMENT CONVERSION FACTORS (VA/kBtu/h)

99.6% HEATING DESIGN TEMPERATURE		Ps
Greater Than (°F)	Not Greater Than	VA/kBtu/h
50	N/A	N/A
45	50	94
40	45	100
35	40	107
30	35	115
25	30	124
20	25	135
15	20	149
10	15	164
5	10	184
0	5	210
-5	0	243
10	5	289
-15	-10	293

For SI: °C = [(° F) – 32]/1.8, 1 British thermal unit per hour = 0.2931 kW.

Additional space heating electric infrastructure sizing. Electric infrastructure for future electric space heating equipment ~~shall~~ may be sized to accommodate not less than one of the following:

1. An electrical capacity not less than the nameplate space heating combustion equipment heating capacity multiplied by the value in **Table 8.4.5.1**, in accordance with **Equation 8.4.5.1**.VAs = Qcom x Ps
2. **Equation 8.4.5.1**

Where VAs = The required electrical capacity of the electrical infrastructure in volt-amps.Qcom = The nameplate heating capacity of the combustion equipment in kBtu/h Ps = The VA per kBtu/h from **Table 8.4.5.1** in VA/kBtu/h.

3. An electrical capacity not less than the peak space heating load of the *building* areas served by the space heating combustion equipment, calculated in accordance with **Section 6.4.2.1**, multiplied by the value for the 99.6 percent design heating temperature in **Table 8.4.5.1**, in accordance with **Equation 8.4.5.2.**

VAs = Qdesign x Ps

Equation 8.4.5.2

Where VAs = The required electrical capacity of the electrical infrastructure in volt-amps.

Qdesign = The 99.6 percent design heating load of the spaces served by the combustion equipment in kBtu/h.

Ps = The VA per kBtu/h from **Table 8.4.5.1** in VA/kBtu/h.

2. **Combustion service water heating** Spaces containing combustion equipment for *service water heating*

~~shall~~ may comply with **Sections 8.4.5.2.1**, **8.4.5.2.2** and **8.4.5.2.3**.

1.4.5.1.1 **Combustion service water heating electrical infrastructure.** For each piece of combustion equipment for water heating with an input capacity of not more than 75,000 Btu/h (22 kW), the following electrical infrastructure is required:

1. An individual 240-volt branch circuit with an ampacity of not less than 30 ~~shall~~ may be provided and terminate within 6 feet (1829 mm) of the *water heater* and shall be in a location with ready *access* .
2. The branch circuit overcurrent protection device and the termination of the branch circuit ~~shall~~ may be *labeled* "For future electric water heater."
3. The space for containing the future *water heater* ~~shall~~ may include the space occupied by the combustion equipment and shall have a height of not less than 7 feet (2134 mm), a width of not less than 3 feet (914 mm), a depth of not less than 3 feet (914 mm) and with a volume of not less than 700 cubic feet (20 m3).

Exception: Where the space containing the *water heater* provides for air circulation sufficient for the operation of a heat pump *water heater*, the minimum room volume shall not be required.

2.4.5.1.1 **Designated locations for future electric heat pump water heating equipment.** Designated locations for future electric heat pump water heating equipment ~~shall~~ may be in accordance with one of the following:

1. Designated exterior location(s) shown on the plans, of sufficient size for outdoor water heating heat pump equipment and with a chase that is sized to accommodate refrigerant lines between the exterior location and the interior location of the water heating equipment.
2. An interior location with a minimum volume the greater of 700 cubic feet (19 822 L) or 7 cubic feet (198 L) per 1,000 Btu/h (293 W) combustion equipment water heating capacity. The interior location shall include the space occupied by the combustion equipment.
3. An interior location with sufficient airflow to exhaust cool air from future water heating heat pump equipment provided by not fewer than one 16-inch (406 mm) by 24-inch (610 mm) grill to a heated space and one 8-inch (203 mm) *duct* of not more than 10 feet (3048 mm) in length for cool exhaust air.

3.4.5.1.1 **Dedicated branch circuits for future electric heat pump water heating equipment.** Spaces containing combustion equipment for water heating with a capacity of greater than 75,000 Btu/h (21 980 W) ~~shall~~ may be provided with a dedicated branch circuit rated and sized in accordance with **Section 8.4.5.2.4** and terminating in a junction box within 3 feet (914 mm) of the location the water heating equipment in a location with ready *access* . Both ends of the branch circuit shall be *labeled* "For Future Electric Water Heating Equipment."

Exception: Where future electric water heating equipment would require three-phase power and the main electrical service panel has a reserved space for a bus bar rated and sized in accordance with **Section 8.4.5.2.4** and *labeled* "For Future Electric Water Heating Equipment."

4.4.5.1.1 **Additional water heating electric infrastructure sizing.** Electric infrastructure water heating equipment with a capacity of greater than 75,000 Btu/h (21 980 W) ~~shall~~ may be sized to accommodate one of the following:

1. An electrical capacity not less than the combustion equipment water heating capacity multiplied by the value in **Table 8.4.5.2** plus electrical capacity to serve recirculating loads as shown in **Equation 8.4.5.3**.VAw = (Qcapacity x Pw) + [Qrecirc x 293 (VA/(Btu/h))] **Equation 8.4.5.3**

Where VAw = The required electrical capacity of the electrical infrastructure for water heating in volt-amps Qcapacity = The water heating capacity of the combustion equipment in kBtu/hPw = The VA per kBtu/h from **Table 8.4.5.2** in VA/kBtu/h Qrecirc = The capacity required for temperature e maintenance by recirculation, if applicable, in Btu/h

2. An alternate design that complies with this code, is *approved* by the authority having jurisdiction and uses no energy source other than electricity or *on-site renewable energy*.

TABLE 8.4.5.2

ALTERNATE ELECTRIC WATER HEATING EQUIPMENT CONVERSION FACTORS (VA/kBtu/h)

99.6% HEATING DESIGN TEMPERATURE		Ps
Greater Than (°F)	Not Greater Than	VA/kBtu/h
55	60	118
50	55	123
45	50	129
40	45	136
35	40	144
30	35	152
25	30	162
20	25	173
15	20	185
10	15	293
5	10	293
0	5	293
Less than 0°F		293

For SI: °C = [(° F) – 32]/1.8, 1 British thermal unit per hour = 0.2931 kW.

3. Combustion cooking. Spaces containing combustion equipment for cooking ~~shall~~ may comply with **Section**

1.4.5.1.1 or **8.4.5.3.2**.

8.4.5.3.1 **Commercial cooking.** Spaces containing commercial cooking appliances shall be provided with a dedicated branch circuit with a minimum electrical capacity in accordance with **Table 8.4.5.3.1** based on the appliance in the space. The branch circuit ~~shall~~ may terminate within 3 feet (914 mm) of the appliance in a location with ready *access* . Both ends of the branch circuit shall be *labeled* with the words “For Future Electric Cooking Equipment” and be electrically isolated.

9.4.5.3.1 **All other cooking.** Spaces containing all other cooking equipment not designated as commercial cooking appliances ~~shall~~ may be provided with a dedicated branch circuit in compliance with **NFPA 70** Section 422.10. The branch circuit ~~shall~~ may terminate within 6 feet (1829 mm) of fossil fuel ranges, cooktops and ovens and be in a location with ready *access* . Both ends of the

branch circuit ~~shall~~ may be *labeled* with the words "For Future Electric Cooking Equipment" and be electrically isolated.

TABLE 8.4.5.3.1
COMMERCIAL COOKING MINIMUM BRANCH CIRCUIT CAPACITY

COMMERCIAL COOKING APPLIANCE	MINIMUM BRANCH CIRCUIT CAPACITY
Range	469 VA/kBtu/h
Steamer	114 VA/kBtu/h
Fryer	200 VA/kBtu/h
Oven	266 VA/kBtu/h
Griddle	195 VA/kBtu/h
All other commercial cooking appliances	114 VA/kBtu/h

For SI: 1 British thermal unit per hour = 0.2931 kW.

4. **Combustion clothes drying.** Spaces containing combustion equipment for clothes drying ~~shall~~ may comply with **Section 8.4.5.4.1** or **8.4.5.4.2**.

1.4.5.1.1 **Commercial drying.** Spaces containing clothes drying equipment and end uses for commercial laundry applications ~~shall~~ may be provided with conduit that is continuous between a junction box located within 3 feet (914 mm) of the equipment and an electrical panel. The junction box, conduit and bus bar in the electrical panel ~~shall~~ may be rated and sized to accommodate a branch circuit with sufficient capacity for equivalent electric equipment with equivalent equipment capacity. The electrical junction box and electrical panel ~~shall~~ may have labels stating, "For Future Electric Clothes Drying Equipment."

2.4.5.1.1 **Residential drying.** Spaces containing clothes drying equipment, appliances and end uses serving multiple *dwelling units* or sleeping areas with a capacity less than or equal to 9.2 cubic feet (0.26 m3) ~~shall~~ may be provided with a dedicated 240-volt branch circuit with a minimum capacity of 30 amperes, ~~shall~~ may terminate within 6 feet (1829 mm) of fossil fuel clothes dryers and ~~shall~~ may be in a location with ready *access* . Both ends of the branch circuit ~~shall~~ may be *labeled* with the words "For Future Electric Clothes Drying Equipment" and be electrically isolated.

9.4.5 **On-site transformers.** *Enclosed spaces* and underground vaults containing onsite electric transformers on the *building* side of the electric utility meter ~~shall~~ may have sufficient space to accommodate transformers sized to serve the additional electric loads identified in **Sections 8.4.5.1**, **8.4.5.2**, **8.4.5.3** and **8.4.5.4**.

(Residential Code Provisions with PROPOSED Changes Highlighted in Blue)

RK101.1 Electric readiness. Water heaters, household clothes dryers and cooking appliances that use fuel gas or liquid fuel ~~shall~~ may comply with **Sections RK101.1.1** through **RK101.1.4 RK101.1.5**.

A space that is at least 3 feet (0.91 m) by 3 feet (0.91 m) wide by 7 feet (2.13) high ~~shall~~ may be available surrounding or within 3 feet (0.91 m) of the installed water heater.

Exceptions:

1. Installed heat pump water heaters.
2. Installed tankless water heaters on the exterior of the *dwelling unit*.
3. Water heaters serving multiple dwelling units in a R-2 occupancy.

July 8, 2024
Austin Energy Green Building
EV Ready Building Code
Commercial IECC [2024] Comment

Electrify America applauds the City of Austin for recognizing the need for EV-ready buildings and appreciates the opportunity to submit comments on the city's proposed building codes.

With respect to compliance with these EV-ready codes, Electrify America proposes that the city include a power-based threshold, known as a "power-allocation method," for meeting these requirements that would serve as an alternative to the benchmark based on percentage of parking spaces in a new facility. Setting a power-based requirement allows a property owner to meet EV charging requirements using the type of charger that best complements the use-case of their parking spaces. And, by doing so, the property owner can provide a better charging service to the driver using their parking space. California adopted the power-allocation method for meeting EV-ready requirements in 2023 which went into effect in 2024.So this is not a novel idea.

Not all EV chargers provide the same charging speeds, and not all parking spaces are used the same. So, EV charging minimums should be flexible to allow property owners to comply by installing chargers that best match the use case of their spaces. At parking facilities that host vehicles for long periods of time, like residences and workplaces, slower level 2 chargers requiring hours to provide a meaningful charge can be appropriate. In contrast, at parking facilities that service commercial properties, parking sessions are much shorter. So, level 2 chargers are less effective because they do not offer significant range during the session. In these cases, Direct Current Fast Chargers

(DCFC) are a much more appropriate solution because they provide a meaningful amount of range in a short amount of time.

Thresholds for compliance with EV charging minimums based on a percentage of spaces disincentivize the build-out of fast chargers where they would be most effective. The reason is that the threshold is typically detrimentally high to be met with DCFC. The thresholds in the proposed language greatly exceed the number of chargers per station that is typical or even possible for fast charging providers. Under the proposed language, a parking facility with as few as 100 spaces would require between 15 and 30 chargers to be in compliance. Larger facilities, with about 1000 spaces could require 150-300 chargers. Even on the lower end of this spectrum, in smaller commercial parking facilities, the required number of stations is extremely high for DCFC providers.

For reference, the typical Electrify America station has between 4-6 chargers; though, stations of 8-12 chargers are becoming more common in larger lots. A station of 15 chargers, as could be required in a smaller 100-space lot under the proposed language, would be among the five largest stations in Electrify America's network. And the lot would likely be too small to host such a large station. 250 fast chargers, even in larger lots, is all but impossible with current technological, infrastructure, and resources limitations.

Meeting these EV charging requirements through a combination of DCFCs and level 2 chargers does not alleviate these challenges. The proposed threshold based on the number of spaces could require the installation of dozens, or even hundreds, of level 2 chargers in addition to the fast chargers included in the station. Because demand for fast chargers is highest in facilities where parking sessions are often brief, these level 2 chargers installed merely to meet the statute's requirements are not likely to provide a

meaningful service and not likely to be economically viable. So, the disincentive created by a space-based threshold remains despite compliance being possible.

As an alternative, Electrify America supports a requirement that sets a minimum power level, scaled to the size of the parking facility, to be provided by EV chargers. A power-allocation method for compliance would permit a property owner to install the type of charger that best complements their land use and to provide a charging service that meets the needs of the drivers using their parking facility.

The state of California, in the 2023 update to its green building code, known as "Calgreen," proposed and adopted a power-allocation threshold as an alternative and in addition to one based on the number of spaces. In the "*Final Express Terms for Proposed Building Standards….*" attached, the Buildings Standards Commission approved a framework that would require, for example, parking facilities of 100 spaces to provide, effectively, 165 kW of power and lots of 1000 spaces to provide 1300 kW of power.[1] This framework right-sizes the EV charging minimums to reflect the large amount of power offered by DCFCs.

Charging stations compliant with the National Electric Vehicle Infrastructure (NEVI) program's standards must include four chargers each providing at least 150 kW charging speeds, though the DCFC industry is capable of reaching 350 kW. So, a power-

1 https://www.dgs.ca.gov/-/media/Divisions/BSC/03-Rulemaking/2022-Intervening-Cycle/Commission-Meetings/2023-08-01/BSC-02-22-FSOR-Pt5.pdf

based requirement also complements the nationwide effort to expand fast charging infrastructure by encouraging the proliferation of NEVI-compliant stations.

Although this power-based threshold produces fewer chargers, DCFCs provide greater amounts of charge and range than their level 2 counterparts and service more vehicles during a given time. Utilization data from Electrify America's public DCFCs and level 2 chargers show that fast chargers dispense nearly 10x the number of kilowatt hours and enable 10x the number of driving miles per year as level 2 chargers. Additionally, level 2 chargers typically experience a number of charging sessions in the hundreds, annually, whereas a DCFC station performs thousands of charging sessions per year. [2] DCFCs' faster charging speeds provide more range in shorter period of time and result in more frequent turnovers from one session to the next. So, despite producing fewer chargers, the power-based threshold encourages the build-out of charging infrastructure that provides an equal, if not better, service to EV drivers.

Power-based requirements provide property owners the flexibility to install the types of chargers, including DCFCs, that best meet the needs of their facility's users. A power-allocation method of compliance, adopted in California, removes the disincentive to expanding fast charging infrastructure presented by the need for superfluous level 2 chargers simply to meet a minimum. And it does so while enhancing the charging services provided to the EV driver. As Austin considers ways to best support the proliferation of fast charging infrastructure, the city has a unique opportunity to be a leading voice on this matter and positively influence other states nation-wide as they consider doing the same.

[2] https://media.electrifyamerica.com/en-us/releases/217

Electrify America appreciates the opportunity to submit these comments and would be happy to discuss this matter further and answer any questions the Committee may have.

Respectfully submitted,

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APPROVED BY THE CALIFORNIA BUILDING STANDARDS COMMISSION
AUGUST 2, 2023

FINAL EXPRESS TERMS
FOR PROPOSED BUILDING STANDARDS
OF THE CALIFORNIA BUILDING STANDARDS COMMISSION
REGARDING THE 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE, CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 11
(BSC 04/22)

The State agency shall draft the regulations in plain, straightforward language, avoiding technical terms as much as possible and using a coherent and easily readable style. The agency shall draft the regulation in plain English. A notation shall follow the express terms of each regulation listing the specific statutes authorizing the adoption and listing specific statutes being implemented, interpreted, or made specific (Government Code Section 11346.2(a)(1)).

If using assistive technology, please adjust your settings to recognize underline, strikeout and ellipsis.

LEGEND for EXPRESS TERMS (California only codes - Parts 1, 6, 8, 11, 12)

- Existing California amendments appear upright
- Amended or new California amendments appear <u>underlined</u>
- Repealed California language appears ~~upright and in strikeout~~
- Ellipses (...) indicate existing text remains unchanged

FINAL EXPRESS TERMS

ITEM 1
Chapter 2 DEFINITIONS, Section 202 (Electric Vehicle Related Definitions)

[Defined Electric Vehicle Terms published in 2022 CALGreen Code and effective January 1, 2023, are shown for context only.]

AUTOMATIC LOAD MANAGEMENT SYSTEM (ALMS). [BSC-CG, DSA-SS and HCD] A system designed to manage load across one or more electric vehicle supply equipment (EVSE) to share electrical capacity and/or automatically manage power at each connection point.

ELECTRIC VEHICLE (EV). [BSC-CG, HCD] An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, electric motorcycles and the like, primarily powered by an electric motor that draws current from a rechargeable storage battery, fuel cell, photovoltaic array or other source of electric current. Plug-in hybrid electric vehicles (PHEV) are considered electric vehicles. For purposes of the *California Electrical Code,* off-road, self-propelled electric vehicles, such as industrial trucks, hoists, lifts, transports, golf carts, airline ground support equipment, tractors, boats and the like, are not included.

ELECTRIC VEHICLE (EV) CAPABLE SPACE. **[BSC-CG, DSA-SS and HCD]** A vehicle space with electrical panel space and load capacity to support a branch circuit

and necessary raceways, both underground and/or surface mounted, to support EV charging.

ELECTRIC VEHICLE (EV) CHARGER. [HCD] Off-board charging equipment used to charge an electric vehicle.

ELECTRIC VEHICLE CHARGING SPACE (EV SPACE). [HCD] A space intended for future installation of EV charging equipment and charging of electric vehicles.

ELECTRIC VEHICLE CHARGING STATION (EVCS). [HCD] One or more electric vehicle charging spaces served by electric vehicle charger(s) or other charging equipment allowing charging of electric vehicles. Electric vehicle charging stations are not considered parking spaces.

ELECTRIC VEHICLE (EV) READY SPACE. [HCD] A vehicle space which is provided with a branch circuit; any necessary raceways, both underground and/or surface mounted; to accommodate EV charging, terminating in a receptacle or a charger.

ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). [BSC-CG, DSA-SS and HCD] The conductors, including the ungrounded, grounded and equipment grounding conductors and the electric vehicle connectors, attachment plugs, and all other fittings, devices, power outlets or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle.

LEVEL 2 ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). [HCD] The 208/240 Volt 40-ampere branch circuit, and the electric vehicle charging connectors, attachment plugs, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle.

LOW POWER LEVEL 2 ELECTRIC VEHICLE (EV) CHARGING RECEPTACLE. [HCD] A 208/240-volt 20-ampere minimum branch circuit and a receptacle for use by an EV driver to charge their electric vehicle or hybrid electric vehicle.

[Propose to co-adopt and amend HCD's existing EV definitions as shown in underlined below]

ELECTRIC VEHICLE (EV) CHARGER. [BSC-CG] Off-board charging equipment used to charge an electric vehicle.

ELECTRIC VEHICLE CHARGING STATION (EVCS). [BSC-CG] One or more electric vehicle charging spaces served by **EVSE** or receptacle(s).

ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). [BSC-CG] The conductors, including the ungrounded, grounded and equipment grounding conductors and the electric vehicle connectors, attachment plugs, personnel protection system, and all other fittings, devices, power outlets or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle.

[Propose to co-adopt and amend HCD's existing EV definitions shown in underlined below]

LEVEL 2 ELECTRIC VEHICLE (EV) CHARGER. [BSC-CG] A 208/240-volt 30-ampere minimum electric vehicle charger connected to the premises electrical system capable of charging electric vehicles.

LEVEL 2 ELECTRIC VEHICLE SUPPLY EQUIPMENT. [BSC-CG] The 208/240 Volt 40-ampere branch circuit, and the electric vehicle charging connectors, attachment plugs, and all other fittings, devices, power outlets or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle.

LOW POWER LEVEL 2 ELECTRIC VEHICLE (EV) CHARGING RECEPTACLE. [BSC-CG] A 208/240 Volt 20-ampere minimum branch circuit and a receptacle.

Notation:

Authority: Health & Safety Code Sections 18930.5 and 18941.10.

Reference(s): Health & Safety Code Sections 18930.5 and 18941.10.

ITEM 2
Chapter 2 DEFINITIONS, Section 202 (Bird Friendly Related Definitions)

[Propose to adopt new bird-friendly definitions as shown in underline below]

2 X 2 RULE. [BSC-CG] Visual markers are the most effective collision deterrents if spaced no more than 2 inches (5.1 cm) apart, a distance through which most birds cannot fly.

ADHESIVE MARKER. [BSC-CG] An individual marker(s) applied to the first surface of glass (surface 1) in a pattern or as a custom decal.

FILM. [BSC-CG] A material adhered to the first surface of glass (surface 1), perforated or printed with patterns as visual markers.

GLASS, ACID ETCHED. [BSC-CG] Glass with hydrofluoric acid washed across the entire first surface (surface 1), which can result in a variety of patterns as visual markers.

GLASS, FRITTED. [BSC-CG] Glass manufactured with ceramic-based paint applied in various patterns as visual markers.

GLASS SURFACE. [BSC-CG] The exterior surface is the first surface (surface 1) where visual markers are usually applied, and subsequent interior surfaces are numbered in ascending order.

MATURE TREE CANOPY. [BSC-CG] The top of the mature trees or vegetation typical of a region.

ULTRAVIOLET (UV). [BSC-CG] Electromagnetic radiation on the first surface of glass (surface 1), with wavelengths between 300 and 400 nanometers (optimum at 370) visible to birds.

VISUAL MARKER. [BSC-CG] Usually applied to the first surface of glass (surface 1), a pattern, solid shape, or treatment visible to birds. If markers are applied on an inside surface, surface 1 should have maximum 15% reflectivity.

Notation:

Authority: Health & Safety Code Section: 18930.5

Reference(s): Health & Safety Code Section 18930.5

ITEM 3
Chapter 2 DEFINITIONS, Section 202 (CALGreen Carbon Reduction Related Definitions)

BUY CLEAN CALIFORNIA ACT. [BSC-CG] The Buy Clean California Act (BCCA) (Public Contract Code Sections 3500-3505), targets carbon emissions associated with the production of structural steel (hot-rolled sections, hollow structural sections, and plate), concrete reinforcing steel, flat glass, and mineral wool board insulation. The maximum acceptable global warming potential (GWP) limit are established by the Department of General Services (DGS), in consultation with the California Air Resources Board (CARB).

