



City of Lawton

Lawton City Hall
212 SW 9th Street
Lawton, Oklahoma
73501-3944

City Council

Processes Oversight Committee

Special Meeting

Agenda

Thursday, May 29, 2025

3:00 PM

Lawton City Hall
3rd Floor Conference Room

Recommending Body

"Official action can only be taken on items listed on the agenda. As a recommending body, the Committee may review and discuss agenda items, propose and enact floor amendments, and then choose to make a recommendation to the City Council or provide direction to the City Manager. The Committee may also defer items for further review, refer matters to the City Attorney, or send items to standing committees, boards, commissions, or authorities for additional study. In some cases, items may be postponed to a later date or removed from the agenda entirely."

Meeting Called to Order

Statement of Compliance with Oklahoma Open Meeting Act, 25 O.S. 301-314

Roll Call

Introduction of Guests

Business Items

1. Consider approving or denying the process of residential inspections regarding changes from the 2018 International Residential Code as recommended by the Building Development Appeals Board.

Adjournment

The City of Lawton encourages participation from all of its citizens. If participation at any public meeting is not possible due to a disability, notification to the City Clerk at (580) 581-3305 at least 48 hours prior to the scheduled meeting is encouraged to make the necessary accommodations. The City may waive the 48 hour rule if interpreters for the deaf (signing) is not the necessary accommodation."

Item Title:

Consider approving or denying the process of residential inspections regarding changes from the 2018 International Residential Code as recommended by the Building Development Appeals Board.

Initiator: Larry Parks, Director

Information Source: Charlotte Brown, Deputy Director

Background:

The Building Division recently started splitting the framing and insulation inspections into 2 inspections to conduct better inspections on residential structures. Staff have received a complaint from a contractor who is upset that he has to call his insulation subs to do two trips instead of one. Staff took this change to the Building Development Appeals Board on April 29, 2025. Staff discussed the changes and provided a packet that shows what the Building Inspector looks for on each inspection that he conducts on a residential house. The Building Development Appeals Board voted unanimously to recommend staying with this process that has been started.

Correlation to the True North Statement:

Protecting the safety of the Citizens

Exhibit:

Draft Minutes from BDAB 4/29/2025
Inspection Packet
Council Policy 6-1

Key Issues:

Funding Source:

Staff Recommended Council Action:

Approve the processes as recommended by the Building Development Appeals Board.

ATTACHMENTS:

- 1. Draft Minutes from 4/29/2025
- 2. RESIDENTIAL BUILDING INSPECTIONS
- 3. 06-01 Council Policy - Open for Business

MINUTES
BUILDING DEVELOPMENT APPEALS BOARD
CITY HALL AUDITORIUM
April 29, 2025

Minutes of the Building Development Appeals Board meeting held in April 29, 2025 the City Council Auditorium, City Hall, 212 SW 9th Street, Lawton, Oklahoma.

The agenda for the meeting was posted on the bulletin board in City Hall in compliance with the Oklahoma Open Meeting Act.

The meeting was called to order at 10:00am by Barry Ezerski.

ROLL CALL

MEMBERS PRESENT: Mike Cornish
Scott Prosser
Barbara Ellis
Barry Ezerski
Mark Mitchell
Arthur Patrick
Paul Brune* arrived after meeting started

MEMBERS ABSENT: Bryan Jones
Mark Pippin

ALSO PRESENT: Madison Aust, Recording Secretary.
Charlotte Brown, Chief Building Official/Deputy Director of the Community Enrichment Department.
Dudley Teeter, Chief Inspector Building Division.
Pierre Perez, Building Inspector Building Division.
Larry Parks, Director of the Community Enrichment Department.

2. Verify posting of meeting.

The meeting was posted on April 17, 2025 at 12:50 pm by Kobe Humble.

3. Consider approving the minutes from the July 15, 2024 meeting.

Motion by Cornish, **Second** by Ellis, to approve the minutes from the July 15, 2024, meeting as written. **Aye:** Prosser, Ellis, Ezerski, Mitchell, Patrick, Cornish **Nay:** None **Motion Passed.**

New Business

4. Update and discuss the changes in the 2018 International Residential Code (IRC) and make a recommendation to the Process and Oversight Committee.

Brown stated as you are aware, we adopted the 2018 IRC back and it went into effect back in November. We've discovered some changes that have had some heartburn for some local contractors and stuff. And so we wanted to bring those changes to the board and then you guys are going to make a recommendation and then we will be taking it to the process and Oversight Committee next month, which is a Council committee for approval and in order to go over that Pierre actually has put together the packet that's in front of you guys, so he is going to go over some of those changes. By how he looks at everything on each inspection that he does on the residential side. Pierre is our building inspector and I'm going to turn it over to him.

Perez stated hello, I'm Pierre Perez. I'm the Building Inspector here, and so the packet I put together doesn't show all of the changes from the 2018 IRC, but what I made sure was in there was everything that I checked for when I do my inspections. I listed every single inspection that I'm called out to do. If you turn to the page for that inspection, it's not necessarily in order, but I wrote down everything that I checked for and next to it I made sure that I included the code section for that. Some of the new changes, like I said, they're not in here because they don't have anything to do with some of the inspections that I do in the way that I do them. We were talking about the change with the framing and the insulation, when I started working here, we did the framing and insulation in all in one, but I started noticing that when I went to houses, I can't see the framing that is behind the insulation. Everything's covered up. If there is termite damage, water damage, fire damage, I can't see that. There's also in some of the framing if let say it rains and there's moisture and stuff. There's mold growth and we need to check that before it is sealed behind the sheetrock and if it is covered up by insulation, I can't see it. One of the code changes for the framing is that we need to provide fire blocking at ten-foot intervals horizontal inside the walls, and that's another thing that I cannot see. If there is insulation in place, there's different types of insulation that they install. I don't know if you guys are familiar. They staple them and the insulation has like two inches of extra and that covers the studs. Other changes were like Fire Protection from a garage to the residence. It needs a door, that is, it has a certain fire rating it that's under the building final section. And it requires self-closing mechanism so that when somebody goes into the home and say kid leaves the door open, it's able to close in case something happens in the garage, or somebody leaves a car on, so those fumes don't go into the residence.

Cornish asked does it call for a special fire door?

Perez replied Yes, it's a certain fire door. Depending on the door, I believe it was a 20 minute under the building final section.

Cornish stated a standard steel door meets that requirement.

Perez responded the code section for that let me see, so this code book is about seven hundred pages long and I'm not going to memorize that, so that's why I made sure that I attached something.

Cornish stated (cannot discern audio) normal standard door. A door that everyone goes in not a special thousand-dollar door.

Perez responded ohh, no, no, it's the normal door from the previous code. It's the same requirements.

Brown stated yes, it's the solid wood core or the steel door that meets the requirements.

Perez responded the only difference is the self-closing, now you don't have to buy a commercial self-closing thing, they actually make the hinges now where they themselves close.

Mitchell asked how do you verify that that door is rated. Does it have a stamp on it? A sticker or you are requiring some ASTM something from the manufacturer. How do you verify that?

Perez responded they're supposed to leave the sticker. The doors come with the sticker on it.

Mitchell stated right, right.

Perez stated the problem is a lot of times that sticker is on the casing on the outside, so once they install that door, we can't verify what it is, but based off my experience that installing doors, you can tell the difference from an interior door to an exterior door. They mainly use steel doors so it's easy as long it looks. If it looks like your front door then you can tell it's what that twenty minute fire rated door. Normally those doors come with weather stripping already on them, which is the difference from an interior door. And that's how I verify.

Mitchell asked are you involved with the plan review process on the residential structures.

Perez responded that is Rowan Dunnaway does the plan reviewing he checks them.

Mitchell asked is that something that y'all are looking for? He's looking for on the plans that is listed cause that door out is with an ASTM rating or a fire rating.

Brown responded I believe he's marking that he's making that note on the plans, that it's got to be a twenty-minute fire rated door.

Perez stated once these changes started happening, you know we're all studying the 2018 and as I find changes and when he finds changes, we come together and we change the plan review that is given it when somebody gets a permit and if we haven't caught it and it didn't happen in my inspection, we are not going to fail them for that.

Cornish stated make them tear it down and do it again.

Teeter stated if you notice there is an example of a typical plan review packet, and you can view that, and you'll notice.

Brown stated and it does state on here, door between garage and residence shall be solid core or steel not less than one and three eighths' inches thick or a twenty-minute fire rated with self-closing device. So, it is listed on the plan.

Teeter stated in the plan review, when Rowan does it, he'll list all the code requirements for that residential structure, listing the code sections so that the builders know what they're supposed to be doing. Our issue that we run into all the time is that the builders tend to ignore the plan review. They get their permit, and then they go about their business doing what they need to do, and they don't actually look and see what's required in here. That's kind of what there are issue comes into also. We'll say did you look at your plan review? No, it's right here for you.

Perez stated if you see on the very first inspection on the driveway approach, I put check plans, that is one requirement under code. It's R106.3.1 that the approved plans have to be on site and that's a big problem that I have where I have to call them and tell them, hey, I don't have your plans here. Rowan reviews the plan. He writes his notes, he changes anything he needs to change. And my job is, I look at those plans and I compare them to what's at the job site. And if that is not there, then I can't compare. Now I'm very reasonable, and if somebody forgot or they didn't know and just learned this, I will pull up my tablet it's a little difficult, but I make it work where I can see the plans. What's going on. The thing is, sometimes that tablet doesn't work. So now I'm at an inspection that I took the time to go out to and I can't verify anything. I can verify code, but as far as what was on the plans and what was required, I have no idea what to look for and that's why I included that with the code section. But yes, there's an example in the back of what they receive, and they tell me all the time that nobody reads that and that so ever since I've started working here, I've been telling them hey you get a plan review. It's on, it's on your portal. If you can't get in your portal, you know come up to City Hall. We'll print it for you. There are notes in there that are very important. On your plan review number two also lets them know that this needs to be on site. That way I can verify it any other inspector that might have questions as far as what's going on, can verify it and it just makes it easier for all of us because they sometimes there's a big change as far as like the size of the of the ceiling joist or something and they didn't catch it because they didn't check what Rowan changed. And then they'll have to change that. That's just it's more of an expense to them. That was unnecessary if they would have just, you know, read this, read what, what the changes were, I don't think I'd printed it in in color, but in that example of the plan review, if you look at the plans of the home, you can kind of see where Rowan made a change because it's the different writing. Do you have any more questions for me?

Ezerski asked is the firewall for multifamily like townhouses and quadplexes, things like that. Or is that for single family as well?

Perez responded the firewall is for two or more units. They have to separate them, no plumbing or vents or anything can be there. Basically, what family doesn't want is if the left side catches on fire or they have a water leak or they have something clogged, it doesn't bother the family on

the right if that makes sense, so that's only a requirement for townhomes, duplexes, two, three, there's actually also a picture there that I put as an example. There's an example there of a three townhomes and it shows you the firewall in between. It goes from the foundation all the way up to the sheathing of the of the roof in residential homes. In residential homes we have something called fire blocking. Fireblocking and a firewall are two different things.

Ezerski asked is the fire blocking new.

Perez responded no, fire blocking was in the previous 2009 code. I believe some of the stuff was not enforced, but as I'm doing my studying of the new code I checked and when you read a code book you have a little black mark on the side. And it tells you, hey, this is new. information, new code. There is a change here and so if I don't see that mark and I see that it wasn't enforced in the past, I checked the 2009 and I see, you know it was actually before.

Ezerski responded okay.

Perez stated there's also there is one new thing about the fire blocking which is the foam ceiling every 10 feet or no more than ten feet intervals horizontally. All the rest of the fire blocking requirements is old stuff.

Ezerski asked okay. Are there any new electrical upgrades on this, as far as new types of breakers, things like that.

Perez responded I'm actually just the building inspector maybe Dudley.

Teeter stated I do believe there's going to be a requirement coming down as far as arc fault protection goes. Our electrical inspector was talking to me about it the other day, but he said that doesn't come into play until I think he said the 2023 code.

Ezerski responded okay. I was just talking to a couple of builders who were just telling me that these codes are adding about four thousand dollars of the cost of a house. So at least probably some of them might have been old and they weren't enforced, but anyway. It is what it is.

Teeter stated it is, yeah. Unfortunately, that's the cost of doing business when codes upgrade and they require new stuff, then you got to comply with those codes, otherwise the house will be substandard. It's just one of those necessary evils.

Brown state chairman, I met with someone who actually sits on the OUBCC Commission the other day and he let me know that they are in the middle of reviewing the 2024 codes and he actually sent me the code change proposal form. So, if anyone has any code changes that they would like them to consider We do have the form and there's an e-mail address on here that they just need to send that to. I can send it out to you guys so that you have it.

Ezerski responded great, thank you.

Perez stated so as far as the extra cost, some builders have talked to me about it. As far as the old stuff that wasn't being enforced, that I'm now looking into and explaining to them if there is new cost that wasn't accounted for, we make sure as long as it's on the 2009 and now they're being educated and you know they're going to fix it in the future, then it's okay. I guess the biggest

expense was most of the insulation guys are from Oklahoma City, so they charge extra to come one day to do the fire blocking after the framing and then they have to come back to do the insulation. I believe that's why they started doing it all in one, so that they didn't have to make the extra drive and that the one thing that has been brought up to me is now I have to pay them, not double but two twice for them to come out and but I tried to explain why the change needs to happen so that I can verify the framing and check for that. As far as other cost, I'll give you an example. We have a builder that had four houses on permits when all these changes happen and he told me I didn't bid these builds, you know, I didn't bid this based off the new changes. What are we going to do? I told him that's fine as long as we can keep track of these four houses and we can meet 2009, go ahead and build your houses according to the 2009. But now you know, don't bid anymore houses unless you know what these new changes are.

Ezerski responded okay.

Perez stated we are trying to help them. You know we're not trying to go and fail everyone. We want everyone to win.

Ezerski responded sure.

Perez stated we want new homes in Lawton, but we want them built safely if that makes sense.

Ezerski responded I appreciate that thank you. And the problem we run into for those guys is so these changes are made, they have to deal with appraisers and the appraisers aren't going to give them any more value just because of a code change is the problem. I mean, and that's maybe an education process for them as well, but you know, in the grand scheme of things, I mean, we want to definitely make a safe house for people, but we also don't want to scare off builders so that nobody's building in the City of Lawton anymore and everyone's going out to the country. Because the sad thing is and I would, I think most builders still are probably building to the codes because the state code is a state code everywhere they're supposed to be building to these codes. But we know some are not and that's why we encourage people to get inspections if they're building out in the county because that's the only way this stuff's going to be caught. But we appreciate that you're working with the builders and work and doing that. Thank you.

Perez stated as far as scaring away the builders, like you said, we actually have new builders come in and they tell us all the time that our process here, they love it because we respond on time. I actually make it out there if they have any questions, they call my phone. If they don't understand something, I head out there. We have had a builder here that recently moved to another city, and he's called us and let us know that he misses Lawton because the process wasn't just easy. You know the people that he worked with were kind They weren't, you know, like me as an inspector I do what's here, if it's not on the code book I'm not making stuff up you know to satisfy me. And so I want to make sure you knew that. Then you don't want to scare them. But the one new ones that are coming in, they appreciate what we have done so far.

Ezerski responded well, that's great to hear and that's good to get a perspective for people who have built other places so that you know, you can kind of gauge how we are and it that's good to hear. Thanks.

Teeter stated it seems to me that it's more of our local builders that are having the heartburn versus our out-of-town builders that come in. And then of course we're constantly telling the builders what you're building to is the bare minimum code, so if you don't build to that, the house that you're building is substandard.

Ezerski responded I understand. Thank you. Any other questions, John? We're good.

Perez stated did everybody get a copy of the packet. I believe she handed out my card. If you would like, you know, to go over it if you have any questions, you can call me. I've met builders with the book to make sure they understand it. If you have any further questions, you're more than welcome to give me a call.

Ezerski responded thank you. All right is there any other discussion on the 2018 IRC codes? Is there a recommendation to send to the process and Oversight Committee?

Mitchell asked I'm curious what are we recommending, Charlotte. We've already adopted the code.

Brown responded yes, we have, but we've got, like I said, some heartburn with some of the changes. And so we're just looking for your recommendation for us to continue with the changes that we've done with like the second insulation inspection or if you would recommend that the process and Oversight committee send a code change proposal form up to the state to change some of them.

Mitchell stated unless it's changed the OUBCC reviews those codes almost two years in advance before the governor would sign those codes and that OUBCC process is the proper venue to speak to changes that are things that you're not comfortable with or the cities not you know, we're getting a lot of a lot of complaints. And you know, it happened several years ago. They were trying to push the residential sprinkler code, fire suppression code for residential, and enough people attended the OUBCC or gave input and OUBCC said, OK, we're going to. They have the authority to pull that piece from the code and then submit that to the to the governor, once the governor signs that it's law, once we adopt it, it's law. we got to do a better job of education and with regard to making the builders aware that that when that process is happening with the OUBCC, so whether we buy the code books for them to come down and look at or they buy their own code book, but those codes before they're adopted, they come out with a significant changes. Typically, they have a small book that will something this size, they'll pull out a small a piece that just shows a significant changes. So, you can review it and then they would address the OUBCC and then complain about it. If there's enough complaint throughout the state, they will make the recommendation to the governor. Let's pull that piece. That's not popular, but that's you know. But I'm not sure what. What we're. What you want from us? I mean, we're we've already adopted the code.

Brown responded I think we're looking for an approval of the new processes that we've put into place or a recommendation on the processes that we've put into place. Part of the problem with the residential is we went from the 2009 to the 2018, so we skipped two code cycles and so we didn't have a significant changes book For that, we had to go from nine to twelve, twelve to

fifteen, and then fifteen to eighteen, so that that caused a lot of headache with that, because Council did not approve us when we attempted to go with fifteen back three years ago.

Mitchell stated yeah, that's always caused heartburn with the builders that if they, especially if they build in other cities, you know, they go to Edmond and they're under the 2018, they come to Lawton and under the 2009 so they they're constantly not sure what they're supposed to be designing or you know bidding to but yeah, I'm not.

Cornish asked is there anyone particular item that has given more heartburn than any other items on this list. Like do we charge for that extra trip to go out and inspect the insulation? Is that a fee to the builders?

Perez responded so all the inspections that are required for a home are already included in your permit. You already paid for everything that I have to go inspect. The biggest thing was separating the framing, inspection and the insulation inspection from one inspection to two. So, I make I make the trip after all the plumbing, electrical, mechanical has passed. I go and I make sure they didn't bore a hole too big. They didn't cut a notch, and they're missing (cannot discern audio 31.51) Say they damaged the structural part and it lost it's strength and that's what I checked for. And so that's the biggest problem we have is separating that too. And like he was saying, we don't have any issues with the investors and builders that are coming from out of town. We've we only have an issue with like a local builder that's the reason why I made this whole packet to make sure that everybody knows what I'm looking for ahead of time and the other thing was the fire blocking. I don't think they understand fully what fire blocking is. I wish I could sit down. I haven't had the opportunity, but I wish I could sit down with them and explain what exactly what it is and it's basically Where there's changes relation where a flame can go through something needs to be there to protect it, to contain that flame in that spot. I give an example a lot of times with, for example, the new builder that's just in town. I told them just pretend you're a flame and you're in this wall, can you make it to the attic and start another fire? And now the whole house is going to burn down. He took that into consideration. And when I go do his inspections now, you got fire caulking in those places. You have foam and there's actually I believe seven different types of materials that you can use for fire blocking. And I let them take pictures of my code book so that they have it, I tell them where to go on the website to get it, on Google, I explained everything to them where they can find the answers to all this but those are the two things the changing the framing or separating the framing and the insulation inspection that was a heartburn. I believe they don't really fully understand what fire blocking is. I think they confuse it with a firewall which is two completely different things.

Cornish stated I think you're doing the right thing by educating and we appreciate your hard work.

Perez responded thank you.

Cornish stated Fire blocking is difficult. I've been there, been trapped, didn't understand why I had to have it behind the underneath the bathtub type deal. That was a long time ago, but change is hard, and I think you'll just continue down this path of trying to educate the couple of hard to

educate builders. I think we'll just continue on our quest to change the code we have to its state law.

Perez responded Yes. And what you were saying about where can the builder come to educate themselves? Like, do we provide a book or something? I've been saying, you know, a responsible builder. If they do this for a living, they would see the change and they would buy the book or download it and they would train everyone that they work with on the codes. But the problem is I'll give you an example in other states to be a builder you have to have a license for building one, which is the residential book that you have to have building two which is commercial side and then you also have to have there's a concrete book that you also have to pass. So, it's three books for you to get your license. Here in the City of Lawton, you pay one hundred and fifteen dollars, and you get insurance, and anybody can build. We don't know if they do know the code, we don't know how responsible they are and that that's one of the biggest issue where you know if it was a responsible builder then they would actually do. I'm sure they appreciate that, that it's so easy to be a contractor here. I know. I appreciate it. When I first came to this town, I didn't have to take all those tests, and I could go build a fence for someone I could remodel somebody 's house. But it's also kind of dangerous because anybody can get it in. They might watch a YouTube video and think now they can build a house.

Mitchell asked do we charge for a re inspection. Is that part of that? Do you allow so many re inspections, Dudley for that permit fee?

Teeter responded yes; we actually charge for a reject. And now if it's a standalone inspection, it's not part of the permit. The other is a reinspection fee for that.

Cornish asked did we waive those.

Perez responded it's rare that I reject an inspection because like I said I am working on educating everyone, but when I do reject, it's because it's just terrible work and there's no way that they can send me a picture. They can send me an e-mail, or I can pass by really quick and make sure they fixed it, so I have to reject it. They charge. I believe it's fifty dollars for their rejection and then they have to reschedule. I write down all the violations or they walk around with the notebook, and they write down what their violations were. That's one thing that I do, though, is if something fails and it's, I give them the courtesy of if you can fix this today, send me a picture to my email and I can pass it that way. That helps a lot. It saves them from having rejection fees, it saves them from you know, slowing them down as far as calling in another inspection, I sometimes I've gone, I've had to move this inspection multiple times just to kind of help them out because it rained, and they weren't able to get to it. So there is an inspection, a reject fee, but if it's something simple, I'd let them fix it on the spot, or you know the next day.

Mitchell stated Pierre, I want to echo what everybody else said. I appreciate what you're doing as far as trying to work with these builders but concerns me is that we're approving we're allowing some structures to go forward that don't meet the current code. Does that. Have we checked with Legal, does that create any kind of liability for the city or?

Perez responded no what I mean is when we let it happen is because it meets the 2009.

Mitchell stated but the 2009 if the 2018 is different or more restrictive, you're not requiring that you're allowing them to move forward without meeting the current code.

Perez responded Yes, the changes were nothing structural as far as the size of like headers, the size of rafters and stuff. So, it's it won't cause the house to to fall down the biggest change as far as like safety would be that ten foot intervals of.

Mitchell stated so you're telling me that you're separating life safety issues from just structural issues that correct.

Perez responded no, again, back with the I couldn't even see if it was there because of the of the insulation and because we allowed it. We did say we're going to work with the builders because I know we'd be getting a lot of phone calls if I make these builders tear down all the insulation so I can see if we allowed it in in October and then we changed it in November, that's why we said, OK, well, maybe it'll be OK for, say, the first year. That's what I was planning for. I think in one year I can go through all the builders and educate everyone.

Ezerski stated part of that's because we went nine years from changes in the code rather than doing the gradual.

Perez responded correct. We started with thirty days and then we went to six months and now I see that I might need more time.

Brown stated and that was also a request from Councilman Gill as well as to let you know if it was something that we would have approved under the 2009 code and just continue at that education as we would move forward.

Teeter stated once all the houses that had started the permit review process have been completed that were started under the 2009 code. Once all those are finished then they should be on board with 2018 code going forward. Because we do have projects that did start prior to the adoption. So, they meet that portion of the code and then the new houses that are going in that are applied for now going to 2018. So those are those other houses that were started in 2009 after about six months, all those should fall off. You had alluded to Mark, and this goes with Pierre's idea of education, ever since I've gotten to this office, I've been a proponent of that. The builders here in town need to go through some type of formal course at the state level, the state doesn't require anybody to have a course on building a house or structure. You have to have training to do plumbing, to do electrical, to do mechanical but not building. I had looked into some of the states that actually require builders to go to class to be educated on the code before they can get their builders' license. I would like to see something like that, even if the state doesn't offer it but the City of Lawton would offer builders a course before you can become a general contractor within the City of Lawton, you have got to take this course, which is basically a code review course.

Mitchell responded and you talk about hearing them squeal. I'll remind you, I think you probably remember Charlotte, I'm sure Charlotte remembers, but several years ago, we had changes, significant changes coming in the mechanical code and we posted it all over town and invited any and all mechanical contractors to come down here and like two showed up.

Teeter stated I remember that.

Mitchell stated I don't know. I'm not sure what the answer is. I don't disagree that a tested license is probably a good idea, but you talked about hearing squeal now.

Ezerski stated you would probably have to grandfather in people who are already building probably.

Brown responded yes.

Teeter stated yes, but you could also require those guys that have been builders for a while here in town once it starts to have continuing education to keep up on the current codes that have that have been adopted that are different from the ones that they come up with.

Ezerski stated I think that's something that needs to be addressed with our state legislature because it needs that needs to come from the state. In real estate we have we have to take twenty-one hours of continuing education every three years. I mean, there's many, there's many businesses and professions that have to do that, but it all that's mandated at the state level. I think you would have some people upset that that were requiring something that the state's not doing but I'm not saying I think it's a good idea. I just think it needs to come from the State.

Mitchell stated you might try the invite again. I mean, if they're also OUBCC is currently in session reviewing these, you or Charlotte or whoever can obtain those significant changes on on all those codes that they're reviewing, they're probably reviewing the entire package have let our you know how you advertise it, but make them aware that this is your opportunity to come in and make your voice your concerns so we can take them to the state and then that's the venue to get it changed at before the governor signs it. Once the governor signs it, we adopt it it's state law and I mean well all the gripping in the world is not going to change that.

Teeter stated what struck me funny with this situation is that the City Council adopted the 2018 and now they're fighting against the 2018.

Mitchell stated yeah, this is constituents are pushing back. We just need, I guess, maybe address to the Council or have somebody make the Council aware of that, that process, so that, you know, we can get on, get on the front side of it because we've been doing this for years and years. The people complaining on the backside. Since it's already been signed by the governor and the city adopts it.

Ezerski asked Charlotte, what is the deadline to get those requests and for the next code change.

Brown responded he told me as quick as possible because, let me pull the e-mail up, they're currently meeting over that stuff and they are, I believe, he said July fifteenth is when they're supposed to vote to approve or not. So, we really need to get them in as quick as possible.

Ezerski responded okay. If you can e-mail that would be great.

Brown stated I will get that to you today.

Ezerski responded okay. All right. Anybody have anything else?

Brown stated just need some kind of motion.

Cornish stated I make a motion we continue forward. Change is hard. Change is expensive, but we need to try to at least meet this code and continue to be patient with old guys.

Ezerski stated so the motion is that we continue with the practices that the City staff is currently doing.

Cornish responded yes.

Ezerski asked do we have a second.

Prosser responded second.

Motion by Cornish, Second by Prosser, to continue forward with the current processes done by city staff. **Aye:** Ellis, Ezerski, Mitchell, Patrick, Brune, Cornish, Prosser **Nay:** None **Motion Passed.**

5. Comments.

None

6. Adjournment.

Motion by Mitchell, Second by Cornish, to adjourn the meeting. **Aye:** Ezerski, Mitchell, Patrick, Brune, Cornish, Prosser, Ellis **Nay:** None **Motion Passed.**

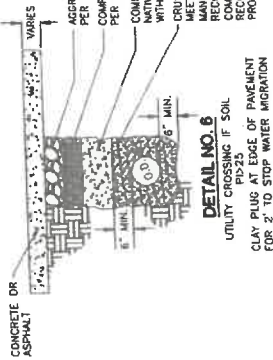
With no further business the meeting was adjourned at 10:43 am.

