NYCHA MOLD TRAINING

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Mold Inspector Training Presentation Part 1

Welcome NYCHA Staff

- Registration & sign-in/out
- Training materials
- Training Agenda
- Training Goals
  - Understand importance of controlling mold & moisture
  - Be able to use the tools, practices & procedures
  - Be ready to get this done!

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Welcome NYCHA Staff

- This training is presented by EEA under contract to NYCHA
- EEA is an accredited asbestos, lead & mold training provider
- We look forward to working with you to provide this very important training
- It's critical to public housing in NYC
- NYCHA succeeds when YOU succeed!
- General Manager's Intro

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Why Are We Here Today?

- Because exposure to excessive moisture and mold is considered a major asthma trigger - IOM 2004, WHO 2009, and NYC DOHMH 2008

- Because the mold problems in NYCHA apartments keep coming back: 1) mold growth conditions were being painted over and paint is mold food; 2) the **Root-Cause** of the moisture conditions must be identified and corrected.

Photo Source: NY Daily News

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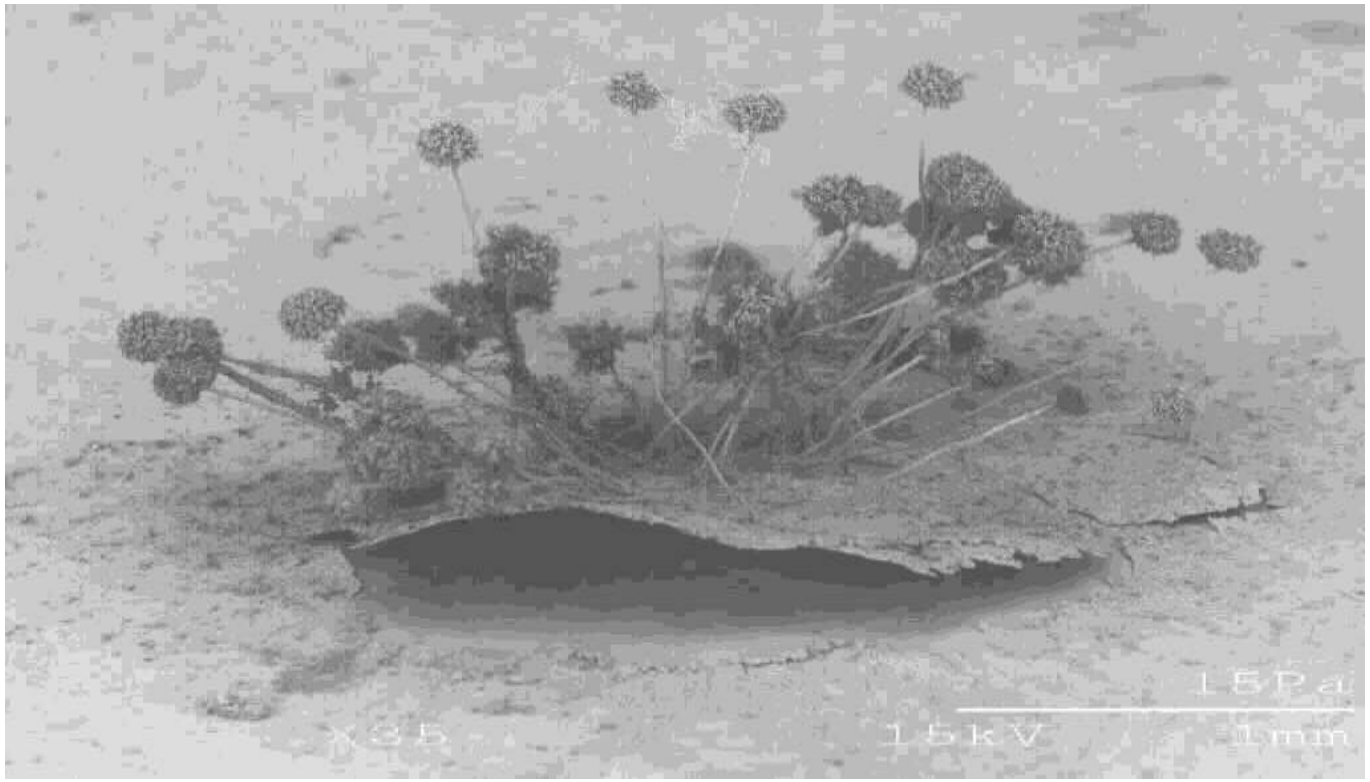
Public (Housing) Enemy #1



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Water Infiltration

- Major cause of mold growth
- Present in app. 75% of all properties
- Moisture is the leading cause of building problems costing more than $9 billion dollars annually in the US.

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How Mold Grows

- Finds suitable conditions
  - Water
  - Food
  - Temp (hot or cold)
- Grows
- Spreads

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How Long Has Mold Been A Problem?

From Leviticus Chapter 14, verses 33-57

On the seventh day the priest shall return to inspect the house. If the mold has spread on the walls. He is to order that the contaminated stones be torn out and thrown into an unclean place outside the town. He must have all the inside walls of the house scraped and the material that is scrapped off dumped into an unclean place outside the town. Then they are to take other stones to replace these and take new clay and plaster the house.

If the mold reappears in the house after the stones have been torn out and the house scrapped and plastered the priest is to go and examine it and if the mold has spread in the house, it is a destructive mold: the house is unclean. It must be torn down - its stones, timbers and all the plaster - and taken out of the town to an unclean place.

Anyone who goes into the house while it is closed up will be unclean till evening.

Anyone who sleeps or eats in the house must wash his clothes...

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NYCHA Facilities

- 2,413 buildings in 325 developments over five boroughs; 769 facilities; 177,666 apartments; 404,000 residents
- 70 percent of NYCHA buildings built before 1969.
- Building materials that can be affected by mold & moisture include:
  - Plaster
  - Sheetrock
  - Wood Studs/Framing
  - Cabinets
  - Caulk & grout

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Where Does Mold Grow in NYCHA?

- The paint on plaster, concrete, and sheetrock walls/ceilings
- The paper covering of sheetrock walls/ceilings (front/back and top/bottom sides)
- The covering of pipe-wrap insulation in wall cavities
- Bathroom tile grout and caulking
- Kitchen and bathroom cabinetry
- Wood framing materials in wall cavities

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Preventing Mold In NYCHA

- Mold growth is always associated with excessive moisture problems.
- How do we **prevent** or **control** excessive moisture and what are the **Root-Causes** of excessive moisture?

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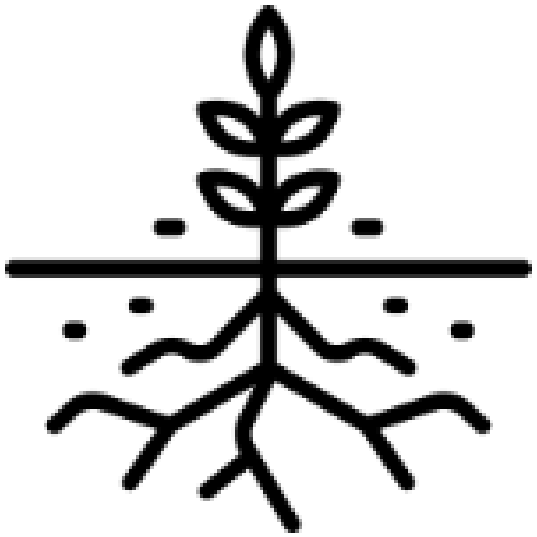
Mold Root Causes

The fundamental reason(s) for the occurrence of mold, water damage or moisture.

- Identify and select the most correct root cause(s) to ensure the condition does not reoccur – up to four (4) can be selected.
- Root cause(s) might often be not visible at first and require a comprehensive investigation to identify.



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Mold Root Causes

Twenty-nine (29) Root Causes are organized by five (5) general categories how the problem was caused.

I. Sealant Related Issues – Issues that can be resolved by removing and replacing old caulking.
Example: Caulking around a bathtub.

II. Leak Issues – Issues caused by a leak other than an sealant issue.
Example: Crack in exterior (façade) is causing a water enter the unit.

III. Resident-Caused – Issues that can be prevented due to adjustments to resident education and behavior.
Example: Resident is not opening a window after a shower.

IV. Ventilation – Issues that are a result of inoperable roof fans and/or lateral duct issues.
Example: A clog in the lateral duct is preventing air from flowing into the apartment.

V. Other – Issue(s) are being caused due to reasons outside of the four categories previously listed.
Example: Condensation (sweating on the pipes) due to the damaged or missing insulation.

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V. Mold Root Causes – Other

- **Toilet Bowl/ Tank Needs Barrier**
  Toilet tank is in direct contact with the surface of the wall, allowing condensation to transfer across surfaces.
- **Tub Surround DML**
  Water is penetrating through missing or damaged areas of the tub surround.
- **Bathtub Shower Issues**
  Bathtub is missing, faucet is leaking, faucet is running, and/or faucet is dripping.
- **Pipe Insulation DML**
  Damaged or missing pipe insulation resulting in condensation (or sweating) on pipe surfaces. A wall-break is required to diagnose this problem.
- **Other** * This option should be selected if the root cause is not listed or not evident through the standard assessment practices.

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Shower Vapor Condensation

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Condensation on Cold Water Pipes In Wall Cavities

Missing insulation on cold water riser

Damaged insulation on cold water riser

Missing insulation on cold water supply t

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Warm Weather Condensation

- Can occur when warm moist interior air contacts cooler surfaces such as cold-water pipes.
- Toilet tanks containing cold water often causes condensation
- Hot showers can cause condensation on “warm” surfaces

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Cold Weather Condensation

- Can occur when warm moist interior air contacts cooler surfaces such as windows.
- Condensation forms when the surface temperature is below the dew point temperature for the interior air

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Toilet Condensation - In Apartment

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Toilet Condensation - From Above

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Perimeter Wall Condensation

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Plumbing Leaks/Flooding

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Roof Leaks

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Façade Leaks

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Localized Mold Contamination

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Major Mold Infestation

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Preventing Mold Growth

Simple Steps

- keep exterior moisture out of the building
- control moisture from internal sources

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NYCHA Sustainability Agenda

- NYCHA is committing to systemically eliminating the root causes of mold by fixing leaks in roofs, facades, pipes and modernizing ventilation systems by 2025
- Next Generation NYCHA Sustainability Agenda

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Preventing Mold Growth

- It’s important to establish a cooperative partnership between NYCHA staff and residents so that conditions that require attention are identified and dealt with promptly.
- NYCHA staff and residents should take action to detect and correct leaks, condensation problems, and floods as soon as they are discovered.
- The potential for building structural damage, mold growth, and increased adverse health effects can and should be reduced by limiting the buildup of indoor moisture.

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UPDATED - Top Ten Things NYCHA Staff Should Know About Mold & Moisture

1. Potential health effects and symptoms associated with exposures to mold and excessive moisture include allergic reactions, asthma, and other respiratory complaints.
2. Mold can be found almost anywhere; it can grow on virtually any substance if moisture is present. For example, there are molds that can grow on sheetrock, painted plaster and concrete, wood, paper, carpet, foods, and even dusty inorganic building materials
3. There is no practical way to eliminate all mold and mold spores in the indoor environment; the way to control indoor mold growth is to control moisture.
4. If mold is a problem in an apartment or building, we must clean up the mold and eliminate sources of moisture.
5. Fix the source of the water problem or leak to prevent mold growth, including repairing leaky roofs.

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Top Ten Things NYCHA Staff Should Know About Mold & Moisture

6. Reduce indoor humidity (to 30-60%) to decrease mold growth by: venting bathrooms and kitchens; using air conditioners and de-humidifiers; and increasing ventilation. Staff shall ensure that mechanical ventilation is functioning (clear lateral ductwork and operable roof fans). Further, staff can use a hygrometer to check the relative humidity in a resident's apartment
7. Clean and dry any damp or wet building materials and furnishings within 24-48 hours to prevent mold growth.
8. Clean minor levels off off hard surfaces with water and detergent, and dry completely. Absorbent materials, such as sheetrock, that are moldy will need to be replaced.

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Top Ten Things NYCHA Staff Should Know About Mold & Moisture

9. Prevent condensation: reduce the potential for condensation on cold surfaces by assuring that cold water pipes in wall cavities are properly insulated.
10. If needed as a result of asthma, individuals with mold and/or excessive moisture in their apartments are entitled to reasonable accommodations from NYCHA.

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Your Mold Inspection is Key

To investigate and select the most correct root cause(s):

- Use your years of knowledge and experience to investigate.
- Use your eyes to see what's in front of you.
- Use your words to describe what you see via notes.
- Use two photos to upload and show what you have discovered.

This will ensure that the correct repairs will be done to RESOLVE the issue.

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The Mold Inspection

What YOU do when conducing the inspection is

IMPORTANT!

Take pride in what you do!

Conduct a quality inspection to

select the most correct Root Cause(s)!

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Team Effort!

Good teamwork is the interaction and cooperation of two or more people within an organization.

- Together they produce a combined effect greater than the sum of their separate roles in achieving shared professional goals.
- Good teamwork brings out individual strengths and the best of the team as a whole.

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Pass the Baton

In track and field, the baton is passed to mark a change in runners.

- In maintaining good teamwork, the baton is a symbol to mark the change in who's responsible to lead the work.
- However, unlike a track and field event, the baton can be passed to numerous team members to achieve the greater goal:

To select the most correct root cause in iWM and show support of your selection.

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Mold & Indoor Air Quality

Indoor Air Quality

Q: What's the amount of dust the average amount a U.S. home will collect in a year?

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Indoor Air Quality

Q: What's the amount of dust the average amount a U.S. home will collect in a year?

A: 40 lbs

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Indoor Air Quality

- Air pollution can penetrate the protective layer of our lungs and cause inflammation. This in turn can cause respiratory disease and symptoms such as chest pain and coughing, even among generally healthy individuals.
- Air pollution can impact the cardiovascular system, increasing the risk for heart attacks or blood clots

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Temperature & Humidity

- Temperature
  - High temperatures have been found to enhance health outcomes
- Humidity
  - Mold spores, dust mites and other allergens survive best in high **humidity** environments.

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Air Movement

- Too little air flow causes stuffy and uncomfortable environment;
- May results from resident efforts to control pests, smells & other concerns
- Too much causes draught & excessive cold.
- Adequate ventilation is critical to drying moisture

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Airborne Contaminants

- Bioaerosols (mold spores) transported by wind, ventilation and host.
- Settle on host surfaces and reproduce
- Exposure caused by inhalation & ingestion

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Bioaerosols

are those airborne particles that are living or originate from living organisms. Bioaerosols include micro organisms (i.e, culturable, nonculturable, and dead micro organisms) and fragments, toxins, and particulate waste products from all varieties (species) of living things

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Unit of Measure

- Micron
  - A micron is a measurement equal to one millionth of a meter or 0.00003937
  - Human Hair = 75u
  - Human eye sees 50u

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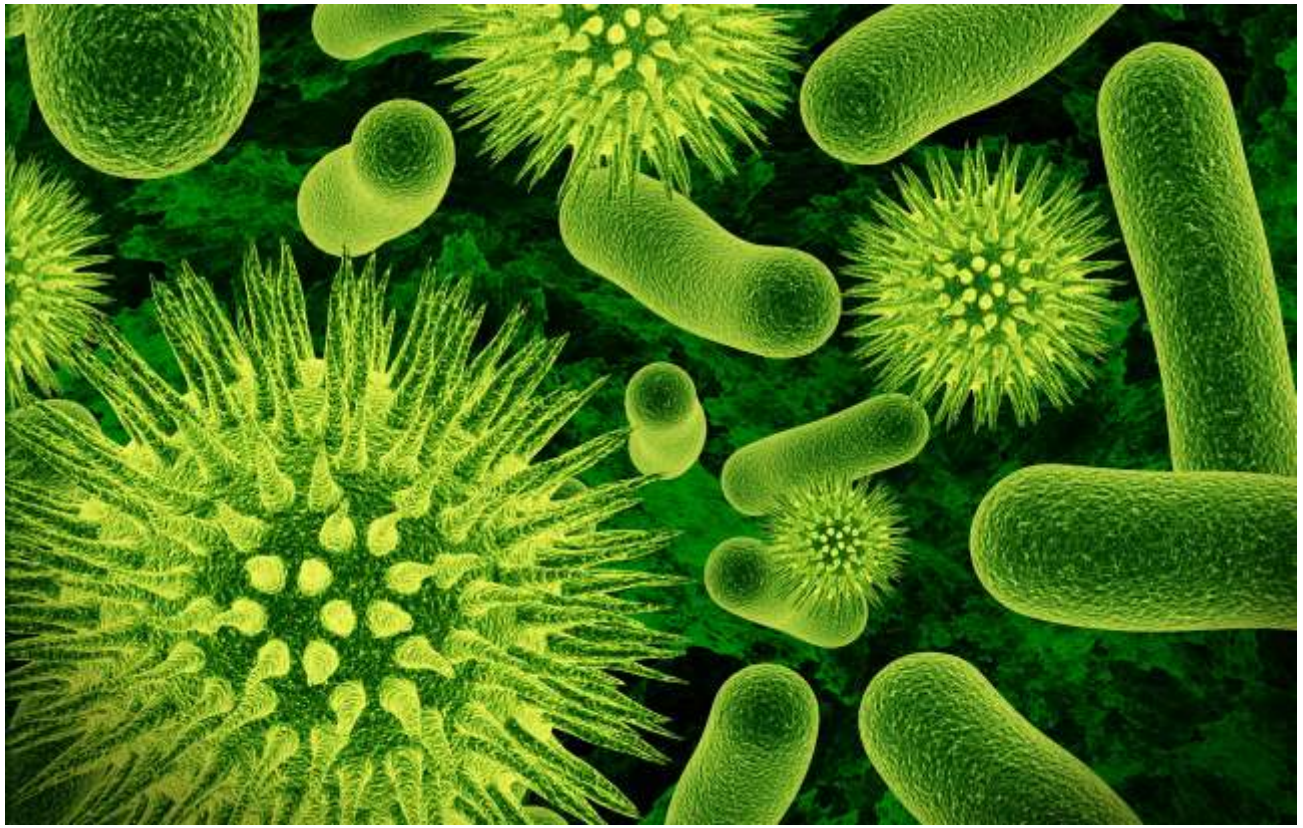
Microbe



- A group of extremely small life forms that are usually visible only with the aid of a microscope

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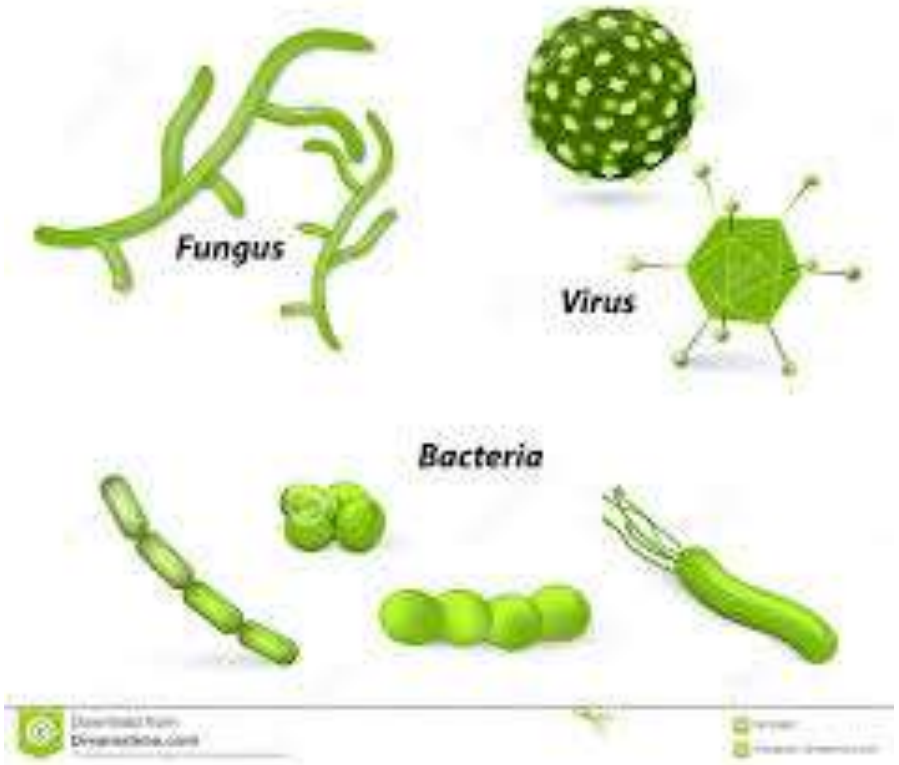
Microbial Organisms

- Viruses
- Bacteria
- Fungi



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Viruses

Viruses are ultra small microbes (.03 to .25 microns).

- A unique characteristic of a virus is that it can only reproduce in a host organism.
- They can remain dormant or they can invade a cell, using it to reproduce additional virus.
- They can be extremely durable.

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Bacteria

Extremely small microbes (.4 to 10 microns).

- Bacteria are everywhere and are necessary to life.
- Some bacteria are saprophytic (feeding on non-living organisms) and others are parasitic (feeding on living organisms).
- In addition they can be aerobic or anaerobic (needing or not needing oxygen to survive).
- Many bacteria found in sewage can grow in low oxygen environments.

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Fungi

Simple, aerobic organisms

- unlike bacteria can grow in low moisture and low pH environments, and have their genetic material bound in a membrane
- unlike plants do not have roots or leaves, do not contain chlorophyll, and do not produce their own food, but obtain nourishment from dead organic matter.

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Industrial Uses for Fungi

- Antibiotics and antifungal products
- Oral contraceptives and steroid production
- Soy Sauce, bread, beer and wine production
- Cheese production (Roquefort and camembert)
- Sausage Production and other food fermentation
- Used in fiber processing to enhance sheen & strength
- Paper production and more

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Fungi

Fungi can be divided into 3 groups;

(1) yeasts, (2) mushrooms and (3) filamentous fungi (molds).

- Most molds consist of cells that are filamentous.
- These cells, called hyphae, collectively form mycelium. Well established growth is referred to as colonization.
- Molds generally reproduce by means of spores, but not all spores are viable.

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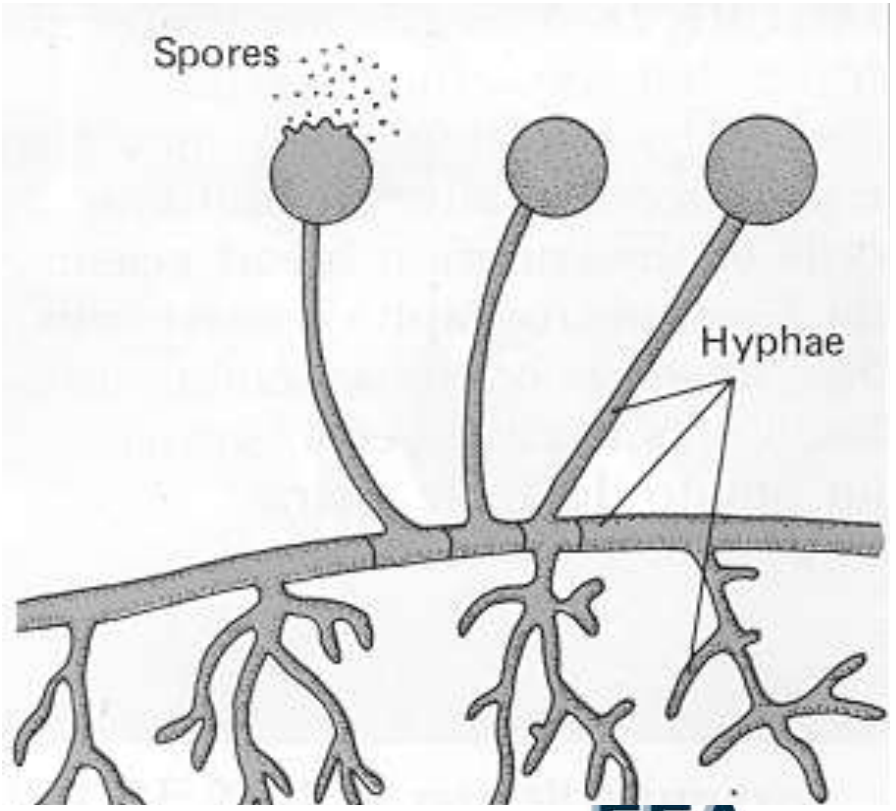
Stachybotrys chartarum

http://www.doctorfungus.org

- **Genus/Species:** *Stachybotrys chartarum*
- **Image Type:** Micro Lab
- **Legend:** Conidia of Stachybotrys chartarum, 1000x
- **Title:**
- **Disease(s):** Environmental infestation

Fungus Body Composition

- Hyphae – body filament
- Mycelium – mass of visual hyphae
- Spores – reproductive structures



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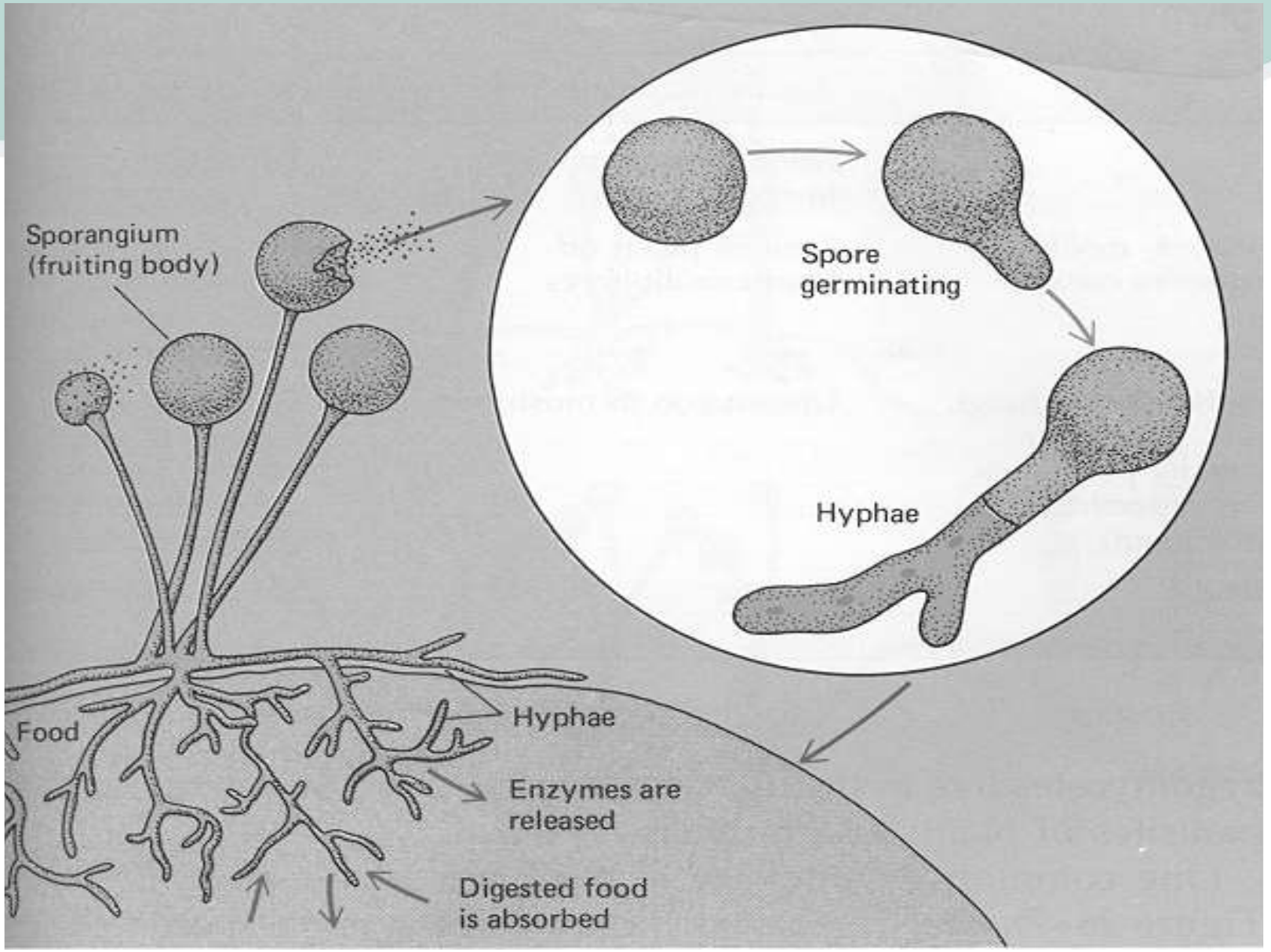

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Microscopic View of Mold Body

Types of Mold

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Penicillium marneffei

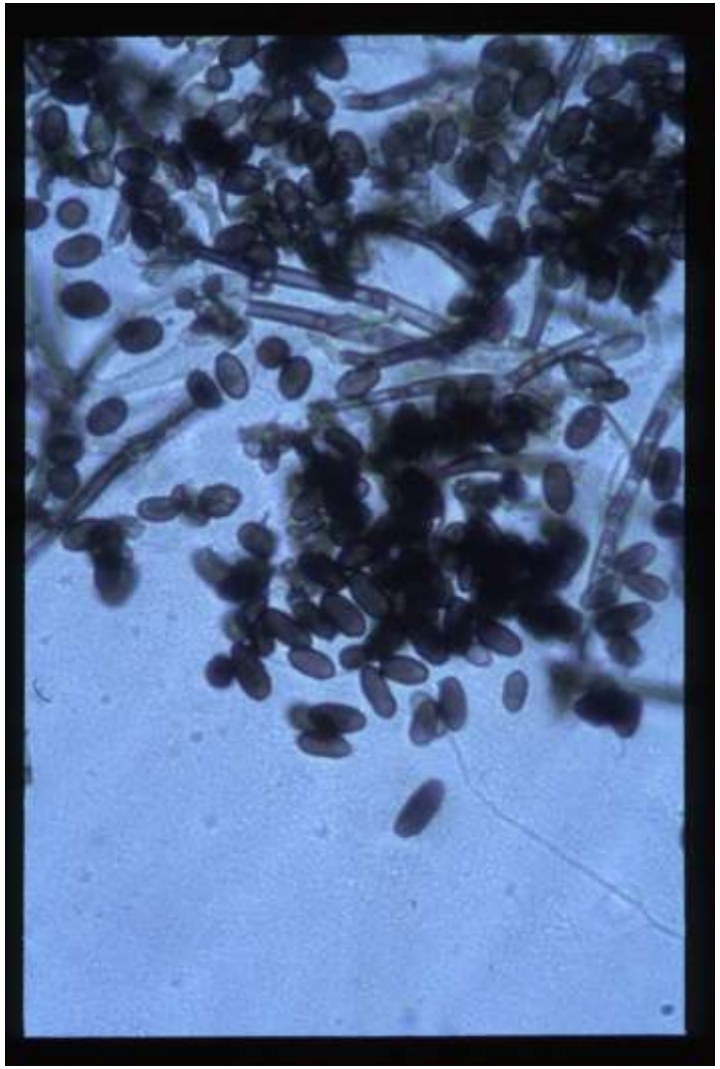
http://www.doctorfungus.org

• **Genus/Species:** *Penicillium marneffei*	• **Title:** Penicillus of Penicillium marneffei
•**Image Type:** MicroLaboratory	• **Disease(s):** Penicilliosis marneffei

• **Legend:** Non branching chains of one-celled conidia arising from phialides. Phase contrast microscopy, 400X.

Stachybotrys chartarum

http://www.doctorfungus.org



- **Genus/Species:** *Stachybotrys chartarum*
- **Image Type:** Micro Lab
- **Title:**
- **Disease(s):** Environmental infestation
- **Legend:** Conidia of Stachybotrys chartarum on a ceiling tile.

NYCHA Mold Inspector

Efflorescence

- Efflorescence is the residue that's left behind when water seeps through concrete, stone, or brick.
- Salt deposits leave a white residue that resembles mold.
- Won't grow or spread, and isn't a fungus.

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Health Effects

Why Is Mold A Problem Today?

- Recent discoveries linking the presence of mold with health problems
- Improved understanding of healthy housing

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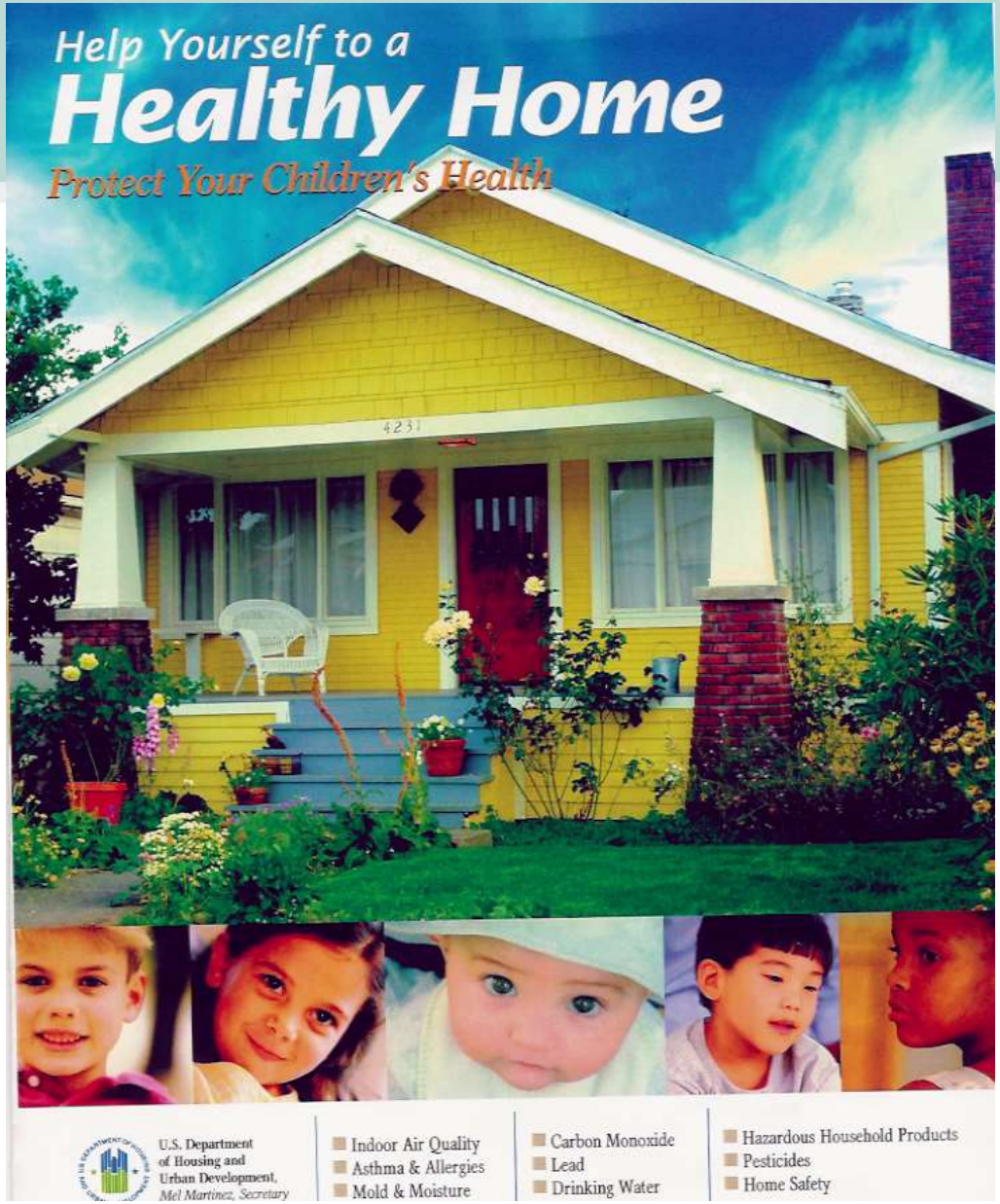

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CASE STUDY

Improved Asthma Control After Remediation of Environmental *Stachybotrys* Contamination

Christopher D. Miller, MD; Susan M. Flappan, MS, CIH; Jay M. Portnoy, MD

INTRODUCTION

Fungal mycotoxins have been implicated in human and animal disease. In this case report, we propose that a non-IgE-mediated mechanism, and probably fungal mycotoxins, were responsible for a worsening of asthma symptoms in a toddler. We also demonstrate the importance of environmental assessment and the effects of environmental remediation.

Figure 1. Walls contaminated with a black, slimy fungus later identified as *Stachybotrys*.

CASE REPORT

A 2-year-old white male with a previous history of asthma was brought to our allergy clinic with asthma symptoms that were not well controlled by his current medical therapy. The most notable symptoms of cough, rhinorrhea, sneezing, ocular irritation, and wheezing first arose when he was 8 months old. His symptoms were perennial and more prevalent in the morning and evening. His family history was negative for atopic disease.

Figure 2. Photomicrograph of *Stachybotrys* isolated from contaminated surface.

On physical examination, the patient appeared to be an active 2-year-old in no apparent distress. He was in the 20th percentile for height and weight and, according to his parents, his growth and development were normal. Physical examination was unremarkable except for pale nasal mucosa. Respiratory wheezing was documented during prior visits to his primary care physician.

Initial workup included prick skin testing, which yielded negative results for molds, cat, dog, dust, cockroach, and dust mite. The patient had appropriate positive and negative controls. His serum IgE was 27 IU/mL, with normal being 0 to 99 IU/mL.

Daily anti-inflammatory treatment consisting of fluticasone delivered through a spacer and mask was started. Long- and short-acting β-agonists were also prescribed for worsening or breakthrough symptoms.

Despite these interventions, the patient's symptoms persisted. Because the initial history revealed water leakage in the basement of his home, it was decided to perform a home environmental assessment—something for which his parents expressed a great deal of enthusiasm.

The patient's home was a 12-year-old, detached, bi-level house in an upper-middle-class suburb. It had a wood-burning fireplace, a central gas forced-air heating system, central air conditioning, and a finished walkout basement with carpeting. Severe water leakage in the basement occurred on two occasions after heavy rainfall. After the first event, the wet carpet pad was removed and the original carpet was reinstalled.

An inspection of the basement identified two areas of wallboard and wood structure with what appeared to be fungal contamination (Figure 1). Surface samples of these areas later revealed numerous fungal species, including *Stachybotrys*, *Chaetomium*, and *Cladosporium* (Figure 2). Air samples, collected with a volumetric grab sampler, revealed elevated spore counts throughout the house (Table 1). In particular, the spore counts were highest in the patient's bedroom and in the playroom located in the basement. *Stachybotrys* spores were also identified in the basement air samples.

It was therefore [illegible] that the patient's asthma symptoms might have been related to his exposure to fungi. However, further testing for *Stachybotrys* showed that the patient's IgG response to the organism was less than 3 µg/mL, with normal being less than 34 µg/mL. His IgE response to *Stachybotrys* was 279 counts, with normal being less than 3,600.

Nevertheless, his family arranged for environmental remediation in the home. This consisted of removing contaminated building materials, cleaning ductwork, steam-cleaning all carpets, using a vacuum cleaner with a high-efficiency particulate-arresting (HEPA) filter, and installing a pleated furnace filter.

The patient's quality of life, assessed with a tool described by Juniper et al,[1] improved dramatically with home remediation (Figure 3). In addition, he was weaned from his anti-inflammatory medications and has remained asymptomatic, with no further wheezing exacerbations and a significant decrease in rhinitis symptoms. Follow-up as

on CASE STUDY, page 32

Table 1
Results of Air Sample Tests (spores/m³)*

	Sample Dates		
	11/13/97	12/11/97	2/12/98
Kitchen	10,000	800	0
Patient's room	11,200	1,600	100
Basement	12,200†	3,600	100

*Spores identified as *Stachybotrys*.

Dr. Miller is an allergy fellow, Dr. Portnoy is Program Director, and Ms. Flappan is an indoor air quality specialist, all at The Children's Mercy Hospital, Section of Allergy, Asthma and Immunology, Kansas City, Mo.

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says Ob-Gyn David Campbell Walters, author of "Just Take It Out!" He says the evolution of the human head has made it too big to fit comfortably into the birth canal. A 1997 study found that 31 percent of female British obstetricians would prefer to deliver their own babies by cesarean.

Vaginal delivery can have serious—and costly—medical consequences. Especially if doctors use mechanical interventions, such as forceps, vacuum extraction or episiotomy, vaginal delivery can increase the risk of lasting problems like gas and urinary incontinence. And long labors—particularly when followed by unplanned C-sections (and lawsuits)—can add thousands to the overall price tag.

Vaginal births after cesareans (VBAC) can be dangerous. Many women with prior cesareans don't want to risk rupturing the uterus during labor, so they often reject the medical establishment's encouragement to undergo a VBAC. "If a woman ruptures her uterus, you have about 17 minutes to have the baby out before you begin to have [brain] damage," says Dr. Roger Freeman, chair of the American College of Obstetricians and Gynecologists task force on cesarean-delivery rates. ACOG said in August of 1999 that a physician should be "immediately" available, not just "readily available," during VBACs. That's not always possible, especially in rural areas. If a clinic isn't equipped to perform VBAC safely, cesarean delivery isn't just a convenience but a practical necessity.

In the end, both sides are half right. Vaginal delivery is the cheaper method of childbirth—and, unlike a cesarean, is not major abdominal surgery. But from the perspective of some Ob-Gyns, restricting a woman's right to choose a form of childbirth makes no more sense than forcing her into the cheaper of two cancer therapies. "In natural childbirth," says Walters, "we don't even mention that there is an alternative. They're not told their bladder is likely to be negatively impacted. They're not told about the possibility of worse sexuality. We are keeping the advantages of cesarean delivery secret."

A cesarean isn't for everyone—and insurance may not cover it if you're doing it just for your own convenience. Talk to your doctor to decide whether a C-section is right for you. Wanting more peace of mind after a previous cesarean or being certain your own doctor is on hand may be reason enough. Just make sure you understand the risks as well as the benefits. ■

YOUR HOME

A Hidden Health Hazard

Sneezing and sniffling? Maybe the problem isn't a cold but mold. It's more dangerous than you think.

BY ANNE UNDERWOOD

DEENA KARABELL HAD LIVED in her New York City apartment for 15 years, so when she fell ill in 1983, she never suspected that her apartment itself could be to blame. Over the next 15 years she grew progressively weaker. Finally, in the spring of 1998, she lost 30 pounds and went into anaphylactic shock three times. She literally lay dying in her bedroom when a hired nurse noticed a strong odor of mold in the closet. Suddenly things clicked. Karabell's family moved her out immediately. Today—at a safe distance from the mold—she is almost back to normal. "People are amazed at my recovery," she says.

Molds have been an underrecognized health problem, but that is changing. Health-care professionals now know that molds can cause allergies, trigger asthma attacks and increase susceptibility to colds and flu. Anyone with a genetic predisposition can become allergic if exposed repeatedly to high enough levels. Last year Dr. David Sherris at the Mayo Clinic performed a study of 210 patients with chronic sinus infections and found that most had allergic fungal sinusitis. "The prevailing medical opinion has been that mold accounted for 6 to 7 percent of all chronic sinusitis," says Sherris. "We found that it was 93 percent—the exact reverse."

More rarely, molds appear to cause problems like Karabell's. These aren't just allergies but reactions to toxins. Certain molds produce poisons in order to kill off competing fungi and bacteria. Risks of toxicity increase with the amount of mold—and flooding and leaks can supply the moisture that molds need to thrive.

If you believe you have a mold-related illness, consult an allergist or an environmental-health specialist. (If you can see or smell mold, that's a good clue.) They will at least be able to confirm the diagnosis and proceed accordingly. The best remedy of all is simply to get rid of the mold. Small blooms on the surface of walls can be removed with a weak solution of chlorine bleach. Wear rubber gloves, open the windows for ventilation and throw out the sponge afterward. A face mask could also be a good idea. "Dead or alive, mold still contains the proteins that provoke allergies," says J. David Miller, a mold specialist at Carleton University in Canada.

If your home has more extensive water damage, remediation may be the only answer. Seek professional help. You need to fix leaks, replace moldy drywall and improve ventilation. Beware of built-in humidifiers in forced-air heating systems. "Molds and slime build up there and never get cleaned out," says Jack Spengler of Harvard. New York City has guidelines on remediation at www.ci.nyc.ny.us/html/doh/html/epi/moldrpt1.html. California state also has fact sheets at cal-iaq.org//iaqsheet.htm to help you to a healthier home environment. ■

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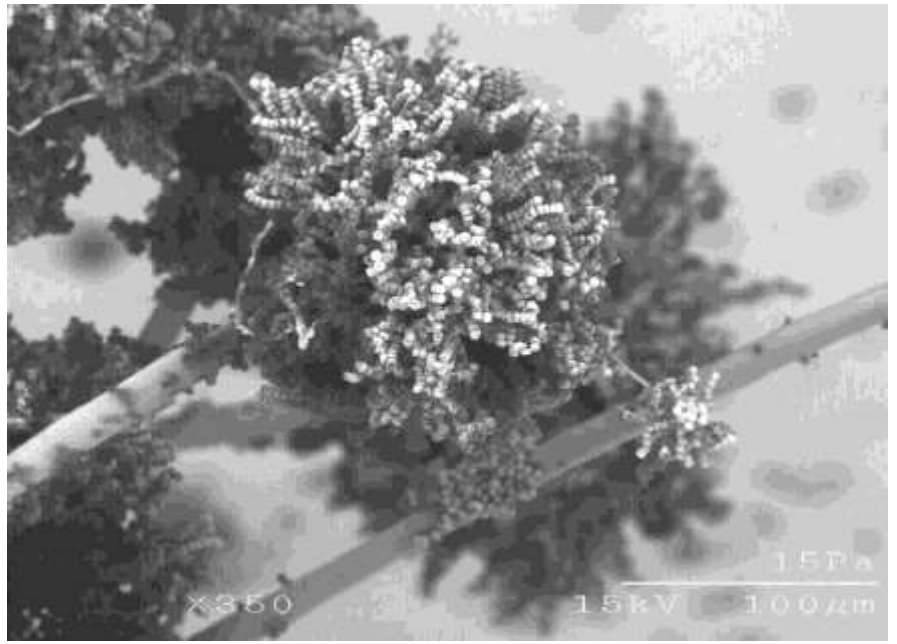
Potential Health Effects

- Allergic reactions/disease
- Irritant effects
- Infections
- Toxic effects



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Exposures To Residential Dampness And Mold

Associated with increased risks of;

- Respiratory symptoms
- Asthma
- Hypersensitivity pneumonitis
- Rhinosinusitis
- Bronchitis
- Respiratory infections.

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Health Effects

- "Breathing Mold Can Cause Health Issues" – IAQ TV

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Mold Exposure Symptoms

- sneezing
- runny nose
- coughing
- wheezing
- watery eyes
- redness of the eyes
- itchy eyes
- skin irritation, or rash

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Allergic Responses

- Reactions can be immediate or delayed.
- Reactions can result from inhaling or touching mold or mold spores.
- Mold spores and fragments, whether dead or alive, can produce allergic reaction in sensitive individuals.
- Repeated or single exposure may cause previously non-sensitive individuals to become sensitive.
- Repeated exposure has the potential to increase sensitivity.

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Allergic Responses

Asthma

- Molds can trigger asthma attacks in persons allergic (sensitized) to molds.
- Asthma is a major problem in New York City. In some low-income parts of New York City, as many as one in four children have asthma.
- What is Asthma? - Khan Institute

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Asthma Prevalence Data

United States

- 20 million - 1 in 15 or 6.7% [1]

New York City

- 813,000 - 1 in 7.5 or 13.5% [2]

East Harlem

- 20,000 - 1 in 5 or 19.6% [2]

1. Asthma and Allergy Foundation of America
2. NYC DOHMH Community Health Survey

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Allergic Responses

Hypersensitivity pneumonitis (HP)

- Rare, but serious, immune-related condition resembling bacterial pneumonia
- May develop after either acute or chronic exposure (via inhalation) to molds
- Usually related to occupational exposure
- Can also be caused by bacteria

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Uncommon Allergic Syndromes

- Allergic bronchopulmonary aspergillosis
- Allergic fungal sinusitis

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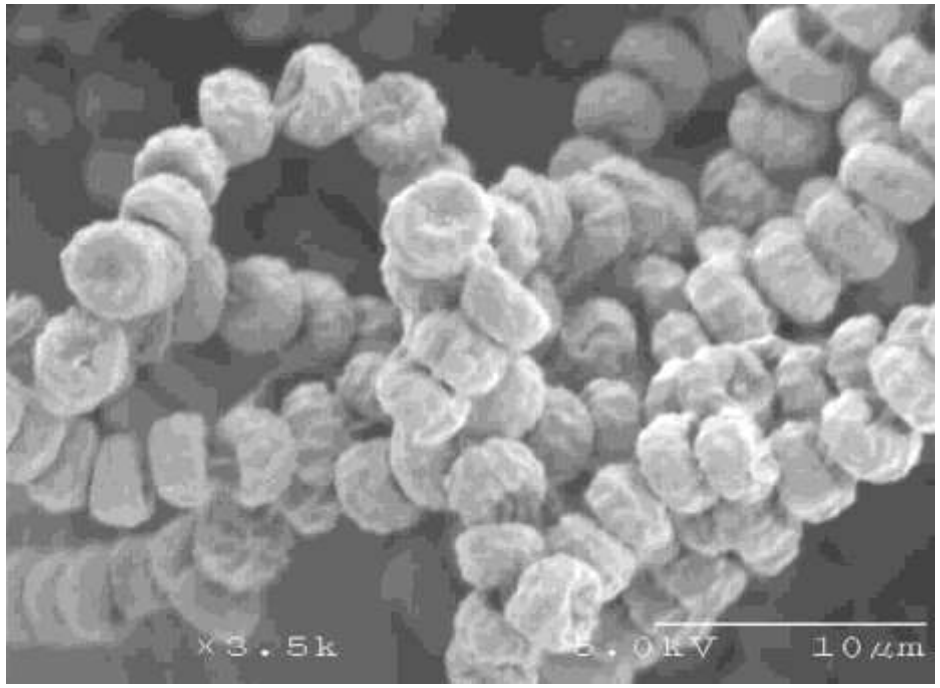
Irritant Effects

- **Irritation of:**
  - Eyes
  - Skin
  - Nose
  - Throat
  - Lungs



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Irritant Effects

Mold exposure can irritate the eyes, skin, nose, throat, and lungs of both mold-allergic and non-allergic people.

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Toxic Reactions

- Some molds can produce toxic substances called mycotoxins.
- Some mycotoxins are on the surface of mold spores; others are within the spore.
- Over 200 mycotoxins have been identified from common molds.

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mVOCs

Microbial Volatile Organic Compounds (aka “mycotoxins”)

- The musty, moldy odors in water-damaged indoor environments are compounds produced by metabolically active bacteria and fungi. …. While health effects have not yet been attributed to MVOC exposures, their presences is an indicator of microbial contamination, and the need for proper remediation practices and the use of appropriate personal protective equipment.

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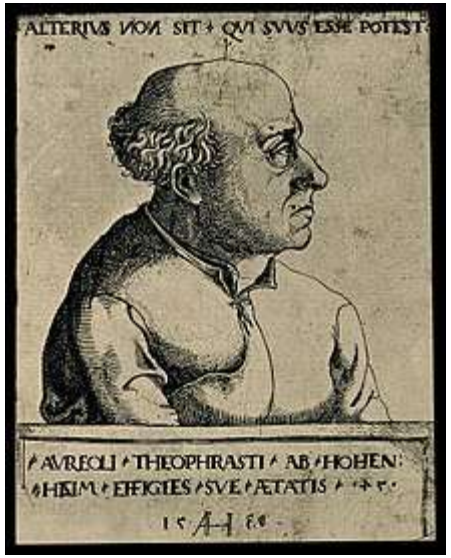
Degrees of Exposure

- "**The dose makes the poison**" (in Latin: ***sola dosis facit venenum***) – Paracelsus (1538 AD)
- a substance can produce the harmful effect associated with its toxic properties only if it reaches a susceptible biological system within the body in a high enough concentration
- Occupants or remediation workers disturbing large areas of mold growth face greater exposure potential, and thus, greater potential for adverse health effects.



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Common-Sense Approach

- **Small amounts of mold growth in homes and buildings are common occurrences, that for the majority of people present minimal health risks.**
  - The solution is to fix the moisture problem and clean up the mold quickly.
- **Large areas of mold growth present a more likely risk of exposure and adverse health effects for some people.**
  - Large areas of mold growth indicate more extensive water damage/moisture intrusion in the building.
  - Additional and more extensive measures should be used during remediation to protect both workers and occupants of the building.

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Health Issues for Workers

- Mold assessment and remediation employees with persistent health problems that appear related to mold should see a physician.
- Referrals to physicians trained in occupational, environmental or allergy medicine may be needed.

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Other Environmental Health Issues

- **During mold remediation projects, workers could be exposed to other substances or hazardous materials that could cause adverse health effects:**
  - Asbestos
  - Lead-based paint
  - High levels of particulates
  - Bacteria (associated with water-damaged materials, floods, sewage backups)
  - Cleaning products/biocides used as part of the projects

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Golden Rule for Mold Exposure Safety

Minimizing mold-related exposures will reduce the possibility of health impacts on occupants and workers.

