

INSPECTOR

JOURNAL



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CREIA 40



***Celebrating Our Heritage and Ensuring Our Future:
CREIA Celebrates 40 Years***

September 23–26, 2016 • Los Angeles Marriott Burbank Airport Hotel

IN THIS ISSUE:

- Inspecting Wood Decks in observance of May is National Deck Safety Month
- 2014 National Electrical Code Changes for Home Inspectors
- Pipe and Stock Flashings

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CHAIRMAN'S MESSAGE

DAVID PACE, MCI, CHAIRMAN OF THE BOARD

Vince Lombardi, the great football coach and Margret Thatcher, the former Prime Minister of England and others were known to often use the phrase, "Plan your work and work your plan." It's good advice. We believe it's good practice to constantly review our plan and periodically evaluate our progress in carrying out that plan.

On January 16 & 17, a volunteer group of CREIA members gathered in Ontario, California to participate in a 2 Day Strategic Planning session aimed at focusing the Association's goals for the 2015 year. The participants came from all over the State and were comprised of the Chairman, current and previous State Board members, Chapter Presidents, Affiliates and other business owners, including a lawyer and an insurance agent. The sessions were facilitated by our management company, Sterling Strategic Management, and followed a tested, tried and true method known as SWOT. The group started off by identifying CREIA's Strengths, Weaknesses, Opportunities and Threats.

This Initial interactive exercise produced a room full of hand-written wall posters identifying a few dozen topics covering the good, the bad and the ugly. But through guide-pointed discussions, big letter note taking and declared commitments, this group of 24 created the CREIA ACTION ITEMS LIST for calendar year 2015.

PRIMARY AREAS OF FOCUS INCLUDE:

- Website/Internet/SEO
- Marketing/Promotion
- Streamline Inspector Certification Process
- Better Communication between members, volunteer Leaders and paid staff
- Focus on the smaller struggling chapters
- Member Benefits/Services

GOALS INCLUDE

- Making CREIA's Website presence on the Internet more significant and relevant for member referrals and recognition.
- Making the Path to Success Program easier to understand and navigate.
- Increasing Membership
- Improving Chapter Education through a greater sharing of resources among chapter regions.
- Improving the role and effectiveness of the Regional Directors
- Enhancing member benefits with services like a legal hotline.

From these, the Action Item List was composed in writing and delegated to the appropriate committee through group process. With many of the State Committee Chairs present and in agreement, the written notes and documents will serve as a witness to the commitment undertaken and future updates are forthcoming.

This is just a high line overview of the nuts and bolts from this particular gathering. Many additional insights were gleaned over lunch, dinner,

wine and a cocktail or two. The State Board of Directors met again for a check-in at the 2015 Annual Conference. Staff has also updated members, communicating updates in CREIA's eNews.

HERE IS AN UPDATE ON THE STATUS OF THE STRATEGIC PLAN TO DATE:

COMMUNICATION

1. Streamlining Certification Process/Assisting Candidate/Associate Members:
 - The office communicates regularly via telephone and email with Candidate/Associate members on their way to certification to ensure their profiles are up-to-date and to check-in to see if they need assistance.
 - Staff regularly sends "check-in" emails to Candidate/Associate members asking their status and if they need help.
 - We compile the most frequently asked questions and have placed some in the eNews and on the Website – and will continue to do this.
 - The Membership Committee listserv was created and the Committee communicates regularly with staff to assist those with challenges and to assist in paving the way to certification.
 - The membership sections of the Website are continuously monitored for clarification and improvement and now houses a promotional video, "Why Join CREIA?" on the Join CREIA page.
2. Increase Communications between State and Chapters:
 - In an effort to increase networking among the membership, Chapter-specific listservs were created.
 - The office provides the regional directors with updates to share with their chapters/regions each month.
 - All members should have received an email indicating that they were added to their chapter's listserv. If you are not, please send an email to info@creia.org. You will be added with the primary email in your profile, which is used to receive or send messages to the list or it will not be received/delivered. The listserv addresses have been added to the Member Center page, which members will land on upon logging into the CREIA Website with username and password:
 - deltachapter@creia.org** – Delta Chapter
 - goldengatechapter@creia.org** – Golden Gate Chapter
 - greatersacchapter@creia.org** – Greater Sacramento Chapter
 - greatersangabrielvalley@creia.org** – Greater San Gabriel Valley Chapter
 - inlandempirechapter@creia.org** – Inland Empire Chapter
 - kerncountychapter@creia.org** – Kern County Chapter
 - laventurachapter@creia.org** – LA / Ventura County Chapter
 - lamidvalleychapter@creia.org** – LA Mid-Valley Chapter

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lawestsouthbaychapter@creia.org –

LA West / South Bay Chapter

northbaychapter@creia.org – North Bay Chapter

northsdtemeculachapter@creia.org –

North SD / Temecula Valley Chapter

orangecountychapter@creia.org – Orange County Chapter

palmspringschapter@creia.org – Palm Springs Chapter

sandiegochapter@creia.org – San Diego Chapter

sanfranciscopenchapter@creia.org –

San Francisco Peninsula Chapter

sanjoaquinvalleychapter@creia.org –

San Joaquin Valley Chapter

sanluisobispochapter@creia.org – San Luis Obispo Chapter

shastacascadechapter@creia.org – Shasta Cascade Chaps

siliconvalleychapter@creia.org – Silicon Valley Chapter

tricontieschapter@creia.org – Tri-Counties Chapter

- CREIA is continuing to work on communicating upcoming events, including chapter toolboxes and other information to CREIA members.
- CREIA eNews was created to assist in continued and improved communication.
- TIE/Participation: eBlasts called “Did You See?” have been created and are regularly sent to the membership highlighting TIE conversations and an invitation for members to participate.

EDUCATION RESOURCES/MORE OPPORTUNITIES

1. Provide Online Content/Educational Programs:

- CREIA created the Online Education Committee in response to the need for broadening education opportunities for the membership.
- CEC and non-CEC productions are the two areas of focus to start.
- Mike Casey MCI/IF created “CREIA Report Writing Standards” course that has been approved for 2 CECs and is available on the Website now free of charge to members.
- Several more CEC programs are in the works which will be produced by tenured members of our association.
- These programs will be available to the membership for online viewing as well as tests to receive CEC credit for the courses.
- The second part is non-CEC videos which is open to all members for submission. There are several reasons or uses for the videos: educational, informational & promotional. For more information, please see Steve Carroll’s article on Online Education.

2. Speakers Bureau for Chapters

- The list of speakers has been (and continues to be) created and will be shared to the participants at the Chapter Leadership Day.

3. Partnered with ASHI with InspectionWorld 2016.

PARTICIPATION

- Provide Quality Chapter Meetings with Increased Attendance:
- Promotional e-mail blasts continue to go out to the CREIA membership to encourage participation. Toolbox email blasts also go to the nonmember (basic contacts) we have email addresses on file.
- Interested in participating on a Committee? Be sure to contact a Committee Chair or Board Member.

- Leadership Day: This year’s Leadership Day is scheduled for Saturday, May 14, 2016 in Santa Clara, California. We hope to have a chapter leader from every chapter involved! We are working on providing a great and worthwhile day to benefit and strengthen our chapters. Chapter Leadership’s participation is essential to this end.

MARKETING AND PUBLIC RELATIONS/MEMBER SERVICES

- Marketing/PR: CREIA participated during CAR’s 2015 Expo and is already making plans for 2016 participation with all new banners, activities, collateral and volunteer instructions.
- We are already registered for CAR’s 2016 Expo and planning for the event is underway,
- CREIA participated and held an exhibit during ASHI’s IW.
- A press release was released to various newswires promoting CREIA’s participation at the IW, tipping the public on how to choose a home inspector, and promoting the Find-an-Inspector search.
- Special thanks to Skip Walker and Steve Carroll for many hours of help in constructing a better plan for CREIA in regards to Marketing and Public Relations!
- We have begun to work with a press release distribution company to better promote CREIA home inspectors to the real estate community. Press releases will also be developed as educational, informational & promotional tools along with videos from members to be released to the real estate community and the general public.
- A new member card was developed and is being issued to members upon renewal (began February, 2016).

WEBSITE

- The office has been working closely with Andy French, Chair of the Website Committee in getting the Website in shape and with SEO content. Since the Conference, we have been able to successfully overhaul the Chapter webpages to be more comprehensive and provide more content/links, which in turn is helping to get more accurate searches on engines, specifically Google.
- TIE: We are currently in the process of receiving the new threads on the current TIE. As addressed, we send out Did You See? E-mails to encourage participation.
- The Website will be upgraded soon to a fluid dynamic design. Stay tuned!

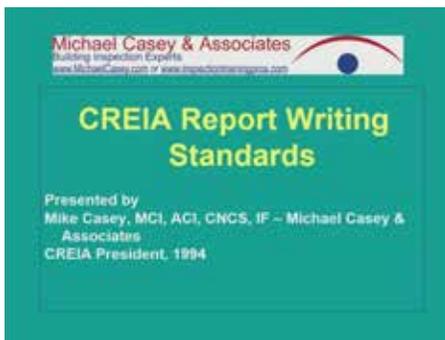


David Pace, MCI, is owner of Pace Inspection Services in Brentwood, California since 1993 and serves as the 2015-2016 Chairman of the Board of CREIA. For more information visit www.paceinspection.com

CREIA ONLINE EDUCATION

BY STEVE CARROLL, MCI

CREIA recently created the Online Education Committee in response to the need for broadening education opportunities for the membership. CEC and non-CEC productions are the two areas of focus to start. Helping to get the ball rolling Mike Casey MCI/IF created “CREIA Report Writing Standards” course that has been approved for 2 CECs and is online now on the CREIA Website.. Several more CEC programs are in the works, which will be produced by tenured members of our association. These programs will be available to the membership for online viewing as well as tests to receive CEC credit for the courses.



The second part is non-CEC videos which is open to all members for submission. There are several reasons or uses for the videos: educational, informational & promotional. Some of the videos will cross over to encompass several uses. The first video was submitted by Gary Dewitt CCI, which illustrated GFCIs: what are they & how do you test them. This video was created to help general public understand a little more about these important safety devices. I think it will benefit my clients after the inspection if I include the Vimeo link within my general GFCI comment in my reports. They can simply click on the link and watch Gary demonstrate how to simply perform the test as well as providing other useful information.



Have you ever received a call back after the inspection from a client or real estate agent asking you about a condition noted in the report that could be better explained by a short video. One that comes to mind is the issues of cross connections. I often find reverse osmosis & water softener systems discharging directly into the drainage system without and approved air gap. I'm sure there's a member with a plumbing background who can take a quick view of the condition or better yet a video of the proper installation and explain why. Not only could I use that video in my report but chances are I would gain a better way to explain the condition. Kevin Collins CCI created a video about hose bibb vacuum breakers. Now our clients can understand what they look like as well as the purpose they serve explained in understandable terms by Kevin.

As far as production quality, a short video captured on your smart phone in the field brings with it a degree of authenticity and credibility. The length of the video should preferably be under 2 minutes. Studies have shown that

videos over 2 minutes are viewed significantly less. There are a few things to stay away from. Using the term 'code' is a big one. Instead you could say 'industry standards' or 'general standards'. Some of the other suggestions can be viewed at <https://vimeo.com/150835063>



Skip Walker MCI will be shooting a short video on how to inspect the return air for a forced air furnace. The purpose of this video will be strictly education for Inspectors as it will likely only be posted on the CREIA TIE and available for chapter meetings. These Inspector Educational type videos can be longer than two minutes because there is a specific target audience that is searching for further education and training. Another topic I would like to see is how to inspect masonry veneer siding, especially the lack of flashings and improper installation over stucco. How about the lack of blocking behind a strapped water heater, what does a fireplace damper clamp look like, oven anti-tip bracket – what's that? This list could go on for pages.

Submitting videos helps your fellow CREIA inspectors and also gives you a chance to become involved while simply doing that I hope you really like, Inspecting. It's a win/win.

Steve Carroll, MCI is State Director, CREIA Board of Directors, co-chair of the Marketing and Public Relations Committee, and chair of the Online Education Committee.



INSPECTING WOOD DECKS

BY SKIP WALKER, MCI



Deck Failure at Ledger Connection – Picture from Net

“Decks cause more injuries and loss of life than any other part of the home structure.”

– Don Bender, Director,
Wood Materials and Engineering Laboratory,
Washington State University

May is national deck safety month. Decks are without a doubt one of the most dangerous areas on a property. Most would think you were crazy if you didn't change the oil in your car, yet homeowners often overlook periodic deck maintenance. There are over 40 million wood decks in the US. We add about 300,000 new decks per year through new construction. It is estimated that half of all decks – that is roughly 20 million decks – are over 20 years old.

