



North Carolina Code Officials Qualification Board

Staffed by the NC Department of Insurance

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Live Remote Inspections

Code: 2018 NC Administrative Code and Policies
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Board: N.C. Code Officials Qualification Board
Section: N.C. General Statutes § 143-151.12(8)

Summary:

This document is a suggested guide on how certain Live Remote Inspections (LR) can be performed safely and effectively. LR inspections utilize today's technology (a smart phone or another hand-held device) to allow a permit holder to show and demonstrate Code compliance without requiring the inspector to be physically present at the project. Programs like Skype, Facetime, or similar live interaction video programs may be used as delegated by the local inspection department. Unlimited talk, text, and data will be required to avoid possible extra charges from cell phone carriers.

Use of LR inspections:

The use of LR inspections is voluntary. A jurisdiction can determine which permit holders are eligible to receive a LR inspection based upon many factors, including past performance. Past performance can be based on several items consisting of, but not limited to, the number of code violations in any inspection, 15 or more rough framing code violations for a 1-2 family dwelling, non-payment of fees, unrequested final inspections on past projects, etc.

Live remote documentation:

When an inspector visits the jobsite, he is not recording the inspection. A LR inspection would follow the same logic. Jurisdictions should audit the process from time to time sending out an inspector to visit the jobsite and watch the LR inspection take place. Recording LR inspections can be a good way to streamline consistency throughout an inspection department and the state.

Auditing LR inspections:

LR inspections should be audited by a field inspector on a schedule to be determined by the jurisdiction. If a LR inspection is selected for audit, the contractor is notified that a field inspector will be out the same day or the next day to perform an onsite audit. The approval of the LR inspection is conditional until the field audit is performed. The approval will be final upon verification of the field inspector.

LR Inspections between Inspectors:

A jurisdiction may choose to allow inspectors to perform LR inspections with other inspectors in the same manner as a permit holder. A typical example would be for a mechanical inspector to perform a LR inspection with an electrical inspector on the wiring on a HVAC changeout. The mechanical inspector would approve the mechanical inspection and the electrical inspector would approve the electrical inspection if they met Code.

Suggested Limitations of LR Inspections:

- No electrical (except rooftop PV systems or HVAC mechanical changeouts), gas, or ventilation of appliances.
- No inspections deemed life safety by an inspector.
- LR re-inspection is at the discretion of the inspector when minor and **not** life safety.

Suggested Requirements and Allowances for LR Inspections:

- Inspectors that perform LR inspections shall be certified for the type and level.
- Eligible for both residential and commercial projects.
- Any other inspections not listed below shall be performed on site by an inspector.

Below is the list of LR inspections and accompanying suggested procedures that have been reviewed and approved by the North Carolina Code Officials Qualifications Board (“COQB”). The COQB is of the opinion that a Code Enforcement Official (“CEO”) who performs these approved inspections pursuant to the accompanying approved suggested procedure should not be subject to disciplinary action by the COQB under N.C.G.S. 143-151.17 for having performed the inspection remotely:

1. Sewer and water trench inspections up to 100 feet - *Rough-in Plumbing (partial inspection).*
2. Shower pan inspection - *Rough-in Plumbing (partial inspection).*
3. Residential porch columns - *Building Framing (partial inspection).*
4. PV solar residential rooftop systems - *Rough-in Electrical.*
5. HVAC Changeout inspections for residential 1-2 family dwellings and townhomes – *Final Mechanical and Electrical inspection (no gas).*
6. Manufactured Home Marriage line connection – *Final Set-up inspection.*
7. **Re-inspections** up to 4 non-life safety code violations – *Footing, Foundation, Slab, Building Framing, Insulation, Rough-in Plumbing, Rough-in Mechanical, Final Plumbing, Final Mechanical and Final building (Note: These are not first-time inspections and no additional work can be inspected than what was inspected before).*

Procedures:

Typically, most LR inspections follow the same pattern but is subject to change. Below are the current suggested procedures for the list of LR inspections:

1. **Sewer and water trench inspections - Rough-in plumbing (partial inspection).** These LR inspections involve open trenches that involve water or sewer piping. Trenches must be 100 ft or less to qualify.

Tools needed:

- Smart phone or another hand-held device
- Tape measure
- Level

Inspection procedure:

- Request a Rough-In Plumbing LR Inspection - Trench for sewer and/or water. This would include contact information (cell number, etc.) and include a time range if possible.
- All LR inspections will start at the road looking at the jobsite and proceed to the permit box to visually see the permit.
- Follow all the instructions from the inspector as they give detailed instructions.
- At the beginning, every 20 feet and the end of the trench, the permit holder would walk along the side of the trench showing the depth using the tape measure. A simple method would also be to use a wood board with inches clearly marked and have the trench marked off every 20 feet with a piece of wood bridging the gap. This would quickly show the inspector remotely that the trench is the correct depth.
- The slope of trench is important for any sewer line. Placing a level along the top of the pipe will show that there is slope. There are various methods that will show the exact slope of the pipe, however this may not be necessary. Typically, a consistent depth of the pipe with the land sloping will indicate Code compliance.
- When the inspection is complete, the inspector will approve or disapprove.
- A LR inspection must have good signal strength. If the LR inspection cannot be accomplished, then the permit holder along with the inspector will schedule a traditional inspection as soon as possible.
- An inspector can end the LR inspection at any time due to bad communications or the permit holder not performing according to the inspector's instructions.
- LR inspections are not to be used in a fraudulent way. An example would be to perform the inspection at another jobsite and not the one for the inspection.
- If the inspector is satisfied, the approved inspection will be entered into the computer system and noted as "LR" (or other notations) in the comments. The inspector will then allow the permit holder to cover up the trench.