- As the potential for exposure increases, the need for protective measures increases.
- Workers can reduce exposure potential by proper use of personal protective equipment (PPE).
  - Respirators (Minimum N-95)
  - Gloves
  - Protective clothing
  - Goggles

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NYCHA MOLD TRAINING

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Guidelines & Requirements

Public Awareness

DAILY NEWS

NYC Housing Authority to come under judicial oversight over mold in apartments

A child in a NYCHA apartment with mold on the wall. The New York City Housing Authority will come under federal judicial oversight over mold in apartments, enabling residents to go directly to a federal judge if the agency does not resolve the problem. (Richard Harbus for New York Daily News)

- Receiving Attention
  - Media
  - Medical
  - Legal
- Baez Lawsuit

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Ohio chief justice speaks at seminar about fairness

Ohio Supreme Court Chief Justice Thomas Moyer acknowledges racial unfairness in Ohio's legal system during speech in Cuyahoga Falls.

D4

Local

Election panel allows secret group's TV ad

Ohio Elections Commission panel dismisses complaint against a TV ad opposing Ohio Supreme Court justice.

D3

The Beacon Jo

October 20,

www.ohio.com/b

Mold cleanup starts at apartments

Akron housing authority spending $800,000 to scrub Joy Park complex

By Bob Downing
Beacon Journal staff writer

The Akron Metropolitan Housing Authority will spend an estimated $800,000 to check for and deal with a potentially dangerous greenish-black mold in Joy Park apartment buildings in southeast Akron.

The agency also is in the process of removing the same slimy mold – called stachybotrys – from two of its empty apartments on Copley Road in southwest Akron.

Cleanup of the Copley Road apartments by Cardinal Environmental Services began yesterday, said AMHA Executive Director Tony O'Leary.

The cleanup involves removing carpeting, drywall and any wood that may have been contaminated by the mold, he said.

The mold was discovered in one Copley Road apartment by AMHA staffers after its tenants had moved out. It also was found in an area damaged by a leaky pipe in a second empty apartment in the same building.

No complaints were filed by the tenants, although the mold was "pretty obvious . . . and suspicious," O'Leary said.

The work at Joy Park, expected to begin Nov. 13, will include checking 73 empty buildings for the mold behind the walls and removing it, O'Leary said. In addition, new waterproof wallboard will be installed in the buildings to reduce the likelihood that the mold will come back.

"It's not yet resolved," he said of the mold problem. "It's something we're still working on very actively."

AMHA officials met yesterday with contractors, and bids for the Joy Park mold abatement work will be opened Oct. 31, O'Leary said.

The housing authority owns 41 buildings with 200 apartments at Joy Park: the 23 where the mold work will be done, two empty buildings to be razed and 16 occupied buildings, said construction manager Tom Gilbert.

He said the agency is unaware of any mold problems or complaints from tenants in the cupied and recently reno buildings.

AMHA intends to che mold in the occupied bui after the agency gets a idea of the scope of the pr in the empty buildings, O said.

He said the AMHA h knowledge that any Joy Pa idents have been exposed mold.

Please see Mo

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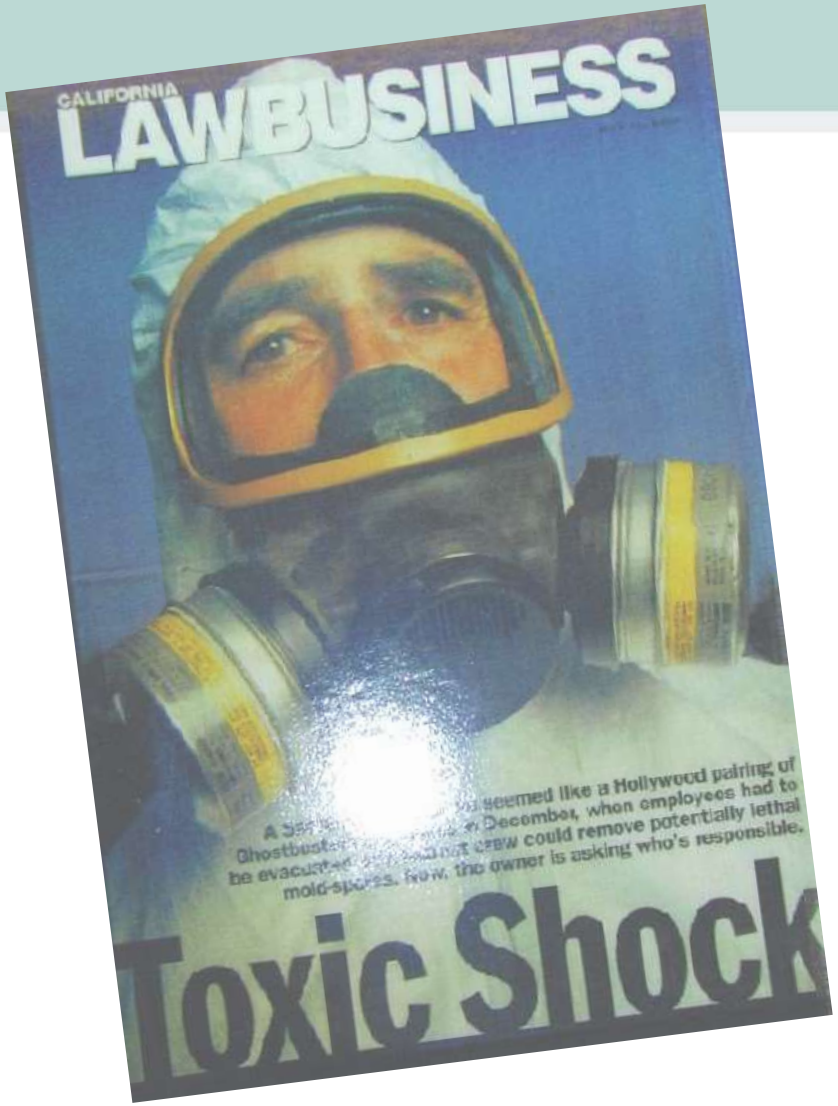

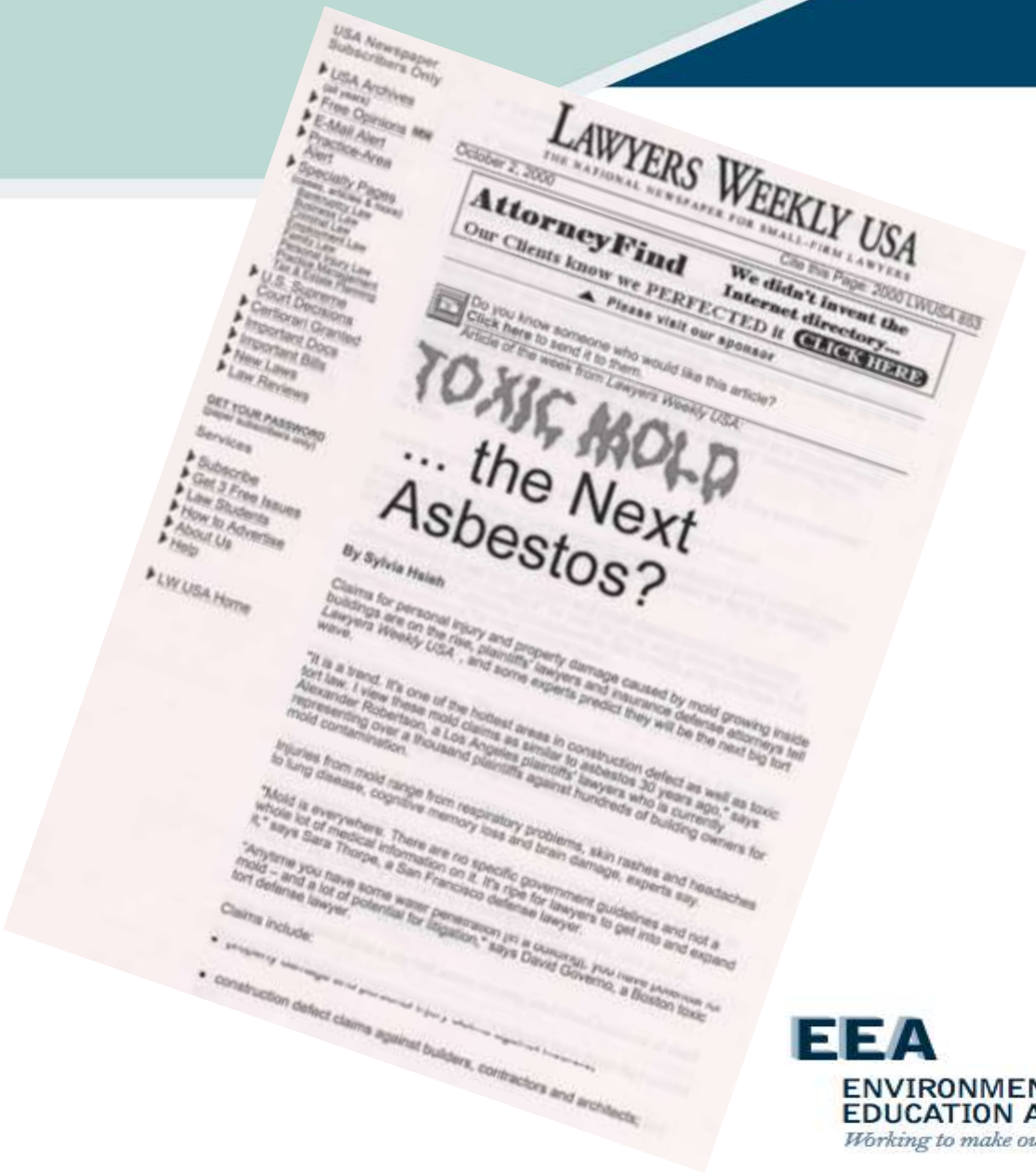

LAWYERS WEEKLY USA
THE NATIONAL NEWSPAPER FOR SMALL-FIRM LAWYERS

October 2, 2000

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Article of the week from Lawyers Weekly USA:

TOXIC MOLD ... the Next Asbestos?

By Sylvia Hsieh

Claims for personal injury and property damage caused by mold growing inside buildings are on the rise, plaintiffs' lawyers and insurance defense attorneys tell Lawyers Weekly USA , and some experts predict they will be the next big tort wave.

"It is a trend. It's one of the hottest areas in construction defect as well as toxic tort law. I view these mold claims as similar to asbestos 30 years ago," says Alexander Robertson, a Los Angeles plaintiffs' lawyers who is currently representing over a thousand plaintiffs against hundreds of building owners for mold contamination.

Injuries from mold range from respiratory problems, skin rashes and headaches to lung disease, cognitive memory loss and brain damage, experts say.

"Mold is everywhere. There are no specific government guidelines and not a whole lot of medical information on it. It's ripe for lawyers to get into and expand it," says Sara Thorpe, a San Francisco defense lawyer.

"Anytime you have some water penetration in a building, you have the potential for mold – and a lot of potential for litigation," says David Governo, a Boston toxic tort defense lawyer.

Claims include:

- [illegible]
- construction defect claims against builders, contractors and architects;

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DENNIS McCOY / SACRAMENTO BUSINESS JOURNAL

Tom Anderson, with son Alan, said Allstate offered $17,300 to do $30,000 in home repairs

Mold verdict: $18 million

KELLY JOHNSON / STAFF WRITER

A federal court jury in Sacramento on Tuesday awarded a 96-year-old Placerville man $18 million in punitive damages in his bad-faith insurance claims-handling lawsuit against Allstate Insurance Co.

"Allstate could have repaired my house for a little over $30,000 to start with," Tom Anderson said after the decision.

Allstate, the nation's second-largest home and car insurer, plans to appeal.

Anderson's house was damaged more than 3½ years ago when a water pipe burst and mold took hold throughout the modest structure. He rejected Allstate's offer of $17,300 to repair the house and sued Allstate in July 1999.

"Thank God it's over," he said Tuesday.

Anderson won't collect any money while the case is on appeal. "Usually it's a two- to three-year process," said Ron Haven of the plaintiff's law firm, Shepard & Haven, in Sacramento. Anderson's lead attorney was Stan Parrish.

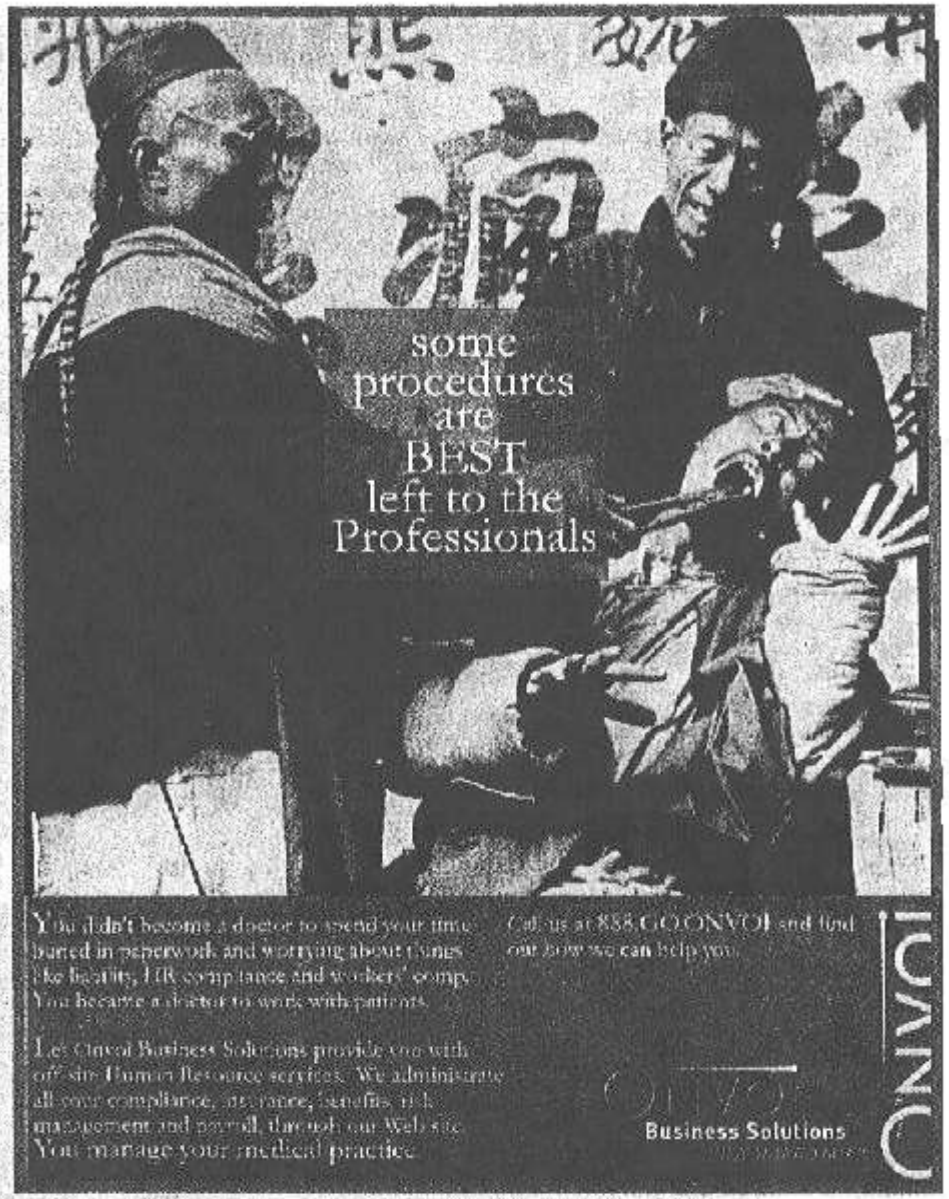
son said, he had killed down the mold, but didn't eliminate it. Now the house must be torn back down to the frame.

At trial, an Allstate expert disagreed.

Tom Anderson, who has been living with his son, misses his own home, yard and neighbors.

A year ago Alan Anderson figured that Allstate was waiting for his father to die because the bad-faith lawsuit would have died with him. Now, if Tom Anderson were to die before the appeal is decided, the economic and punitive damages would remain, while the non-economic damages would be lost, Haven said.

"It is a big victory," Alan Anderson said, "for the little guy."



CB Richard Ellis

NAVIGATING A NEW WORLD℠

"Bringing CB Richard Ellis in to help plan and coordinate our corporate cam ject was

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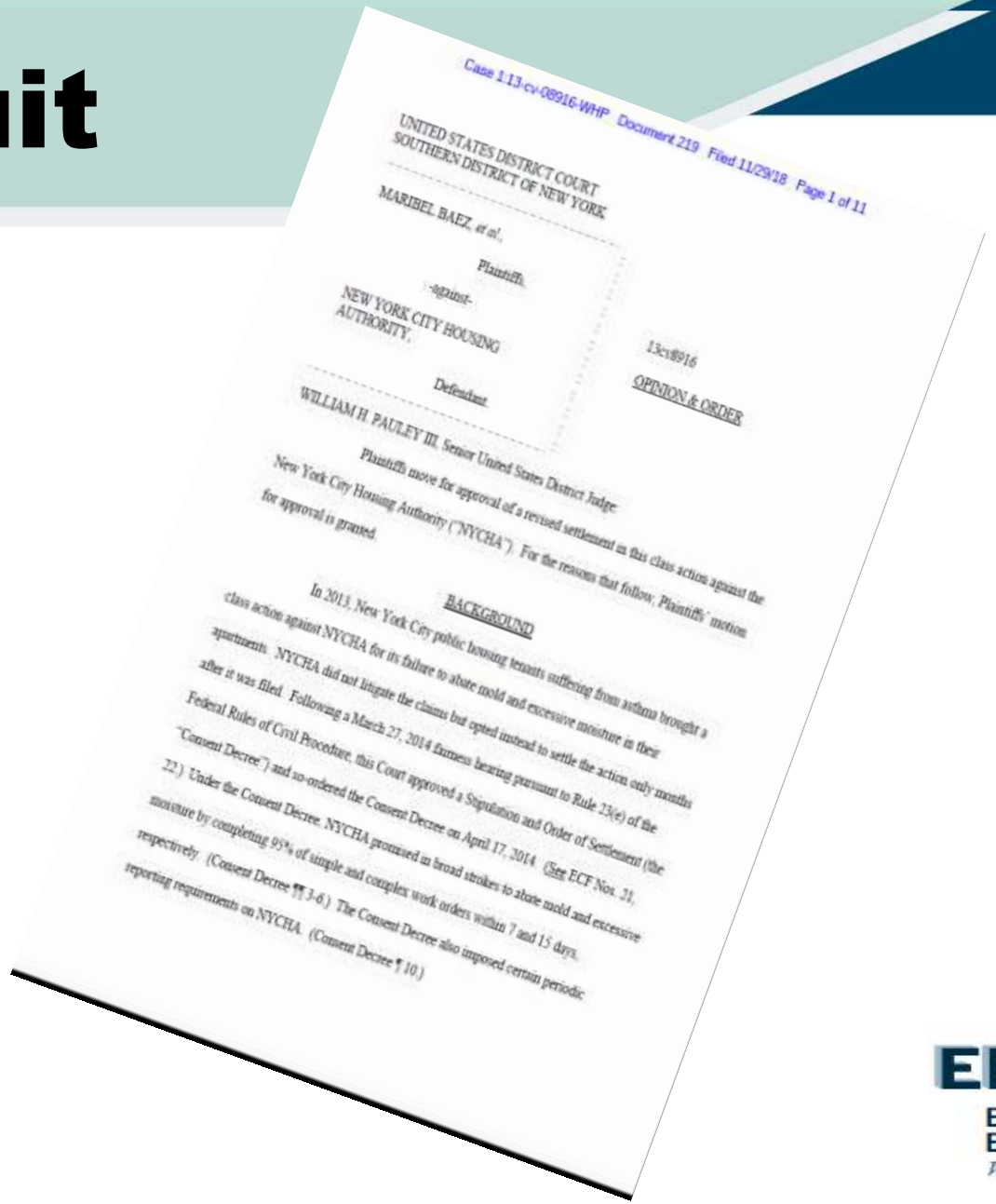
Baez Lawsuit

Maribel Baez vs NYCHA (“Baez”) is a class action lawsuit filed December 2013, as a violation the Americans with Disabilities Act for the conditions of mold and excessive moisturefor residents suffering from asthma.



Case 1:13-cv-08916-WHP Document 219 Filed 11/29/18 Page 1 of 11

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

MARIBEL BAEZ, *et al.*,

Plaintiffs,

-against-

NEW YORK CITY HOUSING AUTHORITY,

Defendant.

13cv8916

OPINION & ORDER

WILLIAM H. PAULEY III, Senior United States District Judge:

Plaintiffs move for approval of a revised settlement in this class action against the New York City Housing Authority ("NYCHA"). For the reasons that follow, Plaintiffs' motion for approval is granted.

BACKGROUND

In 2013, New York City public housing tenants suffering from asthma brought a class action against NYCHA for its failure to abate mold and excessive moisture in their apartments. NYCHA did not litigate the claims but opted instead to settle the action only months after it was filed. Following a March 27, 2014 fairness hearing pursuant to Rule 23(e) of the Federal Rules of Civil Procedure, this Court approved a Stipulation and Order of Settlement (the "Consent Decree") and so-ordered the Consent Decree on April 17, 2014. (See ECF Nos. 21, 22.) Under the Consent Decree, NYCHA promised in broad strokes to abate mold and excessive moisture by completing 95% of simple and complex work orders within 7 and 15 days, respectively. (Consent Decree ¶¶ 3-6.) The Consent Decree also imposed certain periodic reporting requirements on NYCHA. (Consent Decree ¶ 10.)

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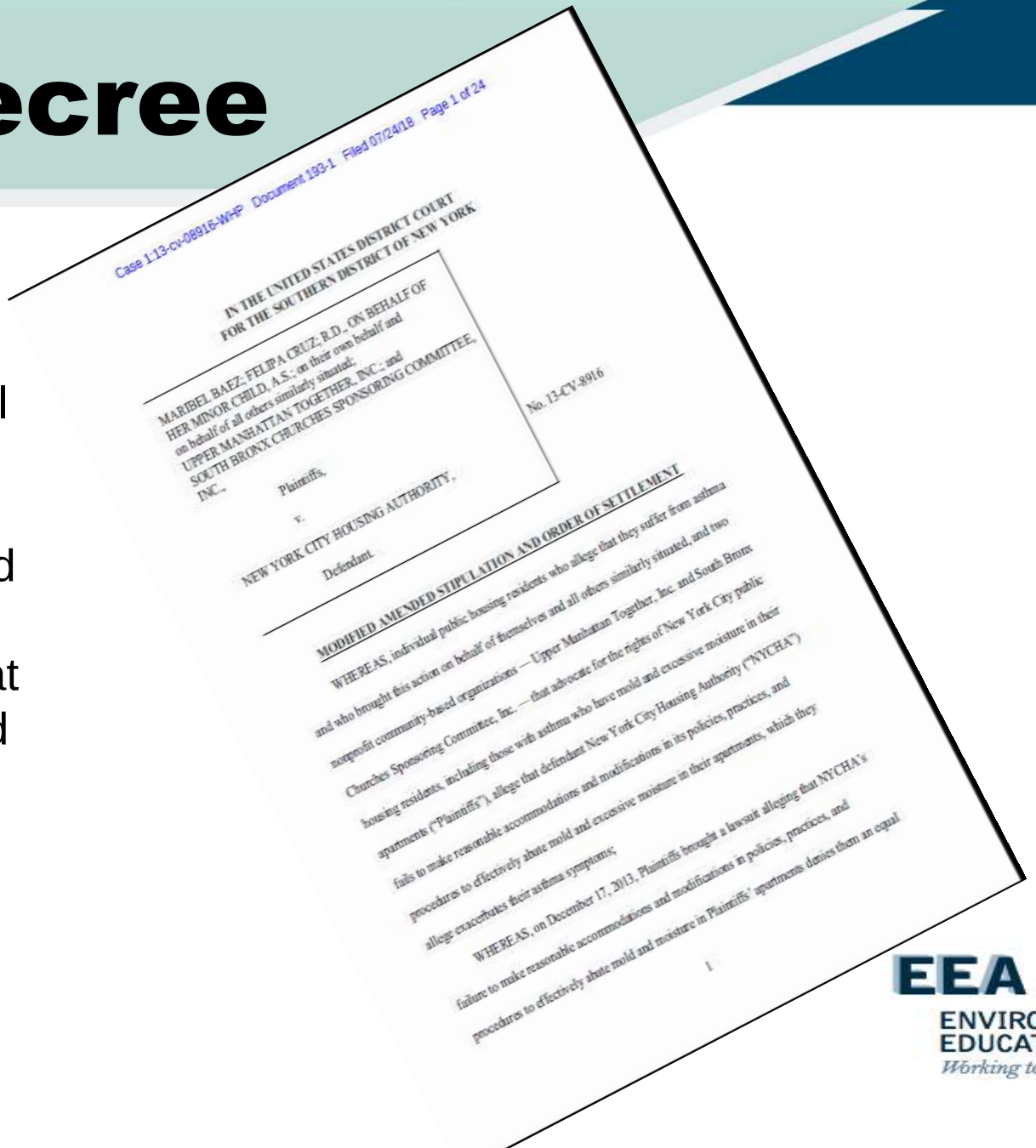
Consent Decree

- In partnership with the Special Master and Plaintiffs, NYCHA has revised its standard procedure for addressing mold complaints.
- These changes were piloted at 38 developments in 2017, and will be launching citywide in January 2019



Case 1:13-cv-08916-WHP Document 193-1 Filed 07/24/18 Page 1 of 24

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK

MARIBEL BAEZ, FELIPA CRUZ, R.D., ON BEHALF OF HER MINOR CHILD, A.S.; on their own behalf and on behalf of all others similarly situated; UPPER MANHATTAN TOGETHER, INC.; and SOUTH BRONX CHURCHES SPONSORING COMMITTEE, INC.,

Plaintiffs,

v.

NEW YORK CITY HOUSING AUTHORITY,

Defendant.

No. 13-CV-8916

MODIFIED AMENDED STIPULATION AND ORDER OF SETTLEMENT

WHEREAS, individual public housing residents who allege that they suffer from asthma and who brought this action on behalf of themselves and all others similarly situated, and two nonprofit community-based organizations — Upper Manhattan Together, Inc. and South Bronx Churches Sponsoring Committee, Inc. — that advocate for the rights of New York City public housing residents, including those with asthma who have mold and excessive moisture in their apartments ("Plaintiffs"), allege that defendant New York City Housing Authority ("NYCHA") fails to make reasonable accommodations and modifications in its policies, practices, and procedures to effectively abate mold and excessive moisture in their apartments, which they allege exacerbates their asthma symptoms;

WHEREAS, on December 17, 2013, Plaintiffs brought a lawsuit alleging that NYCHA's failure to make reasonable accommodations and modifications in policies, practices, and procedures to effectively abate mold and moisture in Plaintiffs' apartments denies them an equal

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NYCHA Mold Busters

- **Better Tools**
  - Staff will use new tools to find and fix the source of the problem, including moisture meters and new mold-fighting paint.
- **Enhanced Training**
  - Staff will receive additional hands-on training to become successful Mold Busters.
- **More Accountability**
  - A new inspection and recording process requires photos of the affected areas and guides the staff through the process of finding the cause of the mold or moisture problem. NYCHA will also inspect apartments after the work is completed to ensure that the staff has properly fixed the condition, and there is no mold.

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NYCHA Tech Service Mold Unit

- Coordinate classroom training for over 2,500 operations staff, including property management and front line staff.
- Conduct field training to ensure adherence to Mold Standard Procedure and process.
- Facilitate distribution of all Mold Busters tools.
- Communicate with all NYCHA residents.
- Coordinate and prioritize mold work order scheduling to streamline repairs.

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NYCHA Purpose

- Standard Procedures establish responsive measures to mold and its root causes in NYCHA public housing locations, and creates protocols to protect the health of residents and staff when remediating mold and identifying and correcting its root causes.

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Standard Procedures - Inspections

All inspection work must conform to the protocols in the following documents:

- GM 040:14:1, Mold/Mildew Control in NYCHA Residential Buildings
- NextGeneration NYCHA Informer Work Management (iWM) handheld application

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Standard Procedures - Remediation

All remediation & related maintenance work must conform to the protocols in the following documents:

- GM 040:14:1, Mold/Mildew Control in NYCHA Residential Buildings, including Appendix A – Remediation Methods
- SP 040:18:2 Revised, Maintenance Tasks – Dust Control and Clean Up in Apartments, which establishes Work Area Preparation/Performance Levels
- Interim Guidance on Wall Breaks
- Interim Guidance on Pipe Insulation

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Training Requirements

- Inspector (32 hrs) - Training on inspection tools and methods as well as conducting and documenting inspections
  - Directors, Neighborhood Administrators, Housing Managers, Resident Building Superintendents, and Assistant Resident Building Superintendents
- Building Sciences (16 hrs) - Training on identifying the root causes of mold and on the methods to correct the root causes to prevent the reoccurrence of mold.
  - Directors, Neighborhood Administrators, Housing Managers, Resident Building Superintendents, Assistant Resident Building Superintendents, and Maintenance Workers
- Remediation Methods (8 hrs) -Training on how to safely and effectively remediate mold and its root causes.
  - Skilled Trades, Painters, and Caretaker (P)

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Performance Metrics

- Average number of days to complete repairs and close mold work orders.
- Average number of days to complete initial inspections.
- Percent of mold work orders for reoccurring mold.

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Non-compliance

- If unsatisfactory work is identified during a quality assurance inspection in Section VIII.H, or at any other time, supervisory staff must take one or more of the following actions:
  - Identify areas for follow up training for the employee and ensure training is scheduled and provided.
  - Reinforce with the employee(s) the job expectations, accountabilities, and the progressive discipline process.
- Failure to comply with the requirements of this Standard Procedure may result in disciplinary actions.

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Other Agency Guidelines

New York City Department of Health and Mental Hygiene “Guidelines on Assessment and Remediation of Fungi in Indoor Environments” – 2008

- Environmental Assessment
  - Visual Inspection
  - Environmental Sampling
- Communication with Building Occupants

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Other Agency Guidelines

New York City Department of Health and Mental Hygiene “Guidelines on Assessment and Remediation of Fungi in Indoor Environments” – 2008

- Remediation
  - Moisture Control and Building Repair
  - Worker Training
  - Cleaning Methods
  - Quality Assurance Indicators
  - Restoring Treated Spaces

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Other Agency Guidelines

New York City Department of Health and Mental Hygiene “Guidelines on Assessment and Remediation of Fungi in Indoor Environments” – 2008

- Remediation Protocol
  - Small Isolated Areas (less than 10 square feet) – e.g. ceiling tiles, small areas on walls
  - Medium-Sized Isolated Areas (10 – 100 square feet)
  - Large Areas (greater than 100 square feet in a contiguous area) – e.g. on separate walls in a single room

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Other Agency Guidelines

EPA Mold Remediation in Schools and Commercial Buildings – 2008

- Mold Remediation – Key Steps
- Plan the Remediation Before Starting Work
- Remediation Planning
- HVAC System

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Other Agency Guidelines

EPA Mold Remediation in Schools and Commercial Buildings – 2008

- **Remediation**
  - Table 1: Water Damage – Cleanup and Mold Prevention
  - Table 2: Mold Remediation Guidelines
  - Cleanup Methods
  - Personal Protective Equipment (PPE)
  - Containment
  - Equipment

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NYS Article 32

- Signed by Governor January, 2015
- Establishes certification and licensing program with fees
- Provides for accreditation of training providers
- Establishes standards for assessment & remediation
- Defines best practices & procedures
- Serves as the basis for this training

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NYS Article 32

- Enforced by NYS Dept of Labor Division of Safety & Health
- Assigns Roles & Responsibilities
  - Mold Assessors
  - Mold Remediation Contractors
  - Mold Abatement Supervisors
  - Mold Abatement Workers

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NYS Article 32

Establishes Standards for:

- Mold Remediation Plans by Assessors
- Mold Remediation Work Plans by Contractors
- Post–remediation Assessment by Assessors

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NYS Article 32

EXEMPTIONS

- A residential property owner who performs mold inspection, assessment, remediation, or abatement on his or her own property;
- A non-residential property owner, or the employee of such owner, who performs mold assessment, remediation, or abatement on an apartment building owned by that person where the property has four or less dwelling units;
- An owner or a managing agent or a full-time employee of an owner or managing agent who performs mold assessment, remediation, or abatement on commercial property or a residential apartment building of more than four dwelling units owned by the owner. This exemption will not apply if the managing agent or employee engages in the business of performing mold assessment, remediation, or abatement for the public; and
- **A federal, state or local governmental unit or public authority and employees thereof that perform mold assessment, remediation, or abatement on any property owned, managed or remediated by such governmental unit or authority.**

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NYCHA MOLD TRAINING

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NYCHA Standard Procedures – Staff Responsibilities

Office of Mold Assessment & Remediation (OMAR)

1. Monitor key development-level mold-related indicators including, but not limited to, parent mold work order completion time frames, and mold reoccurrence and unfounded inspection rates.
2. Perform random inspections at developments with high rates of mold reoccurrence or unfounded inspections and report findings to the Neighborhood Administrators.
3. Monitor the efficiency of mold work order scheduling and provide follow up recommendations to the Neighborhood Administrators or skilled trades deputy director, as applicable.

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Property Management

Property management department director shall:

a) Monitor key development-level mold-related indicators including, but not limited to, scheduled appointments, parent mold work order completion time frames, and mold reoccurrence and unfounded inspection rates.
b) Assign supervisory staff to perform random inspections at developments, as needed.

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Property Management

Neighborhood Administrator shall:

a) Monitor development property management operations and hold property managers and property maintenance supervisors accountable for monitoring all mold related work orders in Maximo and addressing conditions in compliance with protocols established for remediating mold and identifying and correcting root causes.
b) Investigate and respond to inspection reports prepared by centralized performance management staff.

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Property Managment

The Property Management Department skilled trades deputy director shall assign skilled trades or Planning Unit staff to assist with initial inspections when development inspectors are unable to determine the probable root cause of mold or a related condition.

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Borough Scheduler

The Borough Scheduler shall:

a. Review the Maximo scheduled appointments screen daily.
b. Monitor Maximo daily for new parent mold and quality assurance inspection work orders.
c. Monitor Maximo for the timely completion of parent and child mold work orders and immediately address delays

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Borough Scheduler

The Borough scheduler shall:

Ensure immediate scheduling of parent and child work orders to prevent delays.

1) Initial inspections must be scheduled for a date no more than 4 calendar days after the date of the parent work order creation.
2) Schedule child work orders for simple repairs to be completed by Property Management within 7 days.
3) Quality assurance inspections must be scheduled and completed between 30-45 days after the last child work order is closed

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Borough Scheduler

The Borough scheduler shall:

a. Assign in Maximo the property maintenance supervisor, assistant property maintenance supervisor, or property manager to work orders to conduct initial and quality assurance inspections.
b. Identify and schedule all work orders with the status of Waiting To Schedule and Failed to Schedule.
c. Reschedule appointments for mold related work orders as needed.
d. Coordinate the scheduling of skilled trades workers with the Property Management Department Planning Unit skilled trades administrator; the director of the Maintenance, Repair & Skilled Trades Department; and the Healthy Homes Lead Hazard Control Department Abatement and Clearance Unit.

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Property Management

Property manager shall:

a) Closely monitor the customer service delivery aspects of this Standard Procedure to ensure NYCHA's commitments to residents are addressed.
b) Work closely with the property maintenance supervisor to ensure that property management staff:

- Address all work orders with the status Waiting To Schedule and Failed To Schedule.
- Reschedule appointments for mold related work orders as needed.
- Record resident outreach attempts in the Tenant Data System (TDS).

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Property Management

Property maintenance supervisor shall:

a) Review and print the Maximo scheduled appointments screen daily.

b) Monitor Maximo daily for new parent mold and quality assurance inspection work orders and ensure immediate scheduling of parent and child work orders to prevent delays:

- Initial inspections must be scheduled for a date no more than 4 days after the date of parent work order creation.
- Quality assurance inspections must be scheduled and completed between 30-45 days after the last child work order is closed.

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Property Management

<u>Property maintenance supervisor</u> shall:

c) Monitor Maximo for the timely completion of parent and child mold work orders and immediately address delays.
d) Coordinate the scheduling of skilled trades workers with the supervisor of the Property Management Department Planning Unit and Environmental Field Operations in the Maintenance, Repairs and Skilled Trades Department.
e) Conduct mold initial inspections and quality assurance inspections.

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Property Management

The assistant property maintenance supervisor shall perform the tasks directly above in addition to the property maintenance supervisor.

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Maintenance Staff

- Accompanies inspectors on the initial inspection, or to be on call, to immediately remediate mold and related conditions or to identify and correct root causes, when possible.
- Must bring an anemometer, a borescope and tools appropriate for making wall-breaks, and a HEPA vacuum. If a wall break is required, the inspector must conduct the wall break with the assistance of a maintenance worker as part of the initial inspection.
- Completes child work orders for vent cleaning, roof fan repairs and other maintenance tasks.
- All simple repairs must be completed within 7 calendar days from the date the parent mold work order was created.

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Caretaker X

- NYCHA is expanding the square footage to which Caretaker X staff may be assigned to remove mold at selected developments (June 30, 2021)
- Responsibility to Remove up to 20 Square Feet of Mold
- Only Caretaker Xs who have received RRP training and hold a valid Certified Renovator credential may perform this work whenever the size of the work area exceeds 2 square feet.

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Property Management

The Property Management Department Planning Unit supervisor shall schedule skilled trades workers for mold related work in coordination with the property maintenance supervisor or assistant property maintenance supervisor.

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Skilled Trades Department

- Completes root cause repairs according to trade
- Utilizes Remediation Methods per SP 040:14:1 (Appendix A)
- Complex repairs must be completed within 15 calendar days from the date the parent mold work order was created.

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Maintenance, Repair & Skilled Trades Department

The director shall

a. Monitor MRST skilled trades administrators and MRST skilled trades supervisors and hold them accountable for monitoring all mold-related work orders in Maximo and addressing conditions in compliance with protocols established for remediating mold and identifying and correcting root causes.
b. Respond to recommendations from the Office of Mold Assessment & Remediation.

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Maintenance Repairs and Skilled Trades Department

The supervisor of Environmental Field Operations shall oversee staff for large remediation jobs and coordinate scheduling work with the property maintenance supervisor or assistant property maintenance supervisor.

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Lead Hazard Control Department

The supervisor of the Abatement and Clearance Unit shall oversee staff for large remediation jobs and coordinate scheduling work with Environmental Field Operations in MRST and the borough scheduler

NOTE: Once abatement work is complete, Property Management Department staff is responsible for coordinating and scheduling remaining repairs.

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Employees Who Remediate or Correct the Root Causes of Mold

- Employees shall follow the protocols in Mold & Mildew Standard Procedure, as applicable, when remediating mold and related conditions or correcting probable root causes.

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All NYCHA Employees Performing Work in Apartments

Any employee performing work in a resident apartment that observes a mold condition shall create a parent mold work order either on the handheld device or submit a paper mold work order to the property management office.

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SP-Update – Reasonable Accommodations

- If needed as a result of a medical disability or a breathing or respiratory disorder including asthma, residents in apartments with mold and/or excessive and/or uncontrolled moisture conditions are entitled to reasonable accommodations from NYCHA. Such accommodations may include, but are not limited to, the following:
  a. The right to install and operate an additional air conditioning unit in their apartment if the electrical system permits an additional unit;
  b. Temporary relocation during mold and moisture remediation;
  c. Permanent relocation to other NYCHA housing if the apartment is uninhabitable and another apartment is available;
  d. The use of enhanced dust suppression methods during mold remediation.

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SP-Update – Reasonable Accommodations

- Property management staff or CCC customer information representatives must check the “reasonable accommodation” flag on the Maximo mold work order or Siebel service request if a resident asks for a reasonable accommodation.
- See Standard Procedure 040:12:1, Reasonable Accommodations in Housing for Applicants, Public Housing Residents, and Section 8 Voucher Holders, to learn more about the responsibilities of NYCHA staff to review reasonable accommodation requests, and the applicable terms, forms, and policies for reasonable accommodations.

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Visual Inspections

Mold Inspections Standard Procedures

On the scheduled date provided on the parent mold work order, the inspector visits the resident's apartment to:

- inspect the mold condition
- identify the probable root cause(s)
- determine appropriate next steps to remediate the mold, any related conditions, and correct the root cause(s).

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Initial Inspection

The initial mold inspection is the most important part of the mold removal process. This is where a mold inspectors skill, knowledge & training come into play

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Mold Evaluation & Testing Practices

Should:

- Focus on **presence** and **location** of mold.
- Determine the **extent** (of hidden mold),and **origin** (cause) of mold.

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Direct Observation

Efforts should focus on areas where there are signs of liquid moisture or water vapor (humidity), are present or where moisture problems are suspected.

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Mold Evaluation & Testing Practices

Includes:

- Determinations if any leaks were found or are still active.
- Recommendations as to where mold remediation should be performed (**Location** of mold), and the **Extent** of remediation required (sq ft).
- Pictures of the problems & problem areas.
- Determination of Hidden Mold in Walls.

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Step 1 - Walk-Through Inspection

- Visual, non-destructive inspection
- A careful walk-through inspection will include close observation of accessible interior surfaces using common inspection tools, notes and photographs.

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Step 1 - Walk-Through Inspection

- Investigate any noticeable odors or visible evidence of fungal growth, and any blisters, stains, corrosion, deterioration, or discoloration that might indicate water intrusion or condensation problems

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Step 1 - Walk-through Inspection: Where to Look

All surfaces should be closely inspected, especially:

- seams and crevices along the base of walls
- edges of carpets
- seams of wall fabrics
- the base of all window and door jambs
- tops of walls
- joints in ceiling materials
- airstream surfaces of accessible air conditioning or humidification equipment

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Step 1 - Walk-through Inspection: Where to Look

- Organic substrates wetted by water are the most common amplification sites, but even elevated relative humidity or dust on hard surfaces might support growth.
- The inspector should first look for any evidence of liquid water from leaks or condensation.

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Step 2 - Invasive Inspection and Investigation : Ventilation

Inspection should include ventilation systems where present.

- Dirty ventilation grills & ducts might be the source of contamination, or the means of its distribution between spaces, or might indirectly contribute to the concentration of indoor air contaminants by providing inadequate ventilation.

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Ventilation Ducts

Debris build up is common and fungal growth can attach to that debris. We must ensure that we visually verify that debris and dust has not accumulated in the ducting and providing a growth platform for mold.

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Procedure for Inspection of Wall Cavities

- Where visible contamination extends up into the wall cavity above, and where leaks from overhead roofs, decks, windows, or pipes are suspected, smaller openings should be made high on walls or ceilings, so that the leak source and extent of contamination can be identified.

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Procedure for Inspection of Wall Cavities

- Mold growth is likely to be present on the paper covering on the back side of sheetrock in areas that
  - measure wet,
  - display water damage
  - have a reported history of water damage

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Red Flags

A visual inspection should be keyed into finding any red flags. A “red flag” could be considered as any situation or condition that is favorable for mold growth, has visible mold, has a history of, or is currently exhibiting water migration/intrusion:

- Moisture/Water Stains
- Damage/Deterioration allowing water in
- Visible Mold
- Sensitivity/Odors

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What to do when you see mold

When visible mold is detected it is more than a “Red Flag”.

Visible mold requires that actions be performed. For every area in which visible mold is detected you may be required to:

- Take field measurements
- Take photos
- Measure the square foot area

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Mold Root Causes – Changes Overview

Twenty-nine (29) Root Causes are organized by five (5) general categories how the problem was caused.

I. Sealant Related Issues – Issues that can be resolved by removing and replacing old caulking.
Example: Caulking around a bathtub.

II. Leak Issues – Issues caused by a leak other than an sealant issue.
Example: Crack in exterior (façade) is causing a water enter the unit.

III. Resident-Caused – Issues that can be prevented due to adjustments to resident education and behavior.
Example: Resident is not opening a window after a shower.

IV. Ventilation – Issues that are a result of inoperable roof fans and/or lateral duct issues.
Example: A clog in the lateral duct is preventing air from flowing into the apartment.

V. Other – Issue(s) are being caused due to reasons outside of the four categories previously listed.
Example: Condensation (sweating on the pipes) due to the damaged or missing insulation.

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I. Mold Root Causes – Sealant Related Issues

Issues that can be resolved by removing and replacing old caulking or grouting.

Example: Caulking around a bathtub.

Caulking - Is a material used to seal joints or seams against leakage in various structures and piping. Maintenance and Plaster.

Grouting – A dense fluid which is used to fill gaps or used as reinforcement in existing structures. Grout is generally a mixture of water, cement, and sand. Grout is thin so it flows readily into gaps. Bricklayer.

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I. Mold Root Causes – Sealant Related Issues

- Caulking DML (Maintenance)
  The maintenance worker will follow-up on this work order and do the caulking.

- Grouting DML (Bricklayer)
  A bricklayer, craft, will follow-up on this work order and do the grouting.

- Grouting DML (Plasterer)
  A plasterer, craft, will follow-up on this work order and do the grouting.

- Grouting/ Caulking DML (Plasterer)
  A plasterer, craft, will follow-up on this work order and do the grouting / caulking work.

- Grouting/ Caulking DML (Bricklayer)
  A bricklayer, craft, will follow-up on this work order and do the grouting/ caulking.

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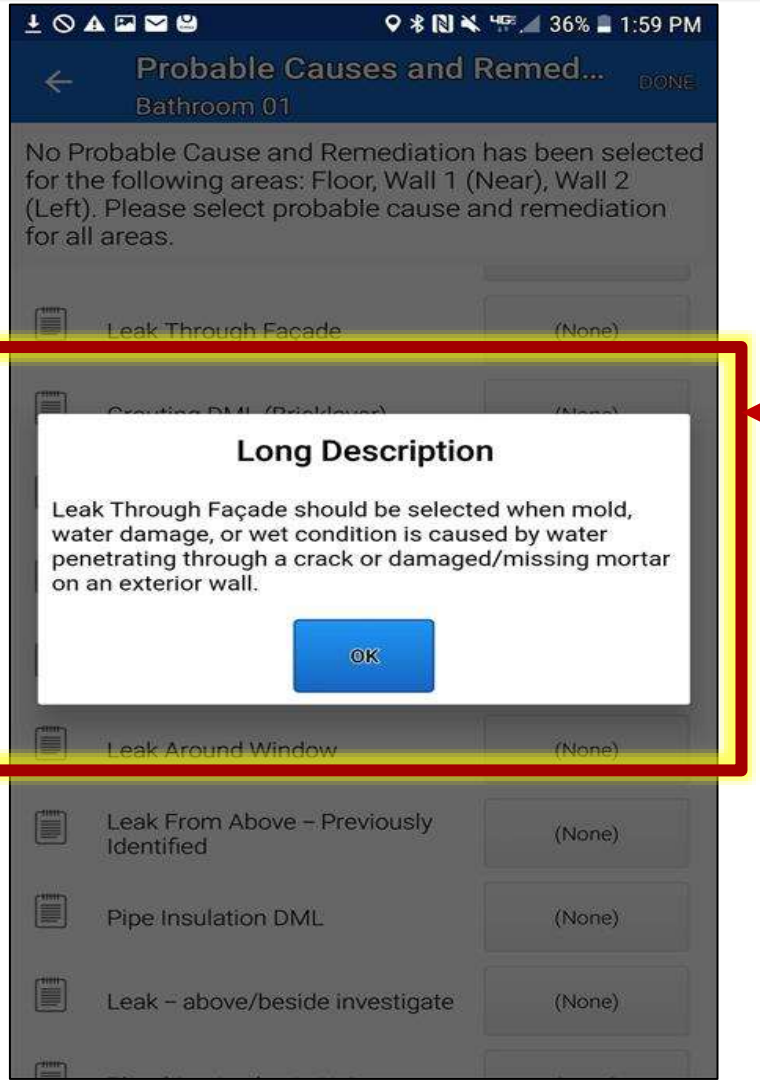
Mold Root Causes



iWM App will have a pop-up option to view a definition of each Root Cause to help you made an informed decision.

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II. Mold Root Causes – Leak Issues

Issues caused by a leak other than a sealant issue.

- Leak Around Window
  Lack of sealant around the window that causes water to penetrate.

- Leak Through Façade
  A crack or damaged/missing mortar affecting the exterior wall.

- Leak From Above/Beside - Investigate
  There is an active leak from a unit above or beside the unit with a mold condition.

- Leak From Above * – Previously Identified
  There was a leak that was abated but mold/ water damage remain present.

- Plumbing Leak - In Unit
  A pipe leaking within the wall cavity requiring a wall break.

II. Mold Root Causes – Leak Issues (*continued*)

- Roof Leak - Non Capital
  Roof replacement or repair is required.

- Sink Supply Line Leak
  Caused by a leak(s) in the supply line.

- Sink Waste Line Leak
  Caused by a leak(s) in the waste line.

- Toilet Leak
  Active leak coming from the toilet.

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II. Mold Root Causes – Leak Issues (*continued*)

Leak From Above - Previously Identified

Previously Identified should be selected when the root cause or remediation work for the mold, water damage, or wet condition had been identified or abated by Property Maintenance staff or Skilled Trades on a prior work order.

A note and pictures are required for this root cause.

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II. Mold Root Causes – Leak Issues (*continued*)

Leak From Above - Previously Identified *

1) Pre-inspection to look-up leak history for the specific unit.
2) Does not cancel or duplicate previous generated tickets.
3) Escalates the matter if root cause is being caused by something else if it keeps reoccurring.

Reoccurrences are signs that the root cause has not been found.

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III. Mold Root Causes – Resident-Caused

Issues that can be prevented due to adjustments to resident education and behavior.

Examples:

- Not opening the window for ventilation during, or after, a shower.
- Covering the roof fan vent.
- Improper installation of a dishwasher or washing machine.
- Improper installation of a clothing dryer in the apartment.

Select this ONLY when there is proof that the resident's direct behavior is the cause.

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III. Mold Root Causes – Resident-Caused

- Resident-Caused (Code 1)
  Resident doesn't open the window or door after taking a shower

- Resident-Caused (Code 2)
  Dishwasher was installed improperly.

- Resident-Caused(Code 3)
  Washing machine was installed improperly.

- Resident-Caused (Code 4)
  Vent is blocked or covered.

- Resident-Caused (Code 5)
  Clothing dryer was installed improperly.

- Resident-Caused (Code 6) *
  Other – the option was not listed.

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III. Mold Root Causes – Resident-Caused. (*continued*)

Resident-Caused by Other Actions (Code 6) *

Mold Busters Education will be needed for the resident(s) for future prevention of mold. A mandatory inspection will be needed to find the exact reason(s).

A note and pictures are required for this root cause.

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III. Mold Root Causes – Resident-Caused. (*continued*)

Resident-Caused by Other Actions (Code 6) *

Examples:

- Excessive boiling of pots.
- Unbalanced hot/cold temperatures in the unit and/or units above, below, or adjunct.

A picture and an explanation is needed for the reader to understand the reasoning for selecting this root cause.

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IV. Mold Root Causes - Ventilation

Issues that are a result of inoperable roof fans and/or lateral duct issues.

Example:
A clog in the lateral duct is preventing air from flowing into the apartment.

- **Roof Fan Out Of Order**
  Roof Fan(s) is not circulating air.
- **Vent Clogged/ Covered**
  Exhaust grill and/or lateral ductwork is clogged with dust or obstructed.
- **Window Inoperable**
  Lack of ventilation due to the window's inability to open.

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Ventilation Program Progress – NEW

- Roof fan installation complete
- Roof fan inspection Standard Procedure (SP 050:21:1) in place 7 30 21
- 40 CFM increase on average as a result of the clean vents initiative
- 62,000 out of 86,000 units have vents cleaned.
- Fire damper project in the works.

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V. Mold Root Causes - Other

Issue(s) are being caused due to reasons outside of the four categories previously listed.

Example:
Condensation (sweating on the pipes) due to the damaged or missing insulation.

A note and pictures are required for this root cause.

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V. Mold Root Causes – Other

- **Toilet Bowl/ Tank Needs Barrier**
  Toilet tank is in direct contact with the surface of the wall, allowing condensation to transfer across surfaces.
- **Tub Surround DML**
  Water is penetrating through missing or damaged areas of the tub surround.
- **Bathtub Shower Issues**
  Bathtub is missing, faucet is leaking, faucet is running, and/or faucet is dripping.
- **Pipe Insulation DML**
  Damaged or missing pipe insulation resulting in condensation (or sweating) on pipe surfaces. A wall-break is required to diagnose this problem.
- **Other** * This option should be selected if the root cause is not listed or not evident through the standard assessment practices.