LIST OF RESIDENTIAL BUILDING INSPECTIONS

1. DRIVEWAY APPROACH AND SIDEWALK (COL ENGINEERING DIVISION 2012 STANDARDS)
2. FOUNDATION (2018 IRC AND SECTION 6-1-1-105.D)
3. BRICK ONLY (2018IRC)
4. ROOF DECKING (2018 IRC AND APA MANUFACTURER RECOMENDATIONS)
5. FIRE WALL (2018 IRC)
6. FRAMING (2018 IRC AND MANUFACTURER RECOMENDATIONS)
7. INSULATION (2018 IRC)
8. BUILDING FINAL (2018 IRC AND MANUFACTURER RECOMENDATIONS)

DRIVEWAY APPROACH AND SIDEWALK INSPECTION

- CHECK PLANS TO SEE THE SIDEWALK WIDTH, RED NOTES AND RADIUS APPROVED (R106.3.1)
- MEASURE THE STREET CUT TO MAKE SURE IT IS 24" AWAY FROM THE BACK OF THE CURB (COL STANDARDS)
- 1-#4X18" LONG DEFORMED BAR IN CURB (COL STANDARDS)
- ¾" PREMOLDED EXPANSION JOINT ¾" BELOW THE SURFACE OF THE GUTTER (SEE DETAIL NO.4)
- 2- #6X24" SMOOTH DOWEL BARS (SEE DETAIL NO.4)
- #5X30" DOWEL EVERY 24" C/C ON THE STREET IF THE STREET IS CONCRETE PAVEMENT (COL STANDARDS)
- DOWELS THAT ARE DRILLED MUST BE EPOXYED AND EMBEDDED A MIN. OF 9"
- 4" OF GRAVEL ON APPROACH AND SIDEWALK CONNECTED TO THE APPROACH (COL STANDARDS)
- MEASURE THE DEPTH OF THE APPROACH AND SIDEWALK CONNECTED TO THE APPROACH TO MAKE SURE THERE IS ROOM FOR 6" OF CONCRETE (COL STANDARDS)
- CHECK THAT THE CROSS SLOPE OF THE CURB IS LESS THAN 2% TOWARDS THE STREET (COL STANDARDS)
- ½" TYPE B EXPANSION JOINT BETWEEN THE DRIVEWAY AND 6" SIDEWALK AND BETWEEN THE 6" SIDEWALK AND 4" SIDEWALK (COL STANDARDS)
- SIDEWALK NOT ATTACHED TO APPROACH CAN HAVE 4" CONCRETE WITH 2" OF CRUSHED LIMESTONE OR SAND CUSHION AND 6"X6" WELDED WIRE MESH OR #3 REBAR @ 18" O.C. EACHWAY
- SEE COL 2012 STANDARDS FOR ASPHALT PAVEMENT



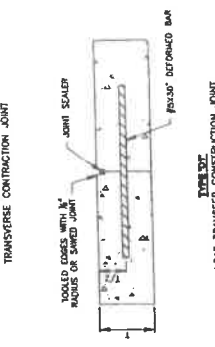
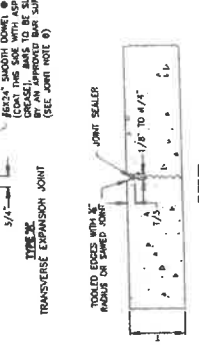
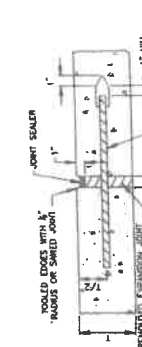
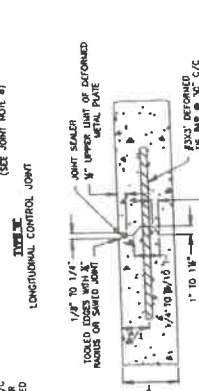
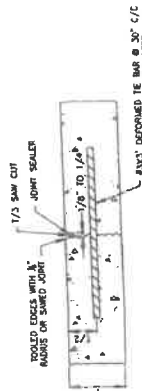
CONSTRUCTION NOTES

JOINT AND CONCRETE CURB & GUTTER NOTES

- CONCRETE JOINTS SHALL BE SAWS AS CONCRETE WILL CUT WITHOUT DAMAGING THE SURFACE. THE SAW CUT SHALL BE MADE AT LEAST 1/8" BEFORE THE POUR BEGINS. CONCRETE SHALL CUT WITHOUT INCLUDING.
- CONCRETE JOINTS MAY BE FORMED BY: (A) TEMPORARY EMBEDMENT OF A SUITABLE MATERIAL; (B) INSTALLATION OF A 1/4" STRIP OF PRE-CAST JOINT FILLER MATERIAL; (C) SAWING THE PAVEMENT AFTER THE CONCRETE HAS HARDENED.
- GROOVES IN JOINTS WILL BE THOROUGHLY CLEANED OUT BEFORE ANY BEGINS FILLER IS PLACED.
- JOINT SEALER SHALL MEET REQUIREMENTS IN SECTION 701.09 OF THE STANDARD SPECIFICATIONS ACCEPTABLE HOT Poured JOINT SEALER PRODUCTS INCLUDE J.P. HUGHES JOINT SEALER PRODUCTS, WILSON JOINT SEALER, MASON'S JOINT SEALER, AND JOINT SEALER PRODUCTS. JOINT SEALER SHALL BE APPROVED BY THE CITY ENGINEER. JOINT SEALER SHALL BE USED AT THE END OF A DAY'S WORK. (SIZE AND KIND)
- WHEN PAVING IN ASPHALT, SLIP-FORM OR FORMED-IN-PLACE CURB AND GUTTER SHALL HAVE 3/4" TYPE A EXPANSION JOINTS SPACED AT 100' C/C. MAX. AND AT RADIUS POINTS TRANSFER JOINTS SHALL BE SPACED AT 100' C/C. MAX. AND AT RADIUS POINTS TRANSFER JOINTS SHALL BE SPACED AT 15' C/C. MAXIMUM BETWEEN EXPANSION JOINTS. JOINT SEALER SHALL BE PLACED AT 15' C/C. MAXIMUM BETWEEN EXPANSION JOINTS. JOINT SEALER SHALL BE PLACED AT 15' C/C. MAXIMUM BETWEEN EXPANSION JOINTS. JOINT SEALER SHALL BE PLACED AT 15' C/C. MAXIMUM BETWEEN EXPANSION JOINTS. JOINT SEALER SHALL BE PLACED AT 15' C/C. MAXIMUM BETWEEN EXPANSION JOINTS.
- WHEN PAVING IN CONCRETE, 1/4" EXPANSION JOINTS SHALL BE INSTALLED AT ALL STRUCTURES. TYPE A JOINTS SHALL BE INSTALLED AT ALL POINTS OF INTERSECTIONS AND ALL HORIZONTAL CURVES.
- USE CHAIRS FOR 3/8" TO 1/2" (TYPE "B"), AND APPROVED BAR SUPPORT FOR #6 SMOOTH BARS.
- CONNECTION TO EXISTING CONCRETE PAVEMENT SHALL BE MADE BY CONCRETE WITH #3x30" REBAR @ 24" C/C. SHALL AND EPOXY 2" INTO EXISTING PAVEMENT.
- CURB AND CUTTER FOR ASPHALT STREET SHALL BE FOR DETAIL #4.
- CURB FOR CONCRETE STREET SHALL BE INTEGRAL WITH THE PAVEMENT OR SHALL BE POURED AS CURB AND CUTTER AS PER DETAIL #4.
- ALL CONCRETE VALLEY CUTTERS (3" MAXIMUM DEPTH) ARE TO BE CONSTRUCTED TO CARRY DAMAGE FROM INTERSECTIONS ON ASPHALT PAVEMENT STREETS PER DETAIL NO. 6.
- ANY EXCAVATION WITHIN THE STREET MOUTH OF WM SHALL BE COMPACTED TO 90% STANDARD PROCTOR DENSITY TO TOP OF CURB ELEVATION.

APPROVED CONSTRUCTION PLANS

THIS SET OF CONSTRUCTION PLANS HAS BEEN REVIEWED FOR LOCAL CODES, ZONING AND APPROVED BY THE CITY OF LAWTON. THE CONSTRUCTION OF THESE PLANS SHALL BE MADE AVAILABLE UPON REQUEST OF THE CITY ENGINEER AT ANY REASONABLE TIME.



DETAIL NO. 3

LONGITUDINAL & TRANSVERSE JOINTS
LOAD TRANSFER CONSTRUCTION JOINT (NO KEY WAY) OR (CONNECT TO EXISTING PAVEMENT SEE NOTE 8)



"SLIP-FORM" OR "POURED-IN-PLACE" (ASPHALT PAVEMENT)

DETAIL NO. 4

CONCRETE CURB & GUTTER

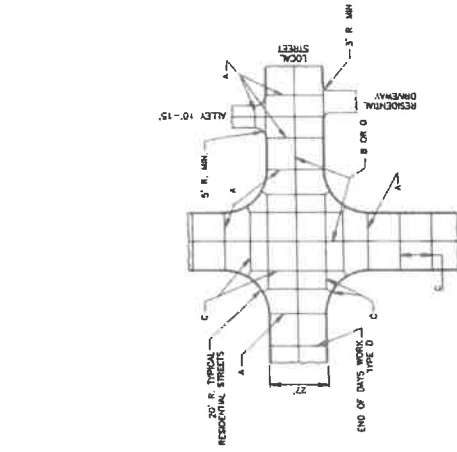


"SLIP-FORM" OR "POURED-IN-PLACE" (CONCRETE PAVEMENT)



DETAIL NO. 2

CURB - 25'-30"

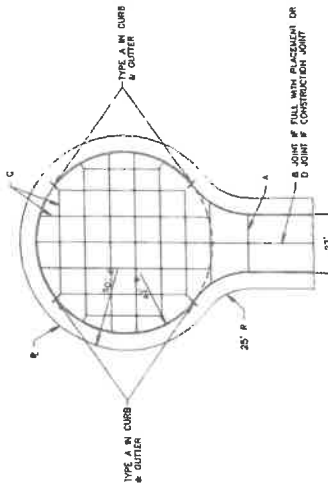


TYPICAL STREET PAVEMENTATION FOR INTERNAL OR EXTERNAL PAVED CURB & GUTTER

MAX. JOINT SPACING	CONSTRUCTION
15'-0"	TRANSVERSE
30' x 30'	LONGITUDINAL
3' x 3'	TRANSVERSE
3' x 3'	LONGITUDINAL

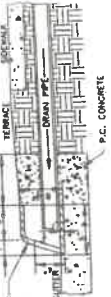
DETAIL NO. 1

JOINT LAYOUT



DETAIL NO. 2

CURB - 25'-30"



DETAIL NO. 5

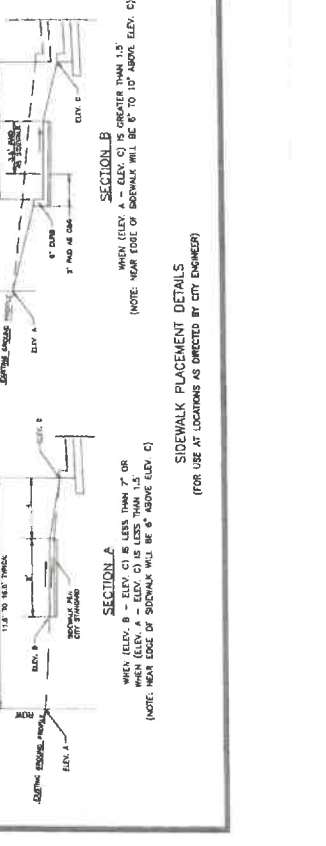
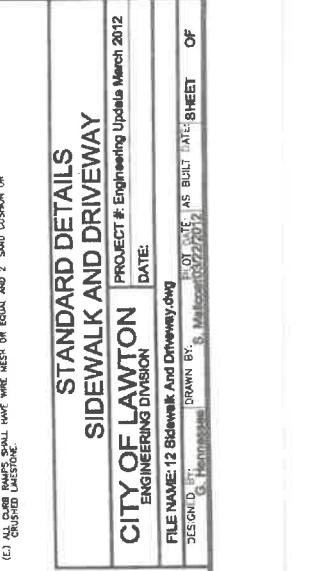
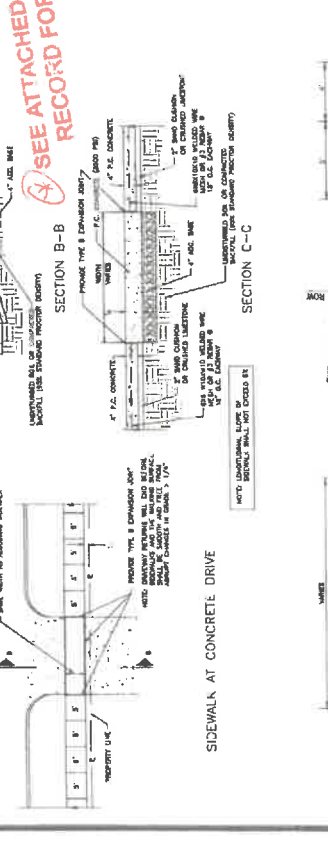
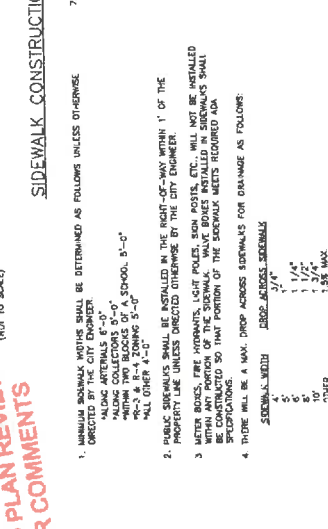
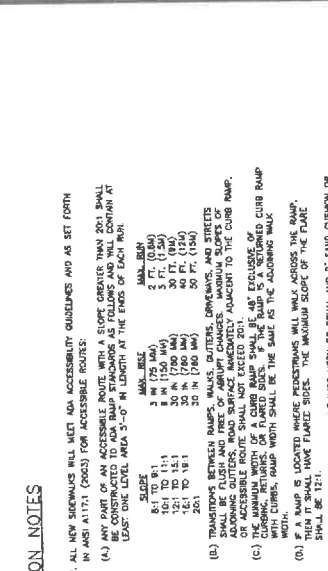
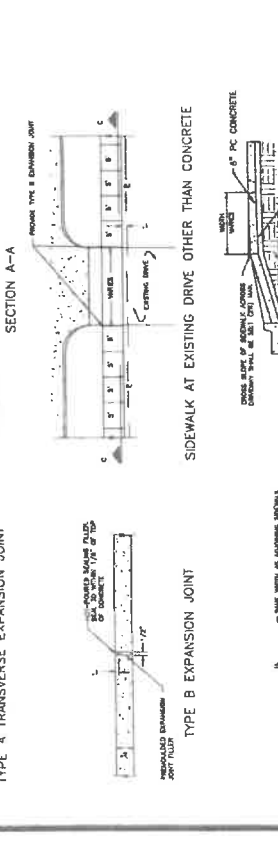
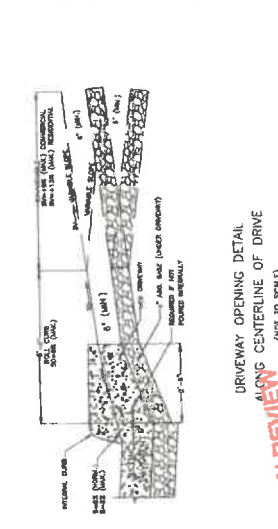
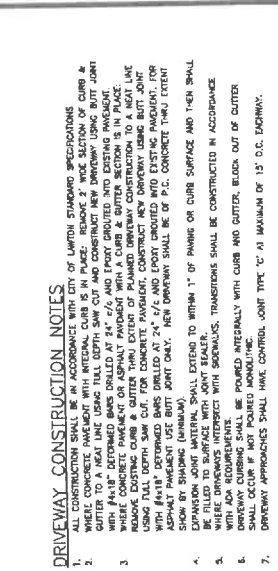
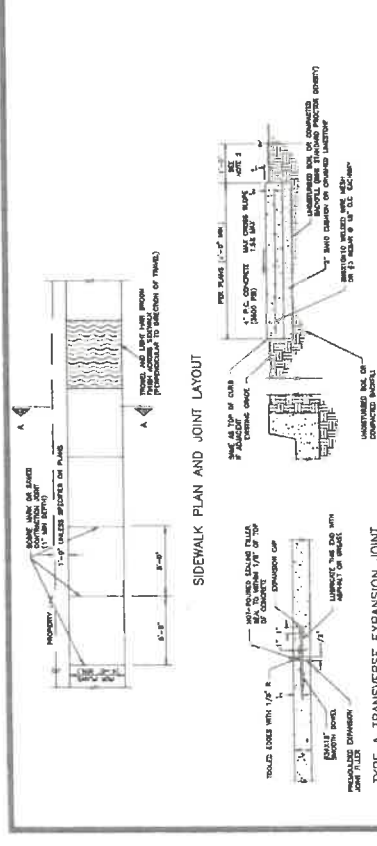
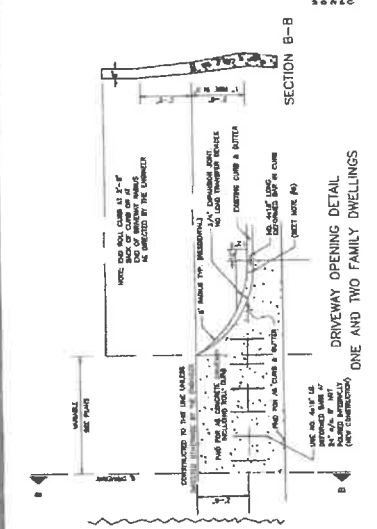
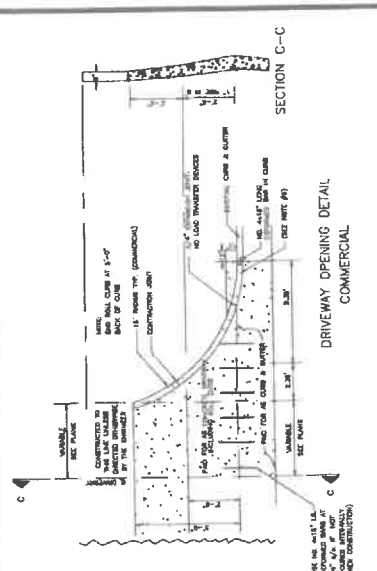
STORAGE WATER CURB DRAWING

STANDARD DETAILS
SUBDIVISION STREETS - 1
CITY OF LAWTON
ENGINEERING DIVISION

PROJECT NO.: _____ DATE: _____

CITY ENGINEER: _____
CITY CLERK: _____
CITY MANAGER: _____
CITY COMMISSIONER: _____

SHEET 3 OF 3



DRIVEWAY CONSTRUCTION NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF LAWTON STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- WHILE CONSTRUCTION IS IN PROGRESS, THE CITY ENGINEER SHALL BE NOTIFIED OF ANY CHANGES TO THE ORIGINAL PLAN.
- ALL DRIVEWAY OPENINGS SHALL BE CONSTRUCTED WITH A MINIMUM OF 15' O.C. ELEVATION.
- DRIVEWAY APPROACHES SHALL HAVE CONTROL JOINT TYPE 'C' AT MAXIMUM OF 15' O.C. ELEVATION.
- DRIVEWAY APPROACHES SHALL HAVE CONTROL JOINT TYPE 'C' AT MAXIMUM OF 15' O.C. ELEVATION.
- DRIVEWAY APPROACHES SHALL HAVE CONTROL JOINT TYPE 'C' AT MAXIMUM OF 15' O.C. ELEVATION.
- DRIVEWAY APPROACHES SHALL HAVE CONTROL JOINT TYPE 'C' AT MAXIMUM OF 15' O.C. ELEVATION.

SIDEWALK CONSTRUCTION NOTES

- ALL NEW SIDEWALKS WILL MEET ADA ACCESSIBILITY GUIDELINES AND AS SET FORTH IN AMT 117.1 (2003) FOR ACCESSIBLE ROUTES.
- ANY PART OF AN ACCESSIBLE ROUTE WITH A SLOPE GREATER THAN 20% SHALL BE CONSIDERED AN OBSTACLE.
- USING LOCAL ADA 3'-0" IN LENGTH AT THE ENDS OF EACH RAMP.
- TRANSFORMERS SHALL BE INSTALLED IN THE RIGHT-OF-WAY WITHIN 1' OF THE PROPERTY LINE UNLESS DIRECTED OTHERWISE BY THE CITY ENGINEER.
- METER BOXES, FIRE HYDRANTS, LIGHT POLES, AND OTHER UTILITIES SHALL NOT BE INSTALLED IN SIDEWALKS UNLESS THEY ARE NECESSARY FOR THE SIDEWALK TO BE CONSTRUCTED TO MEET THE CITY ENGINEER'S REQUIREMENTS.
- TRANSFORMERS SHALL BE INSTALLED IN THE RIGHT-OF-WAY WITHIN 1' OF THE PROPERTY LINE UNLESS DIRECTED OTHERWISE BY THE CITY ENGINEER.
- METER BOXES, FIRE HYDRANTS, LIGHT POLES, AND OTHER UTILITIES SHALL NOT BE INSTALLED IN SIDEWALKS UNLESS THEY ARE NECESSARY FOR THE SIDEWALK TO BE CONSTRUCTED TO MEET THE CITY ENGINEER'S REQUIREMENTS.

GRADE	MIN. BENCH	MIN. BENCH	MIN. BENCH
8.1 TO 8.1	3 IN (75 MM)	2 FT (0.61)	2 FT (0.61)
10.1 TO 11.1	8 IN (150 MM)	3 FT (0.91)	3 FT (0.91)
12.1 TO 13.1	12 IN (200 MM)	4 FT (1.21)	4 FT (1.21)
14.1 TO 15.1	18 IN (300 MM)	5 FT (1.51)	5 FT (1.51)
20.1	30 IN (760 MM)	10 FT (3.04)	10 FT (3.04)

STANDARD DETAILS

SIDEWALK AND DRIVEWAY

CITY OF LAWTON

ENGINEERING DIVISION

PROJECT #: Engineering Update March 2012

DATE:

FILE NAME: 12 Sidewalk And Driveway.dwg

DESIGN BY: [Name]

DRAWN BY: [Name]

CHECKED BY: [Name]

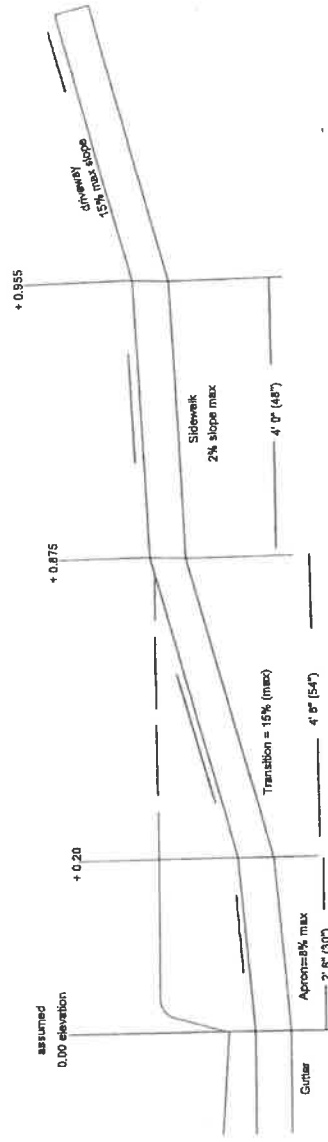
DATE AS BUILT: [Date]

SHEET OF

APPROVED CONSTRUCTION PLANS

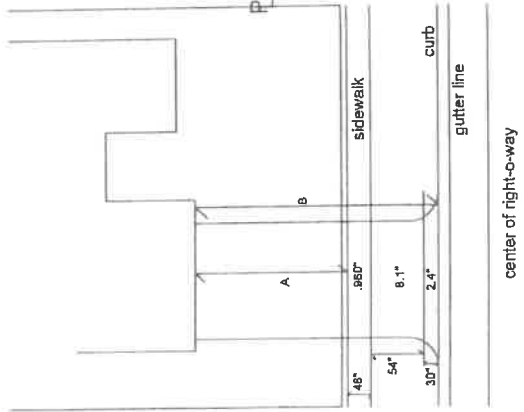
THIS SET OF CONSTRUCTION PLANS HAS BEEN REVIEWED FOR COMPLETENESS AND APPROVED BY THE CITY ENGINEER. THE CONSTRUCTION OF THESE PLANS SHALL BE IN ACCORDANCE WITH THE CITY ENGINEER'S REQUIREMENTS. THESE PLANS SHALL BE MADE AVAILABLE UPON REQUEST OF THE CITY ENGINEER AT ANY REASONABLE TIME.

SEE ATTACHED PLAN REVIEW RECORD FOR COMMENTS



Max Rise from gutter to garage floor to meet ADA & COL Standards

Driveway (A)			Total Elevation (B)		
length (feet)	length (inches)	max 15% Elevation (increase)	Elevation difference in elevation (inches)	Elevation Change difference in elevation (inches)	Total Elevation (B)
15'	180	27.00	+2.25	38.46	+3.025
16'	192	28.80	+2.40	40.26	+3.355
17'	204	30.60	+2.55	42.06	+3.505
18'	216	32.40	+2.70	43.86	+3.655
19'	228	34.20	+2.85	45.66	+3.805
20'	240	36.00	+3.00	47.46	+3.955
21'	252	37.80	+3.15	49.26	+4.105
22'	264	39.60	+3.30	51.06	+4.255
23'	276	41.40	+3.45	52.86	+4.405
24'	288	43.20	+3.60	54.66	+4.555
25'	300	45.00	+3.75	56.46	+4.705
26'	312	46.80	+3.90	58.26	+4.855
27'	324	48.60	+4.05	60.06	+5.005

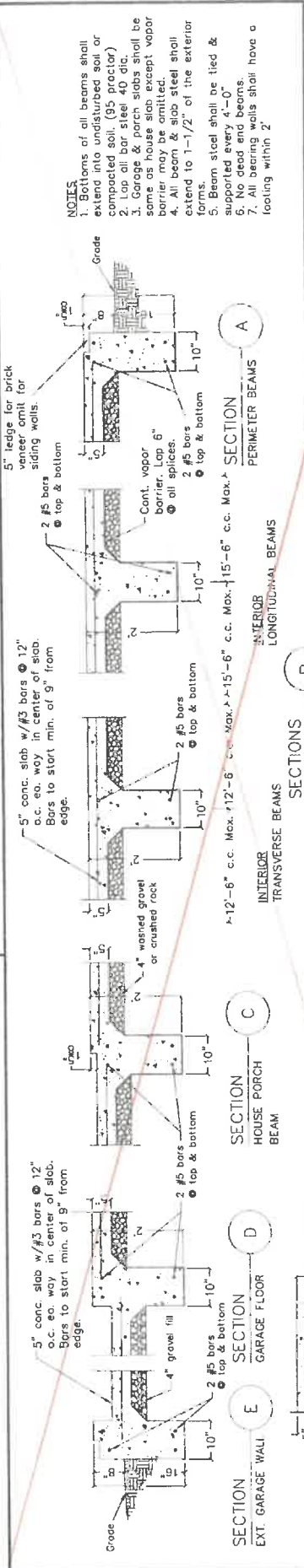
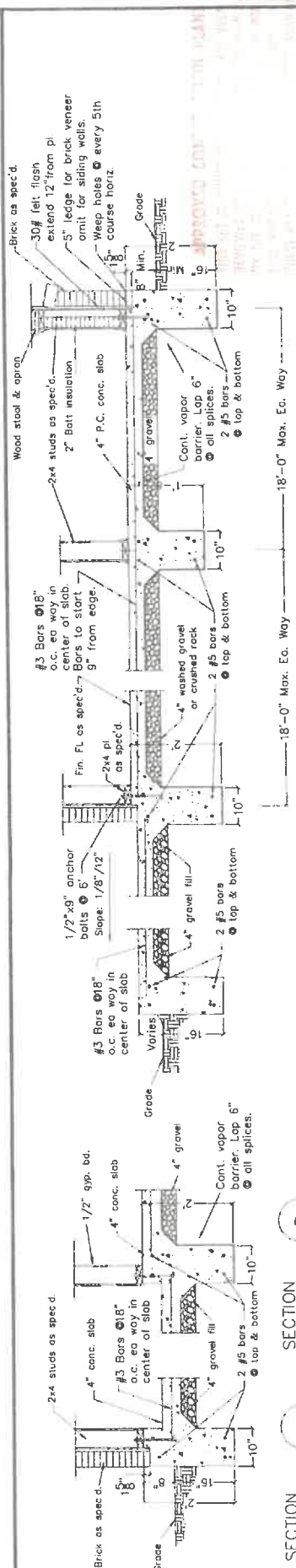


If the elevation is greater than listed in column D, it is infeasible to meet both ADA & COL standards. If both cannot be obtained, then ADA regulations shall be enforced. The grade in column C would then be increased to a maximum of 18%. If the elevation is still to great, then it is geometrically impossible to meet ADA cross slope on driveway. The cross slope would have to be increased to as low as possible for installation of sidewalk.
 Note: Sidewalk width shall be 5' on collector streets and within 2 blocks of schools. Shall be 6' on arterials. If zoning is R-3 or R-4, then sidewalk widths shall be 5'.
APPROVED CONSTRUCTION PLANS
 THIS SET OF CONSTRUCTION PLANS HAS BEEN REVIEWED FOR COMPLETENESS AND APPROVED BY THE CITY ENGINEER. NO CONSTRUCTION OF THIS PROJECT SHALL BE IN ACCORDANCE WITH THESE PLANS, UNLESS CHANGES BE MADE UPON REQUEST OF THE CITY INSPECTOR AT ANY REASONABLE TIME.