CRADLE-TO-GATE. [BSC-CG] Activities associated with a product or building's life cycle from the extraction stage through production stage, and covering modules A1 through A3 in accordance with ISO Standards 14025 and 21930.

CRADLE-TO-GRAVE. [BSC-CG] Activities associated with a product or building's life cycle from the extraction stage through disposal stage, and covering modules A1 through C4 in accordance with ISO Standards 14025 and 21930.

DECONSTRUCTION. [BSC-CG] BSC is withdrawing the definition.

TYPE III ENVIRONMENTAL PRODUCT DECLARATION (EPD). [BSC-CG] A third-party verified report that summarizes how a product impacts the environment. Type III EPDs can be either product-specific, factory-specific, or industry-wide EPDs. See CRADLE-TO-GATE.

PRODUCT-SPECIFIC EPD. [BSC-CG] A Type III EPD in which the environmental impacts can be attributed to a product design and manufacturer across multiple facilities.

FACTORY-SPECIFIC EPD. [BSC-CG] A product-specific Type III EPD in which the environmental impacts can be attributed to a single manufacturer and manufacturing facility.

INDUSTRY-WIDE EPD (IW-EPD). [BSC-CG] A Type III EPD in which the environmental impacts are an average of the typical manufacturing impacts for a range of products within the same product category for a group of manufacturers.

REFERENCE STUDY PERIOD. [BSC-CG] The period of use for the building, in years, that will be assumed for life cycle assessment.

Notation:

Authority: Health and Safety Code Section 18928.1, 18930.5,

Reference(s): Health and Safety Code Section 18928.1, 18930.5

ITEM 4
Chapter 5 NONRESIDENTIAL MANDATORY MEASURES, DIVISION 5.1- PLANNING AND DESIGN, SECTION 5.105 DECONSTRUCTION AND REUSE OF EXISTING STRUCTURES

SECTION 5.105, DECONSTRUCTION AND REUSE OF EXISTING STRUCTURES

~~**(Reserved)**~~

5.105.1 Scope. [BSC-CG] Effective July 1, 2024, alteration(s) to existing building(s) where the combined altered floor area is 100,000 square feet or greater shall comply with either Section 5.105.2, 5.409.2, or 5.409.3. Addition(s) to existing building(s) where the total floor area combined with the existing building(s) is 100,000 square feet or greater shall comply with either Section 5.105.2, Section 5.409.2, or Section 5.409.3. Effective January 1, 2026, the combined floor area shall be 50,000 square feet or greater.

Exception: Combined addition(s) to existing building(s) of two times the area or more of the existing building(s) is not eligible to meet compliance with Section 5.105.2.

5.105.2 Reuse of existing building. An alteration or addition to an existing building shall maintain at a minimum 45 percent combined of the existing building's primary structural elements (foundations; columns, beams, walls, and floors; and lateral elements) and existing building enclosure (roof framing, wall framing and exterior finishes). Window assemblies, insulation, portions of buildings deemed structurally unsound or hazardous, and hazardous materials that are remediated as part of the project shall not be included in the calculation.

5.105.2.1 Verification of compliance. Documentation shall be provided in the construction documents to demonstrate compliance with Section 5.105.2.

Note: Sample Worksheet WS-3 in Chapter 8 may be used to assist in documenting compliance with this section.

5.105.3 Deconstruction (reserved)

Notation:

Authority: Health and Safety Code Section 18930.5

Reference(s): Health and Safety Code Section 18930.5

ITEM 5
Section 5.106 SITE DEVELOPMENT, Section 5.106.5.3

5.106.5.3 Electric vehicle (EV) charging. [N] [BSC-CG] Construction to provide electric vehicle infrastructure and facilitate electric vehicle charging shall comply with Section 5.106.5.3.1 EV capable spaces, Section 5.106.5.3.2 Electric vehicle charging stations and associated Table 5.106.5.3.1, or Section 5.106.5.3.6 Electric vehicle charging stations (EVCS)-Power allocation method and associated Table 5.106.5.3.6 and shall be provided in accordance with regulations in the *California Building Code* and the *California Electrical Code.*

Exceptions:

1. On a case-by-case basis where the local enforcing agency has determined compliance with this section is not feasible based upon one of the following conditions:
    a. Where there is no local utility power supply.

b. Where the local utility is unable to supply adequate power.

c. Where there is evidence suitable to the local enforcement agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 5.106.5.3, may adversely impact the construction cost of the project.

2. Parking spaces accessible only by automated mechanical car parking systems are not required to comply with this code section.

5.106.5.3.1 EV capable spaces. [N] EV capable spaces shall be provided in accordance with Table 5.106.5.3.1 and the following requirements:

1. Raceways complying with the *California Electrical Code* and no less than 1-inch (25 mm) diameter shall be provided and shall originate at a service panel or a subpanel(s) serving the area, and shall terminate in close proximity to the proposed location of the EV capable space and into a suitable listed cabinet, box, enclosure or equivalent. A common raceway may be used to serve multiple EV capable spaces.
2. A service panel or subpanel(s) shall be provided with panel space and electrical load capacity for a dedicated 208/240 volt, 40-ampere minimum branch circuit for each EV capable space, with delivery of 30-ampere minimum to an installed EVSE at each EVCS.
3. The electrical system and any on-site distribution transformers shall have sufficient capacity to supply full rated amperage at each EV capable space.
4. The service panel or subpanel circuit directory shall identify the reserved overcurrent protective device space(s) as “EV CAPABLE”. The raceway termination location shall be permanently and visibly marked as “EV CAPABLE.”

Note: A parking space served by electric vehicle supply equipment or designed as a future EV charging space shall count as at least one standard automobile parking space only for the purpose of complying with any applicable minimum parking space requirements established by an enforcement agency. See Vehicle Code Section 22511.2 for further details.

5.106.5.3.2 Electric vehicle charging stations (EVCS). EV capable spaces shall be provided with electric vehicle supply equipment (EVSE) to create EVCS in the number indicated in Table 5.106.5.3.1. The EVCS required by Table 5.106.5.3.1 ~~may~~ shall be provided with Level 2 EVSE or DCFC as permitted in Section 5.106.5.3.2.1. ~~in any combination of Level 2 and Direct Current Fast Charging (DCFC), except that at least one Level 2 EVSE shall be provided.~~ At least one Level 2 EVSE shall be provided.

One EV charger with multiple connectors capable of charging multiple EVs simultaneously shall be permitted if the electrical load capacity required by Section 5.106.5.3.1 for each EV capable space is accumulatively supplied to the EV charger.

5.106.5.3.2.1 The installation of each DCFC EVSE shall be permitted to reduce the minimum number of required EV capable spaces without EVSE or EVCS with Level 2 EVSE by five and reduce proportionally the required electrical load capacity to the

service panel or subpanel.

5.106.5.3.2.2 The installation of two Low Power Level 2 EV charging receptacles shall be permitted to reduce the minimum number of required EV capable spaces without EVSE in Table 5.106.5.3.1 by one.

5.106.5.3.3 Use of automatic load management systems (ALMS). ALMS shall be permitted…multiple EVs. *[No change to text.]*

5.106.5.3.4 Accessible electric vehicle charging station (EVCS). When EVSE is installed, accessible EVCS shall be provided in accordance with the California Building Code Chapter 11B Section 11B-228.3.

~~**Note:** For EVCS signs, refer to Caltrans Traffic Operations Policy Directive 13-01 (Zero Emission Vehicle Signs and Pavement Markings) or its successor(s)~~

5.106.5.3.5 Electric vehicle charging station signage. Electric vehicle charging stations shall be identified by signage or pavement markings in compliance with Caltrans Traffic Operations Policy Directive 13-01 (Zero Emission Vehicle Signs and Pavement Markings) or its successor(s).

TABLE 5.106.5.3.1

TOTAL NUMBER OF ACTUAL PARKING SPACES	NUMBER OF REQUIRED EV CAPABLE SPACES	NUMBER OF EVCS (EV CAPABLE SPACES PROVIDED WITH EVSE) [2] & [3]
0-9	0	0
10-25	4	0
26-50	8	2
51-75	13	3
76-100	17	4
101-150	25	6
151-200	35	9
201 and over	20 percent of ~~total~~ actual parking spaces [1]	25 percent of EV capable spaces [1]

1. Calculation for spaces shall be rounded up to the nearest whole number.
2. The number of required EVCS (EV capable spaces provided with EVSE) in column 3 count toward the total number of required EV capable spaces shown in column 2.
3. At least one Level 2 EVSE shall be provided.

5.106.5.3.6 Electric vehicle charging stations (EVCS)-Power allocation method. The Power allocation method may be used as an alternative to the requirements in Section 5.106.5.3.1, Section 5.106.5.3.2 and associated Table 5.106.5.3.1. Use Table 5.106.5.3.6 to determine the total power in kVA required based on the total number of

actual parking spaces.

Power allocation method shall include the following:

1. Use any kVA combination of EV capable spaces, Low Power Level 2, Level 2 or DCFC EVSEs.
2. At least one Level 2 EVSE shall be provided.

TABLE 5.106.5.3.6

TOTAL NUMBER OF ACTUAL PARKING SPACES	MINIMUM TOTAL kVA @ 6.6 kVA	TOTAL kVA REQUIRED IN ANY COMBINATION OF EV CAPABLE[3,4], LOW POWER LEVEL 2, LEVEL 2 [1, 2], OR DCFC
0-9	0	0
10-25	26.4	26.4
26-50	52.8	52.8
51-75	85.8	85.8
76-100	112.2	112.2
101-150	165	165
151-200	231	231
201 and over	20 percent of actual parking spaces x 6.6	Total required kVA =P x .20 x 6.6 Where P=Parking spaces in facility

1. Level 2 EVSE @ 6.6 kVA minimum.
2. At least one Level 2 EVSE shall be provided.
3. Maximum allowed kVA to be utilized for EV capable spaces is 75 percent.
4. If EV capable spaces are utilized, they shall meet the requirements of Section 5.106.5.3.1 EV capable spaces.

Notation:

Authority: Health & Safety Code Sections 18930.5 and 18941.10.

Reference(s): Health & Safety Code Sections 18930.5 and 18941.10.

ITEM 6
Chapter 5 SITE DEVELOPMENT, Section 5.106.5.4

5.106.5.4 Additions or Alterations to existing buildings or parking facilities [A]. [BSC-CG] Existing buildings or parking facilities being modified by one of the following, shall comply with Section 5.106.5.4.1 or 5.106.5.4.2. When EVSE is installed, accessible EVCS shall be provided in accordance with the California Building Code, Chapter 11B, Section 11B-228.3.

1. When the scope of construction work includes an increase in power supply to an electric service panel as part of a parking facility addition or alteration.
2. When a new photovoltaic system is installed covering existing parking spaces.
3. When additions or alterations to existing buildings are triggered pursuant to code Section 301.3 and the scope of work includes an increase in power supply to an electric service panel.

Exceptions:

1. On a case-by-case basis where the local enforcing agency has determined compliance with this section is not feasible based upon one of the following conditions:
    a. Where there is no local utility power supply.
    b. Where the local utility is unable to supply adequate power.
    c. Where there is evidence suitable to the local enforcement agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 5.106.5.3, may adversely impact the construction cost of the project.
    d. Where demonstrated as impracticable excluding local utility service or utility infrastructure issues.
2. Remote parking facilities that do not have access to the building service panel.
3. Parking area lighting upgrades where no trenching is part of the scope of work.
4. Emergency repairs including but not limited to, water line break in parking facilities, natural disaster repairs, etc.

5.106.5.4.1 Existing buildings or parking areas without previously installed EV capable infrastructure [A]. When EV capable infrastructure does not exist at an existing parking facility or building, and the parking facility or building undergoes an addition or alteration listed in Section 5.106.5.4, construction shall include electric vehicle charging in compliance with either Section 5.106.5.3 and associated Table 5.106.5.3.1, or Section 5.106.5.3.6 and associated Table 5.106.5.3.6 for the total number of actual parking spaces being added or altered.

5.106.5.4.2 Existing buildings or parking areas with previously installed EV capable infrastructure [A]. When EV capable infrastructure is available at an existing parking facility or building, and the parking facility or building is undergoing an addition or alteration listed in Section 5.106.5.4, construction shall include electric vehicle charging in compliance with either Section 5.106.5.3 and associated Table 5.106.5.3.1, or Section 5.106.5.3.6 and associated Table 5.106.5.3.6 utilizing the existing EV capable allocated power and infrastructure for the total number of actual parking spaces being added or altered. If the area being added or altered exceeds the existing EV capable capacity, allocated power and infrastructure, provide additional EV charging as needed to comply with this section.

Notation:

Authority: Health & Safety Code Sections 18930.5 and 18941.10.

Reference(s): Health & Safety Code Sections 18930.5 and 18941.10.

ITEM 7
Chapter 5 SITE DEVELOPMENT, Section 5.106.5.5

5.106.5.~~4~~ 5 Electric vehicle (EV) charging: medium-duty and heavy-duty. [N] [BSC-CG] Construction shall comply with Section 5.106.5.~~4~~ 5.1 to facilitate future installation of electric vehicle supply equipment (EVSE). Construction for warehouses, grocery stores, retail stores, office buildings, and manufacturing facilities with planned off-street loading spaces shall also comply with Section 5.106.5.~~4~~ 5.1 for future installation of medium- and heavy-duty EVSE.

Exceptions:

1. On a case-by-case basis where the local enforcing agency has determined compliance with this section is not feasible based upon one of the following conditions:
    a. Where there is no local utility power supply.
    b. Where the local utility is unable to supply adequate power.
    c. Where there is evidence suitable to the local enforcing agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 5.106.5.3, may adversely impact the construction cost of the project.

When EVSE(s) is/are installed, it shall be in accordance with the *California Building Code,* the *California Electrical Code* and as follows:

5.106.5.~~4~~ 5.1 Electric vehicle charging readiness requirements for warehouses, grocery stores and retail stores, office buildings, and manufacturing facilities with planned off-street loading spaces [N]

In order to avoid future demolition when adding EV supply and distribution equipment, spare raceway(s) or busway(s) and adequate capacity for transformer(s), service panel(s) or subpanel(s) shall be installed at the time of construction in accordance with the *California Electrical Code*. Construction plans and specifications shall include, but are not limited to, the following:

1. The transformer, main service equipment and subpanels shall meet the minimum power requirement in Table 5.106.5.~~4~~ 5.1 to accommodate the dedicated branch circuits for the future installation of EVSE.
2. The construction documents shall indicate one or more location(s) convenient to the planned off-street loading space(s) reserved for medium- and heavy-duty ZEV charging cabinets and charging dispensers, and a pathway reserved for routing of conduit from the termination of the raceway(s) or busway(s) to the charging cabinet(s) and dispenser(s), as shown in Table 5.106.5.~~4~~ 5.1.
3. Raceway(s) or busway(s) originating at a main service panel or a subpanel(s) serving the area where potential future medium- and heavy-duty EVSE will be

located and shall terminate in close proximity to the potential future location of the charging equipment for medium- and heavy-duty vehicles.

4. The raceway(s) or busway(s) shall be of sufficient size to carry the minimum additional system load to the future location of the charging for medium- and heavy-duty ZEVs as shown in Table 5.106.5.~~4~~ 5.1.

TABLE 5.106.5.~~4~~ 5.1, RACEWAY CONDUIT AND PANEL POWER REQUIREMENTS FOR MEDIUM-AND-HEAVY-DUTY EVSE [N]

Building Type	Building Size (sq. ft.)	Number of Off-street loading spaces	Additional capacity Required (kVa) for Raceway & Busway and Transformer & Panel
Grocery	…	…	…
Retail	…	…	…
Warehouse	…	…	…
Manufacturing Facilities	10,000 to 50,000	1 or 2	200
	10,000 to 50,000	3 or Greater	400
	Greater than 50,000	1 or Greater	400
Office Buildings	10,000 to 135,000	1 or 2	200
	10,000 to 135,000	3 or Greater	400
	Greater than 135,000	1 or Greater	400

Notation:

Authority: Health & Safety Code Sections 18930.5 and 18941.10.

Reference(s): Health & Safety Code Sections 18930.5 and 18941.10.

ITEM 8
Chapter 5-NONRESIDENTIAL MANDATORY MEASURES, DIVISION 5.4-MATERIAL CONSERVATION AND RESOURCE EFFICIENCY, SECTION 5.401 GENERAL

SECTION 5.401, GENERAL

5.401.1 Scope. The provisions of this chapter ~~shall outline means~~ specify the requirements of achieving material conservation, ~~and~~ resource efficiency, and greenhouse gas (GHG) emission reduction through protection of buildings from exterior moisture, construction waste diversion, employment of techniques to reduce pollution through recycling of materials, the installation of products with lower GHG emissions and building commissioning or testing and adjusting.

Notation:

Authority: Health and Safety Code Section 18930.5

Reference(s): Health and Safety Code Section 18930.5

ITEM 9
Section 5.402, DEFINITIONS

5.402 Definitions. The following terms are defined in Chapter 2.

ADJUST.

BALANCE.

BUILDING COMMISSIONING.

BUY CLEAN CALIFORNIA ACT (BCCA).

CRADLE-TO-GRAVE.

TYPE III ENVIRONMENTAL PRODUCT DECLARATION (EPD).

PRODUCT-SPECIFIC EPD.

FACTORY-SPECIFIC EPD.

INDUSTRY-WIDE EPD (IW-EPD).

ORGANIC WASTE.

REFERENCE STUDY PERIOD.

TEST.

Notation:

Authority: Health and Safety Code Section 18930.5

Reference(s): Health and Safety Code Section 18930.5

ITEM 10
Section 5.408, CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING

5.408.1 Construction waste management. *[Proposed code changes withdrawn]*

Notation:

Authority: Health and Safety Code Section 18930.5

Reference(s): Health and Safety Code Section 18930.5

ITEM 11
Section 5.409, LIFE CYCLE ASSESSMENT ~~(Reserved)~~

5.409.1 Scope. [BSC-CG] Effective July 1, 2024, projects consisting of newly constructed building(s) with a combined floor area of 100,000 square feet or greater

shall comply with either Section 5.409.2, or Section 5.409.3. Alteration(s) to existing building(s) where the combined altered floor area is 100,000 square feet or greater shall comply with either 5.105.2, 5.409.2, or 5.409.3. Addition(s) to existing building(s) where the total floor area combined with the existing building(s) is 100,000 square feet or greater shall comply with either Section 5.105.2, Section 5.409.2, or Section 5.409.3. Effective January 1, 2026, the combined floor area 50,000 square feet or greater.

5.409.2 Whole building life cycle assessment. Projects shall conduct a cradle-to-grave whole building life cycle assessment performed in accordance with ISO 14040 and ISO 14044, excluding operating energy, and demonstrating a minimum 10 percent reduction in global warming potential (GWP) as compared to a reference baseline building of similar size, function, complexity, type of construction, material specification, and location that meets the requirements of the *California Energy Code* currently in effect. Software used to conduct the whole building life cycle assessment, including reference baseline building, shall have a data set compliant with ISO-14044, and ISO 21930 or EN 15804, and the software shall conform to ISO 21931 and/or EN 15978. The software tools and datasets shall be the same for evaluation of both the baseline building and the proposed building.

Notes:

1. Software for calculating whole building life cycle assessment is available for free at Athena Sustainable Materials Institute (https://calculateca.com/software/impact-estimator/) and OneClick LCA - Planetary (www.oneclicklca.com/planetary). Paid versions include, but are not limited to, Sphera GaBi Solutions (gabi.sphera.com), SimaPro (simapro.com), OneClick LCA (www.oneclicklca.com) and Tally for Revit (apps.autodesk.com).
2. ASTM E2921-22 “Standard Practice for Minimum Criteria for Comparing Whole Building Life Cycle Assessments for Use with Building Codes, Standards, and Rating Systems” may be consulted for the assessment.
3. In addition to the required documentation specified in Section 5.409.2.3, Worksheet WS-9 may be required by the enforcing entity to demonstrate compliance with the requirements.

5.409.2.1 Building components. Building enclosure components included in the assessment shall be limited to glazing assemblies, insulation, and exterior finishes. Primary and secondary structural members included in the assessment shall be limited to footings and foundations, and structural columns, beams, walls, roofs, and floors.

5.409.2.2 Reference study period. The reference study period of the proposed building shall be equal to the reference baseline building and shall be 60 years.

5.409.2.3 Verification of compliance. A summary of the GWP analysis produced by the software and Worksheet WS-4 signed by the design professional of record shall be provided in the construction documents as documentation of compliance. A copy of the whole building life cycle assessment which includes the GWP analysis produced by the software, in addition to maintenance and training information, shall be included in the operation and maintenance manual and shall be provided to the owner at the close of

construction. The enforcing agency may require inspection and inspection reports in accordance with Sections 702.2 and 703.1 during and at completion of construction to demonstrate substantial conformance. Inspection shall be performed by the design professional of record or third party acceptable to the enforcing agency.

Notation:

Authority: Health and Safety Code Section 18928.1, 18930.5

Reference(s): Health and Safety Code Section 18928.1, 18930.5

ITEM 12
Chapter 5 NONRESIDENTIAL MANDATORY MEASURES, DIVISION 5.4- MATERIAL CONSERVATION AND RESOURCE EFFICIENCY, SECTION 5.409 LIFE CYCLE ASSESSMENT

5.409.3 Product GWP compliance – prescriptive path. [BSC-CG] Each product that is permanently installed and listed in Table 5.409.3 shall have a Type III environmental product declaration (EPD), either product-specific or factory-specific.

5.409.3.1 Products shall not exceed the maximum GWP value specified in Table 5.409.3.

Exception: Concrete may be considered one product category to meet compliance with this section. A weighted average of the maximum GWP for all concrete mixes installed in the project shall be less than the weighted average maximum GWP allowed per Table 5.409.3 using Exception Equation 5.409.3.1. Calculations shall be performed with consistent units of measurement for the material quantity and the GWP value. For the purposes of this exception, industry wide EPD's are acceptable.

Exception EQUATION 5.409.3.1

$GWP_n < GWP_{allowed}$

where

$GWP_n = \Sigma (GWP_n)(v_n)$ *and* $GWP_{allowed} = \Sigma (GWP_{allowed})(v_n)$

and

n = each concrete mix installed in the project

GWP_n = the GWP for concrete mix *n* per concrete mix EPD, in kg CO_{2e} /m^3

$GWP_{allowed}$ = the GWP potential allowed for concrete mix *n* per Table 5.409.3

v_n = the volume of concrete mix *n* installed in the project, in m^3

5.409.3.2. Verification of compliance. Calculations to demonstrate compliance, Type III EPDs for products required to comply if included in the project, and Worksheet WS-5 signed by the design professional of record shall be provided on the construction documents. Updated EPDs for products used in construction shall be provided to the owner at the close of construction and to the

enforcement entity upon request. The enforcing agency may require inspection and inspection reports in accordance with Sections 702.2 and 703.1 during and at completion of construction to demonstrate substantial conformance. Inspection shall be performed by the design professional of record or third party acceptable to the enforcing agency.