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Knowledge Check

In your inspection, you find mold and moisture directly above the kitchen stove. **Which of the five categories best fit this problem?**

1. **Sealant Related Issues**
- Caulking DML (Maintenance)
- Grouting DML (Bricklayer)
- Grouting DML (Plasterer)
- Grouting/ Caulking DML (Plasterer)
- Grouting/ Caulking DML (Bricklayer)

4. Ventilation
- Roof Fan Out Of Order
- Vent Clogged/ Covered
- Window Inoperable

2**. Leak Issues**
- Leak Around Window
- Leak Through Façade
- Leak From Above/Beside - Investigate
- Plumbing Leak - In Unit
- Roof Leak - Non Capital
- Sink Supply Line Leak
- Sink Waste Line Leak
- Toilet Leak
- Leak From Above - Previously Identified *

3.Resident-Caused
- Resident-Caused (Code 1)
- Resident-Caused (Code 2)
- Resident-Caused (Code 3)
- Resident-Caused (Code 4)
- Resident-Caused (Code 5)
- Resident-Caused (Code 6) *

5. Other
- Toilet Bowl/ Tank Needs Barrier
- Tub Surround DML
- Bathtub Shower Issues
- Pipe Insulation DML
- Other *

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Knowledge Check

An inspector finds mold and excessive moisture in the kitchen cabinet under the sink where a past issue was located. **Which general category best fits?**

1. Sealant Related Issues

- Caulking DML (Maintenance)
- Grouting DML (Bricklayer)
- Grouting DML (Plasterer)
- Grouting/ Caulking DML (Plasterer)
- Grouting/ Caulking DML (Bricklayer)

4. Ventilation

- Roof Fan Out Of Order
- Vent Clogged/ Covered
- Window Inoperable

2. Leak Issues

- Leak Around Window
- Leak Through Façade
- Leak From Above/Beside - Investigate
- Plumbing Leak - In Unit
- Roof Leak - Non Capital
- Sink Supply Line Leak
- Sink Waste Line Leak
- Toilet Leak
- Leak From Above - Previously Identified *

3.Resident-Caused

- Resident-Caused (Code 1)
- Resident-Caused (Code 2)
- Resident-Caused (Code 3)
- Resident-Caused (Code 4)
- Resident-Caused (Code 5)
- Resident-Caused (Code 6) *

5. Other

- Toilet Bowl/ Tank Needs Barrier
- Tub Surround DML
- Bathtub Shower Issues
- Pipe Insulation DML
- Other *

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Knowledge Check

An inspector finds mold and excessive moisture in the kitchen cabinets under the sink. There was a past moisture issue was located and fixed in the past.

What do you do next?

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Conclusion

- Responsible and effective problem evaluation will depend on the skill and experience of the inspector, but will also benefit from consistent use of standard protocols that can be adapted to individual project needs. Various steps of inspection and investigation may be required, depending on the complexity and extent of the problem.
- All inspection efforts require identification of the extent and location of mold growth and determination of root cause(s).

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Initial Inspection Standard Procedures

Creating and Scheduling Mold Service Requests

Creating Parent Mold Work Orders

- Resident Service Requests to the CCC

  When a resident calls the Customer Contact Center (CCC) to make a service request involving mold or mildew, a parent mold work order is created in Maximo. The resident is required to select a scheduled date for the initial inspection.

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Creating and Scheduling Mold Service Requests

Creating Parent Mold Work Orders

- Resident Service Requests Through the MyNYCHA APP

  When a resident submits a mold/mildew service request through the MyNYCHA APP a parent mold work order is created in Maximo. The resident is required to select a scheduled date for the initial inspection.

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Creating and Scheduling Mold Service Requests

When property management staff or other NYCHA employees view mold conditions in a resident apartment while performing other work, they must:

- Create a parent mold work order in Maximo using the Informer Work Management APP on the handheld device; or
- Complete and submit a paper Maximo mold work order to the property management office the same day.

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Creating and Scheduling Mold Service Requests

The property manager ensures that property management office staff:

- Immediately creates a parent mold work order in Maximo from any submitted paper mold work order.
- Schedules the initial inspection appointment following the steps in Section VIII.A.3

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Supervisory Review of all Mold Work Orders

- The property maintenance supervisor and assistant property maintenance supervisor must print the scheduled appointments screen and review all mold work orders in Maximo at least daily.
- If an initial inspection is not scheduled or is scheduled for a date more than 4 days after the parent work order creation date, property management staff must contact the resident and attempt to move up the appointment in the schedule.

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Scheduling Appointments at the Development

The property manager ensures that a housing assistant, receptionist, or other property management staff schedule the following appointments:

- Appointments for child work orders to perform follow up work based on the initial inspection.

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Scheduling Appointments at the Development

Before property management staff calls the resident, the property maintenance supervisor or assistant property maintenance supervisor must:

- Coordinate the scheduling of skilled trade workers with the supervisor of the Property Management Department's Planning Unit.
- Coordinate the scheduling of large remediation jobs with the supervisor of Environmental Field Operations in the Maintenance Repairs and Skilled Trades Department.

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Scheduling Appointments at the Development

The property manager ensures that a housing assistant, receptionist, or other property management staff schedule the following appointments:

- Appointments for quality assurance inspections.
- Follow up appointments for any of the above.

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Scheduling Appointments at the Development

- The housing assistant, receptionist, or other property management staff calls the resident to schedule the appointment.

- If the appointment is successfully scheduled, the property manager ensures that the appointment date is entered in Maximo.

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Scheduling Appointments at the Development

If property management staff is unable to contact the resident to schedule the appointment, the property manager ensures that:

- The appointment is scheduled for no more than four days later.
- The appointment date is entered in Maximo.

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Scheduling Appointments at the Development

- Siebel compiles the list of residents to remind them through robocalls of their maintenance or inspection appointments. The day before scheduled maintenance or skilled trades appointments, Siebel makes these robocalls.

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Scheduling Appointments at the Development – Note!

All attempts to contact residents must be recorded in the Interview Details (Option 8) in the Tenant Data System (TDS).

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Inspection Procedures

On the scheduled date provided on the parent mold work order, the inspector visits the resident's apartment to:

- inspect the mold condition
- identify the probable root cause(s)
- determine appropriate next steps to remediate the mold, any related conditions, and correct the root cause(s).

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Inspection Procedures – NOTE!

Initial inspections are performed using the handheld device. If a handheld device is not operating during the initial inspection, the inspector must record the inspection results on a Maximo paper mold inspection work order and immediately enter the results into Maximo following the initial inspection.

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Preparing For The Mold Initial Inspection

Prior to visiting the apartment on the day of the initial inspection appointment, the inspector:

- Reviews the Maximo work order history for the apartment to determine if there is a history of mold or moisture complaints.
- Checks the mold inspection tool kit to ensure that the following instruments are in working order: anemometer, hygrometer, and moisture meter.

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Preparing For The Mold Initial Inspection

- Assigns a maintenance worker to accompany them on the initial inspection, or to be on call, to immediately remediate mold and related conditions or to identify and correct root causes, when possible. The maintenance worker must bring a borescope and tools appropriate for making wall-breaks.
- Must make a courtesy call to the resident via the handheld device on the way to the initial inspection to remind them of the inspection. If the resident does not answer the call, the inspector must still go to the apartment at the scheduled time.

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Preparing For The Mold Initial Inspection – NOTE!

If the resident or other adult is not home to allow access to the apartment for a scheduled mold related appointment, see Section VIII.F, Tenant Not Home Policy.

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Discussing The Mold Condition With The Resident

Upon arriving at the apartment, the inspector:

1. Makes best efforts to interview an adult listed on the household composition about any history of mold and moisture in the apartment
2. Adds the information to the handheld device if there is a history

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Conducting The Initial Inspection

The inspector conducts the initial inspection using the handheld device.

The inspector:

1. Visually inspects the room identified in the mold work order for mold growth and records the estimated square footage of mold on each wall (1-4), floor, ceiling, and any components.
2. Visually inspects the room for water damage and records the location of the water damage (e.g. the specific wall(s), floor, ceiling, or component).
3. Must use the moisture meter to measure the walls, floor, ceiling, and components in the room for subsurface moisture and records if a measurement is equal to or greater than 599 (i.e. a wet measurement).

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General Evaluation Of Room Conditions

If a mold, water damage, or moisture (i.e., a wet measurement) condition is found, the inspector must conduct a general evaluation of the room:

1. Records the surface structure (e.g. concrete, plaster, sheetrock) and framing structure (e.g. wood, steel) of the room's walls, floor, ceiling, and component(s).
2. Uses the hygrometer to take a humidity reading of the room and records the humidity level.

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General Evaluation Of Room Conditions

If the room is a kitchen or bathroom:

Indicates if there is mechanical ventilation

- If there is mechanical ventilation:
  - The inspector checks the ventilation by using the anemometer to take an air flow measurement in cubic feet per minute (CFM) and records the result in the handheld device.
  - Maximo automatically generates child work orders:
    - To clean the horizontal vent ductwork.
    - To check the roof fan if the CFM is less than 25.

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General Evaluation Of Room Conditions– NOTE!

The user must ensure the anemometer is properly calibrated by:

- *Entering the correct size of the exhaust duct (i.e. the height and width in inches) in the IWM App.*
- *Ensuring that the Free Air Percentage is set to 55% in the IWM App.*

See SP Appendix C for instructions on how to use the anemometer. Users must follow the manufacturer's instructions when using inspection tools.

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General Evaluation Of Room Conditions

If the room is a kitchen or bathroom: (Cont.)

If there is a window:

- The inspector checks that the window is operating properly and records the result in the handheld device.
- Maximo automatically generates a child work order to repair the window if it is not operating properly.

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General Evaluation Of Room Conditions

If the room is a bathroom:

- Checks if the toilet base is caulked and records the result in the handheld device.

    (a) Maximo automatically generates a child work order to caulk the toilet base if it is not caulked.

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General Evaluation Of Room Conditions

Visually inspects the room for signs of pest infestation and records the results in the handheld device.

- Maximo automatically generates a child work order for an exterminator when there is evidence of pests.

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Identifying The Probable Root Causes & Remediation Methods

The inspector determines the probable root cause(s) for any wall, floor, ceiling, or component identified in Section VIII.B.3.a above as having mold, water damage, or moisture (i.e. a wet measurement).

- The inspector selects on the handheld device a probable root cause from the following options: (see next slide)

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Identifying the Probable Root Causes & Remediation Methods

- Bathtub/shower
- Caulking
- Exterior wall (winter)
- Façade
- Grouting
- Lack of pipe insulation in wall
- Leak in apartment above/beside
- Plumbing – In Unit
- Resident – Cause
- Roof
- Shower moisture
- Sink
- Toilet
- Toilet bowl/Tank needs barrier
- Tub surround

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Identifying the Probable Root Causes & Remediation Methods

- Selects the ceiling, wall(s), floor, or component(s) identified in Section VIII.B.3.a above that have the same probable root cause (e.g., both the mold on the ceiling and water damage on the wall have a probable root cause of Shower Moisture.)
- Indicates if a wall break is required to inspect or correct the probable root cause.
  - If a wall break is required, the inspector must conduct the wall break with the assistance of a maintenance worker as part of the initial inspection.

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Identifying the Probable Root Causes & Remediation Methods

If the probable root cause ***is not*** Resident – Cause:

- Selects one or more Failure Class/Problem Codes, as applicable, from the limited set of options in the dropdown menu for that probable root cause.
- Selects the appropriate craft required to make the repair for each Failure Class/Problem Code selected.

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Identifying the Probable Root Causes & Remediation Methods

If the probable root cause ***is*** Resident – Cause

- Selects on the handheld device the specific instruction provided to the resident in Section VIII.B.5 below for each probable root cause that is Resident – Cause.
- Selects the remediation method and craft from a dropdown menu of limited options for the selected wall(s), floor, ceiling, or component(s).

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Identifying the Probable Root Causes & Remediation Methods

- Maximo automatically generates child work orders for the Failure Class/Problem Codes (except when the probable root cause is Resident – Cause) and the remediation methods selected.
- If there are any additional probable root causes, the inspector repeats the steps in Section VIII.B.3.c(1) above for each probable root cause.

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Identifying the Probable Root Causes & Remediation Methods

If the inspector is unable to determine the probable root cause of a mold, water damage, or moisture (i.e. wet measurement) condition they must:

- First request trouble shooting assistance from the other inspectors at the development; and then
- Escalate the work order to the Property Management Department skilled trades deputy director if the probable root cause still cannot be determined.

The skilled trades deputy director assigns appropriate staff to assist the inspector.

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Notes Requirements

Which example is the “perfect” note?

Note 1:

“Leak was fixed before. “

Note 2:

“Resident reported a previously identified leak from above in bathroom of upstairs apartment, which property management completed repairs ~90 days ago. Maximo shows WO's 68758747 (repair cracked pipe – CLOSE), 68758763 (plaster wall – scheduled) and 68758747 (paint wall - WTSCH) corresponding to the leak from above.”

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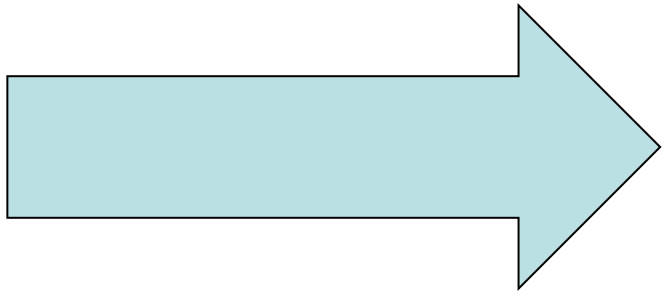
Notes Requirements

Which example is the “perfect” note?

Note 1:

Leak was fixed before.



Note 2:

Resident reported a previously identified leak from above in bathroom of upstairs apartment, which property management completed repairs ~90 days ago. Maximo shows WO's 68758747 (repair cracked pipe – CLOSE), 68758763 (plaster wall – scheduled) and 68758747 (paint wall - WTSCH) corresponding to the leak from above.

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Notes Requirements

The Perfect Note Has:

1. Location: Where the previous or current leak was found.
   Example: Bathroom upstairs unit.
2. Repairs: Description of completed repairs.
   Example: Cracked pipe.
3. Date: Of when leak was found AND repairs were completed.
   Example: 90 days ago.
4. Follow Up Work: Explain what remediation work still needs to be done.
   Example: Plaster wall and paint wall.

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Note & Picture Required!

Leak From Above - Previously Identified *

Previously Identified should be selected when the root cause or remediation work for the mold, water damage, or wet condition had been identified or abated by Property Maintenance staff or Skilled Trades on a prior work order.

Resident-Caused by Other Actions (Code 6) *

Mold Busters Education will be needed for the resident(s) for future prevention of mold. A mandatory inspection will be needed to find the exact reason(s).

Other *

This options should be selected if the root cause is not listed or not evident through the standard assessment practices.

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Completing the Initial Inspection

To complete the initial inspection:

- The inspector must take multiple photo(s) of the condition(s) identified, including at least one close-up photo of the condition(s) and at least one photo of the larger area, using the handheld device and upload the photo(s) into Maximo.
- If the condition is unfounded (i.e., there was no mold, water damage, or wet measurement condition identified):

The inspector must take and upload photo(s) of the condition reported by the resident as mold or mildew.

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Picture Requirement

Upload two (2) clear pictures of the condition:

(1) One close up;

(2) The other will be a wide shot with a standard letter paper size (8.5 x 11 in) in the photos to show the relative size of the condition.

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Picture Requirement - Example 1

Close Up: Kitchen

Full View: Kitchen

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Picture Requirement - Example 2

Close Up: Living Room Ceiling

Full View: Living Room Ceiling

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Knowledge Check

Do these pictures fit the picture guidance?

Close Up: Bathroom Window Frame

Close Up: Bathroom Ceiling

Full View: Bathroom Wall

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Reviewing the Work Plan

Upon completion of the initial inspection, the inspector:

- Reviews the child work orders (i.e. the work plan) in the handheld device to confirm the work plan is correct and complete.
- Identifies the next steps to clean the mold and correct the root cause(s) on NYCHA Form XXX.XXX TBD.

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Reviewing the Initial Inspection Results with the Resident

When Mold, Water Damage, or a Moisture Condition is identified the inspector:

- Gives NYCHA Form 060.303, Controlling Mold in Your Apartment to the resident and reviews with the resident the general recommendations on the form for preventing and cleaning mold and the importance of identifying and correcting the root cause(s) of mold to avoid reoccurrence.

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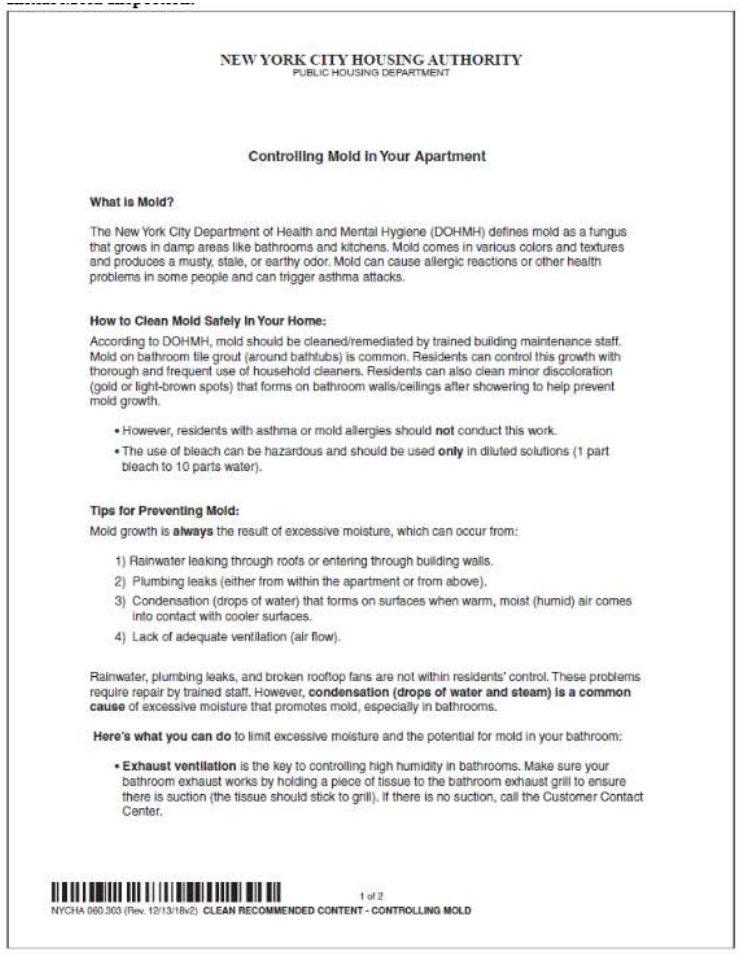
Controlling Mold Form



NEW YORK CITY HOUSING AUTHORITY
PUBLIC HOUSING DEPARTMENT

Controlling Mold in Your Apartment

What is Mold?

The New York City Department of Health and Mental Hygiene (DOHMH) defines mold as a fungus that grows in damp areas like bathrooms and kitchens. Mold comes in various colors and textures and produces a musty, stale, or earthy odor. Mold can cause allergic reactions or other health problems in some people and can trigger asthma attacks.

How to Clean Mold Safely In Your Home:

According to DOHMH, mold should be cleaned/remediated by trained building maintenance staff. Mold on bathroom tile grout (around bathtubs) is common. Residents can control this growth with thorough and frequent use of household cleaners. Residents can also clean minor discoloration (gold or light-brown spots) that forms on bathroom walls/ceilings after showering to help prevent mold growth.

- However, residents with asthma or mold allergies should **not** conduct this work.
- The use of bleach can be hazardous and should be used **only** in diluted solutions (1 part bleach to 10 parts water).

Tips for Preventing Mold:

Mold growth is **always** the result of excessive moisture, which can occur from:

1) Rainwater leaking through roofs or entering through building walls.
2) Plumbing leaks (either from within the apartment or from above).
3) Condensation (drops of water) that forms on surfaces when warm, moist (humid) air comes into contact with cooler surfaces.
4) Lack of adequate ventilation (air flow).

Rainwater, plumbing leaks, and broken rooftop fans are not within residents' control. These problems require repair by trained staff. However, **condensation (drops of water and steam) is a common cause** of excessive moisture that promotes mold, especially in bathrooms.

Here's what you can do to limit excessive moisture and the potential for mold in your bathroom:

- **Exhaust ventilation** is the key to controlling high humidity in bathrooms. Make sure your bathroom exhaust works by holding a piece of tissue to the bathroom exhaust grill to ensure there is suction (the tissue should stick to grill). If there is no suction, call the Customer Contact Center.

1 of 2
NYCHA 060.303 (Rev. 12/13/18v2) **CLEAN RECOMMENDED CONTENT - CONTROLLING MOLD**

- If your bathroom exhaust vent grill is clogged with dust, report the issue by calling the Customer Contact Center.
- Don't use shower racks/clothes lines above bathtubs.
- Open bathroom windows and doors after showering.
- In the summertime, use an air conditioner.
- Open windows slightly when the weather allows.
- Request repairs for leaky plumbing or other water leaks as soon as possible.

If you have mold growth, excessive moisture, or a plumbing or rainwater leak, please call the Customer Contact Center at 718-707-7771 to report the issue.

A translation of this document is available in your management office.
La traducción de este documento está disponible en la Oficina de Administración de su residencial.
Перевод этого документа находится в Вашем домоуправлении.
所居公房管理處備有文件譯本可供索取。
所居公房管理处备有文件译本可供索取。

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When Mold Condition is Unfounded

The inspector:

- Discusses the initial inspection findings with the resident.
- Requests that the resident sign the unfounded work order on the handheld device.
- Indicates in the handheld device if the resident refused to sign or if the resident disagrees that the mold condition is unfounded.
- Provides the Mold Inspection Receipt, including the name and contact information of the ombudsperson.
- Closes the mold work order as Unfounded.

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Reviewing the Initial Inspection Results with the Resident

When Mold, Water Damage, or a Moisture Condition is identified the inspector: (Cont.)

- Indicates in the handheld device that NYCHA Form 060.303, Controlling Mold in Your Apartment and NYCHA Form Mold Inspection Review were provided to and discussed with the resident.
- Advises the resident that the property management office will contact them to schedule any additional appointments needed. See Section VIII.A.3, above for the steps to schedule an appointment.

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Reviewing the Initial Inspection Results with the Resident

When Mold, Water Damage, or a Moisture Condition is identified the inspector: (Cont.)

- Gives Mold Inspection Review Notice to the resident and reviews the following with the resident:
  - The initial inspection and probable root cause findings.
  - The next step(s) to remediate the mold or related condition and correct the root cause.
  - The specific instruction(s) on how to correct the probable root cause if the probable root cause is Resident – Cause.
  - The requirement for a quality assurance inspection once all work is completed.
  - The required timeframe for the completion of all work.
  - The name and contact information of the ombudsperson.

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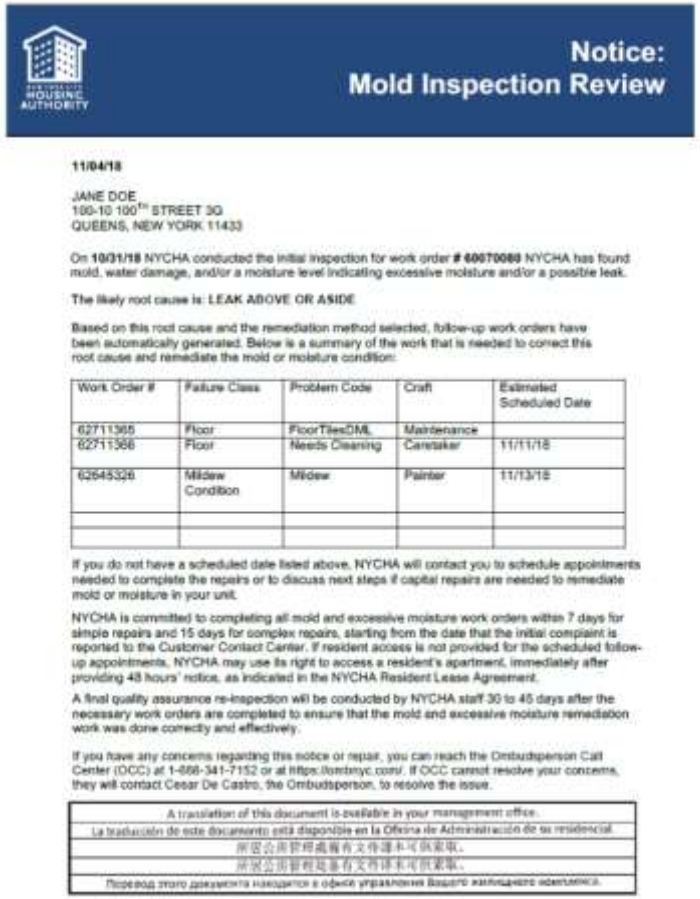
Mold Inspection Review



Notice:
Mold Inspection Review

11/04/18

JANE DOE
100-10 100th STREET 3G
QUEENS, NEW YORK 11433

On **10/31/18** NYCHA conducted the initial inspection for work order **# 60070080** NYCHA has found mold, water damage, and/or a moisture level indicating excessive moisture and/or a possible leak.

The likely root cause is: **LEAK ABOVE OR ASIDE**

Based on this root cause and the remediation method selected, follow-up work orders have been automatically generated. Below is a summary of the work that is needed to correct this root cause and remediate the mold or moisture condition:

Work Order #	Failure Class	Problem Code	Craft	Estimated Scheduled Date
62711365	Floor	FloorTilesDML	Maintenance	
62711366	Floor	Needs Cleaning	Caretaker	11/11/18
62645326	Mildew Condition	Mildew	Painter	11/13/18

If you do not have a scheduled date listed above, NYCHA will contact you to schedule appointments needed to complete the repairs or to discuss next steps if capital repairs are needed to remediate mold or moisture in your unit.

NYCHA is committed to completing all mold and excessive moisture work orders within 7 days for simple repairs and 15 days for complex repairs, starting from the date that the initial complaint is reported to the Customer Contact Center. If resident access is not provided for the scheduled follow-up appointments, NYCHA may use its right to access a resident's apartment, immediately after providing 48 hours' notice, as indicated in the NYCHA Resident Lease Agreement.

A final quality assurance re-inspection will be conducted by NYCHA staff 30 to 45 days after the necessary work orders are completed to ensure that the mold and excessive moisture remediation work was done correctly and effectively.

If you have any concerns regarding this notice or repair, you can reach the Ombudsperson Call Center (OCC) at 1-866-341-7152 or at https://ombnyc.com/. If OCC cannot resolve your concerns, they will contact Cesar De Castro, the Ombudsperson, to resolve the issue.

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所居公房管理處備有文件譯本可供索取。
所居公房管理處備有文件译本可供索取。
Перевод этого документа находится в офисе управления Вашего жилищного комплекса.

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Mold Inspection Receipt

NEW YORK CITY HOUSING AUTHORITY
Public Housing Department
<<DEVELOPMENT NAME>>

Work Order #: _____
Date: _____

Mold Inspection Receipt

☐ NYCHA has not found mold, water damage, and/or a moisture level indicating excessive moisture and/or a possible leak and is closing your work order as "unfounded".

☐ NYCHA has found mold, water damage, and/or a moisture level indicating excessive moisture and/or a possible leak. NYCHA will send you the Mold Inspection Review form, which will include the findings of this inspection.

NYCHA is committed to completing all mold and excessive moisture work orders within 7 days for simple repairs and 15 days for complex repairs, starting from the date that the initial complaint is reported to the Customer Contact Center. If resident access is not provided for the scheduled follow-up appointments, NYCHA may use its right to access a tenant's apartment, immediately after providing 48 hours' notice, as indicated in the NYCHA Resident Lease Agreement.

A final Quality Assurance re-inspection will be conducted by NYCHA staff 30 to 45 days after the necessary work orders are completed to ensure that the mold and excessive moisture remediation work was done correctly and effectively.

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所居公房管理處備有文件譯本可供索取。
Перевод этого документа находится в Вашем домоуправлении.

Must Take Photo & Save as "Mold Receipt"

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Reviewing the Initial Inspection Results with the Resident– NOTE!

See Management Manual, Chapter II, Rent and Rent Collection, Section XV.A and Appendix 8 for details on when and how to make a social service referral to the Family Partnerships Department if there are housekeeping or safety hazards in an apartment.

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Inspection Timeframes

- There are no determined times to complete an inspection
- *Mold inspection time frames vary based upon the complexity of the condition, the root cause(s) and each individual case/each inspection is situation based*
- Each inspection should include the following steps, which generally will take more than 10 minutes: *time to interview resident, perform a visual inspection, and utilize TESTO instruments, post inspection review with resident*
- Compliance may flag any work order inspection of less than 10 minutes

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NYCHA MOLD TRAINING

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Measurement Equipment

Measurement Equipment

- On-site testing equipment that indicates if moisture or ventilation problems may be present
- Used to help identify root causes
- Provides immediate information
- Inspector must be able to operate and understand data

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NYCHA's Smart Device Policy

The smart device provided to you by NYCHA is the property of NYCHA and is solely for use authorized by NYCHA:

- There is no reasonable expectation of privacy when using your NYCHA smart device.
- Any information saved on any smart device owned by NYCHA is the property of NYCHA and may be subject to monitoring.
- Unauthorized altering of or tampering with your NYCHA smart device is prohibited.

This information can be found in section 17 in the NYCHA Human Resource Manual

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Inspection Equipment

- Moisture Meter
- Hygrometer
- Anemometer
- Boroscope

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Field Measurements

- Moisture meter – for moisture content in building materials
- Hygrometer – measures humidity levels
- Anemometer – provides air flow in CFM
- Boroscope – allows view behind walls and other cavities

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Moisture Meters

- Moisture meters measure/monitor moisture levels in building materials, and may be helpful for measuring the moisture content in a variety of building materials following water damage.
- They also can be used to monitor the progress of drying damaged materials. These direct reading devices have a thin probe that is inserted into the material to be tested or pressed directly against the surface of the material.

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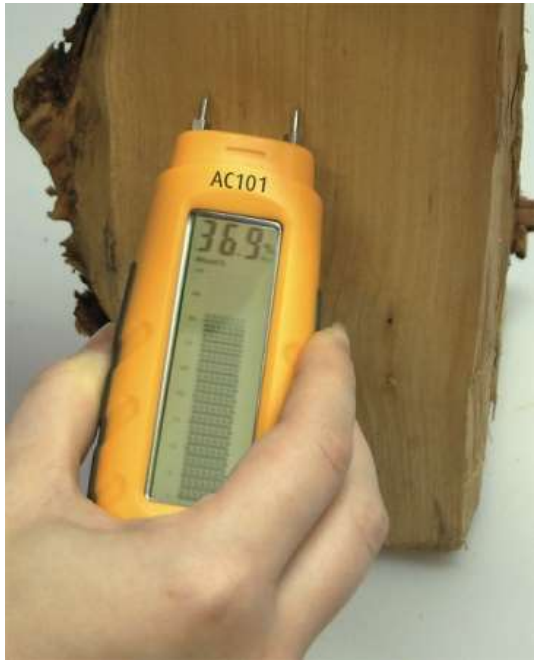
Moisture Meters

- Moisture meters can be used on materials such as carpet, wallboard, wood, brick, and concrete.



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Moisture Meters

Protimeter Survey Master

Pin-probe Mode
Measurements given as % moisture

Note: Pin-probe readings can provide additional information, but are not used during the root-cause assessment.

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Wet Reading

NYCHA building material is considered “wet” when the moisture meter reading is equal to or greater than 599 (on a scale of 0 to 999)

1. Inspect the chase, or any other area(s) displaying water damage, AND all surrounding areas. (e.g., celling, floor, and other walls).
2. Take multiple moisture meter reading to find subsurface moisture or source of leak.
3. Record the highest moisture meter reading for each affected surface in the room (e.g., Wall 1, Wall 2, Ceiling, etc.) that is both seen and unseen

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Wet Reading (Continued)

- If the surface displays visible water damage or mold growth, the moisture meter reading should be taken in 6” (inch) interval in each direction, horizontal and vertical, and continue to the point of at least of 2’ (feet) beyond any visible water damage or mold growth until moisture meter reading is below 599.
- If the surface displays no visible water damage or mold growth, the moisture meter reading should be taken 1’ (foot) interval in each direction.

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Caution - False Readings

- Meter is calibrated to detect moisture in building materials composed of organic matter
- Moisture meter may report a “999” or other false reading if the instrument detects metal, wire or tile
- Meter may report elevated readings if placed on visible moisture

If the inspector suspects a false reading, (ex. if the moisture meter makes contact with rebar in a Reinforced Concrete Cement (RCC) structure) additional readings should be taken in 6” (inch) interval in each direction.

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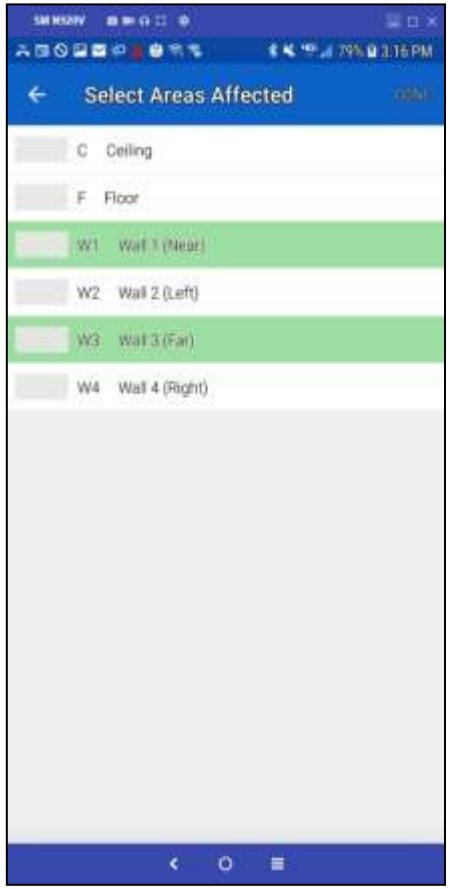
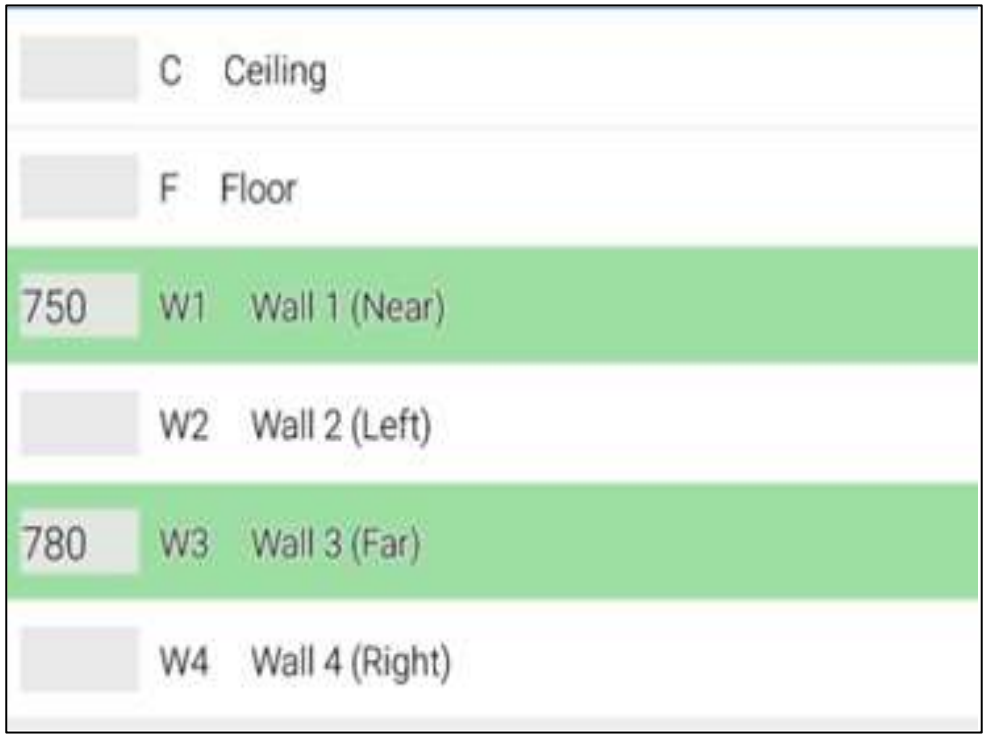
Wet Reading – iWM View

iWM will prompt for moisture measurements for surfaces where the measurement is over 599.





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Wet Reading– Example

	C	Ceiling
	F	Floor
750	W1	1 (Near)
	W2	Wall 2 (Left)
780	W3	3 (Far)
	W4	Wall 4 (Right)

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Hygrometer

- A hygrometer is used to measure moisture content in the atmosphere.
- Humidity measurement instruments usually rely on measurements of some other quantity such as temperature, pressure, mass or a mechanical or electrical change in a substance as moisture is absorbed.

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Hygrometer

- By calibration and calculation, these measured quantities can lead to a measurement of humidity
- Results are reported in the App

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Anemometers

- Used for measuring the speed of air
- Vane Anemometers use a remote fan (vane) that freely rotates in response to air flow

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Anemometers

- Used for measuring the speed of air
- Hot wire anemometers use a very fine wire, electrically heated to some temperature above the ambient and air flowing past the wire cools the wire

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Anemometers

- NYCHA uses Testo Vane instrument
- Must be set to Cubic Feet per Minute (CFM) - unit for Air Volume measurements.
- **NEW - Must be calibrated to 55% free air**

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Instructions for Using the Anemometer

A. Switching On and Off

1. Open the Testo App on your NYCHA issued handheld device.
2. Once the Testo App is open, turn on your Anemometer using the instructions below:
    1. Press the large button shown as number 1 in the image below.
    2. The LED light should start blinking yellow.
3. The Testo device should automatically pair with your NYCHA issued handheld device.
4. You will know the Anemometer has successfully paired when the LED light turns green.

(Note: For best results, do not operate more than one Testo device at a time.)

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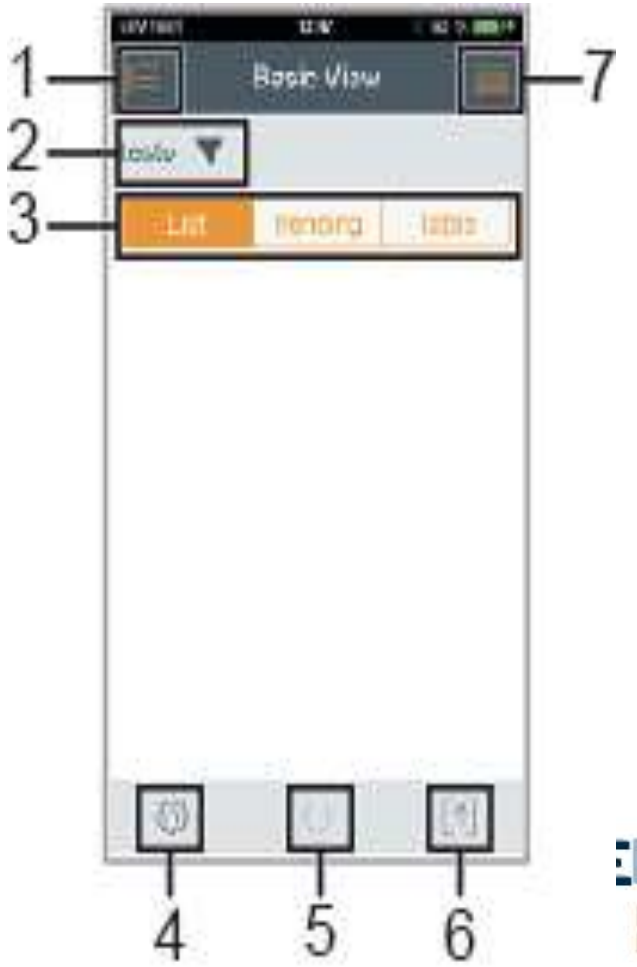
Instructions for Using the Anemometer

B. Overview of the Operating Controls

1. Choice of applications
2. Display of connected Smart Probes
3. 3-panel switch between the 3 informational views (list, graphic diagram, table)
4. Measurement settings. (The menu changes depending on which Smart Probe is connected and which particular device is selected)
5. Restarts the measuring value recordings in graph and table format. Allows you to freeze and unfreeze the reading
6. Export the reading
7. Options menu



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Instructions for Using the Anemometer

C. Configuring the Testo App to Take an Airflow Reading

1. From the Start up Screen, select Measurement Settings
2. On the next selection screen, select Volume Flow (Outlet)
    1. Select settings. This selection screen will let you choose your configuration for Measurement

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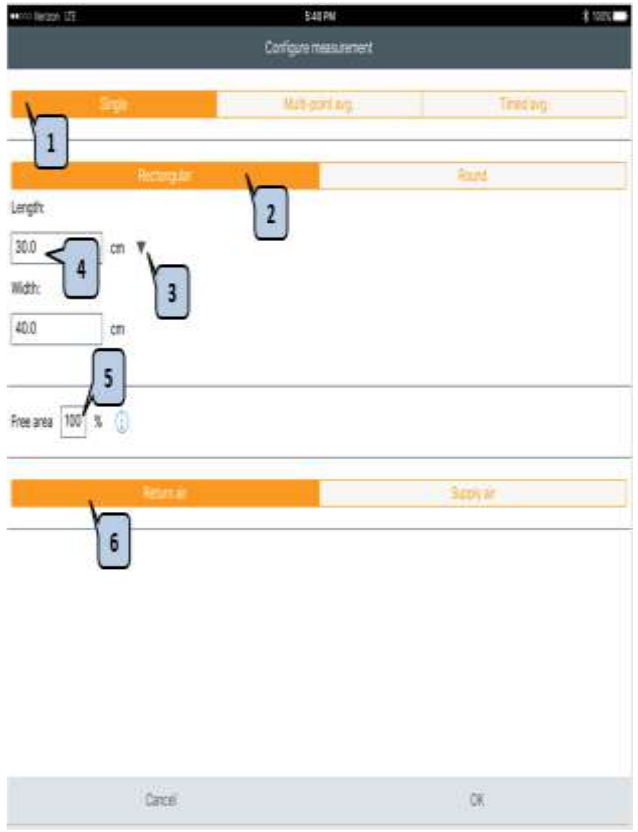
Instructions for Using the Anemometer

C. Configuring the Testo App to Take an Airflow Reading - Continued

1. On the Configure Measurement screen (Pictured Below), choose Single measurement
2. Below that setting, there is a setting for either a rectangular or round air duct measurement
    1. Choose the Rectangular measurement
3. Ensure that the length and width in your App is set to inches
    1. If the unit of measure is not in inches, use the drop-down triangle symbol to change your unit of measure to inches.
4. Input the length and width of the air duct you are measuring
5. Change Free Area to 55%
6. Ensure the setting for return air is selected
7. Hit OK to save your settings.



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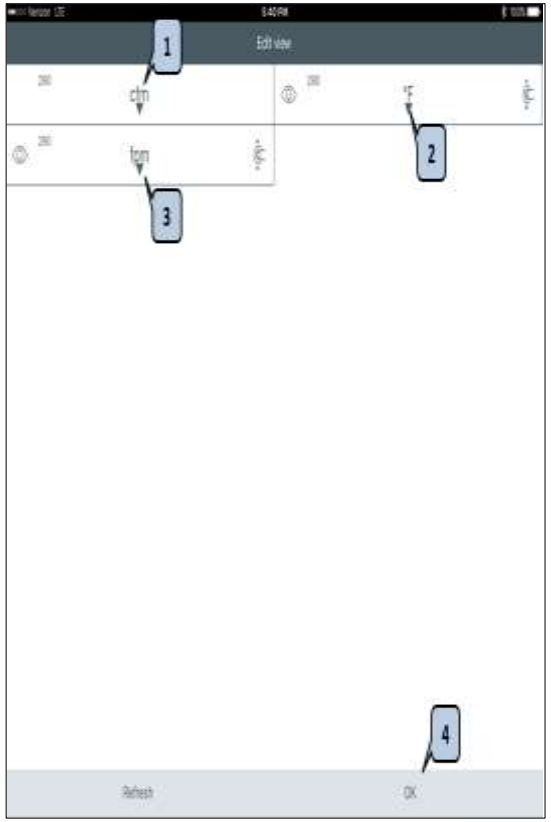
Instructions for Using the Anemometer

D. In the following screen adjust your units to the following:

1. Change unit of measure to Cubic Feet per minute (CFM)
2. Change temperature units to Fahrenheit (˚ F)
3. Change unit of measure to Feet Per Minute (FPM)
4. Select OK at the bottom of the screen to save your unit selections



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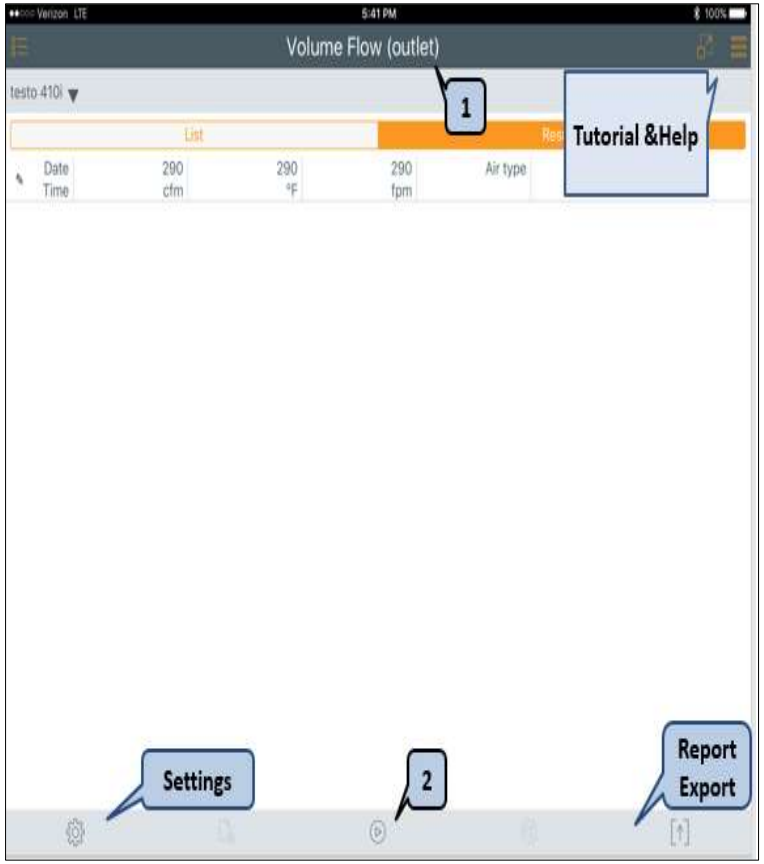
Instructions for Using the Anemometer

E. Taking a Flow Measurement

To take a measurement, place the anemometer so it is flush with the face of the air duct grill.

1. Your results will be displayed on the Volume Flow (outlet) screen (Pictured Below)
2. To freeze a flow measurement, hit the Start and Stop button at the bottom of your screen



Hitting the Start and Stop button multiple times will allow you to save multiple readings.

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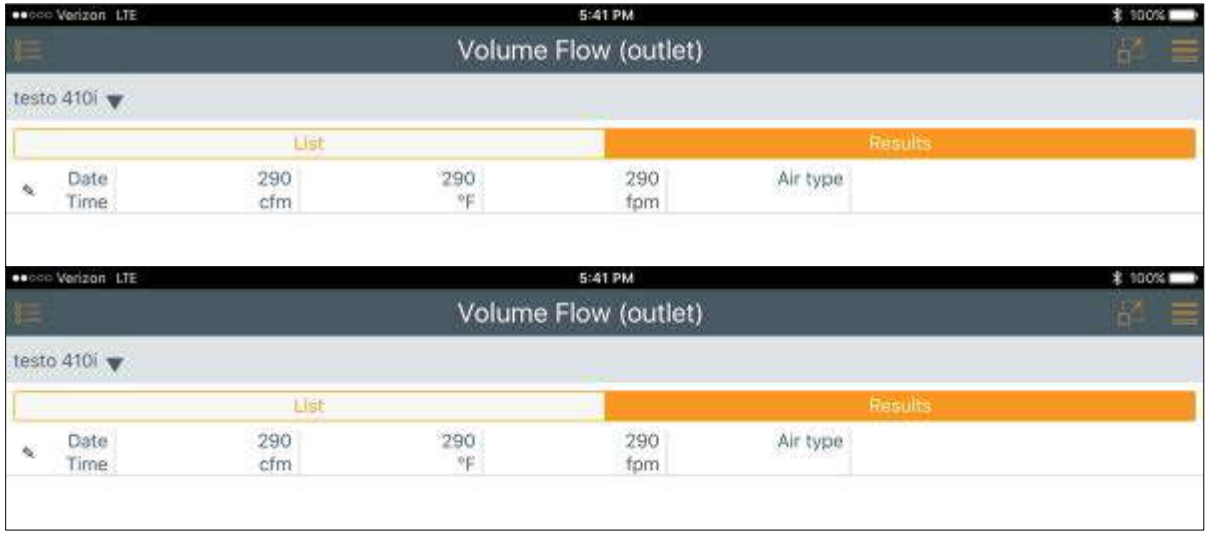
Instructions for Using the Anemometer

E. Output Results

To view a table of results:

1. Return to the Main Menu screen
2. Select the Volume Flow (outlet)



This is the Volume Flow (outlet) screen:

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Boroscope

- A boroscope is a hand-held tool that allows users to see potential mold problems inside walls, ceiling plenums, crawl spaces, and other tight areas.
- It consists of a video camera on the end of a flexible "snake."
- No major drilling or cutting of dry wall is required.

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Precautions

- Investigating hidden mold problems may be difficult and will require caution when the investigation involves disturbing potential sites of mold growth.
- Safe work practices & personal protective equipment should be used if mold contamination is present that may be disturbed

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Knowledge Check

Before you start your inspection, what tools will you need?

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Knowledge Check

In your inspection, you find mold and moisture directly above the kitchen stove.

The paint is peeling on the celling and the room feels humid.
Wet readings show four epicenters where moisture is highest.

Knowing this, what do you do next?