SEE ATTACHED PLAN REVIEW RECORD FOR COMMENTS

FOUNDATION INSPECTION

- CHECK FOR CORRECT ADDRESS AND APPROVED PLANS ON SITE (R106.3.1)
- CHECK IF IT IS SUPPOSED TO BE A "B SLAB" OR "C SLAB"
- ELEVATION (PLAN REVIEW RECORD)
- SPACING AND SIZE OF REBAR (SECTION 6-1-1-105.D)
- REBAR TIES (R403.1.3.5.3 AND NOTE 5 IN LAWTON WAFFLE SLAB)
- WIDTH AND DEPTH OF FOOTINGS (SECTION 6-1-1-105.D)
- CORRECT NUMBER OF BEAMS (APPROVED PLANS)
- DISTANCE FROM THE PROPERTY LINE (APPROVED PLANS)
- 4" OF WASHED GRAVEL OR CRUSHED ROCK (SECTION 6-1-1-105.D)
- VAPOR BARRIER (SECTION 6-1-1-105.D AND R506.2.3)
- MAKE SURE THERE IS NO TRASH INSIDE THE BEAMS OR COLLAPSED DIRT THAT CAN CREATE VOIDS IN THE CONCRETE (SECTION 6-1-1-105.D)
- IF THE PLANS CALL FOR A DIFFERENT TYPE OF FOUNDATION, MAKE SURE THEY ARE STAMPED BY AN ENGINEER AND STUDY THE PLANS AND DETAILS BEFORE INSPECTING



FOUNDATION DETAILS FOR WAFFLE SLAB DESIGN "B"
FOR SOIL WITH P.I. OF 15 TO 30

EXTERIOR GRADING SHALL SLOPE AWAY FROM FOUNDATION (6" WITHIN FIRST 10' OR A SWELL)

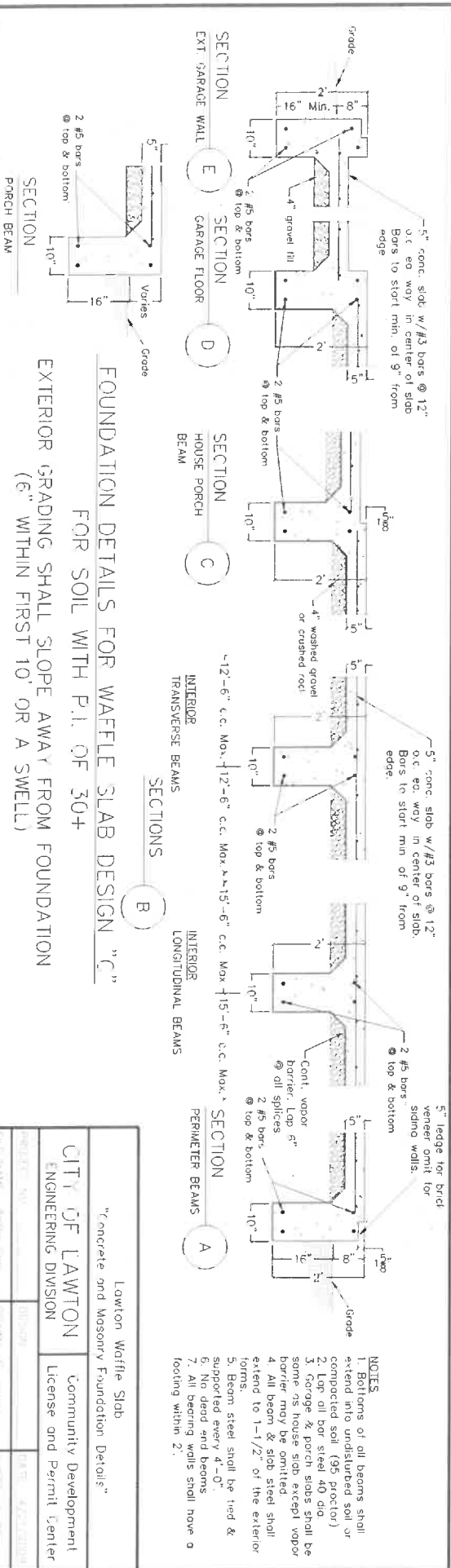
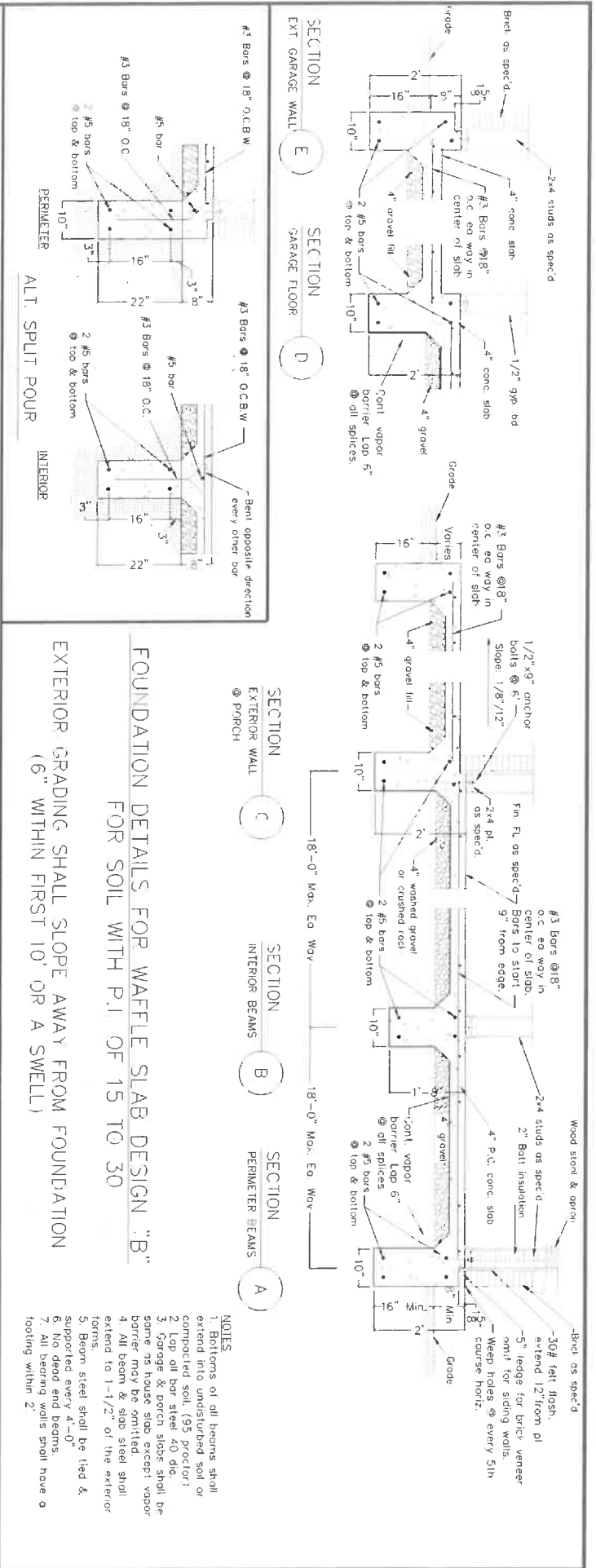
FOUNDATION DETAILS FOR WAFFLE SLAB DESIGN "C"
FOR SOIL WITH P.I. OF 30+

EXTERIOR GRADING SHALL SLOPE AWAY FROM FOUNDATION (6" WITHIN FIRST 10' OR A SWELL)

NOTES

- Bottoms of all beams shall extend into undisturbed soil or compacted soil. (95 proctor)
- Lap all bar steel 40 dia.
- Garage & porch slabs shall be same as house slab except vapor barrier may be omitted.
- All beam & slab steel shall extend to 1-1/2" of the exterior forms.
- Beam steel shall be tied & supported every 4'-0".
- No dead end beams.
- All bearing walls shall have a footing within 2'

Lawton Waffle Slab
 "Concrete and Masonry Foundation Details"
 CITY OF LAWTON
 ENGINEERING DIVISION
 Community Development
 License and Permit Center
 PROJECT NO.: _____ DESIGN: _____ DATE: 4/21/2009
 FILE NAME: Waffle_Slab DRAWN: C. Yarnes SHEET 1 OF 1



Lawton Waffle Slab	
"Concrete and Masonry Foundation Details"	
CITY OF LAWTON	Community Development
ENGINEERING DIVISION	License and Permit Center
DATE: 11/11/2011	TIME: 10:00 AM
PROJECT NO: 11-000000	PROJECT NAME: LAWTON WAFLE SLAB
DESIGNER: J. W. BROWN	CHECKER: J. W. BROWN
SCALE: AS SHOWN	DATE: 11/11/2011

BRICK ONLY INSPECTION

- CHECK FOR CORRECT ADDRESS AND APPROVED PLANS TO MAKE SURE ALL THE WALLS, WINDOWS, AND DOORS IN THE PLANS ARE UP AND INSTALLED (R106.3.1)
- HOUSE WRAP COVERING ALL SHEATHING AND CORRECT OVERLAP (R703)
- FLASHING TAPE AROUND THE WINDOWS INSTALLED WITH THE BOTTOM PIECE FIRST THEN THE SIDES AND THE TOP LAST TO PREVENT WATER FROM ENTERING (SHINGLE FASHION R703.4)
- FLASHING AROUND THE DOORS (SHINGLE FASHION R703.4)
- VERIFY THERE IS ENOUGH ANCHOR BOLTS ON THE EXTERIOR WALLS (R403.1.6)
- MAKE SURE ALL ANCHORS ARE THE CORRECT SIZE, THAT THEY ARE TIGHT AND IN THE MIDDLE THIRD OF THE WIDTH OF THE PLATE (R403.1.6)
- CHECK FOR ANY DAMAGE TO THE BOTTOM PLATE

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Windows & Doors

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HOW-TO

Installing and Flashing Windows Correctly

If you don't include housewrap, use a sill pan, and flash the flanges, the work is far from watertight.

By [Rob Moody](#) | [Issue 197](#)



Given the fact that windows create large holes in a house's exterior, I'm always shocked to see how many builders in our area don't **install them correctly**. In the nine years that I've been building and renovating homes, I've seen windows that haven't been integrated with the housewrap, improperly flashed installations, and even windows with no flashing at all. Not only does improper installation affect the durability and warranty of the windows, but it also exposes the wall cavity to moisture problems.

Like any builders, my crew and I want to use efficient practices that won't negatively affect the quality of our work. For us, that means using a pragmatic approach to installing windows with worst-case scenarios and long-term durability in mind.

Water Gets Behind All Siding, So Window Flashing Is The Next Line Of Defense

Based on conversations with subcontractors and local building officials, we've concluded that the reasons windows aren't installed correctly often stem from an

unrealistic expectation about the effectiveness of siding in keeping moisture out of the wall cavity. What many window installers don't realize is that no matter how well siding is installed, moisture finds its way between it and the housewrap.

When moisture ends up on a layer as slick as housewrap, it does a logical thing: It slides down the wall. Once that moisture reaches the window, it easily finds its way into the **rough opening** through even the tiniest holes. Moisture that leaks into a wall cavity causes mold to grow. Mold is bad, for materials and for humans. That's why we do everything we can to keep water moving out and away from the window by integrating it with the housewrap.

Read The Window Manufacturer's Installation Guidelines

Most window manufacturers recognize the disastrous effect improper installation of their products can have on a home, including significant energy loss. That's why they provide detailed installation instructions for their products. Following these instructions helps to keep the wall cavity dry and fulfills the window manufacturer's warranty.

Although the photos show my crew installing metal-clad windows with integral flanges, the steps outlined here offer a look at fundamental elements found in most manufacturers' installation guidelines. They address forming the **waterproof sill pan**, shimming the window so that it works properly, and flashing the **flanges** to shed water. These steps will receive LEED points as well.

We figure that our sillpan and flashing approach adds about 10 minutes to the installation time for each window and an average of \$15 in materials for each double-hung unit. That's relatively cheap insurance for such a large investment.

What To Do When Guidelines Conflict

These days, every housewrap, flashing-tape, and window manufacturer has a specific set of installation guidelines that must be followed to uphold each respective product's warranty. So what do you do when they contradict one another?

We follow contributing editor Mike Guertin's advice and use the most-restrictive protocol. For instance, when the window manufacturer shows no flashing details, we follow the tape or housewrap instructions. When one set of instructions calls

for a simple flat sill pan and another calls for a sloped pan, create a sloped pan. It's unlikely someone will claim you didn't follow the instructions by doing more than is called for.

When in doubt, though, follow the window manufacturer's instructions. The International Residential Code (R613.1) requires windows to be "installed and flashed according to manufacturers' instructions." If there's ever a problem, you've done what was required by the building code.

Prepare The Rough Opening With Housewrap And Pan Flashing

Most builders make an X-cut in the housewrap and staple the resulting tabs into the opening prior to installing the window. But folding the top tab into the opening gives water a way in behind the window's top flange. Instead, cut a top tab that covers the window's top flange after the window is installed. Then add pan flashing to collect and drain any water that does get in.



We make our pan flashing on site with beveled siding and self-adhesive flashing tape using Typar's 9-in. wide **Flashing Flex** to flash 2x6 walls because it allows us to form a seamless pan that contours to the sill. Other brands and widths are also available.

The Top Tab Folds Up, Not In

First, cut across the header, then down the center.

Make a horizontal cut and two angled cuts to the sill.





Staple the tabs down, then cut the top tab.

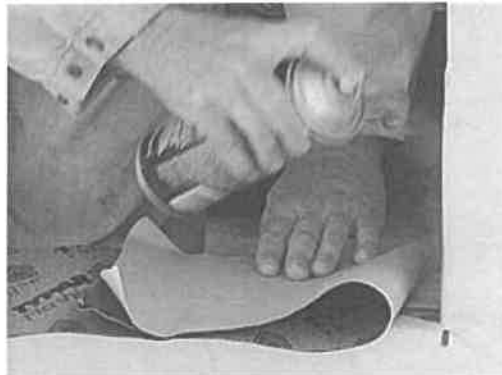


Fold up the top tab, and tape it out of the way.



Site-Made Pan Flashing

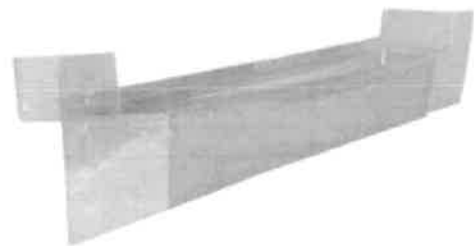
Beveled siding creates a sloped sill. After wrapping the opening, we nail a piece of siding along the rough sill with 1 3/4-in. roofing nails. Be sure to add the thickness of the siding to the window's height when framing the rough opening. Self-adhesive flashing tape goes on next. In cold weather, we apply spray adhesive (also called "primer") to improve the tape's adhesion. The Flashing Flex tape we're using here calls for 3M's Super 77 adhesive. We run flashing tape tight to the inside of the opening and 10 in. up each trimmer stud, then fold the rest over the housewrap. We sometimes staple the corners of the tape to prevent them from moving.





Ready-Made Pan Flashing

For us, making sill pans on site is efficient and cost effective. But there are manufactured pan-flashing systems available, such as Dow's Weathermate Sill Pan, shown here (www.dow.com ; \$5). This can be an economical option if you don't have a lot of windows to install. They come in various sizes to fit the opening's width.



Product photos by Krysta S. Doerfler

Caulk, Shim, And Nail The Window In Place

With the rough opening set, it's time to install the window. Most manufacturers require the side and top flanges to be caulked to the perimeter of the rough opening. They illustrate adding the caulk to the flange, but we like to add it to the building instead so that it doesn't get all over our hands as we put the window in. Regardless, make sure there's a good seal around the flange. Get the window

tully nailed off before the caulk dries.

The bottom stays caulk-free. Run a 1/2-in.-wide bead of caulk along the sides and top of the opening, but don't caulk along the bottom. A sealed bottom flange can trap water in the pan flashing. To comply with most window manufacturers' warranties, be sure to use a window and door silicone caulk that has an ASTM C-920 rating on the label.



Next, center the window in the rough opening so that there's even shim space on each side of the jamb, and check the sill for level. If the sill is out of level, insert shims under one or both side jambs and in the center of the sill to give it proper support. When installing wider windows with multiple units (double units, triple units), shim under each window's side jambs and in the center of each window.



Nail the bottom flange only. Make sure the windowsill is level, then nail the bottom flange every 8 in. with 2-in. roofing nails. We use a pneumatic nailer on metal-flanged windows. The impact of a nail gun can crack vinyl easily, especially in cold weather. Drive nails by hand, or use galvanized pan-head screws when working with vinyl-flanged windows.



Check the window's function, then nail off the flange. With only the top corners nailed and a few finish nails in the side jambs, it's easy to make any necessary adjustments to improve the window's operation. Once the window functions properly, nail off the rest of the top and side

Plumb the jamb. Pull diagonal measurements off the jamb corners to square and plumb the jamb, shimming the upper corners as needed. Then hold the window in place by nailing just the two corners of the top flange from the outside. Insert shims, and drive 2-in. finish nails to straighten the side jamb.



Eliminate drafts with spray foam. Instead of stuffing fiberglass insulation around the window, apply low-expanding spray foam for the best air seal. Backer rod can be used to help fill the space in deep walls before the spray foam is applied.

flanges every 4 in. to 6 in.



Lap The Tape Shingle Style

Self-adhesive flashing tapes generally break down into two types: asphalt and butyl-based. Asphalt-based tape can damage certain types of vinyl, so check the window's specs before using it. Butyl tape is easier to work with. It doesn't have an aggressive initial tack, but its adhesiveness increases over time. When possible, we use tapes made by the manufacturer of the housewrap we're using because the products are designed to work together.

Extra protection for the head jamb.

The **head jamb** is the most-vulnerable part of the window, which is why these windows come with a drip cap that adds a layer of protection. A similar cap can be made with flashing tape and aluminum coil stock.



The sides run long. Run flashing tape 4 in. to 5 in. past the top and bottom flanges. Make sure the tops of the side pieces stay at least 1 in. short of the top of the head piece so that the head piece will have a good, continuous bond with the sheathing. For windows with integral flanges, like the ones we're installing here, butt the tape tight to the jamb.

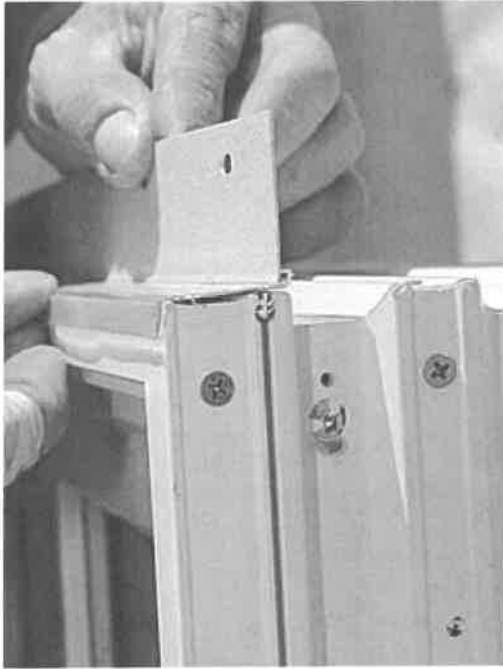


Tape the top. Roll tape over the top flange, letting it run past the side pieces by 2 in. to 3 in. Once the top piece is in place, fold down the housewrap tab. Tape along the bottom of the flap and at the corners with housewrap tape. Leave the bottom flange tape-free. The window is now ready for casing and siding.

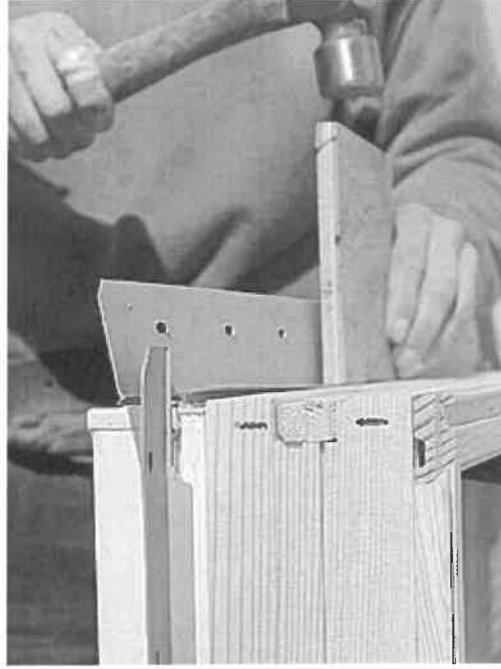


Mechanical Flanges Require Extra Attention

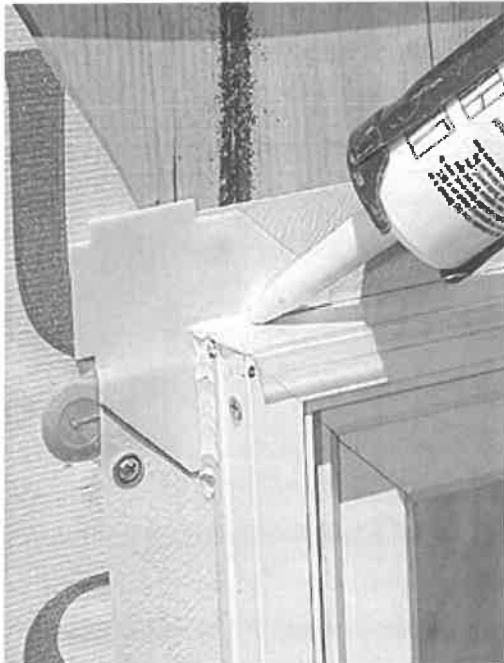
Not all flanged windows are made the same. The windows shown in this article have an integral nailing flange, which means that the flange is part of the window's exterior cladding. Integral flanges are a good design because there aren't seams or joints for water to sneak past. Hinged (photo, left)) and non-hinged (photo, right) mechanical flanges are also found on vinyl and metal-clad windows. Although these flange styles aren't inferior to integral flanges, they have a few vulnerable areas that require extra attention during installation. Mechanical flanges are sometimes also call applied flanges. — *by Mike Guertin*



Hinged



Nonhinged



Hinged

Mechanical flanges fit into grooves around the window jamb. They rely on a ribbed spline to stay engaged in the groove. The spline and a narrow gasket work together to keep out water. Hinge-style flanges are shipped folded against the frame, which leaves the corners incomplete. Manufacturers supply metal or plastic corner pieces to be applied and caulked once the window is hung. Non-hinged-style flanges overlap to form the flange corner. One benefit of mechanical flanges is that if they become damaged during installation, they are easy to replace. You install them by tapping a wood block along the inside tab. The downside is that

they can become disengaged after installation for a variety of reasons (for example, the siding installer pushes or bumps the jamb, or someone steps on the sill before it's shimmed in place).

To reduce the chance of window leaks, I make sure that everyone who works around them is aware of damage areas. I also shim around the window jamb's perimeter every 6 in. and screw through the jamb and shims into the framing. Finally, (1.) I lap the flashing tape about 1/4 in. onto the side jambs and then over the flange and housewrap. At the window head, (2.) I run the tape over the jamb and down onto the window face by 1/8 in. to 1/4 in. I then install metal cap flashing over the head-flashing tape (3.) to conceal the tape.



1. Lap The Flashing Tape



2. Run The Tape Over The Jamb



ROOF DECKING INSPECTION

- CHECK FOR THE CORRECT SIZE OF ROOF SHEATHING (R503.2.1.1)
- CHECK FOR CORRECT STAGERING OF THE OSB (R803.2.3 AND APA E30)
- VERIFY THAT THE FASTENING SPACING IS CORRECT AND CONSISTENT (R602.3(1) AND APA E30)
- VERIFY THAT THERE ARE H-CLIPS IN BETWEEN RAFTERS TO HELP WITH MAINTAINING PROPER SPACING AND STENGTH (MANUFACTURER RECOMENDATION)
- CHECK FOR 1/8" GAP BETWEEN PANELS TO HELP WITH EXPANSION AND CONTRACTION (MANUFACTURER RECOMENDATION AND APA)

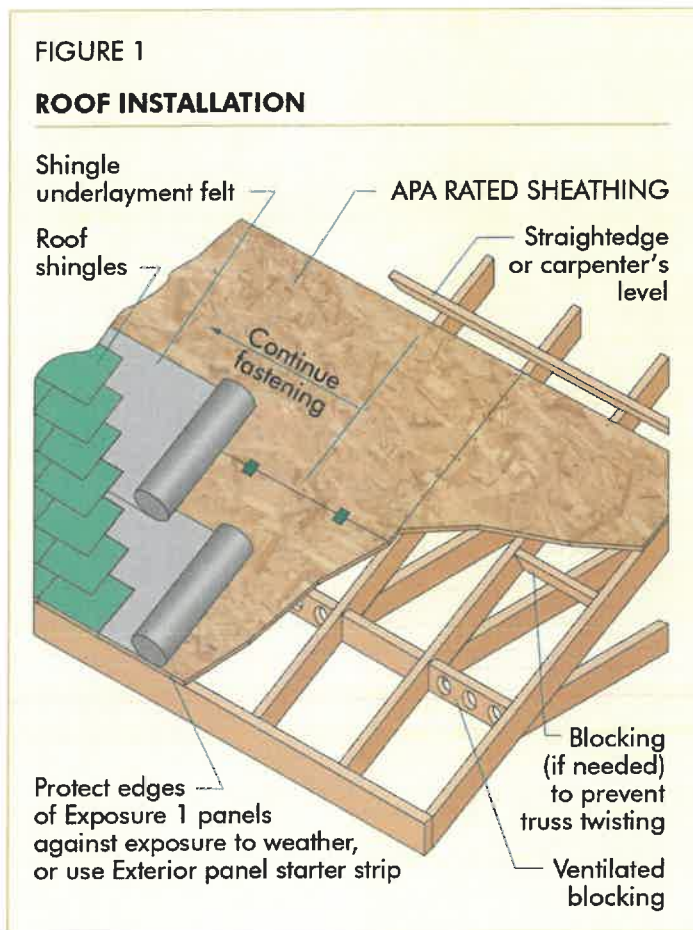


BUILDER TIPS

[Back PDF](#)

Proper Installation of APA Rated Sheathing for Roof Applications

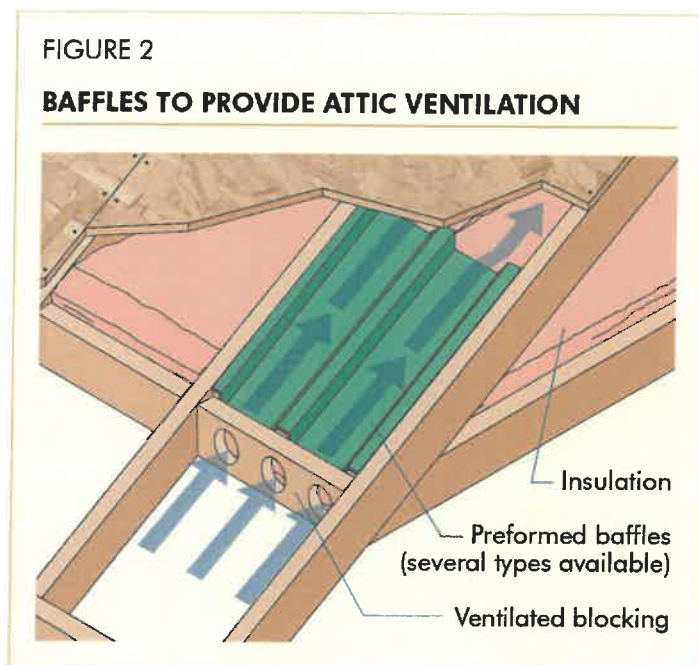
Following these simple construction steps for roof sheathing will provide best performance and minimize complaint callbacks.



Step 1: Always check for level nailing surface.

This can be done with a straight piece of lumber (6 feet to 10 feet long) or a long carpenter's level. Trusses or rafters should be shimmed as necessary to provide a level nailing surface. If top chords of trusses or rafters are warped or bowed, install blocking to straighten.

Step 2: Provide roof ventilation according to building codes (see hints below and Figure 2).



Ventilation hints:

1. Minimum net free ventilation area of 960 square inches for each 1,000 square feet (1/150th) of ceiling area is required. Net free ventilation area may be reduced to a minimum of 480 square inches for each 1,000 square feet (1/300th) when certain building code provisions are met.* Note that these are **MINIMUM** code requirements, which have been found to be adequate under most normal circumstances.
2. Vent exhaust air from kitchens, baths, and laundry to outdoors with vent pipes that run through the roof cavity or attic to roof ventilators. **Do not vent exhaust air directly into roof cavity or attic.**
3. Install baffles providing a minimum of 1 inch of clear space between framing and/or under roof sheathing at eaves to insure that ceiling or roof insulation does not block ventilation paths. For vaulted or cathedral roof construction, provide free ventilation path from eaves to ridge between all rafters.

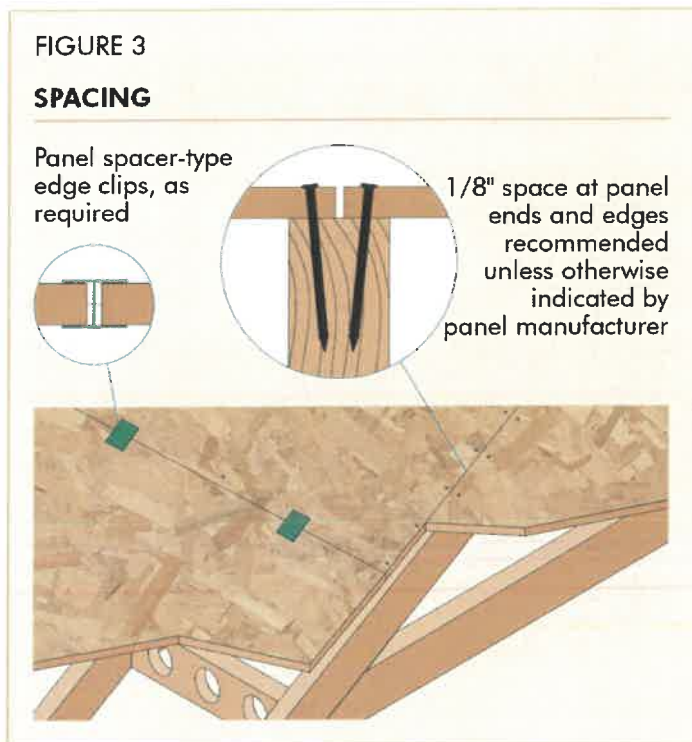
Step 3: Fasten panels with a minimum of 8d common (0.131 inch x 2-1/2 inches) nails spaced at a maximum of 6 inches on center at supported panel ends and edges.

At intermediate supports, fasten panels 12 inches on center. In high wind areas more fasteners may be required. Fasteners should be 3/8 inch from panel ends and 3/8 inch from panel edges (see hints below). **For pitched roofs, wear skid-resistant shoes. On panels with a screened surface or skid-resistant coating, install panels with the non-skid surface up.**

Fastening hints:

1. Position panel. Use temporary fasteners at corners if needed to square panel on framing.

2. Install fasteners at one panel end.
3. Remove temporary fasteners at corners.
4. Install intermediate fasteners, starting at panel edge. Use chalk line or straight edge to align fasteners on framing. Fasten panels in rows across the width, continuing this sequence along the length of the panel. This procedure keeps internal stress from accumulating in panels.
5. Stand on panel over framing near the fastener location to insure contact with framing while driving fasteners. Fasteners should be driven flush with the panel surface. Avoid standing between framing, which can induce panel deflection.
6. For improved performance, consider thicker roof sheathing panels, panel edge clips, or panels with tongue-and-groove edges.
7. A 1/8-inch space between adjacent panel end and edge joints is recommended, unless panel manufacturer indicates otherwise. Check building code requirements for installation of panel edge clips. Edge clip requirements depend on the relationship of the panel Span Rating to the actual distance between roof framing.



Spacing hints: Use a 10d box (0.128 inch x 3 inches) nail as a spacer to gauge 1/8-inch edge and end spacing between panels. Spacer-type panel edge clips are available from some manufacturers. If necessary, trim panel ends to center on framing.

Step 4: Cover sheathing with shingle underlayment felt to minimize roof sheathing exposure to weather, unless otherwise recommended by sheathing manufacturer.

Roofing hints: Use shingle underlayment felt conforming to ASTM D226 Type I, ASTM D4869 Type I, or ASTM D6757 (Self-adhering polymer modified bitumen sheet underlayment should conform to ASTM D1970) or check roofing manufacturer's recommendations if delays are anticipated during

construction. Remove wrinkles and flatten surface of shingle underlayment before installing asphalt or fiberglass shingles.

Step 5: Install shingles according to manufacturer's recommendations.

Shingle hints: If using asphalt or fiberglass shingles, postpone shingle installation as long as possible. This will provide time for roof sheathing to adjust to humidity and moisture conditions. For best appearance, use heavier weight shingles, or laminated or textured shingles. This will mask surface imperfections and reduce the risk of shingle ridging.

Additional Information

For more complete information, visit the [APA Publication Library](#) and refer to the following APA publications:

- *Engineered Wood Construction Guide*, Form E30.
- *Builder Tips: How to Minimize Buckling of Asphalt Shingles*, Form K310.
- *Technical Note: Condensation – Causes and Control*, Form X485.
- *Technical Note: Minimizing Buckling of Wood Structural Panels*, Form D481.

*See Section R806.2 of the 2012 International Residential Code or Section 1203.2 of the 2012 International Building code for more details.

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Form No. N335P/July 2013

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FIREWALL INSPECTION

- VERIFY WHAT TYPE OF FIRE WALL THE APPROVED PLANS REQUIRE (R106.3.1)
- INSPECT GYPSUM BOARD FOR CORRECT SIZE REQUIRED FOR PROPER FIRE RESISTANCE (R302)
- ALL JOINTS ARE COVERED WITH TAPE AND MUD OR APPROVED FIRE TAPE
- VERIFY THAT ANY HOLE OR SPACE WHERE A FLAME OR HOT GAS CAN PASS THROUGH IS COVERED OR SEALED WITH THE PROPER MATERIAL (R302.4-R302.4.2)
- FIRE CAULKING ON THE FOUNDATION, AROUND ANY FRAMING, AROUND TUBES OR CONDUITS, WALLS, AND UNDERSIDE OF THE ROOF SHEATHING (R302.3)

R302.3 Two-Family Dwellings

Dwelling units in two-family dwellings shall be separated from each other by wall and floor assemblies having not less than a 1-hour fire-resistance rating where tested in accordance with ASTM E119, UL 263 or Section 703.3 of the *International Building Code*. Fire-resistance-rated floor/ceiling and wall assemblies shall extend to and be tight against the *exterior wall*, and wall assemblies shall extend from the foundation to the underside of the roof sheathing.