Many of those have significant deterioration, were improperly constructed, and/or utilize substandard construction methods. Newer decks are not immune for issues as they may be subject to failure due to the impact of pressure-treated (PT) lumber and accelerated corrosion.

Most experts agree that the average service life of a wood deck is around 10-15 years. Many older decks were built prior to the codes providing any significant guidance. Unfortunately, wood decks are still viewed as a DIY project that can be built over a long weekend or something that the gardener or the handyman can do.

The reality is that wood decks are complicated and they failing at an alarming rate. About 90 percent of decks fail at the connection to the building. Guardrails are the second highest point of failure. The connection between the deck and stairs rounds out the top three. Between the years 2000 and 2007 deck collapses reportedly increased by 21 percent per year. Failures are so common, that the media often do not cover them unless the event was unusually spectacular, such as the 2015 Berkeley Kitteridge balcony collapse. Between 2000 and 2006, there were at least 30 deaths reported as a direct result of deck failures. Over 75 percent of people that are on a deck when it collapsed were seriously injured or killed.

A 2010 study by Legacy Services LLC estimates that between 2003 and 2007 there were about 224,000 injuries on decks, balconies, and porches requiring a hospital or doctor's visit. Of those, 6,000 to 8,000 serious injuries per year were the result of deck/balcony structural failures. Deck balcony failures reach their peak in the summer months. This makes sense since decks and balconies are a common place to congregate and socialize during nice weather. Deck injuries and fatalities are almost certainly under-reported since there is no central database for these events.

Decks and balconies almost never collapse due to wind or seismic stress alone. Overloading is almost never the primary cause of failure, yet people are present 95 percent of the time when a collapse occurs. If you calculate the load capacity of a deck built using current building codes, it is unlikely that enough people could fit on a deck and stress it to structural failure. Again, assuming it was properly constructed and not damaged. Deteriorated wood, obsolete or improper construction methods are involved in deck failures almost 100 percent of the time. The basic recipe for a deck disaster is: take one old deck with rot and improper connections, add a bunch of friends and family, and then stand back.

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Proper inspection of wood decks and balconies is critical. If we assume that a conservative 10 percent of existing decks are in need of significant repair or outright replacement that means the total number of unsafe decks is around four million. In reality that number is probably much higher.

The North American Deck and Railing Association (NADRA) is an organization comprised of deck contractors and material/component manufacturers. NADRA promotes a “best practices” approach for deck construction and encourages deck safety inspections. They publish a consumer guide to deck safety checks. This guide is available online for free at: www.nadra.org/consumers/dsmchecklist.pdf. CREIA inspectors may join NADRA for only \$100 per year. NADRA offers great education and is a frequent presenter at CREIA conferences.

There are two basic types of decks, freestanding and attached. For the purposes of this discussion, we will focus on attached decks. Most decks are built from wood. The current California Residential Code (2013) requires permits on all decks that are over 200 square feet in size or that are more than 30” off grade. Any deck serving the primary emergency egress door requires a permit regardless of size or elevation. The CRC includes some prescriptive guidance for deck construction, primarily the connection to the building. Most jurisdictions will require engineering for significantly elevated decks.

The American Wood Council www.awc.org has developed a prescriptive set of voluntary deck construction guidelines published in their DCA-6 document. DCA stands for Design for Code Acceptance and is based on the International Residential Code (IRC). The most current DCA-5 is based on the 2012 IRC. It is likely that DCA-6 will be updated to use the 2015 IRC in the near future. DCA-6 adoption is voluntary, so some jurisdictions may not accept decks based on it. In any case, it is very useful and can be looked at as a set of “best-practices” guidelines for deck construction.

The current CBC and CRC do not list redwood in their span tables of structural members. DCA-6 does include redwood in its prescriptive designs, but only for above ground use. In jurisdictions that have not adopted DCA-6, redwood may require design, since neither the CRC nor the CBC lists it in the span tables.

DECK TO BUILDING CONNECTION

The point of connection to the building is the single most important area of the deck. Nearly 90 percent of all deck failures occur at the connection to the building. Older installations may rely on

toenails, etc. to secure the deck to the dwelling. These older installations are subject to withdrawal and are inherently unsafe.

CRC507.1 DECKS

Where supported by attachment to an exterior wall, decks shall be positively anchored to the primary structure and designed for both vertical and lateral loads. Such attachment shall not be accomplished by the use of toenails or nails subject to withdrawal. Where positive connection to the primary building structure cannot be verified during inspection, decks shall be self-supporting.

Current best practices recommend a PT ledger board that is attached using positive connections such as through-bolts with washers, lag-bolts of an appropriate grade. The fastener spacing depends on load. In general, we should see staggered bolts every 12”-24”. The use of nails, wood screws, ungraded lag bolts, carriage bolts, etc. are not adequate. Current standards require deck tension ties under certain circumstances. These are basically Simpson® HD-2's installed horizontally. Where required, there should be at least two tension tie connection brackets – one at the outer edges. Additional tension ties may be required on larger decks. Each connector should be designed for a minimum of 1500 lbs. See CRC 507 for specific deck ledger connection information.

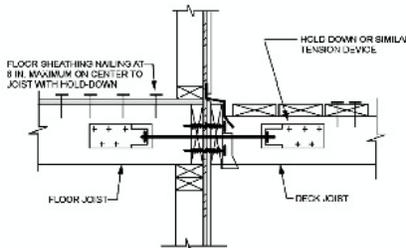


Illustration: 2013 CRC Figure 507.2.3

Robert Faulk, with the U.S. Forest Products Research Lab in Madison, WI researched collapses and reported that almost all ledger connection failures involved nailed ledger connections. Faulk was quoted as saying: “On paper, you can calculate that nails will work... In practice, it’s a different story.”

The connection of a deck to a cantilevered extension must be engineered. This rarely happens in the real world. The framing at a cantilever is rarely designed to handle the additional load and stress of a deck. In these cases, making the deck free standing is generally the simplest solution.

Per most manufacturers, all fasteners should have a G185 galvanized coating at an absolute minimum. In many cases, the fine print actually recommends stainless. The New Zealand

(BRANZ 2007) testing shows that stainless steel is the only commonly used material that can resist the corrosive effects of current PT lumber chemicals. The ledger connection must be properly flashed. Water entry at the ledger connection causes wood rot and is a significant contributing factor in many deck collapses.

FRAMING ISSUES

In our role as general property inspectors, we are not performing an engineering analysis of the deck. Current standards treat deck framing the same as dwelling floors. The code writers finally recognized what we see all the time – today’s deck is tomorrow’s sun room which becomes next year’s family room. Consequently, the framing and load requirements are the same for decks and floors. The critical difference is that the family room floor isn’t exposed to the elements. The framing for a deck must be constructed to deal with the elements. This means that the deck and support system must be designed to deal with the potential live and dead loads imposed. All fasteners and structural metal brackets must be appropriate for the stresses imposed and the materials. As with the ledger connection, the fasteners and structural metal brackets should be hot-dipped galvanized, stainless steel or a fastener designed for PT lumber contact such as Simpson Z-Max®. For Simpson® products, any metal components in contact with PT lumber should have a part number that ends in either HDG, SS or Z. If a Simpson® connector or bracket is in contact with PT lumber does not end in one of these, it is a standard G90 electro-plated connector. Standard G90 connectors are not approved for exterior use and consequently are improper on a deck.

WOOD DETERIORATION

While the typical property inspector is not allowed to perform a structural pest control inspection, wood deterioration due to decay or insect damage is a major factor in many deck failures. Indications of damage should be noted and referred to the WDO/Structural Pest Control Inspector. Decay will be most prevalent in areas that are damp for prolonged periods. Any areas where the design traps or ponds water should be considered suspect and carefully evaluated.

PRESERVATIVELY TREATED WOOD

The manufacturers’ installation instructions for preservatively treated (PT) lumber have required hot-dipped galvanized fasteners for a number of years. In practice, those requirements were largely ignored. Starting circa-2002/2003, the EPA forced manufacturers to discontinue the use of arsenic-based CCA PT lumber chemical treatments. This shift produced significant consequences. The current

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generation of preservatively treated lumber uses either copper-based or borate-based chemical treatments. The borate-based products are water-soluble and must not be exposed to weather. We should never see borate-based PT lumber used in an exterior installation. Borate products are significantly less corrosive than copper based materials. The copper-based products constitute almost 100 percent of the preservatively treated lumber used today. Copper-based preservatively wood is highly corrosive. Where preservatively treated lumber is used, it is critical that appropriate fasteners must be used. See the CREIA Inspector Journal Fall 2015 for additional information of PT Lumber and corrosion issues. www.creia.org/assets/2.%20creia_ij_fall2015.pdf

On an attached deck, the three most common areas of failure are the connection to the dwelling, the guards and stair to deck connections. Imagine the impact if the framing connections are nailed into a corrosive PT material using improper fasteners. In short order, corrosion will compromise the connections. We then have a deck that is essentially not secured to the dwelling or support system. As we have seen in a previous CREIA IJ, research shows that even hot-dipped galvanized does not provide sufficient corrosion protection with the corrosive copper-based products – especially in coastal areas or naturally damp environments.

Kevin Palmer, Owner of Premier Termite in Half Moon Bay, CA reports that his company is currently repairing many decks and replacing corroded hardware with 316 Stainless steel. Many of these were built only seven to ten years ago. While stainless hardware adds to the deck cost, “it (stainless) is the only thing that works” according to Palmer. Palmer also noted that in some cases, corrosion is so severe that bolts were expanding and cracking wood beams and posts. In those cases, the wood members themselves had to be replaced as well as the hardware.



Heavily Corroded Joist Hanger

Current PT and connector industry recommendations require stainless steel fasteners and structural metal connectors if

the installation is in coastal zones. The fastener type should match the connector type as well or a dielectric effect may cause corrosion; i.e. stainless fasteners should not be used with hot-dipped galvanized connectors, etc.

When PT lumber is field cut or drilled, all exposed grain/cut must be field protected with an appropriate material such as copper naphthenate – i.e. “Copper Green”, etc.

SYNTHETIC DECKING MATERIALS

Composite/plastic materials are becoming increasingly popular for deck surfaces and railings. Composite materials have their own set of issues and – as with any engineered product – they must be installed in accordance with the manufacturers installation instructions. When you think of synthetic deck materials, composite products such as TREX® come to mind. These composites are plastic/wood mixtures that are extruded to form deck boards, guards, railings, guard posts, balusters, etc. There are other materials that are all plastic as well. These are often made from PVC materials. Installation is critical to the proper performance of these materials.

These materials generally have a high thermal expansion/contraction coefficient, meaning they will expand and contract significantly, particularly along the length of the board. End joint gapping requirements can range from 1/8” to as much as 1/2” depending on material and the site environmental conditions. Proper end joint gapping is critical. Some materials, especially older versions, may require 12” O.C. spacing for joists. The original composite materials were susceptible to heat and would burn relatively easily. Barbequing, especially on older composite decks, is a bad idea. In a fire, some materials will drop globs of burning plastic. Starting roughly in 2007-2008, composite materials were required to meet more stringent flammability standards as a way to overcome such issues.

Several brands of composite material have been subject to a CPSC recall and a number have been subject to class-action litigation for premature deterioration, splitting, etc. TREX® has two different settlement programs currently active. The settlement over surface flaking was approved by the court in March 2010. The other settlement over mold and color fading was approved in December 2013. Fiberon® Veranda and Portico materials apparently had similar issues and agreed to a settlement in April 2014. A lawsuit against TimberTech® over alleged discoloration, cracking, etc. appears currently in progress.

We may occasionally see engineered wood products, such as laminated (GluLam®, etc.), LVL, PSL members used as well. Any

engineered wood products exposed to weather must be specifically listed for exterior use and installed in accordance with the manufacturer’s installation instructions.

INSPECTION PROCESS

The following are a suggested overview of the inspection of wood decks and balconies. A great resource for inspections is the NADRA Deck Evaluation Form. See: bit.ly/NADRADeckEvaluationForm

WOOD DECKING AND FRAMING CONDITIONS

Decking should be inspected for deterioration. All water trapping areas should be inspected for damage. If the deck is painted, a disclaimer regarding concealed damage is advisable. Wood decking should be inspected for cracking, splitting, nail pullout, etc. Proper gapping on the decking should be provided to allow for drainage and normal expansion/contraction of the material. Fasteners should be inspected for corrosion, type, etc. Red rust on fasteners and connectors means the galvanization has failed. They should be replaced. Missing fasteners should be noted as well.

