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No.	Last Name	Item #	Line #	A/C or N	Comment
1.	Ahlborn	CB100		A	No comment
2.	Anderson	CB100		A	
3.	Jirsa	CB100		A	
4.	McGlohn	CB100		A	
5.	Wyllie	CB100	-	Y	
6.	Meinheit	CB100	10	N	By including the new A1094 specification it is assumed that the new coating system is equivalent to that of A767. There is no reference that says the two galvanized bars are equivalent. I cannot accept the change unless there is a reference showing equivalence.
7.	Silva	CB100	10	A/C	Should any of the non-mandatory provisions in Appendix X1 be made mandatory for adoption in 318?
8.	MOTA	CB100	30	A/C	Language implies that all parking garages and bridges are subjected to highly corrosive environments. I think this should exclude warmer climates where salts are not used.
9.	Silva	CB100	G	A/C	Does the increased length of time in the zinc bath increase the tendency for strain-age embrittlement? ASTM A706 contains recommendations to limit bend diameters, but I don't see these in A1094.
10.	Ahlborn	CB202		A/C	I agree that changes herein do not simply, but expansion appears necessary.
11.	Cook	CB202		N	Although the proposal is well done, I feel that t it would be more appropriate to incorporate the lower phi factors into *ICC ES AC446* and leave ACI 318 to address structural connections with embedment over 1 ½ ". All that would need to be done in *ICC ES AC446* is to say that ACI 318 Chapter 17 may be used but strength reduction factors must be reduced by 1/3. Also, I think this change would not set well with 318 Main and could hamper approving more significant additions.
12.	Jirsa	CB202		N	I am in favor of limiting hef to 1.5 in. It seems that the proposal presupposes that we know all the different kinds of fasteners that may qualify under the revised provisions. The guidance should be limited to a discussion in the commentary.
13.	McGlohn	CB202	10	N	**17.3.3** Strength reduction factor □□for anchors in concrete shall be in accordance with ~~as follows when the load combinations of 5.3 are used:~~ Tables 17.3.3a, 17.3.3b, ~~and~~ 17.3.3c, and 17.3.3d. Strength reduction factor ϕ for anchor reinforcement is 0.75 when supplement anchorage reinforcement is provided and the effective embedment depth of the anchor is ≥ 1.5 in. The word "supplement" above should be removed. There was much discussion

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					and confusion in 355 over the definitions and meaning of supplementary reinforcement and anchor reinforcement. Supplementary reinforcement improves the ductility but has no real design other than to be positioned favorably to help improve strength. The word anchor reinforcement was developed and spelled out in Section 17.4.2.9 shown below so we should not show ϕ in two locations. Also I don't think anchorage reinforcement should be included with the discussion on minimum h_{ef} since it would be impossible to develop reinforcement on both sides of the breakout surface that is only 1 ½ inches deep. Also, typically anchor reinforcement would not be used in post-installed situations since you would need to know where its placed in order to use it. More than likely anchor reinforcement is used with cast-in anchors when embedment depth is insufficient. Proposed language change above, "…….Strength reduction factor ϕ for anchor reinforcement shall be in accordance with 17.4.2.9. (Reference) 17.4.2.9 Where anchor reinforcement is developed in accordance with Chapter 25 on both sides of the breakout surface, the design strength of the anchor reinforcement shall be permitted to be used instead of the concrete breakout strength in determining ϕNn. A strength reduction factor of 0.75 shall be used in the design of the anchor reinforcement.
14.	Meinheit	CB202	10	A	
15.	Silva	CB202	10	N	We don't need a separate table for this. Suggest we add a statement at the end of 17.3.3 as follows: "Where anchors are placed in unformed concrete surfaces with effective embedment, h_{ef}, less than 1.5 inches, the strength reduction factors given in this section shall be multiplied by 0.7."
16.	Silva	CB202	10	A/C	The proposal strikes the language referencing the load combinations of 5.3 without explanation. Is this from CB200?
17.	Feldman	CB202	100	A/C	Suggest changing "created" to "arises" in the first sentence. Suggest changing "both" to "these" in the final sentence to improver clarity.
18.	MOTA	CB202	100		Abstaining. Section does not seem complete
19.	French	CB202	101	Y/C	Put comma after e.g.
20.	Wyllie	CB202	104	Y/C	Suggest changing the word "covered" to "considered".