Note: *[Withdrawn]*

TABLE 5.409.3
PRODUCT GWP LIMITS

Buy Clean California Materials Product Category [1]	Maximum acceptable GWP value (unfabricated) ($GWP_{allowed}$)	Unit of Measurement
Hot-rolled structural steel sections	1.77	MT CO_{2e}/MT
Hollow structural sections	3.00	MT CO_{2e}/MT
Steel plate	2.61	MT CO_{2e}/MT
Concrete reinforcing steel	1.56	MT CO_{2e}/MT
Flat glass	2.50	kg CO_{2e}/MT
Light-density mineral wool board insulation	5.83	kg CO_{2e}/1 m^2
Heavy-density mineral wool board insulation	14.28	kg CO_{2e}/1 m^2

Concrete, Ready-Mixed [2, 3]

Concrete Product Category	Maximum GWP allowed value ($GWP_{allowed}$)	Unit of Measurement
up to 2499 psi	450	kg CO_{2e}/m^3
2500-3499 psi	489	kg CO_{2e}/m^3
3500-4499 psi	566	kg CO_{2e}/m^3
4500-5499 psi	661	kg CO_{2e}/m^3
5500-6499 psi	701	kg CO_{2e}/m^3
6500 psi and greater	799	kg CO_{2e}/m^3

Concrete, Lightweight Ready-Mixed [2]

Concrete Product Category	Maximum GWP allowed value (GWP allowed)	Unit of Measurement
up to 2499 psi	875	kg CO_{2e}/m^3
2500-3499 psi	956	kg CO_{2e}/m^3
3500-4499 psi	1,039	kg CO_{2e}/m^3

Footnotes:

1. The GWP values of the products listed in Table 5.409.3 are based on 175 percent of Buy Clean California Act (BCCA) GWP values, except for concrete products which are not included in BCCA.
2. For concrete, 175 percent of the National Ready Mix Concrete Association (NRMCA) 2022 version 3 Pacific Southwest regional benchmark values are used for the GWP allowed, except for High Early strength.
3. Concrete High Early Strength ready-mixed shall be calculated at 130 percent of the Ready mixed concrete GWP allowed values for each product category.

Notation:

Authority: Health and Safety Code Section 18930.5

Reference(s): Health and Safety Code Section 18930.5

ITEM 13
Chapter 5, DIVISION 5.4-MATERIAL CONSERVATION AND RESOURCE EFFICIENCY, Section 5.410 BUILDING MAINTANANCE AND OPERATION

5.410.1 Recycling by occupants. Provide readily accessible…restrictive.

...

5.410.2 Commissioning. [N] New buildings 10,000 square feet and over. For new buildings … Sections 5.410.2 through 5.410.2.6 shall apply.

Note: For energy-related systems …

Commissioning requirements shall include:

1. Owner's or owner …
2. Basis of design.
3. Commissioning …
4. Commissioning …
5. Functional …
6. Documentation …
7. Commissioning …

Exceptions:

1. Unconditioned …
2. Areas less than 10,000 …
3. Tenant improvements …
4. Open parking garages…

Note: For the purposes of this section, unconditioned shall mean a building, area or room which does not provide heating and/or air conditioning.

Informational Notes:

~~1. IAS AC 476 is an accreditation criteria for organizations providing training and/or certification of commissioning personnel. AC 476 is available to the Authority Having Jurisdiction as a reference for qualifications of commissioning personnel. AC 476 does not certify individuals to conduct functional performance tests or to adjust and balance systems.~~

~~2.~~ 1 Functional performance testing for heating, ventilation, air conditioning systems and lighting controls must be performed in compliance with the *California Energy Code.*

Notation:

Authority: Health & Safety Code Section: 18930.5

Reference(s): Health & Safety Code Section 18930.5

ITEM 14
Chapter 6 REFERENCED ORGANIZATIONS AND STANDARDS

SECTION 601
GENERAL

601.1 This chapter lists the organizations and standards that are referenced in various sections of this document. The standards are listed ~~herein by~~ according to the promulgating agency of the standard.

[Entire table not shown, just new reference standards]

ORGANIZATION	STANDARD	REFERENCED SECTION
…		
ACI American Concrete Institute		
American Concrete Institute	ACI CT-21	A5.405.5.2.1.1
…		
ASTM ASTM International		
	ASTM C31/C31M-19	A5.405.5.3.4
	ASTM C1798/C1798M-19	A5.405.5.3.5

ORGANIZATION	STANDARD	REFERENCED SECTION
	ASTM C1866/C1866M-20	A5.405.5.2
	ASTM D7612-2021	A5.405.2.1
	ASTM E2921-2022	5.409.2, A5.409.2
…		
EN European Standards		
European and International standards online store - European Standards (en-standard.eu)		
	EN 15804-2012 + A2:2019	5.409.2, A5.409.2.1, A5.409.2.2
	EN 15978:2011	5.409.2, A5.409.2.1, A5.409.2.2
…		
ISO International Organization for Standardization		
ISO Central Secretariat Chemin de Blandonnet 8 CP 401 - 1214 Vernier, Geneva, Switzerland https://www.iso.org		
	ISO 14040-2006+A1:2020	5.409.2, A5.409.2.1, A5.409.2.2
	ISO 14044:2006+A1:2020	5.409.2, A5.409.2.1, A5.409.2.2
	ISO 21930-2017	5.409.2, A5.409.2.1, A5.409.2.2
	ISO 21931-2017	5.409.2, A5.409.2.1, A5.409.2.2
…		

Notation:

Authority: Health and Safety Code Section 18928.1, 18930.5

Reference(s): Health and Safety Code Section 18928.1, 18930.5

ITEM 15
Chapter 8 COMPLIANCE FORMS, WORKSHEETS AND REFERENCE MATERIAL

WORKSHEET (WS-3)
Section 5.105.2 BUILDING REUSE

DOCUMENTATION OF COMPLIANCE OF EXISTING BUILDING REUSE

Area of Existing Building(s) _____SF

Area of Aggregate Addition(s) (if applicable) _____SF

	Existing Total Area (A)	Retained Total Area (B)	% of Retained Structure (B)/(A)
Primary Structural Elements of Existing Building(s) (foundations; columns, beams, walls, and floors; and lateral elements)	_____SF	_____SF	_____%
Building Enclosure of Existing Building(s) (roof framing, wall framing and exterior finishes only)	_____SF	_____SF	_____%

Total % Reuse of Required Elements = ≥45% _____%

WORKSHEET (WS-4)
Section 5.409.2 WHOLE BUILDING LIFE CYCLE ASSESSMENT

Responsible Designer's Declaration Statement:
I attest that the Whole Building Life Cycle Analysis has been performed according to the requirements of Section 5.409.2 and has met the minimum 10 percent reduction in global warming potential as compared to a reference baseline building of similar size, function, complexity, type of construction, material specification, and location that meets the requirements of the California Energy Code currently in effect. Furthermore, I will ensure during construction that the material specifications will be reviewed for substantial conformance with the life cycle assessment indicated on the approved plans so at the close of construction the minimum 10 percent reduction in global warming potential is thereby secured.

Signature:

Company: Date:

Address: License:

City/State/Zip: Phone:

WORKSHEET (WS-5)
Section 5.409.3 PRODUCT GWP COMPLIANCE - PRESCRIPTIVE PATH

Responsible Designer's Declaration Statement:
I attest that prescriptive compliance has been performed according to the requirements of Section 5.409.3 and products have met the minimum 10 percent reduction in global warming potential as specified in Table 5.409.3. Furthermore, I will ensure during construction that the material specifications will be reviewed for substantial conformance with the global warming potential limits indicated on the approved plans so at the close of construction the minimum 10 percent reduction in global warming potential is thereby secured.

Signature:

Company: Date:

Address: License:

City/State/Zip: Phone:

WORKSHEET (WS-6)
Section A5.105.2 BUILDING REUSE
TIER 1 AND TIER 2

DOCUMENTATION OF COMPLIANCE OF EXISTING BUILDING REUSE

Area of Existing Building _____SF

	Existing Total Area (A)	Retained Total Area (B)	% of Retained Structure (B)/(A)
Primary Structural Elements of Existing Building (foundations; columns, beams, walls, and floors; and lateral elements)	_____SF	_____SF	_____%
Building Enclosure of Existing Building (roof framing, wall framing and exterior finishes only)	_____SF	_____SF	_____%
Interior Nonstructural Elements (interior walls, doors, floor coverings, ceiling systems applicable for voluntary Tier 2 compliance)	_____SF	_____SF	_____%

Total % Reuse of Required Elements _____%

WORKSHEET (WS-7)
Section A5.409.2 WHOLE BUILDING LIFE CYCLE ASSESSMENT

Responsible Designer's Declaration Statement:
I attest that the Whole Building Life Cycle Analysis has been performed according to the requirements of Section A5.409.2 and has met the minimum 15 percent (Tier 1) or 20 percent (Tier 2) reduction in global warming potential as compared to a reference baseline building of similar size, function, complexity, type of construction, material specification, and location that meets the requirements of the California Energy Code currently in effect. Furthermore, I will ensure during construction that the material specifications will be reviewed for substantial conformance with the life cycle assessment indicated on the approved plans so at the close of construction the minimum reduction in global warming potential is thereby secured.

Signature:

Company: Date:

Address: License:

City/State/Zip: Phone:

WORKSHEET (WS-8)
Section A5.409.3 PRODUCT GWP COMPLIANCE-PRESCRIPTIVE PATH

Designer's Declaration Statement:
I attest that prescriptive compliance has been performed according to the requirements of Section A5.409.3 and products have met the maximum acceptable GWP value for the products listed in Table A5.409.3 for either Tier 1 or Tier 2. Furthermore, I will ensure during construction that any material specification substitution will be reviewed for substantial conformance with the requirements of Section A5.409.3 so at the close of construction the minimum 15 percent reduction in global warming potential is thereby secured.

Signature:	
Company:	Date:
Address:	License:
City/State/Zip:	Phone:

WORKSHEET (WS-9)
Section 5.409.2 and Section A5.409.2 WHOLE BUILDING LIFE CYCLE ASSESSMENT

CalGreen Whole Building LCA Reporting Template

LCA model run	User input	Units	Overall scope included (select all that apply)	
LCA Modeler (company) *[private]*			Structure (required)	☐
Date of Model Run (mm/yyyy)			Enclosure (required)	☐
Project Phase at Model Run			Interiors (optional)	☐
Reference Study Period (years)			MEP (optional)	☐
Software and Version Used*			Site/Landscaping (optional)	☐
Biogenic Carbon Included* (y/n)			FFE (optional)	☐
Model Floor Area		m2		

Mandatory Scope Items

Please break out the following in per element emissions by life cycle in kgCO2e. Leave blank any sections that were not calculated separately from Whole Building GWP

	Upfront Carbon			Use Phase	End of Life	Total
	A1-3	A4	A5	B1-5	C1-4	
Baseline Structure GWP (kgCO2e):						4.00
Baseline Enclosure GWP (kgCO2e):						4.00
Baseline Whole Building GWP (kgCO2e):						**4.00**
Proposed Structure GWP (kgCO2e):						4.00
Proposed Enclosure GWP (kgCO2e):						4.00
Proposed Whole Building GWP (kgCO2e):						**4.00**

Percent Reduction	

A1-A3*
(A1) Raw Material Supply, (A2) Transport to Factory, and (A3) Manufacturing

A4*
(A4) Transportation to site

A5*
(A5) Construction Installation or "on-site energy use". Leave blank if unkown

B1-B5*
(B1) Use, (B2) Maintenance, (B3) Repair, (B4) Replacement, (B5) Refurbishment

C1-C4*
(C1) Deconstruction/Demolition, (C2) Transport to Waste Processing/Disposal, (C3) Waste Processing, (C4) Disposal of Waste

D*
(D) Reuse-Recovery & Recycling Potential

Optional Items - Proposed Design ONLY

Please break out the following in per element emissions by life cycle in kgCO2e. Leave blank any sections that were not calculated separately from Whole Building GWP

	Upfront Carbon			Use Phase	End of Life	Total
	A1-3	A4	A5	B1-5	C1-4	
Interiors GWP (kgCO2e):						
MEP GWP (kgCO2e):						
Site/Landscaping GWP (kgCO2e):						
FF&E GWP (kgCO2e):						

Notation:

Authority: Health and Safety Code Section 18930.5

Reference(s): Health and Safety Code Section 18930.5

ITEM 16
Appendix A5 - NONRESIDENTIAL VOLUNTARY MEASURES, DIVISION A5.1 – PLANNING AND DESIGN

SECTION A5.105, DECONSTRUCTION AND REUSE OF EXISTING STRUCTURES

~~**A5.105.1** If feasible, disassemble existing buildings instead of demolishing to allow reuse or recycling of building materials.~~

~~**A5.105.1.1 Existing building structure.** Maintain at least 75 percent of existing building structure (including structural floor and roof decking) and envelope (exterior skin and framing) based on surface area.~~

~~**Exceptions:**~~

~~1. Window assemblies and nonstructural roofing material.~~

~~2. Hazardous materials that are remediated as a part of the project.~~

~~3. A project with an addition of more than two times the square footage of the existing building.~~

~~**A5.105.1.2 Existing nonstructural elements.** Reuse existing interior nonstructural elements (interior walls, doors, floor coverings and ceiling systems) in at least 50 percent of the area of the completed building (including additions).~~

~~**Exception:** A project with an addition of more than two times the square footage of the existing building.~~

~~**A5.105.1.3 Salvage.** Salvage additional items in good condition such as light fixtures, plumbing fixtures and doors as follows. Document the weight or number of the items salvaged.~~

~~1. Salvage for reuse on the project items that conform to other provisions of Title 24 in an on-site storage area.~~

~~2. Nonconforming items may be salvaged in dedicated collection bins for exempt projects or other uses.~~

A5.105.1 Scope. Projects with the area limits specified shall comply with Section A5.105.2 to achieve Tier 1 or Tier 2 compliance.

1. Alteration(s) to existing building(s) where the combined altered floor area is 50,000 square feet or greater shall comply with either Section A5.105.2, Section A5.409.2, or Section A5.409.3.
2. Addition(s) to existing building(s) where the total floor area combined with the existing building(s) is 50,000 square feet or greater shall comply with either Section A5.105.2, Section A5.409.2, or Section A5.409.3

   Exception: Combined addition(s) to existing building(s) of two times the area or more of the existing building(s) is not eligible to meet compliance with Section A5.105.2.
3. Alteration(s) to existing building(s) where the aggregate floor area is less than 50,000 square feet shall comply with either Section 5.105.2, Section 5.409.2 or Section 5.409.3 for Tier 1 compliance, and either Section A5.105.2.1, Section A5.409.2.1, or A5.409.3 Tier 1 requirements for Tier 2 compliance.
4. Addition(s) to an existing building where the total floor area combined with the existing building(s) is less than 50,000 square feet shall comply with either Section 5.105.2, Section 5.409.2 or Section 5.409.3 for Tier 1 compliance, and either Section A5.105.2.1, Section A5.409.2.1, or A5.409.3 Tier 1 requirements for Tier 2 compliance.

   Exception: Combined addition(s) to existing building(s) of two times the area or more of the existing building(s) is not eligible to meet compliance with Section 5.105.2 or Section A5.105.2.

A5.105.2 Reuse of existing building. Projects that include the reuse of an existing

building shall meet the minimum requirements of Section A5.105.2.

A5.105.2.1 Tier 1: An alteration or addition to an existing building shall maintain at least 75 percent combined of the existing building's primary structural elements (foundations; columns, beams, walls, and floors; and lateral elements) and existing building enclosure (roof framing, wall framing and exterior finishes). Window assemblies, insulation, portions of buildings deemed structurally unsound or hazardous, and hazardous materials that are remediated as part of the project shall not be included in the calculation.

A5.105.2.2 Tier 2: An alteration or addition to an existing building shall maintain at least 75 percent combined of the existing building's primary structural elements (foundations; columns, beams, walls, and floors; and lateral elements) and existing building enclosure (roof framing, wall framing and exterior finishes). In addition, an alteration to an existing building shall maintain 30% of existing interior nonstructural elements (interior walls, doors, floor coverings, ceiling systems). Window assemblies, insulation, portions of buildings deemed structurally unsound or hazardous, and hazardous materials that are remediated as part of the project shall not be included in the calculation.

A5.105.2.3 Verification of compliance. Documentation shall be provided in the construction documents to demonstrate compliance with Section A5.105.2.

Note: Sample Worksheet WS-6 in Chapter 8 may be used to assist in documenting compliance with this section.

A5.105.3 Deconstruction (reserved)

Notation:

Authority: Health and Safety Code Section 18930.5

Reference(s): Health and Safety Code Section 18930.5, 18941.5

ITEM 17
Chapter A5, DIVISION A5.106 PLANNING AND DESIGN, Section A5.106 SITE DEVELOPMENT

A5.106.5.1 Designated parking for clean air vehicles. In new projects or additions or alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of zero-emitting, ~~fuel-efficient~~ high efficient and carpool/vanpool vehicles as listed in code Sections A5.106.5.1.1 or A5.106.5.1.2.

A5.106.5.1.1 Tier 1. Provide 35 percent designated parking spaces of the total number of parking spaces, for any combination of zero-emitting, ~~fuel-efficient~~ high efficient and carpool/vanpool vehicles. Calculation for spaces shall be rounded up to the nearest whole number.

Note: Designated parking for clean air vehicles shall count toward the total parking spaces required by the local enforcing agencies.

A5.106.5.1.2 Tier 2. Provide 50 percent designated parking spaces of the total number of parking spaces, for any combination of zero-emitting, ~~fuel-efficient~~ high efficient and

carpool/van pool vehicles. Calculation for spaces shall be rounded up to the nearest whole number.

Note: Designated parking for clean air vehicles shall count toward the total parking spaces required by the local enforcing agencies.

A5.106.5.1.3 Future charging spaces. Future EV charging spaces qualify as designated parking as described in Section A5.106.5.1 Designated parking for clean air vehicles.

Note: Future EV charging spaces shall count toward the total parking spaces required by the local enforcing agencies.

A5.106.5.1.~~3~~ 4 parking stall markings. Paint, in the paint used for stall stripping…parked vehicle.

CLEAN AIR/
VANPOOL/EV

Note: Vehicles bearing …designated parking spaces.

A5.106.5.1.~~4~~ 5 Vehicle designations. Building managers may … parking stickers.

Notes:

1. Information on … following sources:
    a. California Drive Clean.
    b. California Air Resources Board.
    c. US EPA … standards.
    d. DMV Registration Operations.
2. Purchasing policy … General Services

…

Notation:

Authority: Health & Safety Code Sections 18930.5 and 18941.10.

Reference(s): Health & Safety Code Sections 18930.5 and 18941.10.

ITEM 18
Chapter A5, DIVISION A5.106 PLANNING AND DESIGN, Section A5.106 SITE DEVELOPMENT

A5.106.5.3 Electric vehicle (EV) charging. [N] Construction shall comply with Section A5.106.5.3.1 Tier 1 or A5.106.5.3.~~2~~ 3 Tier 2, and in accordance with regulations in the *California Building Code* and the *California Electrical Code.*

A5.106.5.3.1 Tier 1. Comply with Section 5.106.5.3.1 EV capable spaces, Section 5.106.5.3.2 Electric vehicle charging stations and associated Table A5.106.5.3.1 Tier 1, or comply with Section A5.106.5.3.2 Electric vehicle charging stations (EVCS)-Power allocation method and associated Table A5.106.5.3.2 Tier 1. ~~Table A5.106.5.3.1 shall be used to determine the number of~~

~~EV capable spaces required. Refer to Section 5.106.5.3 for design space requirements.~~

~~When EV capable spaces are provided with EVSE to create EVCS per Table A5.106.5.3.1, r~~ Refer to Section 5.106.5.3.2 for the ~~allowed~~ permitted use of Level 2 or Direct Current Fast Charger (DCFC) to create EVCS. Refer to Section 5.106.3.2.1 for the allowed use of DCFC to comply with both EV capable spaces and Level 2 EVSE. ~~and~~ Refer to Section 5.106.5.3.3 for the allowed use of Automatic Load Management System (ALMS).

TABLE A5.106.5.3.1 Tier 1

TOTAL NUMBER OF ACTUAL PARKING SPACES	TIER 1 NUMBER OF REQUIRED EV CAPABLE SPACES	TIER 1 NUMBER OF EVCS (EV CAPABLE SPACES PROVIDED WITH EVSE) [2, 3]
0-9	2	0
10-25	5	2
26-50	11	4
51-75	19	6
76-100	26	9
101-150	38	13
151-200	53	18
201 and over	30 percent of actual ~~total~~ parking spaces[1]	33 percent of EV capable spaces [1]

1. Calculation for spaces shall be rounded up to the nearest whole number.
2. The number of required EVCS (EV capable spaces provided with EVSE) in column 3 count toward the total number of required EV capable spaces shown in column 2.
3. At least one Level 2 EVSE shall be provided.

A5.106.5.3.2 Electric vehicle charging stations (EVCS)-Power allocation method. The Power allocation method may be used as an alternative to the requirements in Section 5.106.5.3.1, Section 5.106.5.3.2, and associated Table A5.106.5.3.1 Tier 1. Use Table A5.106.5.3.2 Tier 1 to determine the total power in kVA required based on the total number of actual parking spaces.

Power allocation method shall include the following:

1. Use any kVA combination of EV capable spaces, Low Power Level 2, Level 2 or DCFC EVSEs.
2. At least one Level 2 EVSE shall be provided.

TABLE A5.106.5.3.2 Tier 1

TOTAL NUMBER OF ACTUAL PARKING SPACES	MINIMUM TOTAL kVA @ 6.6 kVA	TOTAL kVA REQUIRED IN ANY COMBINATION OF EV CAPABLE [3,4], LOW POWER LEVEL 2 LEVEL 2 [1, 2], OR DCFC
0-9	13.2	13.2
10-25	33	33
26-50	72.6	72.6
51-75	125.4	125.4
76-100	171.6	171.6
101-150	250.8	250.8
151-200	349.8	349.8
201 and over	30 percent of actual parking spaces x 6.6	Total required kVA =P x .30 x 6.6 Where P=Parking spaces in facility

1. Level 2 EVSE @ 6.6 kVA minimum.
2. At least one Level 2 EVSE shall be provided.
3. Maximum allowed kVA to be utilized for EV capable spaces is 67 percent.
4. If EV capable spaces are utilized, they shall meet the requirements of Section 5.106.5.3.1 EV capable spaces.

A5.106.5.3.2 3Tier 2. Comply with Section 5.106.5.3.1 EV capable spaces, Section 5.106.5.3.2 Electric vehicle charging stations and associated Table A5.106.5.3.3 Tier 2, or Section A5.106.5.3.4 Electric vehicle charging stations (EVCS)-Power allocation method and associated Table A5.106.5.3.4 Tier 2. ~~Table A5.106.5.3.2 shall be used to deteremine the number of EV capable spaces required. Refer to Section 5.106.5.3for design requirements.~~

~~When EV capable spaces are provided with EVSE to create EVCS per Table A5.106.5.3.2, r~~ Refer to Section 5.106.5.3.2 for the ~~allowed~~ permitted use of Level 2 or Direct Current Fast Charger (DCFC) to create EVCS. Refer to Section 5.106.3.2.1 for the allowed use of DCFC to comply with both EV capable spaces and Level 2 EVSE. ~~and~~ Refer to Section 5.106.5.3.3 for the allowed use of Automatic Load Management System (ALMS).