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Hands-on Demonstration

Measurement Equipment & Calibration

- Record moisture content on 4 walls & describe building materials
- Determine Relative Humidity (RH%)
- Measure Ventilation Rate (CFM)

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End of Day 1

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Virtual Reality Simulation

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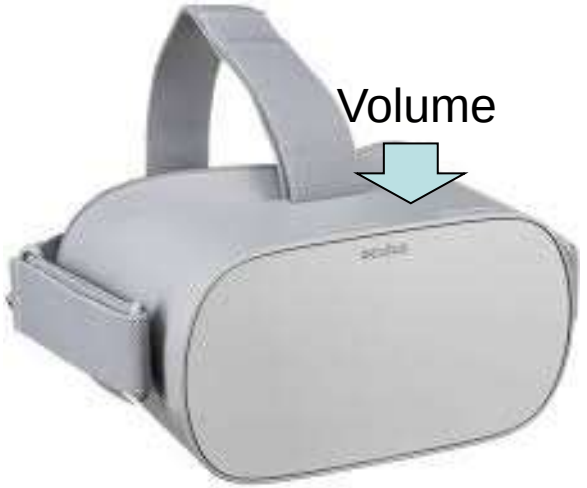
Virtual Reality Simulation

- Headset is placed over your head.
- Volume & powe control are in front on top



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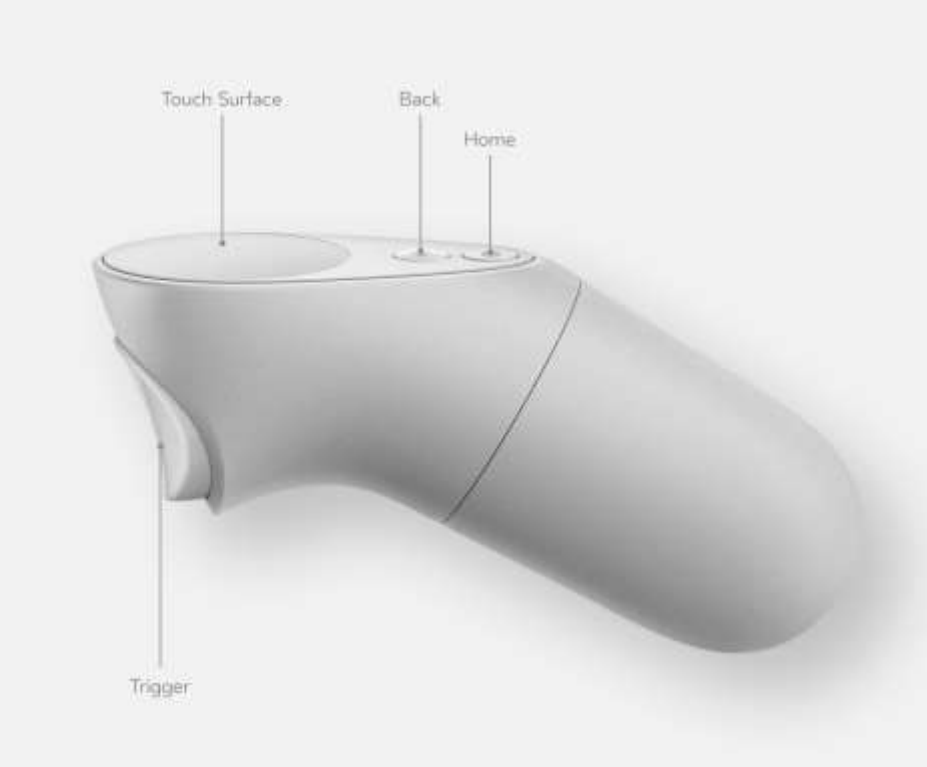
VR Simulation

- Trigger used for selecting items
- Home (Oculus) for reopening
- Avoid other buttons



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VR Simulation

- Look at the item
- Pull the trigger to select
- Avoid other buttons

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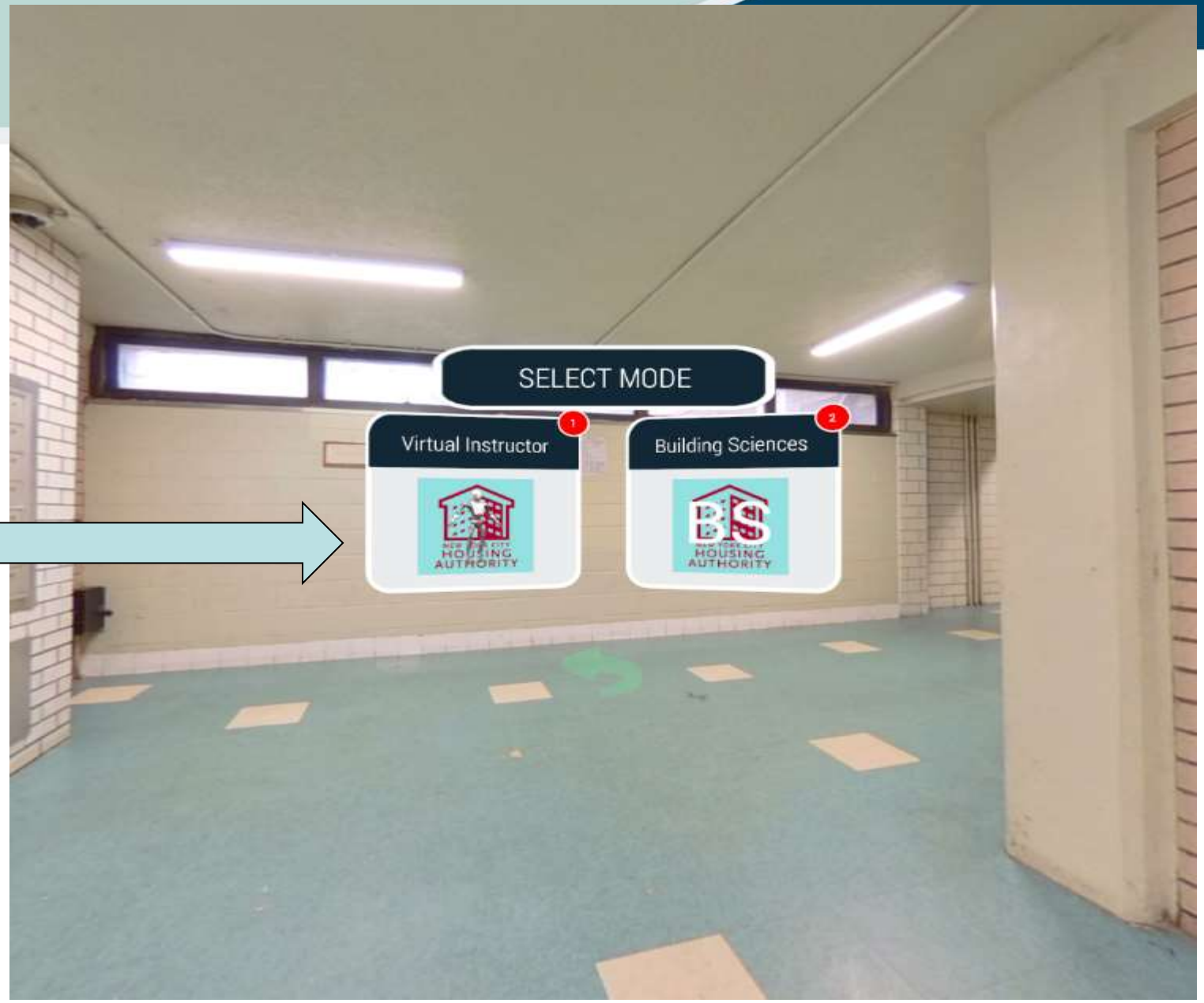
VR Simulation

Screen 5

- Select Virtual Instructor
- Pull the trigger
- Select Virtual Instructor



NYCHA MOLD TRAINING

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IWM App

Mold Busters App

- Mold Inspection Procedures
- Designed by & for NYCHA Housing
- Critical for recording results of inspection
- Used to determine remediation work orders
- Integrated into Maximo

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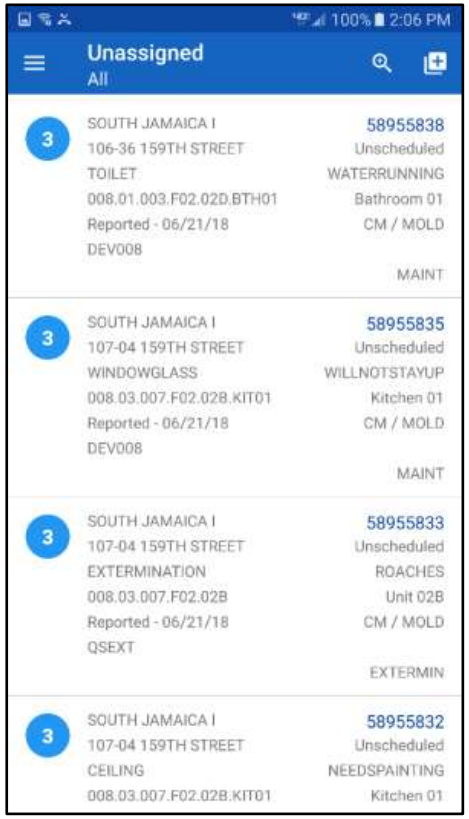
Welcome to the Handheld Informer Work Management (iWM)

Training Course for Mold Inspection

Today's Instructor:

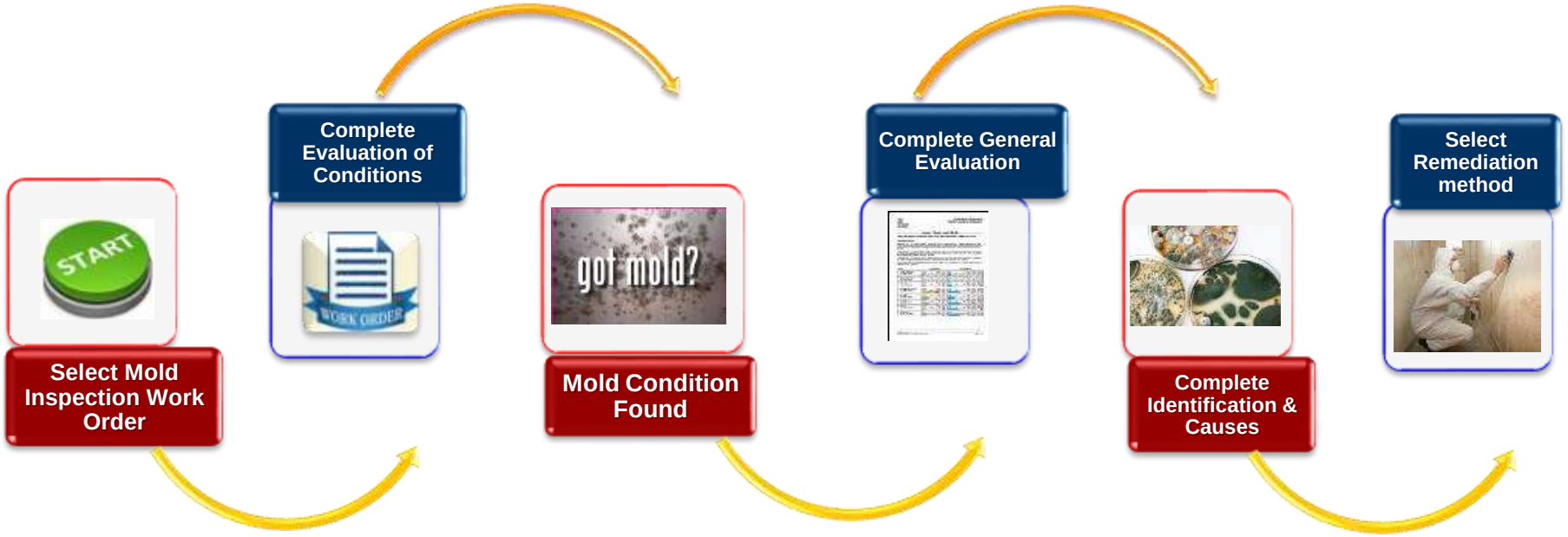
iWM Mobile Application Training - Agenda

- 1. Welcome, Introductions, Overview
- 2. Sort, Search and Select WOs from Menu List
- 3. Demonstration: End to End Mold Inspection Work Flow
- 4. Follow Along: End to End Mold Inspection Work Flow
- 5. Demonstration: End to End QA Inspection Work Order
- 6. Follow Along: End to End QA Inspection Work Flow
- 7. Demonstration: End to End Re-Inspection Work Flow
- 8. Mold Inspection Work Order Exercises
- 9. Conclusion: FAQs, Pet Policy, Kit Overview, Class Evaluation Form



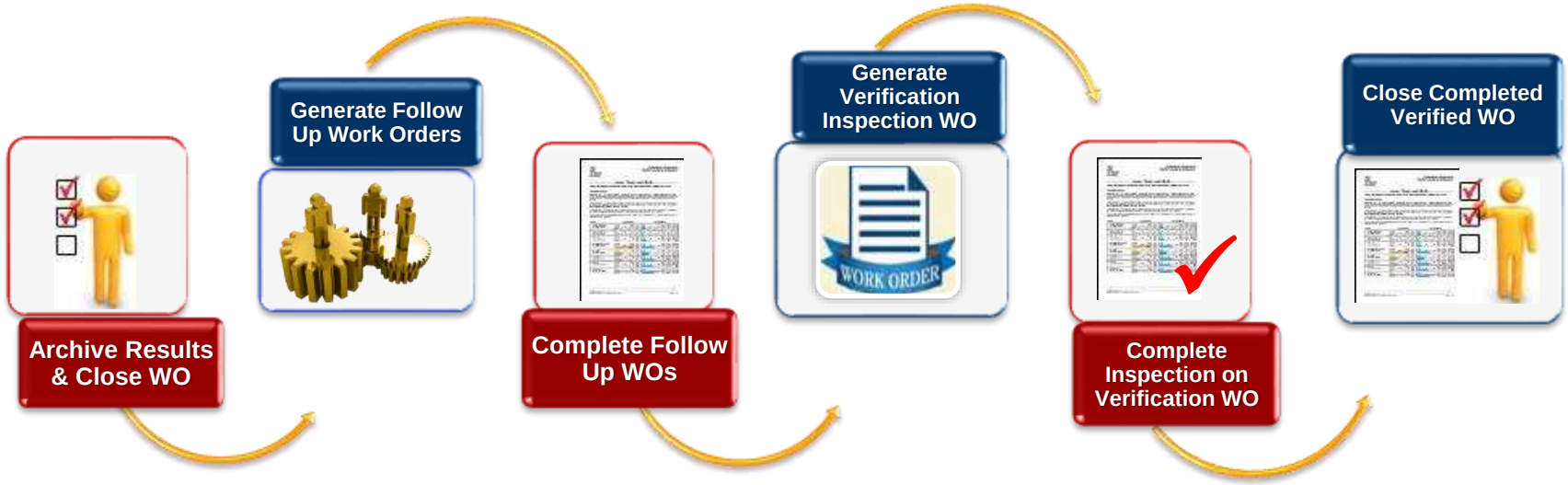
MOLD/MILDEW WO Workflow - (Continued)

Mold is Found …Doing the Work (Part 1)…



MOLD/MILDEW WO Workflow - (Continued)

Mold is Found …Doing the Work (Part 2)…

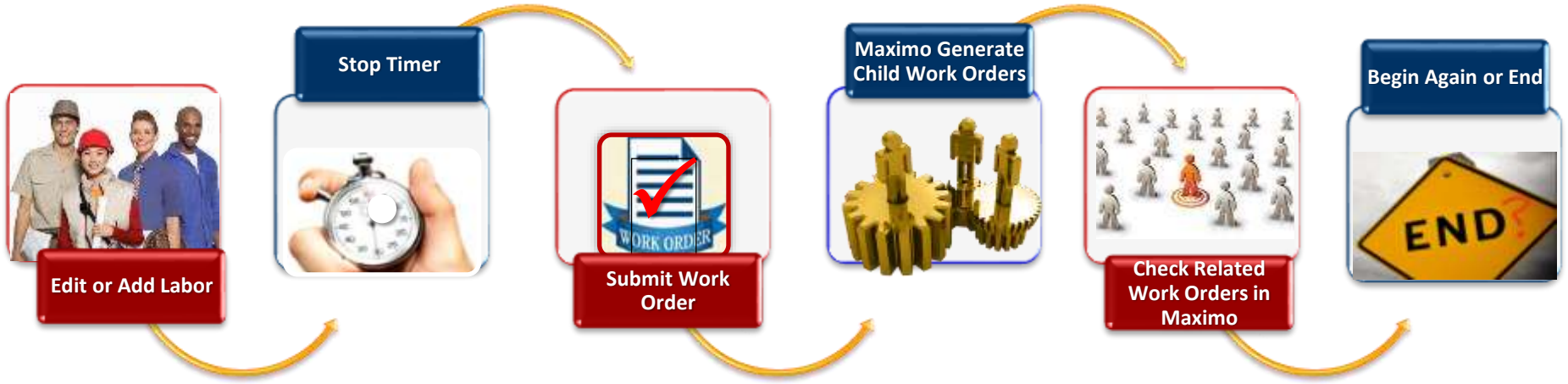


Work Order Workflow

Doing the work…

Work Order Workflow

Ending the work…



MOLD/MILDEW WO Workflow

NO Mold was Found…

iWM Mobile Application Training - Agenda

- 1. Welcome, Introductions, Overview
- 2. Sort, Search and Select WOs from Menu List
- 3. Demonstration: End to End Mold Inspection Work Flow
- 4. Follow Along: End to End Mold Inspection Work Flow
- 5. Demonstration: End to End QA Inspection Work Order
- 6. Follow Along: End to End QA Inspection Work Flow
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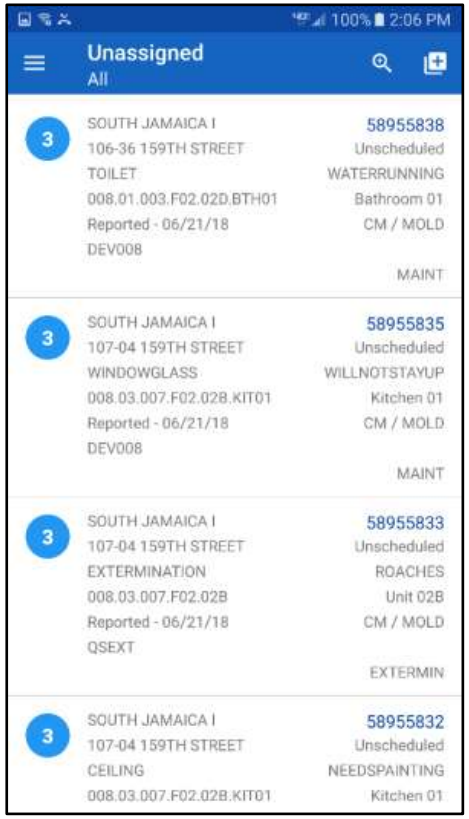
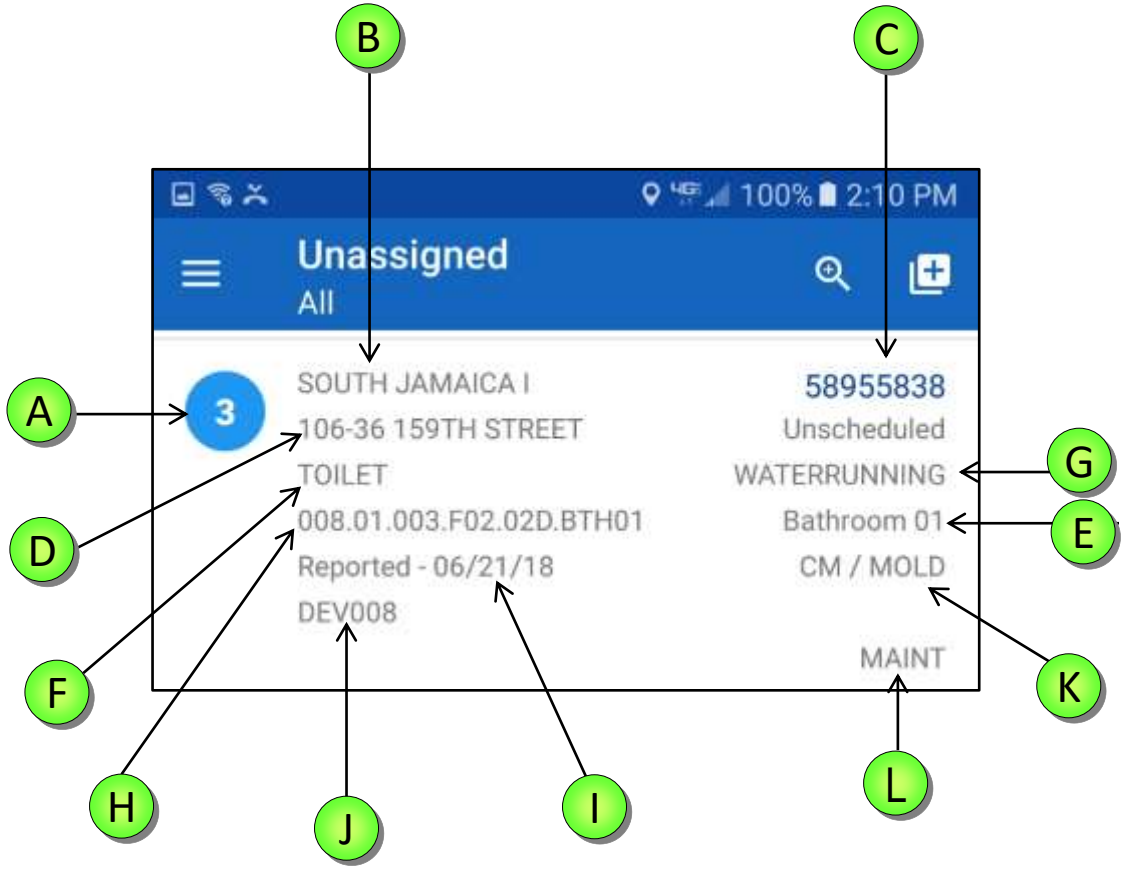


View Work Order Details

The **WO** List screen shows a detailed summary about each WO.

- A **Priority**
- B **Development**
- C **WO Number**
- D **Address**
- E **Room/Location**
- F **Failure Class**
- G **Problem Code**
- H **Location String**
- I **Reported By Date**
- J **Owner Group**
- K **WO Type**
- L **Craft**



NYCHA Locations Explained

Examples of NYCHA Locations:

- Developments
- Buildings
- Stair Halls
- Floors
- Apartments
- Rooms (bedroom, bathroom, etc.)
- Heating Plumbing Line
- Grounds
- Elevators
- Community Centers

005.01.001.F02.02C.KIT01

Development #/ Building / Stair Hall / Floor / Apartment / Room

005. 01. 001. F02. 02C. KIT01

Samsung Galaxy S8 Device

Display:
5.8 inches

Cameras:
Rear 12MP w/Flash
Front 8MP

Storage:
64GB Device
4GB RAM

Software:
Android 8.x

Talk Time:
Up to 20 hours

Samsung Galaxy S8 Buttons

Log in to the device

1

Press Power/Lock Button

Swipe across screen

Enter the default password for the **Device**:

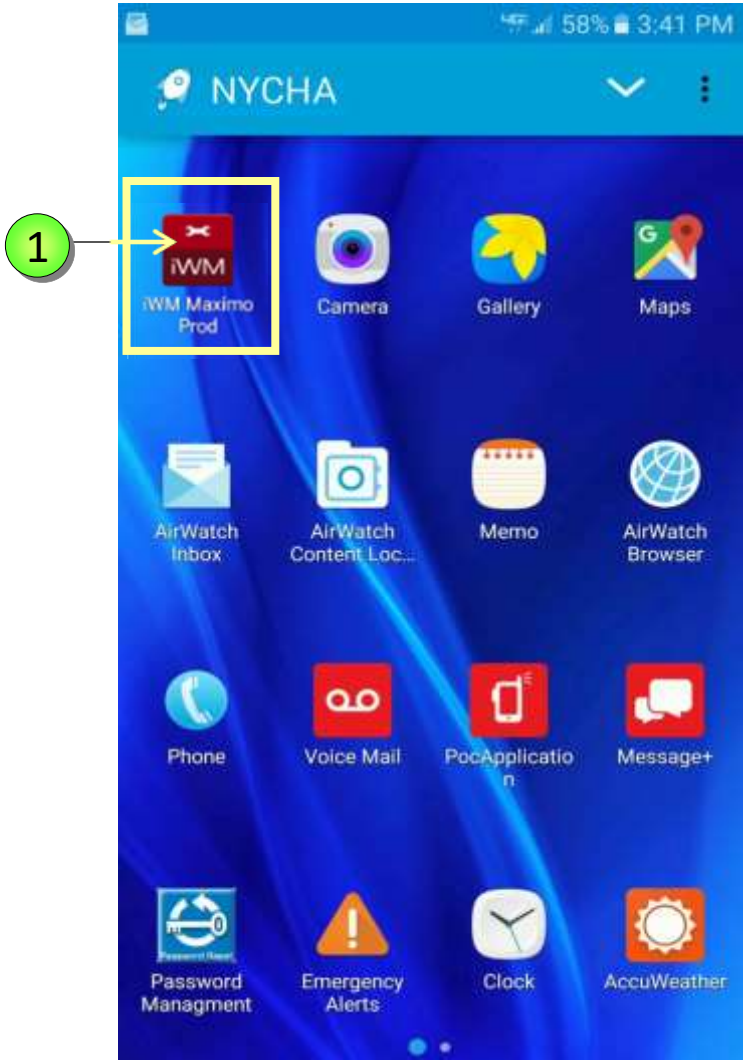
nycha90

Display Settings

	Term	Definition
1	**iWM Maximo Prod**	**Informer Work Management** allow, can search, work and close Work Orders**.**
2	**Camera**	User friendly, just point and shoot. Pictures taken are saved in the Gallery application.
3	**Gallery**	A place holder for all pictures taken. Can sort pictures by albums. Can easily search, upload and delete pictures.
4	**Maps**	Google maps reliable mapping service providing location information.

Launch the iWM Application

1. Tap on the **Work Management** Application to access the Log In screen.



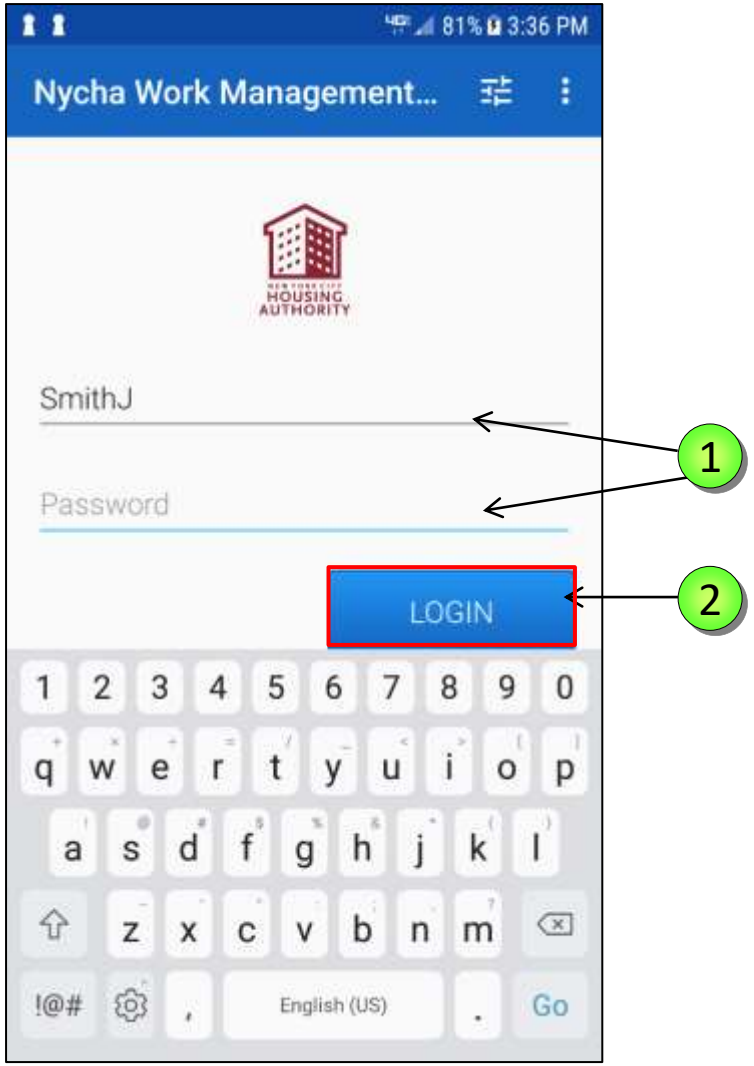
Log In To iWM Application

1. Enter **User Name** and **Password**

2. Tap **LOGIN**

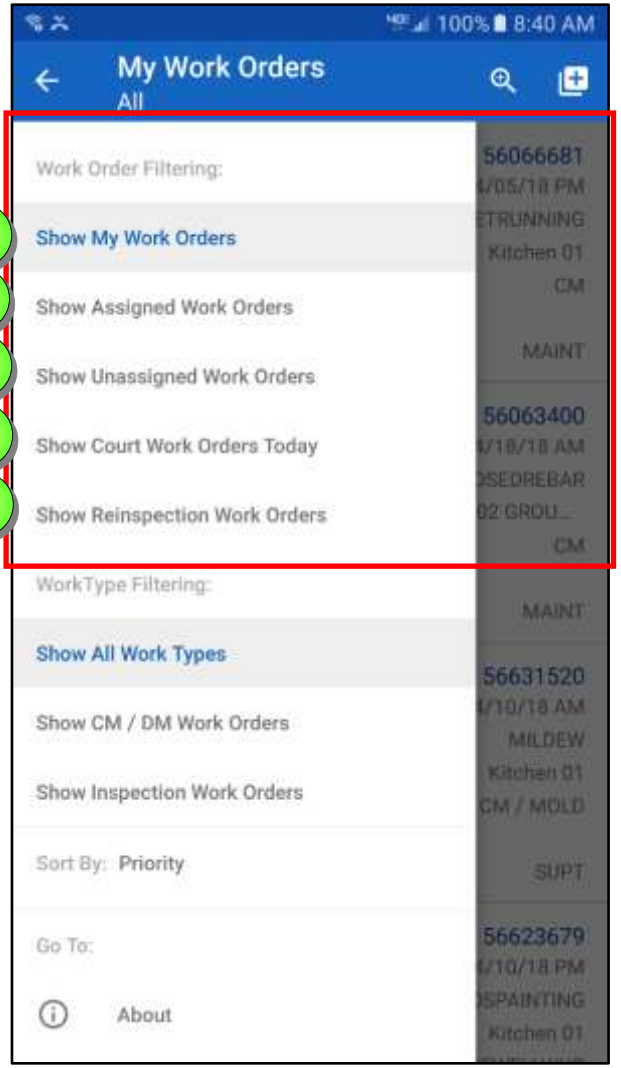
* It is the same User Name and Password as **Maximo**, and Your Computer.

NOTE: Make sure you are in an area that has good cell service.



Menu

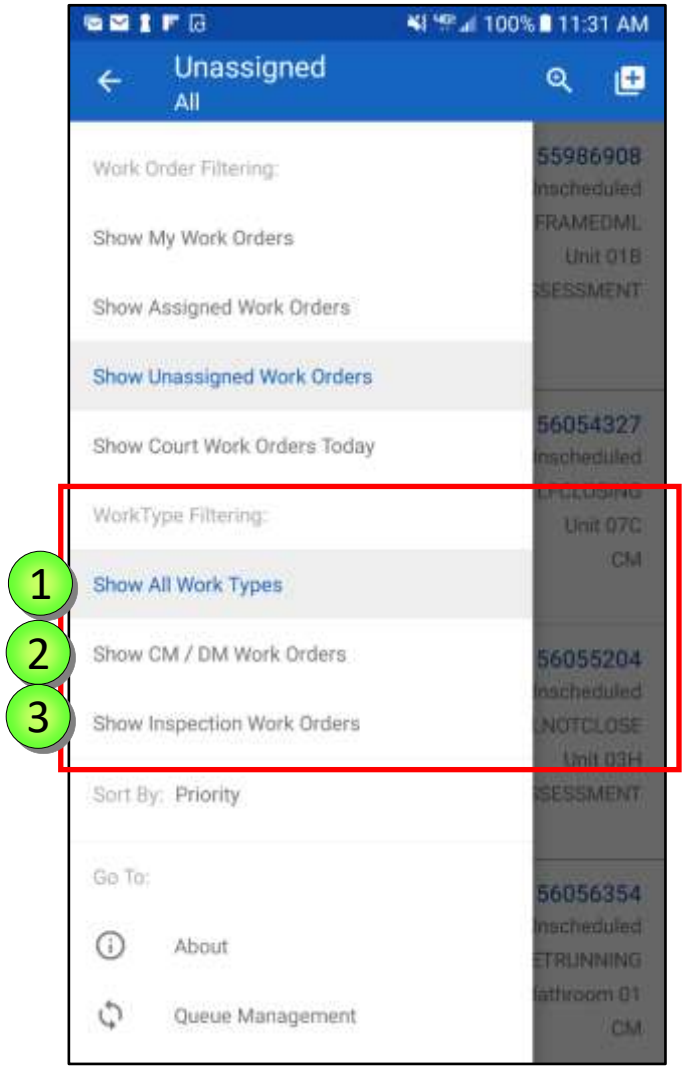
1. **Show My Work Orders**: Shows open WOs assigned to the user who is logged-in.
2. **Show Assigned Work Orders**: Shows Open WOs that are assigned to other users in the user's area (Development or Borough)
3. **Show Unassigned Work Orders**: Shows Open WOs that are not assigned to any person.
4. **Show Court Work Orders Today:** Shows Open WOs where resident has an appointment for today.
5. **Show Reinspection Work Orders:** Shows all automatically generated WOs as a result of the completed QA Mold Inspection.



Viewing Work Orders - Types

Work Orders can be filtered and sorted by Work Order type, there is no default.

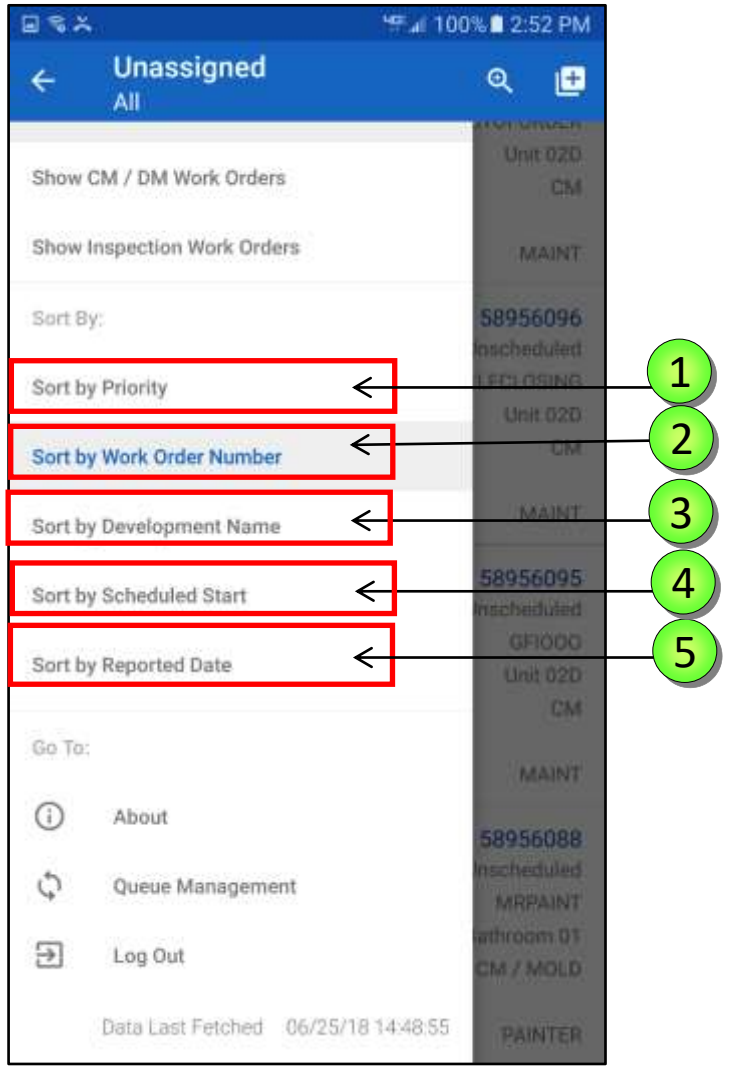
1. **Show All Work Types** displays all open Work Orders for the Development.
2. **Show CM / DM Work Orders** displays all **Corrective Maintenance** and **Deferred Maintenance** Work Orders.
3. **Show Inspection Work Orders** displays all the **Inspection** Work Orders.



How to View Work Orders - Sorting

The **Menu** is displayed. There are five options in which to sort your Work Orders:

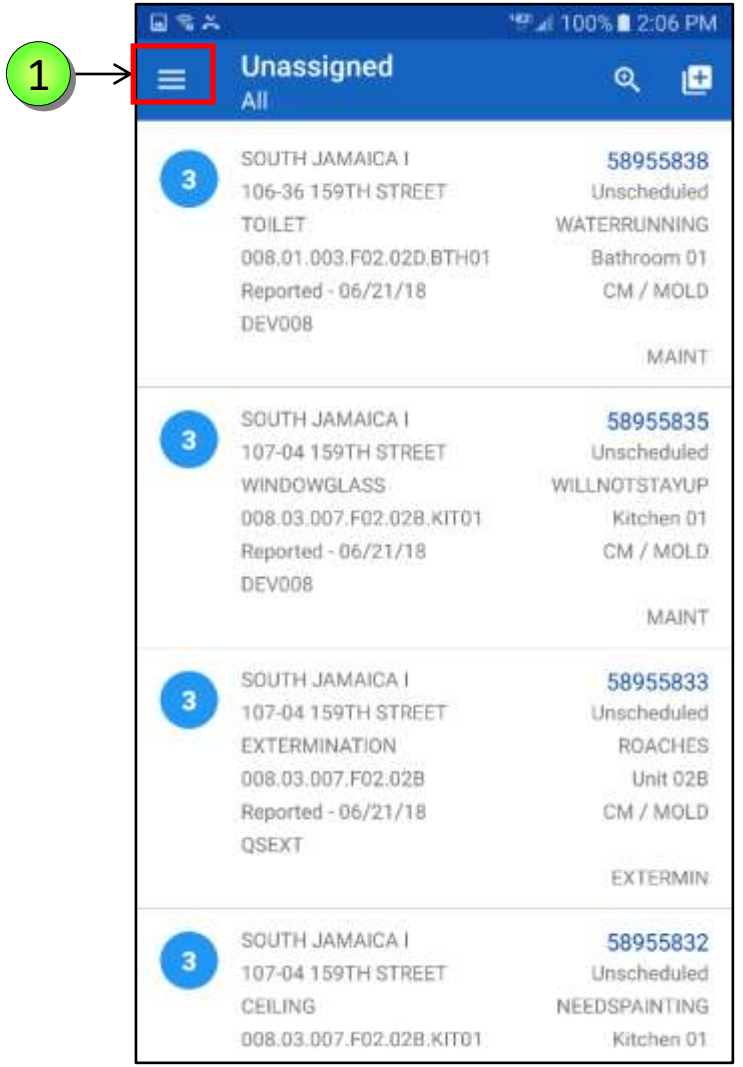
1. **Sort by Priority** defaults Work Orders based upon Priority level, with highest priorities first.
2. **Sort by Work Order Number** sorts the Work Orders is a descending order.
3. **Sort By Development Name** sorts the Work Orders by **Development** name in descending order.
4. **Sort by Scheduled Start** sorts Work Orders based on the Date and Time the work is scheduled to begin.
5. **Sort by Reported Date** sorts Work Orders based on the **Dates** the complaint was made.



Viewing Work Orders

All of the WOs that you'll always see are in the user's area/location (**Borough Wide Development** / Managed BY).

1 Tap ☰ the **Menu** Button to go to the **Menu** in order to sort the list of **Unassigned Work Orders** in a different way.



Viewing Work Orders – (Continued)

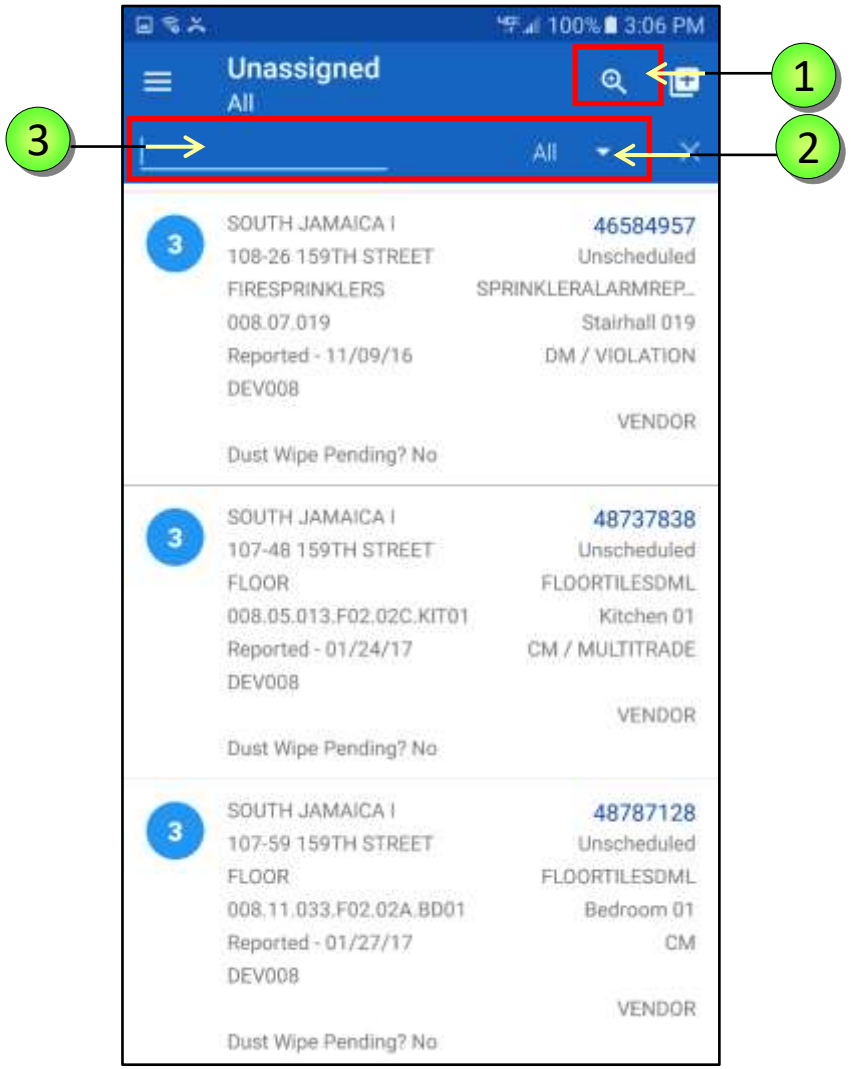
Tap **Show My Work Orders** option to go to the list of assigned Work Orders.

1. Tap on the **Menu** or **Go To** button to go back to the **Menu** screen.

2. To **Refresh** your screen manually slide your finger **down** ↓ the screen.

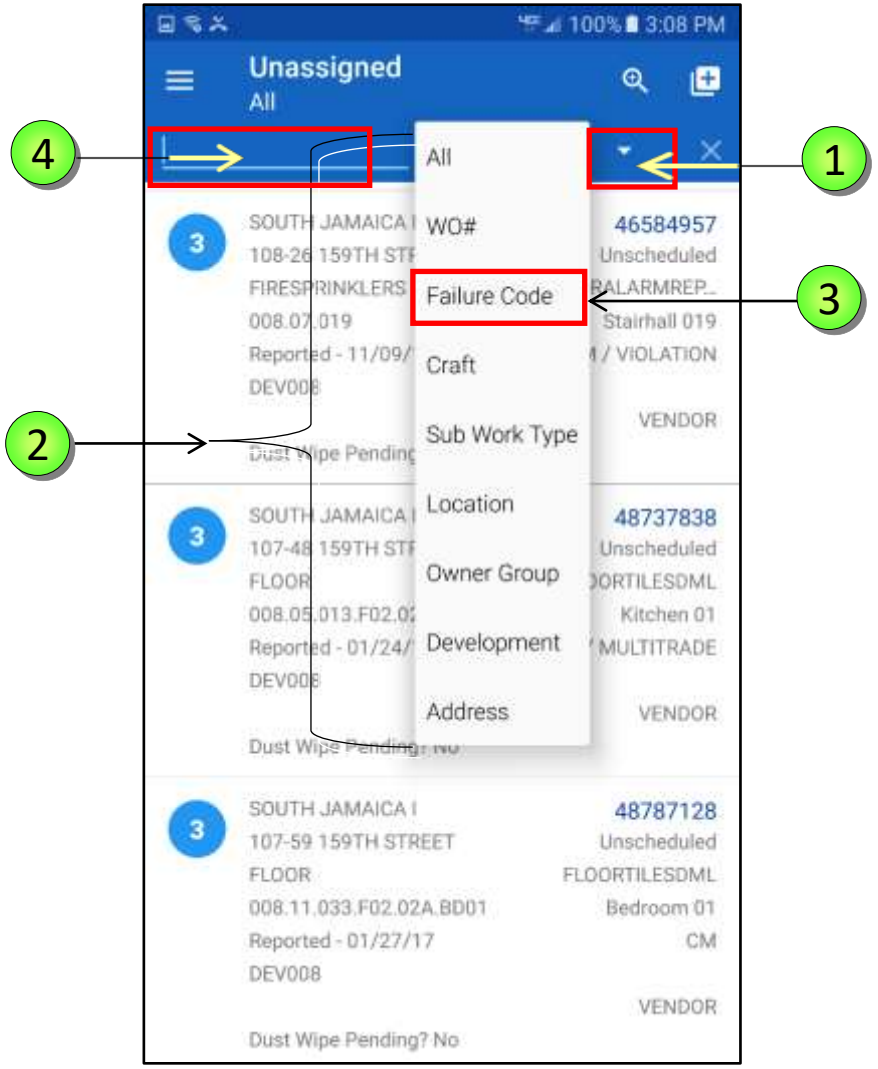
How To Search For Work Orders

1. You can search for Work Orders by tapping on the **small magnifying glass**
2. The default search criteria is **ALL** where you can use the keyboard and type a Work Order number to search for.
3. Use the keyboard and start typing the **first few numbers** of a WO and the system displays all the Work Orders that start or begin with these numbers.



How To Search For Work Orders

1. To search for more criteria, tap on ▼ the **down arrow** and a list displays with all available search options.
2. You can search by **ALL**, **Work Order Number, Failure Code, Craft, Sub Work Type, Location, Owner Group, Development, and Address.** Select the search option you wish to explore and type a new search criteria.
3. Tap on **Failure Code** and use the keyboard and start typing for this example, **door**.
4. The system displays all the WOs with this criteria.



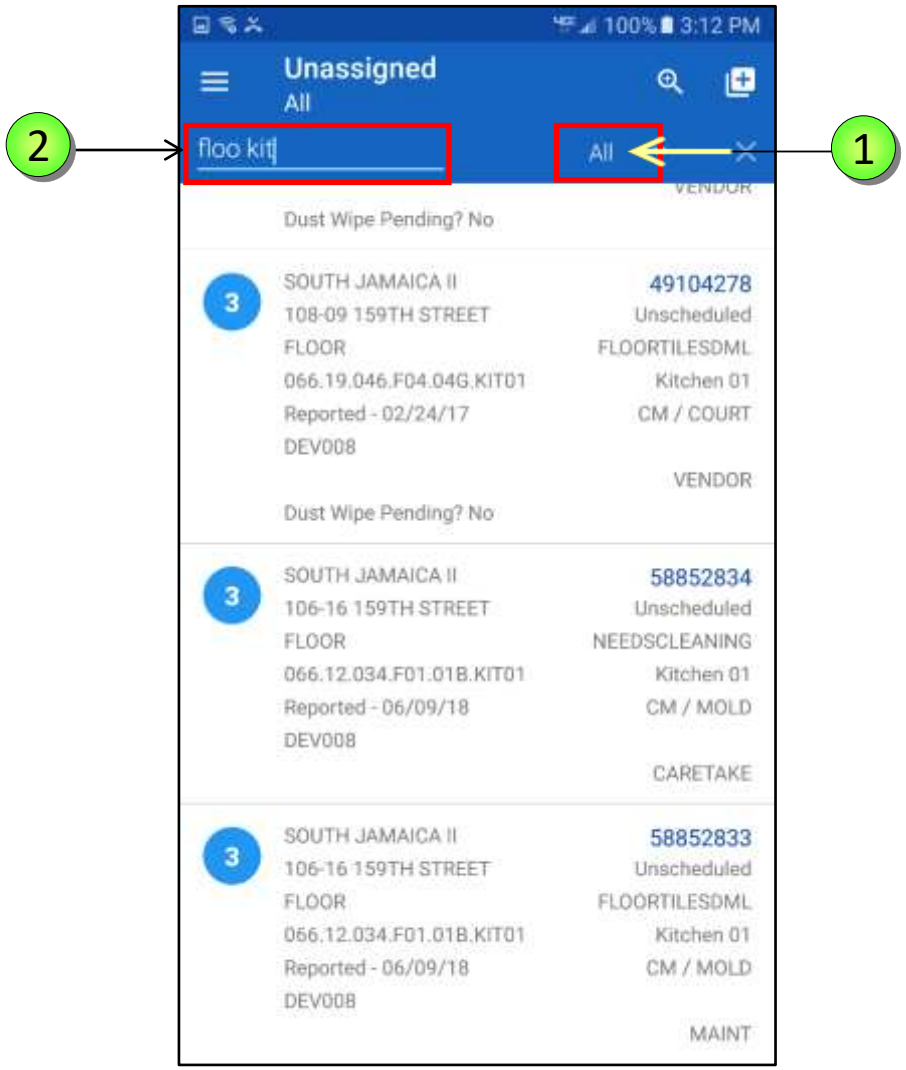
How To Perform Multiple Searches – (Continued)

You can search for more than **ONE** criteria at once

By using the **ALL** option you can then start typing what you are searching for **separating each field by a space**. The system displays all available Work Orders that matches your search options.

1. Tap **ALL**
2. Type on the corresponding line leaving a space in between **Floor Kit**

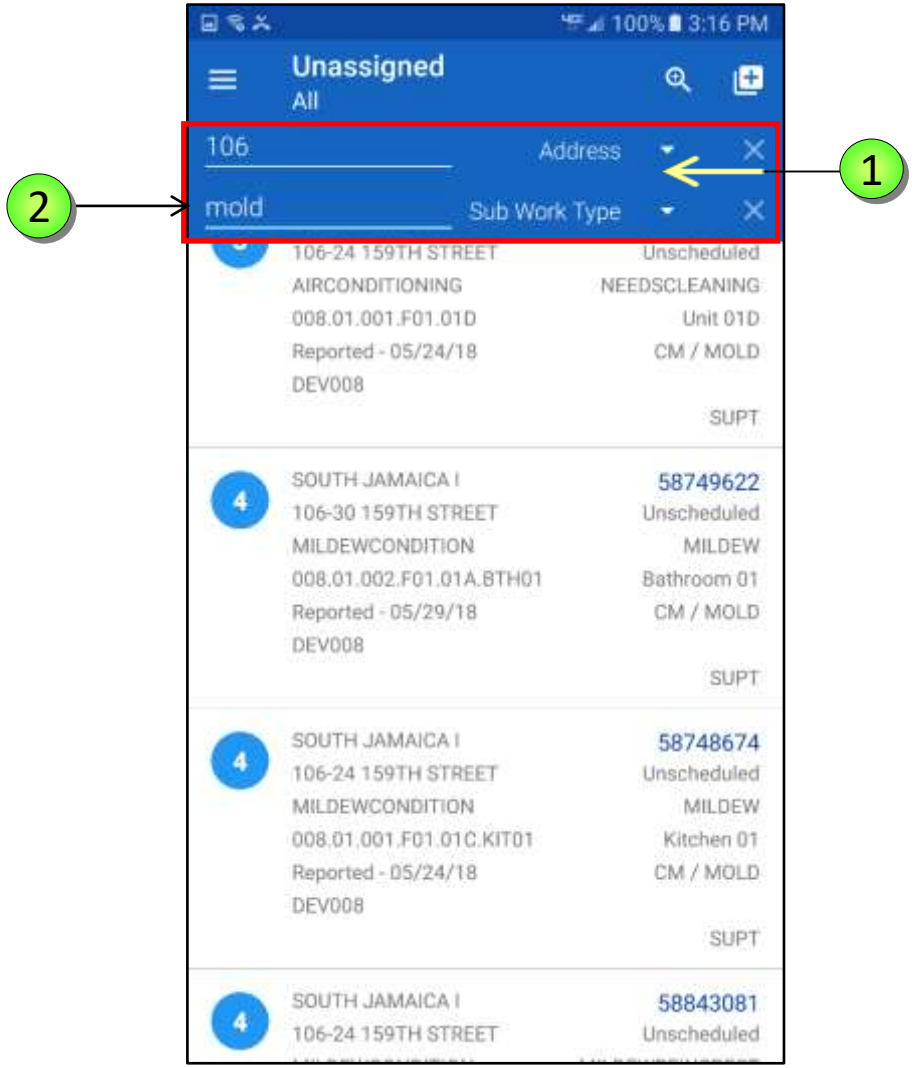
Tap **DONE** on the device keyboard



How To Perform Multiple Searches – (Continued)

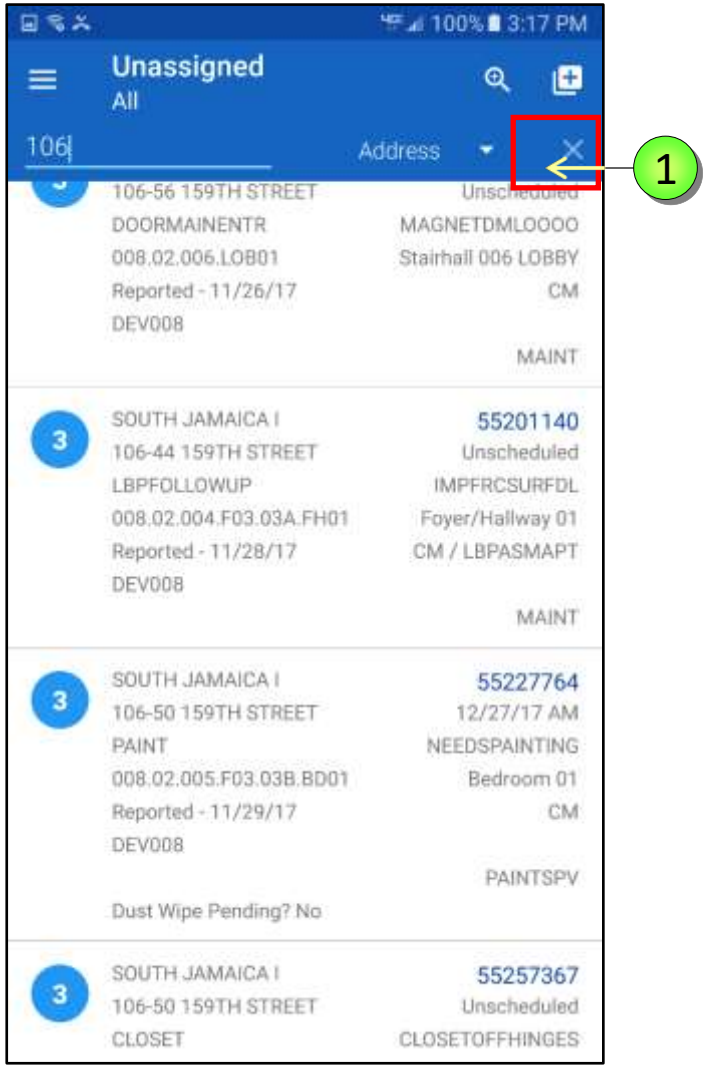
You can search for **more than ONE** criteria at once by using Multi-level Search:

1. Tap on the **small magnifying glass** then tap on the **down arrow** and choose **Address** from search options list, and type on the corresponding line **106**.
2. Tap on the **small magnifying glass** then tap on the **down arrow** and choose **Sub Work Type** from search options list, and type on the corresponding line **mold.**
3. Tap on the device **backward arrow** to remove the keyboard to see the list.