JOIST AND BEAM CONDITIONS

All wood framing components should be inspected for deterioration. Any trapping areas should be inspected for damage. If the deck is painted, a disclaimer regarding concealed damage is advisable. Wood members should be inspected for cracking, splitting, etc. Cracks or checks longer than the material depth should be noted as they may reduce load capacity and provide a concealed trapping area. Fasteners and metal connectors should be inspected for corrosion, type, etc. Missing fasteners should be noted as well. As noted above, with Simpson metal connectors, all round/obround holes should have a nail or other appropriate fastener. The use of screws on most Simpson metal connectors is not proper. Many standard nails/bolts do not conform to ASTM/ASME standards. Many standard power driven nails are actually under-sized and non-conforming. The use of undersized nails can significantly impair the load rating of a connector. Most of us are not qualified to perform a structural evaluation. Care should be taken to make appropriate disclaimers in this regard.

CONTINUED ON PAGE 9



Improper Construction Methods Are Rampant

POSTS AND FOOTINGS

The wood posts and cross bracing components should be inspected for deterioration. Any trapping areas should be inspected for damage. Per DCA-6, footings should be a minimum of 16"x16" and extend 12" below undisturbed soil or the frost line. As a rule of thumb, we should see cross-bracing installed when decks are over 8 feet off grade. The cross-bracing should be a minimum of 2"x4" and through bolted, not nailed or screwed. Posts should not be spliced on taller installations. DCA-6 requires a minimum of a 6"x6" post up to 14 feet. When we see 4x4 posts on deck installations, they are almost always undersized. When in doubt, if it looks wrong, it probably is and should be deferred. If the framing is painted, a disclaimer regarding concealed damage is advisable. Wood members should be inspected for cracking, splitting, etc. Cracks or checks longer than the material depth should be noted as they may reduce load capacity and provide a concealed water trapping area. Fasteners and metal connectors should be inspected for corrosion, type, etc. Missing fasteners should be noted as well. As noted above, with Simpson metal connectors, all round/obround holes should have a nail. The use of standard screws on Simpson metal connectors is improper. Many standard nails/bolts do not conform to ASTM/ASME/NDS standards. Many standard power driven nails are nonconforming; i.e. what may be labeled as a 16D common may in reality be only a 10D when measured. The use of undersized nails will significantly impair the load rating of a connector. We are not performing a structural evaluation and care should be taken to make an appropriate disclaimer in this regard.

GUARDS, RAILING POSTS, IN-FILL

The height, methods of attachment and strength should be inspected. Beginning with the 2007 CBC, guards were required to be a minimum of 42" high with baluster spacing such that a 4" sphere will not pass through the opening. See CRC 312 for current requirements. Guards should be able to withstand a 200 lbs. concentrated load applied at any point on the railing. Since the guard post acts like a lever, this translates to

1,500-2,500 lbs. (or more) of force applied to the connections at the base of the guard - depending on actual height, post spacing and the number of connectors. In the real world, very few guards will actually be constructed to meet this requirement. The in-fill areas should be able to withstand 50 lbs. per square foot of pressure.

STAIRS

Stairs are the single most dangerous place in a home. Stairs to deck connection failures are the third leading location for deck failures. The rise and run rules for exterior stairs are the same as for interior. CRC 311.7 defines the current rise, run and tolerances. Stairs should be a minimum of 36" wide. Stairs with a vertical rise of over 12 feet require an intermediate landing. Handrails must be of an approved profile (Type I or Type II) and return at the top and bottom of the run. Handrail height must be between 34" and 38". The stair guards must be 42" except where the handrail is the guard it may be 34" and 38". Balusters on stairs must not allow a 4 3/8" sphere to pass. The opening at the triangular opening between the bottom of the guard and the step must not allow a 6" sphere to pass. The opening at the stair riser must not allow a 4" sphere to pass. There should be 4"x4" posts spaced a maximum of 6' on center supporting the handrails.

When constructed in accordance with DCA-6, the minimum size of a stair stringer is a 2"x12" nominal member. For stairs constructed using solid stringers, the maximum horizontal span is 13'-3". For a 36" wide stair, only two solid stringers are needed. When cut stringers are used, there should be a minimum of three cut-stringers installed on a 36" wide stair. There must be a minimum of 5" (measured perpendicular to the edge) from the corner of the tread notch to the bottom edge of the stringer. The notches must not be over-cut. The maximum horizontal span of a cut stringer is 6'. When spans exceed 6', mid-span support posts should be installed.

The stringer to deck connection is where most stair failures occur. The downward force of people walking on the stairs creates significant forces. We will often find vertical movement or separation at these connections that indicate a potentially serious issue. DCA-6 specifies the connection between the stringer and the deck be made using a slope-joist hanger with a minimum rating of 625 lbs. The top tread should be level with the deck surface, not a step below as generally seen. Using screws or nails to connect the stair stringers to the deck is always suspect.



Angle Clips Are Improper, There Is Some Separation Visible, Note Over Notched Tread Cuts

FOR FURTHER INFORMATION

There are a number of resources to draw upon for further information. Simpson publishes a wealth of information on deck safety and construction. This is available online at www.strong-tie.com. Simpson also has several free classes on deck construction and Simpson products for building officials and contractors. Both of these classes provide very valuable information. Under an agreement with Simpson, these classes can also allow you to earn CREIA CEC's at no charge. The NADRA site www.NADRA.org has a number of useful documents. One of my personal favorite books on wood decks is the "Manual for the Inspection of Residential Wood Decks and Balconies" by Dr. Frank Woeste, Dr. Joseph Loferski and Cheryl Anderson. This is available through ICC and the Forest Products Society. Dr. Frank Woeste and Dr. Joseph Loferski have also written an article on guard design and testing (JLC February 2005) that is available in the Journal of Light Construction online archive. The American Forest & Paper Association also publish the Prescriptive Deck Construction Standards Guide (DCA-6) available online.

Skip Walker is a Master CREIA Inspector, an ASHI Certified Inspector, an ICC Certified Combination Residential Building Inspector, an ICC Certified California Residential Building Inspector and a FIRE Certified Fireplace Inspector. He has presented at a number of local, state, regional, and national inspection conferences, the National Association of Realtors®, the California Association of Realtors® and the New York City Council Building and Safety Committee on smoke alarm performance and CO poisoning issues. Walker has served in numerous capacities for CREIA and ASHI and written extensively on smoke alarms, CO issues, and general inspection issues. He is the recipient of the 2014 ASHI Philip C. Monahan Award, ASHI's highest honor, the 2014 ASHI President's Award, the 2014 CREIA John Daly Award, CREIA's highest honor and the 2011 CREIA Inspector of the Year. Skip's home has ONLY photoelectric alarms installed. You may reach Skip by email at: homeinspection@sanbrunocable.com.



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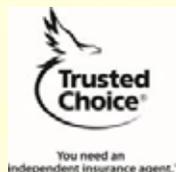
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(Please see schedule at a glance)
- Group Inspections on Friday
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EARLY BIRD REGISTRATION ENDS AUGUST 23, 2016

Full Conference – Registration Only On or Before 8/23/16:

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CREIA Pre-Conference Programs and Bonus Session:

PROGRAM A

ASHI Commercial Class with Richard Weldon

Wednesday – Friday

September 21 – 23, 2016 • 8:30 am to 5 pm

3-day program • 22 CECs

Registration Fees: \$1395 for ASHI and CREIA Members; \$1795 for non-members. Includes textbook, sample reports, consultants' reports, information on quoting inspections, report writing, cost estimating and relevant business issues.

Register for this program through ASHI at:

www.theashischool.com/ClassListings/SessionDetails/2378

or log on to CREIA's Website for information and links:

www.creia.org/2016-annual-conference.

PROGRAM B

NADRA Deck Inspection Certification with Michael Beaudry

Friday Only

September 23, 2016, 8:30 am to 12:30 pm

½ day program • 4 CECs

Registration Fees: \$149. Includes a certification exam (administered in class) and a one-year membership in North American Deck and Railing Association (\$100 value)

PROGRAM C

ICC Mechanical with Neal Muckler

Thursday and Friday

September 22-23, 2016 • 8:30 am to 5 pm

2-day program • 16 CECs

Registration Fees: \$125 or waived with Full Registration (2013 CA Mechanical Code Books and Tabs NOT included in price, however, it will be available for sale at the event at \$134)

PROGRAM D (BONUS)

2 Day Infrared – Certified Residential Thermographer Class with Bill Fabian

Sunday through Monday

September 25-26, 2016, 8:30 am to 5 pm

2-day program • 16 CECs

Registration Fees: \$595 or \$645 for this 2-day class plus Saturday.

Full Conference Registration

This category includes Exhibits and Educational Sessions (with the exception of Pre-Conference programs—A, B, C or Bonus Program D as they are co-sponsored and priced separately); Continental Breakfasts on Saturday, Sunday, and Monday. Annual Business Meeting and Awards Lunch on Saturday; Saturday's Welcome Reception. (Registration for ICC does not include the IAPMO Materials.)

Join and Register

If you are not a member of CREIA, register for the Full Conference and Join CREIA today with CREIA's promotional "Join and Register" Conference and Membership discount. Choose the "Join and Register" option upon registering.

Guest Registration

Guest must accompany a CREIA member. Fee covers admission to the Exhibit Hall, Continental Breakfasts on Saturday, Sunday, and Monday. Annual Business Meeting and Awards Lunch on Saturday; Saturday's Welcome Reception. (Does not include Educational sessions, syllabus, program materials, or CEC credit.)

Pre-Conference Programs A, B, and C and Bonus Program D

These specialty programs are co-sponsored with CREIA.

Program A

ASHI's Commercial Class: Tuition is noted above - REGISTRATION for this program is handled through ASHI as indicated above. Tuition includes textbook, sample reports, consultants' reports, information on quoting inspections, report writing, cost estimating and relevant business issues.

Program B

NADRA Deck Inspection Certification Class: (4 hours) - Attend the class + earn your certification and join the NADRA roster as a branch member. All CREIA Members selecting this option can earn 4.0 CREIA Credits. Y

ou can read the NADRA Member Pledge here: www.nadra.org/member_app.pdf. By submitting your registration, you agree to NADRA's pledge.

Registration for Program C, ICC Mechanical

As noted above and does not include materials.

Bonus Program D

Please carefully select which option you would prefer on the registration form (the two day event only on Sunday and Monday or to include Saturday). Registration fees are noted above.

Special Accommodation

Facilities are accessible to persons with disabilities. If you require special accommodation and plan to attend the CREIA Conference, please contact the CREIA office at info@creia.org or by calling 949-715-1768. Please allow as much advance notice as possible to ensure we have ample time to meet your needs.

Cancellation Policy

Registration cancellations will be accepted in writing until August September 2, 2016. A \$50 administrative fee will be deducted. No refunds will be given if cancellation notice is received after September 2, 2016.

CECs

By participating fully in the CREIA Conference and Pre-Conference programs, members have the opportunity to earn all required CECs for CREIA, ASHI and IAPMO annual certification/requirements. Sign-in sheets will be posted in the back of each session rooms. Attendees are required to sign-in upon entering sessions and pick-up a certificate at the end of each session.

Interested in taking the NHIE Exam on Monday, September 26?

If you are interested in taking the NHIE Exam on Monday, September 26, please contact info@creia.org. We have made tentative arrangements with NHIE, but it is based on number of attendees interested in taking the exam. Let us know!

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Metal Roofing

BY ALAN CARSON

In this article, we'll look at metal roofing, focusing on three things:

1. The advantages and disadvantages of metal roofing
2. Different kinds of metal roofing
3. What to look for when inspecting metal roofs

METAL ROOFING MAY BE EITHER SHINGLES OR PANELS.

ADVANTAGES

Metal roofs are lightweight yet strong. Metal roofing lasts longer than many other roofing materials, including most asphalt shingles. They are not brittle like concrete, clay or slate. While more expensive than asphalt shingles, most metal roofs are less expensive than premium roofing products like slate or clay tile, and in some cases concrete tile.

Metal can be used on sloped or flat roofs. (Note: roofing professionals refer to flat roofs as low-slope roofs, since they should never be absolutely flat.) Metal roofing is non-combustible, an advantage over asphalt and wood roofing. The smooth roof surface sheds snow and ice well, certainly better than asphalt or wood. Depending on the system, there may be many fewer joints in a metal roof than with other materials. Every joint is a potential leak.