TABLE A5.106.5.3.~~2~~ 3 Tier 2

TOTAL NUMBER OF ACTUAL PARKING SPACES	TIER 2 NUMBER OF REQUIRED EV CAPABLE SPACES	TIER 2 NUMBER OF EVCS (EV CAPABLE SPACES PROVIDED WITH EVSE) [2, 3]
0-9	3	0
10-25	8	3
26-50	17	6
51-75	28	9
76-100	40	13
101-150	57	19
151-200	79	26
201 and over	45 percent of ~~total~~ actual parking spaces[1]	33 percent of EV capable spaces [1]

1. Calculation for spaces shall be rounded up to the nearest whole number.
2. The number of required EVCS (EV capable spaces provided with EVSE) in column 3 count toward the total number of required EV capable spaces shown in column 2.
3. At least one Level 2 EVSE shall be provided.

A5.106.5.3.4 Electric vehicle charging stations (EVCS)-Power allocation method. The Power allocation method may be used as an alternative to the requirements in Section 5.106.5.3.1, Section 5.106.5.3.2 and associated Table A5.106.5.3.3 Tier 2. Use Table A5.106.5.3.4 Tier 2 to determine the total power in kVA required based on the total number of actual parking spaces.

Power allocation method shall include the following:

1. Use any kVA combination of EV capable spaces, Low Power Level 2, Level 2 or DCFC EVSEs.
2. At least one Level 2 EVSE shall be provided.

TABLE A5.106.5.3.4 Tier 2

TOTAL NUMBER OF ACTUAL PARKING SPACES	MINIMUM TOTAL kVA @ 6.6 kVA	TOTAL kVA REQUIRED IN ANY COMBINATION OF EV CAPABLE[3,4], LOW POWER LEVEL 2, LEVEL 2 [1,2], OR DCFC
0-9	28.8	28.8
10-25	76.8	76.8
26-50	163.2	163.2
51-75	268.8	268.8
76-100	384	384
101-150	547.2	547.2
151-200	758.4	758.4
201 and over	45 percent of actual parking spaces x 6.6	Total required kVA =P x .45 x P x 6.6 Where P=Parking spaces in facility

1. Level 2 EVSE @ 6.6 kVA minimum.
2. At least one Level 2 EVSE shall be provided.
3. Maximum allowed kVA to be utilized for EV capable spaces is 75 percent.
4. If EV capable spaces are utilized, they shall meet the requirements of Section 5.106.5.3.1 EV capable spaces.

Notation:

Authority: Health & Safety Code Sections 18930.5 and 18941.10.

Reference(s): Health & Safety Code Sections 18930.5 and 18941.10.

ITEM 19
Chapter A5, DIVISION A5.106 PLANNING AND DESIGN, Section A5.106 SITE DEVELOPMENT

Section A5.106.11 Reduction of ~~H~~heat island effect. Reduce ~~nonroof~~ heat island by requiring Section A5.106.11.1 Hardscape alternatives, ~~and roof heat islands by~~ Section A5.106.11.2 Cool roofs, or Section A5.106.11.3 Shade trees.

A5.106.11.1 Hardscape alternatives. Use one or a combination of strategies 1 and 2 for 50 percent of site hardscape or put 50 percent of parking underground.

1. Use light colored materials with an initial solar reflectance value of at least 30 as determined in accordance with American Society for Testing and Materials (ASTM) Standards E1918 or C1549.
2. Use open-grid pavement system or pervious or permeable pavement system.

A5.106.11.2 Cool roof ~~for reduction of heat island effect~~. Use roofing materials having a minimum aged solar reflectance and thermal emittance complying with Sections A5.106.11.2.1 and A5.106.11.2.2 or a minimum aged Solar Reflectance Index (SRI) complying with Section A5.106.11.2.3 and as shown in Table A5.106.11.2.2 for Tier 1 or Table A5.106.11.2.3 for Tier 2.

Exceptions: *[No changes to exceptions or note]*

…

A5.106.11.3 ~~3~~ 2.4 Verification of compliance. If no documentation is available, an inspection shall be conducted to ensure roofing materials meet cool roof aged solar reflectance and thermal emittance or SRI values.

A5.106.11.3 Shade trees. [BSC-CG] In the absence of a local shade tree ordinance, comply with mandatory Section 5.106.12 Shade trees.

Notation:

Authority: Health and Safety Code Section 18930.5

Reference(s): Health and Safety Code Section 18930.5, 18941.5

ITEM 20
Chapter A5, DIVISION A5.106 PLANNING AND DESIGN, Sections A5.102 DEFINITIONS and A5.107 BIRD-FRIENDLY BUILDING DESIGN

SECTION A5.102
DEFINITIONS

A5.102.1 Definitions. The following terms are defined in Chapter 2.

2 X 2 RULE

ADHESIVE MARKER

FILM

GLASS, ACID ETCHED

GLASS, FRITTED

GLASS SURFACE

MATURE TREE CANOPY

ULTRAVIOLET (UV)

VISUAL MARKER

SECTION A5.107
BIRD-FRIENDLY BUILDING DESIGN

A5.107 Bird-friendly building design. A newly constructed building, or an alteration of an existing building that includes the addition or replacement of 50 percent or more of the exterior glazing shall comply with the bird-friendly building design elements and features in Sections A5.107.1 through A5.107.3 the California Energy Code, and the fire

hazard severity zone regulations in Chapter 7A of the California Building Code.

Exception: Alteration to the glazing in historical buildings per the California Historical Building Code.

A5.107.1 Required elevation treatment. Building elevation treatment shall incorporate bird-friendly mitigation strategies. No less than 90 percent of a building elevation, measured from grade to a height of 40 feet (12 m) above grade, or from grade to the height of an adjacent mature tree canopy (whichever is greater), shall incorporate bird-friendly mitigation strategies. No less than 60 percent of building elevation, 40 feet (12 m) above grade to the top of the building elevation, shall incorporate bird-friendly mitigation strategies.

Strategies to minimize the risk of birds colliding with buildings:

1. **Glazing**

   Glazing with visual markers shall include, but is not limited to, the following:

   a. Etched or fritted glass with patterns of elements on the exterior having minimum dimensions of 1/4" (.64 cm) diameter for dots or 1/8" (.32 cm) width for stripes in a density of 2 inches (5.1 cm) maximum horizontally and vertically (the "2 X 2 Rule").

   Note: If the visual markers are on glass surface 2, they can be effective if visible behind an exterior surface with reflectivity of 15% or less.

   b. Interior or exterior glazing film with 2 X 2 visual markers.

   c. Laminated glass with 2 X 2 visual markers, patterned Ultraviolet (UV) coating or use of contrasting patterned UV-absorbing and UV-reflecting films.

   Note: Low-e coatings shall be behind the visual markers

   d. Glass block or channel glass.

   e. Developed glazing technologies, documented to reduce bird strikes, as tested by an independent third party and approved by the authority having jurisdiction; or

2. **Slats, Screens, Netting, Louvers**

   Glazing protected by exterior features that create a visible barrier in front of the glazing, may include, but not be limited to:

   a. Horizontal or vertical slats of 1/8" (.32 cm) minimum face width with minimum 2" (5.1 cm) spacing that obscure 85% or more of glass when viewed from all feasible angles.

   b. Grilles, screens or 1/8" (.32 cm) dia. welded wire mesh with openings no more than 2" (5.1 cm) maximum horizontally and vertically installed parallel to and no more than 3 ¼ ft. (1 m) from the first surface of glass (glass surface 1).

   c. Netting with 1" (2.5 cm) maximum openings, installed taut at least 6" (15 cm) away from the first surface of glass; or

d. Sunshades or louvers 9” (22.5 cm) deep vertically spaced a maximum 9” (22.5 cm) or 6” (15 cm) deep horizontally at maximum 6” (15 cm) spacing and parallel or angled to the glass surfaces.

A5.107.2 Special conditions. The following special conditions shall comply with the provisions in Section A5.107.1 (as appropriate)

1. Glass facades adjacent to vegetated roof.
2. Glass railings and guardrails.
3. Transparent corners that extend 5.5 feet (1.68 m) on either side of a building.
4. Glass passageways less than 5.5 feet (1.68 m) wide.
5. Auxiliary glass building such as a glass pavilion or atria exposed to the sky.
6. Auxiliary glass building such as a glass pavilion or atria exposed to a courtyard with a water feature or plants.
7. Stained glass windows insulated on the exterior with clear glazing.

A5.107.3 Nighttime conditions. Nighttime lighting at the top of the building, and in the interiors of all areas visible through exterior glazing, including lobby and atria, shall be controlled with time-switch control devices or occupancy sensors complying with the current *California Energy Code*. The control device shall be programmed so the lights are extinguished from 2 am to dawn.

Exception: Emergency lighting, lighting required for nighttime security and aeronautical beacon lighting required by the Federal Aviation Administration.

A5.107.3.1 Systems or operation and maintenance manual. Include written recommendations that lighting is extinguished pursuant to Section A5.107.3 and janitorial services to the building are scheduled between sunrise and sunset.

Notation:

Authority: Health & Safety Code Section: 18930.5

Reference(s): Health & Safety Code Section 18930.5

ITEM 21
Appendix A5 - NONRESIDENTIAL VOLUNTARY MEASURES, DIVISION A5.4 – MATERIAL CONSERVATION AND RESOURCE EFFICIENCY, SECTIONS A5.401 GENERAL, A5.402 DEFINITIONS, A5.405 MATERIAL SOURCES and A5.406 LIFE CYCLE ASSESSMENT

SECTION A5.401, GENERAL

A5.401.1 Scope. The provisions of this chapter specify the requirements ~~shall outline means~~ of achieving enhanced compliance with material conservation, ~~and~~ resource efficiency, and greenhouse gas (GHG) emissions reduction through reuse of existing building stock and materials; use of recycled, regional, rapidly renewable, and certified wood materials; and employment of techniques to reduce pollution through recycling of materials.

Notation:

Authority: Health and Safety Code Section 18928.1, 18930.5

Reference(s): Health and Safety Code Section 18928.1, 18930.5, 18941.5

ITEM 22
Section A5.402, DEFINITIONS

A5.402.1 Definitions. The following terms are defined in Chapter 2.

BUILDING COMMISSIONING

BUY CLEAN CALIFORNIA ACT (BCCA).

CRADLE-TO-GRAVE.

EMBODIED ENERGY

TYPE III ENVIRONMENTAL PRODUCT DECLARATION (EPD).

PRODUCT-SPECIFIC EPD.

FACTORY-SPECIFIC EPD.

INDUSTRY-WIDE EPD (IW-EPD).

EUTROPHICATION

LIFE CYCLE ASSESSMENT (LCA)

LIFE CYCLE INVENTORY (LCI)

OVE.

POST CONSUMER CONTENT

PRECONSUMER (or POSTINDUSTRIAL) CONTENT.

RECYCLED CONTENT.

RECYCLED CONTENT VALUE (RCV).

REFERENCE STUDY PERIOD.

[No change to Sections A5.403 and A5.404]

Notation:

Authority: Health and Safety Code Section 18930.5

Reference(s): Health and Safety Code Section 18930.5, 18941.5

ITEM 23
Section A5.405, MATERIAL SOURCES

[No change to Sections A5.405.1 through A5.405.2]

A5.405.2.1 ~~Reserved~~. Certified Wood Components - Sustainability Standards. Provide wood products, for at least 50 percent of the project permanently installed products, that have been certified by independent third parties and labeled as

having been produced in compliance with the accepted principles of sustainable forest management. The use of recycled and/or recovered wood products do not need to be certified. Comply with one or more of the following certifications of wood sustainability:

1. Sustainable Forestry Initiative (SFI).
2. Forest Stewardship Council (FSC)
3. Program for the Endorsement of Forest Certification (PEFC).
4. American Forest Foundation's American Tree Farm System® (ATFS).
5. Canadian Standards Association's Sustainable Forest Management System Standards (CSA Z809).
6. Manufacturer's fiber procurement system that has been audited by an approved agency as compliant with the provisions of ASTM D7612 as a responsible or certified source.

Notation:

Authority: Health & Safety Code Section: 18930.5

Reference(s): Health & Safety Code Section 18930.5

ITEM 24
Section A5.405, MATERIAL SOURCES

[No change to Sections A5.405.1 through A5.405.4]

A5.405.5 Cement and concrete. ~~Use~~ Cement and concrete made with recycled products ~~and complying with the following sections~~ shall comply with A5.405.

A5.405.5.1 Cement. Cement shall comply with one of the following standards:

1. Portland cement shall meet ASTM C150, Standard Specification for Portland Cement.
2. Blended cement shall meet ASTM C595, Standard Specification for Blended Hydraulic Cement or ASTM C1157, Standard Performance Specification for Hydraulic Cement.
3. Other Hydraulic Cements shall meet ASTM C1157, Standard Performance Specification for Hydraulic Cement.

A5.405.5.2 Concrete. ~~Unless otherwise directed by the Engineer of Record, use concrete manufactured with cementitious materials in accordance with Sections A5.405.5.2.1 and A5.405.5.2.1.1, as approved by the enforcing agency.~~ Use concrete manufactured with cementitious materials in accordance with Section A5.405.2, as approved by the Engineer of Record.

A5.405.5.2.1 Supplementary cementitious materials (SCM). Use concrete made with one or more supplementary cementitious materials (SCM) conforming to the following standards:

1. Fly ash conforming to ASTM C618, Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.
2. Slag cement (GGBFS) conforming to ASTM C989, Specification for Use in Concrete and Mortars.
3. Silica fume conforming to ASTM C1240, Specification for Silica Fume Used in Cementitious Mixtures.
4. Natural pozzolan conforming to ASTM C618, Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.
5. Blended supplementary cementitious materials conforming to ASTM C1697, Standard Specification for Blended Supplementary Cementitious Materials. The amount of each SCM in the blend will be used separately in calculating Equation A5.4-1. ~~If~~ Class C fly ash, ~~is~~ if used in the blend, ~~it~~ will be considered ~~to be "SL"~~ *SL* for the purpose~~s~~ of satisfying the equation.
6. Ultra-fine fly ash (UFFA) conforming to ASTM C618, *Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete* and the following chemical and physical requirements:

Chemical Requirements	Percent
Sulfur Trioxide (SO_3)	1.5 max.
Loss on ignition	1.2 max.
Available Alkalines (as Na_2O) equivalent	1.5 max.
Physical Requirements	**Percent**
Particle size distribution Less than 3.5 microns Less than 9.0 microns	 50 90
Strength Activity Index with portland cement 7 days 28 days	 95 (minimum % of control) 110 (minimum % of control)
Expansion at 16 days when testing job materials in conformance with ASTM C1567*	0.10 max.

* In the test mix, cement shall be replaced with at least 12% UFFA by weight.

7. Metakaolin conforming to ASTM C618, *Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete*, the following chemical and physical requirements:

Chemical Requirements	Percent
Silicon Dioxide (SiO_2) + Aluminum Oxide (Al_2O_3)	92.0 min.
Calcium Oxide (CaO)	1.0 max.
Sulfur Trioxide (SO_3)	1.0 max.
Loss on ignition	1.2 max.
Available Alkalies (as Na_2O) equivalent	1.0 max.
Physical Requirements	**Percent**
Particle size distribution Less than 45 microns	 95
Strength Activity Index with portland cement 7 days 28 days	 100 (minimum % of control) 100 (minimum % of control)

8. Ground-Glass Pozzolan per ASTM C1866/C1866M.

9.~~8~~. Other materials with comparable or superior environmental benefits, as approved by the Engineer of Record ~~and enforcing authority~~.

A5.405.5.2.1.1 Mix design equation. Use any combination of one or more SCM, satisfying Equation A5.4-14. When ASTM C595 or ASTM C1157 cement is used, the amount of SCM in these cements shall be used in calculating Equation A5.4-14.

Exception: Minimums in mix designs approved by the Engineer of Record may be lower where high early strength is needed for concrete products or to meet an accelerated project schedule. High early strength shall be defined as outlined in ACI CT.

$F/25 + SL/50 + UF/12 \geq 1$ **(Equation A5.4-14)** where:

F = Fly ash, natural pozzolan or other approved SCM, or blended SCM, as a percent of total cementitious material for concrete on the project.

SL = GGBFS, as a percent of total cementitious material for concrete on the project.

UF= Silica fume, metakaolin or UFFA, as a percent of total cementitious material for concrete on the project.

~~**A5.405.5.3 Additional means of compliance.** Any of the following measures shall be permitted to be employed for the production of cement or concrete, depending on their availability and suitability, in conjunction with Section A5.405.5.2.~~

~~**A5.405.5.3.1 Cement**. The following measures shall be permitted to be used in the manufacture of cement.~~

~~**A5.405.5.3.1.1 Alternative fuels.** The use of alternative fuels where permitted by state or local air quality standards.~~

~~**A5.405.5.3.1.2 Alternative power**. Alternate electric power generated at the cement plant and/or green power purchased from the utility meeting the requirements of Section A5.211.~~

A5.405.5.3.2 ~~Concrete~~ manufacture. The following measures shall be permitted ~~to be used~~ in the manufacture of concrete, as approved by the Engineer of Record.

~~**A5.405.5.3.2.1 Alternative energy**. Renewable or alternative energy meeting the requirements of Section A5.211.~~

A5.405.5.3~~.2.2~~ .1 Recycled aggregates. Concrete made with one or more of the following materials:

1. Blast furnace slag as a lightweight aggregate in unreinforced concrete.

2. Recycled concrete aggregate (RCA) or crushed concrete aggregate (CCA) that meets grading requirements of ASTM C33, Standard Specification for Concrete Aggregates.
    a. Recycled concrete aggregate (RCA) – created from existing concrete structures, including building foundations, parking areas, and sidewalks. It has been processed to create a recycled concrete aggregate, usable in many applications.
    b. Crushed concrete aggregate (CCA) – created by taking concrete that was batched but not used in initial construction and is returned in the mixer truck to the concrete batch plant. As a recent mix and unplaced it is a clean product with known properties.
3. Other materials with comparable or superior environmental benefits~~, as approved by the engineer and enforcing authority~~.

A5.405.5.3.2~~.3~~ Mixing water. Water recycled by the local water purveyor or water reclaimed from manufacturing processes and conforming to ASTM C1602, Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete.

A5.405.5.3~~.2.4~~ .3 High strength concrete. Concrete elements designed to reduce their total size compared to standard 3,000 psi concrete, thereby reducing the total volume of cement, aggregate and water used on the project~~, as approved by the Engineer of Record~~.

A5.405.5.3.4 Later Ages of Maturity – An increase in the age of maturity of testing for determining compressive strength for acceptance of concrete from the current 28 days to 42 or 56 days, in compliance with ASTM C31/C31M.

A5.405.5.3.5 Returned Fresh Concrete – The use of returned fresh concrete in compliance with ASTM C1798/C1798M or Caltrans Section 90-9.

[No change to Sections A5.406 and A5.408]

Notation:

Authority: Health and Safety Code Section 18928.1, 18930.5,

Reference(s): Health and Safety Code Section 18928.1, 18930.5, 18941.5

ITEM 25
Appendix A5 NONRESIDENTIAL VOLUNTARY MEASURES, DIVISION A5.4-MATERIAL CONSERVATION AND RESOURCE EFFICIENCY, SECTION A5.409, LIFE CYCLE ASSESSMENT

~~**A5.409.1 General.** Life cycle assessment shall be ISO 14044 compliant. The service life of the building and materials assemblies shall not be less than 60 years unless designated in the construction documents as having a shorter service life as approved by the enforcing agency.~~

[New Life Cycle Assessment voluntary measures]

A5.409.1 Scope. Projects with the area limits specified shall comply with Section A5.409.1 to achieve Tier 1 or Tier 2 compliance. Projects of any size shall comply with A5.409.5 to achieve Tier 2 compliance.

1. Projects consisting of newly constructed building(s) with a combined floor area of 50,000 square feet or greater shall comply with either Section A5.409.2 or Section A5.409.3.
2. Alteration(s) to existing building(s) where the combined altered floor area is 50,000 square feet or greater shall comply with either Section A5.105.2, Section A5.409.2 or Section A5.409.3.
3. Addition(s) to existing building(s) where the total floor area combined with the existing building(s) is 50,000 square feet or greater shall comply with either Section A5.105.2, Section A5.409.2 or Section A5.409.3.

   Exception: Combined addition(s) to existing building(s) of two times the area or more of the existing building(s) is not eligible to meet compliance with Section A5.105.2.
4. Projects consisting of newly constructed building(s) with a combined floor area of less than 50,000 square feet shall comply with either Section 5.409.2 or Section 5.409.3 for Tier 1 compliance, and either Section A5.409.2.1 or A5.409.3 Tier 1 requirements for Tier 2 compliance.
5. Alteration(s) to existing building(s) where the aggregate floor area is less than 50,000 square feet shall comply with either Section 5.105.2, Section 5.409.2, or Section 5.409.3 for Tier 1 compliance, and either Section A5.105.2.1, Section A5.409.2.1, or Section A5.409.3 Tier 1 requirements for Tier 2 compliance.
6. Addition(s) to an existing building where the total floor area combined with the existing building(s) is less than 50,000 square feet shall comply with either Section 5.105.2, Section 5.409.2, or Section 5.409.3 for Tier 1 compliance, and either Section A5.105.2.1, Section A5.409.2.1, or Section A5.409.3 Tier 1 requirements for Tier 2 compliance.

   Exception: Combined addition(s) to existing building(s) of two times the area or more of the existing building(s) is not eligible to meet compliance with Section 5.105.2 or Section A5.105.2.

A5.409.2 Whole building life cycle assessment. Projects shall meet the minimum requirements of Section A5.409.2 for Tier 1 or Tier 2 compliance.

A5.409.2.1 Tier 1. Projects shall conduct a cradle-to-grave whole building life

cycle assessment meeting the requirements of Section 5.409.2 and performed in accordance with ISO14040 and 14044, excluding operating energy, demonstrating a minimum 15 percent reduction in global warming potential (GWP) as compared to a reference baseline building of similar size, function, complexity, type of construction, material specification, and location that meets the requirements of all parts of the *California Building Standards Code* currently in effect. Software used to conduct the whole building life cycle assessment, including reference baseline building, shall have a data set compliant with ISO-14044, and ISO 21930-2017 or EN 15804, and the software shall conform to ISO 21931 and/or EN 15978. The software tools and datasets shall be the same for evaluation of both the baseline building and the proposed building.

Exception: For projects that include building reuse, the reference baseline building shall exclude the reused elements. The percent reduction in GWP shall be achieved through the design and construction of new project elements.

A5.409.2.2 Tier 2. Projects shall conduct a cradle-to-grave whole building life cycle assessment meeting the requirements of Section 5.409.2 and performed in accordance with ISO14040 and ISO 14044, excluding operating energy, demonstrating a minimum 20 percent reduction in GWP as compared to a reference baseline building of similar size, function, complexity, type of construction, material specification, and location that meets the requirements of all parts of the *California Building Standards Code* currently in effect. Software used to conduct the whole building life cycle assessment, including reference baseline building, shall have a data set compliant with ISO-14044, and ISO 21930 or EN 15804, and the software shall conform to ISO 21931 and/or EN 15978. The software tools and datasets shall be the same for evaluation of both the baseline building and the proposed building.