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21.	Wyllie	CB202	105	Y/C	It may be appropriate to add a short commentary cross-reference to 17.2.3.2 where these anchorage provisions do not apply to plastic hinge zones of moment frames and structural walls.
22.	French	CB202	11	N	Delete “and” before 17.3.3c
23.	French	CB202	12	N	Delete “supplementary”
24.	Meinheit	CB202	20	A	
25.	Anderson	CB202	40	N	Let’s limit “structural anchors” in this Code to anchors with hef >= 1.5 in.
26.	Meinheit	CB202	40	N	This new table adds considerable more things the designer must read and either use or discard. Although AC446 makes reference to ACI 318 Chapter 17, note that AC446 is for “Cast-in Specialty Inserts”. In Chapter 17, a specific statement is made not to include specialty inserts. This addition opens the door to specialty inserts. I advise not to include these new provisions. If included other wording must change in Chapter 17 to eliminate specialty inserts.
27.	Shahrooz	CB202	40	N	The reduced phi factors are apparently based on Hofmann, J. and Kaupp, A. (2007). I am not sure if this study actually accounted for the key factors that require smaller phi factors. For example, did this study account for vibration, bleed water, or shrinkage? Furthermore, the reduction from Table 17.3.3b to 17.3.3c is not consistent; it’s between 33% and 44% for tension and it’s 33% or 36% depending on whether supplementary reinforcement is present or not.
28.	French	CB202	41	N	Delete the extra table and consider just using another ψ factor on the capacity terms for anchors with shallow embedment.
29.	Anderson	CB202	50	C	Add a Code provision that states hef < 1.5 in. shall have a 30 percent reduction in strength, unless tests show otherwise.
30.	Shahrooz	CB202	60	N	Why the phi factor for shear is crossed out?
31.	French	CB202	61	N	Not clear what to do if anchor depth is less than 1.5 in deep. Why doesn’t the shallow depth affect these terms.
32.	MOTA	CB202	80	A/C	Section 17.2.38 does not exist. Also references 17.2.38.4.3 and 17.2.38.5.3 don’t seem correct
33.	Anderson	CB202	90	C	Clean up commentary to correspond to the Code provision reduction of 30%.
34.	Feldman	CB202	90	A/C	Perhaps change “actions” to “effects” or “parameters.” Vibrating and curing of the fresh concrete is an action; however, shrinkage cracks and high local w/c from bleed water are not actions.
35.	French	CB202	90	N	This would not be the case in a slab. There cover is ¾ in.
36.	McGlohn	CB202	90	E	Consider changing the wording “by about 30%” to “as much as 30%”

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37.	Meinheit	CB202	90	A	I believe including commentary on h_{ef} < 1.5 in. is appropriate but setting up new provisions should not be Chapter 17 scope. Including the reference is an acceptable way to direct the user of AC446 on how to consider the design of anchor with shallow embedments.
38.	MOTA	CB202	90	A/C	Line 2&3 "…cover concrete …becomes less favorable…"
39.	Silva	CB202	90	N	The commentary makes assertions regarding cover concrete without citation.
40.	French	CB202	94	N	Would not expect bleed water at bottom of a slab or member if the anchor is to suspend something from the bottom of a member.
41.	Fick	CB202	96	A/C	The last sentence is unclear. Paragraph describes the differences of concrete cover, strength reduction of 30%, and high scatter. How is the CCD still applicable? Suggest: "Using the reduction factors shown in Table 17.3.3b, Hoffmann and Kaupp demonstrated the CCD method can be used for anchorages with h_ef < 1.5 in.
42.	French	CB202	97	Y/C	Move information on line 97 "Hofmann and Kaupp…" to precede line 95.
43.	Silva	CB202	G	N	The background statement asserts the opinion of a member (Jack Breen) without citation. I believe that the implication that the anchor provisions were never intended to address smaller anchors is incorrect. ACI 355.2 has covered all diameters of anchors since its first printing (the drill bit table goes from 3/16-in. to 2-in.). The use of the term "structural anchor" was unfortunate – the only issue is whether the anchor is being used in a safety-related application and therefore requires an engineered design. A 100-lb air conditioner falling on your head can kill you as effectively as a 3000-lb beam. AC446 addresses inserts that are not included in the scope of ACI 318. These inserts can range widely in size and capacity. AC446 provides a path to assure that the insert can be designed in accordance with ACI 318. Inserts are typically placed in the soffits of slabs, i.e., in the formed bottom surface of the slab. In this case, the consolidation of the concrete is typically better than the top (unformed) concrete surface. Many of the applications requiring shallower anchors are in precast, prestressed planks. In these cases the quality of the concrete surface is superior to CIP construction. On the other hand, anchors with embedment greater than 1-1/2 inches are not immune to rock pockets and other defects in the concrete. With regard to superposition of stresses from bond, etc., this can occur anywhere in the concrete, not just at the surface. While I agree that a lower strength reduction factor may be warranted for shallow anchors, I don't believe that the situation is as straightforward as presented here.
44.	Ahlborn	CB600		A	No comment
45.	Anderson	CB600		A	