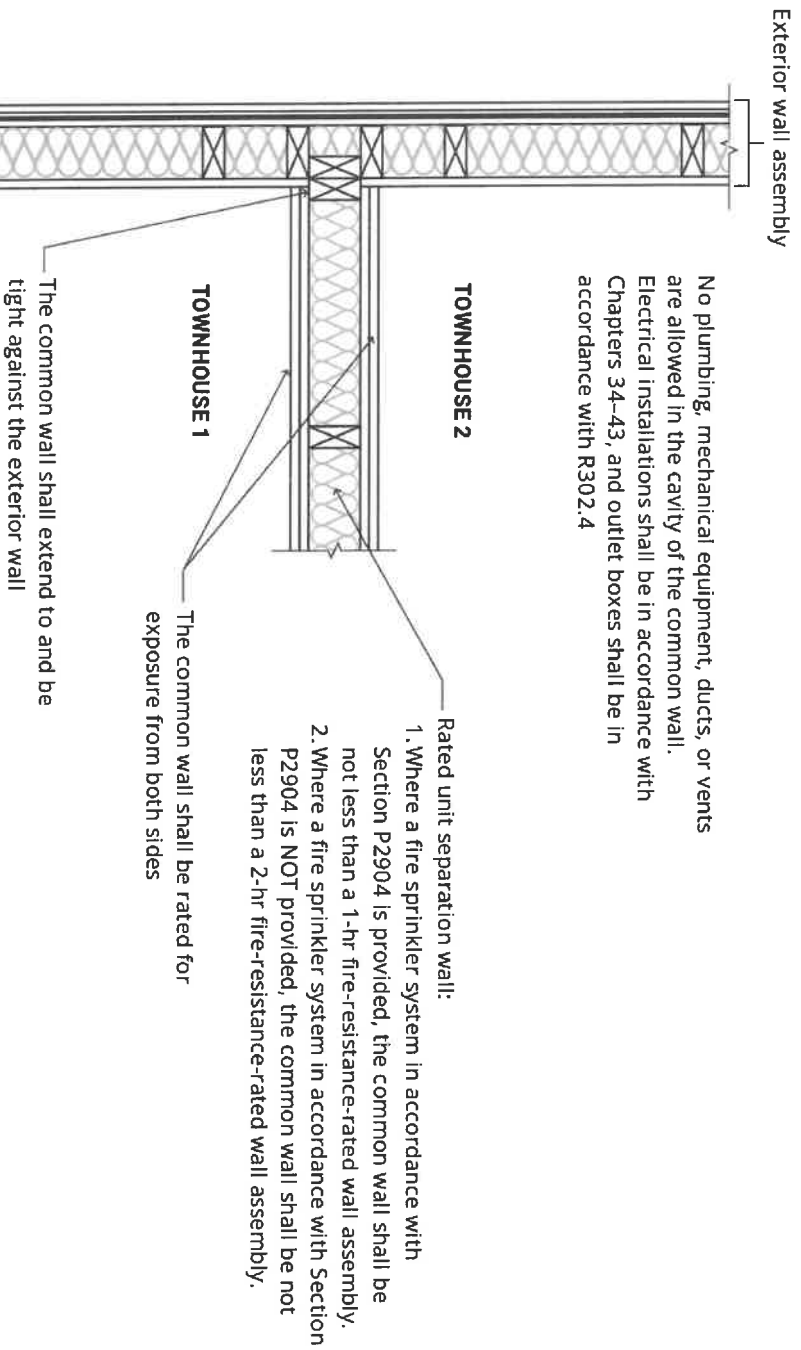
Exceptions:

1. A fire-resistance rating of $1/2$ hour shall be permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with NFPA 13.
2. Wall assemblies need not extend through *attic* spaces where the ceiling is protected by not less than $5/8$ -inch (15.9 mm) Type X gypsum board, an *attic* draft stop constructed as specified in Section R302.12.1 is provided above and along the wall assembly separating the *dwellings* and the structural framing supporting the ceiling is protected by not less than $1/2$ -inch (12.7 mm) gypsum board or equivalent.

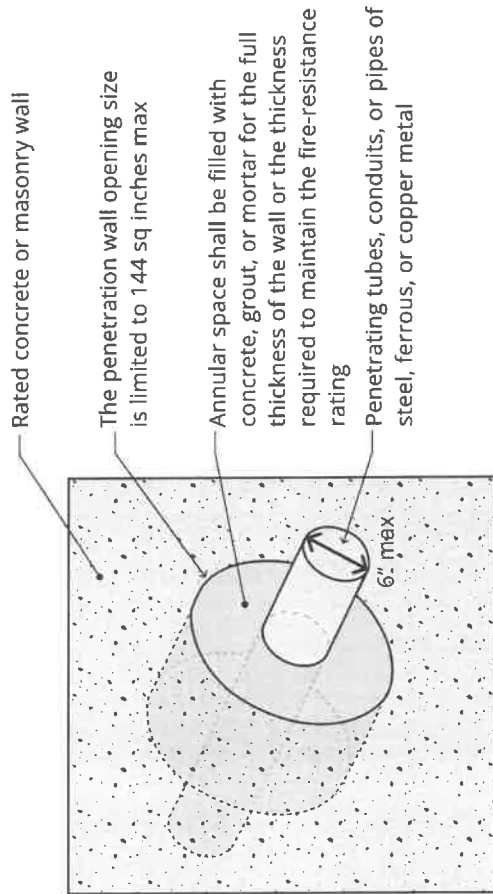
R302.3.1 Supporting Construction

Where floor assemblies are required to be fire-resistance rated by Section R302.3, the supporting construction of such assemblies shall have an equal or greater fire-resistance rating.

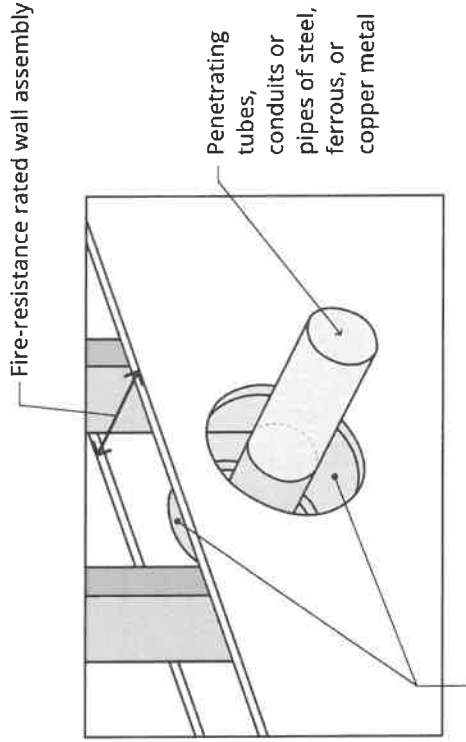
Section R302.2.2 TOWNHOUSE COMMON WALL AT EXTERIOR WALL



FIRE RATED THROUGH PENETRATION
EXCEPTION 1

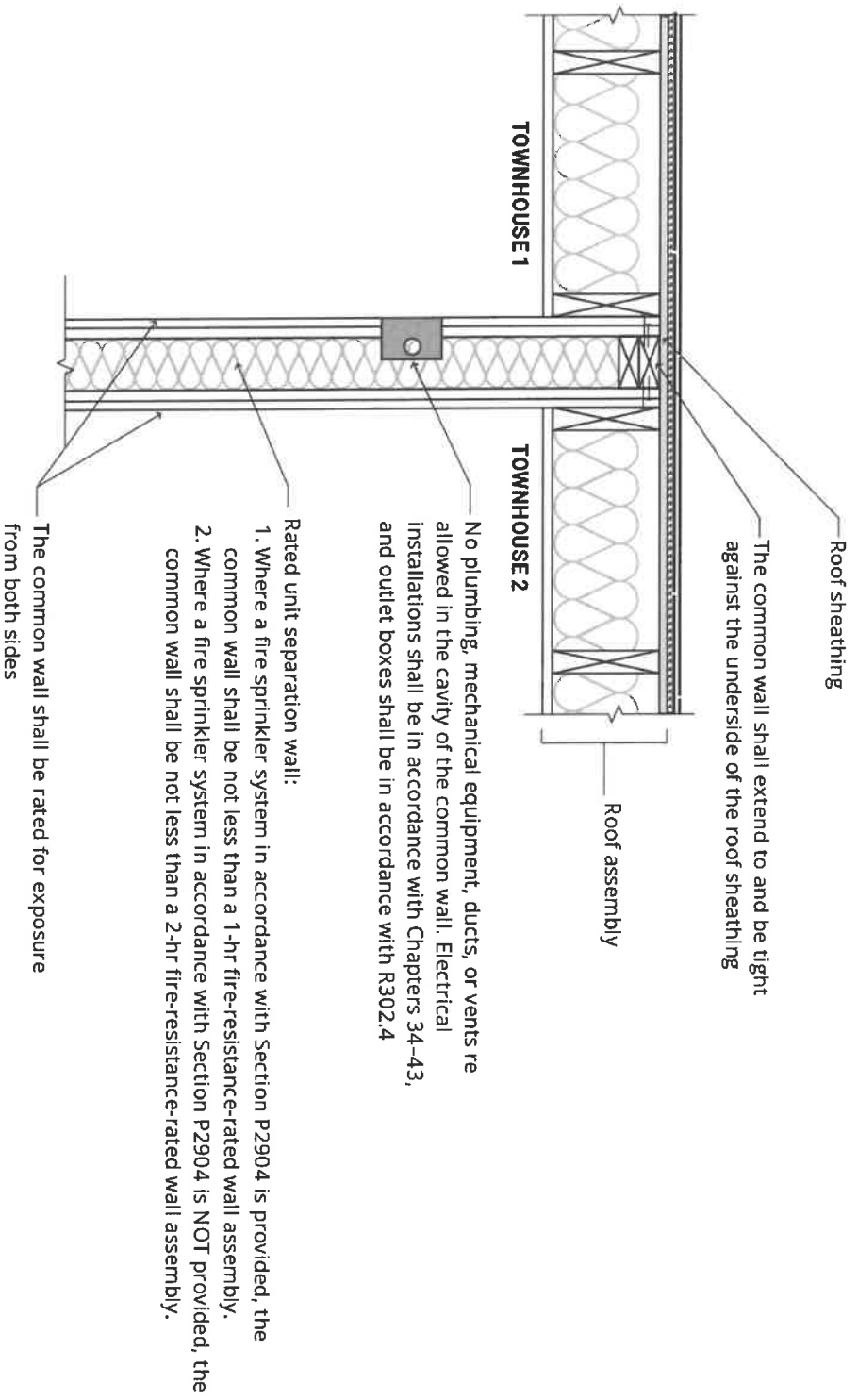


FIRE RATED THROUGH PENETRATION
EXCEPTION 2

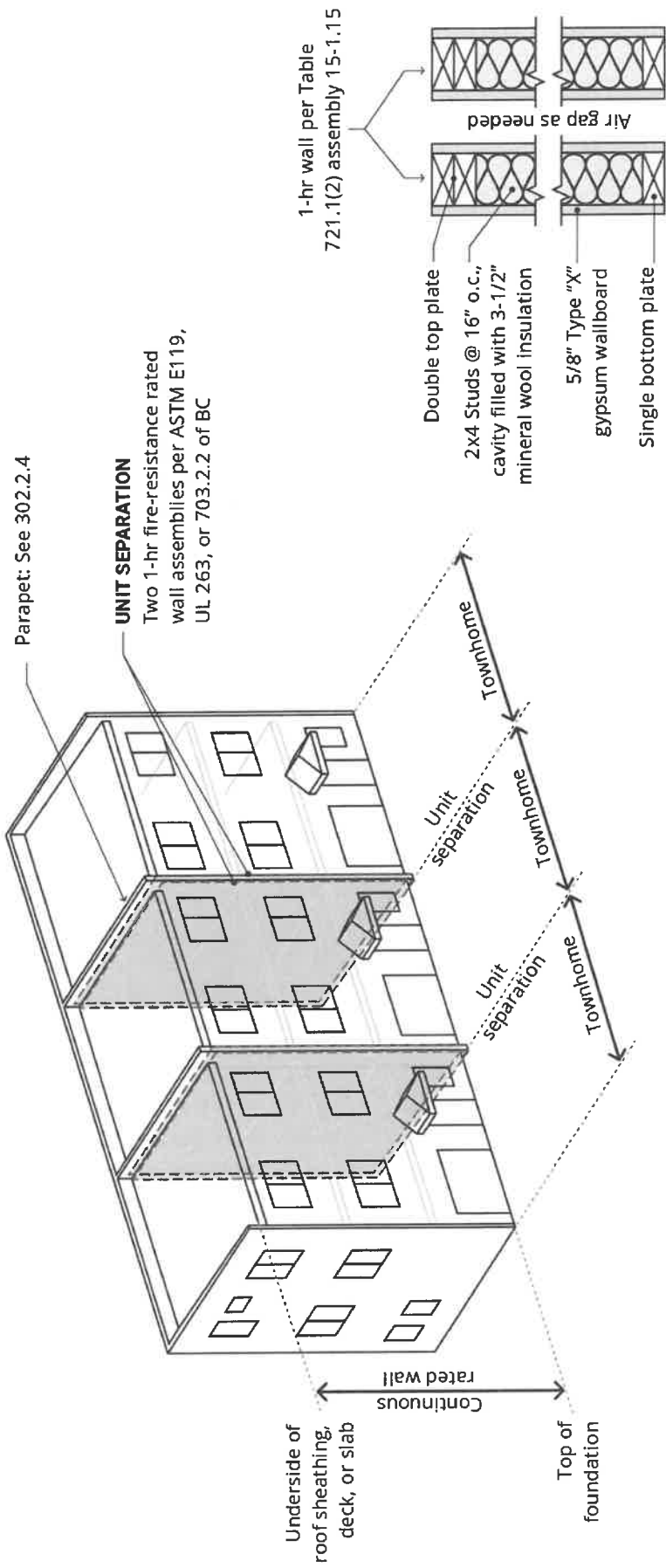


The annular space shall be filled with material that prevents the passage of flame and hot gasses sufficient to ignite cotton waste when subjected to ASTM E119 or UL 263 time-temperature fire conditions under a min positive pressure differential of 0.01 inch of water at the location of the penetration for the time period equivalent to the fire-resistance rating of the construction penetrated

R302.2.2 TOWNHOUSE COMMON WALL AT ROOF ASSEMBLY



DOUBLE FIRE RATED WALLS AT TOWNHOMES



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 UpCodes

Example
SEPARATION WALL SECTION

FRAMING INSPECTION

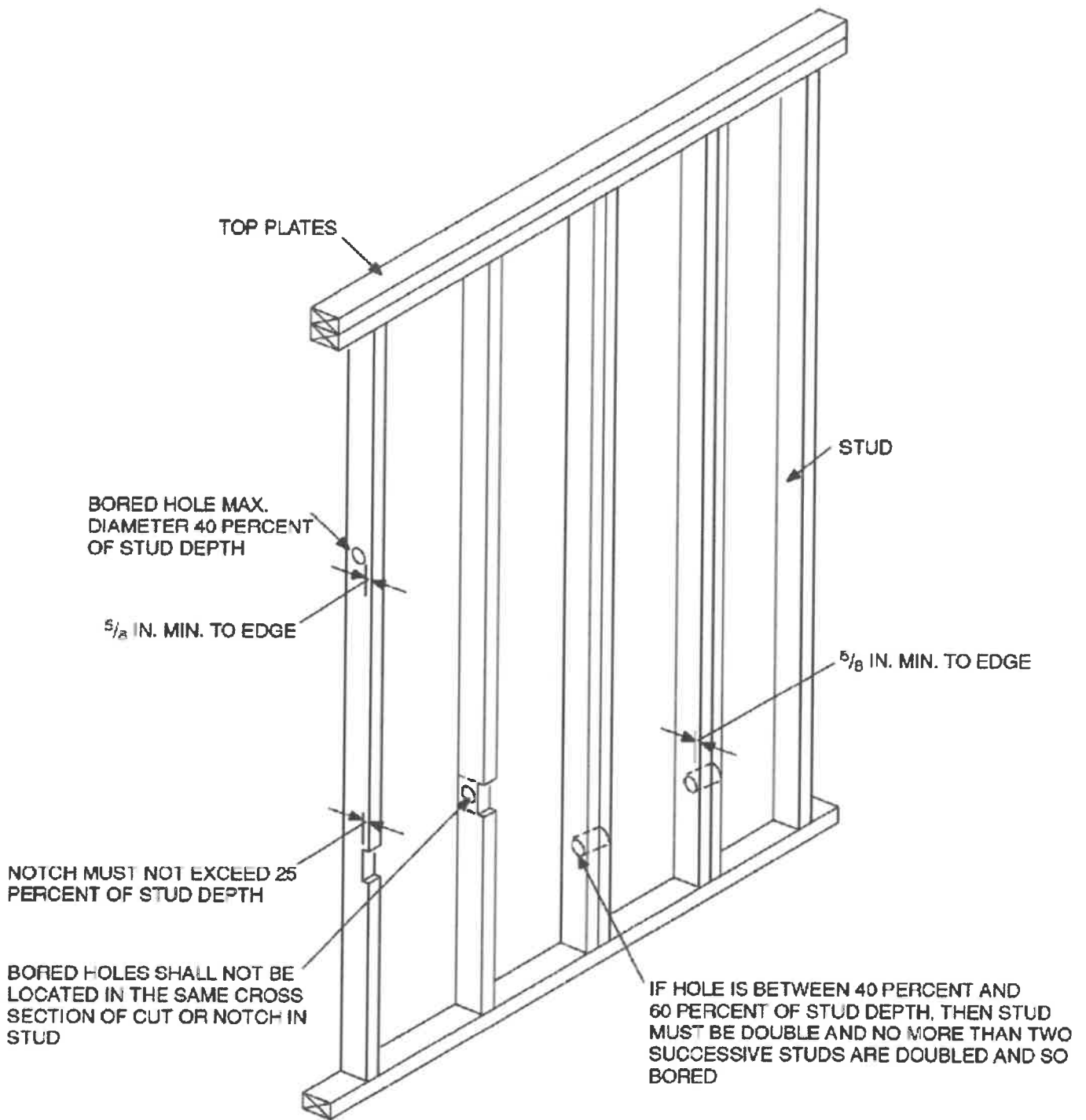
- THE FRAMING INSPECTION IS DONE AFTER PLUMBING, MECHANICAL AND ELECTRICAL ROUGH INSPECTIONS ARE APPROVED (R109.1.4)
- CHECK FOR CORRECT ADDRESS AND APPROVED PLANS TO SEE IF THERE ARE ANY SPECIFIC FRAMING PLANS (R106.3.1)
- INSPECT WOOD FOR ANY DAMAGE (EXAMPLE: SPLITTING, WARPED, ROT, MOLD, TERMITES, WATER DAMAGE, OR FIRE DAMAGE)
- CHECK FOR PROPER FIREBLOCKING AND DRAFTSTOPPING (R302.11 - R302.14, R602.4, AND R602.5)
- RIDGE SIZE (R802.3)
- RAFTER SIZE AND SPAN (R802.4)
- PURLIN SIZE, SPACING AND ANGLE OF PURLIN BRACE (R802.4.5)
- COLLAR TIES (802.4.6)
- CEILING JOIST SIZE AND SPAN (R802.5)
- HANGER SIZE AND ALL HOLES FILLED WITH CORRECT NAILS OR SCREWS (MANUFACTURER RECOMENDATION)
- PROPER LOAD TRANSFER AND SUPPORT FOR BEAMS (R606.6.3)
- PROPER BEARING (R802.6)
- TOP PLATES (602.3.2)
- STUD SPACING, KINGS, NUMBER OF JACKS, CRIPPLES, BORES, NOTCHING, AND HEADER SIZE AND BEARING (R602)
- CHECK WOOD HOLES AND NOTCHES FOR MISSING STUD SHOES OR NAIL GUARDS (R602.6)
- ATTIC ACCESS (R807)

R602.6 Drilling and Notching of Studs

Drilling and notching of studs shall be in accordance with the following:

1. Notching. Any stud in an exterior wall or bearing partition shall be permitted to be cut or notched to a depth not exceeding 25 percent of its width. Studs in nonbearing partitions shall be permitted to be notched to a depth not to exceed 40 percent of a single stud width.
2. Drilling. Any stud shall be permitted to be bored or drilled, provided that the diameter of the resulting hole is not more than 60 percent of the stud width, the edge of the hole is not less than $\frac{5}{8}$ inch (16 mm) to the edge of the stud, and the hole is not located in the same section as a cut or notch. Studs located in exterior walls or bearing partitions drilled over 40 percent and up to 60 percent shall be doubled with not more than two successive doubled studs bored. See Figures R602.6(1) and R602.6(2).

Exception: Use of *approved* stud shoes is permitted where they are installed in accordance with the manufacturer's recommendations.

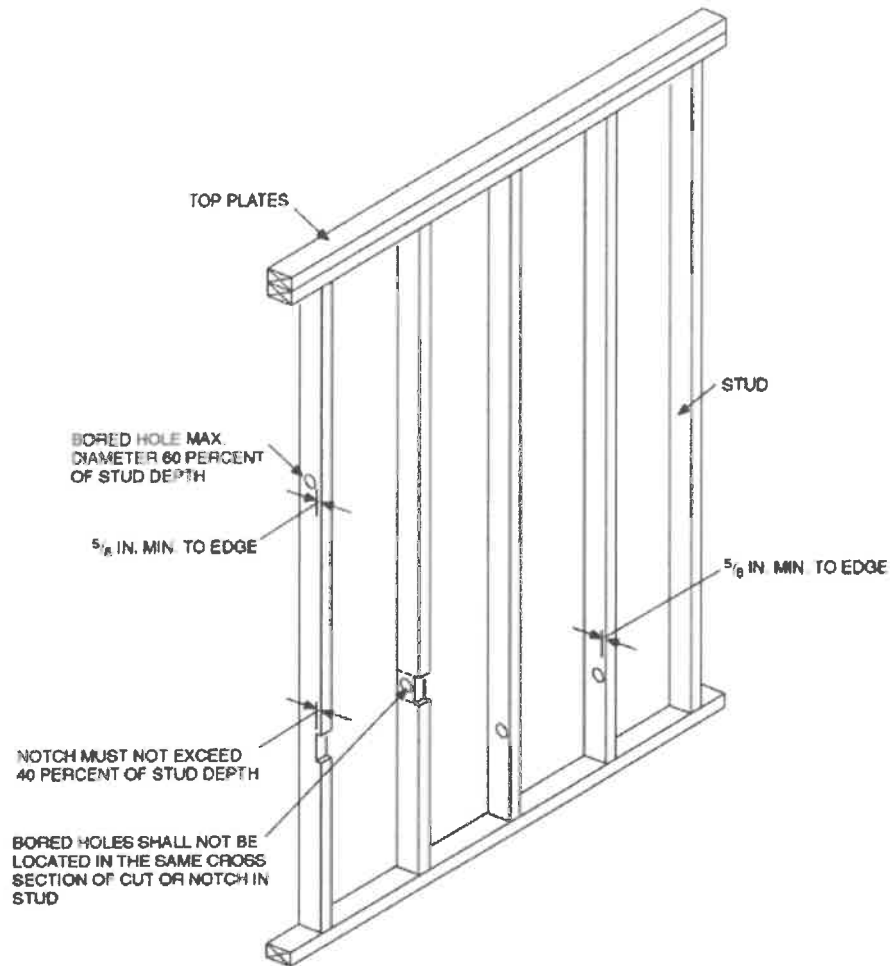


For SI: 1 inch = 25.4 mm.

Note: Condition for exterior and bearing walls.

FIGURE R602.6(1)

NOTCHING AND BORED HOLE LIMITATIONS FOR EXTERIOR WALLS AND BEARING WALLS



For SI: 1 inch = 25.4 mm.

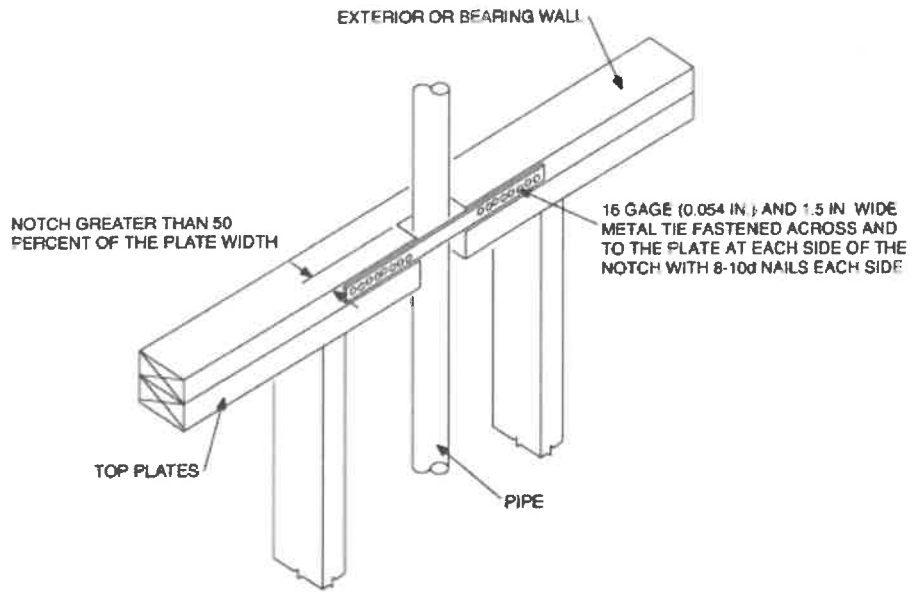
FIGURE R602.6(2)

NOTCHING AND BORED HOLE LIMITATIONS FOR INTERIOR NONBEARING WALLS

R602.6.1 Drilling and Notching of Top Plate

Where piping or ductwork is placed in or partly in an exterior wall or interior load-bearing wall, necessitating cutting, drilling or notching of the top plate by more than 50 percent of its width, a galvanized metal tie not less than 0.054 inch thick (1.37 mm) (16 ga) and 1½ inches (38 mm) wide shall be fastened across and to the plate at each side of the opening with not less than eight 10d (0.148 inch diameter) nails having a minimum length of 1½ inches (38 mm) at each side or equivalent. The metal tie must extend not less than 6 inches past the opening. See Figure R602.6.1.

Exception: Where the entire side of the wall with the notch or cut is covered by wood structural panel sheathing.



For SI: 1 inch = 25.4 mm.

FIGURE R602.6.1

TOP PLATE FRAMING TO ACCOMMODATE PIPING

R302.11 Fireblocking

In combustible construction, fireblocking shall be provided to cut off both vertical and horizontal concealed draft openings and to form an effective fire barrier between stories, and between a top *story* and the roof space.

Fireblocking shall be provided in wood-framed construction in the following locations:

1. In concealed spaces of stud walls and partitions, including furred spaces and parallel rows of studs or staggered studs, as follows:
 - 1.1. Vertically at the ceiling and floor levels.
 - 1.2. Horizontally at intervals not exceeding 10 feet (3048 mm).
2. At interconnections between concealed vertical and horizontal spaces such as occur at soffits, drop ceilings and cove ceilings.
3. In concealed spaces between stair stringers at the top and bottom of the run. Enclosed spaces under stairs shall comply with Section R302.7.
4. At openings around vents, pipes, ducts, cables and wires at ceiling and floor level, with an *approved* material to resist the free passage of flame and products of combustion. The material filling this annular space shall not be required to meet the ASTM E136 requirements.
5. For the fireblocking of chimneys and fireplaces, see Section R1003.19.
6. Fireblocking of cornices of a two-family *dwelling* is required at the line of *dwelling unit* separation.

R302.11.1 Fireblocking Materials

Except as provided in Section R302.11, Item 4, fireblocking shall consist of the following materials.

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25.4 mm) nominal lumber with broken lap joints.
3. One thickness of $\frac{23}{32}$ -inch (18.3 mm) wood structural panels with joints backed by $\frac{23}{32}$ -inch (18.3 mm) wood structural panels.
4. One thickness of $\frac{3}{4}$ -inch (19.1 mm) particleboard with joints backed by $\frac{3}{4}$ -inch (19.1 mm) particleboard.
5. One-half-inch (12.7 mm) gypsum board.
6. One-quarter-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of mineral wool or glass fiber or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation installed as tested in accordance with ASTM E119 or UL 263, for the specific application.

R302.11.1.1 Batts or Blankets of Mineral or Glass Fiber

Batts or blankets of mineral or glass fiber or other *approved* nonrigid materials shall be permitted for compliance with the 10-

foot (3048 mm) horizontal fireblocking in walls constructed using parallel rows of studs or staggered studs.

R302.11.1.2 Unfaced Fiberglass

Unfaced fiberglass batt insulation used as fireblocking shall fill the entire cross section of the wall cavity to a height of not less than 16 inches (406 mm) measured vertically. Where piping, conduit or similar obstructions are encountered, the insulation shall be packed tightly around the obstruction.

R302.11.1.3 Loose-Fill Insulation Material

Loose-fill insulation material shall not be used as a fireblock unless specifically tested in the form and manner intended for use to demonstrate its ability to remain in place and to retard the spread of fire and hot gases.

R302.11.2 Fireblocking Integrity

The integrity of fireblocks shall be maintained.

GARAGE SEPARATION (RC)

The private garage shall be separated from the dwelling unit and its attic area, by means of gypsum board, not less than 1/2" in thickness, applied to the garage side.

Garages located less than 3' from a dwelling unit on the same lot shall have not less than 1/2" gypsum wallboard or equal protection applied to the interior side of exterior walls where within 3' of the residence

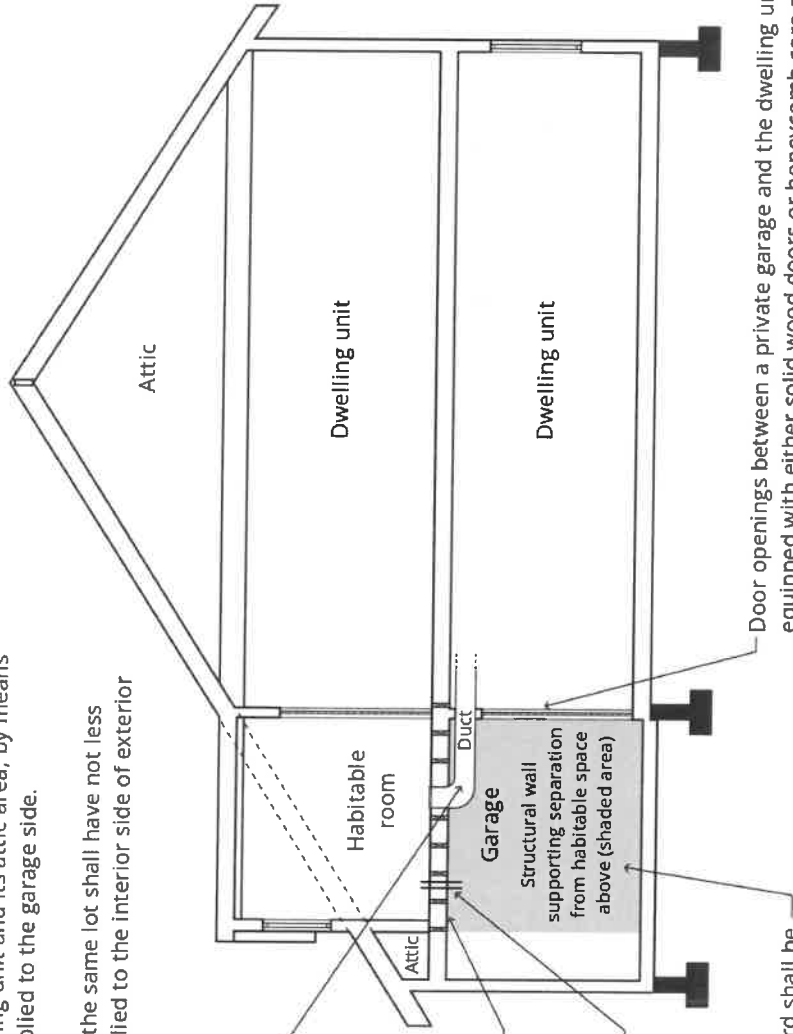
Ducts in a private garage and ducts penetrating the walls or ceilings separating the dwelling unit from the garage, including its attic area, shall be constructed of sheet steel min 26 gage thickness or other approved material and shall not have openings into the garage

Garages beneath habitable rooms shall be separated from all habitable rooms above by not less than a 5/8" type 'X' gypsum board or equivalent.