Exception: For projects that include building reuse, the reference baseline building shall not be of new construction and shall retain existing materials. The percent reduction in GWP shall be achieved through the design and construction of new project elements.

A5.409.2.3 Verification of compliance. A summary of the GWP analysis produced by the software and Worksheet WS-7 signed by the design professional of record shall be provided in the construction documents as documentation of compliance. A copy of the whole building life cycle assessment which includes the GWP analysis produced by the software, in addition to maintenance and training information, shall be included in the operation and maintenance manual and shall be provided to the owner at the close of construction. The enforcing agency may require inspection and inspection reports in accordance with Sections 702.2 and 703.1 during and at completion of construction to demonstrate substantial conformance. Inspection shall be performed by the design professional of record or third party acceptable to the enforcing agency.

A5.409.3 Product GWP compliance – prescriptive path. Each product that is permanently installed and listed in Table A5.409.3, shall have a Type III environmental product declaration (EPD), either product-specific or factory-specific.

A5.409.3.1. Products shall comply with the requirements for product GWP performance in accordance with Section A5.409.3 using for the maximum acceptable GWP value for the product category listed in Table A5.409.3 for Tier 1 or Tier 2 compliance for the verified reduction calculation resulting in a minimum 15 percent reduction in total GWP.

Exception: Concrete may be considered one product category to meet compliance with this section. A weighted average of the maximum GWP for all concrete mixes installed in the project shall be less than the weighted average maximum GWP allowed per Table A5.409.3 using Exception Equation A5.409.3.1. Calculations shall be performed with consistent units of measurement for the material quantity and the GWP value. For the purposes of this exception, industry wide EPD's are acceptable.

Exception EQUATION A5.409.3.1

$GWP_n < GWP_{allowed}$

where

$GWP_n = \Sigma (GWP_n)(v_n)$ *and* $GWP_{allowed} = \Sigma (GWP_{allowed})(v_n)$

and

n = each concrete mix installed in the project

GWP_n = the GWP for concrete mix n per concrete mix EPD, in kg CO2e /m^3

$GWP_{allowed}$ = the GWP potential allowed for concrete mix n per Table 5.409.3

v_n = the volume of concrete mix n installed in the project, in m^3

A5.409.3.2. Verification of compliance. Calculations to demonstrate compliance, Type III EPDs for products required to comply if included in the project, and Worksheet WS-8 signed by the design professional of record shall be provided on the construction documents. Updated EPDs for products used in construction shall be provided to the owner at the close of construction and to the enforcement entity upon request. The enforcing agency may require inspection and inspection reports in accordance with Sections 702.2 and 703.1 during and at completion of construction to demonstrate substantial conformance. Inspection shall be performed by the design professional of record or third party acceptable to the enforcing agency.

Note: *[Withdrawn]*

TABLE A5.409.3
PRODUCT GWP LIMITS TIER 1 AND TIER 2

Buy Clean California Product Category [1]	Tier 1 Maximum acceptable GWP value (unfabricated) ($GWP_{allowed}$)	Tier 2 Maximum acceptable GWP value (unfabricated) ($GWP_{allowed}$)	Unit of Measurement
Hot-rolled structural steel sections	1.52	1.01	MT CO_{2e}/MT
Hollow structural sections	2.57	1.71	MT CO_{2e}/MT
Steel plate	2.24	1.49	MT CO_{2e}/MT
Concrete reinforcing steel	1.34	0.89	MT CO_{2e}/MT
Flat glass	2.15	1.43	kg CO_{2e}/MT
Light-density mineral wool board insulation	5.00	3.33	kg CO_{2e}/1 m^2
Heavy-density mineral wool board insulation	12.24	8.16	kg CO_{2e}/1 m^2

Concrete, Ready-Mixed [2, 3]

Concrete Product Category	Tier 1 Maximum acceptable GWP value (unfabricated) ($GWP_{allowed}$)	Tier 2 Maximum acceptable GWP value (unfabricated) ($GWP_{allowed}$)	Unit of Measurement
up to 2499 psi	386	257	kg CO_{2e}/m^3
2500-3499 psi	419	279	kg CO_{2e}/m^3
3500-4499 psi	485	323	kg CO_{2e}/m^3
4500-5499 psi	567	378	kg CO_{2e}/m^3
5500-6499 psi	601	401	kg CO_{2e}/m^3
6500 psi and greater	685	456	kg CO_{2e}/m^3

Concrete, Lightweight Ready-Mixed [2]

Concrete Product Category	Tier 1 Maximum acceptable GWP value (unfabricated) (GWP *allowed*)	Tier 2 Maximum acceptable GWP value (unfabricated) (GWP *allowed*)	Unit of Measurement
up to 2499 psi	750	500	kg CO_{2e}/m^3
2500-3499 psi	819	546	kg CO_{2e}/m^3
3500-4499 psi	891	594	kg CO_{2e}/m^3

Footnotes:

1. The GWP values of the products listed in Table A5.409.3 are based on 150% of Buy Clean California Act (BCCA) GWP values, except for concrete products which are not included in BCCA.
2. For concrete, Tier 1 is 150%, Tier 2 is 100% of the National Ready Mixed Concrete Association (NRMCA) 2022 version 3 Pacific Southwest regional benchmark values are used for the GWP allowed, except for High Early strength.
3. Concrete High Early Strength ready-mixed shall be calculated at 130% of the Ready mixed concrete GWP allowed values for each product category.

[Renumbered and moved lower in this section]

A5.409.~~2~~4 Whole building life cycle assessment of additional impacts. Maintaining compliance with the requirements of Section 5.409.2, ~~C~~conduct a cradle-to-grave whole building life assessment performed in accordance with ISO 14044, including operating energy, ~~showing that the building project achieves at least a~~ and demonstrating a minimum 10 percent improvement for ~~at least three of the~~ a minimum of two additional impacts listed in Section A5.409.~~2.2~~4.1, ~~one of which shall be climate change~~,as compared to a reference baseline building of similar size, function, complexity, type of construction, material specification, location and operating energy performance~~, and meeting~~ that meets the ~~2016~~ requirements of the *California Energy Code* ~~at a minimum~~ currently in effect.

~~**A5.409.2.1 Building components.** The building envelope, structural elements, including footings and foundations, interior ceilings, walls and floors; and exterior finishes shall be considered in the assessment.~~

~~**Exceptions:**~~

~~1. Plumbing, mechanical and electrical systems and controls; fire and smoke detection and alarm systems and controls; and conveying systems.~~

~~2. Interior finishes are not required to be included.~~

~~**Notes:**~~

~~1. Software for calculating whole building life cycle assessments includes those found at the Athena Institute website (Impact Estimator software),~~

~~the PE International website (GaBi software), and the PRe Consultants website (SimaPro software).~~

~~2. Interior finishes, if included, may be assessed using the NIST BEES tool.~~

A5.409.~~2.2~~4.1 Impacts to be considered. Select from the following impacts in the assessment:

~~1. Climate change (greenhouse gases).~~

~~2~~1. Fossil fuel depletion.

~~3~~2. Stratospheric ozone depletion.

~~4~~3. Acidification of land and water sources.

~~5~~4. Eutrophication.

~~6~~5. Photochemical oxidants (smog).

~~**A5.409.3 Materials and system assemblies.** If whole building analysis of the project is not elected, select a minimum of 50 percent of materials or assemblies based on life cycle assessment of at least three of the impacts listed in Section A5.409.2.2, one of which shall be climate change~~.

~~**Note:** Software for calculating life cycle assessments for assemblies and materials may be found at the Athena Institute web site and the NIST BEES web site.~~

~~**A5.409.4 Substitution for prescriptive standards.** Performance of a life cycle assessment completed in accordance with Section A5.409.2 may be substituted for other prescriptive Material Conservation and Resource Efficiency provisions of Division A5.4, including those made mandatory through local adoption of Tier 1 or Tier 2 in Division A5.6.~~

~~**A5.409.5 Verification of compliance.** Documentation of compliance shall be provided as follows:~~

~~1. The assessment is performed in accordance with ISO 14044.~~

~~2. The project meets the requirements of other parts of Title 24.~~

~~3. A copy of the analysis shall be made available to the enforcement authority.~~

~~4. A copy of the analysis and any maintenance or training recommendations shall be included in the operation and maintenance manual.~~

Notation:

Authority: Health and Safety Code Section 18928.1, 18930.5

Reference(s): Health and Safety Code Section 18928.1, 18930.5, 18941.5

ITEM 26
Chapter A5, DIVISION A5.601 CALGreen Tier 1 and Tier 2, Section A5.601 SITE DEVELOPMENT

Division A5.6 - VOLUNTARY TIERS

A5.601.1 Scope. The measures contained in this appendix are not mandatory unless adopted by local government as specified in Section 101.7. The provisions of this section outline means of achieving enhanced construction or reach levels by incorporating additional green building measures for newly constructed nonresidential buildings as well as additions and alterations. In order to meet one of the tier levels designers, builders or property owners are required to incorporate additional green building measures necessary to meet the threshold of each level. Refer to the provisions in Section 301.3 for nonresidential additions and alterations scope and application.

A5.601.2 *CALGreen* Tier 1

A5.601.2.1 Prerequisites. To achieve *CALGreen* tier status, a project must meet all of the mandatory measures in Chapter 5 and, in addition, meet the provisions of this section.

A5.601.2.2 Energy performance. For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory standards.

A5.601.2.3 Tier 1. Comply with the energy efficiency requirements in Section A5.203.1.1 and Section A5.203.1.2.1.

A5.601.2.4 Voluntary measures for Tier 1. In addition to the provisions of Sections A5.601.2.1 and A5.601.2.3 above, compliance with the following voluntary measures from Appendix A5 is required for Tier 1:

1. From Division A5.1,
    a. Comply with the designated parking requirements for ~~fuel~~ high efficient vehicles for a minimum of 35 percent of parking capacity per Section A5.106.5.1
    b. Electric vehicle (EV) charging [N] and Table A5.106.5.3.1 w/ footnotes.
    c. Comply with thermal emittance, solar reflectance or SRI values for cool roofs in Section A5.106.11.2 and Table A5.106.11.2.~~1~~ 2.[1]
    d. Comply with one elective measure selected from this division.
2. From Division A5.2 comply with ONE of the following:
    1. Outdoor lighting as described in A5.203.1.1.1.
    2. Service water heating in restaurants as described in A5.203.1.1.2.
    3. Warehouse Dock Seal Doors A5.203.1.1.3.
    4. Daylight Design Power Adjustments 5.203.1.1.4.
    5. Exhaust Air Heat Recovery A5.203.1.1.5.

…

A5.601.3 *CALGreen* Tier 2.

A5.601.3.1 Prerequisites. To achieve *CALGreen* tier status, a project must meet all of the mandatory measures in Chapter 5 and, in addition, meet the provisions of this section.

A5.601.3.2 Energy performance. For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory standards.

A5.601.3.3 Tier 2. Comply with the energy efficiency requirements in Section A5.203.1.1 and Section A5.203.1.2.2.

A5.601.3.4 Voluntary measures for Tier 2. In addition to the provisions of Sections A5.601.3.1 and A5.601.3.3 above, compliance with the following voluntary measures from Appendix A5 ~~and additional elective measures shown in Table A5.601.3.4~~ is required for Tier 2:

1. From Division A5.1,
    a. Comply with the designated parking requirements for fuel efficient vehicles for a minimum of 50 percent of parking capacity per Section A5.106.5.1.
    b. Electric vehicle (EV) charging [N] and Table A5.106.5.3.2 w/ footnotes.
    c. Comply with thermal emittance, solar reflectance or SRI values for cool roofs in Section A5.106.11.2 and Table A5.106.11.2.2.~~1~~ 3[1]
    d. Comply with three elective measures selected from this division.
2. From Division A5.2 comply with TWO of the following:
    1. Outdoor lighting as described in A5.203.1.1.1.
    2. Service water heating in restaurants as described in A5.203.1.1.2.
    3. Warehouse Dock Seal Doors A5.203.1.1.3.
    4. Daylight Design Power Adjustments 5.203.1.1.4.
    5. Exhaust Air Heat Recovery A5.203.1.1.5.

…

Notation:

Authority: Health & Safety Code Section: 18930.5

Reference(s): Health & Safety Code Section 18930.5

ITEM 27
Chapter A5, DIVISION A5.602, VERIFICATION GUIDELINES

MANDATORY MEASURES CHECKLIST, TIER 1 CHECKLIST AND TIER 2 CHECKLIST

[Note: These checklists tables will be updated based on the final proposed code updates for both the mandatory and voluntary code sections]

A5.602,
***CALGreen* VERIFICATION GUIDELINES**
MANDATORY MEASURES CHECKLIST

…

Chapter 5 Divisions

DIVISION 5.1 Planning and Design

Requirement	Section Title	Code Section	Y	N/A	O	Plan Sheet, Spec, or Attach Reference
Mandatory	Deconstruction and reuse of existing structures, Scope with Exception	5.105.1				
Mandatory	Reuse of existing building & Verification of compliance with note	5.105.2 and 5.105.2.1				
…						
~~Mandatory~~	~~Electric vehicle (EV) charging. [N] w/exceptions~~	~~5.106.5.3~~				
~~Mandatory~~	~~EV capable spaces [N]~~	~~5.106.5.3.1~~				
~~Mandatory~~	~~Electric vehicle charging stations (EVCS)~~	~~5.106.5.3.2~~				
~~Mandatory~~	~~Use of automatic load management systems (ALMS)~~	~~5.106.5.3.3~~				
~~Mandatory~~	~~Accessible EVCS~~	~~5.106.5.3.4~~				
~~Mandatory~~	~~Note for EVCS signs~~					
~~Mandatory~~	~~Table 5.106.5.3.1 w/ footnotes~~	~~5.106.5.3.1, 5.106.5.3.2 and 5.106.5.3.3~~				

Requirement	Section Title	Code Section	Y	N/A	O	Plan Sheet, Spec, or Attach Reference
Mandatory	Electric vehicle (EV) charging [N] with Section 5.106.3.1, 5.106.5.3.2 and associated Table 5.106.5.3.1 OR Power Allocation Method: Section 5.106.5.3.6 and associated Table 5.106.5.3.6	5.106.5.3.1, 5.106.5.3.2, Table 5.106.5.3.1, 5.106.5.3.2.1, 5.106.5.3.2.2, 5.106.5.3.3, 5.106.5.3.4 and 5.106.5.3.5. OR 5.106.5.3.6, Table 5.106.5.3.6 5.106.5.3.3, 5.106.5.3.4 and 5.106.5.3.5.				
Mandatory	Additions or Alterations to existing buildings or parking facilities [A] with Exceptions	5.106.5.4				
Mandatory	Existing buildings or parking areas without previously installed EV capable infrastructure [A].	5.106.5.4.1				
Mandatory	Existing buildings or parking areas with previously installed EV capable infrastructure [A].	5.106.5.4.2				
Mandatory	Electric vehicle (EV) charging: medium-duty and heavy-duty. [N]	5.106.5.~~4~~ 5				
Mandatory	Electric vehicle charging readiness requirements for warehouses, grocery stores and retail stores, office buildings, and manufacturing facilities with planned off-street loading spaces [N]	5.106.5.~~4~~ 5.1				
Mandatory	Table 5.106.5.~~4~~ 5.1	5.106.5.~~4~~ 5 and 5.106.5.~~4~~ 5.1				
…	…	…				

DIVISION 5.2 Energy Efficiency *[No change to table]*

DIVISION 5.3 Water Efficiency and Conservation *[No change to table]*

DIVISION 5.4 Material Conservation and Resource Efficiency

Requirement	Section Title	Code Section	Y	N/A	O	Plan Sheet, Spec, or Attach Reference
…	…	…				
Mandatory	Excavated soil and landscape debris (100% reuse or recycle) with Exception and Notes	5.408.3				
Mandatory	Life Cycle Assessment, Scope, Whole building life cycle assessment with Notes, Building components, Reference study period, and Verification of compliance	5.409.1, 5.409.2, 5.409.2.1, 5.409.2.2 and 5.409.2.3				
Mandatory	Life Cycle Assessment, Scope, Product GWP compliance – prescriptive path, 5.409.3.1 with Exception and Exception EQUATION, Verification of compliance and Product GWP Limits Table with Footnotes	5.409.1, 5.409.3, 5.409.3.1, 5.409.3.2 and Table 5.409.3				
Mandatory	Recycling by occupants (with exceptions)	5.410.1				
…	…	…				
Mandatory	Inspection and reports	5.410.4.5.1				

DIVISION 5.5 Environmental Quality *[No change to table]*

A5.602.1
***CALGreen* VERIFICATION GUIDELINES**
TIER 1 CHECKLIST

…

Chapter 5 Divisions

DIVISION 5.1 Planning and Design
(Select one elective from DIVISION 5.1)

Requirement	Section Title	Code Section	Y	N	O	Plan Sheet, Spec, or Attach Reference
Mandatory	Deconstruction and reuse of existing structures, Scope with Exception	5.105.1				
Mandatory	Reuse of existing building & Verification of compliance with note	5.105.2 and 5.105.2.1				
Mandatory	Storm water pollution … land	5.106.1 through 5.106.2				
…	…	…				
Tier 1 prerequisite	*Designated parking-35% of parking capacity with future charging spaces, parking stall markings and vehicle designation ~~stall identification~~*	*A5.106.5.1, A5.106.5.1.1, A5.106.5.1.3, A5.106.5.1.4, A5.106.5.1.5*				
~~Mandatory~~	~~Electric vehicle (EV) charging. [N] w/ exceptions~~	~~5.106.5.3~~				
~~Mandatory~~	~~EV capable spaces [N]~~	~~5.106.5.3.1~~				
~~Mandatory~~	~~Electric vehicle charging stations (EVCS)~~	~~5.106.5.3.2~~				
~~Mandatory~~	~~Use of automatic load management systems (ALMS)~~	~~5.106.5.3.3~~				
~~Mandatory~~	~~Accessible EVCS~~	~~5.106.5.3.4~~				
~~Mandatory~~	~~Note for EVCS signs~~					
~~Mandatory~~	~~Table 5.106.5.3.1 w/ footnotes~~	~~5.106.5.3.1, 5.106.5.3.2 and 5.106.5.3.3~~				
~~*Tier 1 prerequisite*~~	~~*Electric vehicle (EV) charging [N] and Table A5.106.5.3.1 w/ footnotes*~~	~~*A5.106.5.3, A5.106.5.3.1*~~				

Requirement	Section Title	Code Section	Y	N	O	Plan Sheet, Spec, or Attach Reference
Tier 1 prerequisite	*Electric vehicle (EV) charging [N] with Section 5.106.3.1, 5.106.5.3.2 and associated Table A5.106.5.3.1 Tier 1* *OR* *Power Allocation Method: Section A5.106.5.3.2 and associated Table A5.106.5.3.2 Tier 1*	*5.106.5.3.1, 5.106.5.3.2, Table A5.106.5.3.1 Tier 1, 5.106.5.3.2.1, 5.106.5.3.2.2, 5.106.5.3.3, 5.106.5.3.4 and 5.106.5.3.5,* *OR* *A5.106.5.3.2, Table A5.106.5.3.2 Tier 1, 5.106.5.3.3, 5.106.5.3.4 and 5.106.5.3.5.*				
Mandatory	Additions or Alterations to existing buildings or parking facilities [A] with Exceptions	5.106.5.4				
Mandatory	Existing buildings or parking areas without previously installed EV capable infrastructure [A].	5.106.5.4.1				
Mandatory	Existing buildings or parking areas with previously installed EV capable infrastructure [A].	5.106.5.4.2				
Mandatory	Electric vehicle (EV) charging: medium-duty and heavy-duty. [N]	5.106.5.~~4~~ 5				
Mandatory	Electric vehicle charging readiness requirements for warehouses, grocery stores and retail stores, office buildings, and manufacturing facilities with planned off-street loading spaces [N]	5.106.5.~~4~~ 5.1				
Mandatory	Table 5.106.5.~~4~~ 5.1	5.106.5.~~4~~ 5 and 5.106.5.~~4~~ 5.1				

Requirement	Section Title	Code Section	Y	N	O	Plan Sheet, Spec, or Attach Reference
Mandatory	Light pollution reduction [N] (with exceptions, notes and table)	5.106.8 through 5.106.8.2				
…	…					
Tier 1 Prerequisite	*Cool roof….*	*A5.106.11.2*				
Elective	*Community connectivity*	*A5.103.1*				
…	…	…				
~~*Elective*~~	~~*Disassemble and reuse existing building structure (75%) with exceptions*~~	~~*A5.105.1.1*~~				
~~*Elective*~~	~~*Disassemble and reuse existing nonstructural elements (50%) with exceptions*~~	~~*A5.105.1.2*~~				
~~*Elective*~~	~~*Salvage*~~	~~*A5.105.1.3*~~				
Elective	*Deconstruction and reuse of existing structures, Scope with Exceptions, Reuse of existing building, Tier 1 and Verification of compliance with Note*	*A5.105.1, A5.105.2 and A5.105.2.1 and A5.105.2.3*				
Elective	*Storm water design*	*A5.106.2-A5.106.2.2*				
…	…	…				
Elective	*Reduction of Heat Island effect, Hardscape alternatives*	*A5.106.11, A5.106.11.1*				
Elective	*Reduction of Heat Island effect, Cool roof with Exceptions, Solar reflectance, Thermal emittance, Solar reflectance index alternative, Verification of compliance*	*A5.106.11, A5.106.11.2, A5.106.11.2.1, A5.106.11.2.2, A5.106.11.2.3, A5.106.11.2.4*				
Elective	*Reduction of Heat Island effect, Shade trees*	*A5.106.11, A5.106.11.3*				

Requirement	Section Title	Code Section	Y	N	O	Plan Sheet, Spec, or Attach Reference
Elective	*Bird-friendly building design, Required elevation treatment, Special conditions, Nighttime conditions with Exception, Systems or operation and maintenance manual*	*A5.107, A5.107.1, A5.107.2, A5.107.3, A5.107.3.1*				

DIVISION 5.2 Energy Efficiency *[No change to table]*

DIVISION 5.3 Water Efficiency and Conservation *[No change to table]*

DIVISION 5.4 Material Conservation and Resource Efficiency
(Select one elective from DIVISION 5.4)

Requirement	Section Title	Code Section	Y	N	O	Plan Sheet, Spec, or Attach Reference
…	…	…				
Mandatory	Excavated soil and landscape debris (100% reuse or recycle) with Exception and Notes	5.408.3				
Mandatory	Life Cycle Assessment, Scope, Whole building life cycle assessment with Notes, Building components, Reference study period, and Verification of compliance	5.409.1, 5.409.2, 5.409.2.1, 5.409.2.2 and 5.409.2.3				
Mandatory	Life Cycle Assessment, Scope, Product GWP compliance – prescriptive path, 5.409.3.1 with Exception and Exception EQUATION, Verification of compliance and Product GWP Limits Table with Footnotes	5.409.1, 5.409.3, 5.409.3.1, 5.409.3.2 and Table 5.409.3				
…	…	…				
Mandatory	Inspection and reports	5.410.4.5.1				