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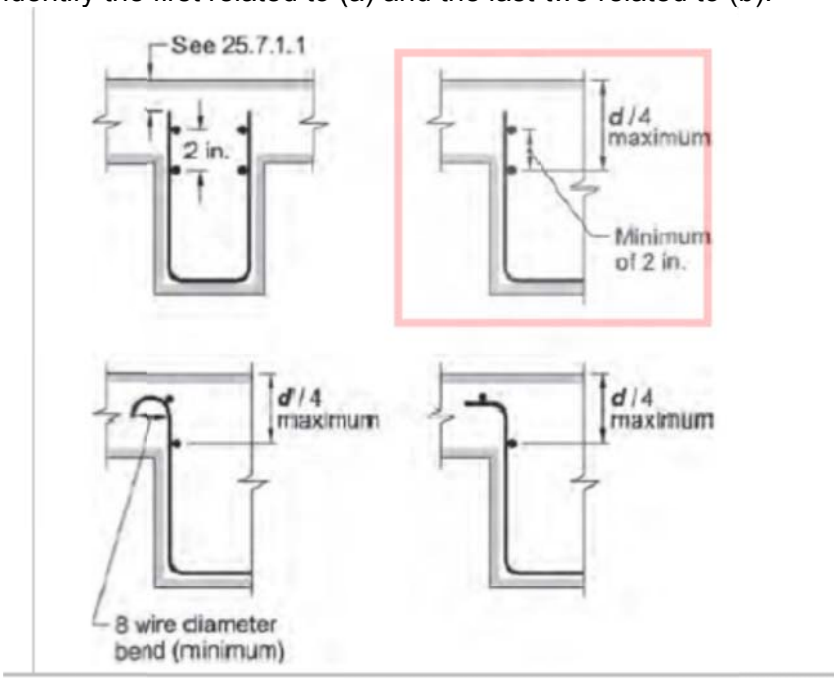
46.	French	CB600		Y	
47.	Jirsa	CB600		A	
48.	McGlohn	CB600		A/C	I affirm this item but in an unrelated comment, what is the purpose of the 3rd figure in red box below? This figure seems like a version of 25.7.1.4 (b) that is not needed when the two lower figures appropriately describe 25.7.1.4 (b). I would take this figure out and identify the first related to (a) and the last two related to (b). 
49.	Shahrooz	CB600	10	N	25.7.1.5 doesn't specify if WWR is deformed or plain although Figure R25.7.1.5 indicates plain or deformed. The proposed change will make 25.7.1.4 inconsistent with 25.7.1.4.
50.	Silva	CB600	10	A/C	Good catch, but should we continue to permit plain wire for this application?
51.	Wyllie	CB600	10	N	Maybe I am confused but I do not believe anything has slipped through any cracks. Welded plain wire reinforcement requires two cross wires for development per 25.4.7.1. welded deformed wire reinforcement needs only one cross wire or enough length for development per 25.4.6. So why are we proposing here in stirrup development to require two cross wires for welded deformed wire reinforcement? I believe the code is correct as

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					published. Drop this proposal.
52.	Meinheit	CB600	10/20	A	
53.	Shahrooz	CB600	20	A/C	By adding "or deformed" to R25.7.1.4, the commentaries for the two sections will be consistent without needing to change 25.7.1.4.
54.	French	CB800A	0	N	General comment regarding the organization of the material in 26.13. I believe that the information should be reordered. There is some information in the general section that is not really general (e.g., 26.13.1.4, 26.13.1.5). These items only apply for SMRFs, adhesive anchors, and particular case of installation. Order of information should be organized in terms of: What needs inspection and how often – that information is in 26.13.3.2 and 26.13.3.3 And by whom (what are the qualifications of the inspector) And how are those qualifications certified. Inspection reports could then follow that information.
55.	MOTA	CB800A	10	A/C	This section deals primarily with Installation and the "Inspection" portion is left to the LDP in 17.8.2.3 as I read it. If it is moved to Inspection what happens to the Installation provisions. Were these provisions really intended to be "Inspection of Anchors" and perhaps mislabeled as "Installation and Inspection of Anchors". I would accept that argument.
56.	Wyllie	CB800A	10	N	The material in lines 10-20-30 is included in 26.7. But, we need a brief 17.8 telling one to go to 26.7 for anchor installation requirements and 26.13 for anchor inspection requirements. You must add to the million cross references in this new formatted code.
57.	Shahrooz	CB800A	10 - 140	A	This vote applies to lines 10, 20, 30, 40, 70, 80, 100, 110, & 140.
58.	Feldman	CB800A	100	A/C	Item (e) the use of the word "covered" seems rather informal. Consider changing to "For adhesive anchors, verification that the entire scope of work has been performed, and that…"
59.	MOTA	CB800A	100	A/C	Same comment as line 80
60.	Fick	CB800A	105	A/C	Replace "covered" with "included in the inspection report"
61.	French	CB800A	105	N	Here and elsewhere it seems that the associated commentary has disappeared. This provision is from 17.8.2.1. Where is the associated commentary. This comment applies to the other provisions as well. What happened to the associated commentary from Chapter 17? Please providing mapping for where the material has moved.