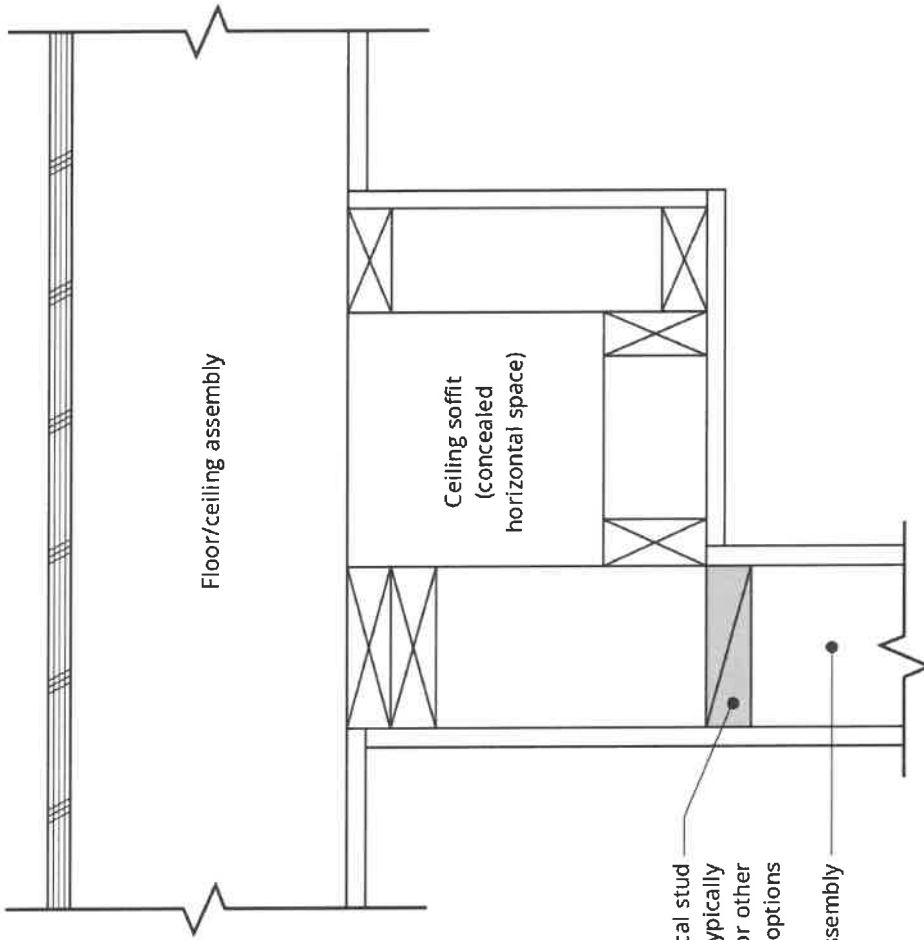
Other penetrations (example pipes and wires) shall have the annular space sealed with an approved material to resist the free passage of flames and products of combustion

1/2" gypsum wallboard shall be applied to structures supporting the separation from habitable rooms above

Door openings between a private garage and the dwelling unit shall be equipped with either solid wood doors or honeycomb core steel doors not less than 1-3/8" thickness, or 20 minute fire-rated doors. Doors shall be equipped with a self-closing or automatic-closing device. Openings (doors) from a garage into a room used for sleeping are not permitted.

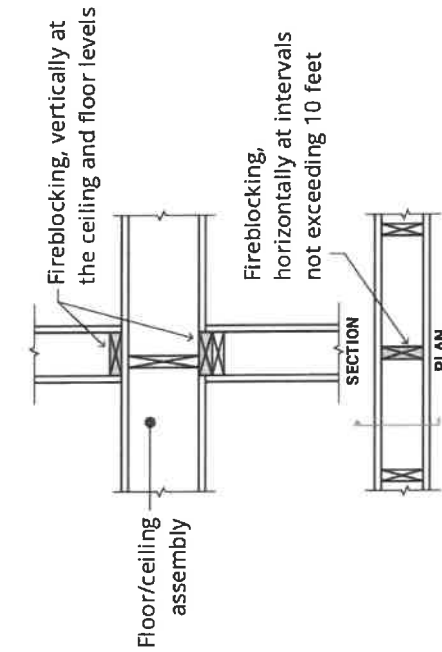


CONNECTIONS BETWEEN HORIZONTAL AND VERTICAL SPACES

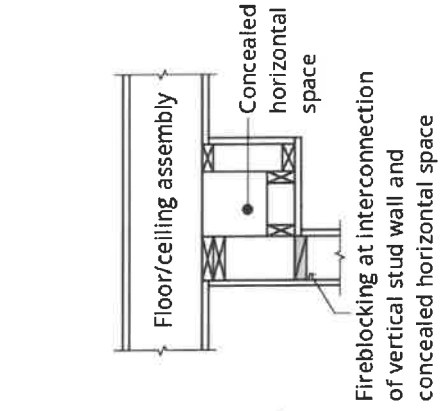


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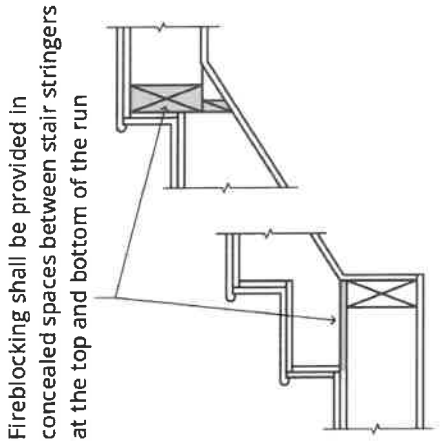
2018 RESIDENTIAL FIREBLOCKING



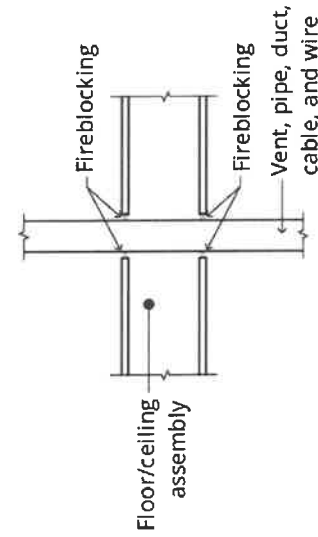
AT CONCEALED WALL SPACES



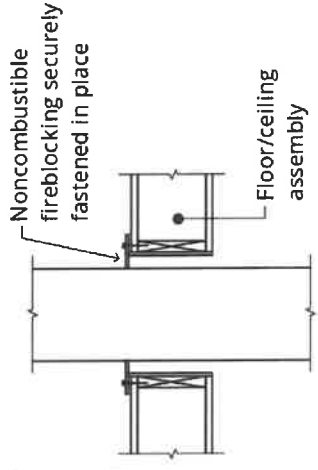
AT CONNECTIONS BETWEEN HORIZONTAL AND VERTICAL SPACES



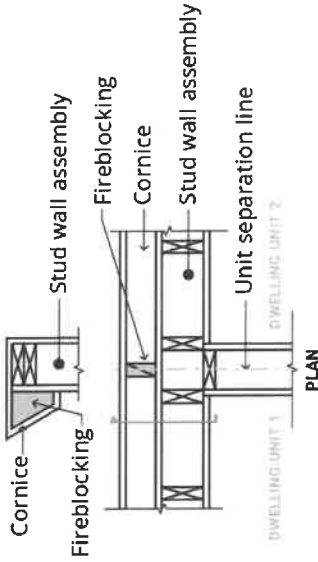
AT STAIRWAYS



AT FLOOR OPENINGS- ANNULAR SPACE



AT CEILING AND FLOOR OPENINGS - CHIMNEY



AT CORNICES OF A TWO FAMILY DWELLING

R302.12 Draftstopping

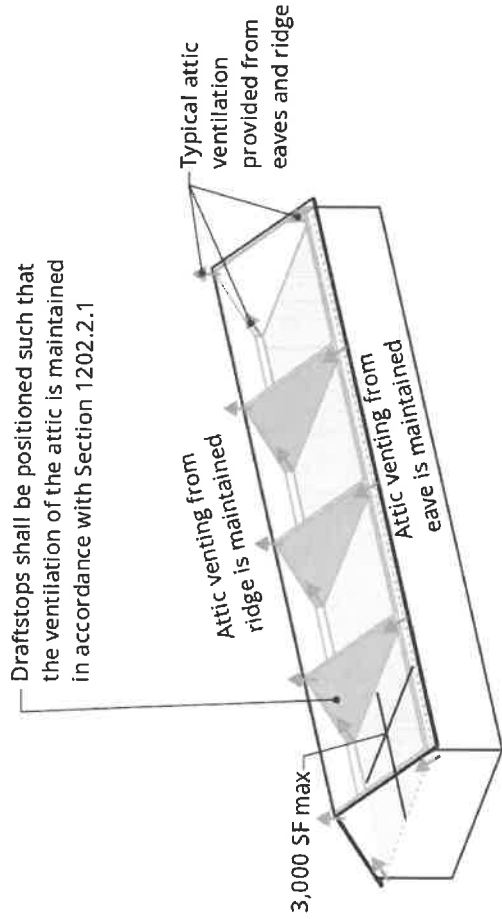
In combustible construction where there is usable space both above and below the concealed space of a floor-ceiling assembly, draftstops shall be installed so that the area of the concealed space does not exceed 1,000 square feet (92.9 m²). Draftstopping shall divide the concealed space into approximately equal areas. Where the assembly is enclosed by a floor membrane above and a ceiling membrane below, draftstopping shall be provided in floor-ceiling assemblies under the following circumstances:

1. Ceiling is suspended under the floor framing.
2. Floor framing is constructed of truss-type open-web or perforated members.

R302.12.1 Materials

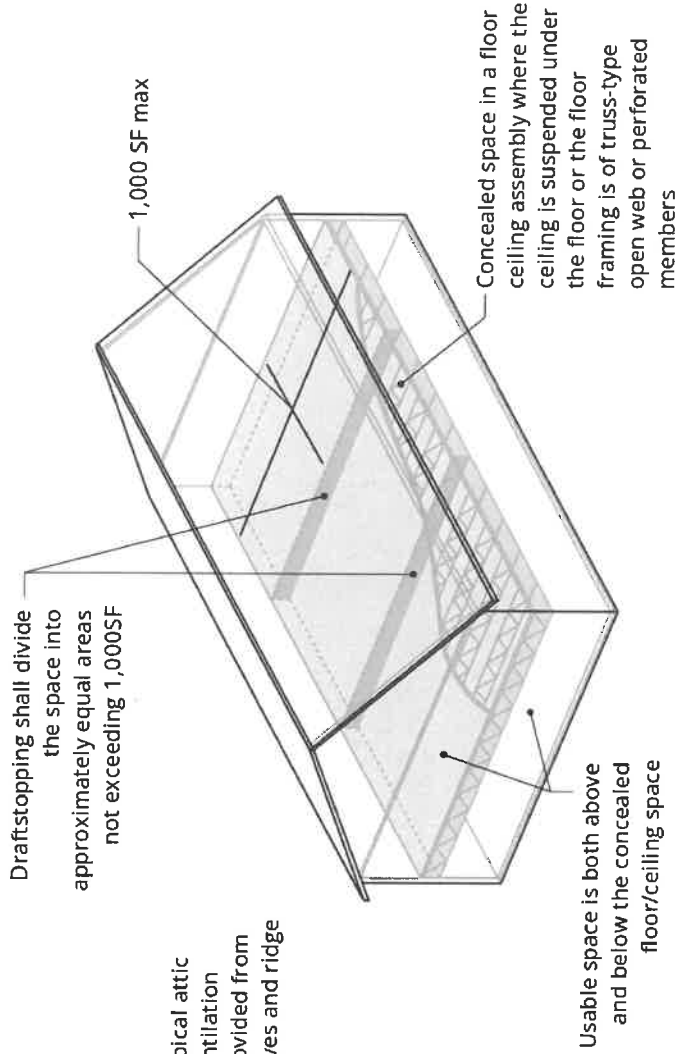
Draftstopping materials shall be not less than 1/2-inch (12.7 mm) gypsum board, 3/8-inch (9.5 mm) wood structural panels or other *approved* materials adequately supported. Draftstopping shall be installed parallel to the floor framing members unless otherwise *approved* by the *building official*. The integrity of the draftstops shall be maintained.

2018 BC 718.4 DRAFTSTOPPING IN ATTICS



EXCEPTION: Draftstops in attics are not required when the building is equipped throughout with an automatic sprinkler system per Section 903.3.1.1 (i.e., The entire building and attic are sprinklered)

2018 RC R302.12 DRAFTSTOPPING



- 3,000 SF max
- 1,000 SF max
- Draftstop

INSULATION INSPECTION

- VERIFY THAT ALL EXTERIOR WALLS ARE PROPERLY INSULATED WITH R20 INSULATION OR R13+R5 CONTINUOUS INSULATION (N1102.1.2)
- IF THERE IS OSB/PLYWOOD IN THE ATTIC THAT WILL PREVENT BLOW IN INSULATION TO FILL UNDER IT, VERIFY THAT THERE IS INSULATION INSTALLED IN BETWEEN CEILING JOISTS UNDER THE PANELS (N1102.1.2)
- IF FLOORING INSULATION IS REQUIRED VERIFY THAT IT IS R19 (N1102.1.2)
- SPRAY FOAM INSULATION REQUIRES DOCUMENTATION LISTING ALL TECHNICAL DATA, R-VALUE AND WEATHER IT WAS INSTALLED ACCORDING TO MANUFACTURERS SPECIFICATIONS. (N1101.10.1)

Chapter 11 [RE] Energy Efficiency: [RE] Energy Efficiency, Oklahoma Residential Code 2018 | UpCodes

N1102.1.2 (R402.1.2) Insulation and Fenestration Criteria

The *building thermal envelope* shall meet the requirements of Table N1102.1.2 based on the *climate zone* specified in Section N1101.7.

TABLE N1102.1.2 (R402.1.2)

INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT^a

CLIMATE ZONE	FENESTRATION U-FACTOR ^b	SKYLIGHT ^b U-FACTOR	GLAZED FENESTRATION SHGC ^{b, e}	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE ⁱ	FLOOR R-VALUE	BASEMENT ^c WALL R-VALUE	SLAB ^d R-VALUE & DEPTH	CRAWL SPACE ^c WALL R-VALUE
1	NR	0.75	0.25	30	13	3/4	13	0	0	0
2	0.40	0.65	0.25	38	13	4/6	13	0	0	0
3	0.38	0.55	0.30	30	R13 ^h	8/13	19	5/13 ^f	0	5/13
4 except Marine	0.32	0.55	0.40	49	20 or 13 + 5 ^h	8/13	19	10/13	10, 2 ft	10/13
5 and Marine 4	0.30	0.55	NR	49	20 or 13 + 5 ^h	13/17	30 ^g	15/19	10, 2 ft	15/19
6	0.30	0.55	NR	49	20 + 5 ^h or 13 + 10 ^h	15/20	30 ^g	15/19	10, 4 ft	15/19
7 and 8	0.30	0.55	NR	49	20 + 5 ^h or 13 + 10 ^h	19/21	38 ^g	15/19	10, 4 ft	15/19

For SI: 1 foot = 304.8 mm.

NR = Not Required.

a. *R*-values are minimums. *U*-factors and SHGC are maximums. Where insulation is installed in a cavity that is less than the label or design thickness of the insulation, the installed *R*-value of the insulation shall not be less than the *R*-value specified in the table.

b. The fenestration *U*-factor column excludes skylights. The SHGC column applies to all glazed fenestration.

Exception: In Climate Zones 1 through 3, skylights shall be permitted to be excluded from glazed fenestration SHGC requirements provided that the SHGC for such skylights does not exceed 0.30.

c. '10/13' means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation on the interior of the basement wall. '15/19' means R-15 continuous insulation on the interior or exterior of the home or R-19 cavity insulation on the interior of the basement wall. Alternatively, compliance with '15/19' shall be R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the home.

d. R-5 insulation shall be provided under the full slab area of a heated slab in addition to the required slab edge insulation *R*-value for slabs, as indicated in the table. The slab edge insulation for heated slabs shall not be required to extend below the slab.

e. There are no SHGC requirements in the Marine Zone.

f. Basement wall insulation shall not be required in warm-humid locations as defined by Figure N1101.7 and Table N1101.7.

g. Alternatively, insulation sufficient to fill the framing cavity providing not less than an *R*-value of R-19.

- h. The first value is cavity insulation, the second value is continuous insulation. Therefore, as an example, '13+5' means R-13 cavity insulation plus R-5 continuous insulation.
- i. Mass walls shall be in accordance with Section N1102.2.5. The second *R*-value applies where more than half of the insulation is on the interior of the mass wall.

BUILDING FINAL

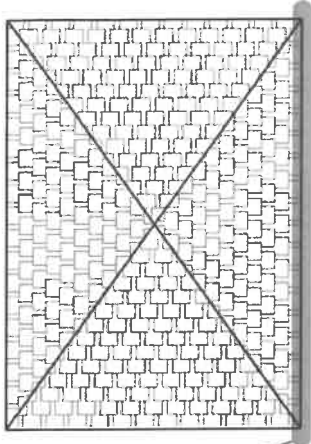
- VERIFY THAT ALL WORK ON THE PERMIT WAS COMPLETED AND THE HOME IS READY TO BE OCCUPIED (R109.1.6)
- CORRECT SIZE, COLOR, AND LOCATION OF THE HOUSE NUMBERS (R319)
- SEALANT AROUND WINDOWS AND WEEP HOLES FREE OF GROUT OR SEALANT (RECOMENDED BY MANUFATURER)
- WEEPHOLES AROUND VENEER (R703.8)
- FENCE (PLAN REVIEW)
- SOD REQUIREMENTS (COL STANDARDS)
- WEATHER STRIPS ON EXTERIOR DOORS AND DOOR BETWEEN GARAGE AND RESIDENCE (N1102.2.4)
- VERIFY THAT ALL DOORS AND WINDOWS OPEN WITH REASONABLE EFFORT (R311)
- CORRECT TYPE OF DOOR BETWEEN GARAGE AND RESIDENCE WITH SELF CLOSING OR AUTOMATIC CLOSING DEVICE (R302.5.1)
- IF THERE IS ACCESS UNDER STAIRS VERIFY THAT THERE IS THE CORRECT FIRE PROTECTION (R302.7)
- VERIFY THE INSULATION IN THE ATTIC IS R38 (N1102.1.2)

R302.5.1 Opening Protection

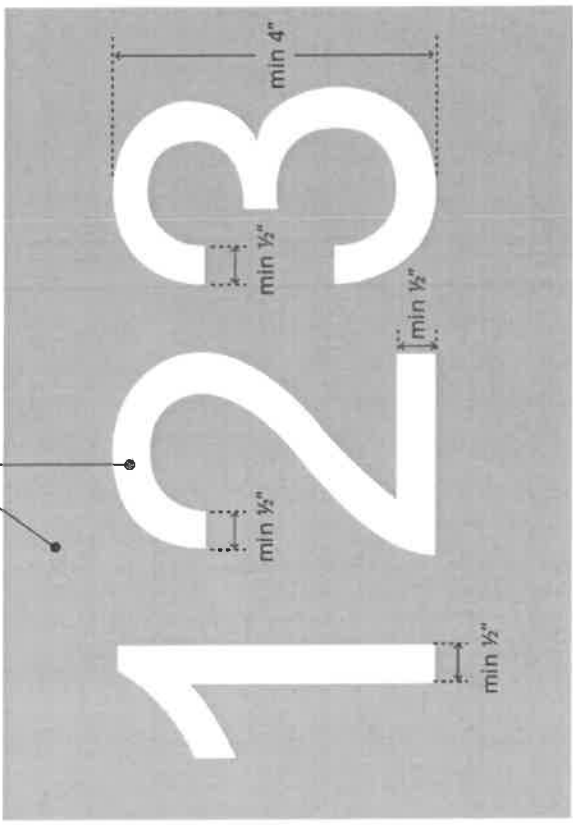
Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage and residence shall be equipped with solid wood doors not less than $1\frac{3}{8}$ inches (35 mm) in thickness, solid or honeycomb-core steel doors not less than $1\frac{3}{8}$ inches (35 mm) thick, or 20-minute fire-rated doors, equipped with a self-closing or automatic-closing device.

R319.1 Address Identification

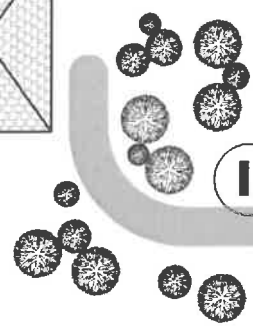
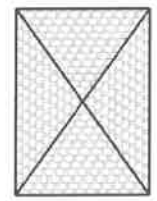
Buildings shall be provided with *approved* address identification. The address identification shall be legible and placed in a position that is visible from the street or road fronting the property. Address identification characters shall contrast with their background. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall not be spelled out. Each character shall be not less than 4 inches (102 mm) in height with a stroke width of not less than 0.5 inch (12.7 mm). Where required by the fire code official, address identification shall be provided in additional *approved* locations to facilitate emergency response. Where access is by means of a private road and the building address cannot be viewed from the public way, a monument, pole or other sign or means shall be used to identify the structure. Address identification shall be maintained.



Address to be located in this area, visible from the street and road fronting the property

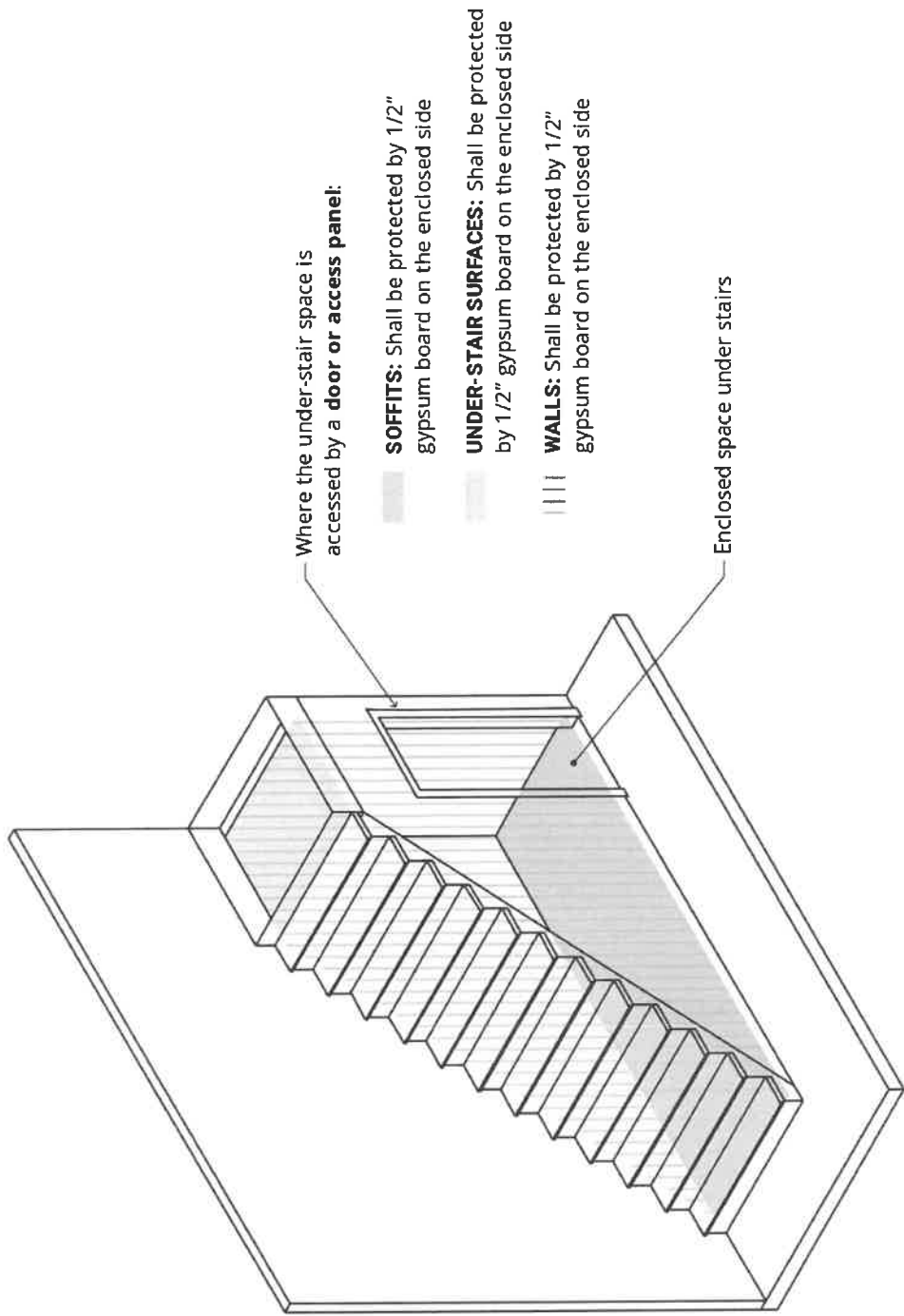


In contrasting colors



Address posted here, where property is not visible from main road

ENCLOSURES UNDER STAIRWAYS



**EXAMPLE OF
PLAN REVIEW
THAT EVERY
PERMIT
RECIIEVES**



City of Lawton

Community Services Department

Plan Review Record

INTERNATIONAL RESIDENTIAL CODE 2018

Valuation: \$ 275,000.00

Plan Review # BLDR-2501-001375

Sq Ft.: 3,450

Date: 2/12/2025

PROJECT LOCATION: 4017 NE Shenandoah Drive
(Street address or legal description)

BUILDING DESCRIPTION: New Construction
(Construction type)

PROPOSED WORK: SINGLE FAMILY DWELLING STORIES: 1

CONTRACTOR: Waterstone Properties (580) 585-3332 DESIGN: Tom McClure

REVIEWED BY: Rowan Dunnaway, Plans Examiner

Numerals indicated in the "Code Section" column are applicable code sections of the *2018 International Building Code*. The plan review accomplished as indicated in this record is limited to those code sections specifically identified herein and should not be considered as a list of all code-related issues or deficiencies for this project. This record references commonly applicable code sections. It does not reference all code provisions that may be applicable to specific buildings. Additional issues or deficiencies may be noted by subsequent plan review or by the field inspector. Such deficiencies shall be corrected prior to occupancy. Acceptance of these drawings does not imply complete code compliance. The designers and contractors are presumed to be knowledgeable of code requirements whether included herein and are encouraged by this office to perform an independent code search to assure compliance.

REQUIREMENTS OF PERMIT HOLDER

NO.	DESCRIPTION	CODE SECTION
GENERAL		
1.	All work shall comply with the 2018 IRC (International Residential Code). This is the currently adopted code by the City of Lawton but may not be the most recent state adopted international code.	Section 6-1-1-105.C Lawton City Code
2.	Building permit and copy of stamped/approved plans shall be kept at the site of work and shall be open to inspection by the building official or duly authorized representative.	106.5.7 2018 IRC.
3.	Work shall be performed according to approved construction documents. Any changes to plan during construction shall be resubmitted for approval as an amended set of construction documents.	106.4 2018 IRC.
4.	All trade work shall be done by a licensed contractor in that trade, and required inspections shall be called in by that contractor.	109.1 2018 IRC.
5.	All permitted work requiring inspections shall be approved by the Lawton City Inspection Services Division. Telephone number for the Inspection line is (580) 581-3362.	109.1 2018 IRC.
6.	Any water main tap, sewer main tap, foundation, brick only, electrical rough-in, mechanical rough-in, plumbing rough-in, framing, insulation, electrical final, mechanical final, plumbing final, appliance final, driveway approach rebar, and building final generator electrical final & gas line pressure test inspections shall be conducted and require approval by the Inspection Services Division or Public Works Division. Call Inspection line at (580) 581-3362.	109.1 2018 IRC.
7.	Interior walls and ceilings shall not be enclosed until all framing, insulation, and trade components are inspected. Insulation inspection shall be done after the framing inspection.	109.1 2018 IRC.
8.	Interior walls shall not be enclosed on either side until electrical rough-in and plumbing top-out and rough-in inspections have been cleared.	109.1 2018 IRC.

9.	All work shall remain accessible for inspections until it is approved. Neither the city nor its employees shall be liable for expenses incurred for removal of any material to allow inspection.	109.1 2018 IRC.
10.	Site address shall be provided for inspections and shall be clearly displayed on the site.	R109.3 2018 IRC.
SITE PLAN		
11.	Pins shall mark lot corners and any easements for foundation inspection.	109.1 2018 IRC.
12.	Water meter connection requires a 1" line to tap into water main for all new construction.	Sec 202, Tech. Specs 22-2-232.4 of LMC
13.	Minimum size of 1" water meter required for all new construction.	Sec 202, Tech. Specs 22-2-232.4 of LMC
14.	Water meter shall be centered upon the front property line & valve box shall be adjusted to grade level. All water valves shall have access through sidewalks and driveways.	Sec 202, Tech. Specs 22-2-232.4 of LMC
15.	Any manhole assemblies shall be maintained at 6 inches above finish grade.	Engineering Division City of Lawton
16.	Lot shall drain according to Subdivision Plan.	19A-1-2-123.E Lawton City Code
17.	No fence, generator Or storm shelter permitted at this time. Future accessories requires permit.	18-4-1-404.1A.8b(2) Lawton City Code
18.	Mailbox opening shall be installed at 41-45 inches above street surface and door face shall be set back 6-8 inches from face of curb.	Postmaster General
FOUNDATION PLAN		
19.	Approved/Stamped copy of the Site & Foundation Plans shall be on site for foundation inspections.	106.3.1 2018 IRC.
20.	The Lawton Waffle Slab Type-B foundation shall be constructed.	Section 6-1-1-105.D Lawton City Code
21.	Finished floor elevation 1153.39 shall be staked and marked for foundation inspection.	109.1 2018 IRC.
22.	Garage & Porch foundation shall match that of the main structure, except vapor barrier may be omitted in those areas.	Section 6-1-1-105.D Lawton City Code
23.	Chemical or 6 mm. plastic vapor barrier required under slab of habitable space.	R506.2.3 2018 IRC.
FLOOR PLAN		
24.	Structural header beams shall be # 2 grade or better.	Table R502.5 2018 IRC.
25.	Other structural lumber shall comply with the span charts.	Chapters 6 & 8 2009 IRC.
26.	Buildings and structures, including all parts thereof, shall be constructed to safely support all loads and the transfer of those loads.	R301.1 2018 IRC.
27.	Wood sole or sill plates on exterior walls shall be anchored to foundation as such: <ol style="list-style-type: none"> 1. ½ inch minimum diameter bolts, 7 inches into concrete. 2. Nut and washer on each bolt. 3. spaced no more than 6 feet apart. 4. Minimum of 2 bolts per plate. 5. Minimum distance of 7 times the bolt diameter to maximum distance of 12-inch from end of each plate section. 6. Plates shall be protected against decay and termites. 	R403.1.6 2018 IRC.
28.	Sole plates of bearing walls shall be positively anchored with approved fasteners.	R403.1.6 2018 IRC.
29.	Garage floor shall be sloped to move liquids towards the vehicle entry door.	R309.1 2018 IRC.