Viewing Work Orders

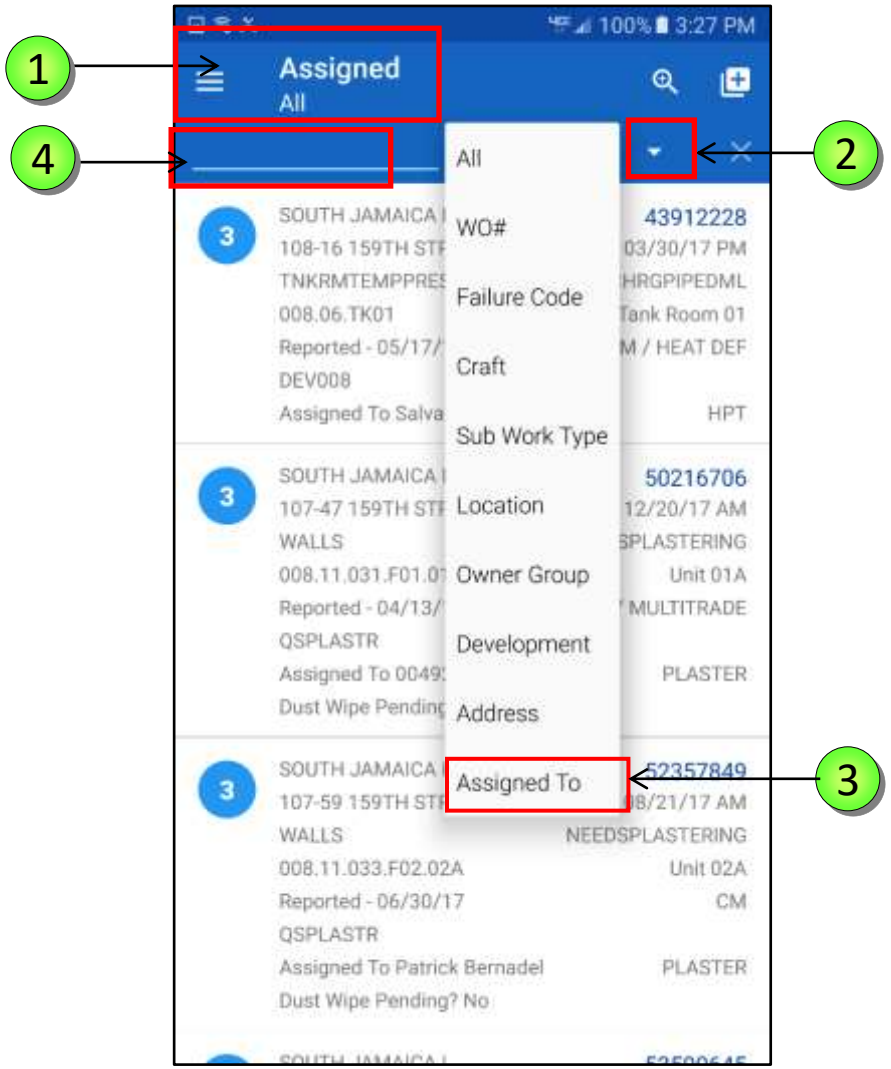
1. Tap on the **X** to collapse any search options that you do not want.



How To Search For Work Orders – ONLY Supervisors

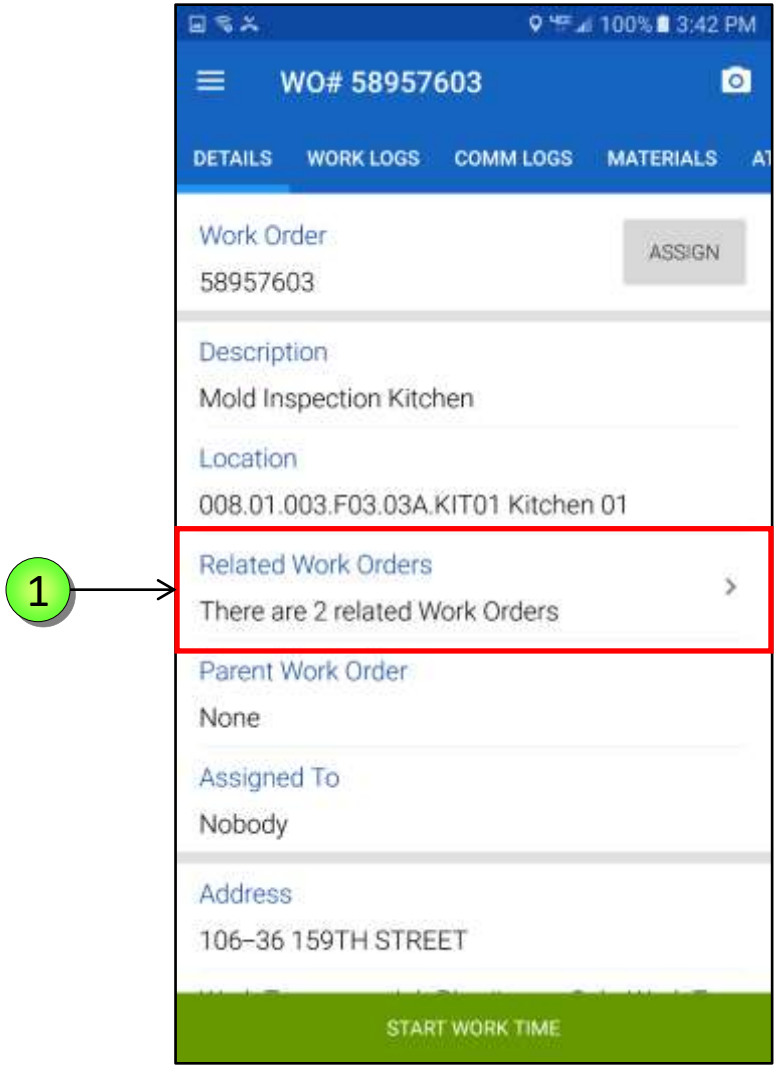
1. Tap **Show Assigned Work Orders** from the **Menu** screen.
2. To search for a particular worker assignment, tap on the **down arrow** ▼ and a list displays with all available search options.
3. Select **Assigned To** search option from the criteria list.
4. Type the worker name on the keyboard, then tap **DONE** on the keyboard. The system displays all the Work Orders assigned to this worker.

NOTE: The **Assigned To** option ONLY appears when **Show Assigned Worker Orders** is selected. You can only search for one name at a time.



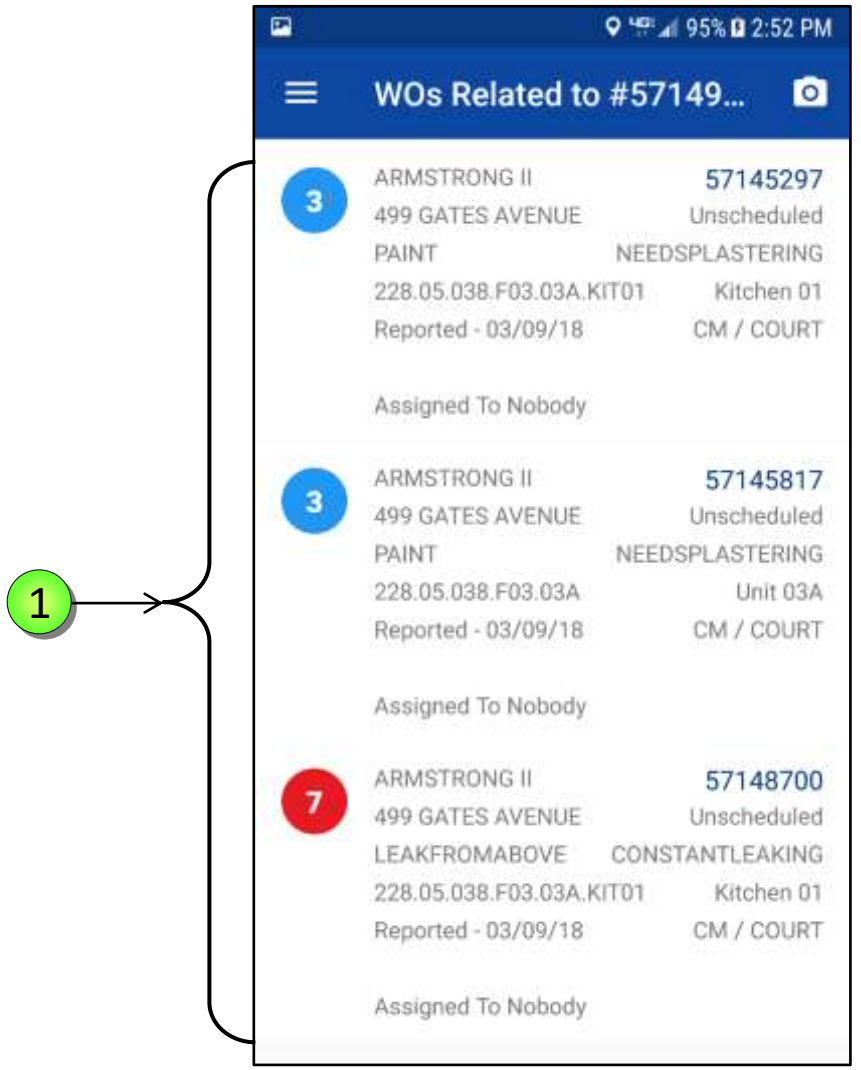
Viewing Related Work Orders

1. **Related Work Order** - An open Work Order for the same apartment and non-apartment locations display.



Viewing Related Work Orders – (Continued)

1. After viewing the **Related Work Order** listing, tap the device **back arrow** ⮌ the **Work Order Details** screen redisplay.



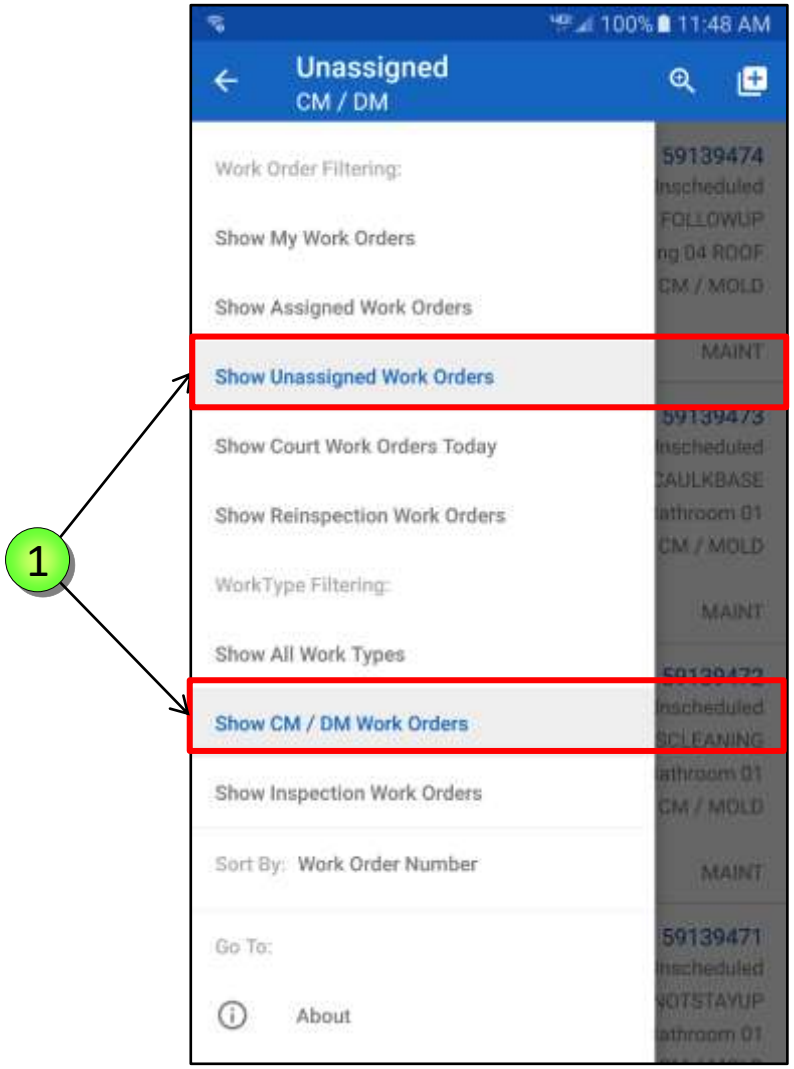
Mold Work Orders Process - Inspection

The first **Parent Work Order** appears in:

1

- **Show Unassigned Work Orders**
- **Show CM /DM Work Orders**

NOTE: If the Work Order is assigned to a worker it will appear in **Show Assigned Work Orders** or **Show My Work Orders**.



Mold Work Orders Process - QA

The first **QA Work Order** appears in:

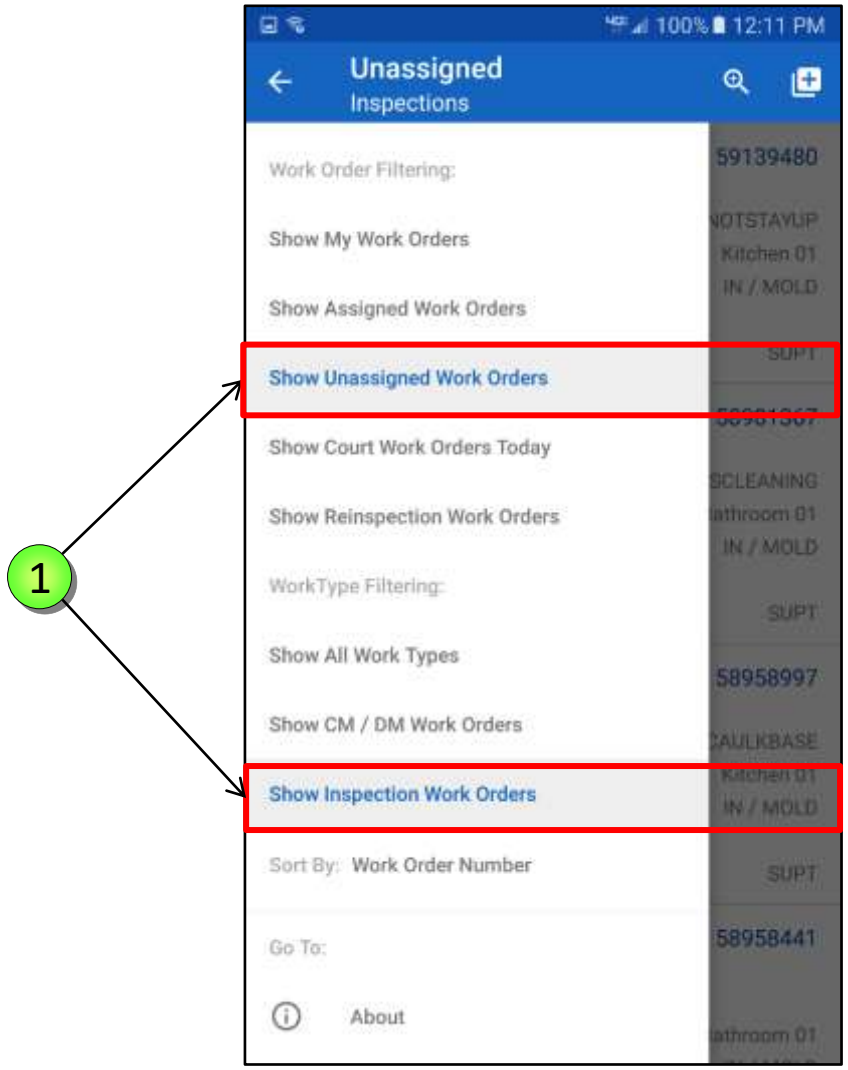
1

- **Show Unassigned Work Orders**
- **Show Inspection Work Orders**

NOTE: The **QA Work Order** is automatically generated in **Maximo 25-days**, and the new **Target Start Date** will be set to **30 days** after the last Child Work Order is closed (or **25-days** after the mold inspection gets closed if no children are created).

The **Target Finish Date** is set to **15 days** after the **Target Start Date**.

If either **Target Start Date** or **Target Finish Date** fall on a weekend or a holiday, then **next business day**.



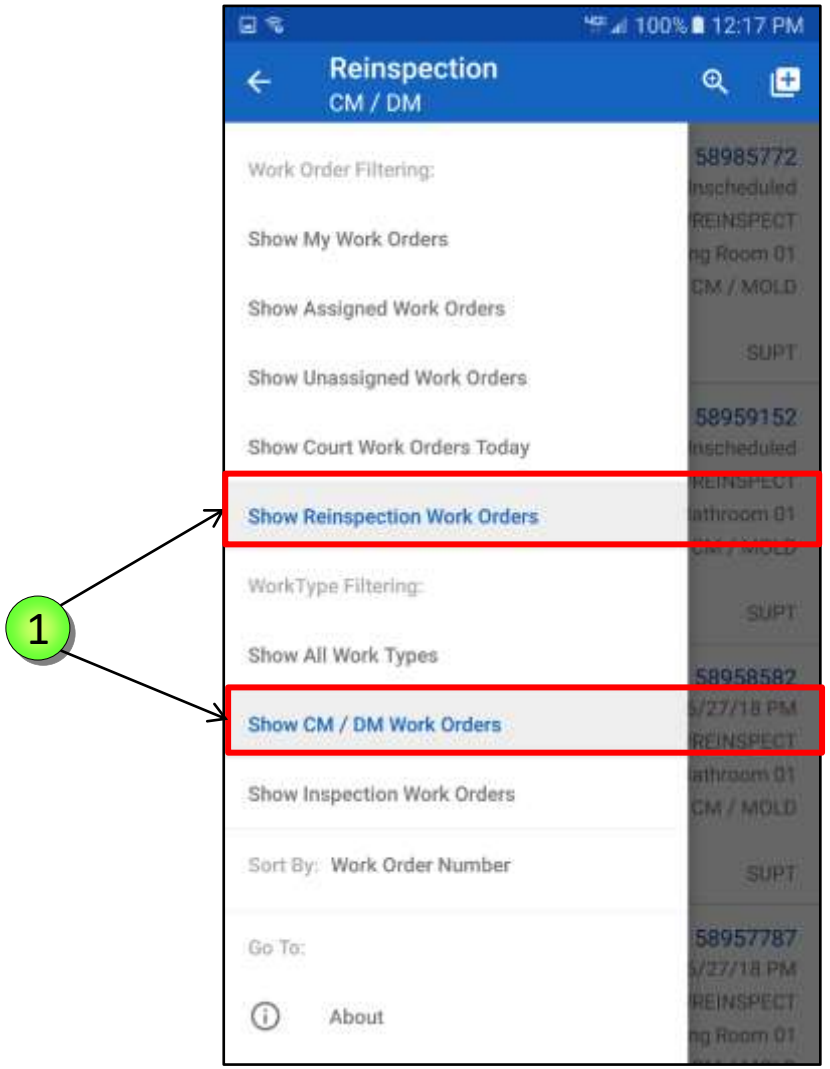
Mold Re-Inspection Work Orders Process

The first **Re-Inspection Work Order** appears in:

1

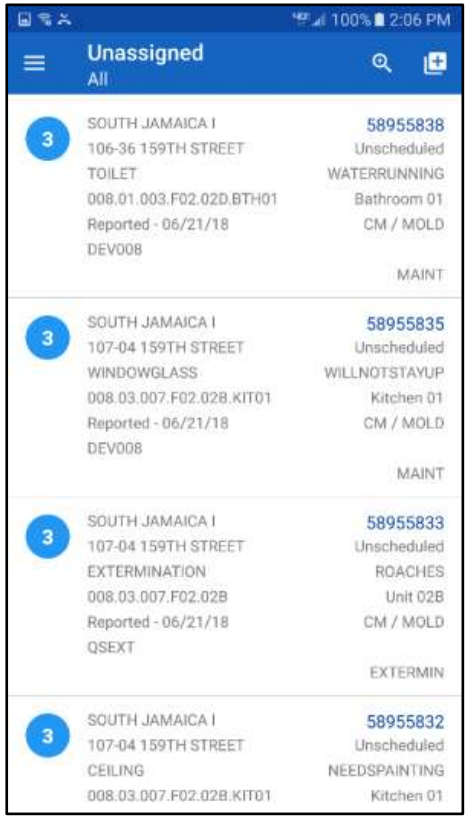
- **Show Reinspection Work Orders**
- **Show CM / DM Work Orders**

NOTE: Maximo creates the **Re-Inspection** Work Order **immediately** and the person who submits the QA Work Order, should see the **Reinspection Work Order** on his device and right there and then **complete** and **submit Re-Inspection results**.



iWM Mobile Application Training - Agenda

- 1. Welcome, Introductions, Overview
- 2. Sort, Search and Select WOs from Menu List
- ➢ 3. Demonstration: End to End Mold Inspection Work Flow
- 4. Follow Along: End to End Mold Inspection Work Flow
- 5. Demonstration: End to End QA Inspection Work Order
- 6. Follow Along: End to End QA Inspection Work Flow
- 7. Demonstration: End to End Re-Inspection Work Flow
- 8. Mold Inspection Work Order Exercises
- 9. Conclusion: FAQs, Pet Policy, Kit Overview, Class Evaluation Form

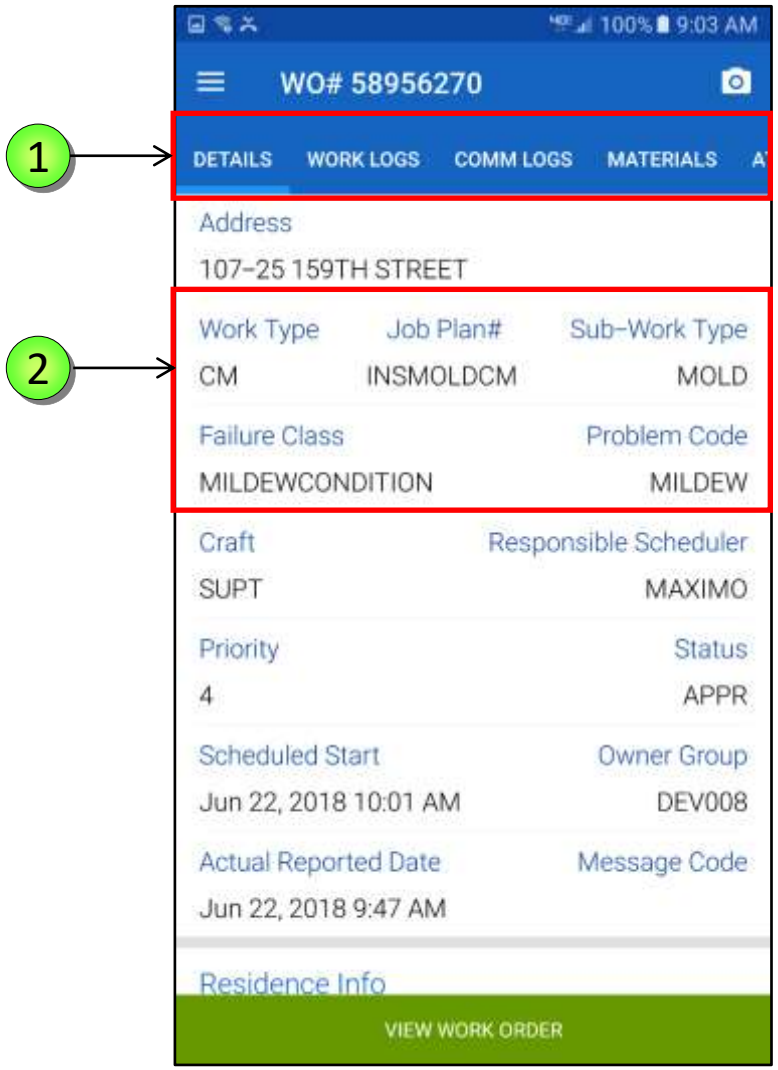


View Work Order Details

1. The user can review the **Work Order Details** by scrolling up and down on the **Details** tab.

The fields below are unique for the **Mold Inspection** Work Order:

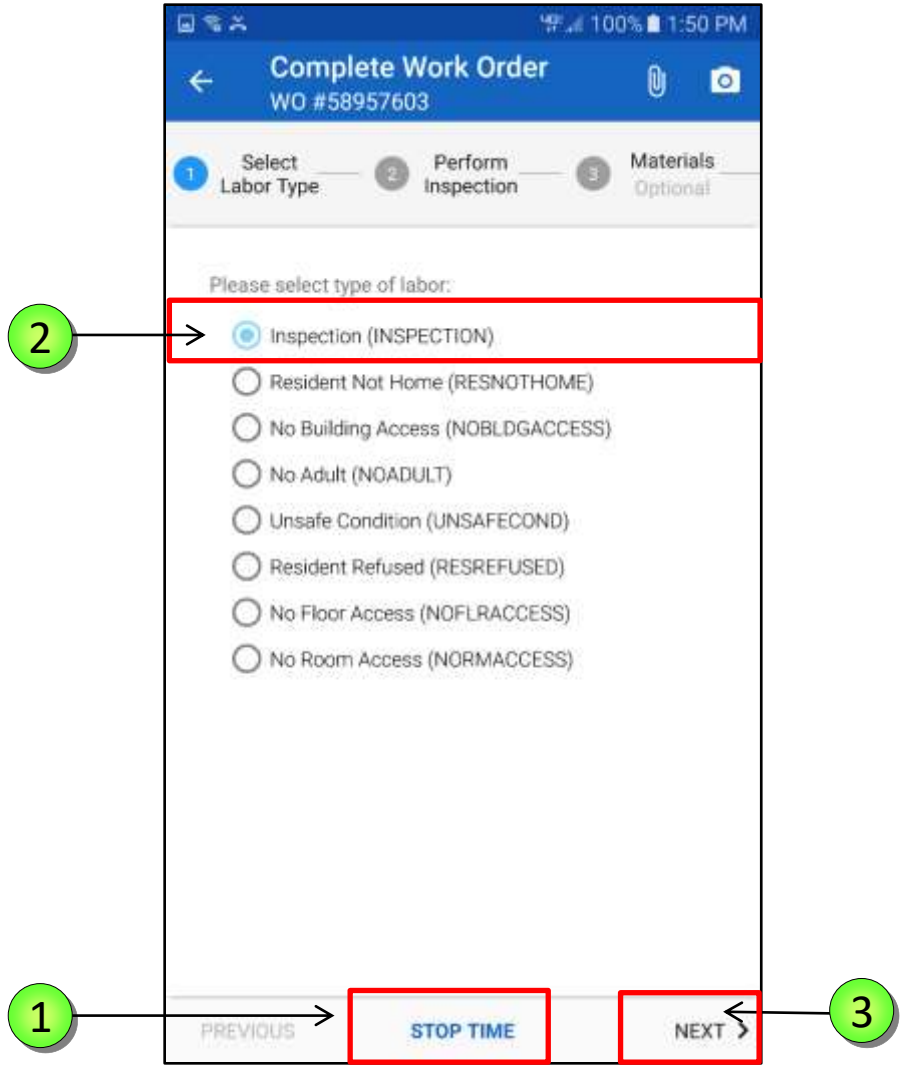
2. **Work Type** = **CM**
Job Plan# = **INSMOLDCM**
Sub-work Type = **MOLD**
Failure Class = **MILDEWCONDITION**
Problem Code = **MILDEW**



View and Select Labor - Start the Timer

After reviewing the **Work Order Details** the user is now ready to begin the work. **START TIME** is displayed at the bottom of the screen.

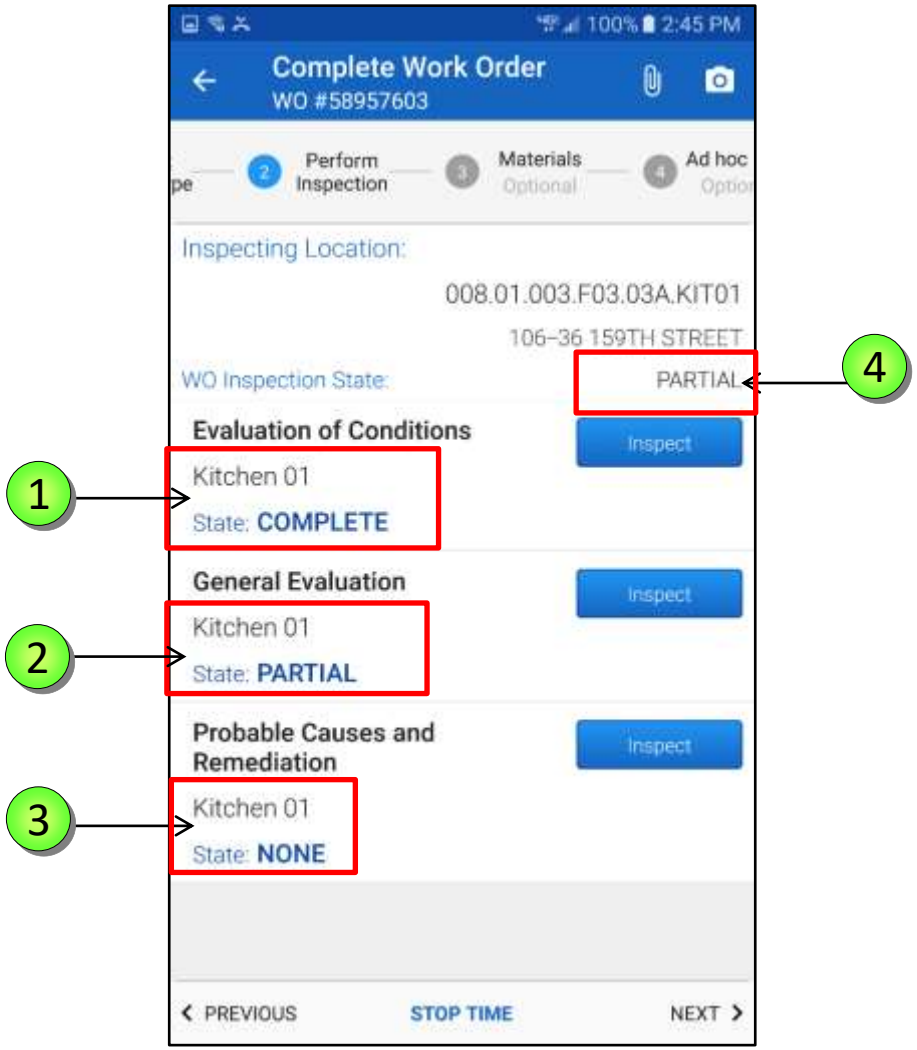
1. Tap on **START TIME**
2. Select **Inspection**
3. Tap **NEXT**



Inspection Status

On **Perform Inspection** screen you can see the **WO Inspection State.** This is the current **State** of the Inspection.

1. **COMPLETE** – All required results have been entered.
2. **PARTIAL** – Some results have been entered, but not **<u>All</u>** required results.
3. **NONE** – No results have been entered.
4. **NOTE: WO Inspection State** of the whole WO will appear on this screen and on the **Work Order List** screen.

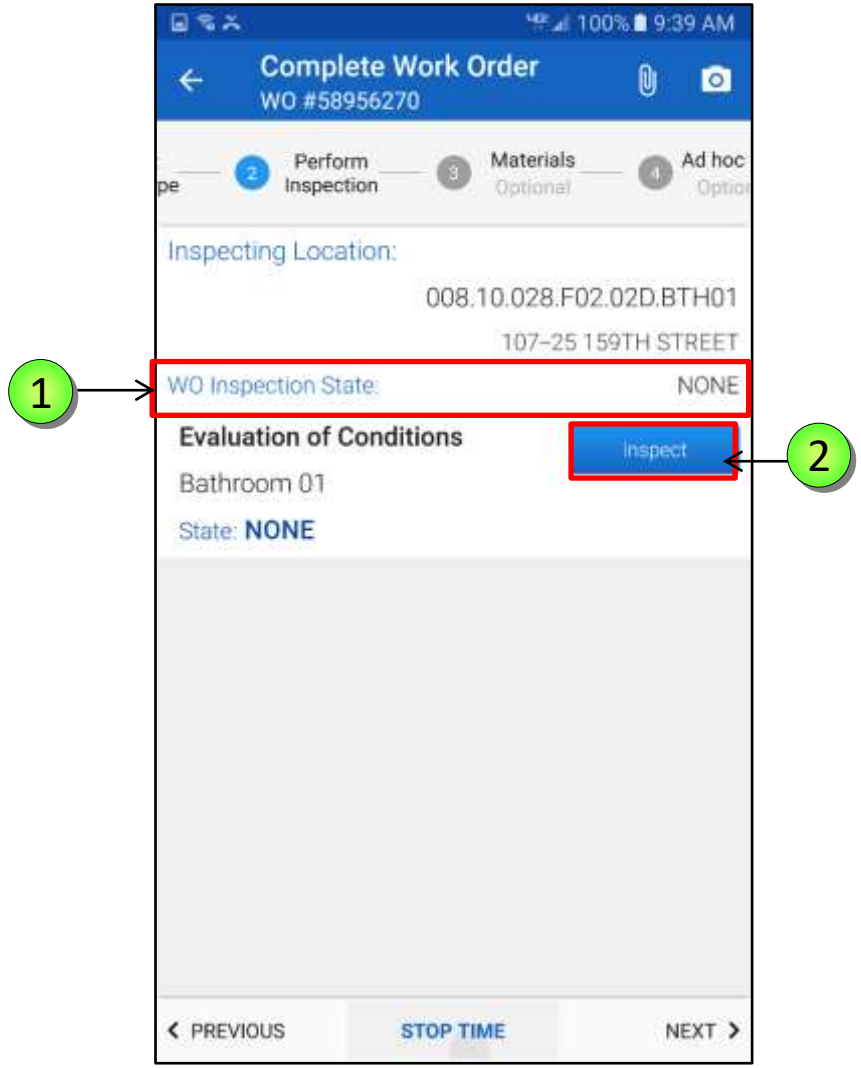


Perform Inspection

The first task in a series of tasks is

Task 1: Evaluation of Conditions

1. The **WO Inspection State** is **NONE.**
2. Tap **INSPECT**



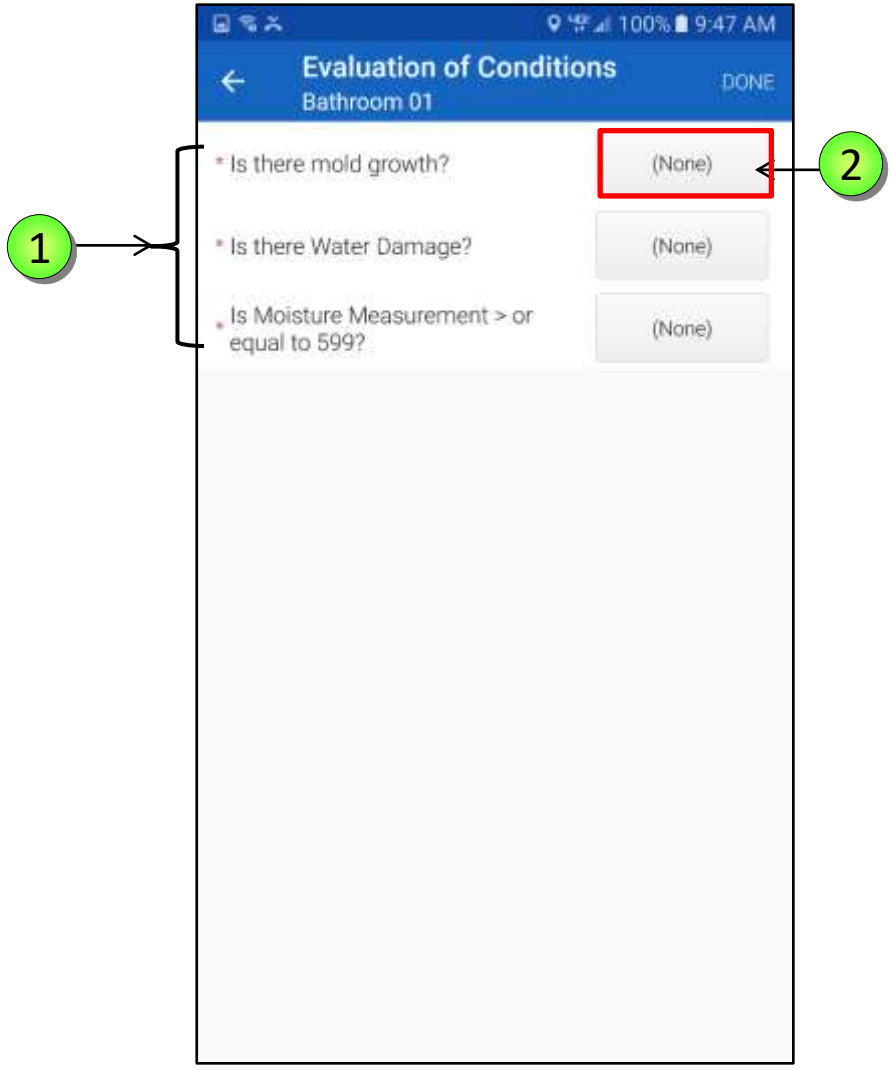
Evaluation of Mold Growth – (Continued)

Items that must be inspected are marked by a red asterisks **(*)**

All questions that have an asterisk **(*)** are mandatory.

1. **Evaluation of Conditions** screen requires evaluation for:
   - **Mold Growth (Yes/No)**
   - **Water Damaged (Yes/No)**
   - **Moisture Measurement >= 599 (Yes/No)**

2. Tap **NONE** next to **Is there mold growth?**



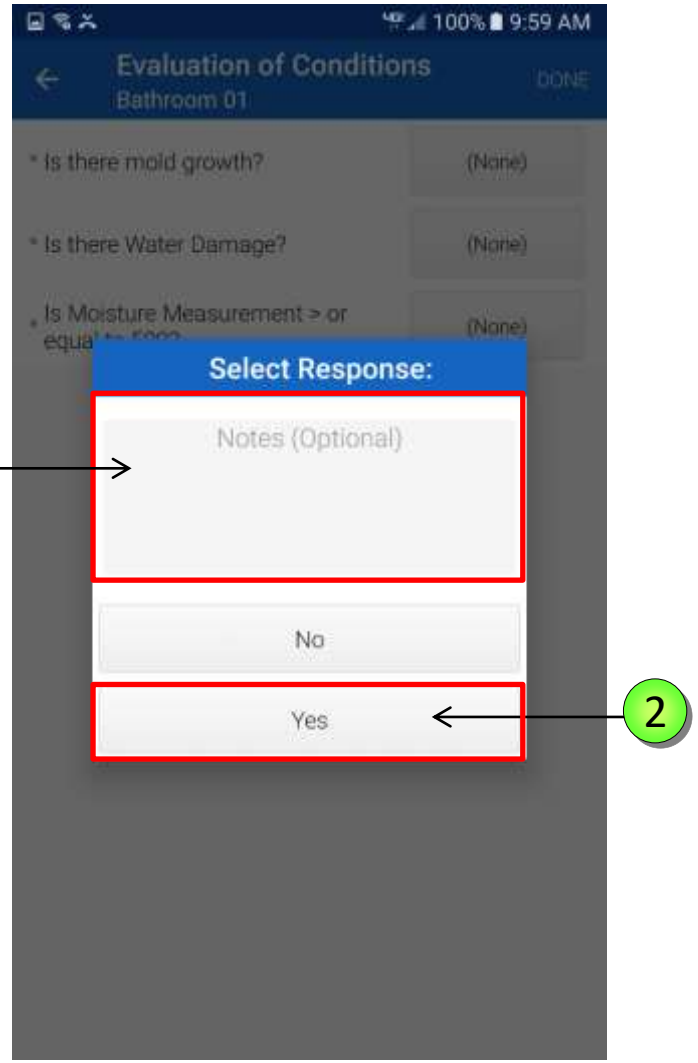
Evaluation of Mold Growth – (Continued)

The **Select Response** window display 3 options:

- **Notes** (optional)
- **No**
- **Yes**

1. In the **Notes** field, the user can input free-text information.

2. Tap **YES**



Evaluation of Mold Growth – (Continued)

The **Select Areas Affected** screen displays, all of the fields or areas to select.

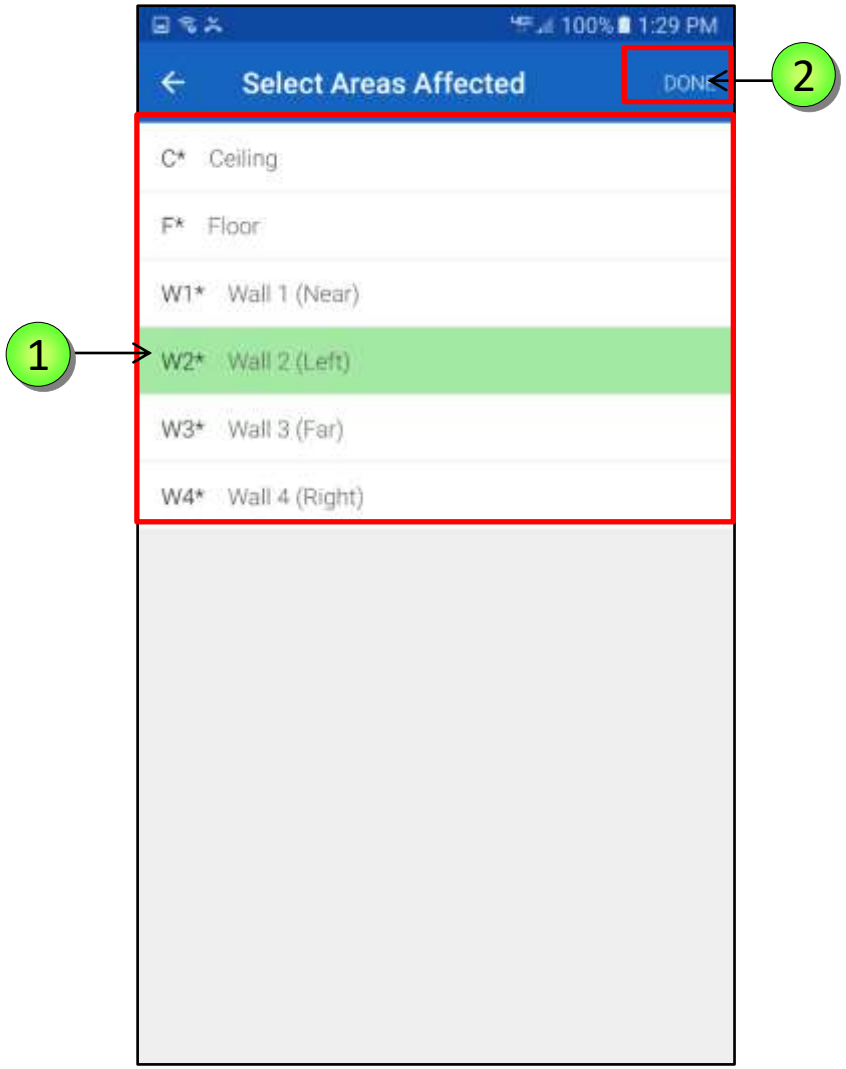
1 To select an affected area tap on it, **iWM** then highlights the selected area in **Green** color.

To unselect an area tap on it again and the **Green** bar disappears.

Evaluation of Mold Growth – (Continued)

1. Tap on **W2* Wall 2 (left)**, the system highlights it in Green.

2. Tap **DONE**

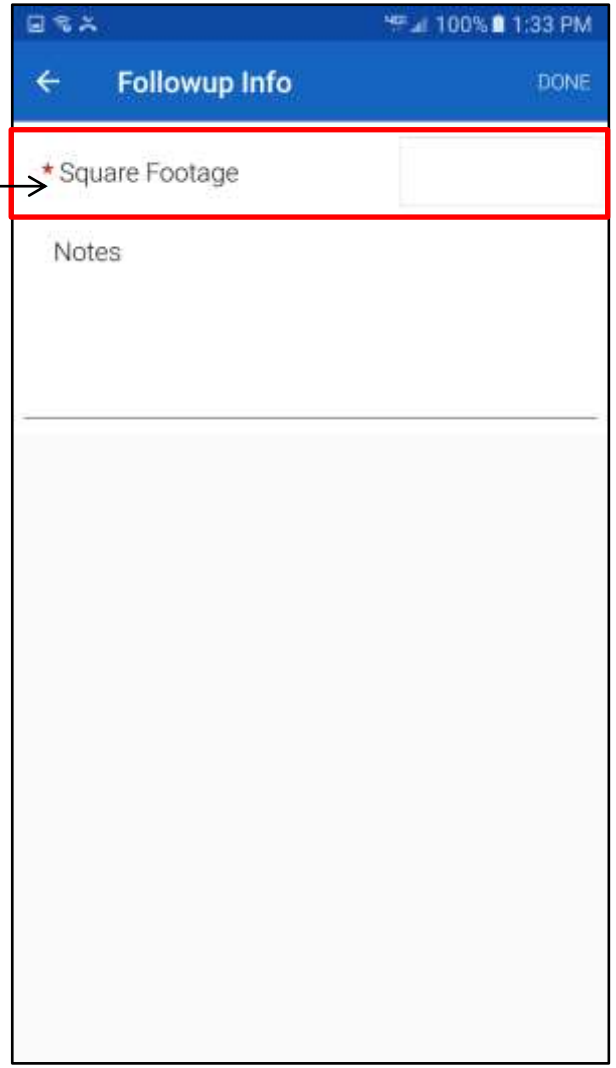


Evaluation of Mold Growth – (Continued)

The **FollowUp Info** screen displays, the **Square Footage** which is a **Mandatory** field:

1. Tap **SQUARE FOOTAGE**

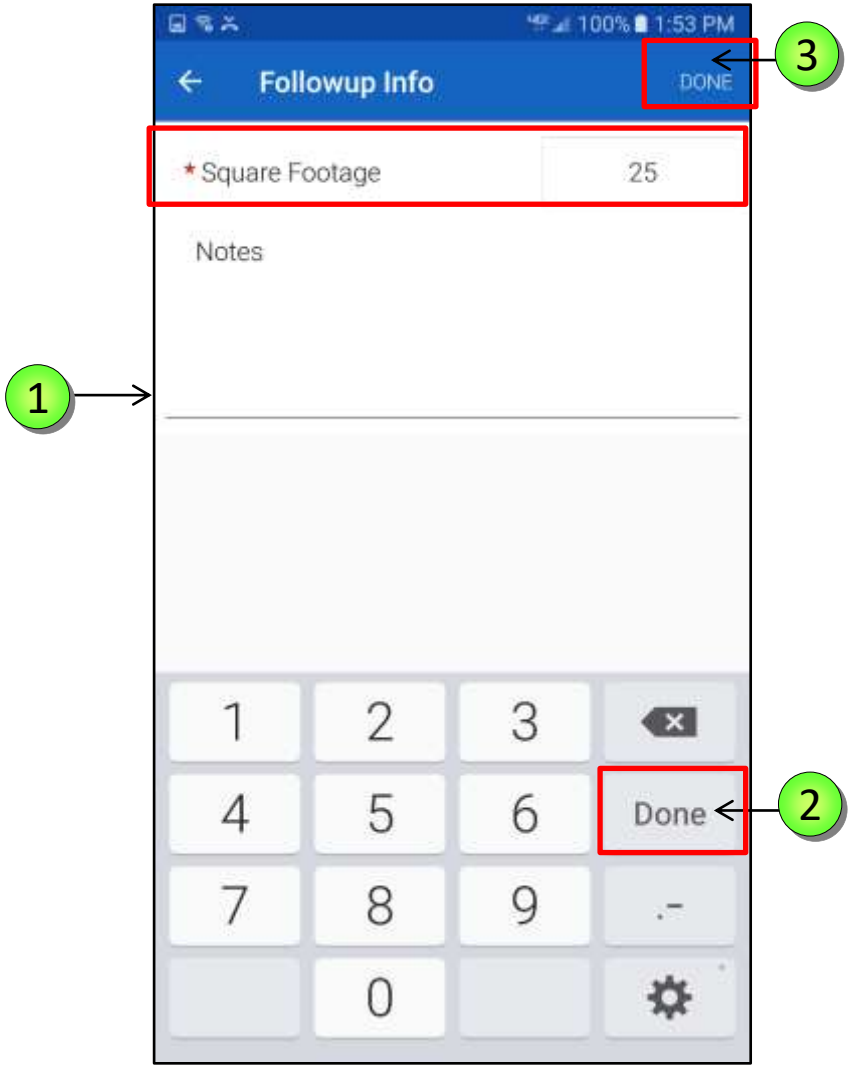
NOTE: Square footage is the total of all areas added together.



Evaluation of Mold Growth – (Continued)

Tap inside the field and the device keyboard displays.

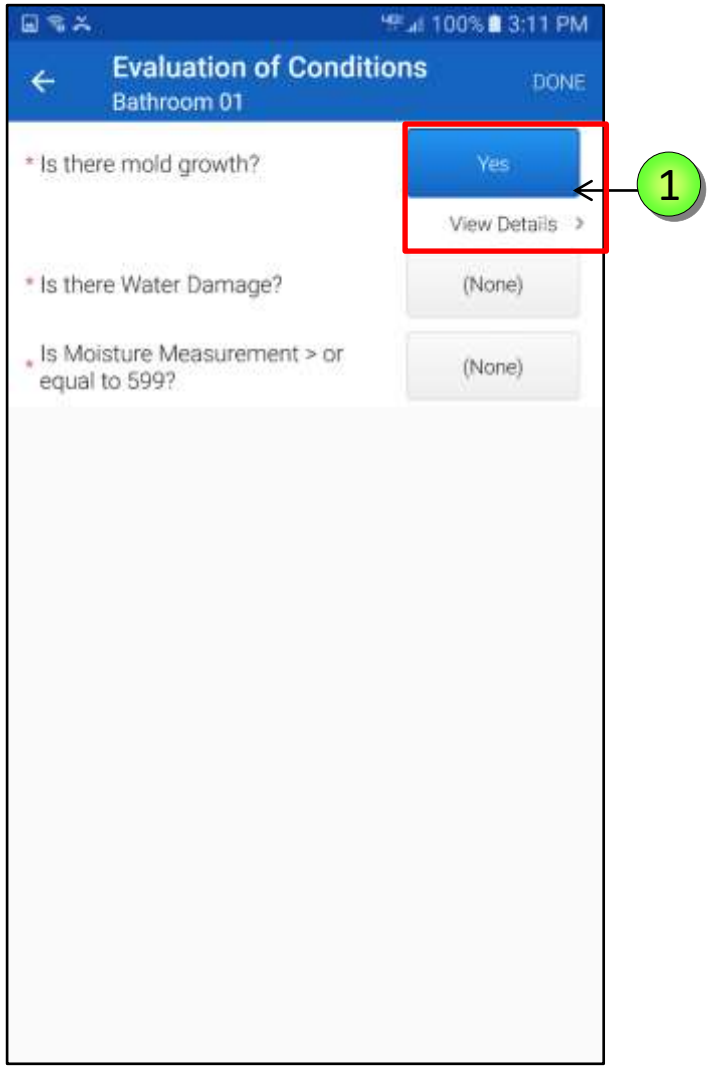
1. Type **25**
2. Tap **DONE** on the device keyboard
3. Tape **DONE**



Evaluation of Mold Growth – (Continued)

Once the user completes the mold growth inspection, the **View Details** appear below the **Yes** button.

1 Tap on the **View Details** to see the summary of the **Inspection** that was performed.



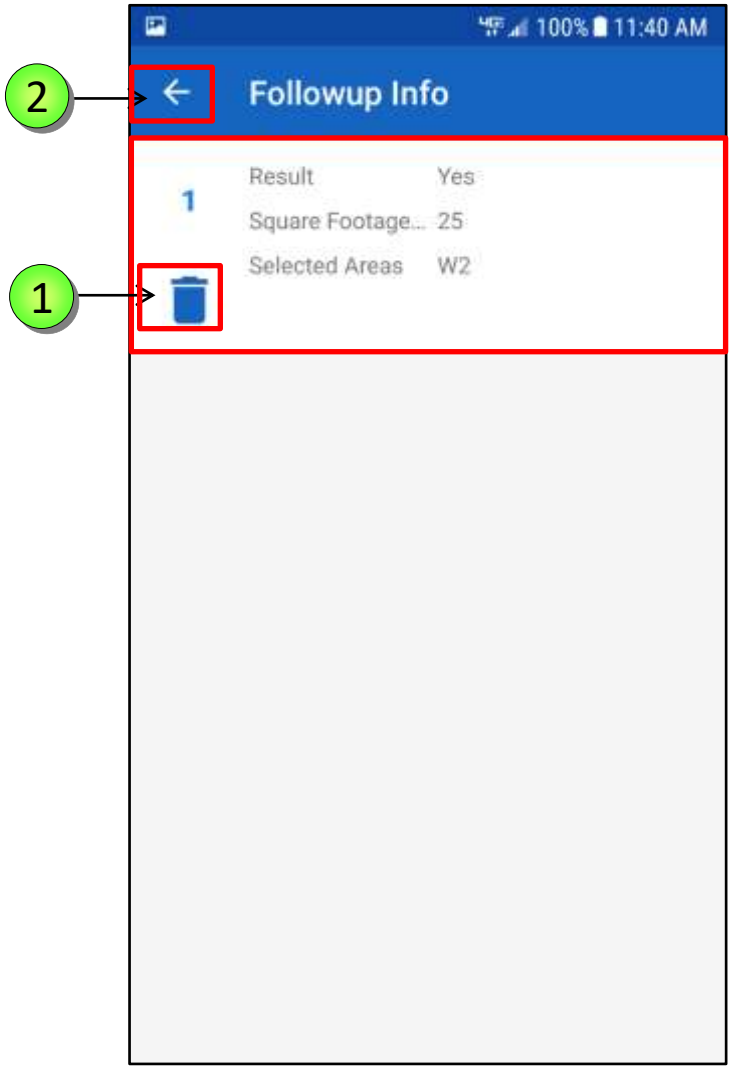
Evaluation of Mold Growth – (Continued)

The **View Details** screen displays a summary of the inspection performed.

NOTE: to change the answers entered, tap on the **Garbage Pail** icon , to erase the information entered.

Confirm the message in the Pop-up Window, **"Are you sure you want to delete this result?"** tap **Yes**.