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62.	French	CB800A	107	Y/C	Please keep the order of information and the writing parallel
63.	Meinheit	CB800A	110	A/C	26.13.2.3 uses the word certified inspector. Presently there is no ACI viable program available.
64.	MOTA	CB800A	110	A/C	Same comment as line 80
65.	French	CB800A	114	Y/C	Put the information on adhesive anchors before line 110 to immediately follow the info on adhesive anchors in 26.13.2.2. Also keep writing parallel.
66.	Ahlborn	CB800A	118	A/C	Replace "Manufacture's" with "Manufacturer's"
67.	Feldman	CB800A	120	N	Something is missing in provision 26.13.3.1. Change to: "unless otherwise specified in the general building code, items requiring verification and inspection shall ne inspected continuously or periodically by a certified inspector in accordance with 26.13.3.2 and 26.13.3.3."
68.	Lui	CB800A	120	N	Fix typographical error "… periodically ~~by a certified~~ inspected in accordance with 26.13.3.2 and 26.13.2.2 by a certified inspector."
69.	McGlohn	CB800A	120	A/C	Add back the words that were dropped shown in red text: 26.13.3.1 Unless otherwise specified in the general building code, items requiring verification and inspection shall be continuously or periodically inspected by a certified inspected in accordance with 26.13.3.2 and 26.13.3.3.
70.	Meinheit	CB800A	120	E	Revise wording of last two lines of 26.13.3.1. … or periodically inspected by a certified ~~inspected~~ inspector in accordance with 226.13.3.2 and 26.13.3.3.
71.	MOTA	CB800A	120	A/C	Seems to contradict line 80 where Continuous Inspections are required
72.	Wyllie	CB800A	122	N	Delete "by a certified" Reason given on line 57. A "certified inspected" makes no sense.
73.	Fick	CB800A	123	A/C	Is there a missing word in "…inspection shall be continuously or periodically by a certified inspector…" Consider "…inspection shall be continuous or periodic by a …"
74.	French	CB800A	123	N	Change to "periodically inspected by a certified inspector ~~inspected~~"
75.	Lui	CB800A	130	N	All reinforcement for special moment frames and intermediate moment frames should be inspected. Keep (c) the way it was "(c) Reinforcement for special moment frames." and add "(d) Reinforcement for boundary elements of special structural walls." Change (d) to (e).
76.	Wyllie	CB800A	133	N	Sub (c) makes no sense. Reinforcement for special moment frames … in … special moment frames does not read correctly. And what does the "and reinforcing" mean at the very end? Reword in proper code language.
77.	Lui	CB800A	140	A/C	Suggest revising 26.13.3.3 (b) to "Welding of reinforcement except as required in

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					26.13.3.2(c) which requires continuous special inspection."
78.	McGlohn	CB800A	140	A/C	This entire line is new. Should it be underlined or colored green to indicate it is new item? It was not in 318-14: (b) Welding of reinforcement except as required in 26.13.3.2(c)
79.	Silva	CB800A	140	N	Proposed language is indefinite with respect to the reference to 26.13.2.2(e). I.e., is the reference addressing the manner in which anchors are installed or the manner in which they are inspected/documented? Suggest following: "Where required as a condition of anchor assessment or where anchors resist sustained loads in the horizontal or upwardly inclined orientations, with documentation in accordance with 26.13.2.2(e)."
80.	French	CB800A	141	N	As written, it sounds like the loads are in the horizontal or upwardly inclined direction. It is not the direction of the loads that should be described, it should be the direction of the anchor installation. In addition, it is associated with sustained tension. Reword: "or where anchors are installed horizontal or upwardly inclined and resist sustained tension loads…"
81.	Fick	CB800A	142	A/C	Suggest being consistent with other areas of the code and delete "the" from "the horizontal or upwardly inclined orientations.
82.	Ahlborn	CB800A	146	A/C	Replace "l" with "I"
83.	Fick	CB800A	146	A/C	Typo – lower case (i) instead of (I)
84.	French	CB800A	146	N	All thing in this list are not items. As an example, "Verify use of submitted concrete mixture" isn't an item that requires periodic inspection. (d) and (g) do not fit the heading.
85.	Wyllie	CB800A	147	N	Sub (b): "Welding of reinforcement" should be underlined as this is new to this section. There is no obvious exception in 26.13.3.2 (c). Are you trying to say that welding of reinforcement requires periodic inspection except when continuous inspection is required by 26.13.3.2 (c)? Then say that. Welding is not mentioned in your 26.13.3.2(c). Where do we require continuous welding inspection?
86.	Feldman	CB800A	150	A/C	Change 26.13.3.3 to read" "Items requiring periodic inspection shall include (a) through (i):"
87.	McGlohn	CB800A	150	A/C	Same comment as item 33. (d) Verify use of submitted concrete mixture required design mix
88.	McGlohn	CB800A	150	N	Why does this reference item (f)? Should it not reference the entire section 26.7.1 and not just (f)? (h) Installation of cast-in anchors, expansion anchors, and undercut anchors in