2. **Shower pan inspection - Rough-in plumbing (partial inspection).** These LR inspections involve the inspection and testing of the liner system to insure no leaks are present.

Tools needed:

- Smart phone or another hand-held device
- Tape measure
- Level

Inspection procedure:

- Request a Rough-In Plumbing LR Inspection – Shower pan. This would include contact information (cell number, etc.) and include a time range if possible.
- All LR inspections will start at the road looking at the jobsite and proceed to the permit box to visually see the permit.
- Follow all the instructions from the inspector as they give detailed instructions.
- Liner shall have water test ready and visible during LR.
- When the inspection is complete, the inspector will approve or disapprove.
- A LR inspection must have good signal strength. If the LR inspection cannot be accomplished, then the permit holder along with the inspector will schedule a traditional inspection as soon as possible.
- An inspector can end the LR inspection at any time due to bad communications or the permit holder not performing according to the inspector's instructions.
- LR inspections are not to be used in a fraudulent way. An example would be to perform the inspection at another jobsite and not the one for the inspection.
- If the inspector is satisfied, the approved inspection will be entered into the computer system and noted as “LR” (or other notations) in the comments. The inspector will then allow the permit holder to continue.

3. **Residential porch columns – Building framing (partial inspection).** This inspection involves porch columns that were installed after the traditional building framing inspection. The permit holder may not cover up the connections until approved by the inspector.

Tools needed:

- Smart phone or another hand-held device
- Tape measure
- Hammer
- Level

Inspection procedure:

- Request a Building Framing LR Inspection – Porch columns. This would include contact information (cell number, etc.) and include a time range if possible.
- All LR inspections will start at the road looking at the jobsite and proceed to the permit box to visually see the permit.
- Follow all the instructions from the inspector as they give detailed instructions.
- The permit holder will walk to the porch showing each column, beam and connection for a visual observation by the inspector.
- When the inspection is complete, the inspector will approve or disapprove.
- A LR inspection must have good signal strength. If the LR inspection cannot be accomplished, then the permit holder along with the inspector will schedule a traditional inspection as soon as possible.
- An inspector can end the LR inspection at any time due to bad communications or the permit holder not performing according to the inspector's instructions.
- LR inspections are not to be used in a fraudulent way. An example would be to perform the inspection at another jobsite and not the one for the inspection.
- If the inspector is satisfied, the approved inspection will be entered into the computer system and noted as “LR” (or other notations) in the comments. The inspector will then allow the permit holder to continue.

4. **PV solar residential rooftop systems - Rough-in electrical inspection.** This LR inspection involves showing the PV solar equipment that will be installed on the roof and any electrical devices that will be mounted to the home.

Tools needed:

- Smart phone or another hand-held device
- Tape measure

Inspection procedure:

- Request a Rough-In Electrical LR Inspection. This would include contact information (cell number, etc.) and include a time range if possible.
- All LR inspections will start at the road looking at the jobsite and proceed to the permit box to visually see the permit.
- Follow all the instructions from the inspector as they give detailed instructions.
- Proceed to show the PV panels and associated electrical equipment to the inspector.
- Explain where each piece of equipment will be installed, and any other relevant information needed by the inspector.
- When the inspection is complete, the inspector will approve or disapprove.
- A LR inspection must have good signal strength. If the LR inspection cannot be accomplished, then the permit holder along with the inspector will schedule a traditional inspection as soon as possible.
- An inspector can end the LR inspection at any time due to bad communications or the permit holder not performing according to the inspector's instructions.
- LR inspections are not to be used in a fraudulent way. An example would be to perform the inspection at another jobsite and not the one for the inspection.
- If the inspector is satisfied, the approved inspection will be entered into the computer system and noted as "LR" (or other notations) in the comments. The inspector will then allow the permit holder to continue.

5. **HVAC Changeout inspections for residential 1-2 family dwellings and townhomes** – Final Mechanical and Electrical inspection (no gas). This inspection involves residential changeouts where a mechanical contractor has changed out a like for like HVAC equipment. Permit holders should schedule the inspections with the jurisdictions when time permits. Due to safety concerns, equipment that uses gas as a fuel source should be inspected in the field by an inspector.