DISADVANTAGES

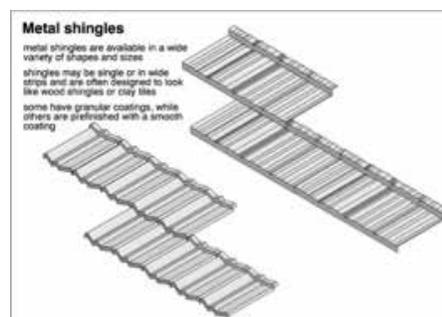
Metal rusts (corrodes) of course. Some metals rust more quickly than others. Many metal roofs have exposed fasteners (usually screws), and each fastener is a hole in the roof and thus, a potential leakage spot.

Metal also expands and contracts with changes in temperature, and allowances must be made for this. Metals like zinc and aluminum have high coefficients of thermal expansion - they move a lot. As metal roofs move, fasteners may loosen and back out over time. Metal roof maintenance often includes retightening fasteners as needed.

METAL SHINGLES

Modern metal shingles are typically steel or aluminum. Steel shingles have corrosion protection, typically in the form of galvanizing

(a zinc coating) or galvalume (a zinc/aluminum coating). They may also have baked-on enamel paints, acrylic coatings, and/or stone granules. They usually imitate the look of wood shingles, wood shakes or clay tile. They come with material warranties that range from 25 to 50 years, and are usually nailed, screwed or clipped to plywood sheathing, wood battens or steel battens.



INSTALLATION DETAILS

Let's look at the typical installation details, understanding that these vary among manufacturers.

TYPICAL SIZES

12 inches by 24 inches, 9 inches by 12 inches, 10 inches by 60 inches, 12 inches by 120 inches, 45 inches by 16 inches.

TYPICAL THICKNESS

0.016 to 0.021 inches. There one thickness of metal over most of the roof surface.

MINIMUM SLOPE

2-1/2 in:12 to 6 in:12, depending on manufacturer.

EXPOSURE

Typically the entire shingle is exposed, except for a perimeter interlocking joint.

HEAD LAP

Not applicable.

FASTENER TYPES

Nails, screws or clips, typically hot-dipped galvanized or equivalent.

Note: Aluminum nails should be used with aluminum products.

NUMBER OF FASTENERS PER SHINGLE

This varies with shingle size and manufacturer's recommendations. Can vary from two to eight.

CAN VERTICAL JOINTS IN ALTERNATING COURSES LINE UP?

Yes, although again there are several variations and, in some cases, they will not.

OVERHANG AT LOWER EDGE

Again, this varies with the manufacturer, but is typically one inch.

OVERHANG AT RAKE

This varies with manufacturer but is typically one inch.

WEIGHT PER SQUARE

35 to 255 pounds per square.

UNDERLAYMENT MATERIALS

None, or 30-pound felt or Tyvar (polypropylene underlayment).

COMMON FLASHING MATERIALS

Metal. Many manufactured steel roofs have specially made flashing pieces of the same material.

MAXIMUM NUMBER OF LAYERS RECOMMENDED

One. While only one layer of metal roofing is typically recommended, many metal roof systems can be found applied over old asphalt or wood shingles, or even wood shakes. Some manufacturers allow for installation over old roofs.

LIFE EXPECTANCY

Warranties of 25 to 50 years are common.

FAILURE MODES

Rust, denting, fastener failure (from installation problems, corrosion problems, wind uplift,

CONTINUED ON PAGE 16

CONTINUED FROM PAGE 15

etc.) resulting in pieces becoming loose, and buckling because of failure to allow for expansion and contraction.

CONDITIONS – GENERAL

The problems you'll be looking for on metal roofing include –

1. rust
2. fastener failure
3. loose or missing shingles or flashing details
4. installation problems
5. dented
6. buckled roofing

Rust on metal roofing is caused by exposure to the atmosphere and weather. Rusting may be more severe in areas close to salt water. Pre-finished materials have better corrosion protection than paints applied on site. Careless installation or mechanical damage can scratch or otherwise remove rust preventative coatings. Rust may be visible, but can also be concealed.

Fastener failures may be caused by poor installation, corrosion of the fasteners (accelerated if there is a dissimilar metal contact leading to galvanic action), or wind uplift forces that exceed the design.

Loose or missing pieces are caused by poor installation techniques, fastener failure, rust of the roofing or flashing material, mechanical damage or wind uplift.

Poor installation details are workmanship issues.

Dented shingles may be the result of tree branches dropping on the roof, or people walking on the roof. Some metal roofs are not designed for foot traffic and inspectors should use caution when considering walking on metal roofs.

Buckling is caused by inadequate allowance for expansion and contraction during installation. The larger the shingles or tiles, the more allowance has to be made for expansion and contraction.

The implications are, of course, leakage.

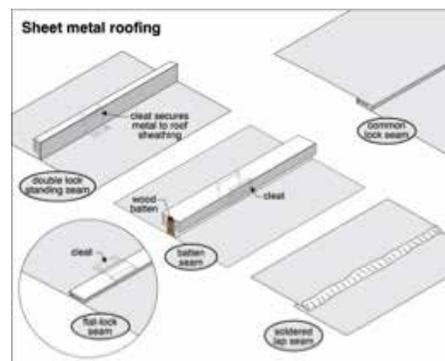
Unless you know that the roof is suitable for walking on, you probably should not get on it. Check the edges and flashings where water may enter the roof and/or become trapped in the roof system. Look for rust, especially where dissimilar metals are in contact. Look for seams that may have been damaged. In areas where ice dams are an issue, pay particular attention to the lower three feet of the roof for damaged interlocks and seams.

Rust is more likely where the materials have to be site cut or bent. This exposes metal that may not have corrosion protection.

You may be asked about the noise factor with metal roofs. Most people do not find the noise objectionable, but this is a subjective issue. You may be wise to bring the issue to your client's attention, although it's not a performance issue and discussing this goes beyond CREIA's Standards of Practice.

DESCRIPTION

Sheet metal roofs can have many different looks, with different materials, profiles and installation methods.



COMMON ROOFING METALS

GALVANIZED STEEL AND GALVALUME

Galvanized steel is a very common metal roofing material since it is the least expensive metal roof. It is strong and resists denting. The steel is protected from corrosion by a layer of zinc or other material. Galvalume is a brand name of a zinc/aluminum alloy protected steel. For the curious - the alloy is 55% aluminum and 45% zinc.

Galvanized steel roofing can be painted on site, but is typically factory pre-painted which provides a superior finish, and factory touch-up paints are often available for nicks and scratches. With zinc galvanizing, the thickness of the zinc coating varies. The more zinc, the better.

ALUMINUM

Aluminum stands up well to most environments, and is light but is not particularly strong. Most aluminum roofing products are actually an alloy of aluminum. Other metals are mixed with the aluminum to improve the strength. Even with the alloys, aluminum roofs tend to have a high coefficient of expansion and contraction. Aluminum is more corrosion resistant than galvanized steel or Galvalume.

COPPER

Copper is historically the "Cadillac" of metal

roofing. It starts out the color of a penny and may turn dark brown or green. Some copper roofs last over 100 years, and copper is typically found on high quality homes and commercial buildings (government buildings, for example). Copper runoff will stain painted surfaces, and copper, is corrosive to most other metals, because of galvanic action. Steel in contact with a copper roof will corrode quickly.

STAINLESS STEEL

Steel combined with other metals can form a very expensive, high quality material. Stainless steel typically contains at least 10% chromium and often contains nickel and other metals. The grade of stainless steel, determined by the alloy make-up, affects the corrosion resistance. Stainless steel does not need to be painted and retains its shiny appearance. It is more common on commercial buildings than single-family homes.

ZINC

Zinc is a very expensive and long lasting metal roofing material. It is relatively soft and tends to creep over time. It expands and contracts significantly with temperature changes and consideration must be given to this in the design and installation of zinc roofing. Zinc should be kept away from other metals. It will be the sacrificial metal in galvanic action resulting from contact between dissimilar metals. Zinc roofs may be pure zinc or may be an alloy. These are not common roofing materials in single family homes.



Pre-painted metal roof panels

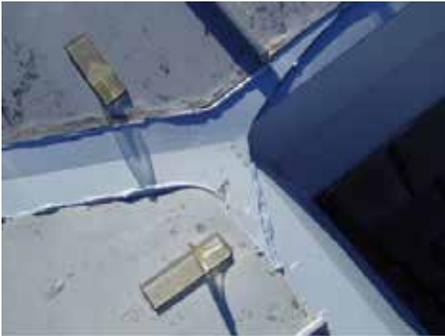


Standing seam low-slope metal roof

CONTINUED ON PAGE 17



Sloped standing seam metal roof connected to flat roof



Valley flashing on metal roof (Note the snow guards/ avalanche guards.)



Copper roof over a bay window

INSTALLATION

INSTALLATION HIGHLIGHTS

We won't go through all the installation details, but will discuss some of the highlights and some of the things to watch for. Sheet metal roofing is traditionally installed with the joints running vertically down the roof surface. In some cases, the panels run

the entire height of the roof. Seams can be standing, flat or battened. Many raised rib seams are simply overlapped. Butyl tape may be used at the overlap, but that will not be visible.

The field of the roof can be flat, ribbed, corrugated, or a combination thereof. Metal is stronger with more bends. Large flat panels (approaching 20 inches wide) may be subject to buckling with changes in temperature. Some people call this 'oil canning', and while it may be a visual distraction, it is not a performance issue.



Oil canning on metal roof
Photo courtesy of John Stortz & Son

FASTENERS

Metal roofs may be secured to the substrate with screws or clips. Nails are not typically used, although there are some systems that allow nails. Where screws are exposed, neoprene washers are used to make the joint weather-tight. With ribbed roofing, screws are in the troughs than at the caps. There are many systems that have no exposed fasteners. A variety of clips and caps can be used.

Fastener spacing is determined by the manufacturer and depends on a number of variables. Common spacings are every 6 to 10 inches horizontally and every 24 to 32 inches vertically. More fasteners are used at eaves and gables to resist wind uplift.

CAREFUL WITH DESCRIPTION

Generally speaking, metal roofing is considered high quality. We suggest you describe it as a metal roof, rather than guess as to what kind of metal it is. Unless you're absolutely sure, you can get into trouble describing the metal inappropriately. Be aware that there are steel and aluminum roofs made to look like copper.

CAREFUL WALKING ON ROOF

Metal roofs are slippery, especially when wet. Walking on roofs can damage them. While you are less likely to damage a sheet

metal roof walking on it than a metal shingle roof, care should be taken not to step on unsupported sections of metal. It is good practice to step on the fasteners, since they will be above a solid surface. Although we are not talking metal shingles here, please note that you can easily damage a metal shingle roof by walking on it unless you know where to step.

CONDITIONS - WHAT TO WATCH FOR YOUR INSPECTION FOCUS SHOULD BE ON

1. Rust - check along edges where the metal has been cut. Rust often starts there. Rusting shows up first as discoloration or small pinholes. These are sometimes difficult to see, especially from the ground. Rust on metal roofing is caused by exposure to the atmosphere and weather. Rusting may be more severe in areas close to salt water. Rust may be visible, but can also be concealed. Rust may first appear at field-cut edges, where there is no corrosion resistant coating.



Severely rusted sheet metal roof

2. Fastener failure - watch for over-tightened fasteners with the gasket squeezed out beyond the fastener. Over-tightening can cause dimples in the roof surface where water may collect. Watch for under-tightened fasteners by trying to rotate the gasket. You should not be able to move it with your fingers. Fasteners may also work loose over time with thermal expansion and contraction of the roof panels.



Fastener backed out
Photo courtesy of SOLARSHIELD METAL ROOFING



Caulking over leaking fasteners
Photo courtesy of Sentry Roofing, Inc.

- 3. Missing fasteners - watch for inconsistencies in the fastener pattern that may indicate missing fasteners.
- 4. Open or failed seams - caulking may suggest repairs to failed seams



Open seams on this metal roof (poor roof-wall joint as well)



Open seams and rusted fasteners on this metal roof

- 5. Debris in seams - watch for hardened dirt forming mud-like deposits along seams. Water gets hung up in these areas, often resulting in leaks.
- 6. Roof penetrations and changes in direction and/or material - as with any roof, these are the vulnerable areas.
- 7. Overhangs - these depend on the manufacturer, but should be roughly 1-1/2 to 2-1/2 inches at the eaves and gables.

A WORD ABOUT LEAKS

Leakage is often around the fasteners. Check for rust around fasteners and watch for fasteners that are loose or have pulled through the panel. Fastener failures may be caused by poor installation, corrosion of the fasteners (accelerated if there is a dissimilar metal contact leading to galvanic action), or wind uplift forces that exceed the design. Watch for caulking or other sealants on the roof surface.

This usually suggests poor installation and/or repair work.



Rusted metal and failed fasteners
Photo courtesy of Sentry Roofing, Inc.