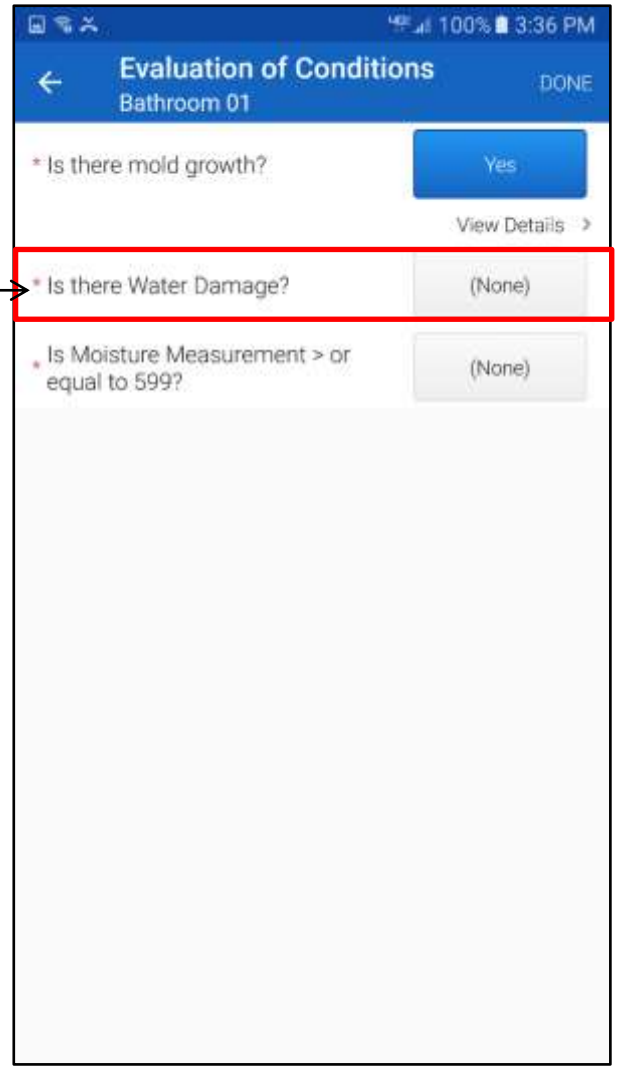
Tap the **back arrow** to return to the **Evaluation of Conditions** screen.



Evaluation of Water Damage

The second Mandatory question on the **Evaluation of Conditions** screen is: **“is there Water Damage?”**

1 Tap **NONE** next to **is there Water Damage?**



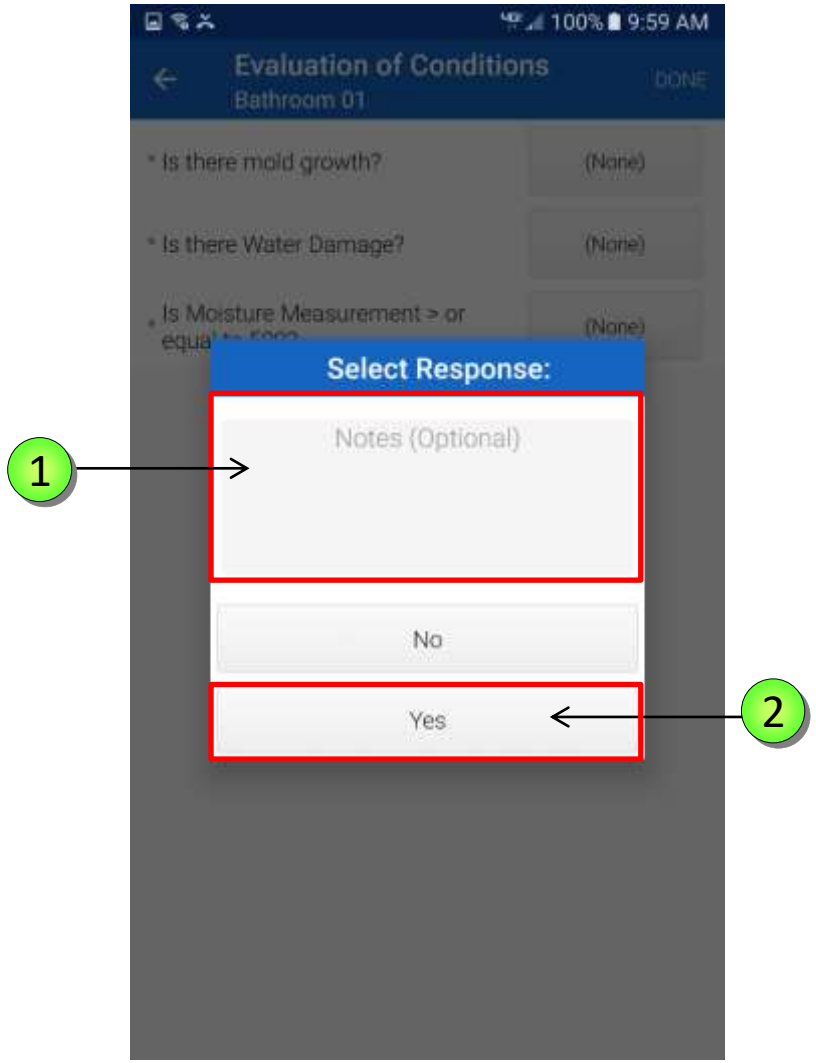
Evaluation of Water Damage – (Continued)

The **Select Response** window display 3 options:

- **Notes** (optional)
- **No**
- **Yes**

1. In the **Notes** field, the user can input free-text information.

2. Tap **YES**

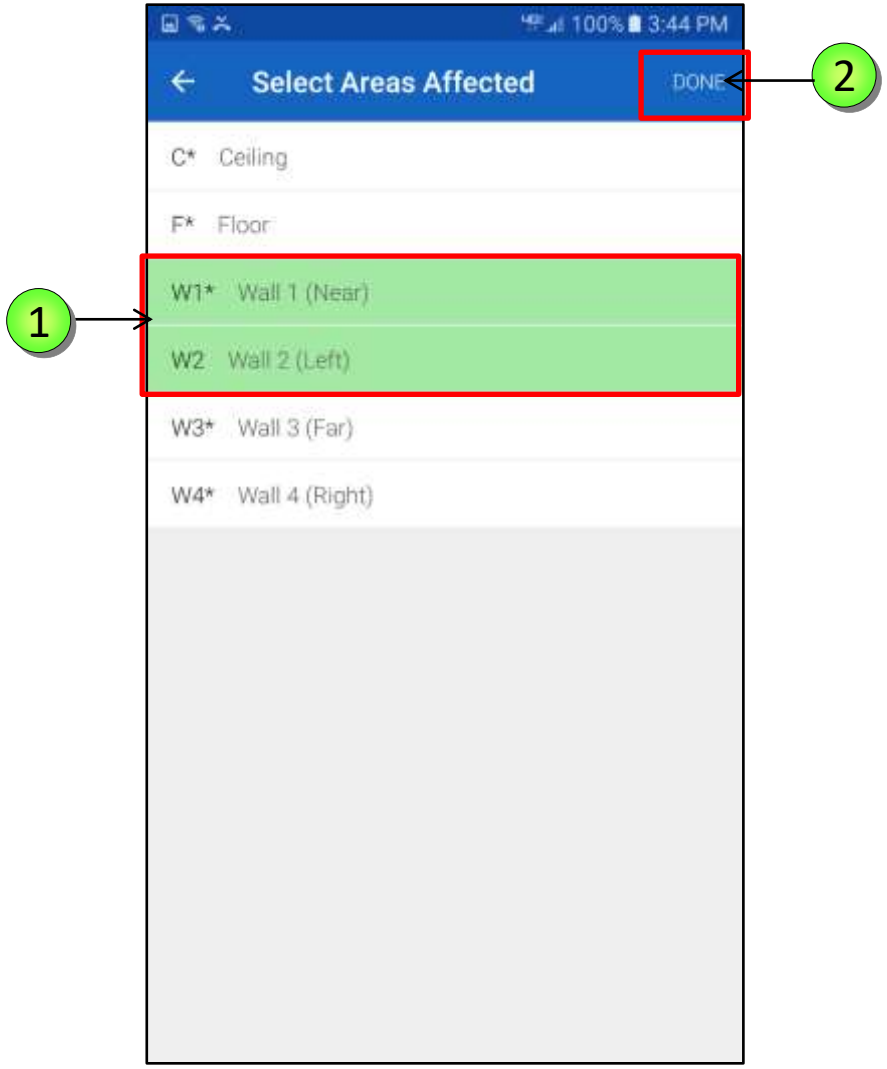


Evaluation of Water Damage – (Continued)

Tap and select two affected areas:

1. **W1* Wall 1 (Near)**
   W2* Wall 2 (Left)

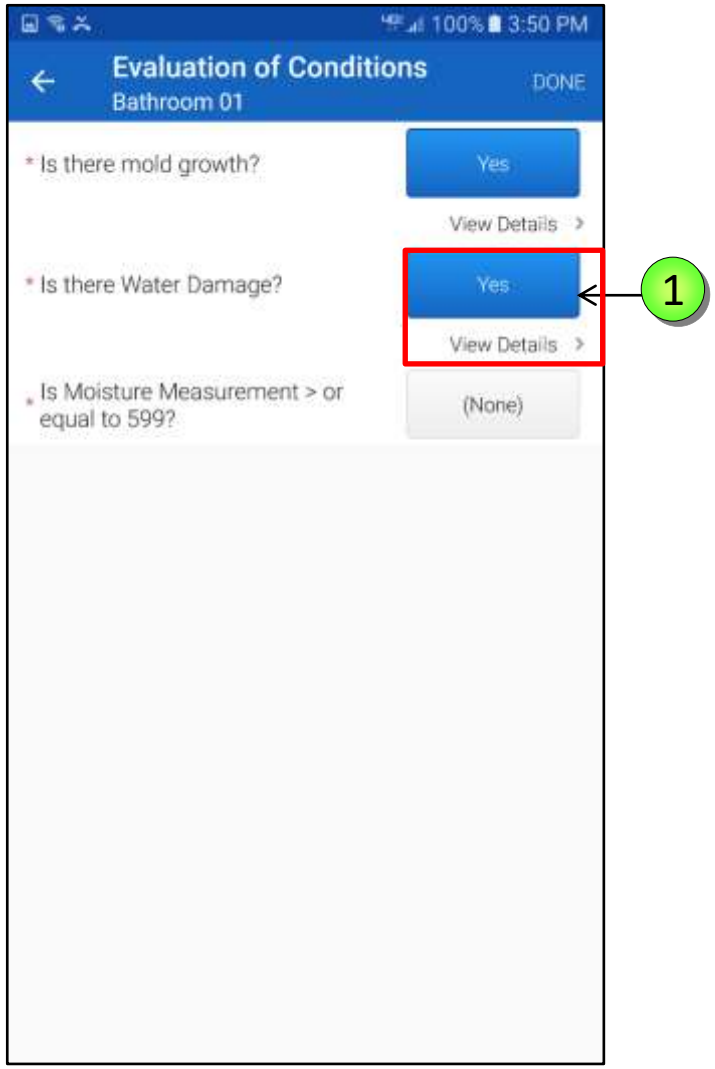
2. Tap **DONE**



Evaluation of Water Damage – (Continued)

The **Evaluation of Conditions** screen has now two mandatory questions answered.

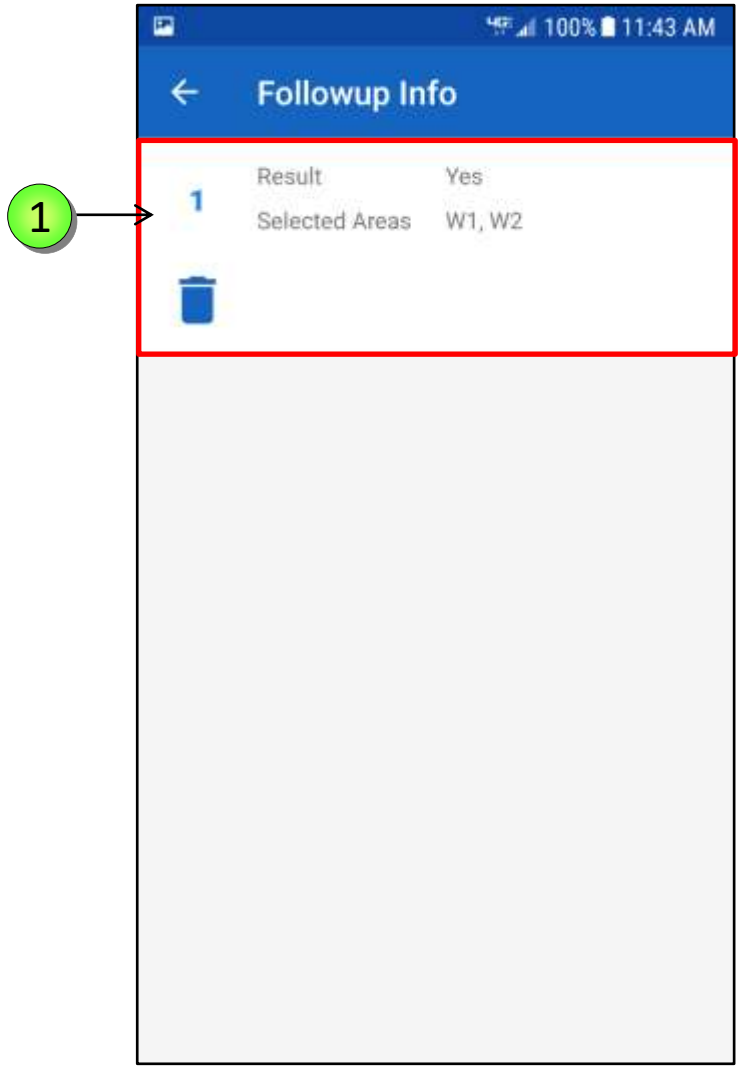
1 Tap on the **View Details** to see the summary of the **Inspection** that was performed.



Evaluation of Water Damage – (Continued)

Review the entered Result in the **FollowUp Info** Screen.

1. Tap the **back arrow** ← to return to the **Evaluation of Conditions** screen.

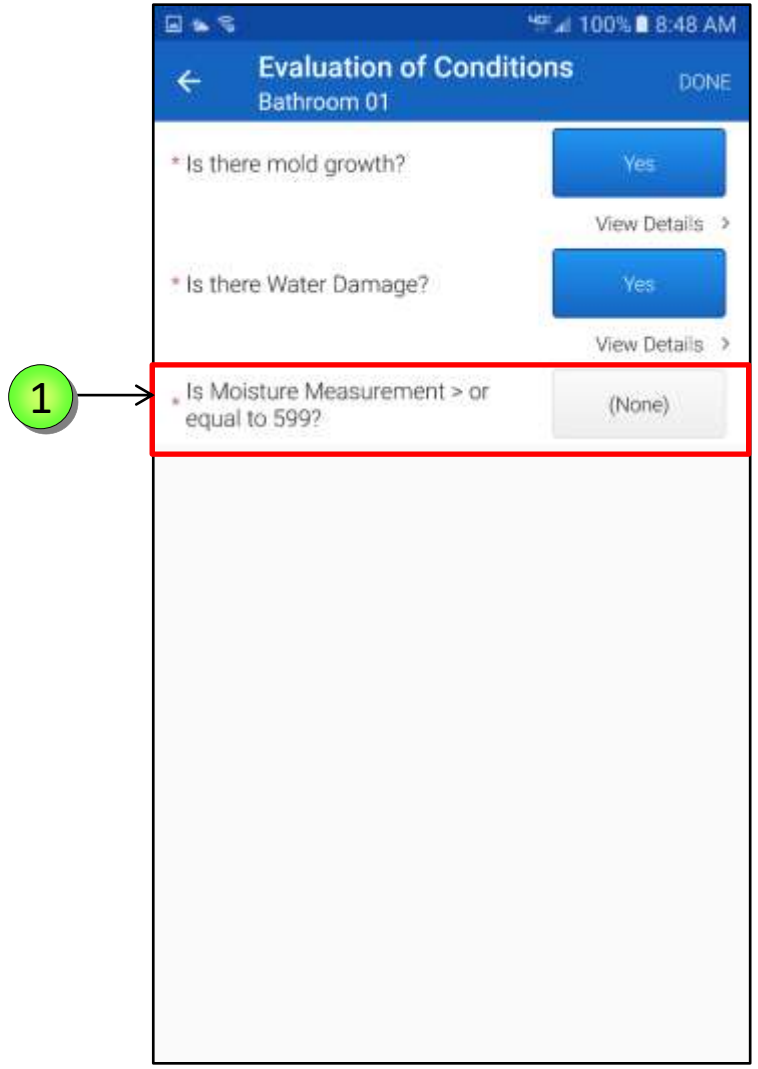


Evaluate Moisture Measurement Level

The last question on the **Evaluation of Conditions** is to evaluate the moisture level.

Evaluate the moisture measurement level (greater than) >= 599

1 Tap **NONE**

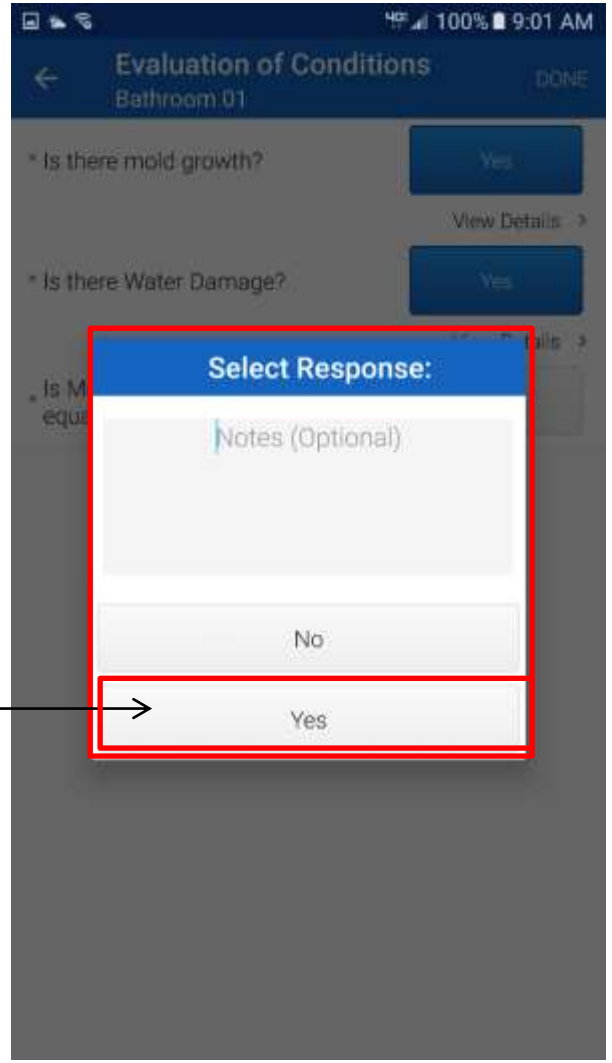


Evaluate Moisture Measurement Level – (Continued)

From the **Select Response** window box, select **YES** or **NO**.

1 Tap **YES**

If **YES** is selected, select the areas listed where the **Moisture Measurement Level is greater than (>=25)**.

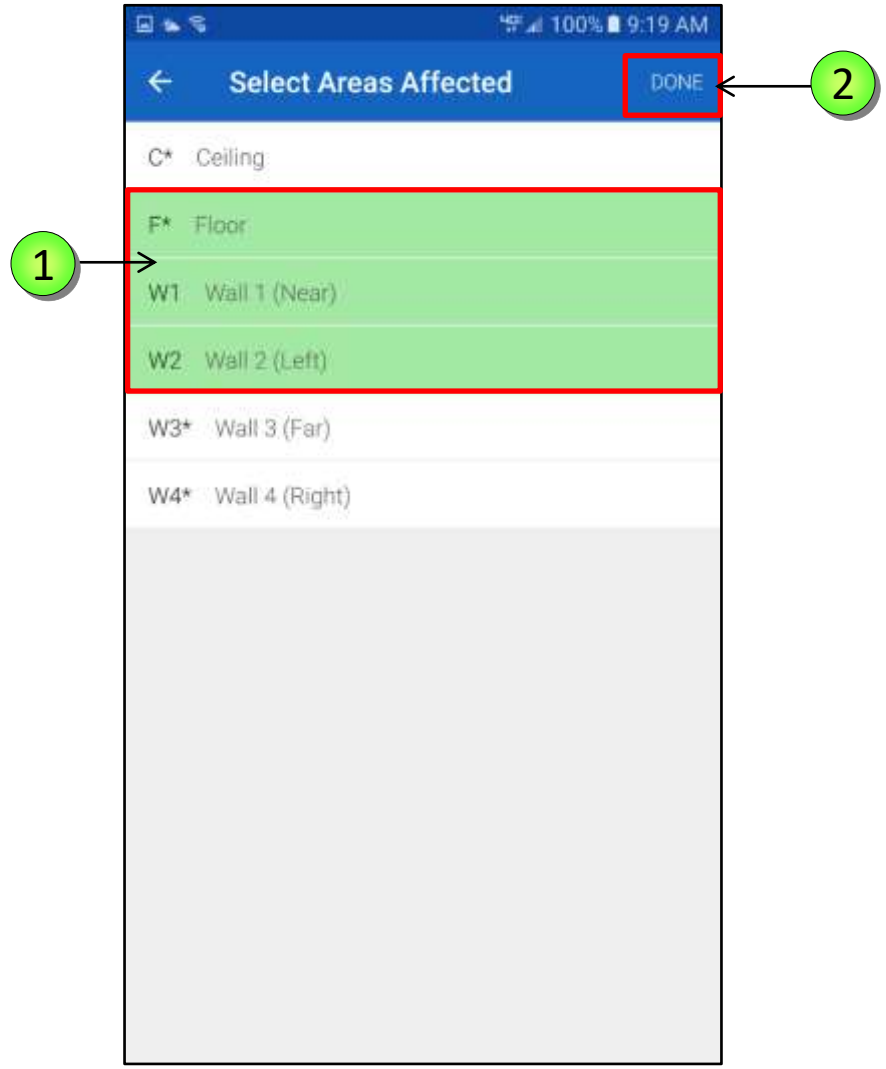


Evaluate Moisture Measurement Level – (Continued)

Tap and select the **Affected Areas**:

1. **F* Floor**
   W1* Wall 1 (Near)
   W2* Wall 2 (Left)

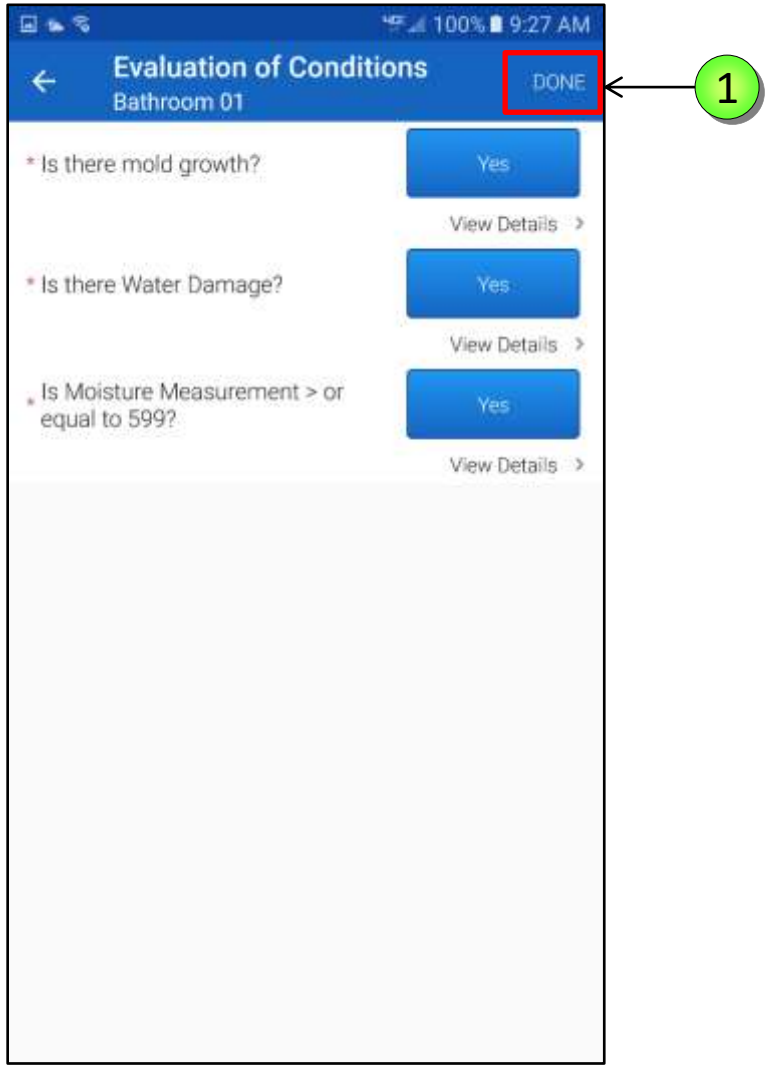
2. Tap **DONE**



Evaluate Moisture Measurement Level – (Continued)

The **Evaluation of Conditions** screen is now complete.

1 Tap **DONE**



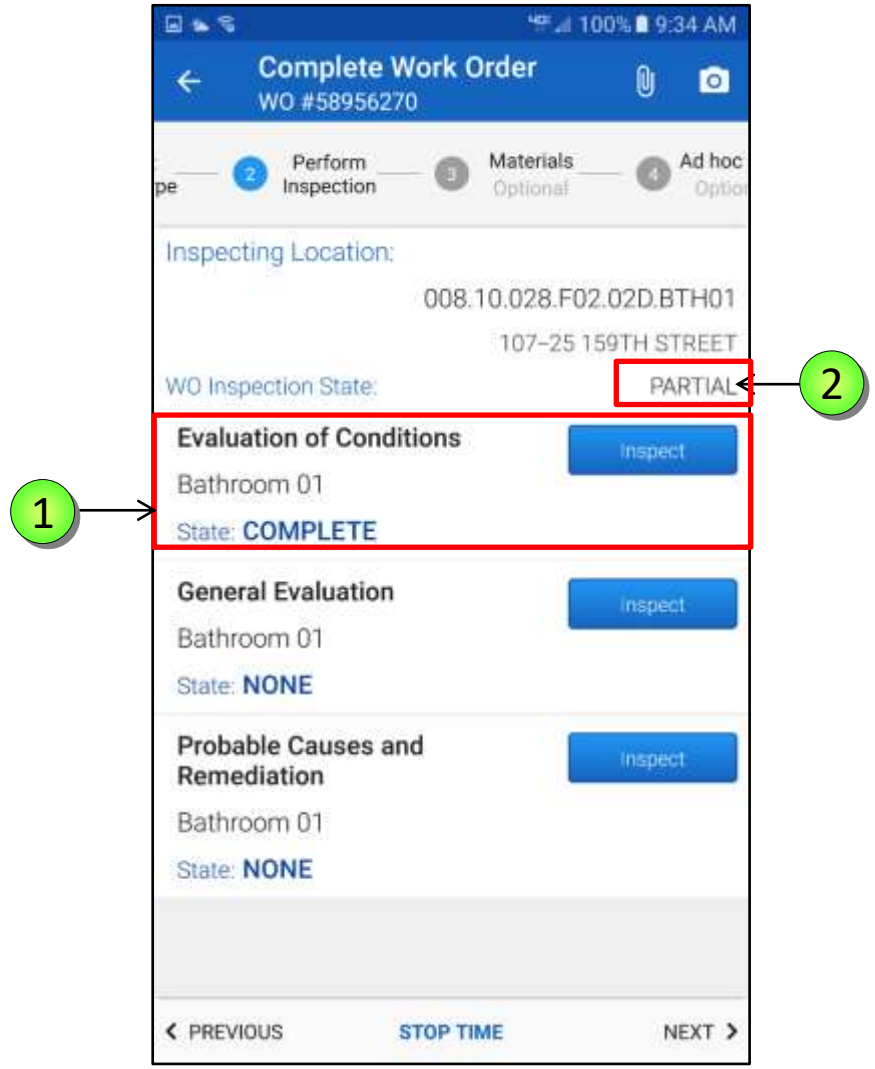
Complete Evaluation of Conditions

1. The **Evaluation of Conditions** status is now **COMPLETE,** and
2. **WO Inspection State** is **PARTIAL**.

NOTE: If the **Evaluation of Conditions** (**Task 1**) has all the answers as **NO** for **Mold Growth**, **Water Damage** and **Wet Reading** questions, then **do not** answer the rest of the inspection questions.

Inspection is complete.

The inspector can then take a **photo** and **submit** the inspection results to **Maximo**.

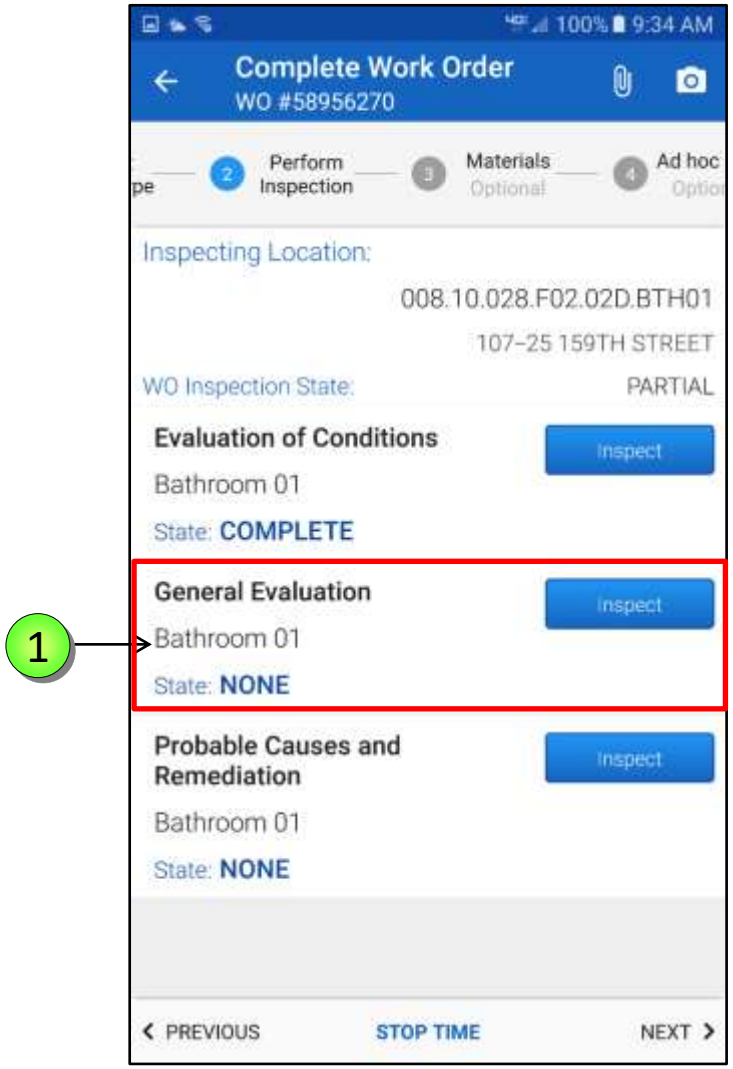


Perform General Evaluation Inspection

The second task in a series of tasks is

Task 2: General Evaluation

1 Tap **INSPECT**

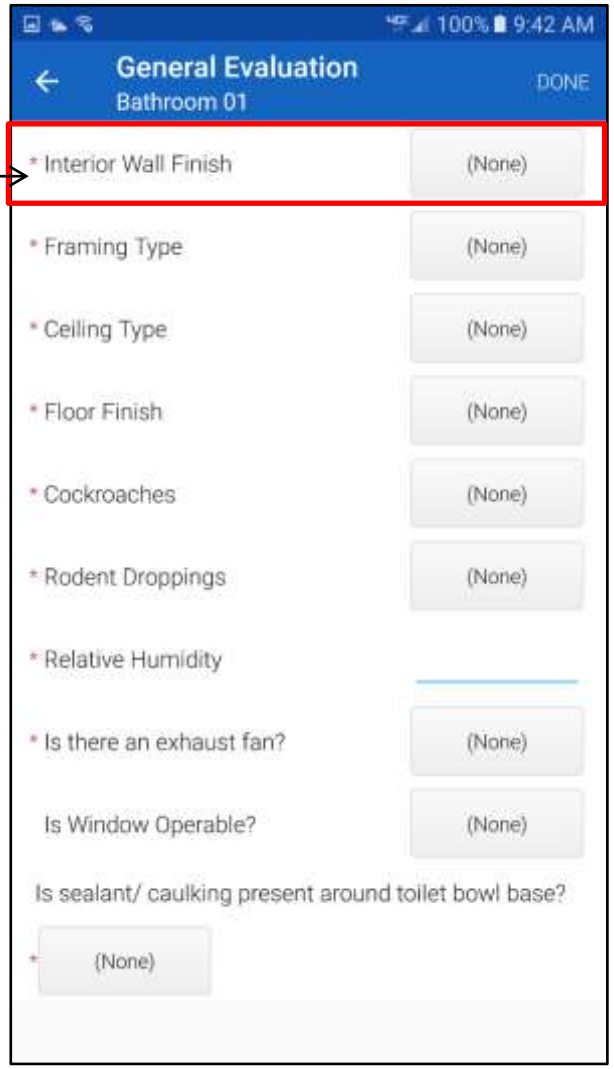


Perform General Evaluation Inspection – (Continued)

Items that have to be inspected are marked by a red asterisks **(*)**

All questions that have an asterisk **(*)** are **mandatory**.

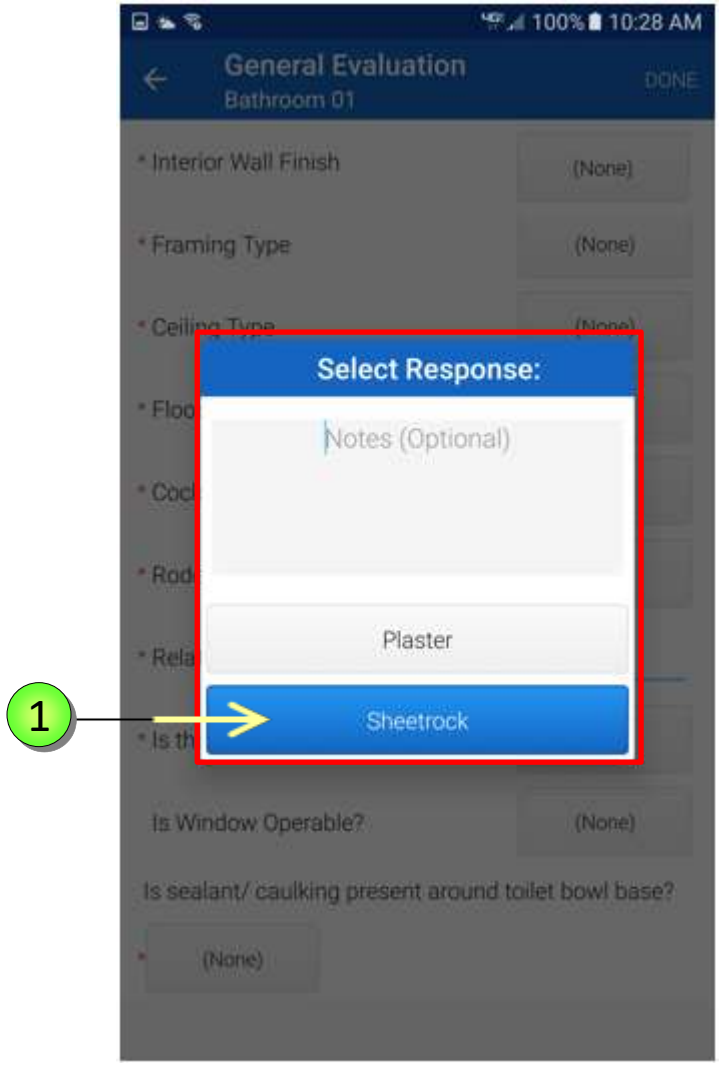
1 Tap **NONE,** next to **Interior Wall Finish**



Perform General Evaluation Inspection – (Continued)

A **Select Response** window displays, select the finish: **Plaster** or **Sheetrock**

1. Tap **Sheetrock**

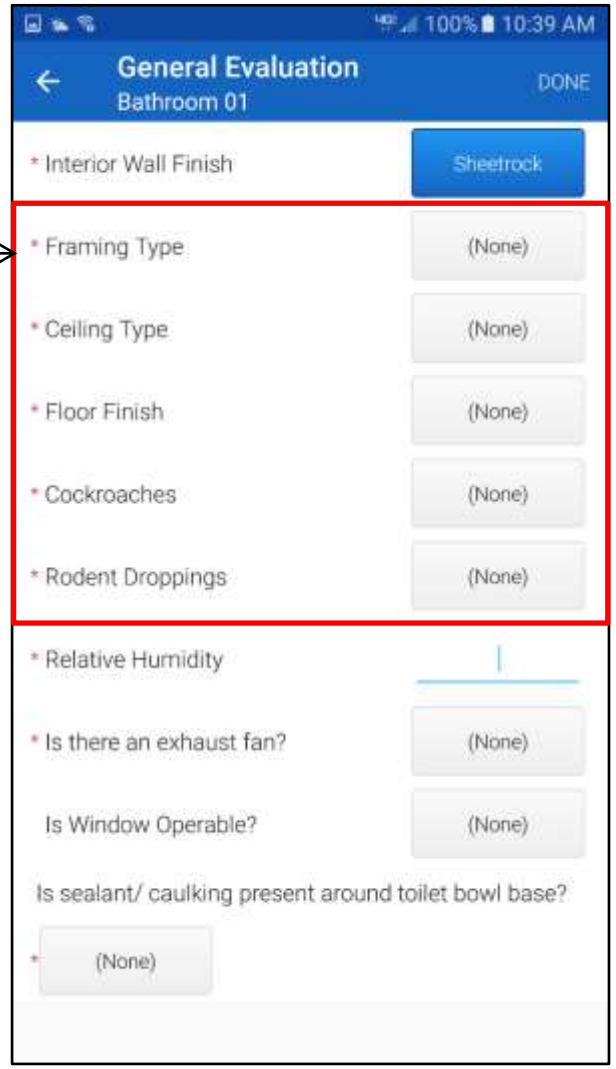


Perform General Evaluation Inspection – (Continued)

The process is the same for the following items:

- **Framing Type**: **Steel** or **Wood**
- **Ceiling Type**: **Concrete** or **Sheetrock**
- **Floor Type**: **Ceramic**, **Vinyl** or **Wood**
- **Cockroaches: No** or **Yes**
- **Rodent Droppings: No** or **Yes**

1 Tap **NONE** next to **Framing Type**



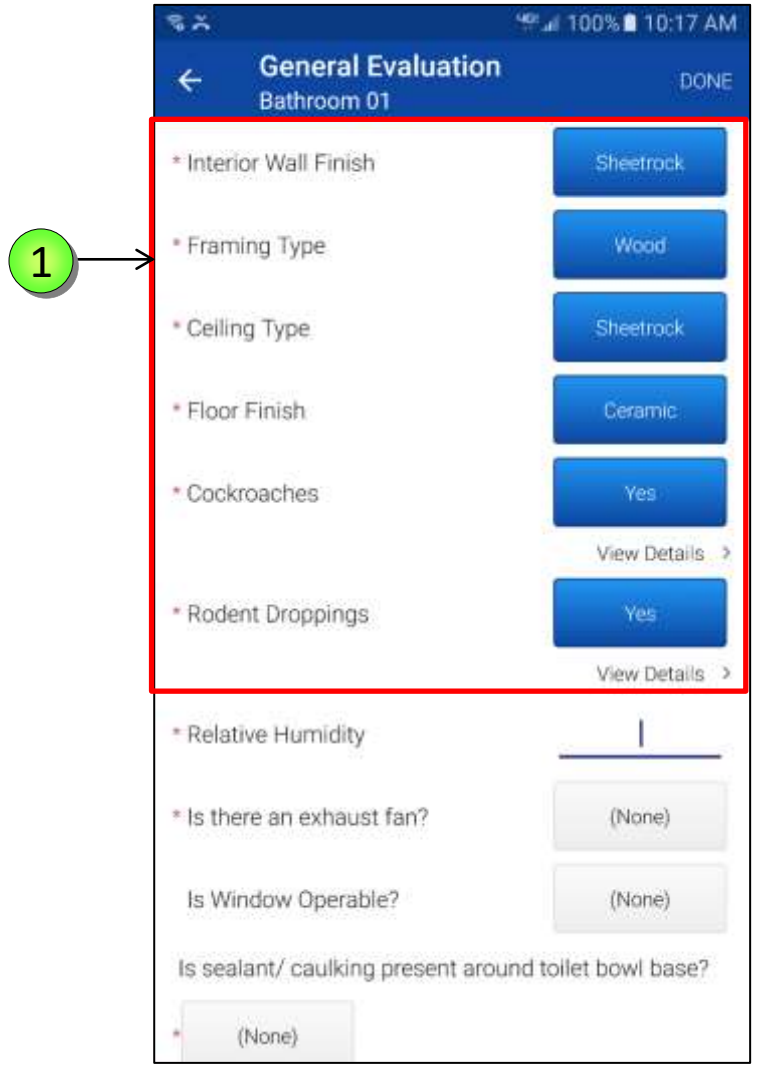
Perform General Evaluation Inspection – (Continued)

The answers to the questions below determines the remediation methods used.

1

- **Interior Wall Finish**: **Sheetrock**
- **Framing Type: Wood**
- **Ceiling Type**: **Sheetrock**
- **Floor Type**: **Ceramic**
- **Cockroaches: Yes**
- **Rodent Droppings: Yes**

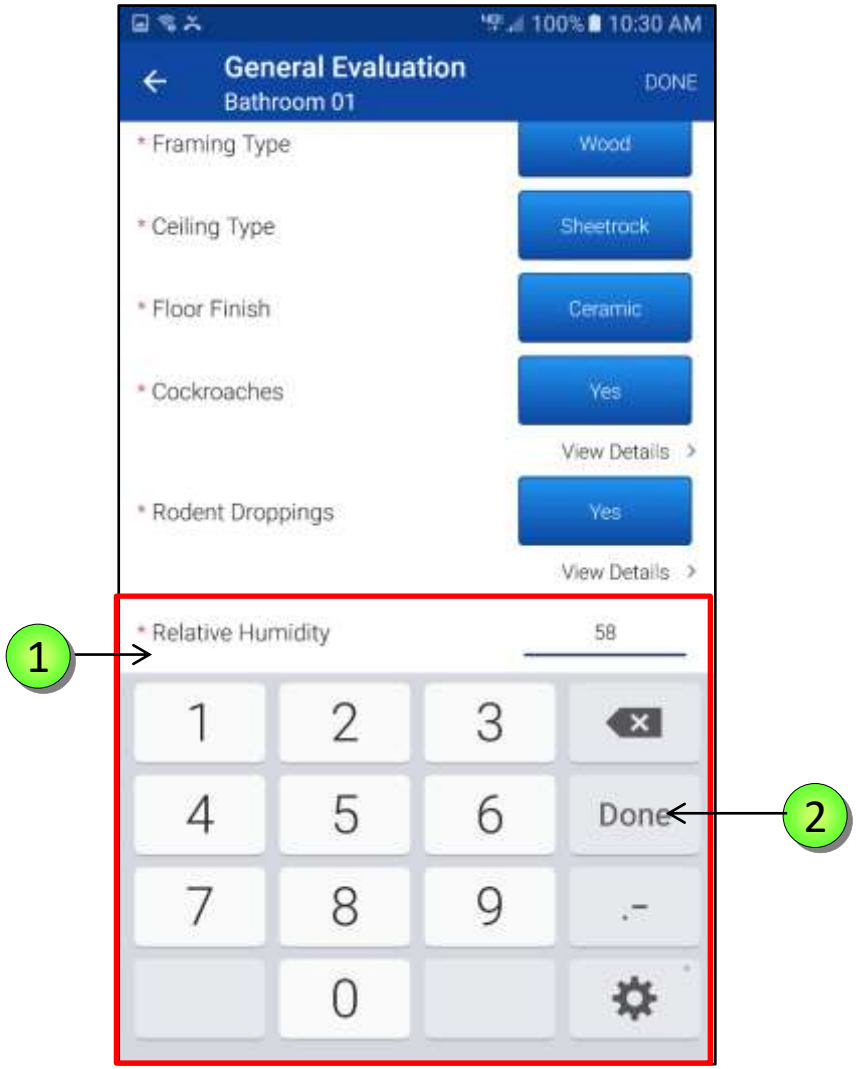
NOTE: Maximo will automatically generate **ONE** open Child Work Order for Exterminator for **every single Organism** found in the apartment. For example in the above, there would be 2 WOs 1 for **Cockroaches** and 1 for **Mice**.



Perform General Evaluation Inspection – (Continued)

The Supervisor shall input the **Relative Humidity** of the room. Upon tapping the **Relative Humidity** field, the device keyboard appears.

1. Type **58**
2. Tap **DONE** on the device to remove the keyboard.

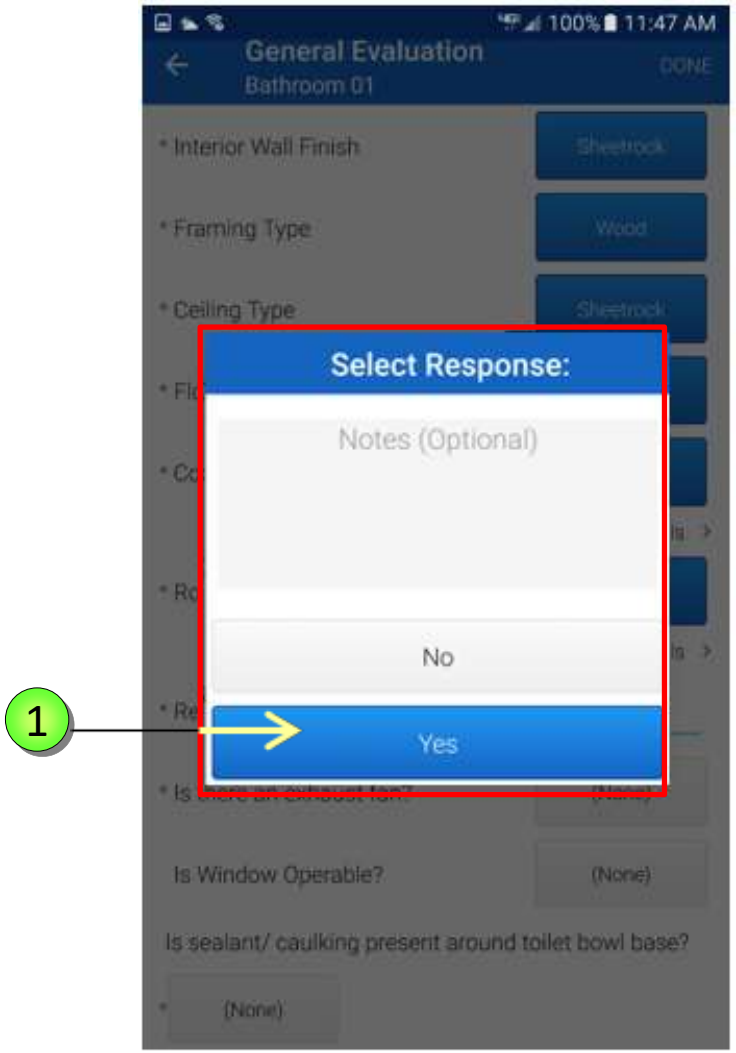


Perform General Evaluation Inspection – (Continued)

If the location is a bathroom or a kitchen, the Supervisor shall answer **“Is there an exhaust fan?”** question as **YES** or **NO**.

If there is an **Exhaust Fan**, **Maximo <u>will automatically generate</u>** a Work Order <u>to clean the vent</u> upon submission of the inspection results.

1 Tap **YES**



Perform General Evaluation Inspection – (Continued)

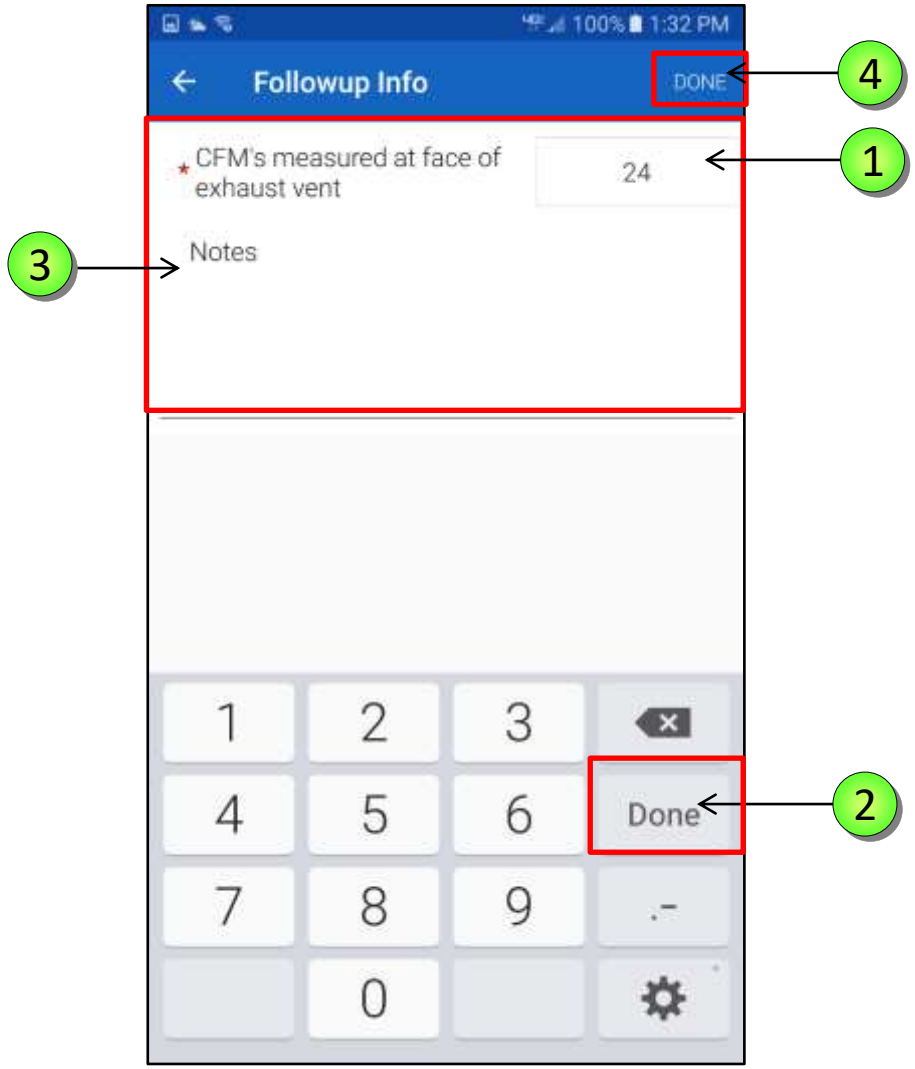
The Supervisor shall enter the **CFMs (Cubic Feet Measurement)** at the exhaust vent in the appropriate field.

The CFM's measurement is a mandatory field.

1. Type **24** on the device keyboard.
2. Tap **DONE** on the device keyboard.
3. The **Notes** field is optional.

NOTE: If **CFM** is less than **(<25)**, **Maximo** will **auto-generate** a Work Order to check the roof fan, upon submission of the inspection results.

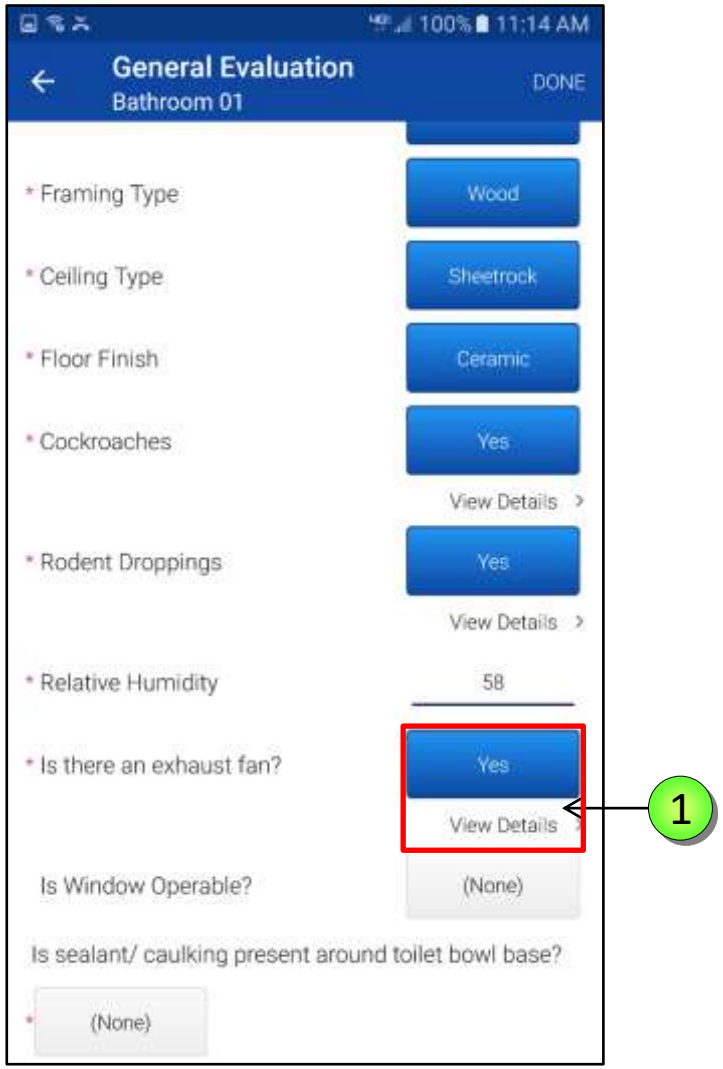
4. Tap **DONE**



Perform General Evaluation Inspection – (Continued)

The **View Details** below the **Exhaust Fan** field displays the information entered.