30.	Return walls with a width less than 27 inches for a 9 feet ceiling height require PFH (Portal Frame with Hold-Downs) type framing method or equal. (see Detail R602.10.6.2). Solid sheathing is required.	Table R602.10.4 2018 IRC.
31.	Commercial beams and joists shall be sized and installed according to manufacturer's specifications.	R301.1 2018 IRC.
32.	Engineered wood products shall not be cut, notched or bored unless authorized by manufacturer's specifications or where alterations are specifically considered in the design by a registered design professional.	R502.8.2 2018 IRC.
33.	5/8 inch minimum roof decking is required when rafters have 24 inches spacing, except for wooden shingles & shakes.	R803.1 2018 IRC.
34.	Covered porch / Patio shall be constructed to withstand 20 pounds of uplift pressure.	R802.11.1 2018 IRC.
35.	One exterior door shall have minimum net clear width opening of 32 inches & a net clear height opening of 78 inches.	R311.2 2018 IRC.
36.	Door between garage and residence shall be solid core or steel not less than 1-3/8 inches thick or 20-minute fire-rated with self-closing device.	R302.5.1 2018 IRC.
37.	Attic access shall be large enough to remove installed equipment.	M1305.1.2 2018 IRC.
38.	One window in each bedroom shall be emergency egress have a minimum net clear opening of 5 square feet, each located no more than 44 inches above floor. Not required if alternate door is directly to outside area.	R310 2018 IRC.
39.	Tempered glazing required in bathrooms where the bottom edge of the glazing is less than 60 inches above the walk surface & within 60 inches, measured horizontally & in a straight line, of the water's edge & any other hazardous locations in home.	R308.4 2018 IRC.
40.	Fireplace assembly shall be installed to manufacturer's specification.	R102.4 2018 IRC.
GENERAL ENERGY EFFICIENCY REQUIREMENTS		
41.	Window fenestration requirements are as follows: Maximum window & door UA. rating is 0.50 Maximum window & door SHGC rating is 0.35 Leave window data stickers in place until after final building inspection.	Table N1102.1.2 2018 IRC.
42.	Insulation requirements are as follows: Minimum exterior wall insulation rating is R-13 Minimum ceiling insulation rating is R-30	Table N1102.1.2 2018 IRC.
43.	Spray foam insulation requires documentation listing all technical data, R-value & whether it was installed according to manufacturer's specification. Provide to city inspector prior to inspection.	N1101.10.1 2018 IRC.
44.	Foam insulation shall comply with transportation and identification requirements.	R316.2 2018 IRC.
45.	Foam insulation shall adhere to proper flame spread index & smoke-developed index.	R316.3 2018 IRC.
46.	Thermal barrier for foam insulation may be required in attic or crawl space.	R316.4 2018 IRC.
47.	Foam plastic not adhering to sections R316.3 & R316.5 shall be tested in compliance with NFPA 286, FM 4880, UL 1040, UL 1715, or a fire test related to end-use configurations.	R316.5 2018 IRC.
3		

48.	Not less than 90% of the bulbs installed in permanent fixtures shall be high efficacy bulbs.	N1104.1 2018 IRC.
LICENSED TRADE WORK		
49.	Installation of electrical equipment & fixtures shall comply with this section.	E3401.1 2018 IRC.
50.	Outlet receptacles are required in any wall that has a minimum width of 24 inches along the floor line, to include around corner.	E3901.2.2 2018 IRC.
51.	Outlet receptacles shall be installed so that no point along a wall is more than 6 feet from an outlet receptacle.	E3901.2.1 2018 IRC.
52.	15-20 Amp, 125-250 volt, nonlocking electrical outlet receptacles shall be listed tamper-resistant.	E4002.14 2018 IRC.
53.	Combination type Arc-fault circuit-interrupter protection required on all branch circuits that supply 120-volt, single-phase, 15 & 20 Amp outlets in kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, laundry rooms and similar areas.	E3902.16 & 17 2018 IRC.
54.	Ground-fault circuit interceptor protection shall be provided for outlets receptacles in a garage, along kitchen countertop surfaces, bathrooms & within 6 feet of the outer edge of any sink.	E3902 2018 IRC.
55.	Automatic garage door openers shall be listed in accordance with UL 325.	R309.4 2018 IRC.
56.	Appliances and equipment shall be installed according to the manufacturer's installation instructions. Manufacturer's installation instructions shall be available on the job site at the time of inspection.	E4101.2 2018 IRC.
57.	Installation of mechanical equipment & fixtures shall comply with this section.	M1201.1 2018 IRC.
58.	Sizing heating and cooling equipment shall be done in accordance with ACCA manual S based upon building loads calculated in accordance with ACCA Manual J or other approved heating and cooling calculation methodologies. Calculations required verifying that the conditioned area is not more than the manufacturer's recommended load.	M1401.3 2018 IRC.
59.	Duct systems serving heating, cooling and ventilation equipment shall comply with ACCA Manual D or other approved method of construction. Calculations required verifying that the ductwork can support the manufacturer's recommended load.	M1601 2018 IRC.
60.	Access required for all appliances for inspection, service, repair, and replacement without removing permanent construction, other appliances, piping or ducts not connected to the said appliance.	M1305.1 2018 IRC.
61.	Exhaust fan shall discharge directly to the outside, not into the attic area.	M1501.1 2018 IRC.
62.	Installation of plumbing equipment & fixtures shall comply with this section.	P2705.1 2018 IRC.
63.	CSA LC3 compliant pan required under all water heaters placed where leaking may cause damage.	P2801.5 2009 IRC.
64.	Ignition source of gas or electric water heaters shall be at least 18 inches above the garage floor.	P2801.6 2018 IRC.
65.	Water main tap inspection shall be requested and requires approval by Public Works Division. Call Inspection line at (580) 581-3362 and arrangements shall be made.	109.1 2018 IRC.
66.	Sewer main tap inspection shall be requested and requires approval by Public Works Division. Call Inspection line at (580) 581-3362 and arrangements shall be made.	109.1 2018 IRC.
FIRE PROTECTION		
67.	Framing Inspection will be conducted after all penetrations of top & bottom plates have been sealed all fire-blocking, draft-stopping & insulation has been installed.	R302.11. 2018 IRC.

68.	Combustible insulation shall be separated a minimum of 3 inches from recessed luminaries, fan motors and other heat-producing devices.	R302.14 2018 IRC.
69.	All smoke alarms shall be listed in accordance with UL 217 and installed in accordance with the provisions of this code and the household fire warning equipment provisions of NFPA 72.	R314.1.1 2018 IRC
70.	Smoke alarms shall be installed inside of each bedroom and outside of each bedroom group, on each additional floor of the dwelling to include basements and habitable attics. Alarms shall be interconnected so actuation of one alarm activates all alarms.	R314.3 2018 IRC.
71.	Smoke alarms shall receive primary power from permanent building wiring & not have disconnect switch. When commercial power is interrupted then power will come from a battery.	R314.6 2018 IRC.
72.	Carbon monoxide alarm shall be installed outside of each bedroom group where fuel-fired appliances or an attached garage exist in the dwelling. The alarm may be combined with a smoke alarm when in the same vicinity.	R315.3 2018 IRC.
73.	Single station carbon monoxide alarms shall be listed as complying with UL 2034 and shall be installed in accordance with this code and the manufacturer's specifications.	R315.1.1 2018 IRC.
DRIVEWAY		
74.	Pay attention to the finish floor marker to avoid steep slope.	109.1 2018 IRC.
75.	30 feet driveway approach width allowed on 65.09 feet property frontage.	Figure 11 18-8-1-808 Lawton City Code
76.	Driveway curb openings require a 5 feet radius on both sides and shall complete the radius no later than the point of the side property line.	Section 18-8-1-808 Lawton City Code
77.	Driveway curb & gutter shall be cut into the street 24 inches from the back of the curb.	Section 18-8-1-808 Lawton City Code
78.	Approach shall be constructed according to the city standards (attached). Note: form the approach first to attain the desired slopes more easily.	Section 18-8-1-803.I Lawton City Code
79.	Driveway approach apron shall not exceed 8% slope (refer to attached slope matrix).	Engineering Division City of Lawton
80.	A 4 feet wide ADA approved cross section of 2% or less shall be 1 foot off front property line if grade allows. Refer to attached slope matrix.	Section 18-8-1-803.I Lawton City Code
81.	When abutting an asphalt street, 2" of type-C hot asphalt shall be tamped /rolled to 95% compaction. All surfaces shall be flush with existing pavement and maintained for at least one year.	Engineering Division City of Lawton
82.	Rebar inspections required prior to placement of concrete. Call Inspection Line at 581-3362	Section 18-8-1-803.I Lawton City Code
83.	Final inspections required only after street cut has been properly sealed. Call 581-3362	Section 18-8-1-803.I Lawton City Code
CERTIFICATE of OCCUPANCY		
84.	No one shall occupy this dwelling until a Certificate of Occupancy (CO) has been issued. This will happen only after the final inspection has cleared and all inspectors have signed the document.	R110.1 2009 IRC18
85.	** For temporary construction power pole, requirements, refer to the attached memorandum.	Inspection Services City of Lawton
86.	** For temporary heat during cold weather or early gas meter installation, refer to the attached memorandum.	Inspection Services City of Lawton

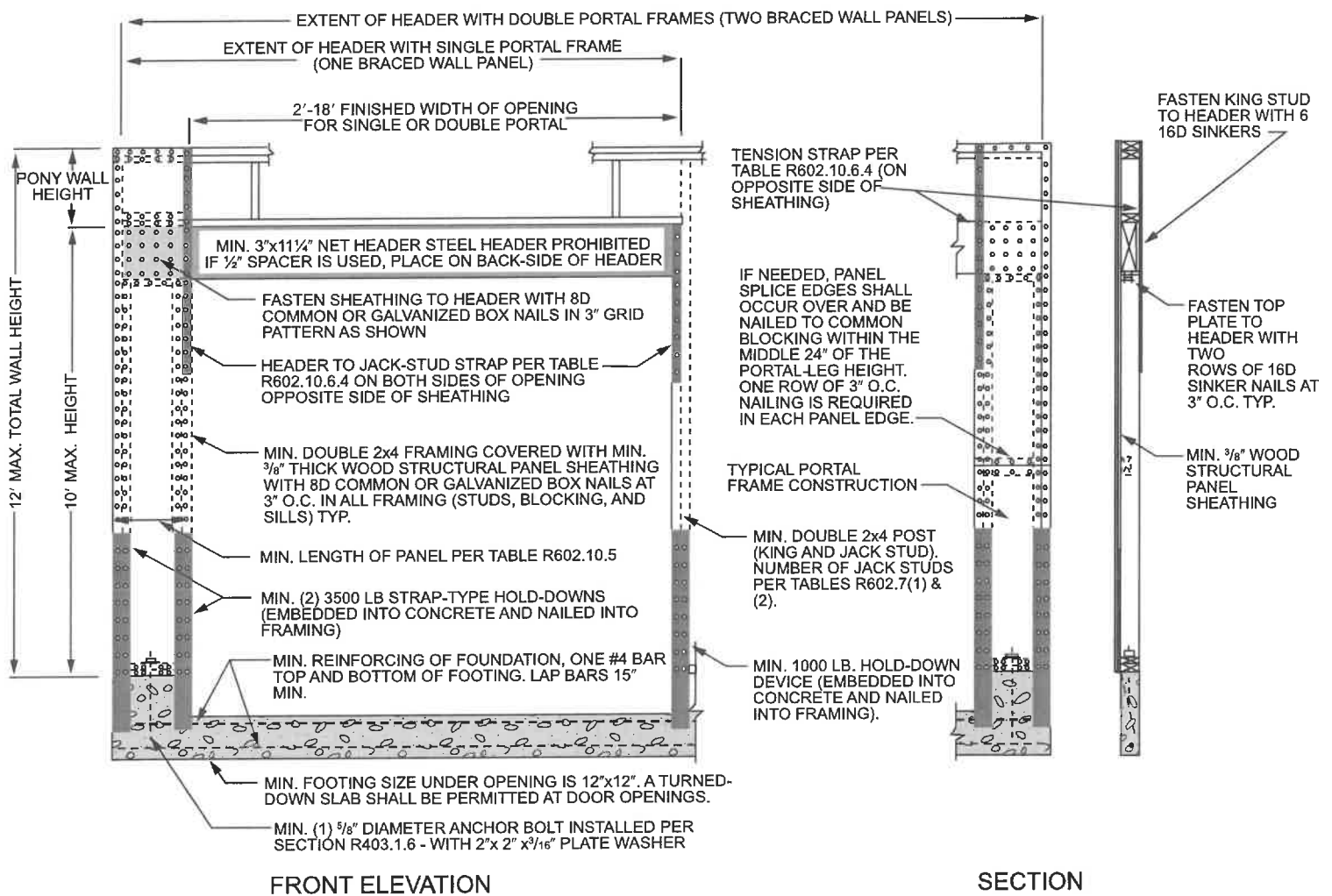
NOTE: This building permit has been issued pursuant to certain requirements which have been noted on the plans or specified in this plan review record. These noted requirements shall be viewed as part and parcel of the approved plans for this project, as all inspections will be conducted with these conditions to be considered. Should these requirements or deficiencies not be properly corrected during construction, issuance of a Certificate of Occupancy maybe withheld.

2018 International Residential Code - Braced Wall Panel Handout

- Required braced wall panel location and type will be indicated on the approved plan set.
- Please call for inspection of this system before covering.

METHOD PFH

**FIGURE R602.10.6.2
METHOD PFH—PORTAL FRAME WITH HOLD-DOWNS**



PAVEMENT CUT SPECIFICATIONS

1. GENERAL

This specification shall cover all necessary pavement cuts which are not part of Capital Improvement Projects in the City of Lawton. The applicant will be responsible for acquiring all necessary permits and approvals prior to beginning of any work on the proposed cut. The applicant shall provide the City Engineer with not less than 24 hours notice prior to commencement of work to allow for proper inspection of the work.

The applicant will assume all liability for the work and shall save the City harmless of any and all suits which may arise as a result of the crossing. The crossing shall be made during regular work hours and will be maintained to traffic at the end of each work day. Any open trench or material left overnight shall be adequately barricaded and lighted with approved warning lights and signs in accordance with latest version of the Manual on Uniform Traffic Control Devices (MUTCD).

2. TRENCHING

Prior to trenching, the existing pavement and curb and gutter shall be saw cut. The existing pavement and excavation material shall be removed and disposed of by the applicant. The excavation width shall be limited to the diameter of the conduit plus two feet. No undercutting of existing pavement will be allowed. Should undercutting accidentally occur, the applicant will cut the existing pavement back, backfill and cap in accordance with the section of Trench Backfill. The depth of the trench shall allow for bedding material.

3. LAYING OF CONDUIT

The conduit shall be laid on top of 6 inches of compacted bedding material. The conduit shall be laid as to allow maximum support which may require bell holes to be hand dug. The conduit shall be installed in a professional manner and shall be tested prior to final backfilling.

4. TRENCH BACKFILL

Either washed sand, limestone screening or Class I or II materials per ASTM D-2321. Backfill shall be placed in the trench in not more than six inch layers. Each layer shall be thoroughly compacted with hand or mechanical tampers to not less than 100% Standard Proctor Density.

Any areas excavated outside the vertical walls shall be backfilled the same as the trench to an elevation 8 inches below finished grade for concrete pavement, or 10 inches below finished grade for asphalt pavement. Backfill shall extend 2 feet behind the back of curb or surfaced area if no curb exists.

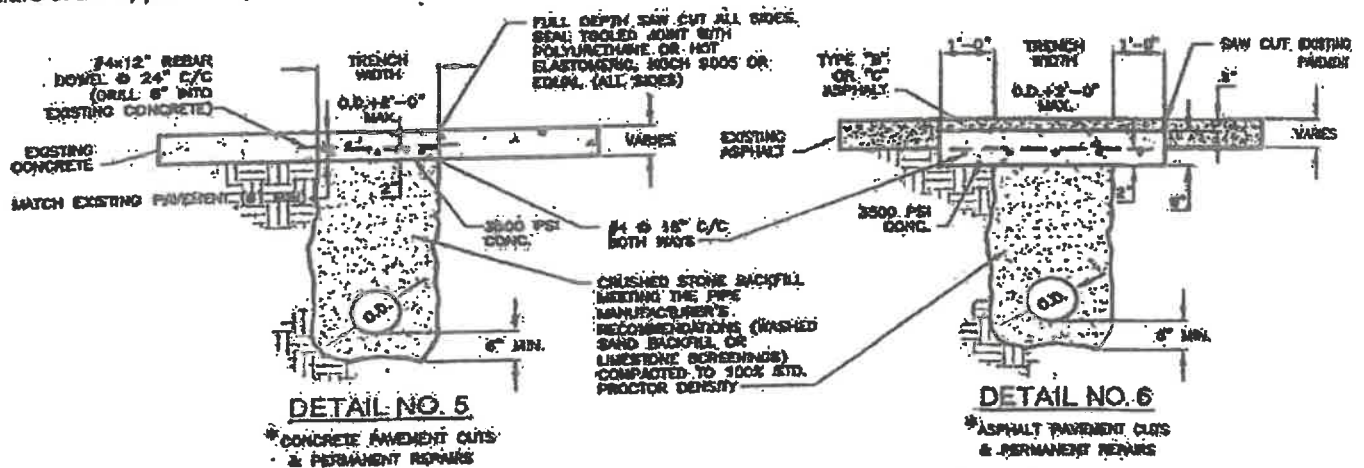
5. CONCRETE CAP

A reinforced concrete cap shall be placed in the compacted backfill. The cap shall be 6 inches thick and shall have reinforcing steel as shown on the drawing. This cap shall be poured to existing grade for concrete pavement or 2 inches below grade for asphalt pavement. The curb and gutter shall be poured integrally and shall meet and match existing curb and gutter. Concrete shall be Class A High Early Strength concrete with a water-cement ration of 0.63 lb. and a slump of 1-3 inches. The concrete shall have a 28 day compressive strength of 3500 psi.

* On asphalt pavement, the final 2 inches shall be spread with 2 inches of Type C Asphaltic Concrete which shall be tamped or rolled in place to a minimum density of 95% of the laboratory compacted density for the mixture. All surfaces shall be left flush with existing surfaces and shall be maintained for a period of one year.

6. CLEANUP

All material removed from under road surfaces shall be removed and disposed of. The area shall be left free of all debris and shall be left in a neat and orderly manner. The City reserves the right to complete any or all of the work involved when deemed necessary due to failure of the applicant to proceed in a safe and progressive manner.



Curb and gutter removed in conjunction with a street cut or permanent repairs shall be construction as follows:

1. Utilize 3500 psi p.c. concrete with one (1) #4 rebar placed longitudinally in the curb section.
2. Dowel into the existing curb and gutter and concrete pavement with #4 rebars driven a minimum of 9" longitudinally 12" c/c and transversally 30" c/c
3. Expansion/Contraction/Construction joints shall be constructed according to City of Lawton standard details for subdivision streets.

APPROVED CONSTRUCTION PLANS

THIS SET OF CONSTRUCTION PLANS HAS BEEN REVIEWED FOR CONFORMANCE AND APPROVED BY THE CITY OF LAWTON. THE CONSTRUCTION OF THIS PROJECT SHALL BE IN ACCORDANCE WITH THESE PLANS. PLANS SHALL BE MADE AVAILABLE UPON REQUEST TO THE CITY INSPECTOR AT ANY REASONABLE TIME.

* SEE ATTACHED PLAN REVIEW RECORD FOR COMMENTS



License & Permit Division
212 SW 9th Street, Lawton, Oklahoma 73501
Phone: 580-581-3360 Fax: 580-581-3478

MEMORANDUM

TO: Janet Smith, Planning & Community Services Supervisor
THRU: Charlotte Brown, Code Plans Supervisor
FROM: Dudley Teeter, Chief Inspector
SUBJECT: Temporary Construction Power Pole Requirements
DATE: July 20, 2022

City of Lawton Inspection Services

Temporary Construction Power Pole Requirements

Effective 07/15/2022

Background: In the past there have been instances found at construction sites, where the Electrical Inspector has discovered contractors rendering the safety devices on temporary power pole receptacles useless. Contractors would wire around the ground fault circuit interrupter (GFCI) devices and/or increase the size of the electrical breakers to provide themselves with enough power to run their equipment without having to deal with the breakers tripping off when they would get overloaded. The purpose of the safety devices along with the proper size electrical breakers is to protect all workers on the job site. **The practice of bypassing safety devices is inherently dangerous and must stop. It subjects the construction workers to conditions wherein they could be shocked, causing physical injuries, or even electrocuted resulting in the loss of the construction workers life.**

Bypassing the safety devices and increasing the breaker size to accommodate their power needs is an OSHA job site safety violation and will be turned over to OSHA for investigation, enforcement, and citations. The City of Lawton will also issue citations to any persons caught altering and/or bypassing any safety devices on any temporary construction power pole once it has been inspected and approved by License and Permits.

NOTE: It is a violation of State/City code to perform electrical work without an Electrical Contractor/Journeyman's license issued by the State of Oklahoma. Anyone caught performing said work will be subject to citations by the City of Lawton and the State of Oklahoma.

The General Contractor will be responsible for ensuring that their Electrical contractors provide enough power at the temporary power pole to run all the equipment needed for each trade working at the job site without having to disable/bypass any safety devices. Listed below you will find the minimum requirements for commercial temporary construction power poles. If additional receptacles/power is needed, it will be the responsibility of the trade contractor needing the additional receptacles/power to contact the General Contractor and inform him of the additional need. Only the Electrical contractor can add/alter the temporary power poles to provide those needs.

Continued on reverse side

Temporary construction power pole minimum requirements.

- A. 1- 220-volt weatherproof receptacle with ground fault protection.
- B. 2- 120- volt weatherproof receptacle with ground fault protection.

NOTE: Any addition or alteration to a temporary power pole must be called in for inspection and can only be performed by a licensed Electrical contractor/journeyman.

Any questions can be referred to City of Lawton Inspection Services 580-581-3360



License & Permit Division
212 SW 9th Street, Lawton, Oklahoma 73501
Phone: 580-581-3360 Fax: 580-581-3478

MEMORANDUM

TO: Janet Smith, Planning & Community Services Supervisor
THRU: Charlotte Brown, Code Plans Supervisor
FROM: Dudley Teeter, Chief Inspector
SUBJECT: Cold Weather Temporary Heat Provision
DATE: July 20, 2022

City of Lawton Cold Weather Temporary Heat Provision

Background: This provision has been created for the sole purpose to provide temporary heat to homes that are under construction during freezing weather. For some types of construction processes to proceed during times of freezing weather, such as tiling, painting, tape and bedding, the temperature in the house must be above freezing. Allowing contractors to apply for temporary heat can allow the building construction process to continue. The dates set aside for the temporary heat provision are provided to the City of Lawton and the Gas utility company by the State Corporation Commission. Those dates range from October 15th through April 15th. **It is the responsibility of the Home Builder to make sure that their Trade Contractors adhere to and follow the instructions below. Only trade contractors can call in for trade Inspections.**
Procedure: For the contractor to apply for the temporary heat provision, they will need to meet specific criteria which is listed below.

For temporary heat during cold weather (Oct. 15th - April 15th) the following will apply.

1. **Mechanical Appliance Inspection:** The Mechanical Contractor will call in for a mechanical appliance inspection prior to calling in for a gas inspection to get temporary heat. This step is to ensure that all safety concerns have been addressed. Once the mechanical inspection passes, the Contractor can call in for the gas inspection.
2. **Gas Inspection:** The Mechanical Contractor will ensure that the gas line is pressured up to conduct a pressure test. For the gas pressure test to pass, the gas line must be hooked up to the mechanical appliance and hold pressure per the international Fuel Gas Code requirements. All gas pipe terminations inside and outside the building will have cut off valves installed with proper plug or cap terminations when not connected to an appliance. This is to ensure that no accidental release of gas occurs if a cut off valve is accidentally bumped open. If the gas line is connected to an appliance, cap and plugs will not be needed
3. **Flue Piping Requirements:** The flue piping for the appliance will be installed according to the requirements of the current international fuel gas code and the flue pipe manufactures installation instructions. If the flue piping requires condensation piping, then all required drain piping for it must be installed.
4. **Temperature Control Device:** A temporary or a permanent temperature control/thermostat must be installed to regulate the temperature.
5. **Filtering Requirements:** Filters must be installed in the returns.

6. **Unit Access:** Access to the unit must be provided to conduct the required inspections. If the unit is in the attic a ladder must be available to access it.

Once all the above requirements are in place and the gas pressure test passes, the City Inspector will notify his office of the cleared gas line. License and Permits will then send an email notification to the gas company informing them that the gas line cleared and that they can set a meter.

For temporary electrical heat, the following will apply.

1. **Electrical requirements:** The electrical contractor must make sure that all electrical requirements are met prior to the unit being connected to the power source.
2. **Mechanical Appliance Inspection:** The mechanical contractor must call for a mechanical appliance inspection.
3. **Temperature Control Device:**
A temporary or a permanent temperature control/thermostat must be installed to regulate the temperature.
4. **Filtering Requirements:** Filters must be installed in the returns.
5. **Unit Access:** Access to the unit must be provided to conduct the required inspections. If the unit is in the attic a ladder must be available to access it.

Gas Inspection/Gas Meter Request without Mechanical or Plumbing final Inspections

Background: This addendum to the cold weather temporary heat provision has been created to facilitate the installation of gas meters. This inspection will only apply to new construction residential homes. This inspection can be scheduled prior to the Mechanical and Plumbing final inspections. This is a standalone inspection that can be called for outside of the dates for cold weather (Oct-15th through April-15th) which are provided by the State Corporation Commission. The Home Builder and the Trade Contractor (Mechanical/Plumbing) will need to meet the following conditions to have a gas meter set under this exception.

This is a gas line inspection only; no appliance inspection will be conducted. The City of Lawton will not be liable for any damage/harm that occurs to any person or building because of improper appliance installation.

Gas Inspection: It will be the responsibility of the Home Builder to ensure that their Trade Contractors have all appliance safety devices installed prior to calling in a request for a gas line/meter inspection. *No inspection will be conducted if safety devices are not installed.* Safety devices include but are not limited to: gas shut off valves, flue/exhaust piping, fresh air and combustion air piping, pressure relief valves (PRV's) and temperature and pressure relief valves (T&P's) to include the associated drain piping. The Trade Contractors will ensure that the gas line is pressured up to conduct a pressure test. For the gas pressure test to pass, the gas line must be hooked up to all the installed gas appliance and hold pressure per the International Fuel Gas Code requirements. All gas pipe terminations inside and outside the building will have cut off valves installed with proper plug or cap terminations when not connected to an appliance. This is to ensure that no accidental release of gas occurs if a cut off valve is accidentally bumped open. If the gas line is connected to an appliance, cap and plugs will not be needed. **Once the gas line inspection is complete, the City Inspector will notify office personnel who will then send an e-mail notification to the gas company clearing the gas line for that address so that the gas meter can be set.**

This will be a separate standalone inspection outside of the Mechanical and Plumbing final inspections and will be charged to the trade contractor. Inspection Services will need a 24hr notice prior to the scheduling of this inspection.

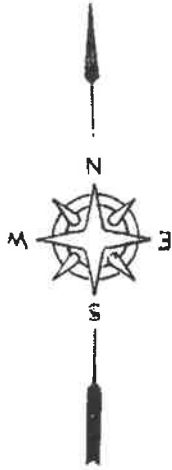
* SEE ATTACHED PLAN REVIEW RECORD FOR COMMENTS.

* APPROVED CONSTRUCTION PLANS *
THIS SET OF CONSTRUCTION PLANS HAS BEEN REVIEWED FOR CODE COMPLIANCE AND APPROVED BY THE CITY OF LAWTON. THE CONSTRUCTION OF THESE PLANS SHALL BE IN ACCORDANCE WITH UPON REQUEST OF THE CITY INSPECTOR AT ANY REASONABLE TIME. 2/12/2025 R.E.D.