Requirement	Section Title	Code Section	Y	N	O	Plan Sheet, Spec, or Attach Reference
Elective	*Wood framing or OVE w/ Note*	*A5.404.1, A5.404.1.1, A5.404.1.2*				
…	…	…				
Elective	*Bio-based materials*	*A5.405.2*				
Elective	*Certified Wood Components - Sustainability Standards*	*A5.405.2.1*				
…	…	…				
Elective	*Cement and concrete: concrete with SCM & Mix design equation*	*A5.405.5.2 through A5.405.5.2.1.1*				
~~*Elective*~~	~~*Cement and concrete - additional means of compliance*~~	~~*A5.405.5.3 through A5.405.5.3.2.4*~~				
Elective	*Concrete manufacture, Recycled aggregates*	*A5.405.5.3, A5.405.5.3.1*				
Elective	*Concrete manufacture, Mixing water*	*A5.405.5.3, A5.405.5.3.2*				
Elective	*Concrete manufacture, High strength concrete*	*A5.405.5.3, A5.405.5.3.3*				
Elective	*Concrete manufacture, Later Ages of Maturity*	*A5.405.5.3, A5.405.5.3.4*				
Elective	*Concrete manufacture, Returned Fresh Concrete*	*A5.405.5.3, A5.405.5.3.5*				
…	…	…				
Elective	*Life cycle assessment: ~~general~~ Scope with exceptions, Whole building life cycle assessment, Tier 1 with Exception, Verification of compliance*	*A5.409.1, A5.409.2, A5.409.2.1, A5.409.2.3*				
Elective	*Life cycle assessment: Scope with exceptions, Product GWP compliance – prescriptive path with Exception and Exception Equation, Verification of compliance, Product GWP Limits Tier 1 Table with footnotes*	*A5.409.1, A5.409.3, A5.409.3.1, A5.409.3.2, TABLE A5.409.3*				

Requirement	Section Title	Code Section	Y	N	O	Plan Sheet, Spec, or Attach Reference
Elective	*Whole building life cycle assessment of additional impacts, Impacts to be considered*	*A5.409.~~2~~4, A5.409.~~2~~4.1, ~~A5.409.2.2~~*				
~~*Elective*~~	~~*Materials and systems assemblies*~~	~~*A5.409.3*~~				
~~*Elective*~~	~~*Substitution for prescriptive standards*~~	~~*A5.409.4*~~				
~~*Elective*~~	~~*Verification of compliance*~~	~~*A5.409.5*~~				

DIVISION 5.5 Environmental Quality *[No change to table]*

A5.602.2
***CALGreen* VERIFICATION GUIDELINES**
TIER 2 CHECKLIST

…

Chapter 5 Divisions

DIVISION 5.1 Planning and Design
(Select two electives from DIVISION 5.1)

Requirement	Section Title	Code Section	Y	N	O	Plan Sheet, Spec, or Attach Reference
Mandatory	Deconstruction and reuse of existing structures, Scope with Exception	5.105.1				
Mandatory	Reuse of existing building & Verification of compliance with note	5.105.2 and 5.105.2.1				
Mandatory	Storm water pollution … land	5.106.1 through 5.106.2				
…	…	…				
Tier 2 prerequisite	*Designated parking-50% of parking capacity with future charging spaces, parking stall markings and vehicle designation ~~stall identification~~*	*A5.106.5.1, A5.106.5.1.2, A5.106.5.1.3, A5.106.5.1.4, A5.106.5.1.5*				
~~Mandatory~~	~~Electric vehicle (EV) charging. [N]~~	~~5.106.5.3~~				

Requirement	Section Title	Code Section	Y	N	O	Plan Sheet, Spec, or Attach Reference
~~Mandatory~~	~~EV capable spaces [N]~~	~~5.106.5.3.1~~				
~~Mandatory~~	~~Electric vehicle charging stations (EVCS)~~	~~5.106.5.3.2~~				
~~Mandatory~~	~~Use of automatic load management systems (ALMS)~~	~~5.106.5.3.2.3~~				
~~Mandatory~~	~~Accessible~~ (EVCS)	~~5.106.5.3.4~~				
~~Mandatory~~	~~Note for EVCS signs~~					
~~Mandatory~~	~~Table 5.106.5.3.1 w/ footnotes~~	~~5.106.5.3.1, 5.106.5.3.2 and 5.106.5.3.3~~				
~~*Tier 2 prerequisite*~~	~~*Electric vehicle (EV) charging [N] and Table A5.106.5.3.2 w/ footnotes*~~	~~*A5.106.5.3, A5.106.5.3.2*~~				
Tier 2 prerequisite	*Electric vehicle (EV) charging [N] with Section 5.106.3.1, 5.106.5.3.2 and associated Table A5.106.5.3.3 Tier 2* *OR* *Power Allocation Method: Section A5.106.5.3.4 and associated Table A5.106.5.3.4 Tier 2*	*5.106.5.3.1, 5.106.5.3.2, Table A5.106.5.3.3 Tier 2, 5.106.5.3.2.1, 5.106.5.3.2.2, 5.106.5.3.3, 5.106.5.3.4 and 5.106.5.3.5,* *OR* *A5.106.5.3.4, Table A5.106.5.3.4 Tier 2, 5.106.5.3.3, 5.106.5.3.4 and 5.106.5.3.5.*				
Mandatory	Additions or Alterations to existing buildings or parking facilities [A] with Exceptions	5.106.5.4				
Mandatory	Existing buildings or parking areas without previously installed EV capable infrastructure [A].	5.106.5.4.1				

Requirement	Section Title	Code Section	Y	N	O	Plan Sheet, Spec, or Attach Reference
Mandatory	Existing buildings or parking areas with previously installed EV capable infrastructure [A].	5.106.5.4.2				
Mandatory	Electric vehicle (EV) charging: medium-duty and heavy-duty. [N]	5.106.5.~~4~~ 5				
Mandatory	Electric vehicle charging readiness requirements for warehouses, grocery stores and retail stores, office buildings, and manufacturing facilities with planned off-street loading spaces [N]	5.106.5.~~4~~ 5.1				
Mandatory	Table 5.106.5.~~4~~ 5.1	5.106.5.~~4~~ 5 and 5.106.5.~~4~~ 5.1				
Mandatory	Light pollution reduction [N] (with exceptions, notes and table)	5.106.8 through 5.106.8.2				
…	…					
Tier 2 Prerequisite	*Cool roof….*	*A5.106.11.2*				
Elective	*Community connectivity*	*A5.103.1*				
…	…	…				
~~*Elective*~~	~~*Disassemble and reuse existing building structure (75%) with exceptions*~~	~~*A5.105.1.1*~~				
~~*Elective*~~	~~*Disassemble and reuse existing nonstructural elements (50%) with exceptions*~~	~~*A5.105.1.2*~~				
~~*Elective*~~	~~*Salvage*~~	~~*A5.105.1.3*~~				
Elective	*Deconstruction and reuse of existing structures, Scope with Exceptions, Reuse of existing building, Tier 2 and Verification of compliance with Note*	*A5.105.1, A5.105.2, A5.105.2.2 and A5.105.2.3*				

Requirement	Section Title	Code Section	Y	N	O	Plan Sheet, Spec, or Attach Reference
Elective	*Storm water design*	*A5.106.2-A5.106.2.2*				
…	…	…				
Elective	*Changing rooms with note*	*A5.106.4.3*				
…	…	…				
Elective	*Reduction of Heat Island effect, Hardscape alternatives*	*A5.106.11, A5.106.11.1*				
Elective	*Reduction of Heat Island effect, Cool roof with Exceptions, Solar reflectance, Thermal emittance, Solar reflectance index alternative, Verification of compliance*	*A5.106.11, A5.106.11.2, A5.106.11.2.1, A5.106.11.2.2, A5.106.11.2.3, A5.106.11.2.4*				
Elective	*Reduction of Heat Island effect, Shade trees*	*A5.106.11, A5.106.11.3*				
Elective	*Bird-friendly building design, Required elevation treatment, Special conditions, Nighttime conditions with Exception, Systems or operation and maintenance manual*	*A5.107, A5.107.1, A5.107.2, A5.107.3, A5.107.3.1*				

DIVISION 5.2 Energy Efficiency *[No change to table]*

DIVISION 5.3 Water Efficiency and Conservation *[No change to table]*

DIVISION 5.4 Material Conservation and Resource Efficiency
(Select two electives from DIVISION 5.4)

Requirement	Section Title	Code Section	Y	N	O	Plan Sheet, Spec, or Attach Reference
…	…	…				
Mandatory	Excavated soil and landscape debris (100% reuse or recycle) with Exception and Notes	5.408.3				

Requirement	Section Title	Code Section	Y	N	O	Plan Sheet, Spec, or Attach Reference
Mandatory	Life Cycle Assessment, Scope, Whole building life cycle assessment with Notes, Building components, Reference study period, and Verification of compliance	5.409.1, 5.409.2, 5.409.2.1, 5.409.2.2 and 5.409.2.3				
Mandatory	Life Cycle Assessment, Scope, Product GWP compliance – prescriptive path, 5.409.3.1 with Exception and Exception EQUATION, Verification of compliance and Product GWP Limits Table with Footnotes	5.409.1, 5.409.3, 5.409.3.1, 5.409.3.2 and Table 5.409.3				
…	…	…				
Mandatory	Inspection and reports	5.410.4.5.1				
Elective	*Wood framing or OVE w/ Note*	*A5.404.1, A5.404.1.1, A5.404.1.2*				
…	…	…				
Elective	*Bio-based materials*	*A5.405.2*				
Elective	*Certified Wood Components - Sustainability Standards*	*A5.405.2.1*				
…	…	…				
Elective	*Cement and concrete: concrete with SCM & Mix design equation*	*A5.405.5.2 through A5.405.5.2.1.1*				
~~*Elective*~~	~~*Cement and concrete - additional means of compliance*~~	~~*A5.405.5.3 through A5.405.5.3.2.4*~~				
Elective	*Concrete manufacture, Recycled aggregates*	*A5.405.5.3, A5.405.5.3.1*				
Elective	*Concrete manufacture, Mixing water*	*A5.405.5.3, A5.405.5.3.2*				
Elective	*Concrete manufacture, High strength concrete*	*A5.405.5.3, A5.405.5.3.3*				
Elective	*Concrete manufacture, Later Ages of Maturity*	*A5.405.5.3, A5.405.5.3.4*				

Requirement	Section Title	Code Section	Y	N	O	Plan Sheet, Spec, or Attach Reference
Elective	*Concrete manufacture, Returned Fresh Concrete*	*A5.405.5.3, A5.405.5.3.5*				
…	…	…				
~~*Elective*~~	~~*Life cycle assessment: General*~~	~~*A5.409.1*~~				
Elective	*Life cycle assessment: ~~general~~ Scope with exceptions, Whole building life cycle assessment, Tier 2 with Exception, Verification of compliance*	*A5.409.1, A5.409.2, A5.409.2.2, A5.409.2.3*				
Elective	*Life cycle assessment: Scope with exceptions, Product GWP compliance – prescriptive path with Exception and Exception Equation, Verification of compliance, Product GWP Limits Tier 2 Table with footnotes*	*A5.409.1, A5.409.3, A5.409.3.1, A5.409.3.2, TABLE A5.409.3*				
Elective	*Whole building life cycle assessment of additional impacts, Impacts to be considered*	*A5.409.~~2~~4, A5.409.~~2~~4.1~~,~~ ~~A5.409.2.2~~*				
~~*Elective*~~	~~*Materials and systems assemblies*~~	~~*A5.409.3*~~				
~~*Elective*~~	~~*Substitution for prescriptive standards*~~	~~*A5.409.4*~~				
~~*Elective*~~	~~*Verification of compliance*~~	~~*A5.409.5*~~				

DIVISION 5.5 Environmental Quality *[No change to table]*

Notation:

Authority: Health & Safety Code Sections 18930.5 and 18931.7(b).
Reference(s): Health & Safety Code Sections 18930.5 and 18931.7(b).

Emails submitted during feedback period: IECC

From: DSD Communications
To: Michuda, Bianca; Lopez, Isis
Cc: Chawla, Patricia (AE)
Subject: FW: Reminder for Feedback on the 2024 City of Austin Energy Code
Date: Monday, July 8, 2024 10:45:25 AM
Attachments: image001.png
image002.png

Hi all,

I see Patricia is receiving these as well, but I am forwarding to you also to ensure I am closing all loops.

Thanks,
Robbie

DSD Communications
City of Austin Development Services Department
6310 Wilhelmina Delco Drive, Austin, Texas 78752
Media: 512-974-9737 | **Other Questions:** 3-1-1 or 512-974-2000

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PER CITY ORDINANCE: All individuals scheduling or accepting a meeting invitation with a City Official are requested to provide responses to the questions at the following link: **DSD Visitor Log**.
Please note that all information provided is subject to public disclosure via DSD's open data portal. For more information please visit: City of Austin Ordinance 2016-0922-005 | City Clerk's website | City Clerk's FAQ's

From: Aaron McEwin <amcewin@jordanskala.com>
Sent: Friday, July 5, 2024 2:37 PM
To: Chawla, Patricia (AE) <Patricia.Chawla@austinenergy.com>
Cc: James Brauer <jbrauer@jordanskala.com>; Jody Riojas <jriojas@jordanskala.com>; Hugo Diaz <hdiaz@jordanskala.com>; DSD Communications <dsdcommunications@austintexas.gov>
Subject: RE: Reminder for Feedback on the 2024 City of Austin Energy Code

External Email - Exercise Caution

Patricia,

The 2024 IECC still appears to be in draft and has not been released as of July 5, 2024. To recommend amendments on a draft, could miss changes from the current draft to what is eventually released. https://codes.iccsafe.org/codes/i-codes/2024-icodes. This is stated in your email as a redline edition. I am requesting the comment period be extended to a period of 30-days after the final draft is released.

Will Austin keep the "Residential Building" amendment definition as 4-story or less instead of 3-story or less? What was the purpose of this definition changed originally?

Are any of the commercial building appendices being recommended for local adoption?

Is Austin going to have an Electric Ready or All-Electric requirements for commercial buildings? What about water heating with heat pump requirements (Central or localized to area served in terms of commercial buildings)?

For multifamily buildings that are not defined under the "Residential Building" will there be testing requirements beyond blower door testing as stated in the code? (i.e. duct system testing, mechanical ventilation testing)

Is Austin planning to adopt the stretch code or carbon and energy reporting appendices for either the residential or commercial building provisions?

Aaron

AARON McEWIN, PE, LEED AP BD+C, BCxP, BEMP, NGBS Verifier
DIRECTOR OF SUSTAINABILITY

Jordan & Skala Engineers

6201 W Plano Pkwy., Ste 250 | Plano, TX 75093
o: 469.385.1616 x13134 | **m:** 817.271.9813 | amcewin@jordanskala.com

WEBSITE | FACEBOOK | LINKEDIN | INSTAGRAM | TWITTER | VCARD

From: Chawla, Patricia <Patricia.Chawla@austinenergy.com>
Sent: Friday, July 5, 2024 1:52 PM
To: Chawla, Patricia <Patricia.Chawla@austinenergy.com>
Subject: Reminder for Feedback on the 2024 City of Austin Energy Code

Dear Stakeholders,

This is a friendly reminder regarding the feedback request for the proposed amendments to the City of Austin Energy Code, based on the 2024 International Energy Conservation Code. Your insights and expertise are invaluable to ensuring that these amendments effectively address our community's energy needs and climate goals. We kindly ask that you review the proposed changes and share your feedback by next Monday, July 8th.

The landing page for stakeholder feedback is https://www.speakupaustin.org/g4245. From here, you can select either the Commercial or Residential portions of the code to view documentation on the proposed amendments and to provide feedback. You may find the May 20th presentation about the 2024 Technical Code Changes we presented with DSD useful to get an overview of the changes to the energy code. The full model code will eventually be posted at https://codes.iccsafe.org/codes/i-codes/2024-icodes, but is currently only available as a redlined PDF available for purchase at https://shop.iccsafe.org/2024-international-energy-conservation-coder.html.

Highlights of the major changes in the Residential 2024 IECC include:

- Significant changes to Additional Energy Efficiency requirements
- Updates to Batch Testing
- Air leakage threshold decrease from 5 to 4 ACH50
- Electric vehicle charging infrastructure appendix (proposed for local adoption)
- Electric-ready Residential building provisions appendix (proposed for local adoption)
- Demand responsive controls appendix (proposed for local adoption)

If you have any questions or need further information, do not hesitate to reach out.

Thank you for your time and contributions to this important initiative.

Sincerely,
Pat Chawla, PMP, LEED AP BD&C
Energy Efficiency Services Manager, Customer Energy Solutions, Austin Energy Green Building
Cell: 512-766-1243 | Office: 512-482-5446
greenbuilding.austinenergy.com
facebook.com/aegreenbuilding | facebook.com/austinenergy | twitter.com/austinenergy
linkedin.com/company/austin-energy

Public Input Comments: IFC

International Fire Code (IFC) (2024 Amendments)

Project Engagement

VIEWS	PARTICIPANTS	RESPONSES	COMMENTS
264	3	0	3

Please provide a comment or question about the **Proposed International Fire Code (IFC) 2024 Technical Code Changes** in the space below. Please respond by **June 27, 2024**.

This is a suggestion to add an amendment.

Currently, if a building owner is facing a problem of malicious false alarms, an option that may seem compelling, and is currently allowed by the IFC for most sprinklered buildings, is to remove all manual fire alarm boxes except for one (or, in the case of R-2 occupancies, to remove all manual fire alarm boxes entirely due to the deletion of an existing city amendment). This creates a significant risk that the alarm will not be promptly activated in the event of an actual fire.
In addition, having only one manual fire alarm box is particularly problematic for high-rises, as it inherently conflicts with floor-by-floor evacuations.
A different option is to use "lift-up" protective covers, but these are better suited for protection from accidental damage (e.g. in a school gymnasium) as opposed to malicious false alarms.
This change is meant to provide a safer option to prevent malicious false alarms without interfering with legitimate alarms - break-glass covers.

Break-glass covers have a strong deterrent effect, as they give a public impression that the property owner takes false alarms seriously and will vigorously prosecute violators.
While I've seen break-glass covers installed in several different cities, the IFC is currently silent on break-glass covers, and some products currently on the market contain a notice like this in their manual: "Obtain local fire marshal approval prior to installation."
This change would eliminate the guesswork and allow (not require) break-glass covers to be used citywide, without any need for an alternate method approval.
This proposal will improve life safety, as preventing false alarms reduces alarm fatigue and increases the likelihood that people will evacuate when the alarm sounds.
To prevent potential issues from arising resetting, testing and maintenance, this proposal requires that break-glass covers meet certain requirements. (Most, if not all, products currently on the market will meet these if installed properly.)

Suggested amendments:
Section 202: Add a definition for "Break-glass cover": A protective cover that consists of a frame and a breakable piece of glass or other frangible element and is installed over a manual fire alarm box in order to act as a deterrent to false alarms.
Section 902: Add "Break-glass cover" to list of chapter 2 definitions.
New section 907.4.2.5.1 - "Break-glass covers.":
Break-glass covers shall be permitted to be installed, provided that the following requirements are met:
1. The break-glass cover shall be equipped with an appurtenance to allow the glass or other frangible element to be broken in case of fire, without undue risk of injury.
2. A means shall be provided to allow authorized personnel to open the break-glass cover without breaking the glass.
3. When the means specified in item 2 is used to open the break-glass cover, the manual fire alarm box shall be capable of being reset and operationally tested, without removing or disassembling additional elements of the break-glass cover such as a mounting bracket.

12 days ago

It makes absolutely zero sense why I should have to trash a $1000 "grill" that's no more than a hunk of metal because I have no propane in storage in my apartment garage. It is no more combustible than a frying pan. The issue is clearly the combustible components which is not the actual grill itself so let's make this applicable to the actual problem materials not just a blanket 'let's get rid of everything' rule.

18 days ago

I'm not shure if this is the correct Venue (It concern's electrical safety, as it relates to fire hazards). I've heard of and seen fires that occured to to unsheathed (standared home / residential wiring which is called "Romex" albeit, plastic sheathed individual conductors, 3 for hot neut & ground and five wire (two split phase 240vac lines, neut & hot for 120vac and grd.), these cables though water proof and usually rated at a max of 600vac as per ul / nec requirements, nonetheless when sheared by a nail, a sharp bend or some other type of damaging event can cause not only an electrical shock (like if they come in contact with sheet metal or some other ungrounded conductor), but can also start house fires, indeed I had a firman from Austin tell me this. These problems and dangers could be mostly elilminated if electricians were required to use as a minimum, "bx cable" the metal clad electrical conductors which also come in the same number and guage size as romex but the metal spiral precents, s
say, for example, someone drilling into a wall from causing a short or evene worse, an over current condition that could cause a melted insulator on a wire to start a fire (for example an electrical device that had shorted windings without overload protection that overload's a circuit causing not a short but worse, an over heated wire that then can cause combustible ignition).
Obviously, standard commercial / industrial metal conduit is the best choice but this is VERY expensive, this IS required in structures over two stories, I beleve is should be required in ALL wooden structures (maybe an exception can be made for houses using the sheet metal 2 x 4'es designed specifically for drywall and also concrete and other non flammable building
materials). The bottom line : Metal sheathing on household electrical conductors prevents shocks since the offending conductor, should it lose it's insualtion,

3 months ago

AUSTIN FIRE DEPARTMENT
4201 ED BLUESTEIN RD. AUSTIN, TX 78721 **P:** 512.974.0130 **F:** 512.974.0141

Question/Comment
I'm not shure if this is the correct Venue (It concern's electrical safety, as it relates to fire hazards). I've heard of and seen fires that occured to to unsheathed (standared home / residential wiring which is called "Romex" albeit, plastic sheathed individual conductors, 3 for hot neut & ground and five wire (two split phase 240vac lines, neut & hot for 120vac and grd.), these cables though water proof and usually rated at a max of 600vac as per ul / nec requirements, nonetheless when sheared by a nail, a sharp bend or some other type of damaging event can cause not only an electrical shock (like if they come in contact with sheet metal or some other ungrounded conductor), but can also start house fires, indeed I had a firman from Austin tell me this. These problems and dangers could be mostly elilminated if electricians were required to use as a minimum, "bx cable" the metal clad electrical conductors which also come in the same number and guage size as romex but the metal spiral precents, say, for example, someone drilling into a wall from causing a short or evene worse, an over current condition that could cause a melted insulator on a wire to start a fire (for example an electrical device that had shorted windings without overload protection that overload's a circuit causing not a short but worse, an over heated wire that then can cause combustible ignition). Obviously, standard commercial / industrial metal conduit is the best choice but this is VERY expensive, this IS required in structures over two stories, I beleve is should be required in ALL wooden structures (maybe an exception can be made for houses using the sheet metal 2 x 4'es designed specifically for drywall and also concrete and other non flammable building materials). The bottom line : Metal sheathing on household electrical conductors prevents shocks since the offending conductor, should it lose it's insualtion,
Response
This falls within the scope of the National Electric Code (NEC) and International Residential Code (IRC). This comment has been sent to those groups for consideration.