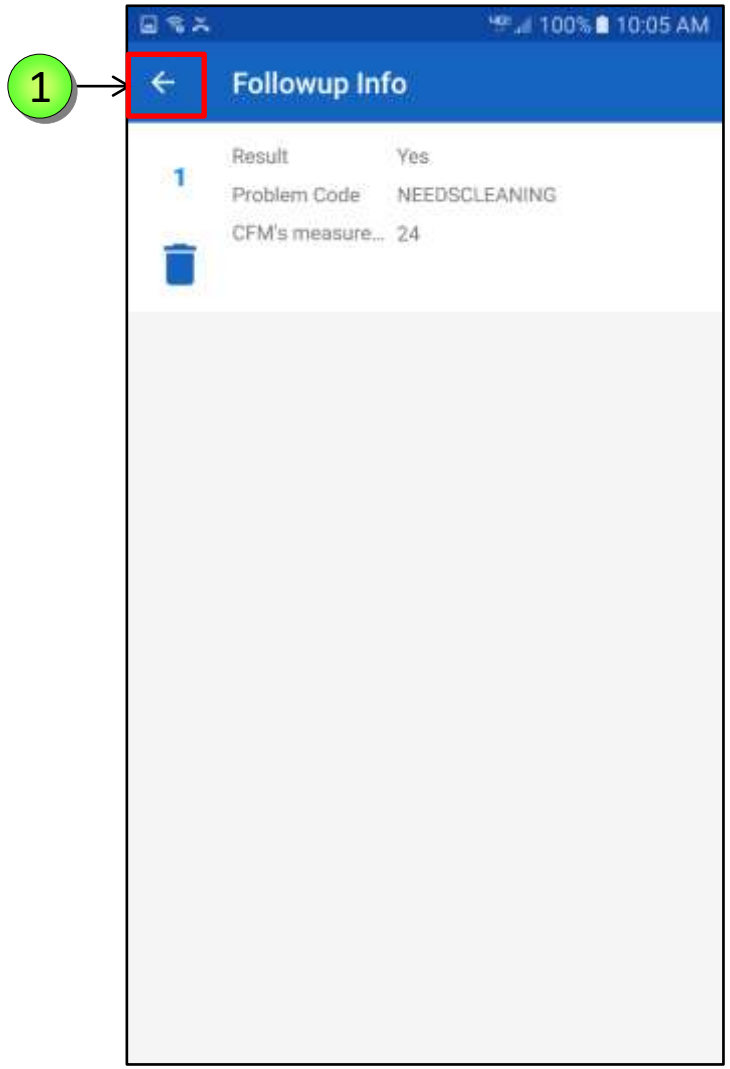
1 Tap on **View Details**



Perform General Evaluation Inspection – (Continued)

Review the entered Result in the **FollowUp Info** Screen.

1 Tap the **back arrow** to return to the **General Evaluation** screen.

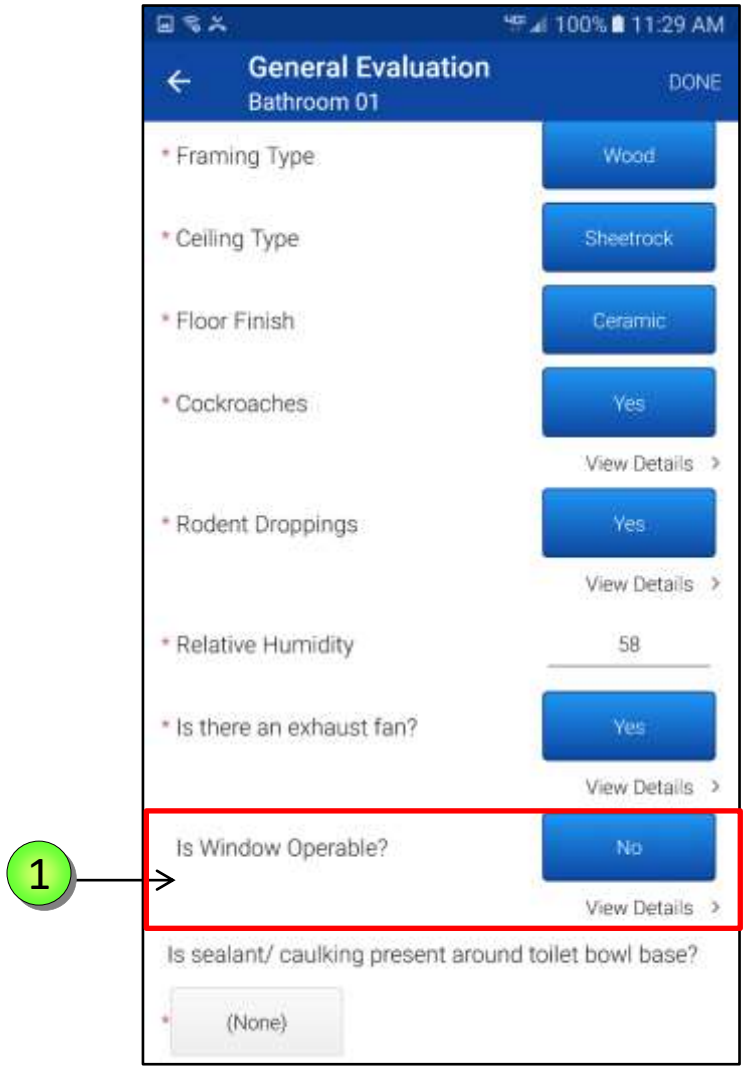


Perform General Evaluation Inspection – (Continued)

If there was **NO** Exhaust Fan, the Supervisor shall answer **"Is Window Operable?"** question as **YES** or **NO**.

1 Tap on **View Details** below the **Window Operable** field to review information entered.

NOTE: If the Supervisor answers **NO** for **Window Operable** question, **Maximo** will **auto-generate** a Work Order to fix the window, upon submission of inspection results.



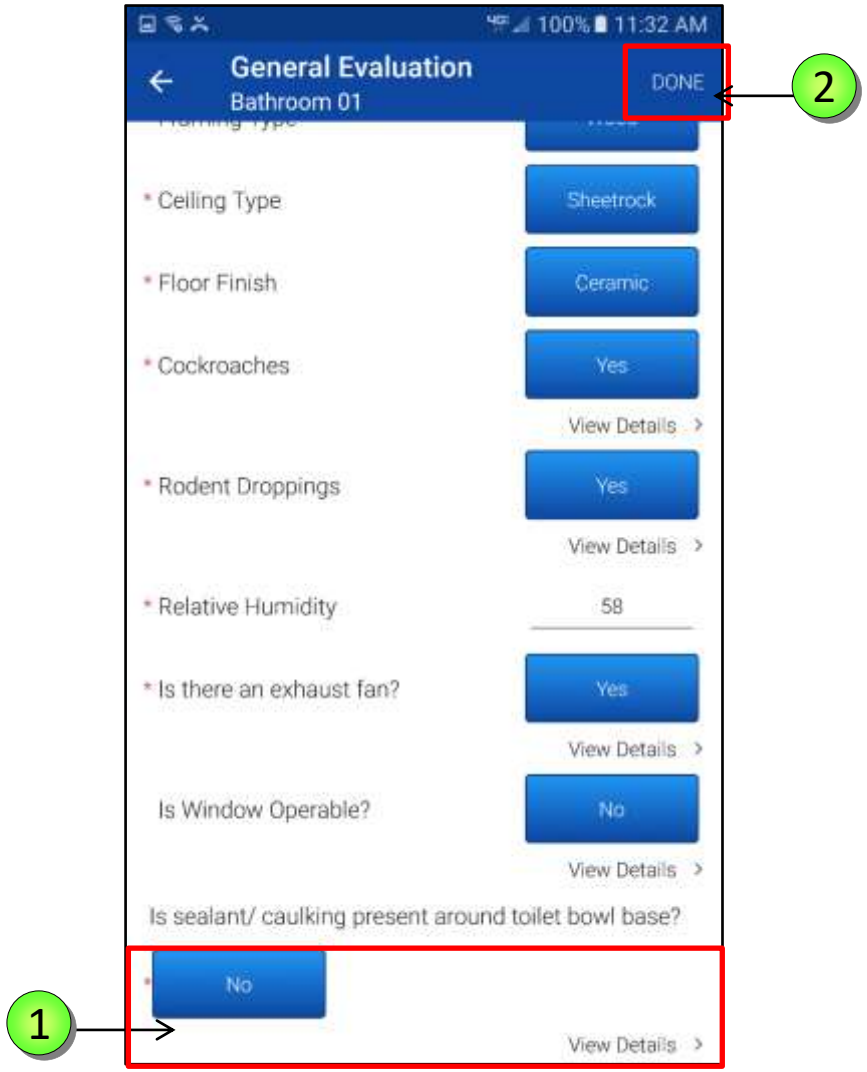
Perform General Evaluation Inspection – (Continued)

If the location is a bathroom, the Supervisor must answer the question, "**Is sealant/caulking present around toilet bowl base?**" as **YES** or **NO.**

1. Tap **NONE** and select **NO** from the **Select Response** window.

NOTE: Maximo will auto-generate a Work Order, if the answer is **NO**, to fix the **caulking/sealant** with mold resistant caulking, upon submission of the inspection results.

2. Tap **DONE**

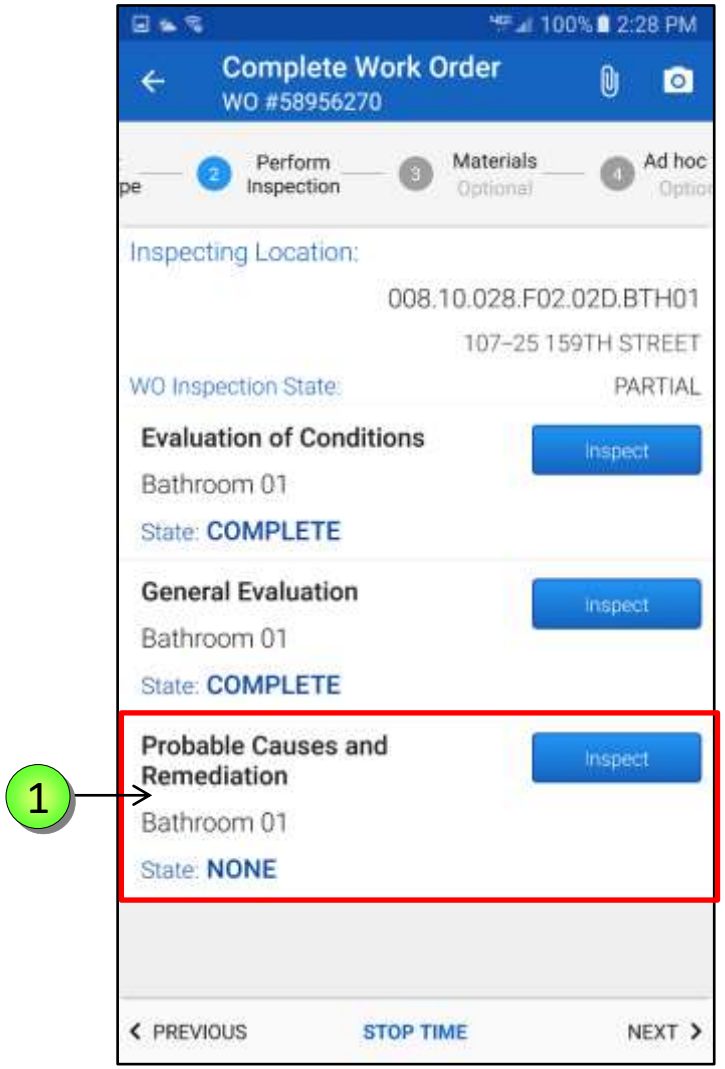


Probable Causes And Remediation

The third task in a series of tasks is

Task 3: Probable Causes and Remediation

1 Tap **INSPECT**



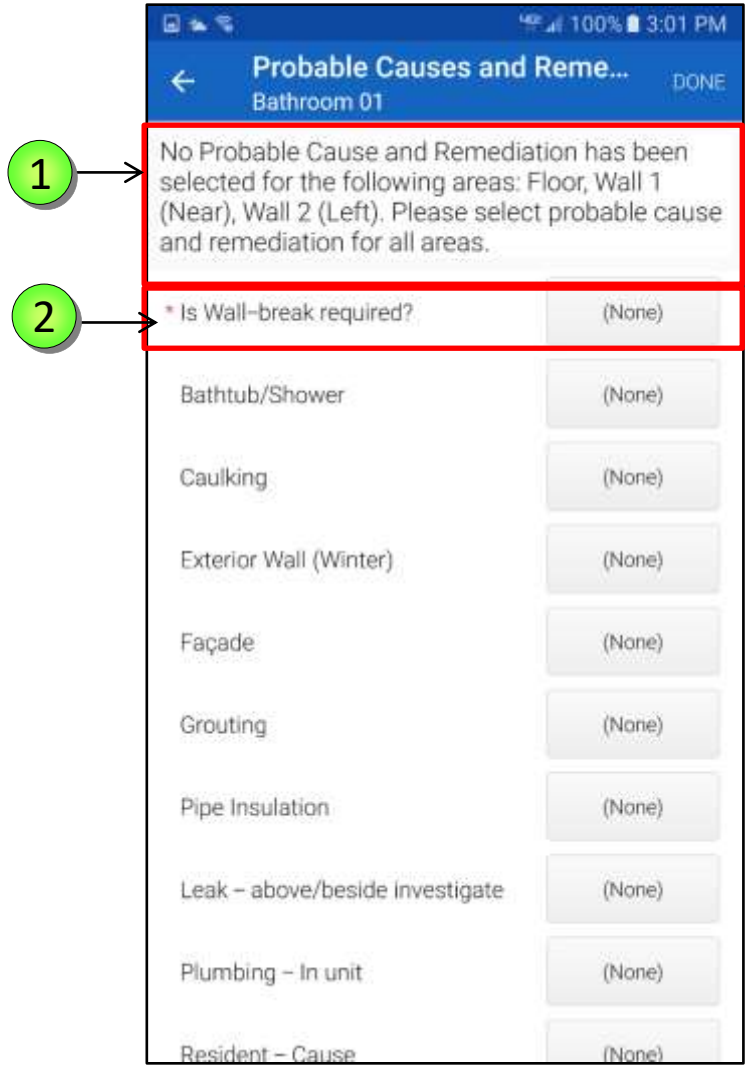
Probable Causes And Remediation – (Continued)

1. On the top of the screen, **iWM** is reminding the user to select a **Probable Cause and Remediation method** for the **Walls 1**, **Walls 2**, and the **Floor**.

   Those were the **Affected Areas** selected in **Task 1: Evaluation of Conditions**.

   Selecting **Remediation** for all these walls is **mandatory**.

2. The **Wall-break** is a **Mandatory** question.



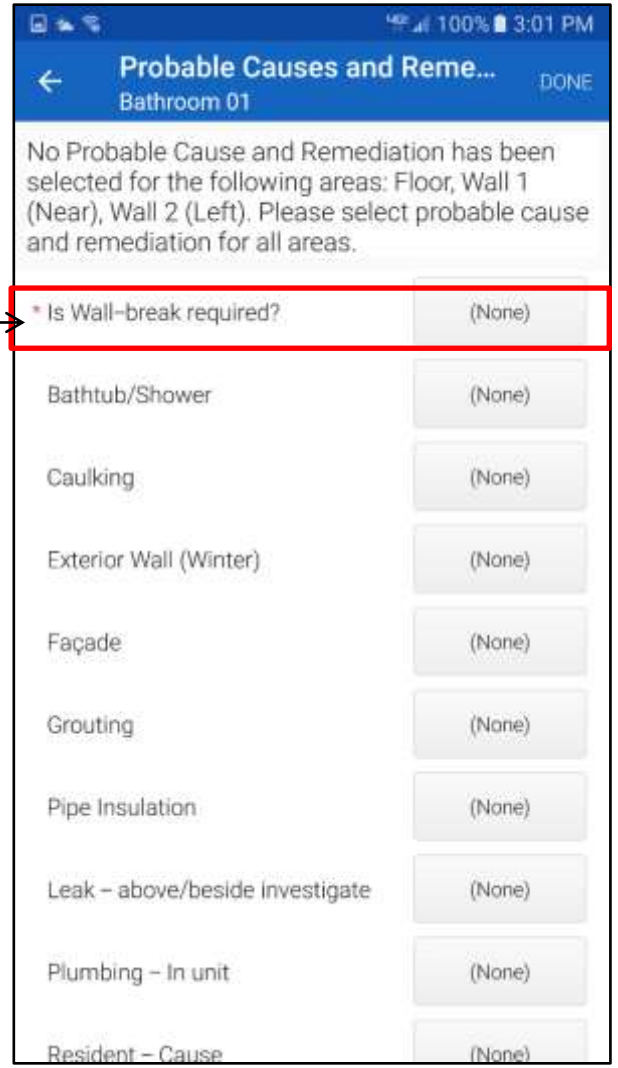
Probable Causes And Remediation – (Continued)

The **Wall-break** is the only **Mandatory** question on the screen.

You must select **at least ONE** other **Probable Cause** on the **Probable Causes And Remediation** screen.

The Supervisor will answer **YES** for whichever causes are applicable. **Only select what's needed**.

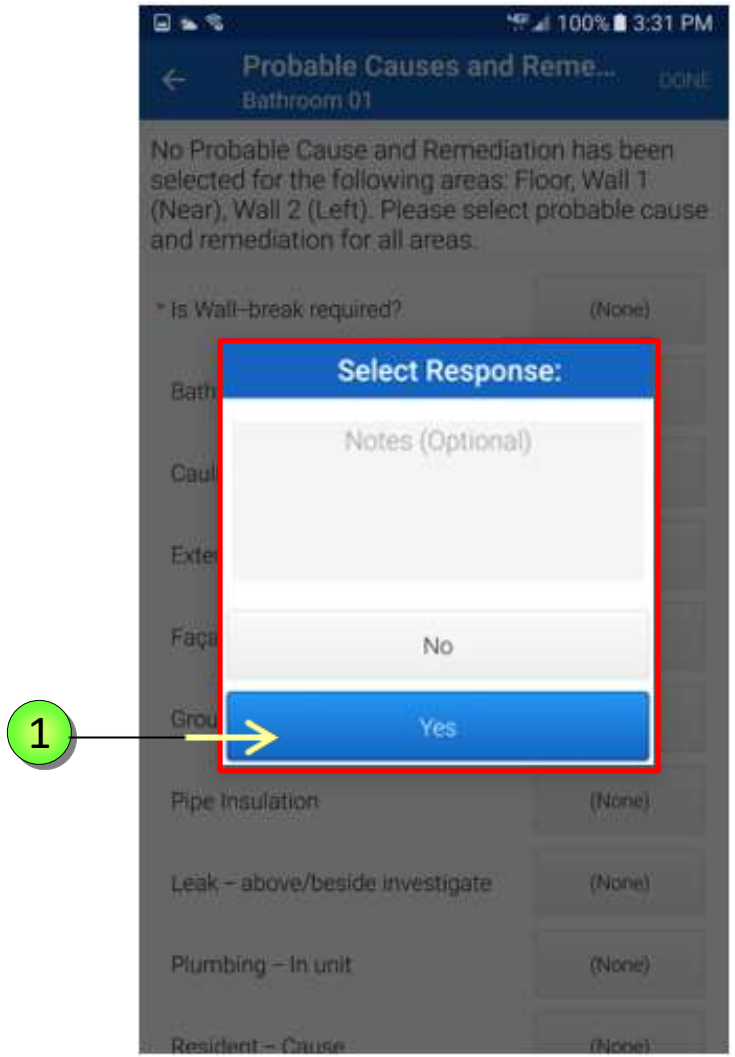
1 Tap **NONE** next **Wall-break** question.



Probable Causes And Remediation – (Continued)

The **Select Response** window appears for the **Wall-break** question. The available answer is **YES** or **NO**.

1 Tap **YES**

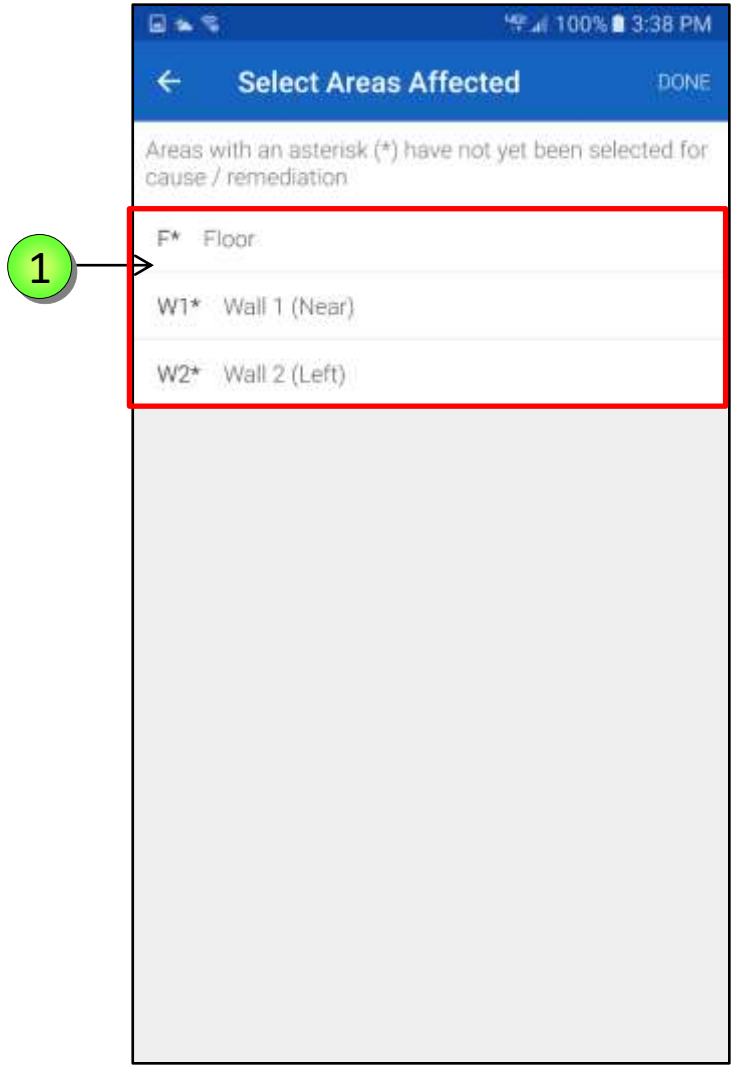


Probable Causes And Remediation – (Continued)

All the **Areas Affected** by the **Wall Break**.

Only the **"Areas Affected"** that were selected from **Task 1: Evaluation of Conditions** will show on the list.

1 Tap on each area **separately** and enter the remediation method.

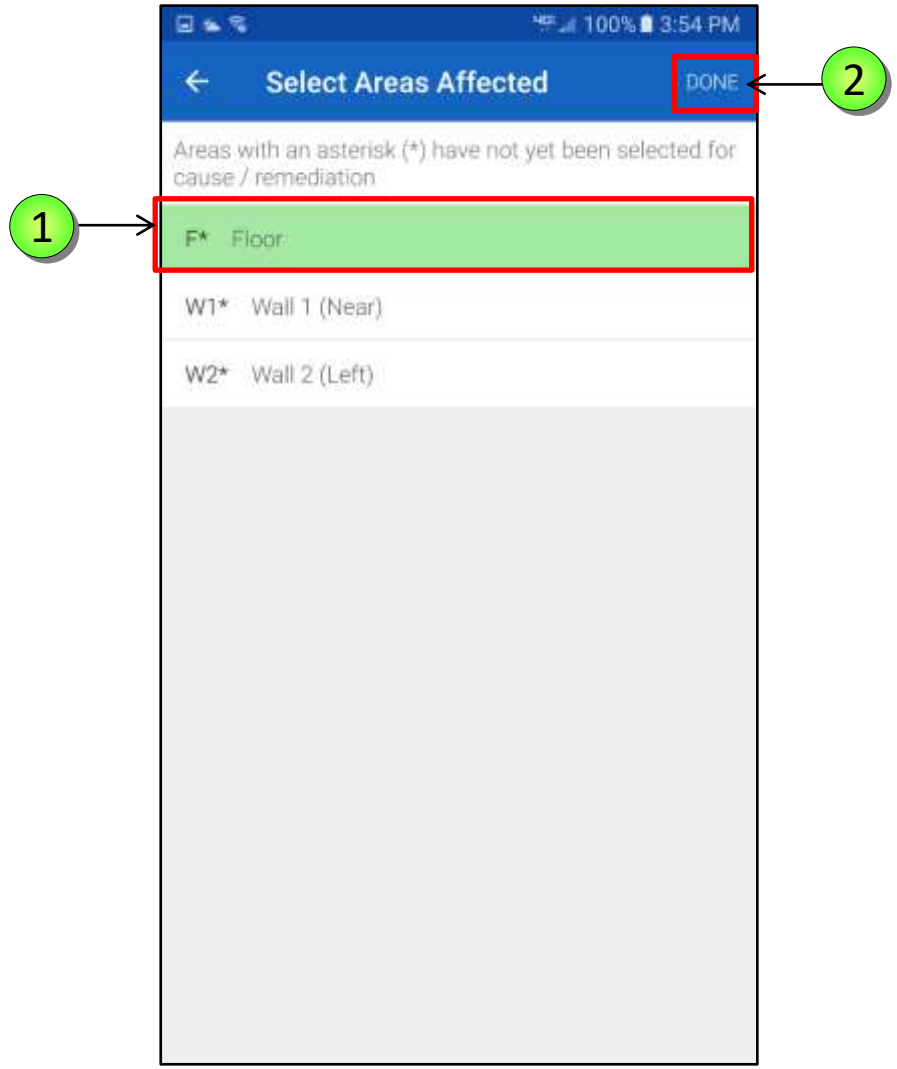


Probable Causes And Remediation – (Continued)

Each **Probable Cause** for the selection will be listed as a question.

The Supervisor will answer **YES** for whichever causes are applicable. At least **ONE** cause must be answered **YES** (if an issue was found in **Task 1**).

1. Tap **FLOOR** to select it.
2. Tap **DONE**



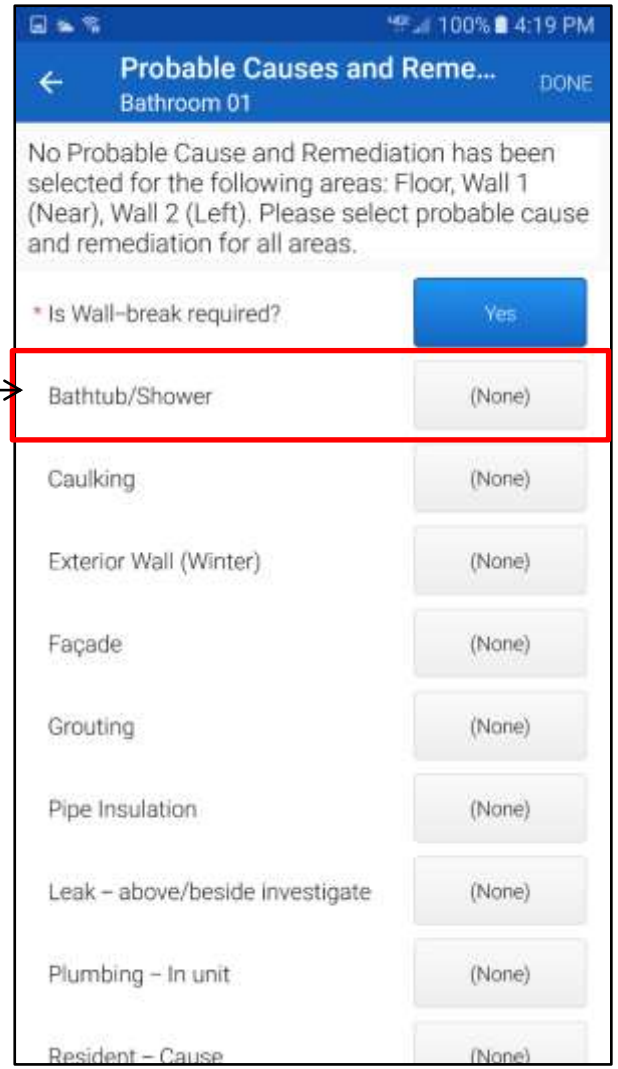
Probable Causes And Remediation – (Continued)

If the Supervisor answered **YES** for the **Probable Root Cause**, select the **Areas Affected** by the specific cause.

NOTE: Only **"Areas Affected"** that were selected from **Task 1** will show in list. And **EACH** surface **Area Selected** from **Task 1** must be accounted for against a **Probable Cause**.

Multiple surface areas can be selected per **Probable Cause**.

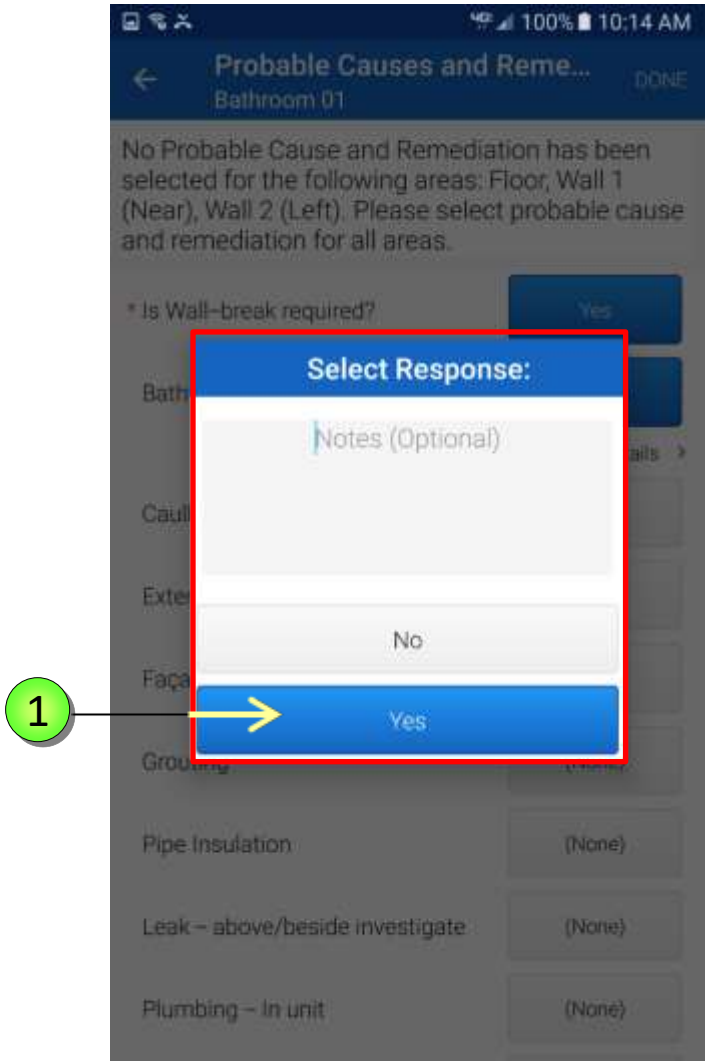
1 Tap **NONE** next to **Bathtub/ Shower**



Probable Causes And Remediation – (Continued)

The **Select Response** window appears, the available answers **YES** or **NO**.

1 Tap **YES**

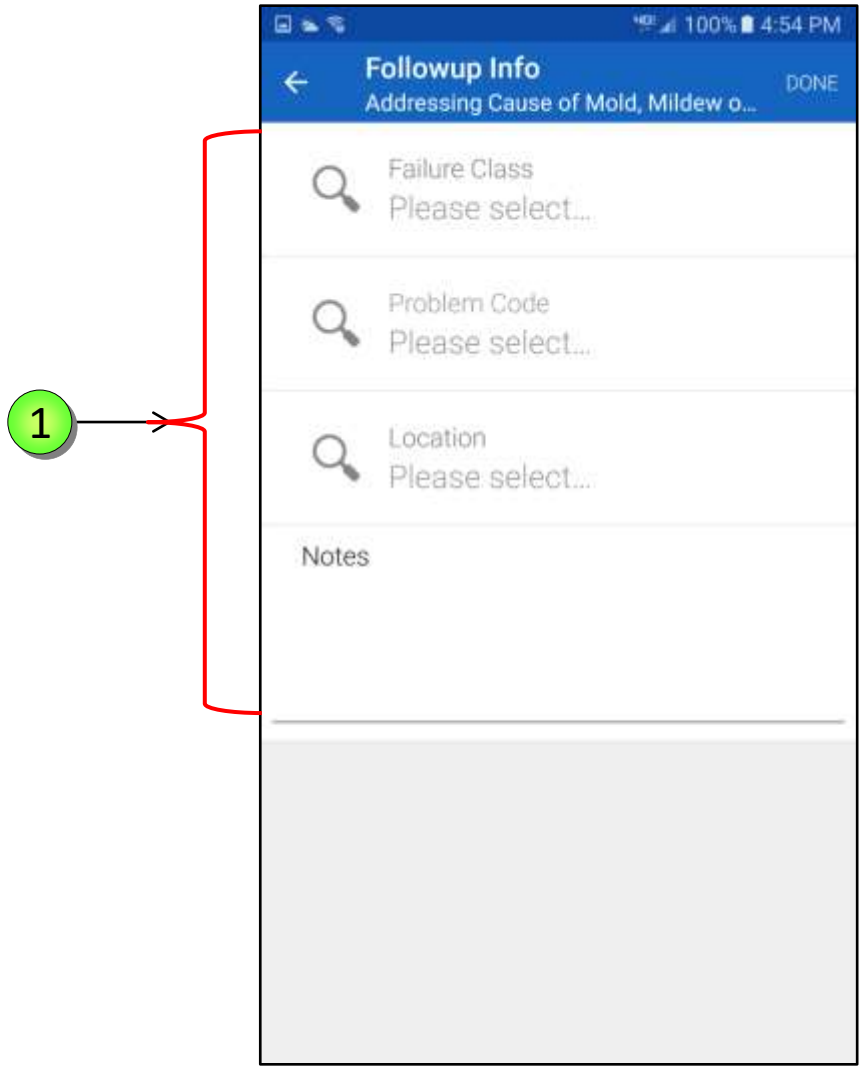


Probable Causes And Remediation – (Continued)

The **FollowUp Info** screen displays, with 4 fields:

- **Failure Class**
- **Problem Code**
- **Location**
- **Notes (Optional)**

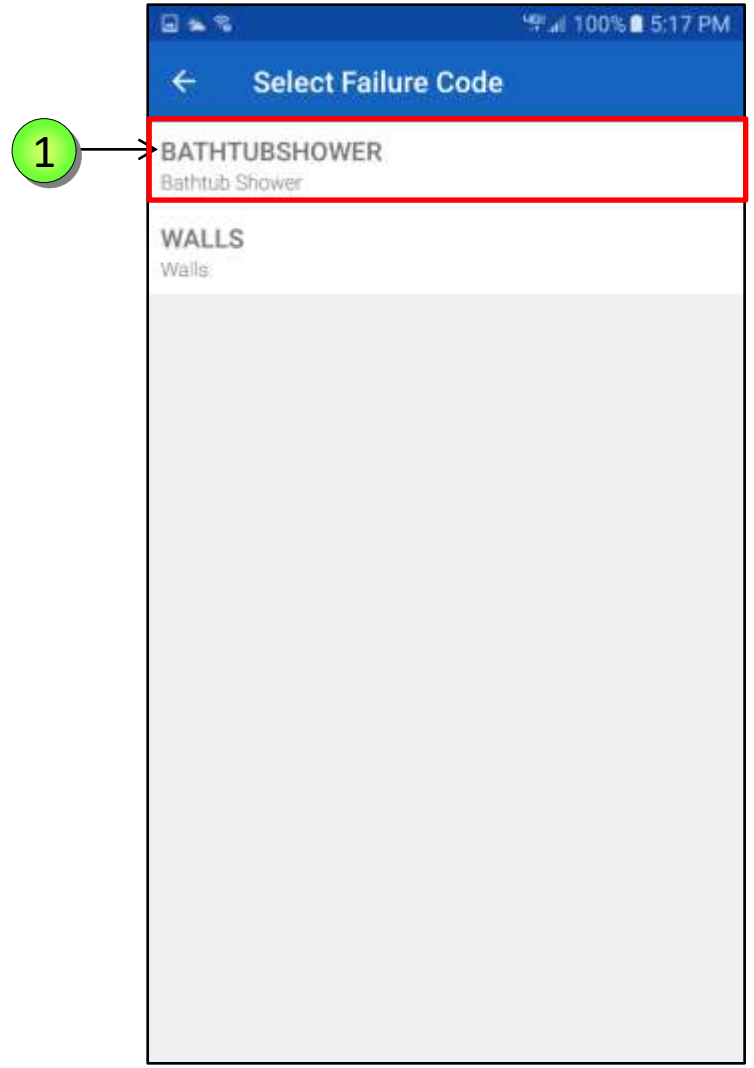
1 Tap **Failure Class**



Probable Causes And Remediation – (Continued)

The **Failure Class** is a very limited list.

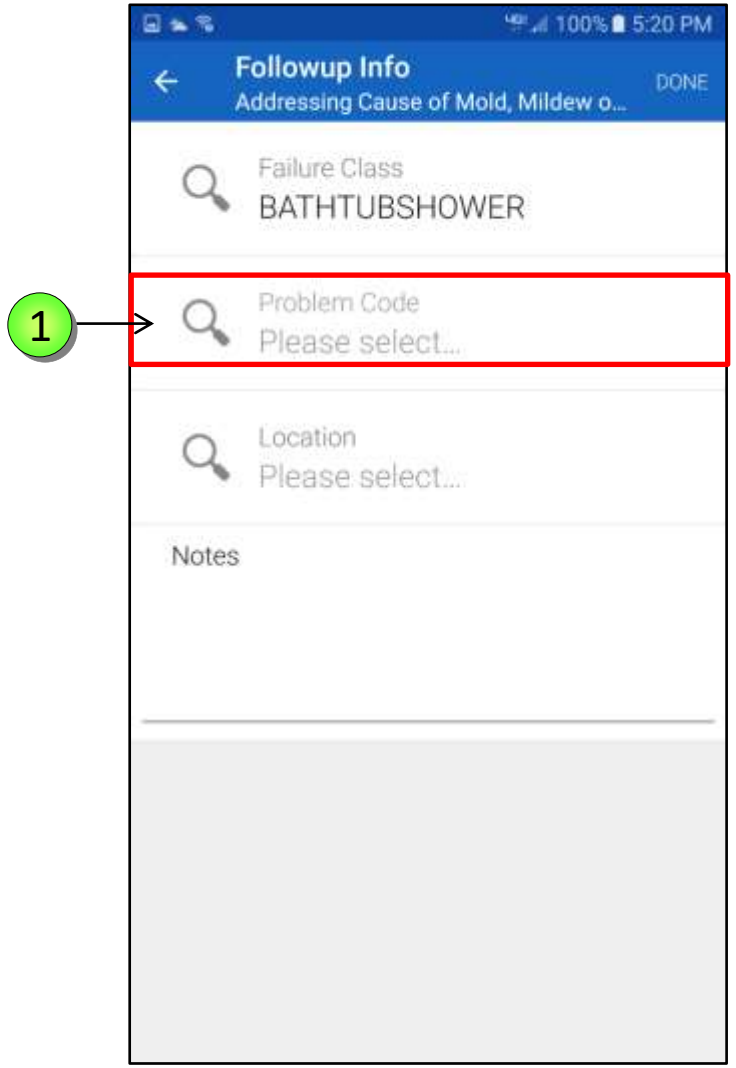
1 Tap **BATHTUBSHOWER**



Probable Causes And Remediation – (Continued)

The **FollowUp Info** screen reappears, select a **Problem Code** appropriate to the **Failure Class**.

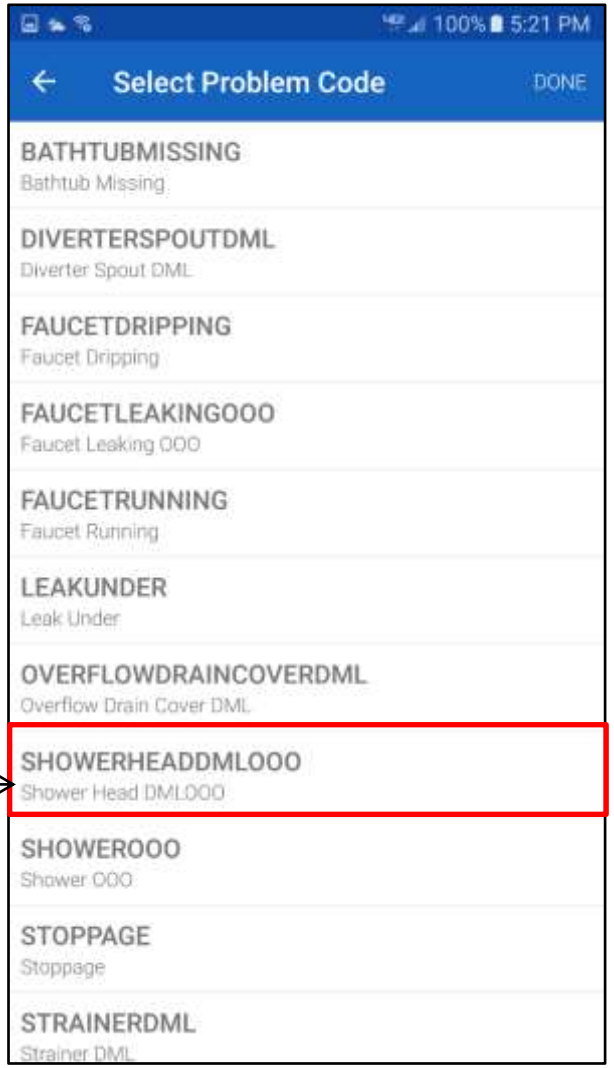
1 Tap **Problem Code**



Probable Causes And Remediation – (Continued)

Scroll up and down and select the appropriate **Problem Code** from the list.

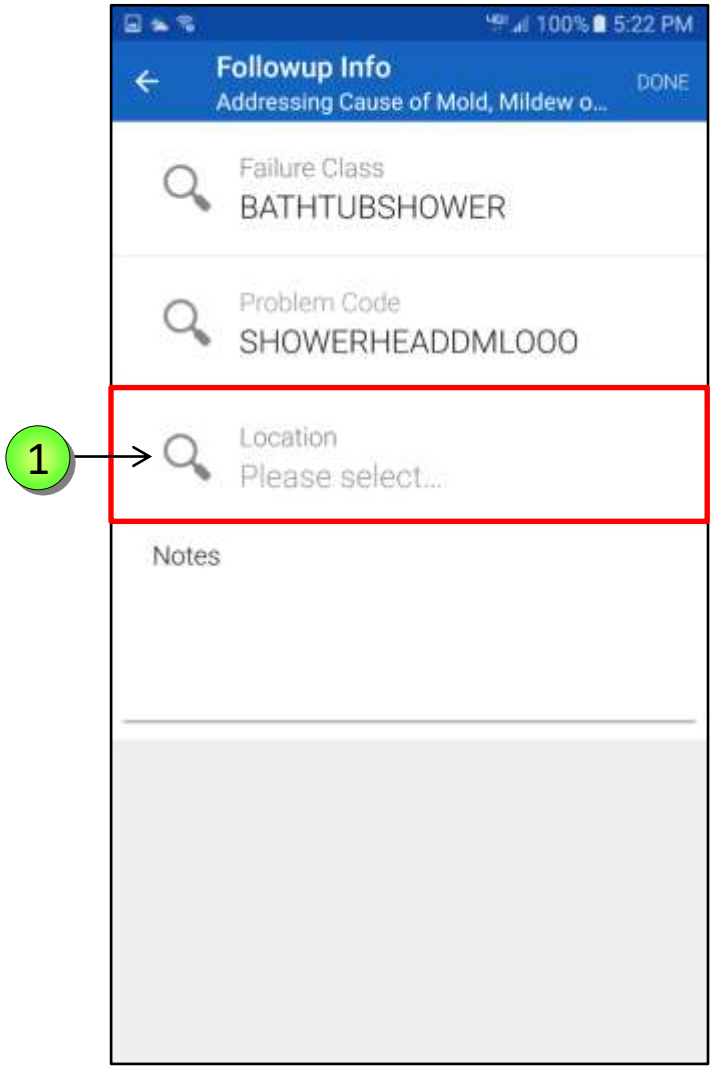
1 Tap **SHOWERHEADDMLOOO**



Probable Causes And Remediation – (Continued)

The **FollowUp Info** screen reappears, select a **Location**.

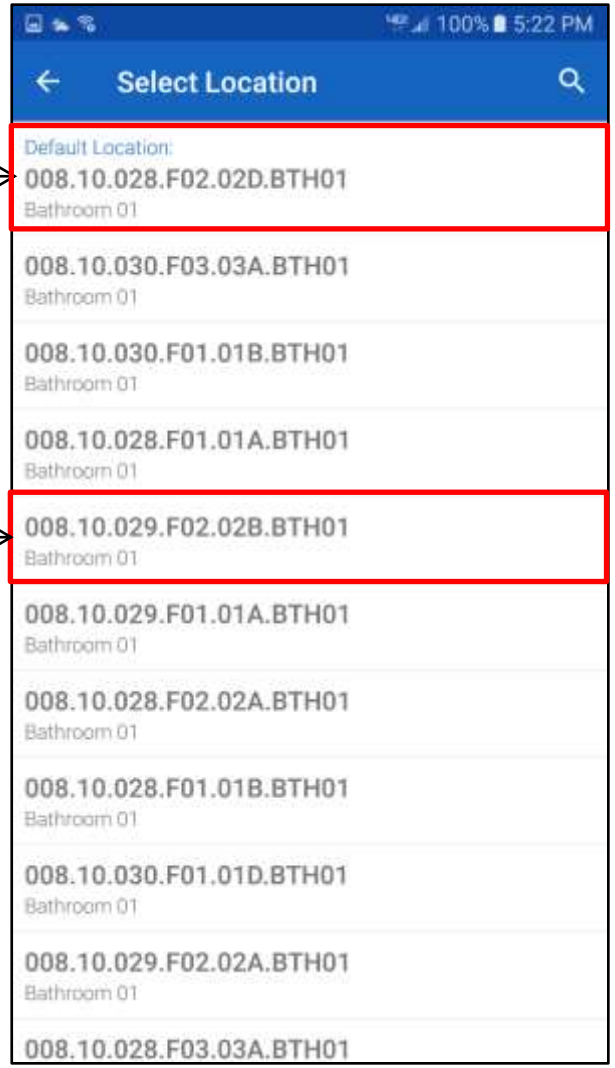
1 Tap **Location**



Probable Causes And Remediation – (Continued)

1. The **Default Location** is where the inspection is happening.

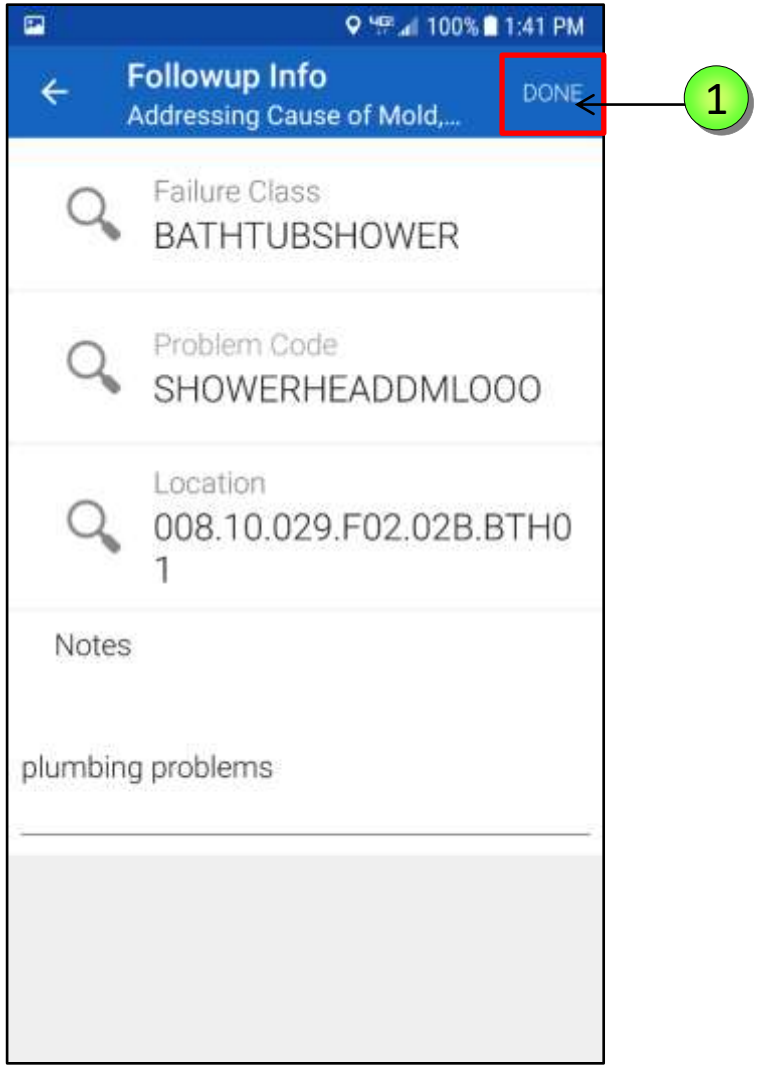
2. Search for the other **Location** where it is the suspect of the problem.



Probable Causes And Remediation – (Continued)

The completed **FollowUp Info** screen, with all the fields.