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					accordance with 26.7.1(f)
89.	Shahrooz	CB800A	150	N	26.7.1(f) deals with adhesive anchors, but other types of anchors (cast-in anchors, expansion anchors, and undercut anchors) reference 26.7.1(f).
90.	Wyllie	CB800A	150	N	Sub (d) is an added requirement that makes no sense. 26.13.3.2 (a) requires continuous inspection for placement of concrete. Now you propose to periodically require the inspector to verify that the "submitted (not approved) concrete mixture" is being used? That should be a task under 26.13.3.2 (a). Delete this line.
91.	MOTA	CB800A	160	A/C	It's very confusing as to what is required for Inspections. Continuous or Periodic?
92.	French	CB800A	161	Y/C	Are there multiple sources for other requirements besides adhesive anchors/
93.	MOTA	CB800A	20	A/C	See line 21
94.	Silva	CB800A	233	N	See negative on line 140.
95.	Silva	CB800A	234	N	Response should state whether comment is persuasive or nonpersuasive.
96.	Silva	CB800A	238	A/C	Would prefer use of terminology other than "tools" which can be misinterpreted. Propose the following: (ii) Acceptable drilling methods, <u>equipment and accessories.</u> <u>(v) Installation equipment and accessories.</u>
97.	MOTA	CB800A	30	A/C	See line 21
98.	MOTA	CB800A	40	A/C	See Line 21
99.	Feldman	CB800A	50	A/C	Suggest changing punctuation as follows: Concrete construction shall be inspected as required by the general building code, or, in the absence of a general building code, the provisions of this Code."
100.	Meinheit	CB800A	50	E	~~qualified~~ <u>certified:</u> Are all the certification programs available for inspectors? ACI C680 is trying to create one for adhesive anchor inspection <u>that is not available yet.</u>
101.	MOTA	CB800A	50	N	318 is only a code once adopted by a General "Model" building code. In the absence of a Model Building Code, 318 is only a standard and not a code. "Certified" based on what certification level (1, 2). I think this needs clarification?
102.	Wyllie	CB800A	53	N	So if the general building code has a few concrete inspection requirements, it governs and one forgets all of ACI 318's more restrictive requirements. No way. Both need to apply where requirements of 318 are not specifically deleted by the general building code.
103.	Wyllie	CB800A	57	N	Retain qualified. Certified is a significant change and while most inspectors may be certified, we do not require certification for all inspection.
104.	Meinheit	CB800A	60	E	Revise wording for last line; … shall inspect placement <u>of concrete</u> and welding of reinforcement. ~~and concrete.~~ Existing wording is poor

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105.	MOTA	CB800A	60	A/C	"Certified" based on what certification level (1, 2)?
106.	French	CB800A	61	N	Define what is a "qualified certified inspector" and how are those credentials obtained. It is not clear whether or not there is one type of qualified certified inspector or whether or not an inspector needs different qualifications or certifications to inspect different things…e.g., are all inspectors who are qualified certified inspectors able to inspect installation of adhesive anchors, etc.
107.	Wyllie	CB800A	61	N	Same as line 57.
108.	French	CB800A	63	N	Lines 63-67. This information should be moved under items that need to be continuously inspected.
109.	Wyllie	CB800A	64	N	Same as line 57.
110.	Feldman	CB800A	70	A/C	"Installation/installed" used three times in a single sentence. Suggest revising this to read: "Continuous inspection of the installation of adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads shall be completed by a certified inspector specifically approved for that purpose by the building official."
111.	French	CB800A	70	N	Lines 63-74. It is not clear what the qualifications are for certified inspector and how they are to be achieved.
112.	French	CB800A	70	N	Lines 70-74 This information should be moved under items that need to be continuously inspected.
113.	Lui	CB800A	70	A/C	Fix typographical error "… installation by ~~an~~ certified inspector…"
114.	Meinheit	CB800A	70	A/C	26.13.1.5 uses the word certified inspector. Presently there is no ACI viable program available.
115.	MOTA	CB800A	70	A/C	Are these Periodic or Continuous Inspections as required in IBC? Also, Inspection of Welding based on what (AWS D1.4)?
116.	Fick	CB800A	71	A/C	Consider deleting "Inspection of the installation of"…It is repetitive with the second part of the sentence that states "shall be continuously inspected during installation."
117.	Anderson	CB800A	72	N	Instead of always noting " . . installed in horizontal or upwardly inclined orientation to resist sustained tension loads . . ", can we perhaps refer to this as the following: " . . installed in an **overhead-type** orientation **from 9 to 3 o'clock** to resist sustained tension loads . . " In the anchorage to concrete seminars, the attendees are always puzzled by our reference to "horizontal or upwardly inclined orientation." When I show them 9 to 3 o'clock, the lightbulb immediately goes off and they ask why don't we say that?