Question/Comment
It makes absolutely zero sense why I should have to trash a $1000 "grill" that's no more than a hunk of metal because I have no propane in storage in my apartment garage. It is no more combustible than a frying pan. The issue is clearly the combustible components which is not the actual grill itself so let's make this applicable to the actual problem materials not just a blanket 'let's get rid of everything' rule.
Response
While the Austin Fire Department is sympathetic to the inconveniences caused by the local amendment, it has been adopted in response to fire incident data, which have revealed an alarming number of fires at apartment communities in Austin. In fact, some of the deadliest and most destructive fires in Austin's history have occurred at apartment communities.

Public Input Comments: WUIC

Wildland-Urban Interface Code (WUIC) (2024 Amendments)

Project Engagement

VIEWS	PARTICIPANTS	RESPONSES	COMMENTS
536	5	0	15

Please provide a comment or question about the **Proposed Wildland-Urban Interface Code (WUIC) 2024 Technical Code Changes** in the space below. Please respond by **June 28, 2024**.

City of Austin
Council Meeting Backup: April 10, 2025 File ID: 25-0615

On behalf of the HBA of Greater Austin, here are some suggestions that we offer up on the International Wildland Urban Interface code update. Please note that these comments reflect the 750 Members and their thousands of employees in our Association. Our builders represent approximately 85% of all homes that are built in the central Texas region.

Primarily, we are focused on finding ways to reduce the impact on housing costs and mitigate any issues that would reduce yield and further restrict the housing supply. There are also several practical and aesthetic concerns with some elements of the proposal.

Although the comment period closes today, we still strongly believe there should be additional time for conversation with stakeholders. The updated WUI map, a key component of the code, was first revealed on Monday at a stakeholder meeting. The map wasn't available online until just a few days before the comment period closes.

1. Reduce or eliminate Zone C. The proposed 2024 WUI map covers substantially more area of the city compared to the 2015 map. Since the 2015 map was created, the city has built out further, which should reduce the wildfire risk. From our estimation, roughly 90% of the city is now considered adjacent to wildland. Many of these requirements are expensive or could potentially affect yield in a time where the city should be focused on building more housing more affordably.
a. Some builders have proposed creating 50' or 150' vegetative barriers around their project in order to pull units out of Class A and B, which will affect yield.
2. Maintain the current definition of wildland. Changing the definition of wildland substantially changes the WUI map. Reducing the triggering wildland down from 40 acres to 10 acres is too dramatic of a change and will only place additional costly restrictions on construction. Additionally, easements and roads in between structures should be exempted from the definition of wildland.
3. Eliminate the Ember Ignition Zones. The 5' EIZ around the house is impractical, as it prohibits vegetation around the house and limits landscaping options to gravel beds. Pavers and concrete have been proposed, but if you're building an infill project on a smaller lot (something Council is encouraging builders to do), and you've reached your impervious cover allowance, pavers and concrete are not an option. Additionally, the EIZs will result in the removal of nonprotected trees (18" or less).
a. At a minimum, exempt Zone C from EIZ requirements.
b. Provide additional options for landscaping, like succulents or other fire resistant vegetation.
4. Maintain current standards for fence clearances. The proposed standard will add substantial cost to a home in order to maintain privacy between neighbors with a side fence. Iron fences don't provide privacy and noncombustible cementitious fences are expensive. Both are considered specialty items and there are also concerns about the supply chain keeping up with volume of homes under construction.
5. Expand the number of units provided on a single driveway. Limiting the number of units that can be served on a single driveway requires additional curb cuts which are not pedestrian friendly. Additionally, multiple driveways result in more impervious cover and could potentially eliminate units in order to accommodate more driveways on the lot.
6. Codify current code leniency practices. Codify parts of the code that have not been enforced today. If leniency was granted for practical reasons, perhaps those exceptions should be included in the code.
7. Update the map regularly. The initial map was supposed to be updated once every three years but did not receive any updates. Not only should the map be updated, but updates should reduce the amount of land in the WUI zone, reflecting areas that have been developed in the previous three years.
8. If more properties are to be included in the WUI zone, ensure that reviews and inspections happen in a timely manner. When the 2015 WUI was implemented, builders and developers quickly experienced delays in reviews and inspections. The proposal substantially increases the amount of land and projects that will be subject to review and inspections. Review and inspection delays are a substantial factor in the overall cost of a home.
9. Maintain current standards for flashing and eaves in Class C. These changes are more restrictive and

higher costs. We are working with our builder members to produce cost estimates.

11 days ago

I worry that the Zone C requirements for rafter tails are unnecessarily strict. As proposed, and with the updated map you've proposed, it would prohibit light wood rafter tails in almost the entire city - even areas that are over a mile from significantly large wildland areas. Many traditional architectural forms built throughout Austin use light wood exposed rafter tails, and prohibiting them adds an undue cost and aesthetic burden with absolutely no real benefit to fire safety.

11 days ago

From my review, these rules appear to prohibit planting within 5 feet of homes in 40% of the City of Austin. Can you clarify that? Certain trees appear protected, but would homeowners be required to rip up their other plantings within 5 feet of houses? Do these new rules only apply to newly built single-family housing? Are any kind of plants allowed in this 5-foot space around homes? Finally, have y'all talked to the Watershed Department about the effect on runoff from this proposal?

12 days ago

The 5 foot ember ignition zone (EIZ) around structures around structures is too restrictive to Austin. Not allowing mulch and vegetation around structures is not sensible for a city that's in zone 2, which is a hot and humid climate. I understand that there's a need to contain fires, but given that the WUI could become something that would affect many more parts of Austin, I think we can't allow this to dictate the look and feel of the landscaping around houses.

12 days ago

General Question - Prior to submitting a project for permit, how do we find out if a site is in Proximity Zone B? Currently the online map only shows two zones (light blue/dark blue).

one month ago

Sec. 603.2.1. - it appears that the EIZ will be required on all WUI projects regardless of Proximity Zone. Are we going to have to show the EIZ on our site plans for permit?

one month ago

Sec. 506.2.3 - Why are copper sheets allowed on top of combustible decks? Copper conducts heat very well, right? I can't figure this one out...but it doesn't affect my practice much because I don't really have clients wanting copper sheet roofing :-)

one month ago

Sec. 504.6 (and similar in 505/506) - Why no mention of using non-combustible columns and beams such as poured concrete and steel?

one month ago

Sec. 504.7.1 - Hooray! Thank you for nixing that 6" opening at the base of the wall, which seemed counterintuitive with regard to keep embers out from under a deck!

one month ago

Sec. 504.3.5 - Thank you for this clarification on exterior ceilings!! I don't like the IWUIC wording. I take this clarification to mean that such an exterior ceiling only has a roof above it....and not a floor with enclosed space above it? The latter would be an "underfloor area" - - for example, a back patio that is covered by a home's 2nd floor extending out over the patio.

one month ago

Sec. 504.3.4 (and 505.3.4) - Says here that the roof deck must meet ASTM E84 Class A. I assume that this means the 10-minute test and not the extended 30-minute test? Clarification here would be great.

one month ago

Sec. 504.3.3 (and similar paragraphs in 505 & 506) - more confusing wording in my opinion....talking about a gap between a soffit and a roof surface. I understand the intent here, but soffits don't touch roof surfaces. They touch walls and fasciae.

one month ago

Sec. 504.3.2 (and similar paragraphs for 505 & 506) - the wording about protecting the "backside" of a fascia board has always puzzled me. Does this mean that a sub-fascia board of some kind MUST be used? Seems odd that if the fascia board itself is IR then its back face is already IR. And this back face isn't exposed to flame, heat or embers because there is a closed soffit anyway.

one month ago

Sec. 504.3.2 (and the similar paragraphs in 505 & 506) - First, thank you for clarifying the poorly-worded sections about soffits, fasciae etc. in the IWUIC! But I still find your wording confusing, being one who draws eave details for projects all the time. With regard to fasciae, the term "protected on the exterior" is confusing. Does this mean that I can have a standard 2x6 fascia, for example, but I then need to add some sort of IR trim (like fiber-cement, e.g.) on the outside face of it? Normally, we just skip the 2x and use a 1x Hardie Trim board for the fascia. There are also thicker fiber-cement fascia boards.

one month ago

Sec. 503.2.3 - the heading says FRTW but the text that follows doesn't mention FRTW. This is confusing. You don't actually say if FRTW roofing is allowed or not.

one month ago

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2024 WILDLAND-URBAN INTERFACE CODE – Stakeholder Engagement May 20 – June 28, 2024

Question/Comment
Sec. 503.2.3 - the heading says FRTW but the text that follows doesn't mention FRTW. This is confusing. You don't actually say if FRTW roofing is allowed or not.
Response
Wood whether fire-retardant-treated or not shall not be allowed in the Wildland-Urban Interface. The code language is updated to reflect this intent: **503.2.3 ~~Fire-retardant-treated~~ ~~w~~Wood roof coverings.** No roof covering in the Wildland-Urban Interface Areas, regardless of the distance from the wildland, shall be allowed to be made from wood shake, wood shingle, or similar combustible material, including fire-retardant-treated wood.

Question/Comment
Related questions: 1. Sec. 504.3.2 (and the similar paragraphs in 505 & 506) - First, thank you for clarifying the poorly-worded sections about soffits, fasciae etc. in the IWUIC! But I still find your wording confusing, being one who draws eave details for projects all the time. With regard to fasciae, the term "protected on the exterior" is confusing. Does this mean that I can have a standard 2x6 fascia, for example, but I then need to add some sort of IR trim (like fiber-cement, e.g.) on the outside face of it? Normally, we just skip the 2x and use a 1x Hardie Trim board for the fascia. There are also thicker fiber-cement fascia boards. 2. Sec. 504.3.2 (and similar paragraphs for 505 & 506) - the wording about protecting the "backside" of a fascia board has always puzzled me. Does this mean that a sub-fascia board of some kind MUST be used? Seems odd that if the fascia board itself is IR then its back face is already IR. And this back face isn't exposed to flame, heat or embers because there is a closed soffit anyway.
Response
The wording has been updated to reflect that a ¾" solid fiber-cement fascia or ignition-resistant material is acceptable. In addition, all 1-hour rated construction or 2x lumber used as fascia shall have an ignition-resistant exterior material, such as fiber cement, metal, or other. Additional material for the backside is not necessary for option 1, whereas options 2 and 3 may require multiple layers of material. Related sections in 505 and 506 are updated to match. Original proposal: **504.3.2 Fasciae.** Fasciae are required and shall be built with solid materials at least ¾ inch thick and protected on the exterior by an ignition-resistant building material. The backside of the fasciae shall be protected by ignition-resistant materials, by materials approved for not less than 1-hour fire-resistance rated construction, or by 2 inch (51 mm) nominal dimension lumber. Updated proposal:

AUSTIN FIRE DEPARTMENT
4201 ED BLUESTEIN RD. AUSTIN, TX 78721 **P:** 512.974.0130 **F:** 512.974.0141

504.3.2 Fasciae. Ignition-resistant fasciae are required and shall be constructed with one of the following:

1. 3/4-inch (19.1 mm) solid ignition-resistant material complying with Section 503.2.
2. 1-hour fire-resistance-rated construction protected on the exterior by an ignition-resistant building material complying with Section 503.2.
3. 3. 2-inch (51 mm) nominal dimension lumber protected on the exterior by an ignition-resistant building material complying with Section 503.2.

Question/Comment
Sec. 504.3.3 (and similar paragraphs in 505 & 506) - more confusing wording in my opinion....talking about a gap between a soffit and a roof surface. I understand the intent here, but soffits don't touch roof surfaces. They touch walls and fasciae.
Response
The wording has been updated to reflect that this section addresses any gaps between eave materials including intersections with the roof assembly, such as between the fasciae and roof deck or surface. Related sections in 505 and 506 are updated to match.

504.3.3 Gaps between materials. Gaps between exterior facing materials within the ~~soffits/~~eaves or between eave materials and the wall or roof assembly ~~surfaces~~ caused by normal construction techniques or any other unsealed roof opening providing access to the attic space shall be provided with ember protection according to Section 504.10 of this code.

Question/Comment
Sec. 504.3.4 (and 505.3.4) - Says here that the roof deck must meet ASTM E84 Class A. I assume that this means the 10-minute test and not the extended 30-minute test? Clarification here would be great.
Response
The intent is the 30-minute test is only required for ignition-resistant building material within Proximity Zone A. A refer to 503.2.4 has been added to clarify the 30-minute ASTM E84 / UL723 / ASTM E2768 test is required with an exception allowing the 10-minute ASTM E 84 test for Proximity Zones B and C. Related section 505.3.4 is updated to match.

504.3.4 Exposed rafter tails. Exposed rafter tails are allowed when built of material classified as heavy timber per the Building Code, provided that the exterior wall be rated for at least one hour and extend from foundation to bottom of roof deck. The roof deck shall be a noncombustible or ASTM E 84 Class A rated material per 503.2.4 and shall extend a distance of not less than 48 inches on both the exterior and interior side of the exterior wall.

AUSTIN FIRE DEPARTMENT
4201 ED BLUESTEIN RD. AUSTIN, TX 78721 **P:** 512.974.0130 **F:** 512.974.0141

Question/Comment
Sec. 504.3.5 - Thank you for this clarification on exterior ceilings!! I don't like the IWUIC wording. I take this clarification to mean that such an exterior ceiling only has a roof above it....and not a floor with enclosed space above it? The latter would be an "underfloor area" - - for example, a back patio that is covered by a home's 2nd floor extending out over the patio.
Response
The exterior ceiling sections apply to ceilings both below a roof and below a floor above. Wording has been updated to better reflect this. Related sections in 505 and 506 are updated to match. **504.3.5 Exterior ceilings.** Exterior ceilings below ~~of~~ covered patio~~s~~ roofs, porches, balconies, decks, floors above, and all similar structures shall be built using ignition-resistant building materials that comply with Section 503.2. Rated ceiling assemblies shall have an ignition-resistant building material as the exterior finish.

Question/Comment
Sec. 504.7.1 - Hooray! Thank you for nixing that 6" opening at the base of the wall, which seemed counterintuitive with regard to keep embers out from under a deck!
Response
Noted.

Question/Comment
Sec. 504.6 (and similar in 505/506) - Why no mention of using non-combustible columns and beams such as poured concrete and steel?
Response
Both concrete and steel would be allowed when 1-hour rated (such as concrete based on thickness) or part of a 1-hour rated assembly.

Question/Comment
Sec. 506.2.3 - Why are copper sheets allowed on top of combustible decks? Copper conducts heat very well, right? I can't figure this one out...but it doesn't affect my practice much because I don't really have clients wanting copper sheet roofing :-)
Response
The change to 506.2 is limited to aligning the text with the model code language in sections 504 and 505 and adding exception 4. Exception 3 allowing copper sheets is not amended. This exception is consistent with IBC Section 1505.2 exception 3 for Class A roof assemblies, added in the 2012 edition based on fire test results.

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Question/Comment
Sec. 603.2.1. - it appears that the EIZ will be required on all WUI projects regardless of Proximity Zone. Are we going to have to show the EIZ on our site plans for permit?
Response
The Ember Ignition Zone (EIZ) needs to be reflected on both the Site Plan drawing set and the Building Permit construction documents.

Question/Comment
General Question - Prior to submitting a project for permit, how do we find out if a site is in Proximity Zone B? Currently the online map only shows two zones (light blue/dark blue).
Response
The WUI map provides approximate locations of the wildland boundary and boundary of each Proximity Zone, due to the complexity of the areas and limitations in mapping programs. The WUI map will continue to show two zone colors. Dark blue for Zone A and B and light blue for Zone C. The WUI map legend will be updated to show this. Distance to the wildland shall be measured from the structure to the actual wildland.

Question/Comment – Received at the June 24th public presentation
What can we do to turn wildland into not wildland to create a 50' buffer? **AFD summary of the June 24th presentation follow-up discussion:** *(AFD recommends viewing the full presentation recording for the entire discussion)* There has to be a way to clear wildland or reduce the burn rating with additional plantings or something to slow down the wildfire. From a land development perspective, where there is an opportunity to invest in fire resistive vegetation or other solutions for an entire neighborhood this could be more cost-effective than updating each home. We need guidance from your team to mitigate the wildland. By enhancing the structure, we are contributing to the housing affordability issue.
Response
The general approach in COA is to harden the structures using the WUI Code and approved construction methods, rather than clear the wildland. *(AFD recommends viewing the full presentation recording for the entire discussion)*

AUSTIN FIRE DEPARTMENT
4201 ED BLUESTEIN RD. AUSTIN, TX 78721 **P:** 512.974.0130 **F:** 512.974.0141

Question/Comment – Received at the June 24th public presentation
Do the buffer distances change for terrain and/or fuel type? Wooded hills vs. flat pasture land? *(AFD recommends viewing the full presentation recording for the entire discussion)*
Response
AFD summary of the June 24th presentation follow-up discussion: *(AFD recommends viewing the full presentation recording for the entire discussion. This summary supersedes if discrepancies arise.)* Fuel type and terrain changes are incorporated into the Wildfire Risk Map, which was overlaid on the Wildland-Urban Interface (WUI) map. Wildland areas used to determine the Proximity Zones on the WUI map are classified as elevated or high risk. An additional analysis was performed to determine if any 10 acre areas of wildland should be eliminated from consideration, however all wildland areas utilized have an elevated and/or high risk of wildfire.

Question/Comment – Received at the June 24th public presentation
For the updated code referring to "driveways serving up to max of 3 dwelling units, or provide full width fire lane", will this apply to future platted lots? What about lots that are already platted?
Response
AFD summary of the June 24th presentation follow-up discussion: *(AFD recommends viewing the full presentation recording for the entire discussion. This summary supersedes if discrepancies arise.)* This applies to all lots. Flag lots will continue to follow flag lot regulations. The driveway requirements are applied on an individual lot basis only, not for multiple lots sharing a driveway or fire lane. 403.2 Driveways has been updated to clarify this section pertains only to buildings designed to meet the Residential Code.

Question/Comment – Received at the June 24th public presentation
So in the ember ignition zone, are you expecting us to not put softscape material like shrubs and ground covers in front of our homes? **AFD summary of the June 24th presentation follow-up discussion:** *(AFD recommends viewing the full presentation recording for the entire discussion)* Does this include sod? The proposed five-foot EIZ would encroach on front and back yards, negatively impacting aesthetics and livability.
Response
You can have vegetation in front of the home, it just needs to be at a distance of 5 feet from the structure. This small separation from combustible vegetation reduces the potential for structures to ignite.

AUSTIN FIRE DEPARTMENT
4201 ED BLUESTEIN RD. AUSTIN, TX 78721 **P:** 512.974.0130 **F:** 512.974.0141

AFD summary of the June 24th presentation follow-up discussion:
(AFD recommends viewing the full presentation recording for the entire discussion. This summary supersedes if discrepancies arise.)
This includes keeping sod out of the 5' ember ignition zone (EIZ). While vegetation against a home's foundation is traditionally seen in our area, an appealing landscape may also be achieved while maintaining a noncombustible EIZ.

Examples of landscaping with a 5' noncombustible zone can be found on the CalFire webpage: https://readyforwildfire.org/prepare-for-wildfire/defensible-space/

Question/Comment – Received at the June 24th public presentation
"All fences shall be ignition resistant within 10' of structures." --> this eliminates the use of wood privacy fence between homes now.
Response
This section of code refers to the portion of the fence that connects to the structure and any portion within 10' of the structure. A wood privacy fence would need to be fire-retardant-treated wood, an ignition-resistant hardwood species, or an ignition-resistant wood-look material. The remainder of the fence further than 10' from a structure may be any material.

Question/Comment – Received at the June 24th public presentation
If the EIZ is 5' then why do fences have to be 10'?
Response
Standard wood fencing materials readily burn and act as a wick tied directly to most structures, as opposed to vegetation which can be sparse and lighter fuels. **AFD summary of the June 24th presentation follow-up discussion:** *(AFD recommends viewing the full presentation recording for the entire discussion. This summary supersedes if discrepancies arise.)* Fences are treated similarly to other appendages and structures under 504.7, 505.7, and 506.6 where ignition-resistant materials are required within 10' of a habitable structure for Proximity Zone C. Although the 10' distance is increased for non-fence structures within Zones A and B, the requirement for fences will remain as 10' similar to the 2015 WUIC. Fence wildfire hazard example from the 2022 Balch Springs, TX wildfire: https://youtu.be/DlWKTNDud0g

AUSTIN FIRE DEPARTMENT
4201 ED BLUESTEIN RD. AUSTIN, TX 78721 **P:** 512.974.0130 **F:** 512.974.0141

Question/Comment – Received at the June 24th public presentation
Has a cost of housing impact analysis been completed? If so, can you share your findings reflecting the estimated increase for the cost of housing with the new WUI requirements? If it has not been completed, when will a cost of housing impact analysis/statement be available for stakeholders?
Response
This analysis is currently being conducted and should be completed this week. The findings will be posted on Speak Up Austin under the 2024 WUIC page.

Question/Comment – Received at the June 24th public presentation
Give an example of new driveway requirements for 3 units on a lot (new HOME initiative)
Response
AFD summary of the June 24th presentation follow-up discussion: *(AFD recommends viewing the full presentation recording for the entire discussion. This summary supersedes if discrepancies arise.)* Where you have 3 houses and/or accessory structures with habitable space on a lot, all within 150 feet of the road, no driveway is required. Where you have 3 houses and/or accessory structures with habitable space on a lot and some of those buildings are more than 150 feet from the road one of the following options shall be provided: 1. a fire lane shall be provided 2. A *driveway* may be provided where an NFPA 13D automatic fire sprinkler system is provided in all buildings with habitable space more than 150 feet from the road 3. The buildings shall be relocated to be within 150 feet from the road 403.2 Driveways has been updated to clarify this section pertains only to buildings designed to meet the Residential Code.

Question/Comment – Received at the June 24th public presentation
The 5' ember ignition zone may conflict with ecm for vegetation required as well as the requirement from the engineer to mitigate the moisture requirement. **AFD summary of the June 24th presentation follow-up discussion:** *(AFD recommends viewing the full presentation recording for the entire discussion. This summary supersedes if discrepancies arise.)* We have multiple requirements including for vegetation and foundation design that need to be considered and integrated effectively on each site.
Response
The Environmental Criteria Manual requires vegetation to be provided for a certain percentage of the lot where there is more than 1 house, however it does not specify placement against the building foundation. Changes to the ECM are under consideration including, but not limited to, allowing additional aggregate on site within the EIZ.