Alan Carson was a founding member of the Canadian Association of Home Inspectors (CAHI, now CAHPI) in 1982, and a was founding member of the Ontario Association of Home Inspectors (OAHI) in 1987. Alan has served as President of the American Society of Home Inspectors (ASHI) and the OAHI.



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2014 NATIONAL ELECTRICAL CODE CHANGES FOR HOME INSPECTORS

BY MICHAEL CASEY, MCI

The 2014 NEC has been adopted by numerous western states by now, however, in California the triennial code adoption cycle should result in the 2016 California Electric Code being published July of this year, with adoption January of 2017. Of course numerous agencies will submit amendments to this code to eventually become the CEC. Generally, most of the residential aspects of the NEC remain intact in our CEC. This article focuses on changes that will effect home inspectors. Of course these changes apply to new installations. However, part of our judgment in the field is to recommend upgrades to existing installations for increased safety and or performance, which is up to the inspector.

WE'LL START WITH SECTION 100 IN THE NEC; DEFINITIONS

Readily Accessible: changed to include “capable of being reached quickly for operation, renewal, or inspections. Installations which require the use of tools or present obstacles to access are not permitted.” To me this means behind a refrigerator, washing machine, etc., for any panel or even GFCI device would be wrong.

Effective Ground Fault Current Path: moved from 250.2 to section 100 definitions. This is because this phrase is used in many articles of the NEC, and really belongs in the definitions section.

NEXT WE'LL MOVE ON TO SECTION 110, INSTALLATION REQUIREMENTS

Dedicated Equipment Space: changed to include “outdoor installations” as the previous version could be interpreted as interior only. Space equal to width and depth of equipment and extending from grade to the height of 6-feet above equipment is for electrical equipment only. This is not often enforced in residential. However, technically there should be no foreign systems (plumbing, ductwork, etc.) above electric equipment enclosures.

SECTION 210.8, BRANCH CIRCUITS

GFCI for personnel protection: changed to include “125 Volt 15 and 20 Amp receptacles installed for laundry area, including for machines.” Now, the GFCI device must be readily accessible, as previously discussed in the revised definition.

GFCI for personnel protection: changed to include “125 Volt 15 and 20 Amp receptacles within 6ft. of a bathtub or shower stall edge” as the previous requirement could be interpreted as near the sink or in a “bathroom” only. Sometimes the tub and or shower stall are located in a different area than the sink, and might not specifically fit the definition of “bathroom.”

GFCI for personnel protection: changed to include “125 Volt 15 and 20 Amp receptacles within 6ft. of any sink.” Often sinks are installed outside of bathrooms and kitchens; this clarifies the intent to have GFCI protection near any sink.

GFCI for personnel protection: changed to include “outlets that supply dishwashers.” This applies to both flexible cord connected and hard wired appliances. Also, kitchen circuits now require AFCI protection, so a dual function device breaker could be used, or an AFCI breaker feeding a

GFCI receptacle device. The GFCI device must be readily accessible as previously discussed.

SECTION 210.12, BRANCH CIRCUITS

AFCI Protection in Dwelling Units: changed to include “branch circuits that supply outlets or devices in kitchens and laundry areas.” This applies to both flexible cord connected and hard wired equipment. A dual function device breaker could be used, or an AFCI breaker feeding a GFCI receptacle device for each circuit. The AFCI and GFCI device must be readily accessible as previously discussed.

AFCI Protection in Dwelling Units: changed to exclude “extensions or modifications less than 6-feet and no additional outlets or devices installed.” Applies to renovation or modification of existing wiring such as for panel replacement, or extending a cable to accommodate equipment replacement or even moving of a receptacle or switch such as for removal of a portion of a wall.

SECTION 210.7, BRANCH CIRCUITS

Dwelling Units: changed to require “outlets installed for charging electric vehicles shall be supplied by a separate branch circuit and have no other outlets.” This to prevent nuisance tripping of the overcurrent protection device (OCPD). Previously many receptacles for the vehicle charger were on the garage general purpose circuit.

SECTION 210.52, BRANCH CIRCUITS

Dwelling Units: changed to require “outdoor receptacle outlets must be readily accessible from grade level, installed no higher than 6.5 feet above grade. At least one receptacle at front and one at rear of dwelling.” This to prevent the use of a porch or deck receptacle, which may not be accessible from grade, to meet the previous minimum requirement.

Dwelling Units: changed to require “a receptacle outlet installed for each car space (stall) in an attached garage or detached garage with power. The branch circuit can only serve the outlets in the garage to reduce use of extension cords and prevent nuisance OCPD tripping.

SECTION 250.68, GROUNDING & BONDING

Grounding Electrode Connection: changed to allow extension of the foundation steel to above the concrete for the grounding electrode conductor connection. Clarifies what we see all the time; the UFER can extend above the concrete for the connection and the clamp must be accessible. Pretty much what everyone has been doing unless an encapsulated type clamp in the concrete. Usually we see a mud ring or J-box with a blank cover, near the main electric panel, inside or outside, for the UFER clamp.

SECTION 250.130, GROUNDING & BONDING

Equipment Grounding Connection: changed to allow an extension of an equipment grounding conductor (EGC) from another, existing, branch

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circuit. The branch circuits must originate from the same panelboard. Essentially this change allows use of another circuit EGC, such as for replacing 2-pin receptacles with grounded type receptacles, or extending a branch circuit, instead of running a complete new EGC from the panel.

SECTION 314.27, DEVICE BOXES



Boxes at lampholder outlets: changed to require standard boxes for lights to support up to 50 lbs. What do we see in many houses in bedrooms where the ceiling light used to be? A fan. This change recognizes that many people change-out the light fixture for a fan, and requires a box that accommodates up to a 50 lb. fan.

Photo (left): The device below is the extra duty ext outlet cover

SECTION 334.40, NON-METALLIC SHEATHED CABLE

Removes requirement for a junction box when listed self-contained switches, receptacles or interconnectors are used. Applies to exposed and concealed wiring in existing buildings. These devices are intended mostly for modifications or repairs.

SECTION 400.7, FLEXIBLE CORDS

Permits use of a flexible cord connection between a receptacle and an inlet. An inlet is permanently wired using standard methods, such as NM cable inside the wall. These are generally used for flat screen televisions to hide the cables.



Photo (above): Typical Inlet Kit

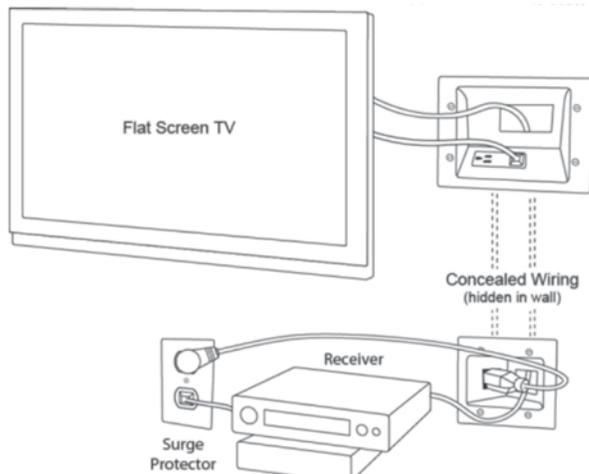


Diagram (above): Typical inlet kit installation. Noted flexible cord feeds the receptacle, after which NM cable is used inside the wall.

SECTION 406.9, CORD RECEPTACLES

Requires “extra duty” cover requirements to all wet locations (such as decks, balconies), not just receptacles from grade. Generally used for exterior receptacles, provides in use protection for cords for wet locations.



SECTIONS 445.11 AND 445.20, GENERATORS

Photo (left): The device below is the listed interconnector

I believe home inspectors should exclude generators and related equipment from a standard home inspection. The requirements for installation and transfer switching are complicated, and inspection is best left up to qualified persons. One of the new NEC requirements is the generator must be marked to identify if the neutral is bonded or floating. The other requires GFCI protection for 15KW or less generators without V-lock receptacles. Additionally, there were some changes regarding cord and plug connections in 702.12 for portable generators. If you don't know what this means, don't inspect generators.

SECTION 680.21, POOL PUMPS

All 120 or 240 Volt outlets supplying pool motors now require GFCI (plug in or hard wire). Previous this was 15 or 20 amp only. This change has led to the next change in 680.22 wherein outlets supplying pool motors 6-10 feet from the pool via a flexible cord are no longer required to have locking configuration.

SECTION 680.25, SPAS

Equipotential bonding of perimeter surfaces is not required for outdoor portable spas with 4 specific conditions met:

- The spa sides must 28-inches or more above any surface within 30-inches horizontal
- The spa must be self-contained and listed for above ground use
- The spa cannot be identified as “for indoor use only”
- Must be installed per manufacturer instructions

That's about it for 2014 NEC changes that will affect home inspectors. I'd like to close with answers to a couple questions I receive several times monthly:

Are multiple neutral wires allowed to be terminated in a single terminal bar slot? The answer is no – unless the panel label indicates this is allowed – and I have never seen one that does. This was clarified in the 2002 NEC section 408.21.

Are multiple equipment grounding conductors allowed to be terminated in a single terminal bar slot? The answer is most likely yes; the panel label will tell you how many. Usually it is two, sometimes three.



Michael Casey, MCI, ACI, CNCS, is principal of Michael Casey & Associates; a national A.M. Best recommended consulting firm based in San Diego. Mike is past president of the California Real Estate Inspection Association (1994/1995) and of the American Society of Home Inspectors (ASHI) (2002). Mike is multi-code certified by the ICC and IAPMO.

He is a licensed general, plumbing and mechanical contractor in several states and a Virginia Certified Home Inspector. Besides co-authoring several books in the Code Check series and author of the “Code History Master” booklet and app, Michael has authored numerous other books, has taught home and building inspection nationwide and has an expert witness and claims consulting practice throughout North America since 1987. Mike has inspected over 10,000 buildings in his over 30-years career in the inspection profession. Mike and his wife Kelly operate Inspection Training Pros, an online and live class pre-practice home inspection school in California.



Business Practices That Can Help Build Relationships and Reduce Ethics and Performance Complaints

BY DAVID PACE, MCI

Unless he walks on water, at least on a semi regular basis, the time will come when a Realtor® or client will be upset with the inspector, the inspection and/or the inspection report. There may be some basis for their displeasure, but most of the time, there is little or no basis. The house is falling off the foundation and it is obviously it is the inspector's fault since he was the one who found it. It's the "shoot the messenger for delivering the message" mentality. In past articles, as well as on the CREIA web site, the difference between a performance complaint and an ethics complaint has been discussed at length. To review, a performance complaint deals with the finding of fact. The inspector allegedly missed something or made an error of fact. An ethics complaint deals with violating guidelines that could create conflicts of interest. As indicated on the CREIA web site the most common ethics complaints relate to "advertising, improper or unauthorized use of the CREIA logo, improper use of the word 'certified,' inaccurate listing of credentials or CREIA offices held."

It is our responsibility to do the very best inspection we possibly can. If we do the best inspection possible and adhere to our Standards of Practice it will reduce the chance of a complaint later. Ken Compton, one of America's premier home inspection marketing coaches drives home the point that a client or Realtor® must know you, like you and trust you. If they do, the inspection orders will follow. It's about relationship building. I think there is a corollary, "If a Realtor® or client knows you, likes you and trusts you, they will be

less likely to file complaints and be more likely to call you on the phone and work to resolve any potential problems."

CREIA has done a good job of policing themselves and in recent years the number of complaints has been relatively low. I would suggest there are certain business practices, which, if we carefully follow them, we can help lessen the number of complaints and callbacks. The following are certainly not original ideas and many of you may already have incorporated them into your business practice.

1. Create a company image. You are a professional. Act like a professional. Dress like and professional. Talk like a professional. Drive a clean vehicle - like a professional. Do a professional inspection. If there are issues with the property - deal with them in a professional manner.
2. Don't use "inspect speak". Learn how to communicate in a professional non-threatening manner. I do not understand the trades or occupations of many of my clients. I'm not a car mechanic or landscaper. I would need for the mechanic or landscaper to communicate in a manner I understand. Don't assume the client knows what a truss or reversed polarity is.
3. Follow the Standards of Practice.
4. Make sure your advertising is consistent, truthful, accurate and reflects your position in the market place. Your advertising may

be your client's first impression of your services. Make your impression memorable and positive.