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118.	Ahlborn	CB800A	73	A/C	Replace “an” with “a”
119.	Fick	CB800A	73	A/C	Typo - change “an” to “a”.
120.	French	CB800A	73	Y/C	Change “an” to “a”
121.	Feldman	CB800A	80	E	Add a period at the end of 26.13.1.6.
122.	French	CB800A	80	N	What happened to the information that is being struck out in the commentary that special inspection is required of all post-installed anchors
123.	Jirsa	CB800A	80	A/C	Too repetitious with regard to Code. All that is needed is “Adhesive anchors in horizontal or upwardly inclined orientations pose special challenges to the installer and require an enhanced level of oversight.”
124.	MOTA	CB800A	80	A/C	Continuous Inspections will be cost prohibitive. A Certified Special Inspector is certified by the Department of Buildings based either on experience or ICC testing. How does the ACI/CRSI Certification process fir here?
125.	Anderson	CB800A	82	N	Suggested wording change: “The installation of adhesive anchors in ~~horizontal or upwardly inclined~~ **overhead-type** orientations **from 9 to 3 o’clock** (clockwise) poses special challenges . . “
126.	Fick	CB800A	83	A/C	“particular attention to execution quality” is unclear. Consider replacing with “…requires ~~particular attention to execution quality as well as~~ an enhanced level of oversight”
127.	French	CB800A	86	Y/C	The information in line 86 indicates how the qualifications for certified inspectors are obtained for rebar…but what about qualifications for certified inspectors for other issues.
128.	Fick	CB800A	88	A/C	Typo – remove the bold font.
129.	Wyllie	CB800A	88	N	This section makes no sense as written. It mixes rebar welding inspection with rebar inspection. First, delete the word certified. We defer to AWS for qualifications. Delete “for reinforcing bars” and replace with “welding of reinforcing bars”. Then make the weldability of bars other than A706 (in bold) a separate sentence.
130.	Fick	CB800A	89	A/C	Delete the second reference to AWS D1.4. It was already referenced earlier in the sentence: “…shall be in accordance with the requirements of AWS D1.4 for special inspection and special inspector qualification
131.	Meinheit	CB800A	90	A/C	26.13.2.1 uses the word certified inspector. Presently there is no ACI viable program available. 26.13.2.1 says inspection reports are only saved for 2 years. What is magical about 2 years? Why are they not saved like RFI’s?
132.	MOTA	CB800A	90	A/C	Same comment as line 80
133.	McGlohn	CB800A	Not in ballot	N	Unless its covered somewhere else in another ballot we need to change/delete the commentary shown in red text here.

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					R26.1—Scope ……Starting with the 2014 edition, with the exception of Chapter 17, all provisions relating to construction have been gathered into this chapter for use by the licensed design professional. Construction and inspection-related provisions associated with anchors are in Chapter 17 and are called out within Sections 26.7 and 26.13, as appropriate.
134.	Ahlborn	CB800B		A	No comment
135.	Jirsa	CB800B		A	
136.	Shahrooz	CB800B			I don't see where 17.8.2.2 and 17.8.2.3 have been incorporated.
137.	French	CB800B	0	N	Provision needs to be added to ensure that the post-installed anchors designed to take advantage of anchor reinforcement are identified on the construction documents. Consideration also needs to be given to tolerances with regard to anchor installation. The phi factors and models may be associated with tighter tolerances than allowed in practice.
138.	MOTA	CB800B	10	A/C	I find this entire new section on Installation, but also addresses Inspection very confusing and hard to follow.
139.	Wyllie	CB800B	10	N	There needs to be a brief go to statement in 17.8 to go to 26.7.
140.	Shahrooz	CB800B	10 – 40	A	This vote applies to lines 10, 20, 30, & 40.
141.	Meinheit	CB800B	100	E	There does not appear to be any significant difference between (c) and (d). Recommend eliminating (c).
142.	Shahrooz	CB800B	100 - 210	A	This vote applies to lines 100 through 210.
143.	Paulson	CB800B	106	A/C	Change to read "Adhesive post-installed anchors" to be consistent with 26.7.2(b) and 26.7.2(f).
144.	Paulson	CB800B	108	A/C	Change to read "Adhesive post-installed anchors" to be consistent with 26.7.2(b) and 26.7.2(f).
145.	French	CB800B	110	Y/C	Change to "an age of at least 21…"
146.	Meinheit	CB800B	110	A/C	If post-installed is used in (f), then it should be used in the other sub sections. However, in (f) it could be eliminated because adhesive anchors are defined in (b) as Post-installed anchors.
147.	French	CB800B	120	N	Lines 120-146 The information contained in this commentary used to go with 17.8.1 which is now 26.13.2.2e. Note that line 127 talks about inspection and monitoring by qualified inspectors. R26.7.1€

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					seems to be the wrong location.
148.	Wyllie	CB800B	120	Y/C	I assume all the R26.7 material not underlined is moved from R17.8. I did not compare line for line.
149.	French	CB800B	13	N	Clarify what happens to the rest of 17.1.2 "Specialty inserts, through-bolts…of this Code." Is it being cut or retained.
150.	McGlohn	CB800B	140	A/C	Change "which depend in part on the results of the installation safety tests." To which depend ~~in part~~ on the results of the ~~installation safety~~ acceptance tests.
151.	French	CB800B	150	N	These is pointing to incorrect section. R26.7.1(g) should be R26.7.1(j) for the most part, except the text has been broadened to include Installation tools appropriate for post-installed torque-controlled and undercut anchors—so one cannot just point to R26.7.1(j). Great steps have been made in this transition, but additional effort should be made so that the commentary is more directly tied with the appropriate code provisions. Because tweaks were made in parts, the text does not make sense with the added parts. (e.g., lines 165)
152.	McGlohn	CB800B	150	N	….Where appropriate, a proof loading program ~~should~~ shall be specified in the construction documents……
153.	McGlohn	CB800B	160	A/C	Suggest adding (f) minimum age of concrete
154.	MOTA	CB800B	20	A/C	See line 37
155.	MOTA	CB800B	200	A/C	What would be the passing criteria for an Equivalent Program?
156.	MOTA	CB800B	210	A/C	See line 37
157.	McGlohn	CB800B	50	N	This requirement in ACI is easily lost and difficult to find or remember that it is a requirement. *10.7.6.1.6 If anchor bolts are placed in the top of a column or pedestal, the bolts shall be enclosed by transverse reinforcement that also surrounds at least four longitudinal bars* *within the column or pedestal. The transverse reinforcement shall be distributed within 5 in. of the top of the column or pedestal and shall consist of at least two No. 4 or three No.* *3 bars.* I highly recommend that we add it to the section 26.7.1(b) shown in red below. **(b)** Type, size, location requirements, transverse reinforcement requirements and effective embedment depth of anchors., ~~and~~ ~~installation requirements for a~~nchors.