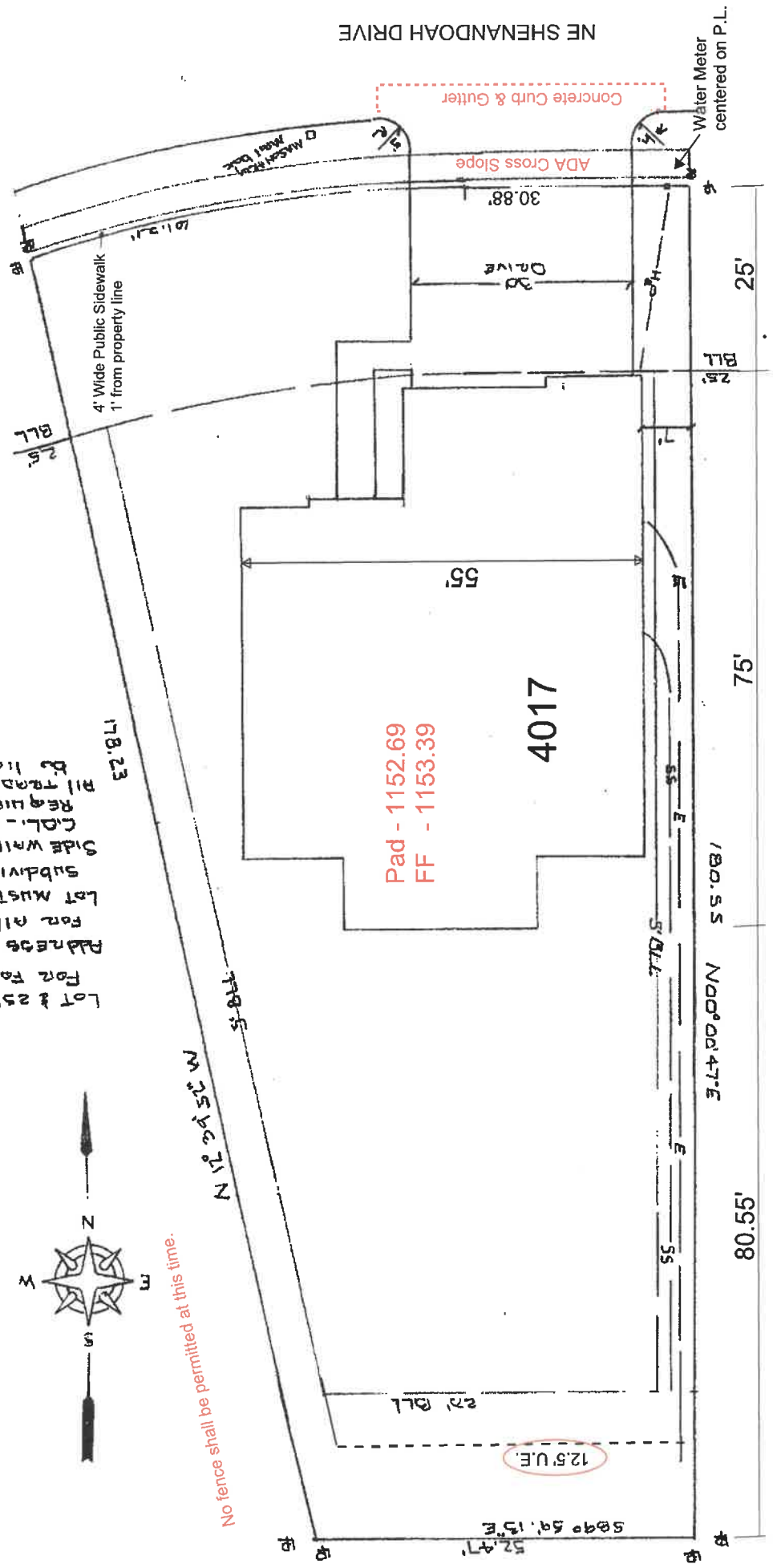
4017 NE Shenandoah Dr

FRYLAKE ADDITION
PART 8c
Block 30
Lot 22
SCALE 1"=10'

Lot & 25' B.L.L. must be in place
For FOUNDATION INSPECTIONS
Addresses must be clearly displayed
For all inspections
Lot must define PER APPROVED
subdivision development plans
Side walk & approach shall be to
C.O.L. - parapet & final inspections
Required
All TRADE WORK shall be done
by LICENSED CONTRACTORS

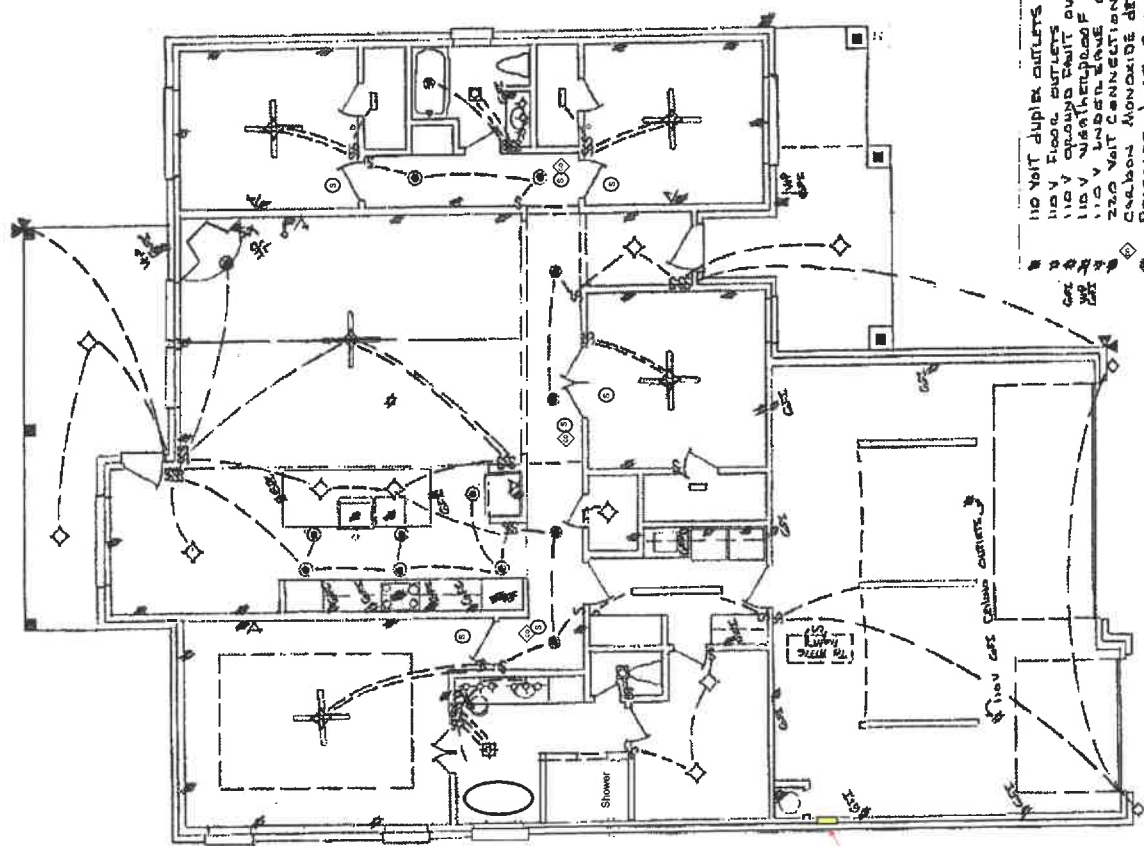
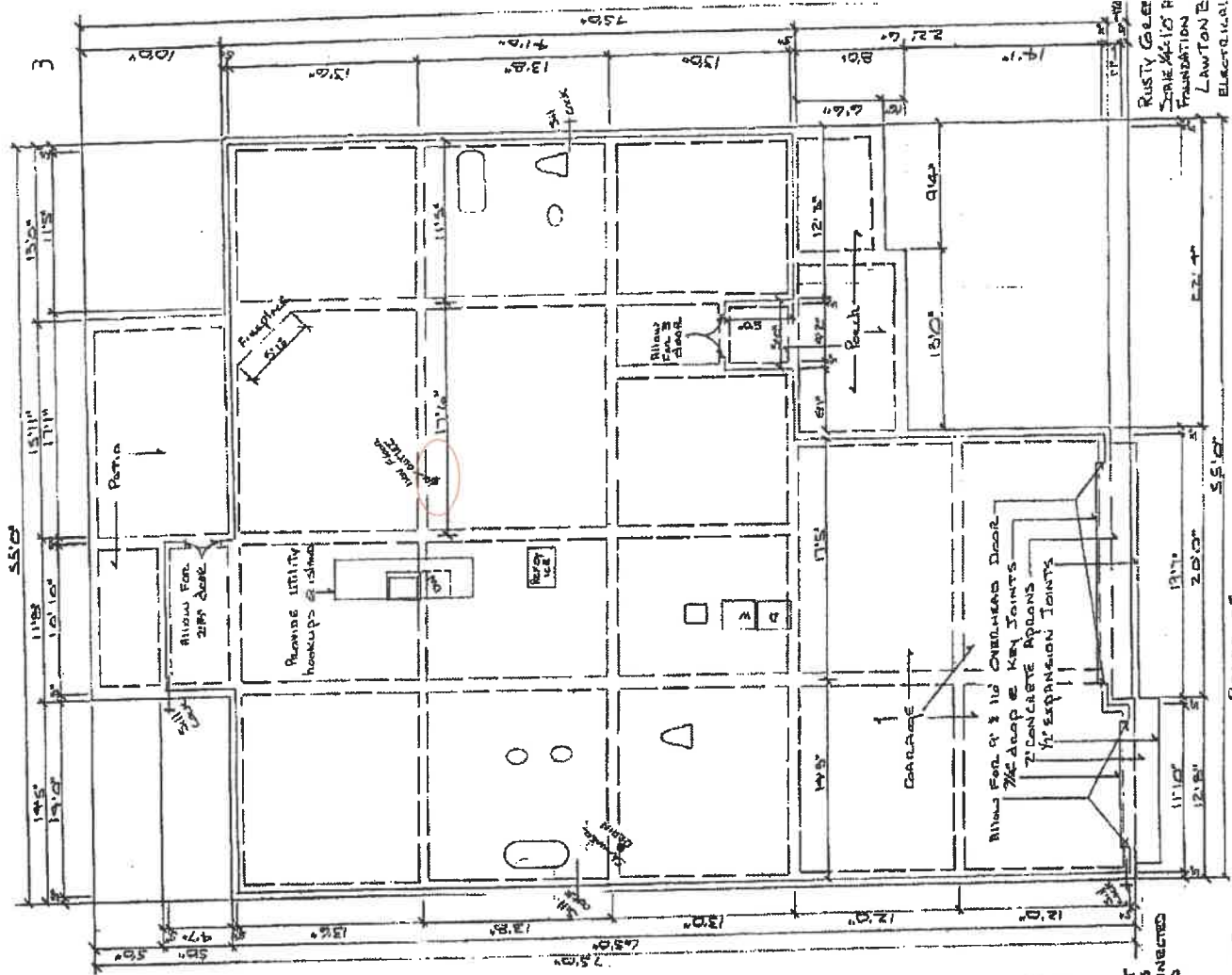


No fence shall be permitted at this time.



* ALL WATER VALVES SHALL HAVE ACCESS THROUGH SIDEWALKS AND DRIVEWAYS.

* ALL PROPERTY LINES, BUILDING LIMIT LINES, UTILITY EASEMENTS, AND DRAINAGE EASEMENTS SHALL BE MARKED AND IDENTIFIABLE FOR FOUNDATION INSPECTIONS.

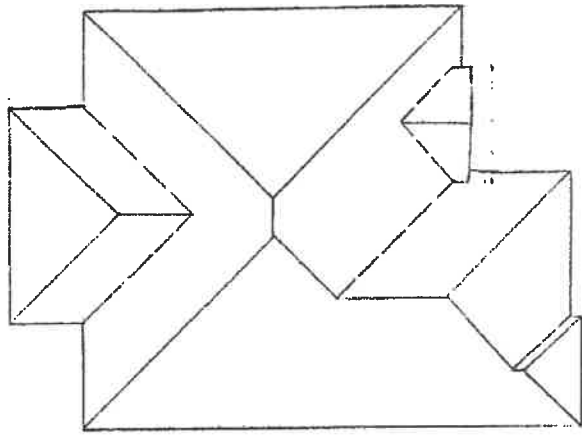


- 110 Volt Duplex Outlets
- 110V Floor Outlets
- 110V Specialty Wall Outlets
- 110V Under-slab Outlets
- 200 Volt Connections
- Carbon Monoxide Detectors
- Recessed Light Fixtures
- Recessed Light w/ Fan
- Recessed Light w/ Fan & Heat
- Fluorescent Light Fixtures
- Smoke Detectors - Interconnected
- Light Fixture w/ Fan
- Light Fixture w/ Fan
- Switch Controls
- Television Connections
- Recessed Light - Wall Mounted
- Coach Light
- Flood Light
- Light Fixtures - Selected by Owner

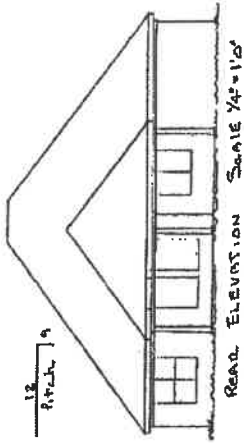
Safety Glass Required

Electrical Service Panel

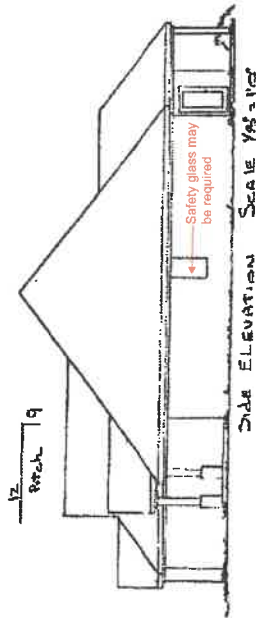
* SEE ATTACHED CITY STANDARD DETAIL FOR LAWTON WAFFLE SLAB FOUNDATION TYPE-B



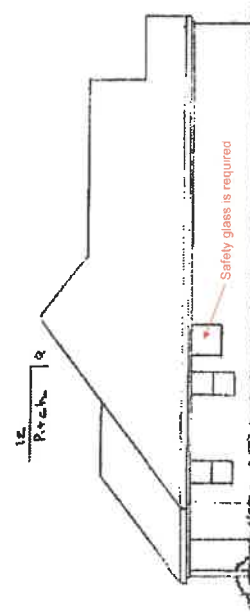
Roof Plan
Scale 1/8" = 1'-0"
9-12 Pitch



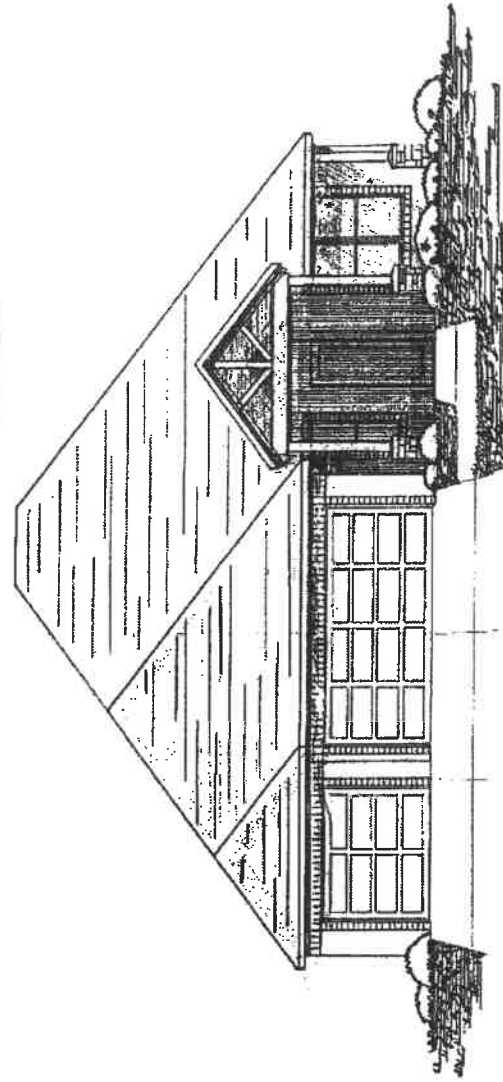
REAR ELEVATION Scale 1/4" = 1'-0"



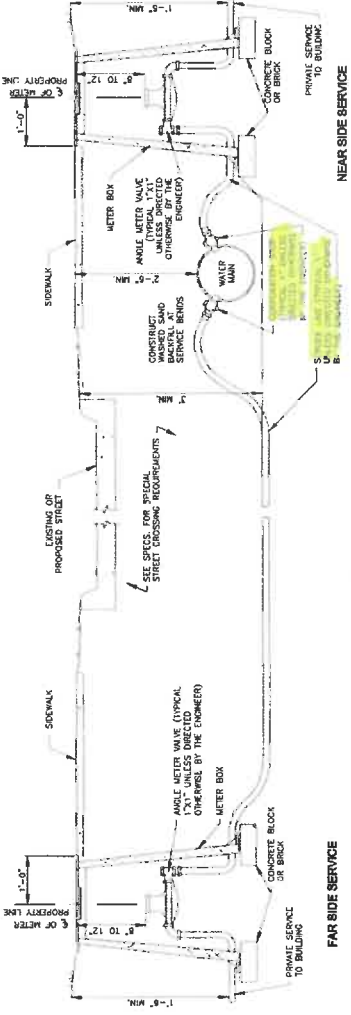
SIDE ELEVATION Scale 1/4" = 1'-0"



SIDE ELEVATION Scale 1/4" = 1'-0"



RUSTY GREEN
Scale 1/4" = 1'-0" AUG 24
FRONT ELEVATION

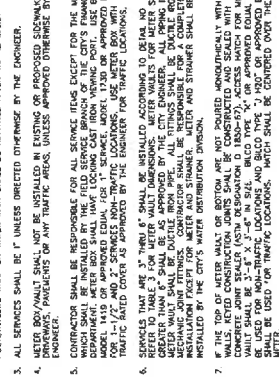


DETAIL NO. 10
TYPICAL LAYOUT
WATER SERVICE
INSTALLATION

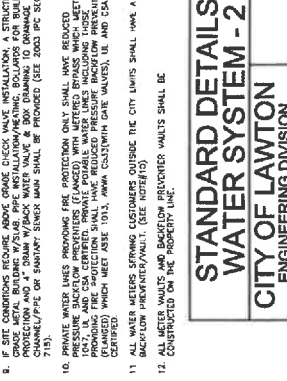
DETAIL NO. 11
CUL-DE-SAC LAYOUT
WATER SERVICE
INSTALLATION

DETAIL NO. 12
TYPICAL INSTALLATION
SINGLE FAMILY RESIDENTIAL WATER SERVICE
(SIZES FROM 1" TO 2")

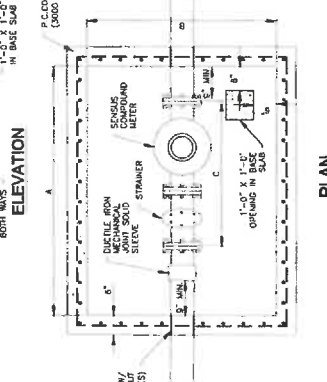
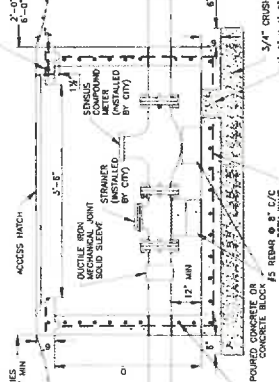
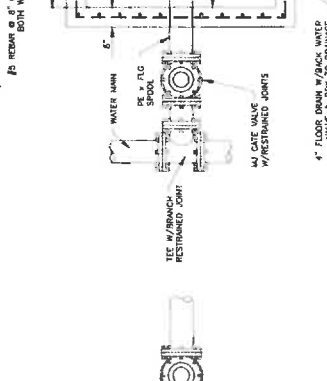
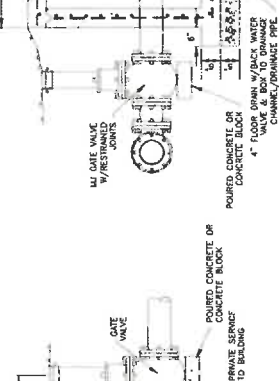
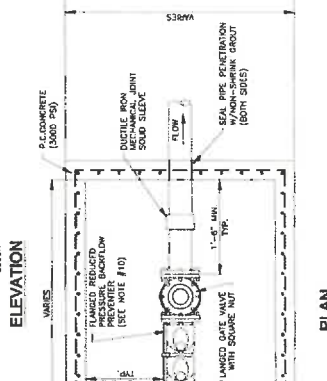
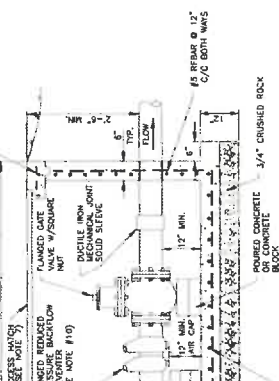
- WATER SERVICE INSTALLATION NOTES**
1. SERVICES SHALL BE MADE BY STREET FOR NON-TRAFIC LOCATIONS. DOUBLE END SERVICE THROUGH CURB CUTS SHALL BE MADE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS AND UTILIZE TENSION TYPE SERVICE TAPS 1" AND 1 1/2" UNLESS OTHERWISE NOTED. SERVICES SHALL BE MADE UNLESS OTHERWISE NOTED. PRE. ON P.C. SERVICE TAPS 1" AND UP TO 2" SHALL BE MADE UNLESS OTHERWISE NOTED. SERVICE TAPS SHALL BE BRASS BODY DOUBLE STRAP/DOUBLE NUT TYPES AS FOR FS300. ALL SADDLES SHALL BE WELDED WITH POLYETHYLENE WRP (AWA CSD/AT-15-05). ALL SADDLES SHALL BE SLOTTED AND BACKFILLED WITH AN APPROVED SERVICE FILL.
 2. SERVICE TAPS TO WATER MAIN SHALL BE LOCATED BACK OF CURB UNLESS OTHERWISE NOTED. ALL TAPS SHALL BE MADE WHILE THE MAIN IS UNDER NORMAL OPERATING PRESSURE. A POLYETHYLENE WRP ON WATER MAIN SHALL BE REPAIRED AFTER TAP IS MADE.
 3. ALL SERVICES SHALL BE 1" UNLESS DIRECTED OTHERWISE BY THE ENGINEER. PRESSURES OF ANY TRAFFIC AREA UNLESS APPROVED OTHERWISE BY THE ENGINEER.
 4. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SERVICE TAPS EXCEPT FOR THE METERS WHICH SHALL BE INSTALLED BY THE FIELD SERVICE BRANCH OF THE CITY'S FINANCE DEPARTMENT. ALL SERVICES SHALL BE MADE UNLESS OTHERWISE NOTED. ALL SERVICES SHALL BE MADE UNLESS OTHERWISE NOTED. ALL SERVICES SHALL BE MADE UNLESS OTHERWISE NOTED. ALL SERVICES SHALL BE MADE UNLESS OTHERWISE NOTED.
 5. METERS SHALL BE INSTALLED ON APPROVED LOCAL USE 1" SCHEDULE 40E OR APPROVED LOCAL TRAFFIC RATED OTHER AS APPROVED BY THE ENGINEER FOR TRAFFIC LOCATIONS.
 6. SERVICE TAPS TO METERS SHALL BE INSTALLED AT AN ANGLE OF 45 DEGREES TO THE MAIN. GREATER THAN 45 DEGREES SHALL BE AS APPROVED BY THE CITY ENGINEER. ALL SERVICE TAPS SHALL BE MADE UNLESS OTHERWISE NOTED. ALL SERVICES SHALL BE MADE UNLESS OTHERWISE NOTED. ALL SERVICES SHALL BE MADE UNLESS OTHERWISE NOTED.
 7. THE TOP OF METER SHALL BE 4" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED. ALL METERS SHALL BE 4" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED. ALL METERS SHALL BE 4" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED.
 8. GRADE AT NON-TRAFFIC LOCATIONS AND ADJACENT GROUND GRADED TO DRAIN.
 9. IF SITE CONDITIONS REQUIRE ABOVE GRADE CHECK VALVE INSTALLATION, A STRUCTURAL GRADE BUILT UP SHALL BE INSTALLED. INSTALLATION SHALL BE AS APPROVED BY THE ENGINEER. ALL CHECK VALVES SHALL BE INSTALLED UNLESS OTHERWISE NOTED. ALL CHECK VALVES SHALL BE INSTALLED UNLESS OTHERWISE NOTED.
 10. PRIVATE WATER USERS PROVIDING FIRE PROTECTION ONLY SHALL HAVE REDUCED PRESSURE VALVES (RPV) OR REDUCED PRESSURE BACKFLOW PREVENTERS (RPBP) INSTALLED UNLESS OTHERWISE NOTED. ALL RPV'S AND RPBP'S SHALL BE INSTALLED UNLESS OTHERWISE NOTED. ALL RPV'S AND RPBP'S SHALL BE INSTALLED UNLESS OTHERWISE NOTED.
 11. ALL WATER METERS SPRINKLER CUSTOMERS OUTSIDE THE CITY LIMITS SHALL HAVE A BACKFLOW PREVENTER/WALL. (SEE NOTES)
 12. ALL METER VALVES AND BACKFLOW PREVENTERS SHALL BE 1" UNLESS OTHERWISE NOTED.



DETAIL NO. 13
TYPICAL INSTALLATION
MULTI-FAMILY / COMMERCIAL WATER SERVICE
(3" THRU 6")



DETAIL NO. 14
TYPICAL INSTALLATION
STANDARD BACKFLOW PREVENTER



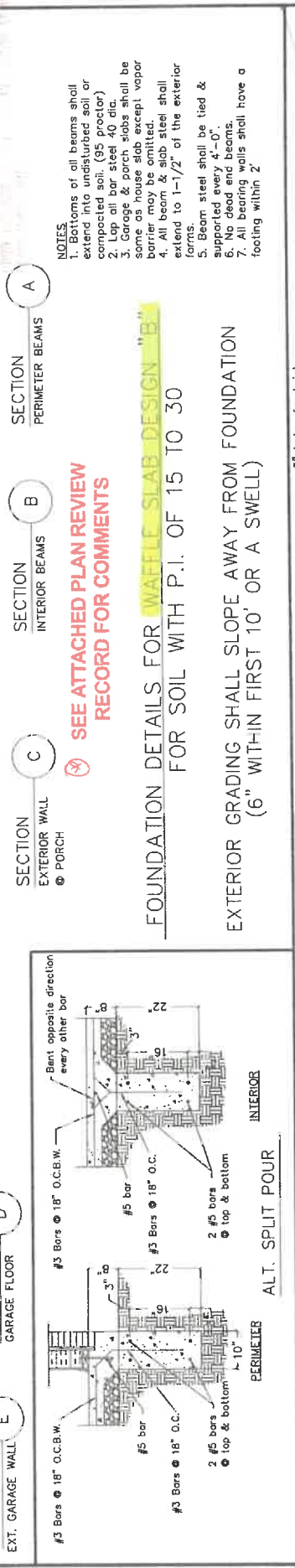
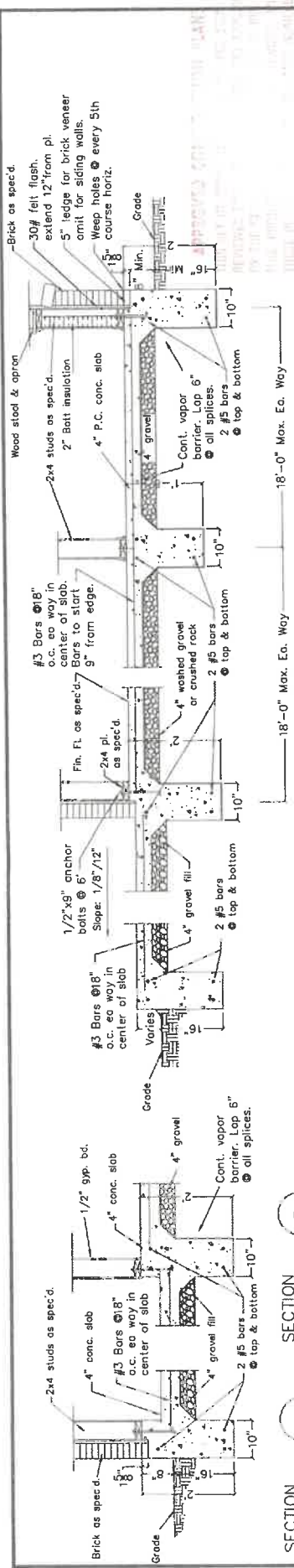
DETAIL NO. 15
TYPICAL INSTALLATION
STANDARD BACKFLOW PREVENTER

TABLE 3
MINIMUM VALVE OVERSIZES

METER SIZE	A	B	C	D
1"	1-1/2"	1-1/2"	1-1/2"	1-1/2"
1 1/2"	2"	2"	2"	2"
2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
3"	3 1/2"	3 1/2"	3 1/2"	3 1/2"
4"	4 1/2"	4 1/2"	4 1/2"	4 1/2"
6"	6 1/2"	6 1/2"	6 1/2"	6 1/2"

STANDARD DETAILS
WATER SYSTEM - 2
CITY OF LAWTON
ENGINEERING DIVISION

PROJECT NO. _____ DATE _____
 DRAWN BY: _____
 CHECKED BY: _____
 CITY ENGINEER: _____
 CITY COMMISSIONER: _____
 CITY MANAGER: _____
 CITY CLERK: _____
 CITY ATTORNEY: _____

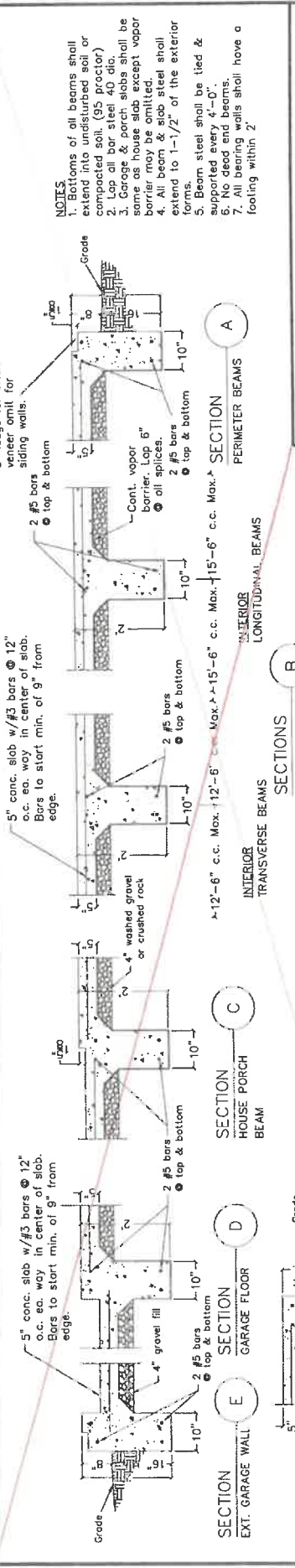


NOTES

1. Bottoms of all beams shall extend into undisturbed soil or compacted soil. (95 proctor)
2. Top all bar steel 40 dia.
3. Garage & porch slabs shall be same as house slab except vapor barrier may be omitted.
4. All beam & slab steel shall extend to 1-1/2' of the exterior forms.
5. Beam steel shall be tied & supported every 4'-0".
6. No dead end beams.
7. All bearing walls shall have a footing within 2'

SEE ATTACHED PLAN REVIEW RECORD FOR COMMENTS

FOUNDATION DETAILS FOR WAFFLE SLAB DESIGN "B"
FOR SOIL WITH P.I. OF 15 TO 30
EXTERIOR GRADING SHALL SLOPE AWAY FROM FOUNDATION
(6" WITHIN FIRST 10' OR A SWELL)

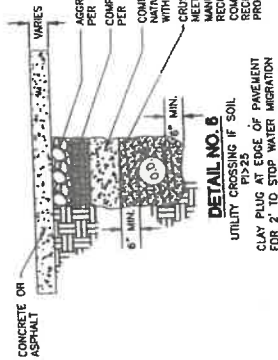


NOTES

1. Bottoms of all beams shall extend into undisturbed soil or compacted soil. (95 proctor)
2. Top all bar steel 40 dia.
3. Garage & porch slabs shall be same as house slab except vapor barrier may be omitted.
4. All beam & slab steel shall extend to 1-1/2' of the exterior forms.
5. Beam steel shall be tied & supported every 4'-0".
6. No dead end beams.
7. All bearing walls shall have a footing within 2'