5. Make sure your web site communicates the benefit of using your services. Clients want to know what's in it for them. Tell them.
6. Have the client sign an inspection agreement prior to the beginning of the inspection. I would recommend you attach a copy of the Standards of Practice with the inspection agreement. Inspection agreements that incorporate the Standards of Practice are available from the CREIA web site. The key is to manage your client's expectations. Let them know the scope of what you do before you start the inspection. Their expectations may exceed the scope of what we do. A client may expect that you test for mold but mold testing is beyond the scope of our inspection. They may think you can see inside walls to see the sewer line buried in the soil. Manage the client's expectations.
7. Ask the client if they have any concerns with the home or property. Make sure you address their stated concerns. If their concern is outside of the Standards of Practice, let them know. If they express a concern about the water fall in the back yard, let them know inspection of water falls is outside the scope of our inspection and suggest they hire a qualified professional to

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address their water fall concerns.

8. Follow the Standards of Practice.
9. Sometimes the client will bring the ultimate construction authority, "Uncle Buck" or Cousin Fred, to the inspection. You are a professional. Thank them for being there. (Quietly take two aspirin – extra strength if need be.) Respect their "input" or observations (even when wrong). Make it a point to thank them for attending the inspection before they leave. Remember, you are a professional.
10. Arrive to the inspection early. On time is ten minutes late.
11. Ask if there is a current pest report available for review. The report could alert you to potential problems that may be within the scope of your inspection.
12. Deliver the report, by whatever agreed method, when you promised it.
13. Follow the Standards of Practice.
14. Follow up, after the inspection report has been delivered, with the Realtor® and the client. Do they have any questions?

Answering questions or concerns now may prevent calls and concerns later. Remember it's about building relationships.

15. Send a thank you note to the client and Realtors®.
16. Did we mention follow the Standards of Practice?
17. If a problem or call-back occurs, deal with it in a professional and courteous manner.

Many of these may border on being marketing points. So be it. We want the client to be in a positive frame of mind. The key point to remember is that we are in the relationship building business. A happy client will be a good source of referrals for years to come. It is much more cost effective to retain a client or Realtor® for future referrals, than to repeatedly have to market our services to new clients and Realtors®.

Don Jackson in his book, *2,239 Tested Secrets for Direct Marketing Success*, relates the following story. "A friend of mine bought a Lexus – a \$45,000 piece of machinery. He could afford a Mercedes, a Jaguar, a Cadillac, but he went with the Lexus. His lifetime value to that automobile manufacturer could be in the high six figures.

My friend took delivery of his elegant new

Lexus from the dealer and started to drive it home, luxuriating in the smell of the leather interior and the glorious handling qualities. On a whim, he turned on the radio. His favorite classical music station came on loud and clear in splendid quadraphonic sound. He pushed the second button; it was his favorite news-weather-traffic station. The third button was set to his specific tastes.

Was the Lexus psychic? No. The mechanic at the Lexus dealership had noted the radio settings on the old trade in and duplicated them on the new Lexus. My friend was, in a word delighted."

He goes on to say, "Remember what this technician did for my friend cost Lexus nothing. Zip. Nada. Not one cent. Yet it solidified the relationship. Over the coming years, Lexus will have to screw up big time to negate that divine moment."

As Ken Compton relates, "Delight A Customer (or referral source) And You Can Have That Customer For Life!" Remember we are in the relationship building business.

*David R. Pace, MCI
Chairman of the Board*



PIPE AND STACK FLASHINGS

BY ALAN CARSON

Most homes have round pipes penetrating the roof; for example -

- Plumbing stacks
- Electrical masts
- Exhaust vents from fans or combustion appliances

MATERIALS

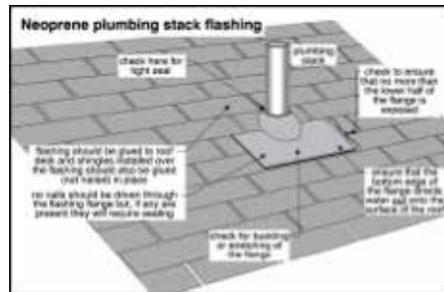
These roof penetrations may be plastic, cast iron, steel, aluminum or copper. The flashing materials may be steel, rubber (neoprene), lead, copper or aluminum, or a combination of materials. These flashings are called roof jacks in some areas.

The flashing details are similar for any of these penetrations, although the approaches are different for sloped and flat roofs (Steep and low slope roofs). We'll focus on sloped roofs here.

SLOPED ROOF INSTALLATION

- The roof is shingled up to the height of the stack.
- With asphalt shingles, a shingle is typically cut and slid over the pipe.
- The flashing flange is then placed over the stack and sealed or nailed in place.
 - The flange is a flat rectangular surface that sits on the roof.
 - The flange typically has a tapered collar that is approximately the same diameter as the pipe.
 - Some flanges have an integral sealant or gasket that creates a seal when the flange is slid over the pipe.
 - In other cases a separate storm collar is provided.
 - Some flanges are friction fit only.
 - Some are gasketed.
 - Some are sealed with caulking or other sealants, and/or a draw band (band clamp).
 - Some flanges have a sleeve soldered to the flange with a return on the top of the sleeve that fits over the top of the pipe.
 - Others have a sleeve and separate cap that fits over the pipe.

- Once the flange is in place and sealed, the shingling is continued so that at least half, and in some cases almost all of the horizontal section of the flashing flange, is covered with roofing materials.
- The shingles (if asphalt) that are on top of the flange are often set in a continuous layer of asphalt cement.
- Some roofing authorities recommend that nails not be driven through the flange.



Adverse conditions to watch for on these flashings include -

1. rust
2. damage
3. vertically misaligned
4. installation problems

In all of these conditions, the implication is the possibility of leakage.

RUST

Rusted flashings are caused by -

1. age
2. failure to maintain/paint
3. incompatible materials, or
4. tar over the flashings



This stack has rusted through, and roofing cement has been used to make a temporary repair.



This electrical mast flashing is rusted, and the rubber collar has failed.

DAMAGE

Damaged flashings may be caused by -

1. snow and ice accumulation on the roof
2. animal activity
3. foot traffic
4. careless roof work nearby
5. replacement of a pipe or stack without replacing the flashing, or
6. deterioration of the flashing due to age



Stack flashing and shingles damaged by vermin.



Raccoons have chewed the lead collar. Tree branches should be cut back away from roof to help restrict raccoon access. The flashing sleeve and collar should be replaced.

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Here's another stack on the same roof with the same problem - a chewed lead collar.



This is a common failure of the rubber collar. Collars often fail first on the uphill side of the vent.



Roofing cement was used as the flashing material for this roof - a very poor approach, and over time has been damaged by UV exposure.

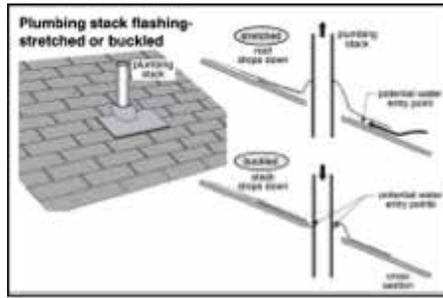
VERTICALLY MISALIGNED

CAUSES

Vertical misalignment of the flashing is usually a result of movement between the plumbing stack and roof deck. This movement can occur either up or down. If the roof deck moves relative to the plumbing stack (when loaded with snow, for example), the flange will be pulled up off the roof. If the pipe or stack drops relative to the roof deck, the appropriate slope of the flange may be lost and a recessed low area may be created around the pipe.

IMPLICATION

Again, leakage is the implication.



CHIMNEYS

STRATEGY

When looking at pipes or stacks, make sure that -

- There is a flashing flange in place.
- The connection around the pipe or stack is weather tight.
- No more than the lower half of the flange is exposed.
- The bottom edge of the flange directs water out onto the surface of the roof below.
- Exposed nails at the lower corners of the flange are sealed.
- There is no evidence of lifting of the flange relative to the roof deck, or shrinkage of the pipe and buckling of the flange, relative to the roof deck.



Improper support of this heavy cast iron stack has allowed it to drop. The flashing is not weather tight.



The flashing boot is recessed and will hold water.



Buckling of the flashing can result in entry of vermin.

INSTALLATION PROBLEMS

These include -

1. missing flashing
2. improper flashing material (e.g., asphalt cement on asphalt shingles, or rubber flashing flanges on curved concrete tiles)
3. top half of flange exposed above roofing material, or bottom edge of flange concealed below roofing material
4. flashing located in a valley
5. exposed fasteners not sealed
6. missing fasteners



A poorly installed flashing may leak and will reduce its life expectancy.



There is no flashing here.



Again, there is no flashing here.



The entire flashing flange is on top of the shingles.



They forgot to remove the caps on the vents after pressure testing the drain system. A simple but urgent fix - remove the caps!

CAUSES

A missing flashing is most often an installation issue. Where the entire flange is exposed, this is also an installation issue. Flashings may also be missing because of a mistake during re-roofing.

STRATEGY

Watch for what isn't there but should be. Missing components are a very common flashing problem. Most of the installation problems we've listed can be readily seen, if you remember to check for them.

SO WHAT DOES THE BUSINESS AND PROFESSIONS CODE HAVE TO SAY ABOUT HOME INSPECTIONS AND HOME INSPECTORS?

BY DAVID PACE, MCI, CHAIRMAN OF THE BOARD

Every year CREIA holds a Leadership Day. It is an opportunity for the new chapter leaders to receiving some training and share ideas about how to grow their chapters. One of the topics usually discussed is the California Business and Professions Code. Much of the CREIA Code of Ethics is based on the Business and Professions Code. How well do you know sections 7195 – 7199, which addresses the subjects of home inspections and home inspectors? Here's a short quiz.

THE FINE PRINT

Disclaimer: I am not a lawyer and on most days, can't even spell it. This quiz is not intended to pass as legal advice. It is intended to review what the Business and Professions Code has to say about our profession. If you don't take this to heart, sooner or later you will have the chance to meet a lawyer and contribute to his condo/retirement fund. It will probably be sooner than later.

Further disclaimer: Some of these questions have one correct answer, some may have several correct answers and there may be some with no exact correct answer.

1. What does a home inspection include?

- a. Mechanical, electrical, plumbing systems, structural and essential components of a residential dwelling.
- b. Mechanical or electrical or plumbing systems or structural or essential components of the residential dwelling.
- c. Mechanical and electrical or plumbing systems and structural or essential components of the residential dwelling.
- d. Mechanical, electrical, or plumbing systems or the structural and the essential components of a residential dwelling.

2. If requested by the client a home inspection shall include an inspection of energy efficiency.

True False

3. Which of the following would be considered a home inspection?

- a. Your neighbor is buying a five unit apartment and wants you to inspected it.
- b. Your neighbor just wants to know the condition of his house and asks you to inspect it.
- c. Your neighbor is buying a new house and wants you to inspected it.
- d. All of the above.
- e. C only

4. A home inspection identifies material defects. What is a material defect?

- a. A condition that affects the stability, habitability or safety of the dwelling.
- b. A condition that significantly affects the stability, habitability or safety of the dwelling.
- c. A condition that significantly affects the value, desirability, habitability, or safety of the dwelling.
- d. A condition that requires two aspirin and a call to the doctor in the morning.

5. Which of the following would not be considered a home inspection?

- a. You inspected a five unit apartment. Four of the units are occupied.
- b. It's Armed Forces Day. You donate an inspection to an active member of the military.
- c. Your mother-in-law is concerned about the condition of her house. You inspect it.
- d. Your wife is concerned about the condition of your house (You own the house). You inspect it.
- e. All of the above

6. A home inspection report

- a. must be written.
- b. must be written but could include a consultation.
- c. must be narrative and not a checklist.
- d. may be issued at any time during the inspection.

7. The business and professions code defines a home inspector as:

- a. a person who performs a home inspection.
- b. a person who has a pulse, flashlight and drives a pickup truck.
- c. a former contractor.
- d. a person who, on Tuesdays, jumps tall buildings in a single bound.

8. A client discovers a deteriorated floor in a bathroom you inspected three months ago. They call a general contractor who says the home inspector was negligent and should have spotted the problem. You are now in court and the general contractor testifies against you. To what standard are you held?

- a. That of a licensed general contractor.
- b. That of a prudent and licensed pest contractor.
- c. That of a prudent structural engineer.
- d. That of a prudent home inspector.
- e. That of the CREIA Standards of Practice.

9. A home inspection report describes and identifies

- a. Inspected systems, Inspected structures and Inspected components of the dwelling.
- b. All of "a" plus any material defects.
- c. All of "b" plus any recommendations for further evaluation of the conditions noted.
- d. All of "c" plus recommendations of the appropriate persons for repair.

10. Should you agree to conduct an "inspection of energy efficiency", you are required to inspect and report on which of the following:

- a. A noninvasive inspection of insulation R-values in attics, roofs, walls, floors, and ducts.
- b. The number of window glass panes and frame types.
- c. The heating and cooling equipment and water heating systems.
- d. The age and fuel type of major appliances.
- e. The exhaust and cooling fans.
- f. The type of thermostat and other systems.
- g. The general integrity and potential leakage areas of walls, window areas, doors, and duct systems.
- h. The solar control efficiency of existing windows.
- i. All of the above.
- j. None of the above.
- k. Some but not all of the above.