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					Or create new line item 26.7.1(#) Transverse reinforcement requirements, 10.7.6.1.6 Another suggestion is moving this requirement (10.7.6.1.6) to Chapter 17 since it is related to anchor design.
158.	Meinheit	CB800B	50	E	Remove comma after <u>of anchors</u>.,
159.	Shahrooz	CB800B	50	A/C	Why is 17.1.3 crossed out?
160.	Wyllie	CB800B	56	N	I believe installation requirements for anchors is a design issue which the LDP should specify. My experience is that contractors do not religiously read ACI 318, even this new Chapter 26.
161.	Shahrooz	CB800B	60	A/C	What is the significance of adding “all types”?
162.	French	CB800B	63	N	Please clarify what is meant by characteristic resistance for design. I could not find this term in Chapter 17. Also, why is the LDP just directed to 17.4 (tension) for post-installed expansion and undercut anchors. Why not reference 17.5 (shear)? In other words, what is unique about tension for the design information. The reference to 17.8.2.1 is incorrect—that was for adhesive anchors. Where was this information in ACI 318-14?
163.	Feldman	CB800B	70	N	The use of the term “added” in Item (h) is somewhat vague. Suggest changing this to “(h) Identification of adhesive anchors installed in a horizontal or upwardly inclined orientation, if they support sustained tension loads requiring continuous inspection by certified installers.”
164.	Lui	CB800B	70	N	(h) should state “…tension loads requiring installation by certified installers.”
165.	Shahrooz	CB800B	70	A/C	Does “identification” imply that ALL adhesive anchors that are installed in a horizontal or upwardly inclined orientation require added inspection?
166.	French	CB800B	77	N	As worded it sounds like the sustained tension loads require inspection. Change to: Identification of adhesive anchors that require added inspection including adhesive anchors installed in a horizontal or upwardly inclined orientation supporting sustained tension loads. Also note that as worded before the inspection would be provided by certified installers. That is new to the Code. The installation needs to be done by certified installers. Does the inspector need to be a certified installer? Please clarify.
167.	Anderson	CB800B	80	N	See my comments in CB 800A in regards to the orientation concept.

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168.	MOTA	CB800B	80	A/C	Should include also approval by the Building Official in addition to LDP
169.	Shahrooz	CB800B	80	A	
170.	Lui	CB800B	90	A/C	This is unnecessarily verbose since much of the requirements are noted in item (g). Suggest revising language to "(j) Identification of adhesive anchors requiring proof loading where required as a condition of the product assessment." Suggest switching order of (i) and (j).
171.	MOTA	CB800B	90	A/C	See line 37
172.	Shahrooz	CB800B	90	N	How would one determine what anchors "require" proof loading? I don't see any guidance in the commentary.
173.	French	CB800B	91	N	Recommend referencing ACI 355.4 in association with the product assessment. Also--where in Chapter 26 Code is there any information about conformance to ACI 355.2 or 355.4. Please add.
174.	French	CB800B	91	N	Lines 91-95 are repetitive of lines 70-74
175.	Silva	CB800B	G	A/C	Have all of the references to the deleted sections been changed?
176.	Ahlborn	CB802		A	No comment
177.	Anderson	CB802		A	
178.	Wyllie	CB802	-	N	I have problems with the Reason for Change statement as it makes no sense. To substitute A615 for A706, the A615 only needs to meet the ductility requirements of 20.2.2.5 (b). This says nothing about the weldability of the rebar. Drop this proposed change. Remember that AWS does allow A615 to be welded after confirming the chemistry and preheating.
179.	Jirsa	CB802	10	A/C	In (b) "adequate" seems too vague. I suggest wording "..shall include information required by the licensed design professional to determine that the A615 reinforcement can be substituted for A706."
180.	Lui	CB802	10	N	26.6.1.1 is intended to be a list of required design information that must be noted in the construction documents. Proposed item 26.6.1.1(b) does not fit that intent and should be deleted.
181.	McGlohn	CB802	10	A/C	Since this statement falls under the section "Design Information" which is established by the licensed design professional it seems that it would be more appropriate to state this requirement as (b) Requirements for ASTM A615 deformed reinforcement listed in 26.6.1(b) if allowed for use in seismic applications.
182.	MOTA	CB802	10	A/C	Possibly exclude No.20 bar size
183.	Meinheit	CB802	10/20	N	(b) says that A615 can be substituted with the implication that the mechanical properties satisfy A706. (b) however does not say anything about welding while (h) says the bars