Tools needed:

- Smart phone or another hand-held device
- Tape measure
- Screwdriver

Inspection procedure:

- Request a HVAC Changeout LR Inspection – Mechanical and Electrical inspection. This would include contact information (cell number, etc.) and include a time range if possible.
- All LR inspections will start at the road looking at the jobsite and proceed to the permit box to visually see the permit.
- Follow all the instructions from the inspector as they give detailed instructions.
- The permit holder will enter the home and show the installation instructions of the HVAC equipment (some installations are different). The permit holder will follow all instructions from the inspector in verifying that the installation of the HVAC equipment is code compliant and meets the manufactures installation requirements.
- When the inspection is complete, the inspector will approve or disapprove.
- A LR inspection must have good signal strength. If the LR inspection cannot be accomplished, then the permit holder along with the inspector will schedule a traditional inspection as soon as possible.
- An inspector can end the LR inspection at any time due to bad communications or the permit holder not performing according to the inspector's instructions.
- LR inspections are not to be used in a fraudulent way. An example would be to perform the inspection at another jobsite and not the one for the inspection.
- If the inspector is satisfied, the approved inspection will be entered into the computer system and noted as “LR” (or other notations) in the comments. The inspector will then allow the permit holder to continue.

6. **Manufactured Home Marriage line connection – Final Set-up inspection.** This inspection involves manufactured homes where the inspector verifies that separate pieces of a home were correctly connected. This may involve inspection of the exterior roof and end wall connections, under framing connections and interior wall connections. The permit holder is to not cover up the connections until they are approved by the inspector.

Tools needed:

- Smart phone or another hand-held device
- Tape measure
- Hammer
- Ladder

Inspection procedure:

- Request a Final LR Inspection – Set-up Marriage Line connection. This would include contact information (cell number, etc.) and include a time range if possible.
- All LR inspections will start at the road looking at the jobsite and proceed to the permit box to visually see the permit.
- Follow all the instructions from the inspector as they give detailed instructions.
- The permit holder will enter the manufactured home and show the installation instructions of the home (some installations are different). If the instructions specify that the interior is to be connected, then the permit holder will proceed to follow instructions, so the inspector can verify compliance. Secondly, the permit holder will verify exterior end wall connections and then under framing connections. Finally, the permit holder will carefully access the roof of the manufactured home to verify the exterior connections. Please note that care should take place while climbing up to the roof by not holding the phone until a stable position is obtained on the roof. When the exterior roof connection is to be verified, hang up the phone to allow full access to the ladder while climbing down.
- When the inspection is complete, the inspector will approve or disapprove.
- A LR inspection must have good signal strength. If the LR inspection cannot be accomplished, then the permit holder along with the inspector will schedule a traditional inspection as soon as possible.
- An inspector can end the LR inspection at any time due to bad communications or the permit holder not performing according to the inspector's instructions.
- LR inspections are not to be used in a fraudulent way. An example would be to perform the inspection at another jobsite and not the one for the inspection.
- If the inspector is satisfied, the approved inspection will be entered into the computer system and noted as “LR” (or other notations) in the comments. The inspector will then allow the permit holder to continue.

7. **Re-inspections for Footings, Foundations, Slabs, Building Framing, Insulation, Rough-in Plumbing, Rough-in Mechanical, Final Plumbing, Final Mechanical and Final Building that are up to 4 non-life safety code violations.** This inspection involves re-inspecting documented code violations. The original inspector who failed the inspection will perform the re-inspection. If any additional work has been performed by the permit holder other than the correction of cited code violations, a site visit will be required. A re-inspection will not involve life safety items as determined by the inspector. No re-inspections will take place involving electrical or gas inspections or equipment. The original inspector will determine if the next inspection can be a LR inspection. Permit holders must respect the decisions of the inspector. Re-inspection items (up to 4) will be clearly marked by the inspector.

Special Notes:

- This is not a first-time inspection and no additional work can be inspected other than what was originally inspected.
- LR re-inspections shall be performed by the same inspector who performed the previous LR inspection.
- LR re-inspections shall be available for up to 10 business days.

Tools needed (if needed):

- Smart phone or another hand-held device
- Tape measure, Hammer, Ladder, etc.

Re-inspection procedure:

- Request a Rough-In Framing, Rough-In Insulation, Rough-In Plumbing, Final Plumbing or Rough-In Final LR Inspection – Re-inspection. This would include contact information (cell number, etc.) and include a time range if possible.
- All LR inspections will start at the road looking at the jobsite and proceed to the permit box to visually see the permit.
- Follow all the instructions from the inspector as they give detailed instructions.
- The permit holder will proceed to any items marked by the inspector (up to 4) for a visual remote inspection.
- The inspector may ask to see other parts of the home to verify compliance.
- When the inspection is complete, the inspector will approve or disapprove.
- A LR inspection must have good signal strength. If the LR inspection cannot be accomplished, then the permit holder along with the inspector will schedule a traditional inspection as soon as possible.
- An inspector can end the LR inspection at any time due to bad communications or the permit holder not performing according to the inspector's instructions.
- LR inspections are not to be used in a fraudulent way. An example would be to perform the inspection at another jobsite and not the one for the inspection. Another example would be to perform additional work on a requested LR re-inspection when it should have been a traditional inspection.
- If the inspector is satisfied, the approved inspection will be entered into the computer system and noted as “LR” (or other notations) in the comments. The inspector will then allow the permit holder to continue.