11. As a professional home inspector it is prudent for you:

- a. To provide some analysis of foundation cracks.
- b. Provide some assistance in helping a potential buyer determine the property lines of the property they intend to buy.
- c. Determine if the furnace will sufficiently heat the home they are buying.
- d. All of the above.
- e. None of the above
- f. "B" but "C" only if you are comfortable providing the assistance.

12. A home inspector cannot be a structural pest inspector.

True False

13. It's not a violation of the B&P Code to make repairs on an inspected property as long as long you don't charge an additional fee.

True False

14. The CREIA contract states, "No legal action or proceeding of any kind, including those sounding in tort or contract, can be commenced against Inspector/ Inspection Company or its officers, agents or employees more than one year from the date Clients discover, or through the exercise of reasonable diligence should have discovered, the cause of action. In no event shall the time for commencement of a legal action or proceeding exceed two years from the date of the subject inspection."

- a. This is in accordance with the Business and Professions Code.
- b. This is at variance with the Business and Professions Code.
- c. This is legal because the California Real Estate Association is a recognized organization.
- d. This is legal because it has become an accepted industry practice.

15. It is good public policy to limit the liability of the inspector to the cost of the inspection and cheerfully refund the inspection fee.

True False

16. The time frame for a client to commence legal action against a home inspector is:

- a. Two years per the CREIA Contract.
- b. Three years if approved by the local Board of Realtors.
- c. Four years regardless of the CREIA contract or the local Board of Realtors.
- d. Ends when the tail lights on your designated company vehicle are no longer visible.

17. According to the Business and Professions Code, as marketing benefit, it is acceptable for an inspector to give Christmas gifts to:

- a. The buyers real estate office broker only.
- b. The sellers real estate office broker only.
- b. Anyone as long as the value does not exceed \$10.00.
- c. The Client.

- d. The Realtor.
- e. The seller of a property.
- f. Your office staff.
- f. None of the above.

18. You perform a home inspection on a property. You also perform a structural pest inspection. In regard to the items on the pest report:

- a. You may not perform any pest report repairs within 12 months of the home inspection.
- b. You are not allowed to make any repairs.
- c. You may make repairs but, may not charge for them.
- d. You may make repairs outlined in the pest report.

19. The listing agent, with the approval of their broker, makes an upfront offer to all parties potentially associated with the transaction (In this case the Buyer, Buyers agent, Pest Inspection Company, Chimney Inspector, Home Inspector, home warranty and Mortgage Company- but not the lender) that if everything goes "smooth" and the house closes before the end of the month that all parties will get a bonus for doing their part to "bring the deal together".

- a. This is good marketing because it motivates everyone to work harder to close the deal.
- b. This is a good idea because it builds teamwork and helps build the economy.
- c. Do not schedule the inspection, do not do the inspection.
- d. It's okay to schedule and do the inspection as long as you do not provide a written report.

20. Your spouse is the broker in a real estate office. It would be a violation of the Business and Professions Code to perform a home inspection for:

- a. Pre-sale inspection listed by an agent in the office.
- b. A buyer for an agent in the office.
- c. The broker (your spouse).
- d. Any of the above. (Can't do an inspection for any of the above.)
- e. None of the above. (It would be okay to do an inspection for the broker or any agent in good standing.)

- 1. D Section 7195
- 2. False Section 7195 (a) (2)
- 3. C Section 7195 (a) (1)
- 4. C Section 7195 (b)
- 5. E Section 7195 (a) (1)
- 6. B Section 7195 (a) (1) and 7195 (c)
- 7. A Section 7195 (d)
- 8. D Section 7196
- 9. D Section 7195 (c)
- 10. J Section 7195 (a) (2)
- 11. E Section 7196.1 (a)
- 12. False Section 7196
- 13. True Section 7197 (a) (1) Note: The question did not ask about the wisdom of making repairs.
- 14. B Section 7199
- 15. False Section 7198
- 16. C Section 7199
- 17. C and F Section 7197 (a) (3)
- 18. D Section 7197 (a) (1) and 7197(b)
- 19. C Section 7197(a) (4)
- 20. D Section 7197 (a) (2)

THE DAY IN THE LIFE OF A DISASTER HOUSING INSPECTOR

BY JOY OUTRAM, PHR

Most of us have read the stories about the lives of police officers, firefighters, and doctors and the challenges they face each day. Our story, while not filled with the excitement of COPS, Chicago Fire or Gray's Anatomy, still profiles a fulfilling, adventurous job in the middle of a disaster zone. Read on to find out why being a Disaster Housing Inspector might be right for you. The only two requirements that you need to have for this job outside of compassion and organization, is U.S. citizenship and the ability to pass a Moderate Background Check.

The first thing that most disaster housing inspectors will tell you is that their day really starts the night before. As soon as they return from dinner, they start working on the next day's work. Each inspector is assigned a tablet that holds their assignments. Inspectors are given anywhere from 5-30 inspections which need to be completed within five days of assignment. They prepare for the day ahead by looking at their oldest assignments, grouping them into an easily drivable route and making initial phone calls to citizens who have applied for federal disaster assistance (applicants). Inspectors must contact and schedule an appointment with the applicant, often starting as early as 7:00 am, so by reviewing their applicant's information the night before, they gain a sense of what to expect. For example, a retired couple might have the flexibility to meet in the daytime, while a single mom may need a later evening appointment when she arrives home from work. Taking into account all these considerations, the Inspector makes calls, sets appointments and maps the route. Then it's time for bed.

5:00 am. Inspectors are up early! They usually schedule the furthest appointment from their base location first thing to give themselves time to drive out. Inspectors know they have a busy day ahead so they grab some healthy breakfast items, snacks for later, a hot cup of coffee and proceed to their first inspection. They dress in business casual clothes with protective footwear and never leave the hotel without their badge. Arrival at the first applicant's house is usually at 7:00 am.

7:00 am. First inspection of the day. Upon arrival at the house, a picture of the exterior is

immediately taken. The inspector then knocks on the door and kicks off the appointment by introducing him or herself as a FEMA Contractor representing Vanguard EM. The first part of inspection involves collecting basic information about the applicant's occupancy and ownership of the residence. On the initial phone call, the inspector should have prepped the applicant to have all the documentation ready for review, so the interview usually starts at the kitchen table. The inspector verifies the documentation and then receives a signature before the rest of inspection takes place. Once the documents are verified, the inspector reviews the damage to the home room by room, taking pictures and recording damages. At the end of the inspection, the inspector lets the applicant know that they will submit the inspection and FEMA will be in touch. Inspectors only record damages and never promise funding.

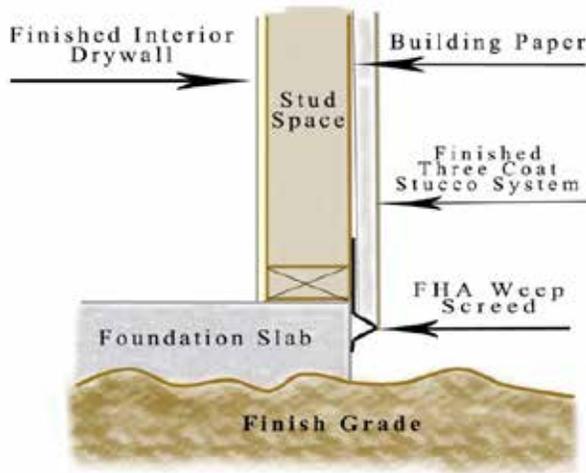
9:15 am. After reviewing the next applicant's notes, the inspector heads out for the next inspection. Most inspectors complete between 8-20 inspections a day. This, of course, varies depending on location, severity of damage, and experience level. Inspectors are paid by number of inspections completed but the goal is to be as thorough as possible with minimal errors. To ensure that errors are avoided, inspectors have resources within Vanguard EM, including field supervisors, team leaders and the quality assurance review staff, to ask questions and confirm information before submitting the inspection. The more questions asked in advance, the more compliant the inspection is and the less chance for FEMA Correction or a Contractor Correction. Inspectors are paid for inspections that have no corrections.

7:00 pm. The rest of the day, the inspector is visiting applicants, completing inspections and returning their inspections to Vanguard EM's headquarters for a quality assurance review. If an applicant isn't home for a scheduled appointment or the applicant can't be reached to set up an appointment, inspectors are required to post a note on the applicant's door and continue to reach out to them by email, phone or text at different times over a three day period.

8:00 pm. By this time, the inspector has been out working since early in the morning and hopefully can sit down for a few minutes and enjoy dinner. Inspectors are paid the federal GSA daily per diem rate for meals, and are reimbursed at the federal GSA rate for their lodging and incidentals. However, inspectors should be prepared to cover the first three weeks of expenses before being reimbursed, since expense reports are submitted weekly and inspectors paid within two weeks. Once dinner is done, it's time to start preparing for the next day. The process begins again, finding the oldest inspections in their pad, calling to confirm appointment times, explaining what the applicant needs to have ready to go, and mapping out the route.

11:00 pm. After a phone call home to the family or friends, maybe a few innings of baseball game or quarter of a basketball game and the Inspector is ready to call it a night. Working with disaster survivors is a fulfilling job that calls too many individuals. Whether you are retired, looking for supplemental income, a teacher with the summer off, or a college student home for the summer; this short-term deployment work is an experience that isn't quickly forgotten. Inspectors finish the day knowing that they have made a difference in the life of an individual or family and that feeling tops just about anything else that we can do.

Joy Outram, PHR, Recruiter. If this sounds like the type of work you would like to do, please visit our webpage at www.vanguardem.com or contact us directly at recruitment@vanguardem.com. We will get you started on a successful and fulfilling job as a Disaster Housing Inspector!



TO WEEP OR NOT TO WEEP

BY ED DAHER

The plastering industry over the past 40 plus years has become intimate with the weep screed. Prior to 1973 building codes did not require weep screeds at the foundation plate line of buildings. Homes built before that date had no means by which any water reaching the back plane of the stucco could reach the exterior of the building. There were occasions where water intrusion occurred, traceable to moisture entering at some opening on a wall and traveling downward between the building paper and the stucco system only to be trapped by the plaster applied over concrete or terminating into the earth.

The weep screed is a manufactured device of corrosion resistant steel, galvanized, aluminum, or vinyl configured in such a way that moisture running down the face of the building paper or other weather resistive barrier behind the stucco system can escape to the exterior of the building.

This device has a 3 1/2" vertical flange, a diagonal 7/8" extension which provides the thickness of the stucco, a horizontal, and vertical lip assembly at the bottom. In the diagonal area it has 3/8" to 1/2" holes which most believe are for weeping moisture where in fact the holes actually serve as a key for the stucco.

UBC - SECTION 2506.5

A No. 26 galvanized sheet gage corrosion-resistant weep screed with a minimum vertical attachment flange of 3-1/2 inches (89 mm) shall be provided at or below the foundation plate line on all exterior stud walls. The screed shall be placed a minimum of 4 inches (102 mm) above the earth or 2 inches (51 mm) above paved areas and shall be a type that will allow trapped water to drain to the exterior of the building. The weather-resistive barrier shall lap the attachment flange, and the exterior lath shall cover and terminate on the attachment flange of the screed.

One item occasionally pops up in a home inspection. It deals with "rusted weep screeds" and is usually followed with recommendations that "stucco be removed for a distance of 12" up the wall and new weep screed installed.

When weep screeds gets corroded moisture continues to escape. Rust does not inhibit water flow to the exterior.

Ferrous metal exposed to moisture forms ferrous oxide (rust) and renders the weep screed unsightly. It does not affect weep screed function, however even if the ground of the screed has rusted away, the ability of the moisture to escape remains. This is a cosmetic issue and can be unsightly and recommendations for replacement should be implemented.

This series of columns is designed to familiarize CREIA members with "The Glossary Project" which is "Standardized Terminology for the Professional Real Estate Inspector." This is a must have for all inspectors and is especially helpful in preparing the candidate for the CREIA CCI test as most of the terms in the test are defined in The Glossary Project. It is available from the CREIA On-Line Store.