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					can be welded. This seems to be inconsistent because not all A615 is weldable! If A615 is to be substituted and there is no welding needed, then the clause seems OK.
184.	McGlohn	CB802	100	A/C	To distinguish from item (b), suggest adding: **(a)** Post-installed mechanical anchors shall be installed in accordance with the manufacturer's instructions.
185.	McGlohn	CB802	130	N	Delete the text in red: ……These tests are carried out assuming installation in accordance with the manufacturer's recommended procedures (in the case of adhesive anchors, the MPII)…..
186.	Paulson	CB802	14	A/C	Consideration should be given to moving the numerical requirements from 20.2.2.5(b) to 26.6(b), because the numerical values eventually need to appear in the construction documents. Additionally, the numerical requirements of 20.2.2.5(b) are not used by the LDP in any design calculation, so they do not necessarily need to appear in 20.2.2.5. Perhaps 20.2.2.5 could point to 26.6(b) where the numerical values would then be found. The numerical requirements could be presented in tabular format facilitate their relocation into 26.6.
187.	Wyllie	CB802	14	N	This is under design requirements and it tells the contractor to submit adequate information to the LDP. That is not design information, it is a compliance requirement.
188.	Fick	CB802	15	A/C	Consider rewording: "Requirements for ASTM A706 deformed reinforcement used in seismic applications shall be included to demonstrate when ASTM A615 can be substituted.
189.	Browning	CB802	15 to 17 and 32 to 34	N	**Modify 26.6.1.1(b) Design Information** **26.6.1.1(b)** Requirements and location of ~~for~~ ASTM A615 deformed reinforcement used in seismic applications shall include ~~adequate~~ what information is required to be submitted to demonstrate to the licensed design professional it can be substituted for A706. **Modify 26.6.1.2(b) and add R26.6.1.2(b) Compliance Requirement** **26.6.1.2(b)** The required submitted information, including mill test report, for ASTM A615 deformed reinforcement shall include the required information to demonstrate to the licensed design professional that it may be used to resist earthquake-induced flexure, axial forces, or both in special moment frames.

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					special structural walls, and components of special structural walls including coupling beams and wall piers. ~~The licensed design professional will review and confirm documentation where substituted ASTM A615 deformed reinforcement demonstrates compliance with 26.6.1.1(b) for seismic applications.~~ **R26.6.1.2(b)** The licensed design professional will review the required submitted information and confirm the ASTM A615 deformed reinforcement demonstrates compliance with 26.6.1.1(b) if the reinforcement is used to resist earthquake-induced flexure, axial forces, or both in special moment frames, special structural walls, and components of special structural walls including coupling beams and wall piers. There are two issues. First - Sub A has spent a great deal of time this code cycle removing references in sections 26.1 to 26.12 compliance requirements, on the code side only, that reference other provisions in the code. If the designer copies the compliance requirement to the construction documents with a reference to another code provision, it forces the contractor to read and interpret the 318 code provision. Most contractors are not capable of understanding what they are reading let alone interpret it. Sub A has determined that all 26.1 to 26.12 design information and commentary provisions are directed to the LDP and all 26.13 provisions are directed to the LDP and inspector with special training. Second - as originally written the compliance requirement provision did not define a task for the contractor as required for a compliance requirement. Instead it is directed to the LDP. The modified provision requires the LDP to define the required location of the members and information, and it informs the contractor it is his responsibility to submit the adequate documentation to the LDP for his review as stated in the commentary. As written it left it to the contractor to read the code, determine which members, and interpret the code provision.
190.	Lui	CB802	30	N	Suggest revise language as follows: “The licensed design professional ~~will~~ shall review and confirm documentation where ~~substituted~~ ASTM A615 deformed reinforcement is substituted for A706 deformed reinforcement demonstrates compliance with ~~26.6.1.1(b)~~ 20.2.2.5(b) for seismic applications.”
191.	McGlohn	CB802	30	A/C	Since this statement falls under the section “Compliance requirements” which is a

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					compliance issue by the contractor it seems that it would be more appropriate to state this requirement as: (b) Where ASTM A615 deformed reinforcement is substituted for A706 for use in seismic applications, the contractor shall submit to the licensed design professional for review and confirmation that the design requirements of 26.6.1.1 have been met.
192.	Meinheit	CB802	30	A/C	Mill reports today typically state carbon equivalent and weldability. I think this change must include a statement that the A615 is weldable.
193.	Wyllie	CB802	32	N	This is ridiculous. We are saying the LDP must review and confirm! We do not require in the code that in (a) the LDP shall review and accept the mill reports. This is going too far in the code.
194.	MOTA	CB802	50	A/C	Refer to Chapter 18
195.	McGlohn	CB802	60	N	Why does item below refer to only 17.4.5? This section is design requirements for tensile loading. What about referring to the same for requirements for shear, 17.5? (f) For post-installed expansion and undercut anchors, parameters associated with the characteristic resistance used for design in accordance with 17.4, including required installation torque and requirements for hole drilling and preparation. <17.8.2.1>
196.	Silva	CB802	G	A/C	Where are the requirements stated for how the elongation is to be determined (e.g., gauge length, rate of loading, etc.)?

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