AUSTIN FIRE DEPARTMENT
4201 ED BLUESTEIN RD. AUSTIN, TX 78721 **P:** 512.974.0130 **F:** 512.974.0141

When dealing with expansive soils, the idea is to maintain a relatively constant level of moisture around your foundation in order to prevent it from becoming too dry or too wet. One method is to introduce moisture near the foundation by placing vegetation that requires constant water use in the absence of rain. In a dry climate, such as ours, it is easier and more water-efficient to maintain a drier moisture content at a natural equilibrium. The 5' noncombustible Ember Ignition Zone (EIZ) can aid in maintaining the natural equilibrium to keep standing water 5' away from the foundation soils, in addition to simple measures like providing gutters and sloping surrounding pavement and soil away from the structure.

Question/Comment – Received at the June 24th public presentation
When will the proposed/updated WUI map be available? Showing the new Zones (A/B/C) Is that available now? **AFD summary of the June 24th presentation follow-up discussion:** *(AFD recommends viewing the full presentation recording for the entire discussion)* With implementation of the 2024 WUIC and map in October, when will the new criteria become effective?
Response
AFD summary of the June 24th presentation follow-up discussion: *(AFD recommends viewing the full presentation recording for the entire discussion. This summary supersedes if discrepancies arise.)* The new map will be available with the implementation of the 2024 code. A copy of the map is included in the June 24th presentation document. The map will not be considered final until adopted by City Council. Presentation to the TARP (Technicial Advisory Review Panel) of the criteria manual changes is anticipated in September. The 2024 WUIC amendments are also going forward in September to City Council. The goal is for the criteria manual changes to be implemented at the same time as the 2024 WUIC.

Question/Comment – Received at the June 24th public presentation
Thanks for this code update. I think this does a good job balancing our whole community's needs in terms of protection from the very real risk of wildfire and grassfires with aesthetic choices by homeowners.
Response
Comment Noted.

AUSTIN FIRE DEPARTMENT
4201 ED BLUESTEIN RD. AUSTIN, TX 78721 **P:** 512.974.0130 **F:** 512.974.0141

Question/Comment – Received at the June 24th public presentation
Is there an appeals board for any of the WUI requirements/interpretations, or opportunities for alternative compliance methods? **AFD summary of the June 24th presentation follow-up discussion:** *(AFD recommends viewing the full presentation recording for the entire discussion.)* Can alternative compliance methods be presented for consideration prior to submitting a permit application?
Response
The most appropriate appeals board would be the Building and Fire Board, but it has not been discussed if they would hear appeals related to the IWUIC. Yes, AFD allows and reviews alternate methods for equivalency. **AFD summary of the June 24th presentation follow-up discussion:** *(AFD recommends viewing the full presentation recording for the entire discussion. This summary supersedes if discrepancies arise.)* An alternative method of compliance may be submitted for AFD consideration prior to submitting a development or permit application. A paid preliminary design meeting may be the best option for obtaining a conditional pre-approval. The final Alternative Method of Construction form will not be signed as approved until the application is received and reviewed to ensure no changes have occurred and no new information is presented that would be in conflict.

Question/Comment – Received at the June 24th public presentation
Related questions received: Q: How often will the WUI proximity areas be re-evaluated as development proceeds? Q: How often will the map be updated?
Response
AFD summary of the June 24th presentation follow-up discussion: *(AFD recommends viewing the full presentation recording for the entire discussion. This summary supersedes if discrepancies arise.)* The intent is to update the map annually to reflect new development Further information will be provided within the Fire Protection Criteria Manual. The map will be updated within the Property Profile tool, however it is recommended to use the Wildland-Urban Interface Interactive Map for more information: https://www.austintexas.gov/department/wildland-urban-interface-code

AUSTIN FIRE DEPARTMENT
4201 ED BLUESTEIN RD. AUSTIN, TX 78721 **P:** 512.974.0130 **F:** 512.974.0141

Question/Comment – Received at the June 24th public presentation
Have these proposed changes been reviewed by the TARP (Technical Advisory Review Panel)?
Response
I do not believe TARP reviews technical codes. They will review the Criteria Manual updated rules and interpretations AFD puts forth. This is anticipated to occur at the September TARP meeting.

Question/Comment – Received at the June 24th public presentation
Will the 5' buffer be exempt from impervious cover calculations by site plan review.
Response
The 5’ Ember Ignition Zone (EIZ) will not be exempt from impervious cover calculations. Material used within the EIZ may be permeable.

Question/Comment – Received at the June 24th public presentation (partial)
Related questions received: Q: If a master plan approval was granted with the 2015 WUI regulations do we still have to change to the 2024 code? *(Received at the June 24th public presentation)* Q: If not too late, am interested in knowing if the new WUI code changes will require a new Volume Builder review for a Volume Builder project that is approved but for which building permits are not yet applied for.
Response
AFD is coordinating with the Development Services Department (DSD) to maintain consistency within the Volume Builder Program for all upcoming 2024 technical code adoptions. Additional information will be available in mid-July.

Question/Comment
Would adding an internal fire suppression system, that isn’t otherwise required, preclude residential builders from following any sections of the 2024 WUIC?
Response
A fire suppression system is not an alternative for structure hardening requirements for the exterior of the building. A residential fire suppression system (NFPA 13D) may be used to mitigate certain deficiencies such as: • insufficient fire flow (i.e. water supply at hydrants) • hydrants exceeding the minimum required distance from a structure • insufficient fire department access

AUSTIN FIRE DEPARTMENT
4201 ED BLUESTEIN RD. AUSTIN, TX 78721 **P:** 512.974.0130 **F:** 512.974.0141

Question/Comment
Reduce or eliminate Zone C. The proposed 2024 WUI map covers *substantially* more area of the city compared to the 2015 map. Since the 2015 map was created, the city has built out further, which should reduce the wildfire risk. From our estimation, roughly 90% of the city is now considered adjacent to wildland. Many of these requirements are expensive or could potentially affect yield in a time where the city should be focused on building more housing more affordably. a. Some builders have proposed creating 50' or 150' vegetative barriers around their project in order to pull units out of Class A and B, which will affect yield.
Response
The Zone C area has been reduced as shown in WUI Map Option B based on analysis of Wildfire Risk. The City of Austin and Travis County Wildfire Risk map shows that all 10 acre wildland areas are within an elevated or high risk category. Zone C has been altered to be within 0.5 miles of this elevated risk area and includes 1.5 miles within 100 acres of wildland. The fires with the greatest loss in our area were 100 acres of wildland or more.

Question/Comment
Maintain the current definition of wildland. Changing the definition of wildland substantially changes the WUI map. Reducing the triggering wildland down from 40 acres to 10 acres is too dramatic of a change and will only place additional costly restrictions on construction. Additionally, easements and roads in between structures should be exempted from the definition of wildland.
Response
The Wildland definition was updated to align with 2015 WUIC interpretation and enforcement. Easements and roadways are considered wildland only if they meet the definition, but will not be considered as a break in wildland continuity with the exception of a 150-foot wide right-of-way. The 2015 WUIC didn't specify a minimum acreage for wildland within the definition. The 40-acre designation was referenced in local amendments in Exhibit A and for Proximity Class A and B eave, wall, glazing, and door code sections. Removing this limit addresses the risk to structures in areas with elevated wildfire risk, as evidenced by recent Texas fires under 40 acres causing significant damage. Including the 2022 Balch Springs fire affecting 26 homes, destroying 9 and the 2023 Parmer Lane fire damaging 14 apartment units and destroying 24 apartment units. For wildland areas less than 100 acres, protection zones are limited to 150' for Proximity Zones A and B, and 0.5 miles for Zone C. This smaller buffer is based on less significant loss occurring in areas less than 100 acres.

AUSTIN FIRE DEPARTMENT
4201 ED BLUESTEIN RD. AUSTIN, TX 78721 **P:** 512.974.0130 **F:** 512.974.0141

Question/Comment
Eliminate the Ember Ignition Zones. The 5' EIZ around the house is impractical, as it prohibits vegetation around the house and limits landscaping options to gravel beds. Pavers and concrete have been proposed, but if you're building an infill project on a smaller lot (something Council is encouraging builders to do), and you've reached your impervious cover allowance, pavers and concrete are not an option. Additionally, the EIZs will result in the removal of nonprotected trees (18" or less). b. At a minimum, exempt Zone C from EIZ requirements. c. Provide additional options for landscaping, like succulents or other fire resistant vegetation.
Response
Based on research from the National Fire Protection Association (NFPA) and Insurance Institute for Business & Home Safety (IBHS), providing a 5 foot noncombustible zone around a structure has the greatest impact in protecting the building from ignition during a wildfire. In addition to protecting against direct flame and radiant heat that are a greater concern in Zones A and B, the zone can protect against wind-blow embers that collect at the base of a wall or structure which is the focus of protections required in Zone C. Vegetation may be provided in front of the house or around it as long as it is 5 feet from the structure. Existing non-protected trees within 5'-0" of a foundation are typically removed during construction. Additional guidance will be provided in the Fire Protection Criteria Manual for existing conditions.

Question/Comment
Maintain current standards for fence clearances. The proposed standard will add substantial cost to a home in order to maintain privacy between neighbors with a side fence. Iron fences don't provide privacy and noncombustible cementitious fences are expensive. Both are considered specialty items and there are also concerns about the supply chain keeping up with volume of homes under construction.
Response
This will be taken under consideration for residential structures within Proximity Zone C.

Question/Comment
Expand the number of units provided on a single driveway. Limiting the number of units that can be served on a single driveway requires additional curb cuts which are not pedestrian friendly. Additionally, multiple driveways result in more impervious cover and could potentially eliminate units in order to accommodate more driveways on the lot.
Response
The driveway requirement is applicable to residential properties with up to 3 dwelling units. For properties with more than 3 dwelling units, they will continue to follow Site Plan requirements for a commercial property. Multiple driveway curb cuts will not be required as

AUSTIN FIRE DEPARTMENT
4201 ED BLUESTEIN RD. AUSTIN, TX 78721 **P:** 512.974.0130 **F:** 512.974.0141

the driveway can be upgraded to a Fire Lane where needed as currently required in the Fire Code. 403.2 Driveways has been updated to clarify this section pertains only to buildings designed to meet the Residential Code.

Question/Comment
Codify current code leniency practices. Codify parts of the code that have not been enforced today. If leniency was granted for practical reasons, perhaps those exceptions should be included in the code.
Response
The following leniency practices are proposed to be codified: • Proximity Zones in lieu of analyzing a structure's Fire Hazard Severity • Ignition-resistant (IR) skirting around the base of decks to allow for non-IR framing • Soffit Vents in Zone C • Woven roof valleys in lieu of additional cap sheet • 10-minute ASTM E 84 allowed for Zones B and C in lieu of 30-minute test Two temporary code leniencies that will end include fences within 5' of structures and reduced ignition-resistance for covered patios. Fences were granted leniency due to COVD-related supply chain issues in 2021-2022. Patio covers were granted leniency due to conflicting interpretations that led to large orders of incorrect material. Leniency was extended up to the 2024 WUIC adoption as a courtesy and to allow clarifications to be made within the local amendments.

Question/Comment
Update the map regularly. The initial map was supposed to be updated once every three years but did not receive any updates. Not only should the map be updated, but updates should *reduce* the amount of land in the WUI zone, reflecting areas that have been developed in the previous three years.
Response
The current WUI map went into effect January 1, 2021 and a review was conducted within 3 years. Changes deemed necessary are proposed to be brought forth in alignment with the 2024 WUIC and other I-Codes this year. Mapping updates are not limited to reducing the amount of land in the WUI areas, rather they shall be recommended to City Council when necessary to modify boundaries, to un-designate areas, or to add new wildland-urban interface areas per the 2015 WUIC. Going forward the intent is to update the map annually to reflect new development. Further information will be provided within the Fire Protection Criteria Manual.

AUSTIN FIRE DEPARTMENT
4201 ED BLUESTEIN RD. AUSTIN, TX 78721 **P:** 512.974.0130 **F:** 512.974.0141

Question/Comment
If more properties are to be included in the WUI zone, ensure that reviews and inspections happen in a timely manner. When the 2015 WUI was implemented, builders and developers quickly experienced delays in reviews and inspections. The proposal substantially increases the amount of land and projects that will be subject to review and inspections. Review and inspection delays are a substantial factor in the overall cost of a home.
Response
Comment Noted. Should additional staff be required it will be requested to City Council with this code adoption.

Question/Comment
Maintain current standards for flashing and eaves in Class C. These changes are more restrictive, resulting in higher costs. We are working with our builder members to produce cost estimates.
Response
Proximity Zones B and C do not have additional flashing requirements. The 2024 IWUIC model code has introduced a new requirement for Proximity Zone A only.

Question/Comment
The 5 foot ember ignition zone (EIZ) around structures around structures is too restrictive to Austin. Not allowing mulch and vegetation around structures is not sensible for a city that's in zone 2, which is a hot and humid climate. I understand that there's a need to contain fires, but given that the WUI could become something that would affect many more parts of Austin, I think we can't allow this to dictate the look and feel of the landscaping around houses.
Response
You can have vegetation in front of the home, it just needs to be at a distance of 5 feet from the structure. This small separation from combustible vegetation reduces the potential for structures to ignite. Examples of landscaping with a 5' noncombustible zone can be found on the CalFire webpage: https://readyforwildfire.org/prepare-for-wildfire/defensible-space/

Question/Comment
1. From my review, these rules appear to prohibit planting within 5 feet of homes in 40% of the City of Austin. Can you clarify that? 2. Certain trees appear protected, but would homeowners be required to rip up their other plantings within 5 feet of houses? 3. Do these new rules only apply to newly built single-family housing? 4. Are any kind of plants allowed in this 5-foot space around homes?

AUSTIN FIRE DEPARTMENT
4201 ED BLUESTEIN RD. AUSTIN, TX 78721 **P:** 512.974.0130 **F:** 512.974.0141

5. Finally, have y'all talked to the Watershed Department about the effect on runoff from this proposal?
Response
1. New construction and additions located within the Wildland-Urban Interface are required to maintain a 5' noncombustible zone free of vegetation around the perimeter with exceptions listed. 2. This code is not retroactive and only applies to new construction and development. Refer to 2024 WUIC 101.5 (amendment). Additional guidance will be provided in the Fire Protection Criteria Manual for existing conditions. 3. These requirements apply to all new construction and development. They are not limited to single-family housing. 4. No new planting is allowed within the EIZ. 5. The noncombustible material within the EIZ is not required to be impermeable. AFD is coordinating with the Watershed Department and DSD Environmental Review regarding Environmental Criteria Manual and review process changes where necessary.

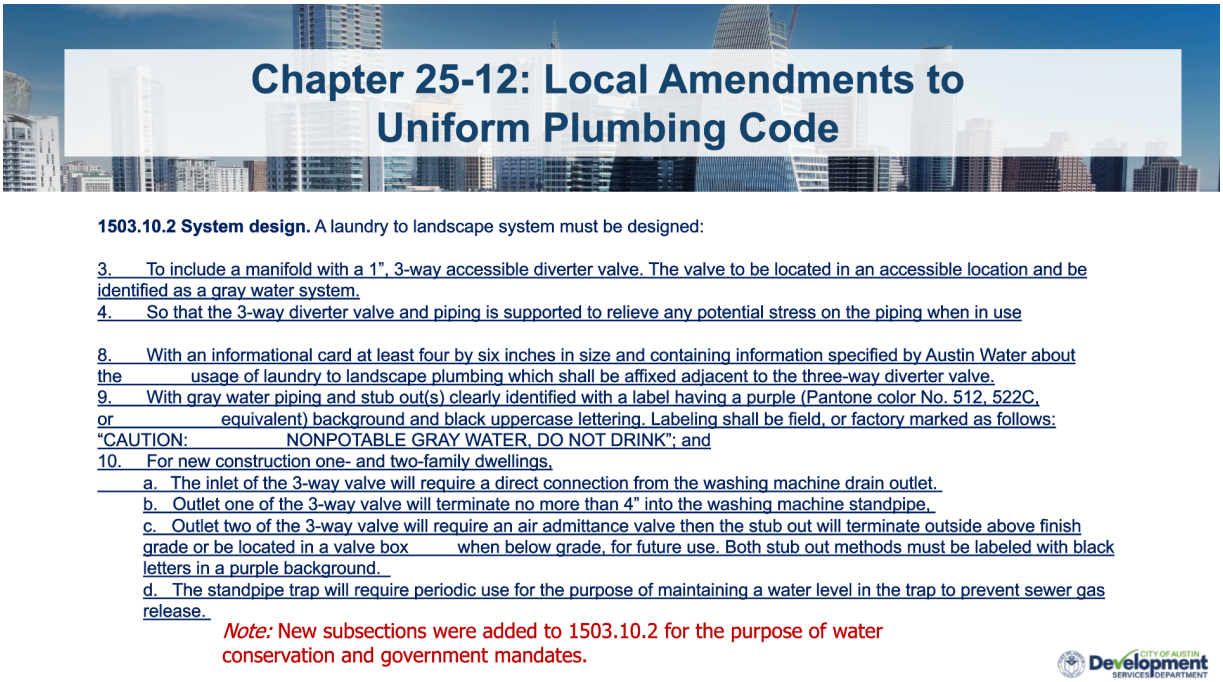
Question/Comment
I worry that the Zone C requirements for rafter tails are unnecessarily strict. As proposed, and with the updated map you've proposed, it would prohibit light wood rafter tails in almost the entire city - even areas that are over a mile from significantly large wildland areas. Many traditional architectural forms built throughout Austin use light wood exposed rafter tails, and prohibiting them adds an undue cost and aesthetic burden with absolutely no real benefit to fire safety.
Response
Eave protection is increasing for the fascia and soffits in Proximity Zone C. Rafter tails are part of the eave assembly, hence the decision to increase the protection for exposed rafter tails. Heavy timber is viewed as fire-resistant material in the Building Code. The code language will be updated to allow additional ignition-resistant material as an option: **506.4.4 Exposed rafter tails.** Exposed rafter tails are allowed when built of ignition-resistant material per 503.2 or material classified as heavy timber per the Building Code.

Q&A from Stakeholder Webinar #2

2024 Technical Code Changes Webinar #2
Question/Comment Summary
May 20, 2024

Building a Better and Safer Austin Together

Question/Comment:



At the bottom of this slide, there's information about government mandates. Could we get a citation about which specific government mandates are mentioned?

Response:

Regarding 1503.10.2.9 ("With gray water piping and stub out(s) clearly identified with a label having a purple … background…"), the use of the color purple to indicate the use of reclaimed water to prevent cross connection is required in Texas Administrative Code 210.25(a).

The additional laundry to landscape local amendments are proposed in order to implement the Landscape Transformation Ordinance strategy in the 2018 council-approved Water Forward Plan.

Question/Comment:

Why is the City still using the Uniform Plumbing Code (UPC) instead of moving to the International Plumbing Code (IPC)? It is inconsistent with the other International Code Council (ICC) codes, and we are one of only 4 cities in Texas that uses it.

Response:

We have discussed transitioning to the IPC with the Mechanical and Plumbing Board. The direction recommended by the Board, for various reasons, is to stay with the UPC and refer to the IPC as needed. There is a local amendment in the International Building Code (IBC) that allows design professionals to use the IPC as needed.

Question/Comment:
How can Electric Vehicle (EV) requirements be based on parking spaces if Austin has no off street parking requirements anymore?
Response:
Projects still may decide to install parking. EV requirements would be based on that planned installed parking if the project is choosing that compliance option.

Question/Comment:
Will this be available as a recording after the webinar?
Response:
Yes, the recording will be posted to the DSD Public Meetings Page (https://www.austintexas.gov/page/public-meetings). More information on the technical code changes, including redline, will be posted on the Public Input Webpage as well (https://publicinput.com/w3320).

Q&A from In-Person Stakeholder Engagement

Technical Code Amendments In-Person Engagement
Question/Comment Summary
May 30, 2024

CITY OF AUSTIN Development SERVICES DEPARTMENT
Building a Better and Safer Austin Together

Question/ Comment:
Regarding Electric Vehicle Readiness: Should I be telling our builders that they are going to have to pull permits and be ready for all new builds? Or is it just be capable?
Response:
Builders have the choice. The dwellings can be EV capable, EV ready, or the builders can install the station EVSE. For single-family, two-family dwellings and townhome builders it's essentially a 100% requirement. Each dwelling needs to have either the EV capable, ready, or a station. For multifamily units, the requirement is only 40% of the dwelling units or the parking spaces, whichever is less.

Question/ Comment:
What is the thought of not making it a requirement and instead a request of the homeowner when it is just a simple ask to the builder?
Response:
The main impetus is that retrofit costs later are way more expensive. It can be 4 or 5 times more expensive than if it was done at new construction.

Question/ Comment:
I am just learning about these three different levels, the capable, the ready, the EVSE ready. So, can you tell me which is required?
Response:
It is up to the builder or the homeowner. Whoever is doing the work. They can choose whichever one that they want, either EV Capable, EV Ready or a completed EVSC Station. This allows for flexibility.

Question/ Comment:
I am curious to know what the driver behind the electric readiness is?
Response:
It is speaking to those retrofit costs and seeking to minimize them. Also, allowing these projects to have a choice when the homeowner decides in the future to replace that equipment, they can have an option of what fuel source to use.

Question/ Comment:
Is this based off an assumption that electrification will happen within the next decade or the next 20 years?
Response:
It is referring to the equipment that we have available now.

Question/ Comment:
Do you know how much the additional electric readiness will add to the cost to the house?
Response:
That is an item that we are researching. We are utilizing, national research and are having discussions to examine the construction costs associated with electric readiness.

Question/ Comment:
It takes way less time and energy to do with gas. So, if the goal is to use less energy, wouldn't you want to use the most efficient source available?
Response:
That is not what these codes are designed to do. When the end of life comes for that equipment, the codes then provide a choice to the homeowner, allowing the homeowner to make that determination rather than the builder having made that determination for them during construction.

Question/ Comment:
So is the assumption that the same homeowner is going to stay in the home over a continuous period of time then?
Response:
No.

Question/ Comment:
Are you concerned about stranded assets?
Response:
There is a concern of stranded assets.

Question/Comment:
Will Austin Energy or whoever is involved in the code development look into the potential conflict with HB 17, the ban on natural gas, and if this conflicts with it?
Response:
Our government relations group is in the loop. They will ensure the department does not overlook HB 17 compatibility.

Question/Comment:
Could you tell me a little bit about the process going forward? Do we have a chance to comment? What is the process to comment and who ultimately decides before it goes to council, who makes those decisions?
Response:
Once Austin Energy is done with the red line of the codes, the next step is to go for public comment. DSD will publish those on PublicInput. After which, we will gather all the feedback, and as a group we review it and make our determination. Then, we go before the boards and commissions in July. We'll be going to the RMC and the EOC, building, fire, plumbing and mechanical. You can always come and attend those meetings as well.

Question/Comment:
Does the energy code go to all of these or just the RMC?
Response:
The code goes to all four. At that point, we will begin expecting a letter of recommendation for council action to hand off to DSD. DSD takes all the codes to the city council. The proposed council date is September 12th.

Question/Comment:
Who are you engaging?
Response:
The important stakeholders, such as yourselves. We are also looking to get input from AIA Austin and others. In addition, we have several distribution lists based on people who pull permits, associations, and groups such as yourself with whom we engage. The departments have been scheduling ad hoc meetings as well to try to get input from a variety of people.