1. A system or component that is turned off, inactivated, not in-service, non-operational is _____.
2. A _____ is a fan, blower or other mechanical means provided to move air, heat or water vapor to or from any room, space or equipment.
3. A _____ is an assembly consisting of a hearth and fire chamber of noncombustible material and provided with a chimney for use with solid fuels.
4. A _____ transfers power from the utility line into a house to be distributed through fuses or circuit breakers.
5. A _____ is a framework of beams forming a rigid structure, such as a roof or floor.
6. _____ is the opposition in a circuit to the flow of alternating current consisting of resistance and reactance.
7. The _____ is an air compartment or chamber including uninhabited crawl spaces, areas above a ceiling or below a floor, or attic spaces, to which one or more ducts are connected and which forms part of either the supply air, return air or exhaust air system, other than the occupied space being conditioned.
8. A _____ is a group of wires for transmitting electrical signals that are bound together and usually have shared or common insulation.
9. _____ is a plaster-like material used along with wallboard tape to fill and finish joints between gypsum board panels.
10. _____ or _____ refers to equipment that is shown in a list published by an approved testing agency.

1. Shut Down 2. Mechanical Vent
3. Fireplace 4. Service Panel 5. Truss
6. Impedance 7. Plenum 8. Cable
9. Joint Compound 10. Listed and Listing

ANSWERS:



When to Report a Claim or Incident

BY DAVID BRAUNER

For many home inspectors, the anxiety ratchets up a few notches when facing an unhappy and complaining client, but not always for the reasons you might expect.

Many inspectors are confident in their reports, so typically that is not the worry. For these inspectors, the heartburn is not whether they made a mistake in the report but whether to report the complaint to their insurance agent or just “take care of it” themselves, or simply ignore it altogether. Most inspectors have walked in these moccasins at least once.

If you do report it, the worry is that the insurance company will “roll over” and pay off a complaining client just to save itself money, and then raise your rates next year, whether the complaint has any merit or not. To a careful and competent inspector, that prospect is enough to make your blood boil. And to add insult to injury, the “settlement” is usually just under the deductible cost and comes out of your pocket!

IF YOU'RE WITH ME SO FAR, HERE A FEW THINGS YOU OUGHT TO KNOW.

1. Most insurance policies contain language requiring the insured to report the claim or incident when it happens. A claim can usually be defined as a demand for money or simply a “demand.” Admittedly, this can be murky territory. It doesn't hurt to take a look at your policy language. With the OREP home inspector policy, a Claim means a written demand or suit you receive. In this case, suit means a civil proceeding

for monetary, non-monetary or injunctive relief, which is commenced by service of a complaint or similar pleading.

While a verbal demand or complaint technically does not meet the definition of a “claim,” it can still trigger the reporting provision in your policy that requires you to report any incident that reasonably could give rise to a claim in the future. Most inspectors ignore verbal complaints but take written ones seriously, especially if they arrive Certified Mail on a law firm's letterhead. It's important to know that the language of many insurance policies do not make any distinction between a verbal and a written complaint. You usually have a duty to report. The good news is that contrary to what you might think, reporting is in your own best interests.

2. Home inspectors do make mistakes, sometimes serious ones that wind up costing tens of thousands or even hundreds of thousands of dollars to defend and settle. If you have insurance and you find yourself embroiled in a complaint, pat yourself on the back for avoiding the potential catastrophe of having to come out of pocket to defend yourself. No one likes insurance until they need it. If you don't have insurance, get sound legal advice as soon as possible.

WHY REPORT

First, as explained above, most policies have language requiring you to report a claim or incident. Why is it so important for the insurance

company to know about the claim or potential claim when it happens? Because experience shows that when an insured (you) attempts to handle a claim on their own, they are more likely to hurt their own defense rather than help it. Most insurance programs, such as OREP, have a team of claims adjusters who work to get frivolous claims dismissed. The best advice is to let the experts handle the response, even the initial one. Too many times a polite apology or impulsive admission of responsibility is hard to undo.

Secondly, if you do not report an incident when it happens, and some time goes by and the incident resurfaces as a full-blown claim, the insurance company has the right to refuse coverage if the incident was not reported in a timely fashion. That's what most policy language says. It's rare but it can happen.

Additionally, if you have completed a renewal application in the meantime and checked the box “no claims or incidents,” they are going to want to know why. If they believe you willfully concealed facts, they can refuse coverage. They may defend the claim but won't renew your policy. When you search for a new carrier, one of the questions typically is whether you've ever been denied coverage and why. You get the picture. It can get ugly fast.

CLAIMS MADE

Most every inspector has a “Claims Made” policy. This means the claim has to be reported during

CONTINUED ON PAGE 31

the policy period. What does that mean? If you let your policy lapse (don't renew intentionally) or if it is canceled for nonpayment, the policy period ends. If you did not report a claim or incident when the policy was in force (or during any applicable extended reporting period), there is no coverage for that incident. Moving your policy to another company at renewal while your policy is still in force will maintain past coverage as long as the new company offers prior acts coverage. But imagine this scenario: a homeowner complains about an item or two in your report a few months after they move in. You rebut it yourself and then hear nothing more. You did nothing wrong so you assume it's resolved. In the meantime, you've let your policy expire because business is slow, or you hate insurance, or you went on vacation and missed the renewal. Today, six months later, you receive a certified letter from the homeowner's cousin Joey who has just opened up his own legal practice and wants to practice on you. If you reported the incident when it happened, even if you let your Claims Made policy lapse, it should be covered because it was reported when the policy was in force. If you didn't report the claim/incident when the policy was in force, and it's expired now, there will be no coverage. So by reporting you are protecting yourself.

MYTHBUSTERS

Finally, most of the large established insurance programs for inspectors have a staff of adjusters whose job it is to evaluate the merit of these claims. If the claim is frivolous, the adjusters will respond accordingly. Typically, if the issue goes away at this "first defense" point, there is no cost to the insured's deductible and no premium increase next year. A happy ending. Many insurance programs, such as OREP, have internal "first defense programs" to handle frivolous claims and partnerships with industry experts that offer other valuable services, such as deductible forgiveness, contract review, expert on-demand technical advice to answer tough questions, home warranty protection and more.

So, to summarize, there is no downside to reporting incidents or complaints when they happen, and in fact, reporting can offer you the kind of protection you purchase insurance for in the first place.

David Brauner is Senior Insurance Broker at OREP.org, a leading provider of E&O Insurance for home inspectors and other real estate professionals in 49 states. He has served home inspector's E&O insurance needs for over 20 years. He can be contacted at dbrauner@orep.org or (888) 347-5273. Calif. Insurance Lic. #0C89873. Reprinted with permission.

ANNOUNCEMENTS:

Chapter Leaders:

Keep us up to date with your events and leadership!

Please send us the details of your Chapter's meetings, toolboxes and recaps (with pictures). We want to make sure your events are up to date!

Also, when your Chapter leadership switches hands, be sure to let the CREIA office know. We want to make sure the Chapter Leaders and Chapter Presidents are added to the Chapter Leaders' and Chapter Presidents' Listservs to receive important updates and to keep communication open.

Need Print-Ready Marketing Materials?

Print-ready marketing materials to distribute to your realtor agent contacts are available to CREIA members. Showing that you belong to the only California-dedicated real estate inspection association of 40 years proves that you are trained by the best. Getting CREIA's name out there is synonymous with getting your name out there.

Print-ready marketing materials on Buying an Investor Owned Property and How to Choose a Home Inspector are available on the CREIA Website or by emailing the CREIA office at info@creia.org. Chapters may list members on the reverse side of these documents or inspectors can include their contact information on the writeable PDF copies.

Spotlight on Benefits with CREIA Affiliate Members: Insurance

The Allen Insurance Group, CREIA Affiliate since 1992 offers a special policy for CREIA inspectors, which includes E&O and Full General Liability - Residential and Unlimited Commercial Inspections - Water/Septic Testing - Pool/Spas - Mold Testing - Radon Testing and More - One low price - no deductible - 10-25% savings for CREIA Members. Mike Casey (past chairman of CREIA) is your adjuster - Complimentary HonPro Technical Support - Contact Bob Pearson: 1-800-474-4472 ext 201 or bob@allenins.com

Capstone Partners Financial & Insurance Services, LLC: A Long Term Care policy from MassMutual offers clients the opportunity to stay in their home, maintain control, and a means to receive care without putting the burden on other family members. As a CREIA member you are eligible to receive a 10% discount on a new LTC policy. CREIA has partnered with Mutual of Omaha to offer an association discount for Long Term Disability Insurance to our members. As a member you are eligible to receive a 15% discount on a Term Disability Insurance policy. Contact: Robert Harman 949-225-9413 or rharman@financialguide.com

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OREP: CREIA Member Special E&O Discount: OREP is pleased to offer CREIA home inspectors a 5% discount on their E&O/GL insurance. The discount is meant to recognize the superior training, education and standards that CREIA Members possess. The OREP package includes comprehensive E&O, full general liability, pest/WDO, lead paint, EIFS/Stucco, commercial, infrared thermography, multiple inspectors/contractors, and more. Contact: Isaac Peck 888-347-5273 or Isaac@orep.org.



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INSPECTOR

JOURNAL



A PUBLICATION OF THE CALIFORNIA REAL ESTATE INSPECTION ASSOCIATION

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CHAPTER CALENDAR 2016

**FOR MORE INFORMATION
GO TO WWW.CREIA.ORG AND
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DELTA CHAPTER

2nd Wednesday of each month 6:00 pm
CK Grill and Bar, 14725 Harlan Rd, Lathrop, CA 95330

GOLDEN GATE CHAPTER

1st Tuesday of each month 7:00 pm
Buttercup Grill & Bar,
660 Ygnacio Valley Rd., Walnut Creek, CA 95496

GREATER SACRAMENTO CHAPTER

3rd Wednesday of the each month 6:00 pm
Sam's Hof Brau, 2500 Watt Ave., Sacramento, CA 95821

GREATER SAN GABRIEL VALLEY CHAPTER

2nd Tuesday of each month 5:00 pm
Zapata Vive, 101 S. 1st Ave., Arcadia, CA 91006

INLAND EMPIRE CHAPTER

3rd Wednesday of each month 5:00 pm
Carrows,
11669 E. Foothill Blvd., Rancho Cucamonga, CA 91730

KERN COUNTY CHAPTER

3rd Tuesday of each month 6:00 pm
Casa Munoz Restaurant
Corner of E. 18th Street & Union Ave., Bakersfield, CA 93305

LA MID-VALLEY CHAPTER

1st Wednesday of each month 6:30 pm
Alcapulco Restaurant, 722 N Pacific Ave, Glendale, CA 91203

LA/VENTURA CHAPTER

1st Thursday of each month 6:00 pm
Knights of Columbus Hall #3601
21433 Strathern Street, Canoga Park, CA 91304

LA WEST/SOUTH BAY CHAPTER

3rd Wednesday of each month 5:00 pm
The Lakes Golf Course
400 S. Sepulveda Blvd., El Segundo, CA 90245

NORTH BAY CHAPTER

1st Wednesday of each month 5:00 pm
Ping's Mandarin Restaurant
816 Francisco Blvd. West, San Rafael, CA 94901

NORTH SAN DIEGO/TEMECULA VALLEY CHAPTER

2nd Thursday of each month 5:30 pm
Castle Creek Golf Course
8797 Circle R Drive, Escondido, CA 92026

ORANGE COUNTY CHAPTER

3rd Monday of each month 5:30 pm
The Hometown Buffet
1008 East 17th Street, Santa Ana, CA 92704

PALM SPRINGS CHAPTER

3rd Thursday of each month 6:00 pm
Coco's Diner, 78375 Varner Road, Palm Desert, CA 92211

SAN DIEGO CHAPTER

1st Tuesday of each month 5:15 pm
Filippi's Pizza, 9969 Mira Mesa Blvd., San Diego, CA 92126

SAN FRANCISCO PENINSULA CHAPTER

4th Tuesday of each month 5:45 pm
Mimi's Cafe, Bridgepoint Shopping Center
2208 Bridgepoint Pkwy., San Mateo, CA 94404

SAN JOAQUIN VALLEY CHAPTER

3rd Wednesday of each month 5:00 pm
Yosemite Falls Café, 5123 N. Blackstone Ave, Fresno, CA 93710

SAN LUIS OBISPO CHAPTER

3rd Tuesday of each month 6:00 pm
Margie's Diner
1575 Calle Joaquin, San Luis Obispo, CA 93405

SHASTA/CASCADE CHAPTER

1st Tuesday of each month 5:00 pm
Sailing Board Restaurant
2772 Churn Creek Rd., Redding, CA 96002

SILICON VALLEY CHAPTER

2nd Wednesday of each month 5:00 pm
Blue Pheasant Restaurant
22100 Stevens Creek Blvd., Cupertino, CA 95014

TRI-COUNTIES CHAPTER

2nd Thursday of each month 6:00 pm
Grinder Deli Restaurant & Catering
1 W Los Angeles Ave (Moorpark Ave), Moorpark, CA 93021