FOUNDATION DETAILS FOR WAFFLE SLAB DESIGN "C"
FOR SOIL WITH P.I. OF 30+
EXTERIOR GRADING SHALL SLOPE AWAY FROM FOUNDATION
(6" WITHIN FIRST 10' OR A SWELL)

"Concrete and Masonry Foundation Details"	
CITY OF LAWTON ENGINEERING DIVISION	Community Development License and Permit Center
PROJECT NO.:	DESIGN: _____
FILE NAME: Waffle_Slab	DATE: 4/21/2009
DRAWN: C. James	SHEET 1 OF 1

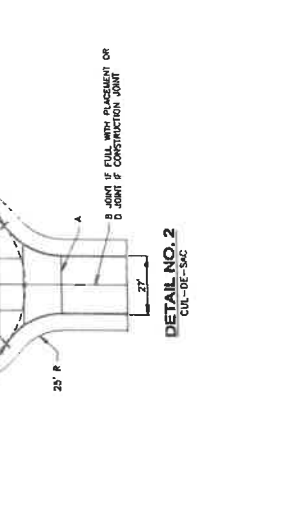
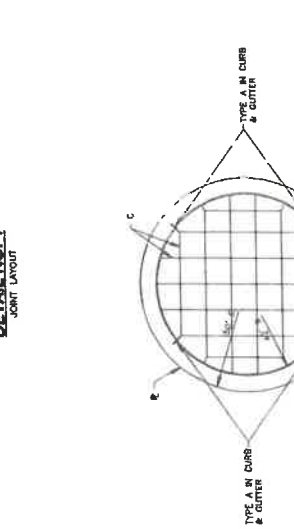
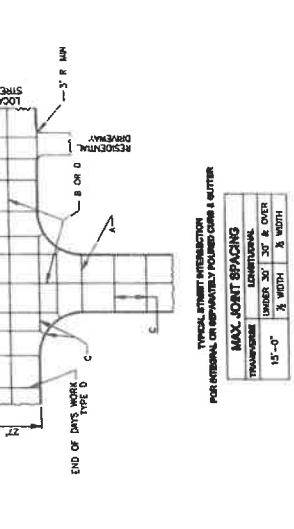
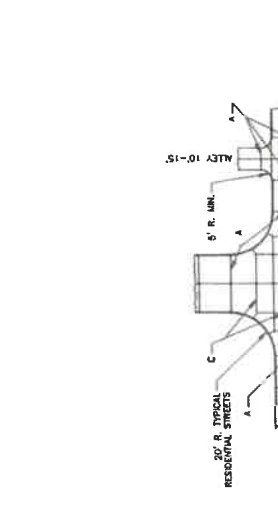
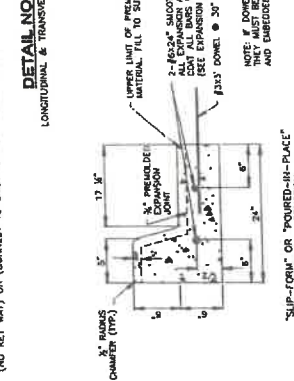
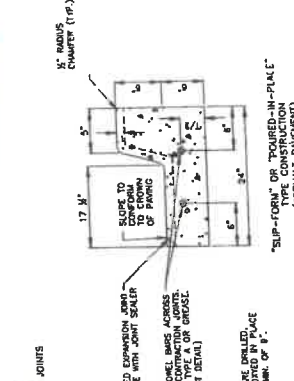
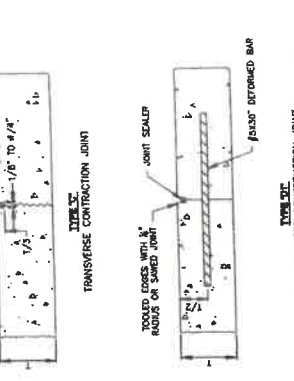
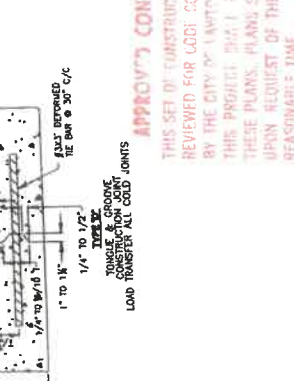
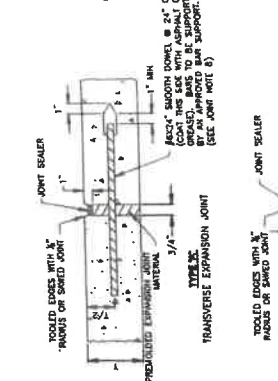
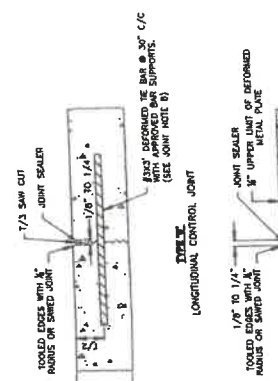


CONSTRUCTION NOTES

- JOINT AND CONCRETE CURB & GUTTER NOTES**
- CONCRETE JOINTS SHALL BE LAID AS SHOWN. CONCRETE WILL CUT THROUGH ALL UNDERLAYMENTS. JOINTS SHOULD BE ON THE POINT MARK EVERYDAY BEFORE THE POUR BEGINS TODAY. IF CONCRETE WILL CUT WITHOUT AVOIDING.
 - GROOVES IN JOINTS MAY BE FORMED BY: (A) TEMPORARY EMBEDMENT OF A SHAPABLE MATERIAL; (B) INSTALLATION OF A JOINT SEALER; (C) INSTALLATION OF A JOINT SEALER AND A JOINT SEALER PRODUCT. JOINT SEALERS SHALL BE COMPACTED TO MANUFACTURER'S RECOMMENDED STANDARD PROCTOR DENSITY.
 - JOINTS IN JOINTS WILL BE THOROUGHLY CLEANED OUT BEFORE ANY SEALING FILLER IS POURED.
 - JOINT SEALERS SHALL MEET REQUIREMENTS NOTED IN SECTION 701.06 OF THE LATEST EDITION OF THE OHIO DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. JOINT SEALERS SHALL BE COMPACTED TO MANUFACTURER'S RECOMMENDED STANDARD PROCTOR DENSITY. JOINT SEALERS SHALL BE COMPACTED TO MANUFACTURER'S RECOMMENDED STANDARD PROCTOR DENSITY.
 - TYPE "V" JOINTS SHALL BE USED AT THE END OF A DAY'S WORK. (SEE AND ENB)
 - WHEN PAVEMENT IS ASPHALT, SELF-FORM OR FORMED-IN-PLACE CURB AND GUTTER SHALL HAVE 3/4" MIN. TYPE "A" INTERSECTIONS AND HORIZONTAL CURVES SHALL BE 12" MIN. LONG. WHEN PAVEMENT IS CONCRETE, SELF-FORM OR FORMED-IN-PLACE CURB AND GUTTER SHALL HAVE 3/4" MIN. TYPE "A" INTERSECTIONS AND HORIZONTAL CURVES SHALL BE 12" MIN. LONG. WHEN PAVEMENT IS CONCRETE, SELF-FORM OR FORMED-IN-PLACE CURB AND GUTTER SHALL HAVE 3/4" MIN. TYPE "A" INTERSECTIONS AND HORIZONTAL CURVES SHALL BE 12" MIN. LONG.
 - USE CURBS FOR 3/4" TYPE "B" BAR (TYPE "B") AND APPROVED BAR SUPPORT FOR #6 SMOOTH DOWEL BARS.
 - CONNECTION TO EXISTING CONCRETE PAVEMENT SHALL BE MADE BY OVERLAYING WITH #302 REBAR @ 24" C/C. DRAIN AND STOP @ INTO EXISTING PAVEMENT.
 - CURB AND GUTTER FOR ASPHALT STREET SHALL BE PER DETAIL #4.
 - CURB FOR CONCRETE STREET SHALL BE INTEGRAL WITH THE PAVEMENT OR SHALL BE POURED AS CURB AND GUTTER AS PER DETAIL #4.
 - P.C. CONCRETE VALLEY CURBS (AT "WELLS" BEING) ARE TO BE CONSTRUCTED TO CARRY THE WEIGHT OF THE TRAFFIC AT INTERSECTIONS ON ASPHALT PAVEMENT STREET. PER DETAIL #5.
 - ANY EXPANSION JOINT WITHIN THE BEARING OF THE CURB SHALL BE COMPACTED TO MEET STANDARD PROCTOR DENSITY TO TOP OF CURB ELEVATION.

APPROXIMATE CONSTRUCTION PLANS HAS BEEN REVIEWED FOR CORRECT COORDINATION AND APPROVED BY THE CITY OF LAWTON. THE CONSTRUCTION OF THESE PLANS, PLANS SHOWN BY, MADE AVAILABLE UPON REQUEST OF THE CITY INSPECTOR AT ANY REASONABLE TIME.

*** SEE ATTACHED PLAN REVIEW RECORD FOR COMMENTS**



STANDARD DETAILS
SUBDIVISION STREETS - 1
CITY OF LAWTON
ENGINEERING DIVISION

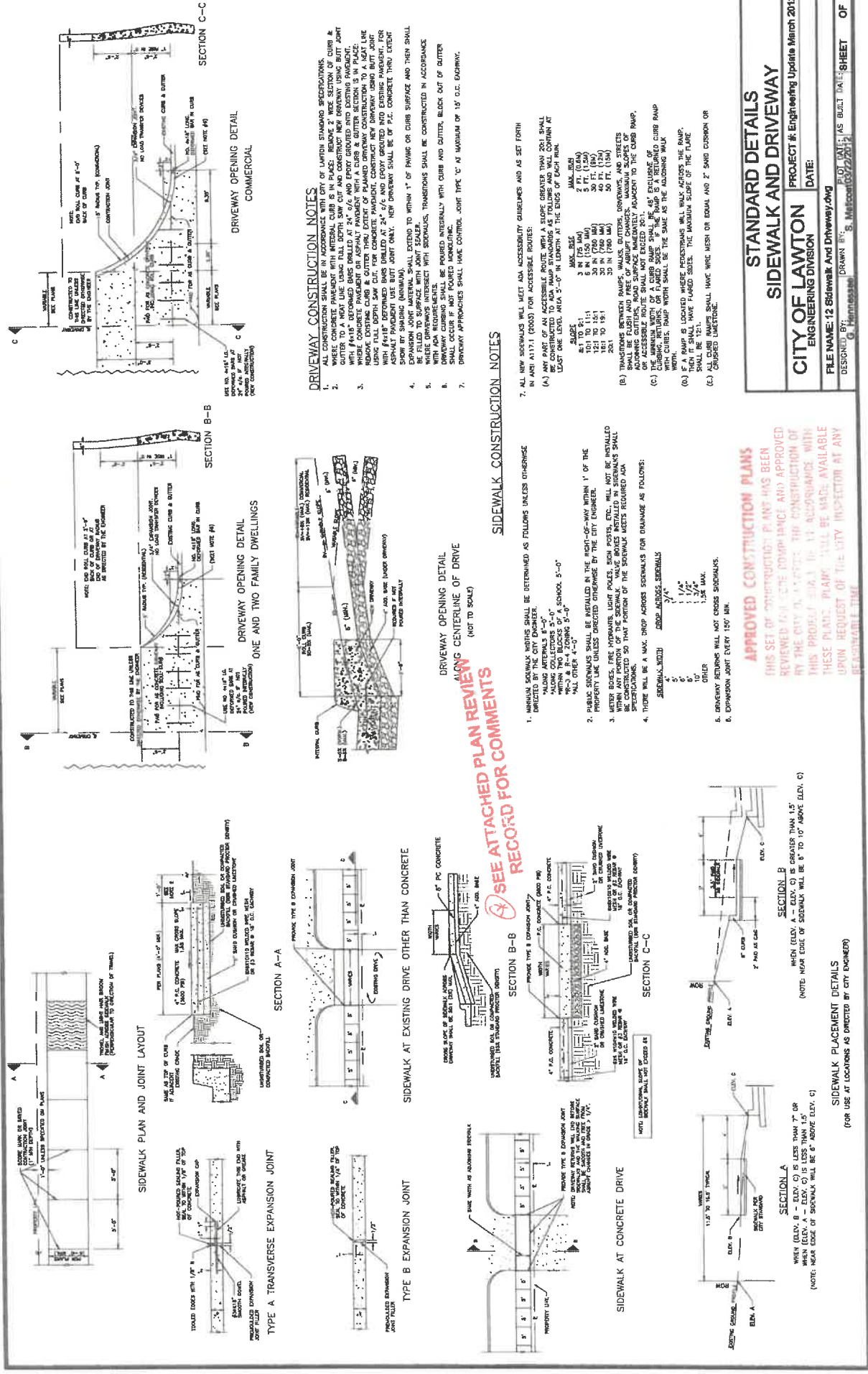
PROJECT NO.: _____ DATE: _____

BY: _____ CHECKED BY: _____

DATE: _____

SCALE: _____

SHEET 6 OF 8



DRIVEWAY CONSTRUCTION NOTES

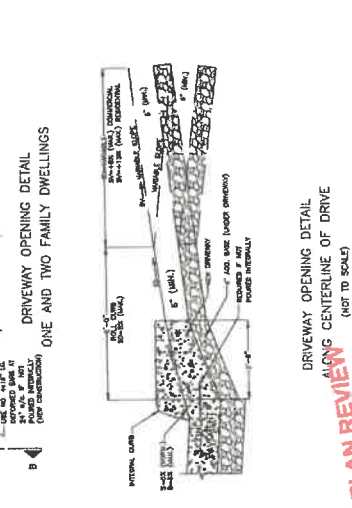
1. DRIVEWAY CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF LAWTON STANDARD SPECIFICATIONS.
2. WHERE CONCRETE PAVEMENT WITH INTERLOCK CURB IS IN PLACE, REMOVE 2" WIDE SECTION OF CURB & CUTTER TO A NEAT LINE USING FULL DEPTH SAW CUT AND CONSTRUCT NEW DRIVEWAY USING BUTT JOINT WITH #4x18 DEFORMED BARS (BARS TO BE PLACED AT PARALLEL WITH A CURB & GUTTER SECTION IN PLACE). REMOVE FULL DEPTH CURB & CUTTER THRU EXTENT OF PLANNED DRIVEWAY CONSTRUCTION TO A NEAT LINE USING FULL DEPTH SAW CUT. FOR CONCRETE PAVEMENT, CONSTRUCT NEW DRIVEWAY USING BUTT JOINTS WITH #4x18 DEFORMED BARS (BARS TO BE PLACED AT PARALLEL WITH A CURB & GUTTER SECTION IN PLACE). SHOW BY SHADING (HATCHING).
3. EXPANSION JOINT MATERIAL SHALL EXTEND TO WITHIN 1" OF PAVING OR CURB SURFACE AND THEN SHALL BE FILLED TO SURFACE WITH INTERLOCK WITH SODIUMSILS. TRANSITIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ADA REQUIREMENTS.
4. DRIVEWAY CURBING SHALL BE POWDED INTERNALLY WITH CURB AND CUTTER, BLOCK OUT OF GUTTER WITH SODIUMSILS. APPROXIMATIONS SHALL HAVE CONTROL JOINT TYPE 'C' AT MAXIMUM OF 15' O.C. EXPOSURE.

SIDEWALK CONSTRUCTION NOTES

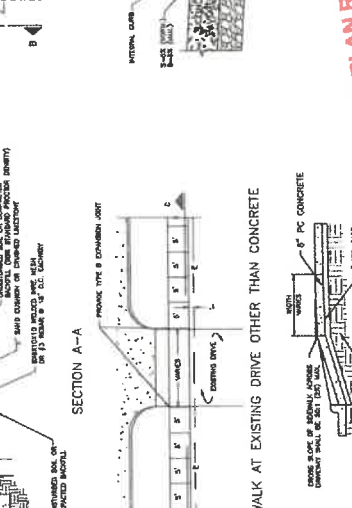
1. MINIMUM SIDEWALK WIDTHS SHALL BE DETERMINED AS FOLLOWS UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER.
 MINIMUM SIDEWALK WIDTHS SHALL BE:
 ALL OTHER BLOCKS 5'-0"
 ALL OTHER 4'-0"
2. DRIVEWAY SODIUMSILS SHALL BE INSTALLED IN THE RIGHT-OF-WAY WITHIN 1' OF THE PROPERTY LINE UNLESS DIRECTED OTHERWISE BY THE CITY ENGINEER.
3. LETTER BOXES, FIRE HYDRANTS, LIGHT POLES, SIGN POSTS, ETC. WILL NOT BE INSTALLED WITHIN ANY PORTION OF THE SIDEWALK. VALVE BOXES INSTALLED IN SIDEWALKS SHALL BE CONSTRUCTED SO THAT PORTION OF THE SIDEWALK BEETS REQUIRED FOR SODIUMSILS.
4. THERE WILL BE A MAX. DROP ACROSS SODIUMSILS FOR DRAINAGE AS FOLLOWS:
 SODIUMSILS: 1/4"
 6" 1/4"
 8" 1/2"
 10" 3/4"
 OTHER 1"
 12" 1 1/2"
5. DRIVEWAY RETAINERS WILL NOT CROSS SODIUMSILS.
6. EXPANSION JOINT EVERY 15' MIN.

APPROVED CONSTRUCTION PLANS
 THIS SET OF CONSTRUCTION PLANS HAS BEEN REVIEWED FOR CONFORMANCE AND APPROVED BY THE CITY OF LAWTON. THE CONSTRUCTION OF THESE PLANS SHALL BE IN ACCORDANCE WITH THE CITY OF LAWTON STANDARD SPECIFICATIONS. THESE PLANS SHALL BE MADE AVAILABLE UPON REQUEST OF THE CITY INSPECTOR AT ANY REASONABLE TIME.

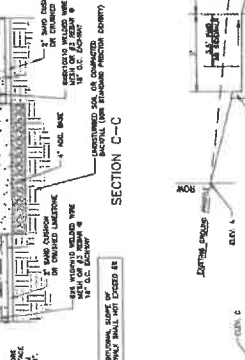
DRIVEWAY OPENING DETAIL ONE AND TWO FAMILY DWELLINGS



DRIVEWAY OPENING DETAIL COMMERCIAL



DRIVEWAY OPENING DETAIL ALONG CENTERLINE OF DRIVE (NOT TO SCALE)



SIDEWALK AT EXISTING DRIVE OTHER THAN CONCRETE



SIDEWALK AT CONCRETE DRIVE



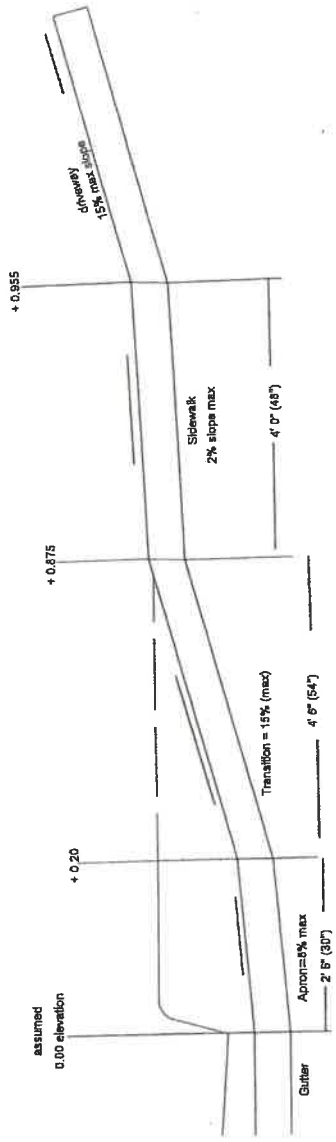
SIDEWALK PLACEMENT DETAILS

(FOR USE AT LOCATIONS AS DIRECTED BY CITY ENGINEER)
 SECTION A
 WHEN (ELEV. A - ELEV. C) IS LESS THAN 7" OR WHEN (ELEV. A - ELEV. C) IS LESS THAN 1.5' (NOTE: NEAR EDGE OF SIDEWALK WILL BE 6" ABOVE ELEV. C)
 SECTION B
 WHEN (ELEV. A - ELEV. C) IS GREATER THAN 1.5' (NOTE: NEAR EDGE OF SIDEWALK WILL BE 8" TO 10" ABOVE ELEV. C)

STANDARD AND DETAILS
SIDEWALK AND DRIVEWAY
CITY OF LAWTON
ENGINEERING DIVISION

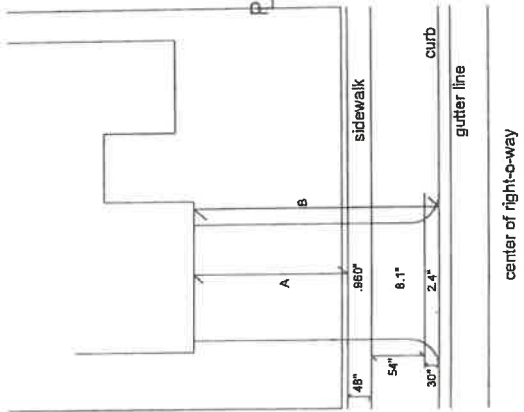
PROJECT #: Engineering Update March 2012
 DATE:
 FILE NAME: 12 Sidewalk And Driveway.dwg
 DRAWN BY: S. Mallick
 DESIGNED BY: S. Mallick
 PLOT DATE: AS BUILT 10/11/2012
 SHEET OF

SEE ATTACHED PLAN REVIEW FOR COMMENTS



Max Rise from gutter to garage floor to meet ADA & COL Standards

Driveway (A) max 15%				Total Elevation (B)				Driveway (A) max 15%				Total Elevation (B)			
length (feet)	length (inches)	Elevation difference (inches)	Elevation difference (feet)	length (feet)	length (inches)	Elevation difference (inches)	Elevation difference (feet)	length (feet)	length (inches)	Elevation difference (inches)	Elevation difference (feet)	length (feet)	length (inches)	Elevation difference (inches)	Elevation difference (feet)
15'	180	27.00	+2.25	34.46	+3.025	34.46	+3.025	28'	336	50.40	+4.20	61.86	+5.155		
16'	192	28.80	+2.40	40.26	+3.355	40.26	+3.355	29'	348	52.20	+4.35	63.98	+5.305		
17'	204	30.60	+2.55	42.06	+3.505	42.06	+3.505	30'	360	54.00	+4.50	65.46	+5.455		
18'	216	32.40	+2.70	43.86	+3.655	43.86	+3.655	31'	372	55.80	+4.65	67.26	+5.605		
19'	228	34.20	+2.85	45.66	+3.805	45.66	+3.805	32'	384	57.60	+4.80	69.06	+5.755		
20'	240	36.00	+3.00	47.46	+3.955	47.46	+3.955	33'	396	59.40	+4.95	70.86	+5.905		
21'	252	37.80	+3.15	49.26	+4.105	49.26	+4.105	34'	408	61.20	+5.10	72.66	+6.055		
22'	264	39.60	+3.30	51.06	+4.255	51.06	+4.255	35'	420	63.00	+5.25	74.46	+6.205		
23'	276	41.40	+3.45	52.86	+4.405	52.86	+4.405	36'	432	64.80	+5.40	76.26	+6.355		
24'	288	43.20	+3.60	54.66	+4.555	54.66	+4.555	37'	444	66.60	+5.55	78.06	+6.505		
25'	300	45.00	+3.75	56.46	+4.705	56.46	+4.705	38'	456	68.40	+5.70	79.86	+6.655		
26'	312	46.80	+3.90	58.26	+4.855	58.26	+4.855	39'	468	70.20	+5.85	81.66	+6.805		
27'	324	48.60	+4.05	60.06	+5.005	60.06	+5.005	40'	480	72.00	+6.00	83.46	+6.955		



if the elevation is greater than listed in column D, it is infeasible to meet both ADA & COL standards. If both cannot be obtained, then ADA regulations shall be enforced. The grade in column C would then be increased to a maximum of 18%. If the elevation is still to great, then it is geometrically impossible to meet ADA cross slope on driveway. The cross slope would have to be increased to as low as possible for installation of sidewalk.
 Note: Sidewalk width shall be 5' on collector streets and within 2 blocks of schools. Shall be 6' on arterials. If zoning is R-3 or R-4, then sidewalk widths shall be 5'.

APPROVED CONSTRUCTION PLANS
 THIS SET OF CONSTRUCTION PLANS HAS BEEN REVIEWED FOR COMPLIANCE AND APPROVED BY THE CITY ENGINEER. NO CONSTRUCTION OF THIS PROJECT SHALL BE ALLOWED WITHOUT THESE PLANS. NO CHANGES SHALL BE MADE UPON REQUEST OF THE CITY INSPECTOR AT ANY REASONABLE TIME.

SEE ATTACHED PLAN REVIEW RECORD FOR COMMENTS

Policy 6-1 OPEN FOR BUSINESS POLICY

COUNCIL POLICY NO. 6-1

DISTRIBUTION: Mayor and City Council
All Departments

SUBJECT: "OPEN FOR BUSINESS" POLICY

PURPOSE: To provide clear rules on how to maintain an "open for business", "friendly and helpful", and "world class customer service" reputation in working with citizens, companies, and contractors.

BACKGROUND: Lawton City Charter, Section 2-11, provides that the City Council may determine its own rules. Rules are hereby established.

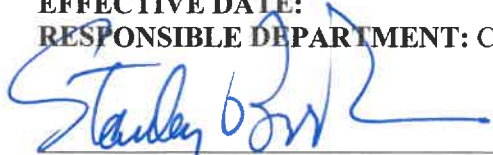
POLICY/PROCEDURE: Council Policy providing rules for an "Open for Business" Reputation is adopted as an exhibit and addresses the following issues:

1. Open for Business Culture
2. Administrative Rules
3. Interpretation of Code and Policies
 - a. Standard for "Grandfathering"
 - b. Avoidance of "Best Practice" Policing
 - c. Avoidance of Civil Matters
 - d. Discretion or Approval of the Building Code Official
4. Training and Reference Materials
 - a. Required Annual Training
 - b. Access to Electronic Code
5. National and International Code Adoption
 - a. Amendments to Current Code
6. Plan Review Timeframes
 - a. Emergency Inspections
 - b. Third-party Plan Review
7. Fast Track Services

REFERENCES: Lawton City Charter, Ordinance 23-27

EFFECTIVE DATE:

RESPONSIBLE DEPARTMENT: City Manager



STANLEY BOOKER, MAYOR, CITY OF LAWTON

APPROVED as to form and legality this 14th day of July, 2023.


TIMOTHY WILSON,
ACTING CITY ATTORNEY

COUNCIL “OPEN FOR BUSINESS”
POLICY

COUNCIL POLICY 6-1
“OPEN FOR BUSINESS” POLICY
LAWTON CITY COUNCIL

1. “OPEN FOR BUSINESS” CULTURE

It being vital for the City of Lawton to protect the public welfare, the City of Lawton does, from time to time, adopt versions of, or otherwise fall under the jurisdiction of the National Fire Code, and the International Building Code and other associated codes.

It being equally vital that the City of Lawton’s reputation in working with citizens, companies, and contractors be one that can be described as “Open for Business,” “Friendly and Helpful,” and “World Class Customer Service.”

As a community, we understand that every project brings an asset to our community balance sheet. Every project builds our community, no matter the size, by adding more ad valorem, sales tax, water meters, and services to citizens, and jobs. As such, the City of Lawton is welcoming of all construction work and does desire to be a partner in the success of each and every project.

Therefore, the following shall be the policy of the City of Lawton:

2. ADMINISTRATIVE RULES

All administrative rules, directives, policies, and the like, concerning the building code, but not the code itself, in effect at the original passing of this policy shall cease until brought and approved by the City Council into Council Policy, or City Code. Note: the term “directive” as referred to in this section shall mean an instruction or order that exceeds the authority granted by city code or council policy.

The culture of the Building, License and Permits, Inspections Department, shall be a culture of “Let’s find a way to make your idea work” and “World Class Customer Service.”

3. INTERPRETATION OF CODE AND POLICIES

All code officials and inspectors/fire Marshalls shall interpret all Codes and Policies at their minimum application.

A. Standards for “Grandfathering”

The practice of “grandfathering” shall be respected as defined in Ordinance 23-___, Section 107.4, “Conformance” as, “No change shall be made in the use or occupancy of any building unless such building is made to comply with the requirements of the International Building Code for the use or occupancy. Changes in use or occupancy in a building or portion thereof shall be such that the existing building is no less complying with the provisions of this code than the existing building or structure was prior to the change. The use or occupancy of existing buildings shall be permitted to be changed and the building is allowed to be occupied for purposes in other groups without conforming to all of the requirements of this code for those groups, provided the new or proposed use is less hazardous, based on life and fire risk, than the existing use.”

- B. **Avoidance of “Best Practice” Policing**
Staff will not engage in “best practice” policing.
- C. **Avoidance of Civil Matters**
Staff will avoid matters that may become civil issues between two parties, except for the minimal interpretation of the applicable code.
- D. **Discretion or Approval of the Building Code Official**
Where the code refers “subject to the discretion or approval of the building code official”, said discretion shall not be unreasonably withheld.

4. TRAINING AND REFERENCE MATERIALS

- A. **Required Annual Training**
The City Manager shall cause all Inspectors and Fire Marshalls to be trained in this Council Policy no less than annually and before having contact with the public.
- B. **Access to Electronic Code**
Each Inspector or Fire Marshall shall have electronic access to their applicable code readily available during or immediately after the inspection to verify for the customer the wording of the applicable code as applies to the requirements of the inspector/FM upon request. It shall be made available within 24 hours if not electronically available for whatever reason. At no time shall a customer/citizen be told to look it up on the website.

5. NATIONAL AND INTERNATIONAL CODE ADOPTION

- A. **Amendments to Current Code**
 - No new National or International Code shall be adopted by the City Council until every change has been identified and presented to the City Council.
 - The City Council shall review the amendments to the current code, and discuss any staff suggested changes individually.
 - Upon any recommended changes to the amendments of the current Ordinance 23-___, the council will be reminded that these amendments were implemented to bring an “Open for Business” reputation to the City of Lawton.

6. PLAN REVIEW TIMEFRAMES

Plan review shall be completed in no more than thirty (30) calendar days. If review is not completed in thirty (30) calendar days, staff is required to bring the item before Council with an explanation as to why the review was not completed in the prescribed time.

Each plan reviewer shall be required to have their comments back to the designated deputy code official within two weeks of submittal, in order to issue permits in a timely manner.

- A. **Emergency Inspections**
The department will set up a system, and present it to the council, for an emergency inspection within ___ hours option due to unforeseen conditions that may arise, for a which a fee will be charged.
- B. **Third-Party Plan Review**
A third-party plan review option shall be made available, for which a fee will be charged.

7. FAST TRACK SERVICES

Contractors may be graded based upon the quality of work they perform as well as the number of

inspections required to rectify the same failure. Said grading could limit a contractor's ability to participate in any electronic/remote inspection program or emergency inspection program that may exist. (Fast Tracking).