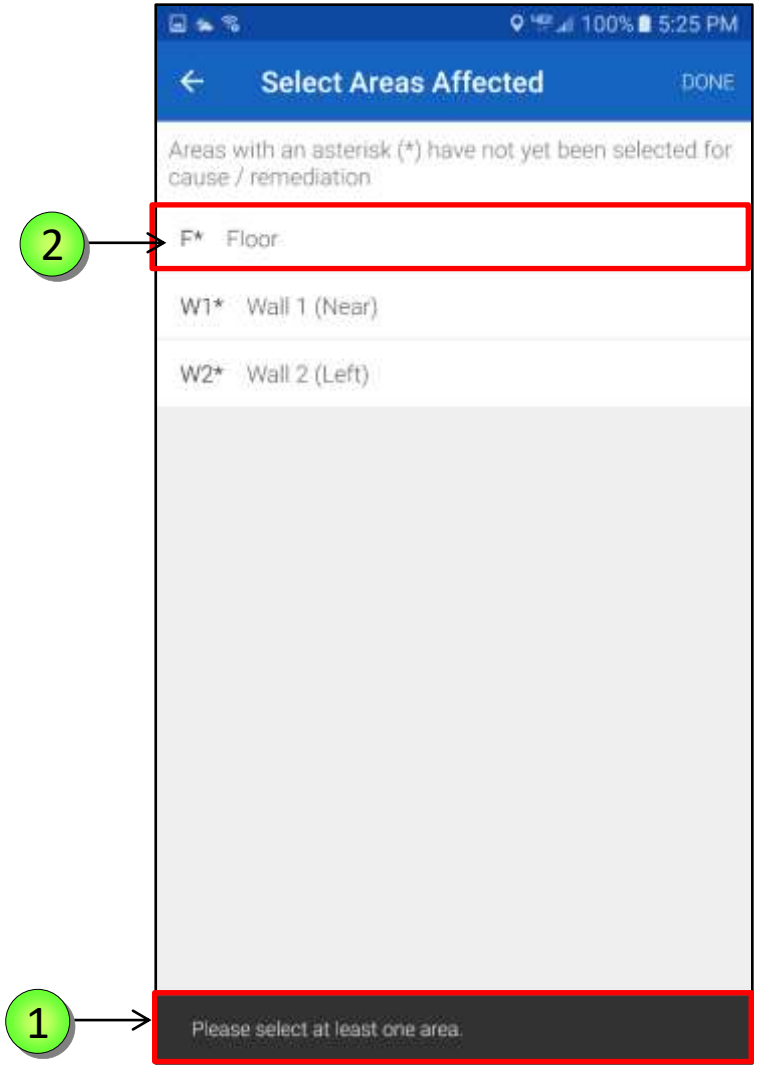
1 Tap **DONE**



Probable Causes And Remediation – (Continued)

1. Select the **Areas Affected** by the **Wall-Break**, One area at a time.

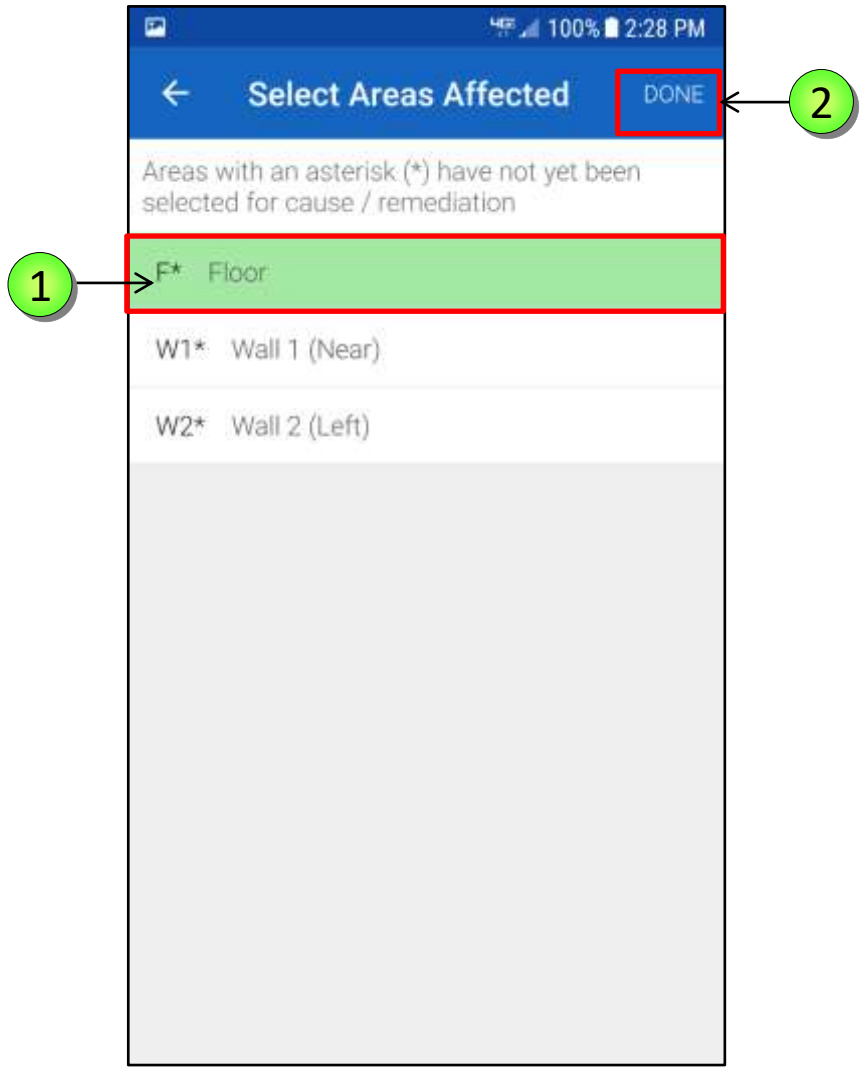
2. Tap **F* Floor**



Probable Causes And Remediation – (Continued)

1. Select the **Floor** by tapping on it. Once selected **iWM** will highlight it in **green** color.

2. Tap **DONE**

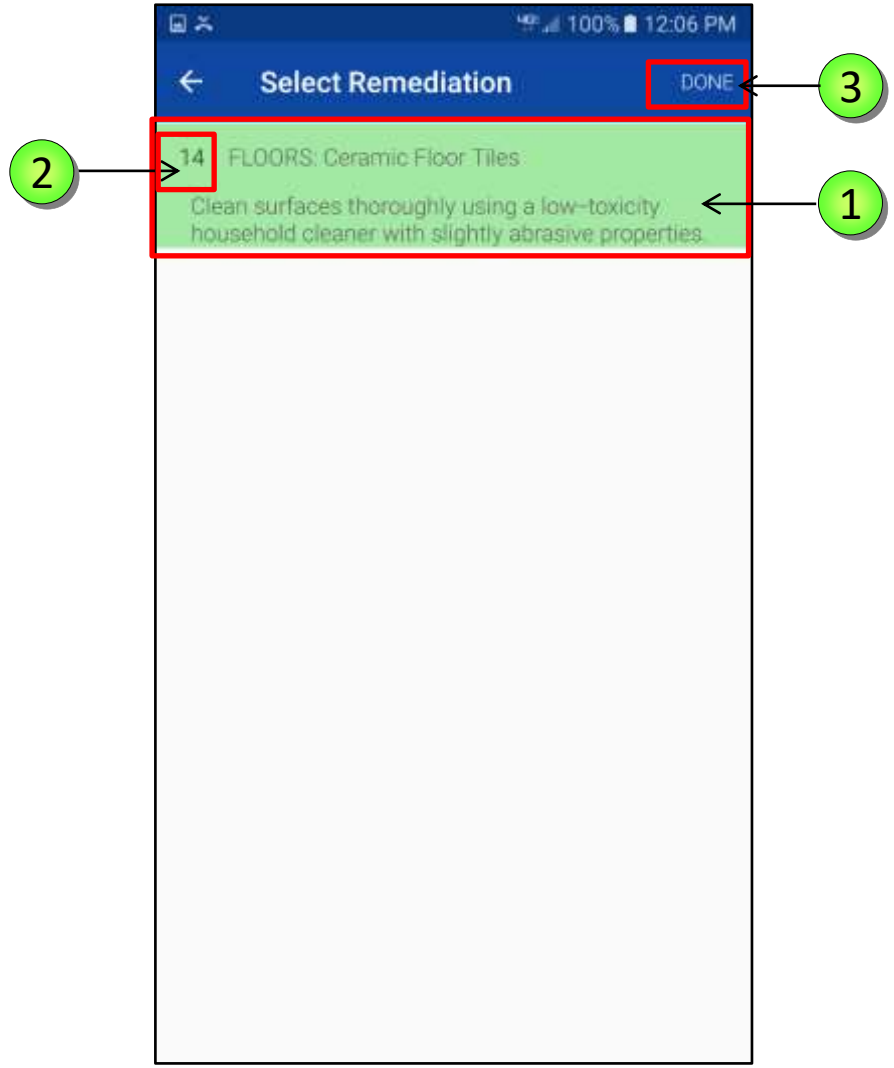


Probable Causes And Remediation – (Continued)

1. The **Select Remediation** screen appears. Select the **Remediation Method** from the displayed list. Tap on **No. 14**, **Floors** by tapping on it. Once selected **iWM** will highlight in **green** color.

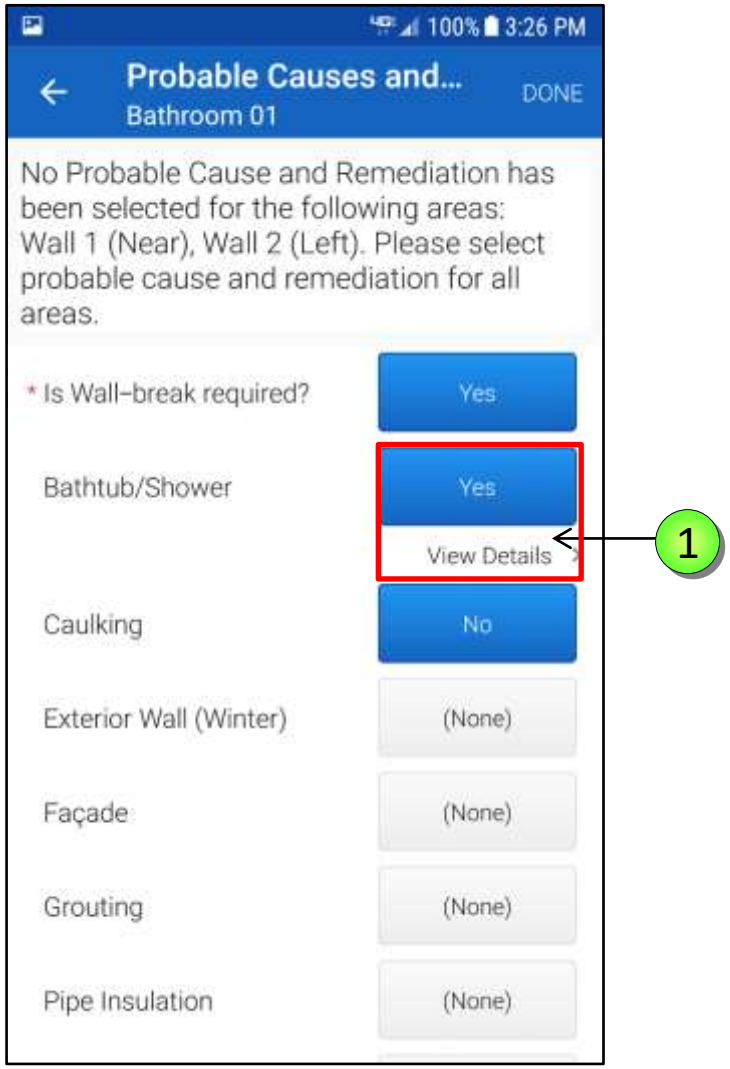
2. Notice the **Reference Number** associated with the Remedy as this what will display in the **View Details**.

3. Tap **DONE**



Probable Causes And Remediation – (Continued)

1. Tap on **View Details** below the **Bathtub/Shower** field to review information entered.

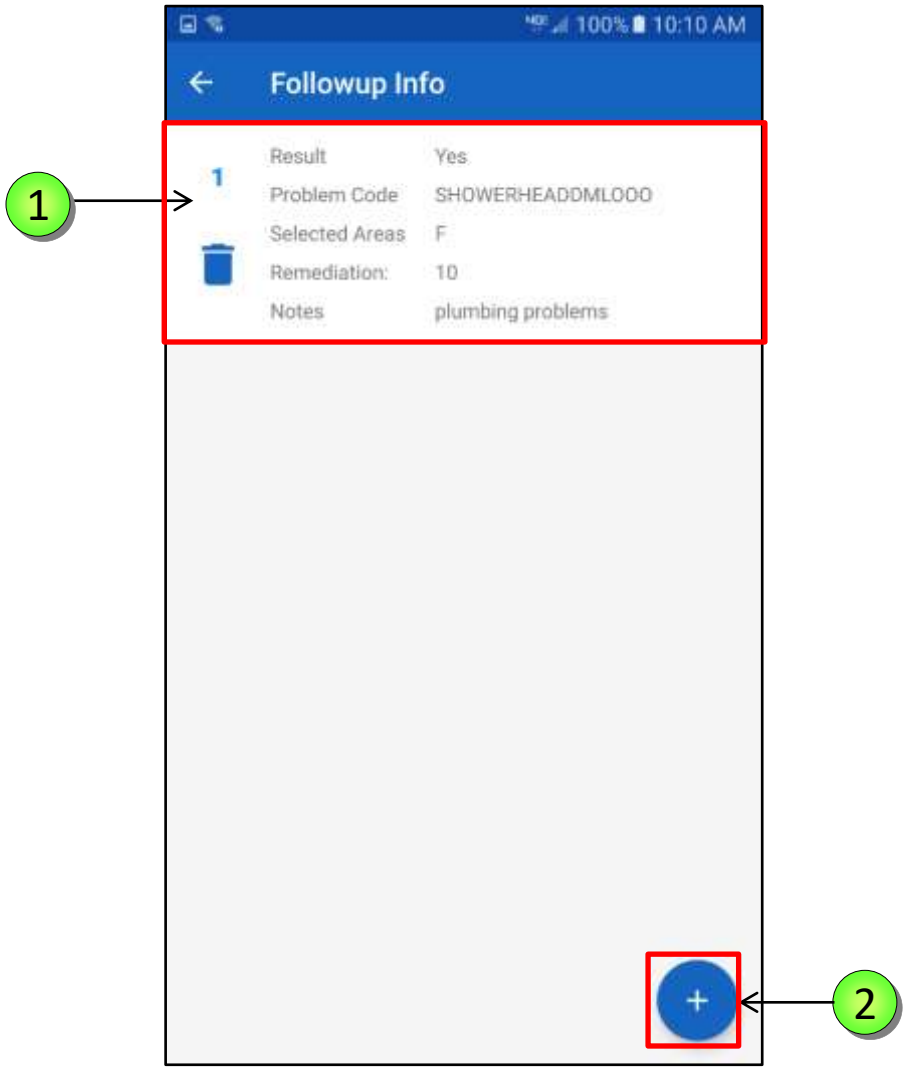


Probable Causes And Remediation – (Continued)

1. Notice the corresponding number is replacing the **Remediation** method that was selected. In this case is number **10**.

2. Tap **plus sign** (+), to add more **Remediation** methods about the same wall.

Then follow the same process as before.



Probable Causes And Remediation – (Continued)

1. There are two **Remediation** methods for the same issue.

NOTE: to change the answers entered, tap on the **Garbage Pail** icon , to erase the information entered.

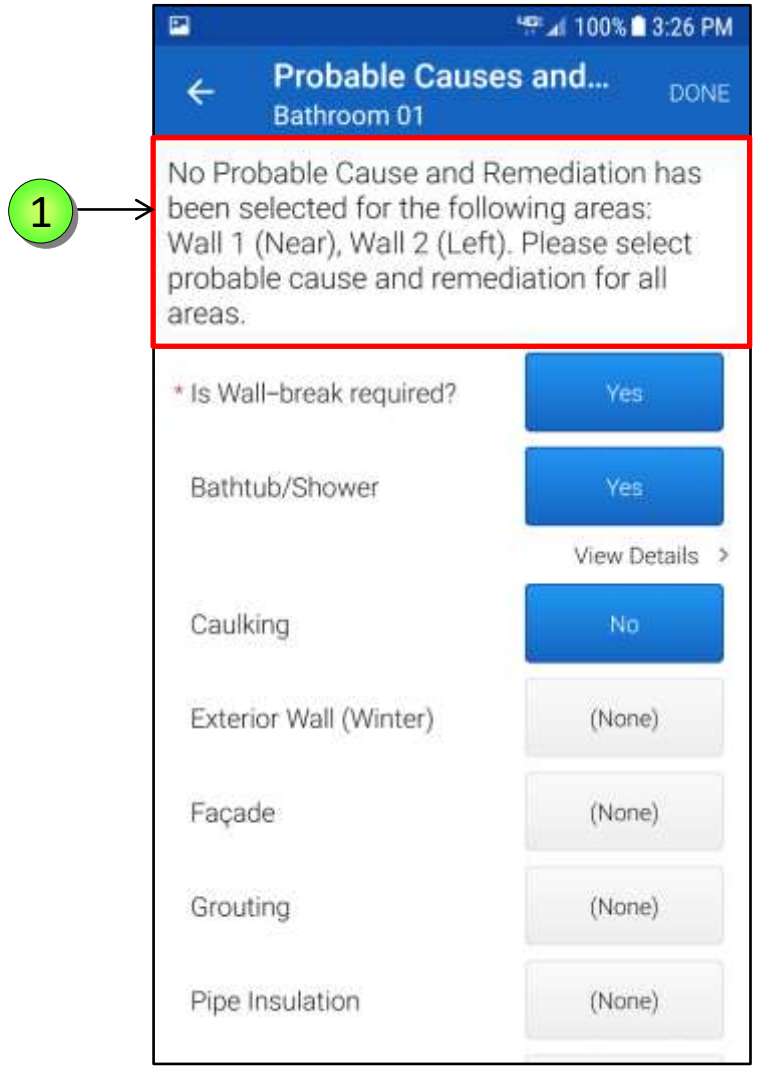
Confirm the message in the Pop-up Window, **"Are you sure you want to delete this result?"** tap **Yes**.

Tap the **back arrow** to return to the **Evaluation of Conditions** screen.

Probable Causes And Remediation – (Continued)

Repeat the same process for all the **Areas Affected** selected from the **Evaluation of Conditions**.

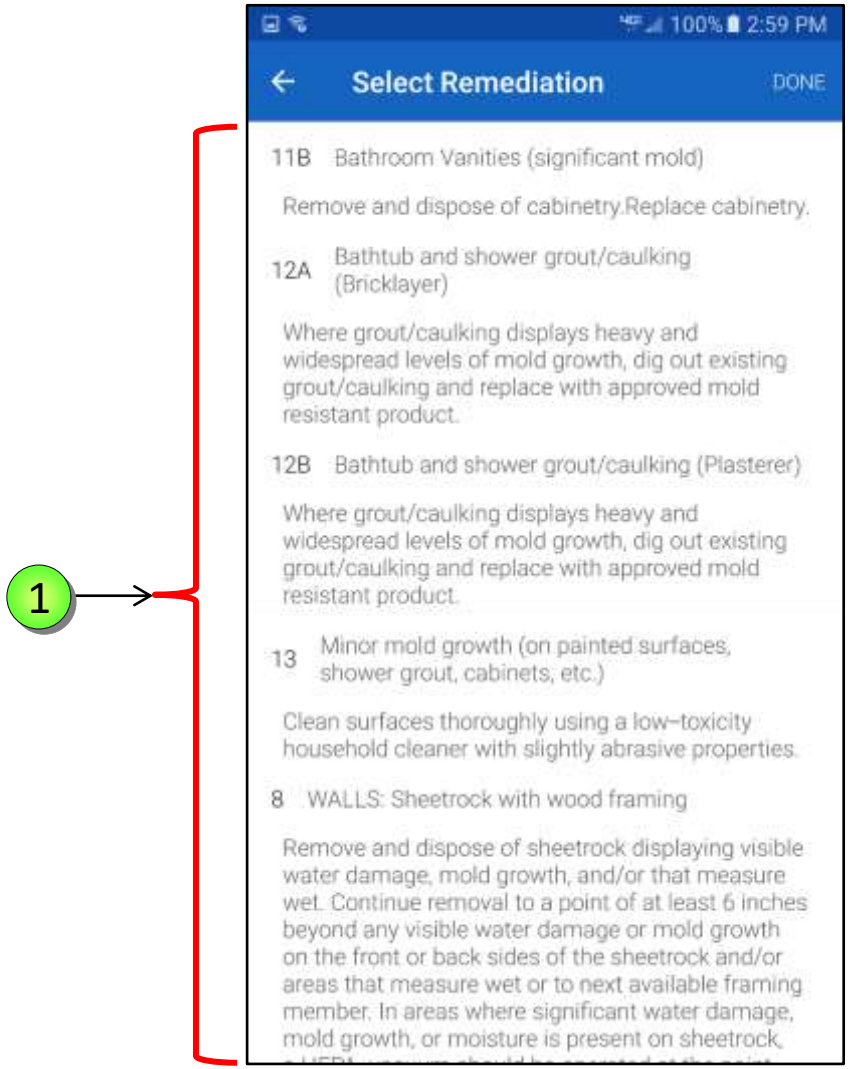
1 Complete a **Probable Cause and Remediation** methods for **Wall 1** and **Wall 2** selected in **Task 1**.



Probable Causes And Remediation – (Continued)

Depending on the wall type the **Remediation** methods can vary.

1. Choose what's the appropriate remedy by tapping on the different **Remediation** method.



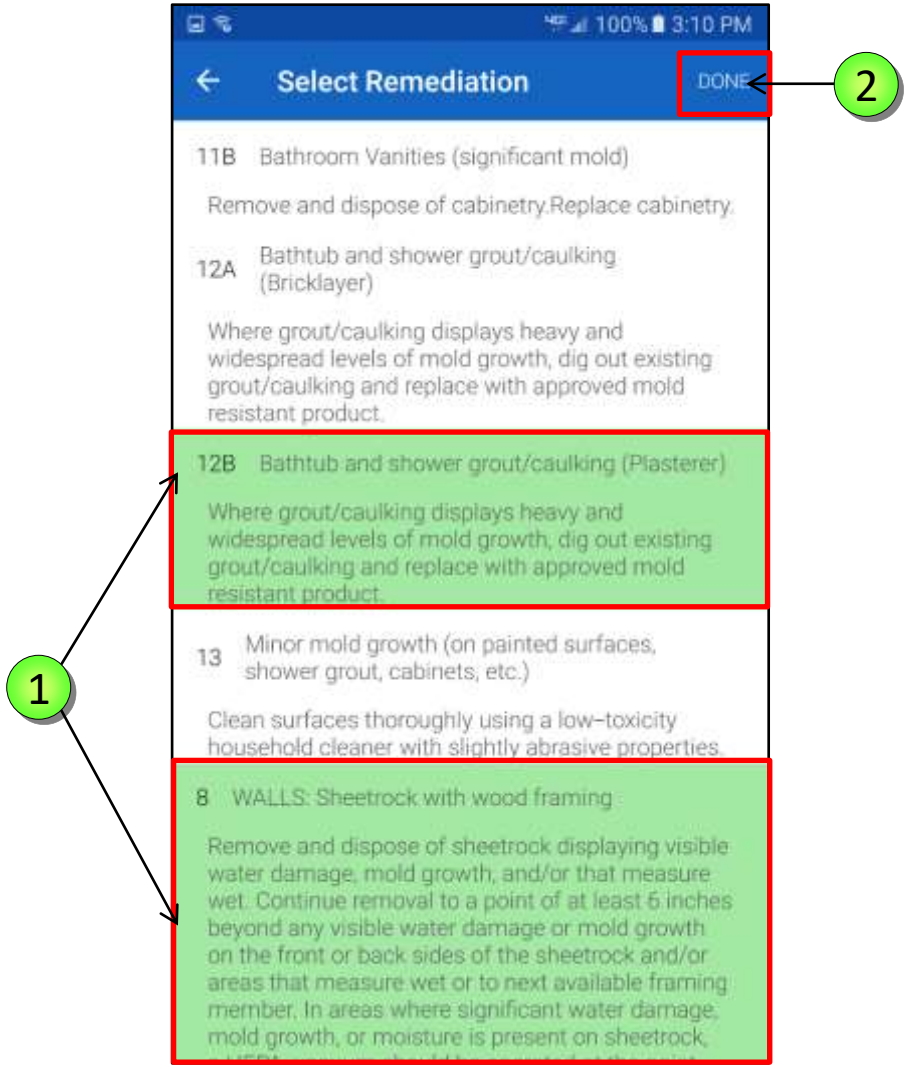
Probable Causes And Remediation – (Continued)

1. Tap on 1 or 2 **Remediation** Method. **iWM** will highlight them in Green.

2. Tap **DONE**

The **Probable Causes and Remediation** screen redisplays.

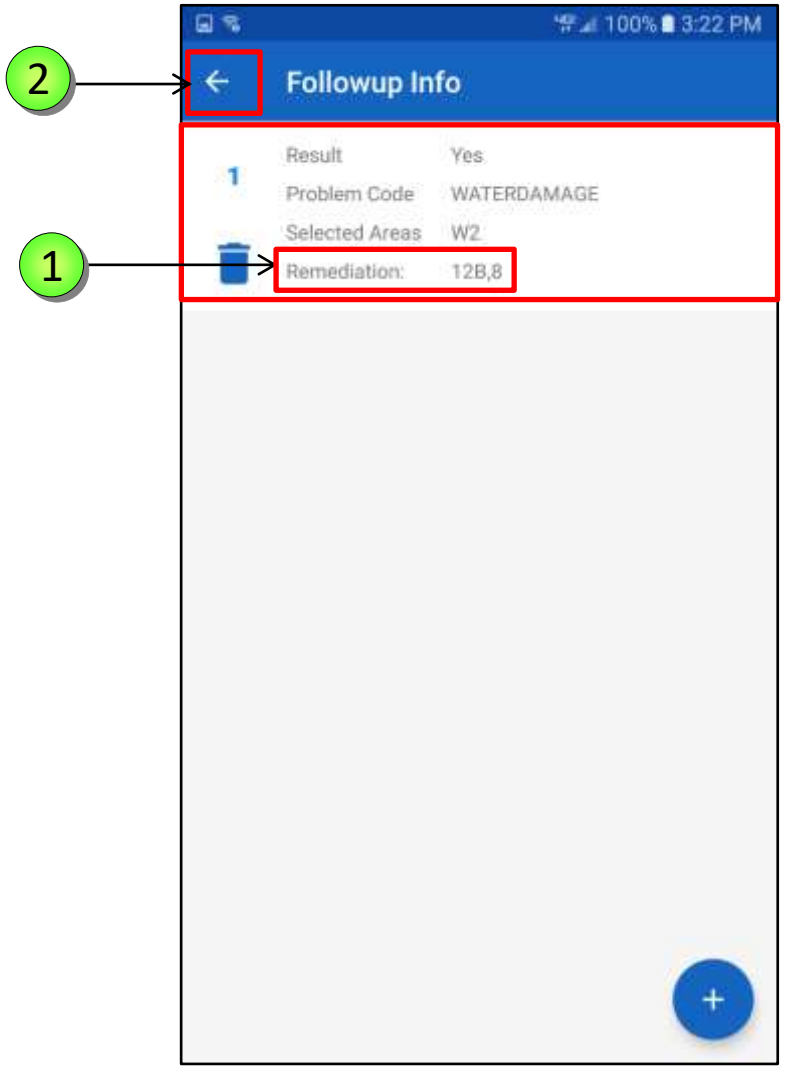
Tap on **View Details**



Probable Causes And Remediation – (Continued)

1. The **FollowUp Info** screen displays the entered information. Notice the **Reference Numbers**.

2. Tap the **back arrow** ← to go back to the **Probable Causes and Remediation** screen.

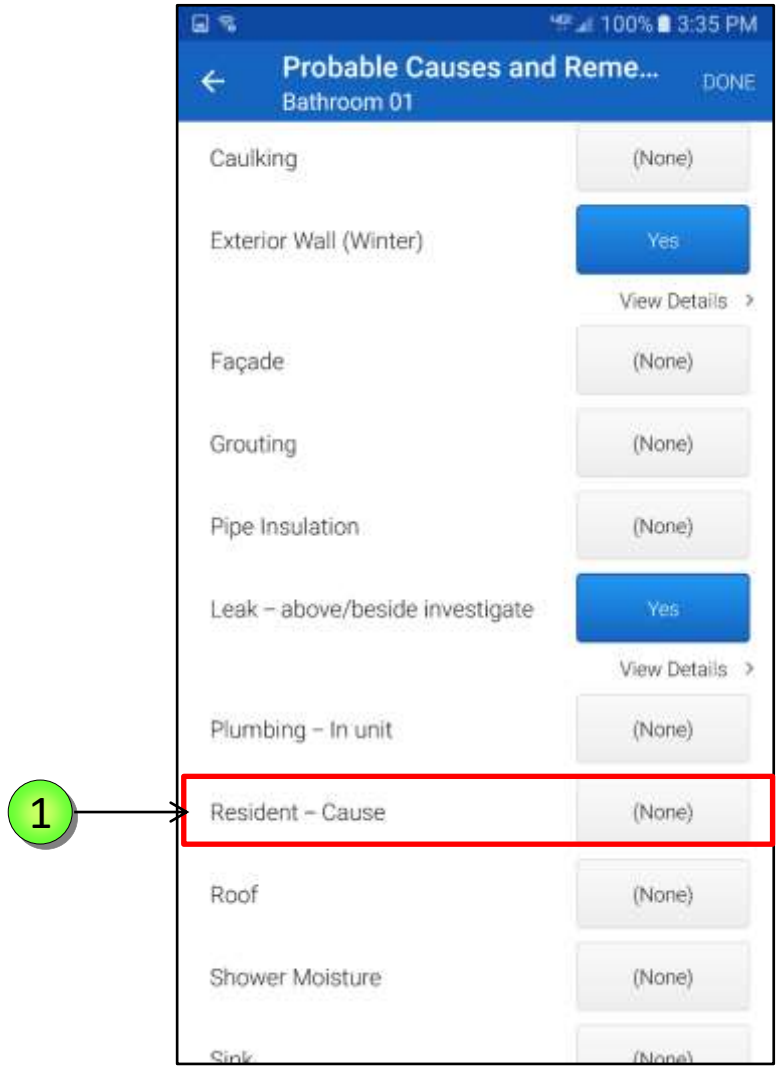


Probable Causes And Remediation – (Continued)

The remainder of the fields of **Probable Causes and Remediation** screen are the same.

Upon tapping on a field, the user **must** select a response, and follow the same process as before.

1 Tap **Resident – Cause**, there are different questions based upon whether an action is required by the **Resident**.

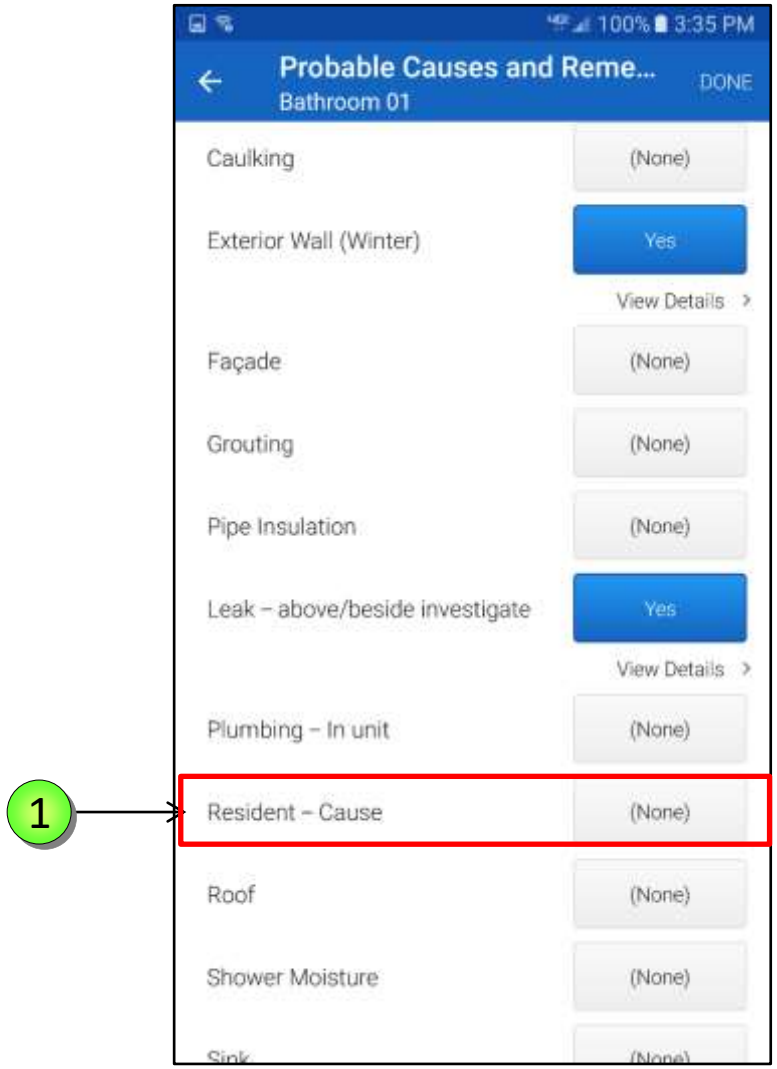


Probable Causes And Remediation – (Continued)

The remainder of the fields of **Probable Causes and Remediation** screen are the same.

Upon tapping on a field, the user must select a response, and follow the same process as before.

1 Tap on **NONE** next to the **Resident – Cause** field.

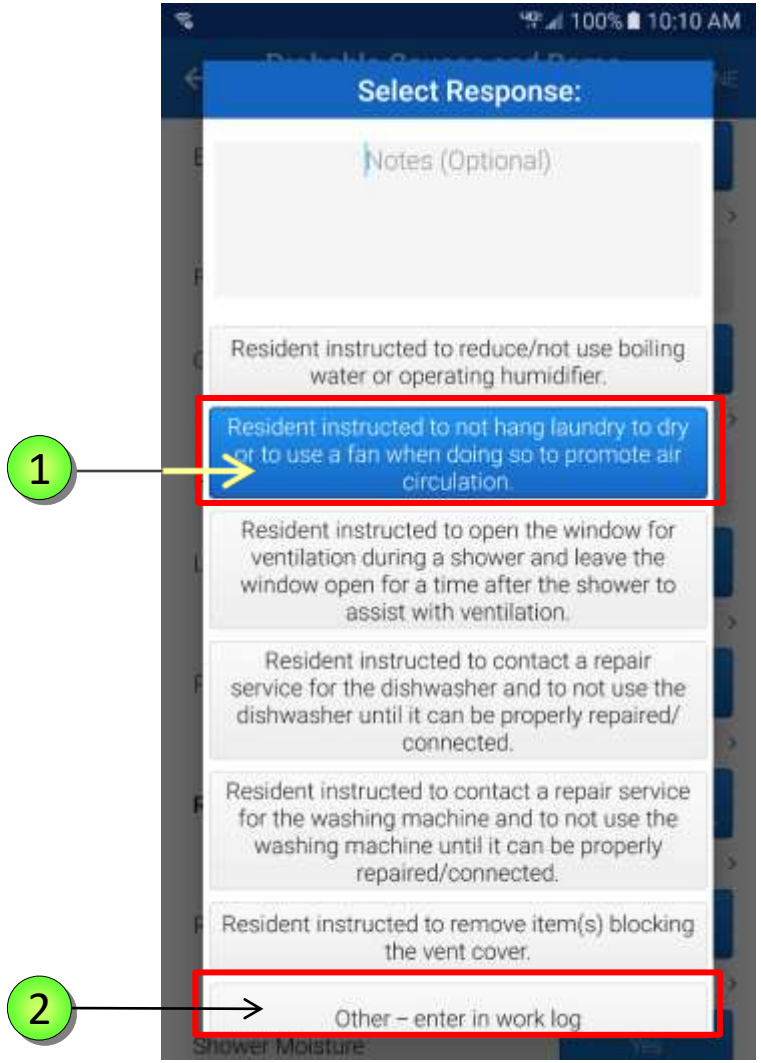


Probable Causes And Remediation – (Continued)

1. The **Select Response** screen displays all the possible causes that resulted from the Resident's actions.

You can select **One Action** at a time.

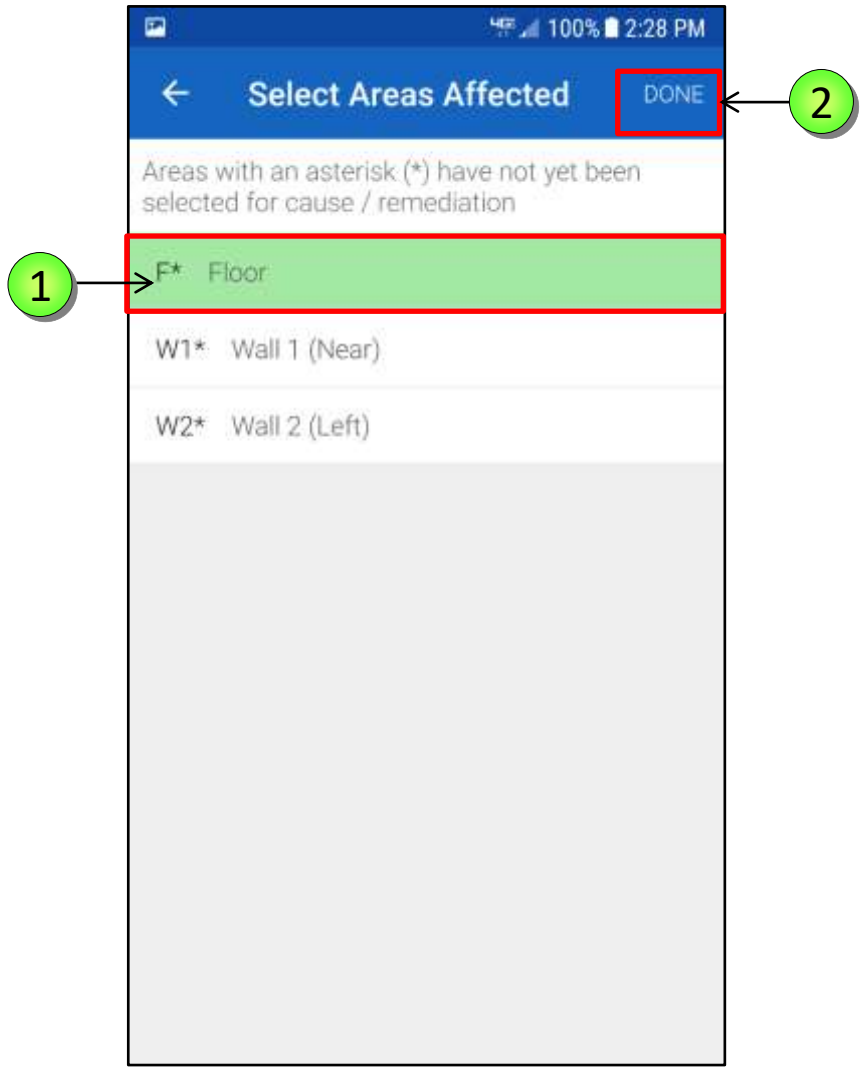
2. **NOTE:** if the user selected **Other** for the **Resident Cause**, the user must enter notes to explain this.



Probable Causes And Remediation – (Continued)

1. Select the **Floor** by tapping on it. Once selected **iWM** will highlight in **green** color.

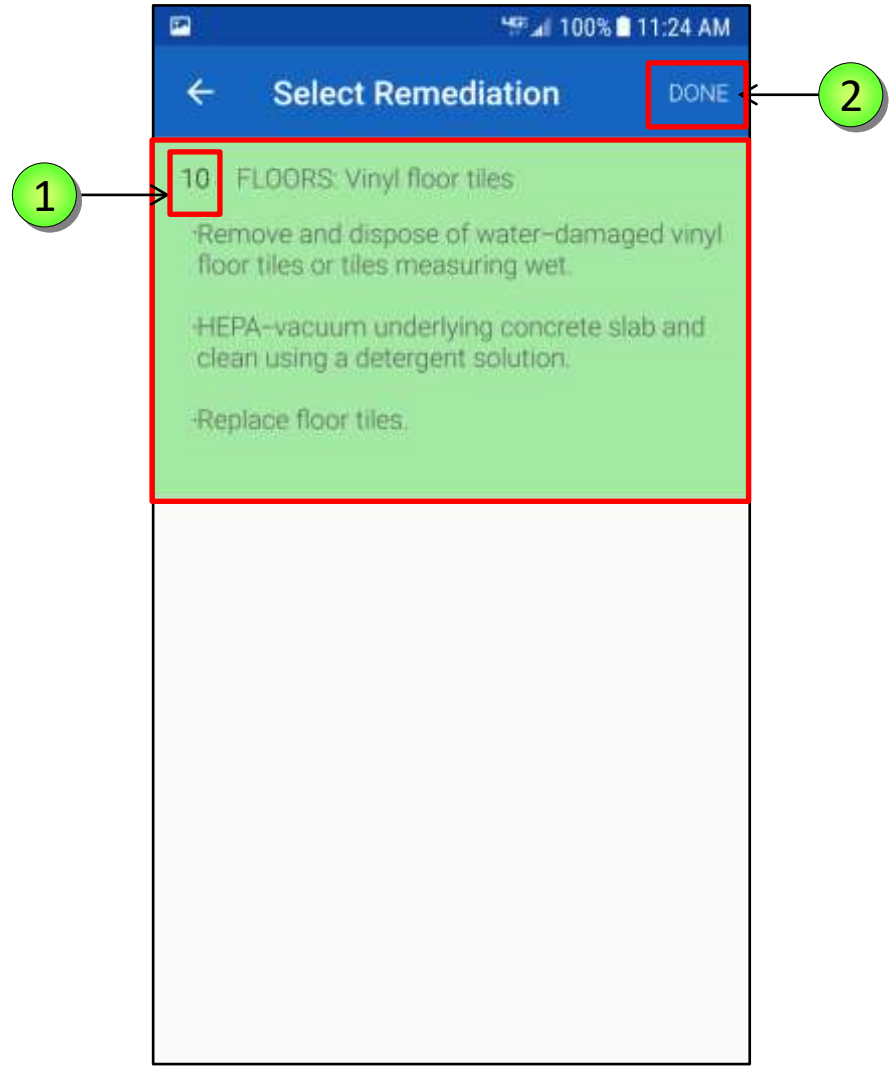
2. Tap **DONE**



Probable Causes And Remediation – (Continued)

1. The **Select Remediation** screen appears. Select the **Remediation Method** from the displayed list. Tap on **No. 10**, **Floors** by tapping on it. Once selected **iWM** will highlight it in **green** color.

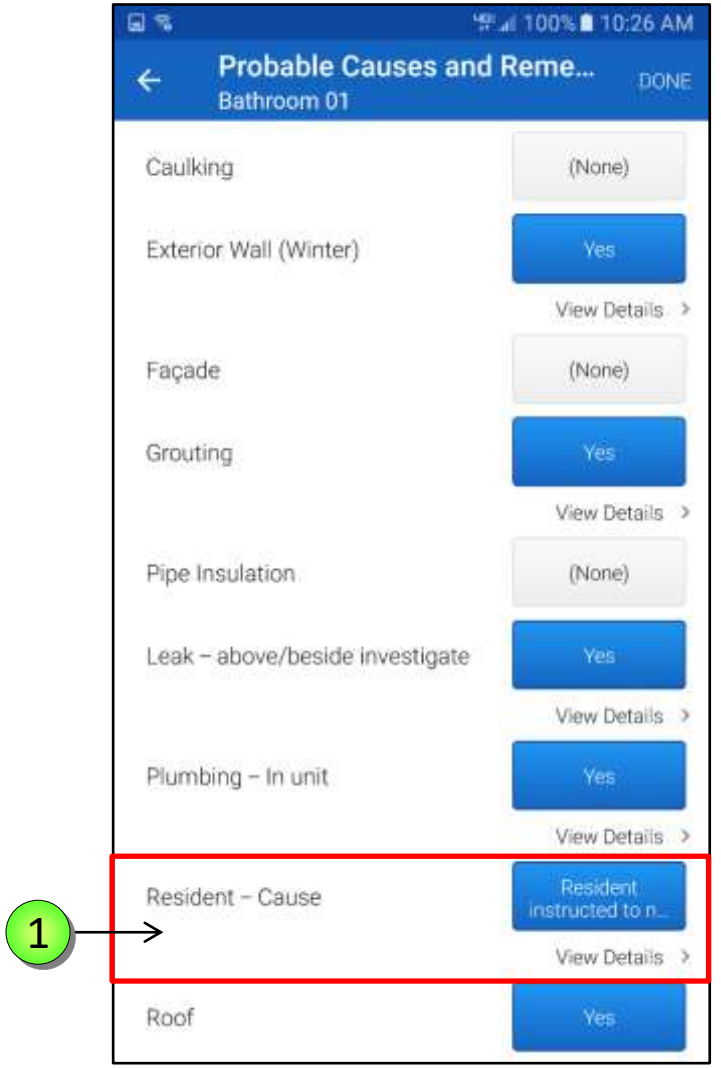
2. Tap **DONE**



Probable Causes And Remediation – (Continued)

1. On the **Probable Causes and Remediation** screen, tap on **View Details** next to the **Resident - Cause**.

NOTE: **Maximo Will Not** generate any Child Work Orders for any **Resident Cause** instructions.

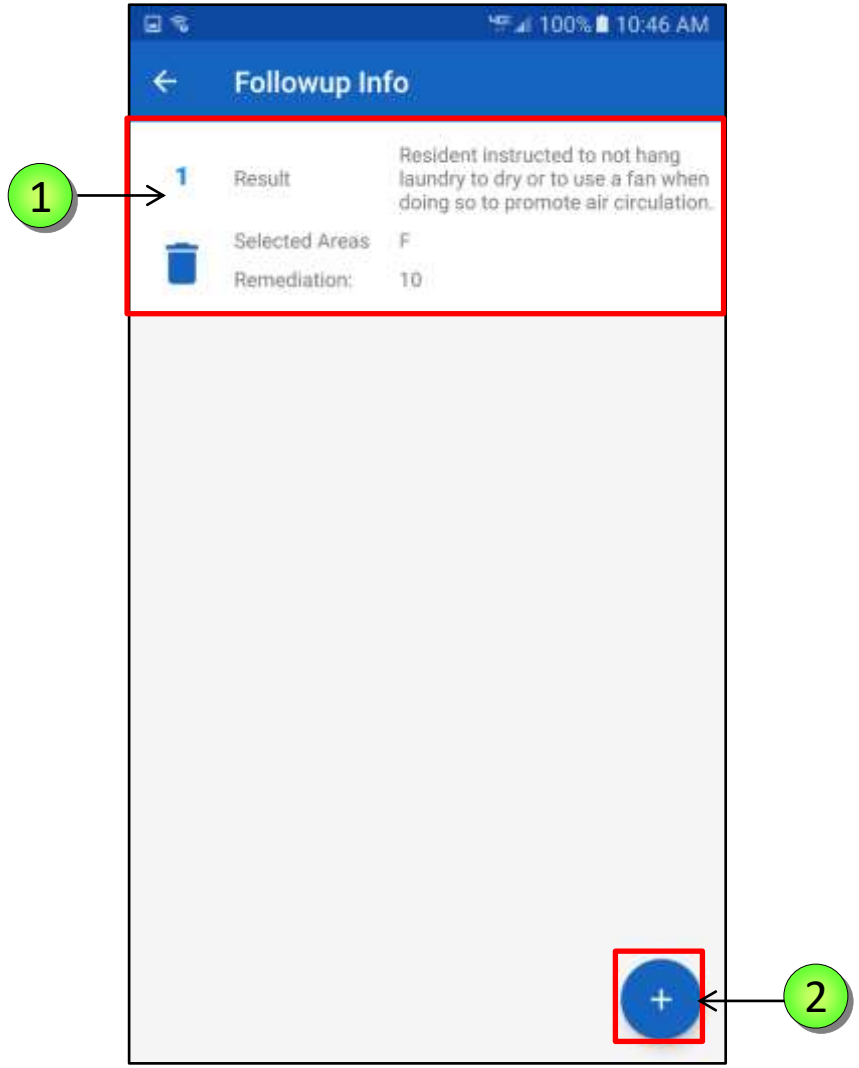


Probable Causes And Remediation – (Continued)

1. The **FollowUp Info** screen displays the entered results. You can add more **Resident** instructions from this screen.

2. Tap the **plus sign** to add more **Resident's** instructions.

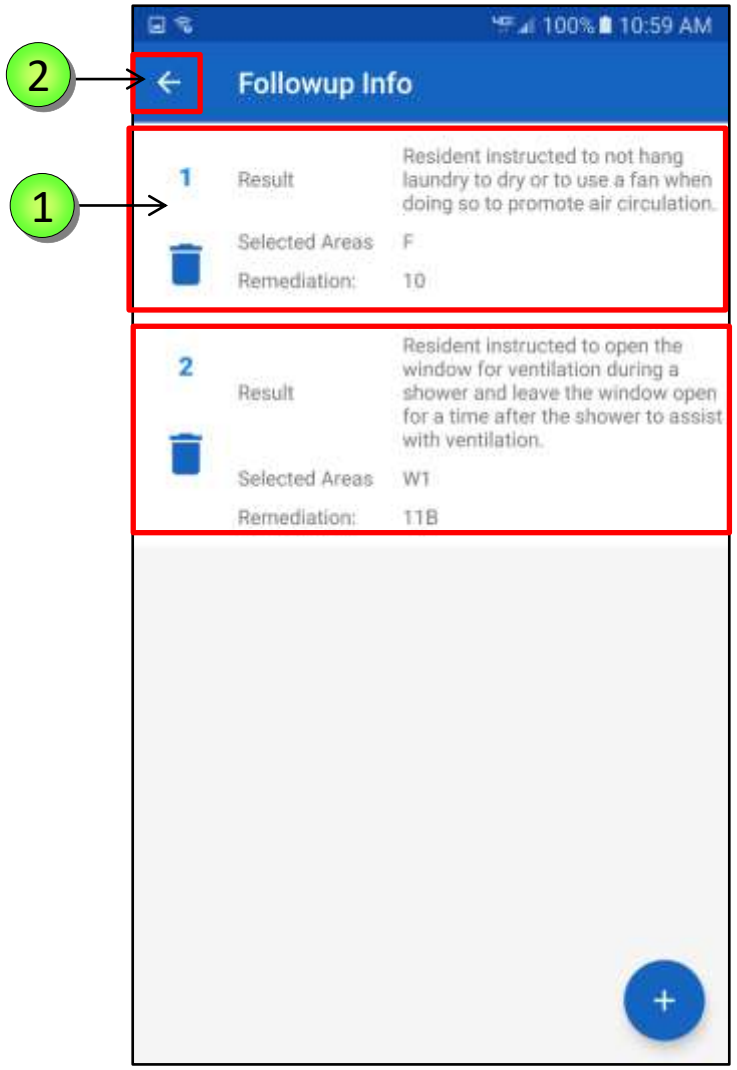
Repeat the process again as before.



Probable Causes And Remediation – (Continued)

1. Notice the instructions that were given to the **Resident**.

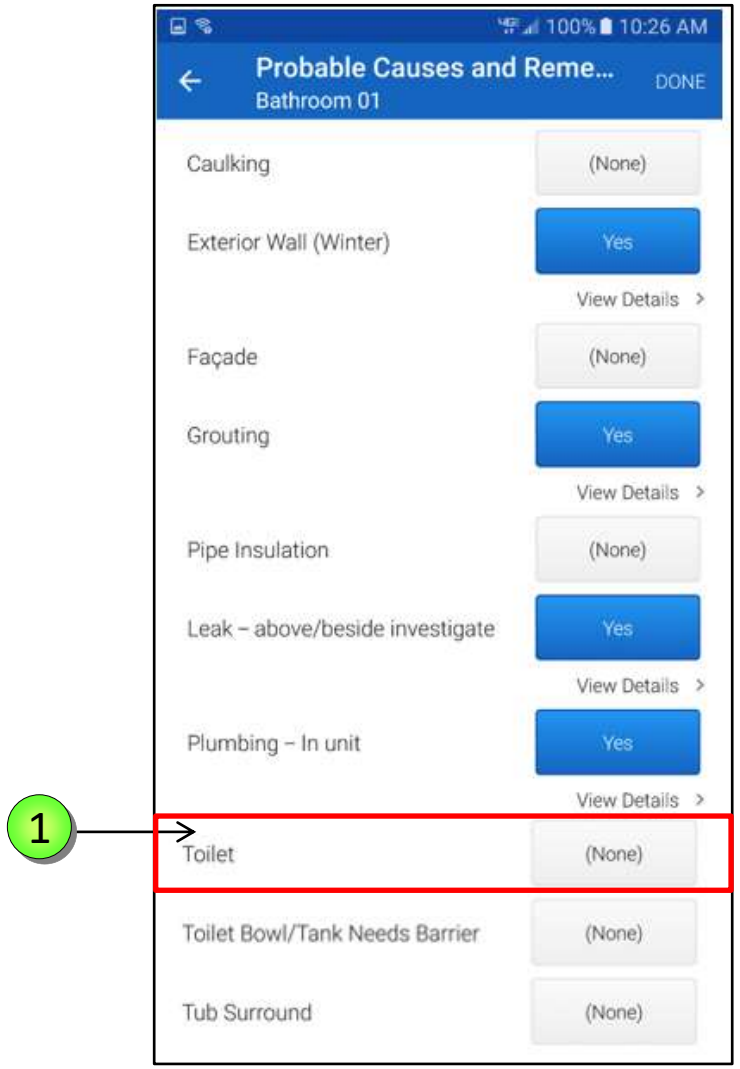
2. Tap the **back arrow** ← to go back to the **Probable Causes and Remediation** screen.



Probable Causes And Remediation – (Continued)

Scroll **down** ↓ and select **Toilet**.

1. Tap **NONE** next to **Toilet**.

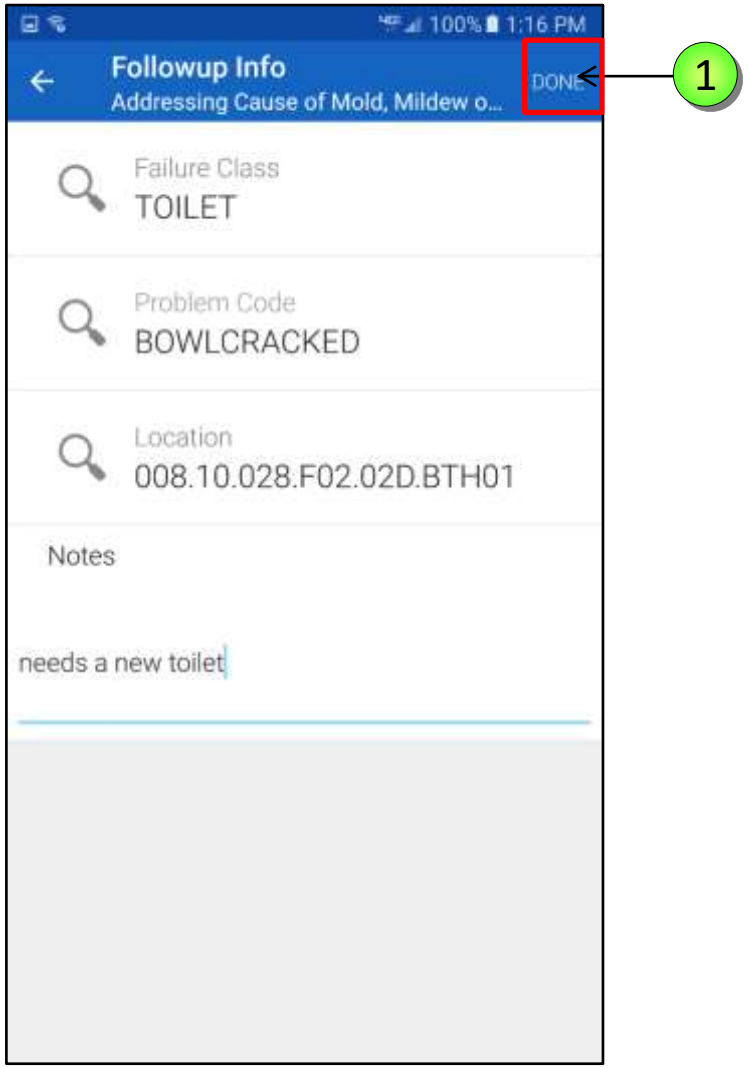


Probable Causes And Remediation – (Continued)

The **Select Response** displays tap **YES**.

The **FollowUp Info** screen displays, repeat the same process as before.

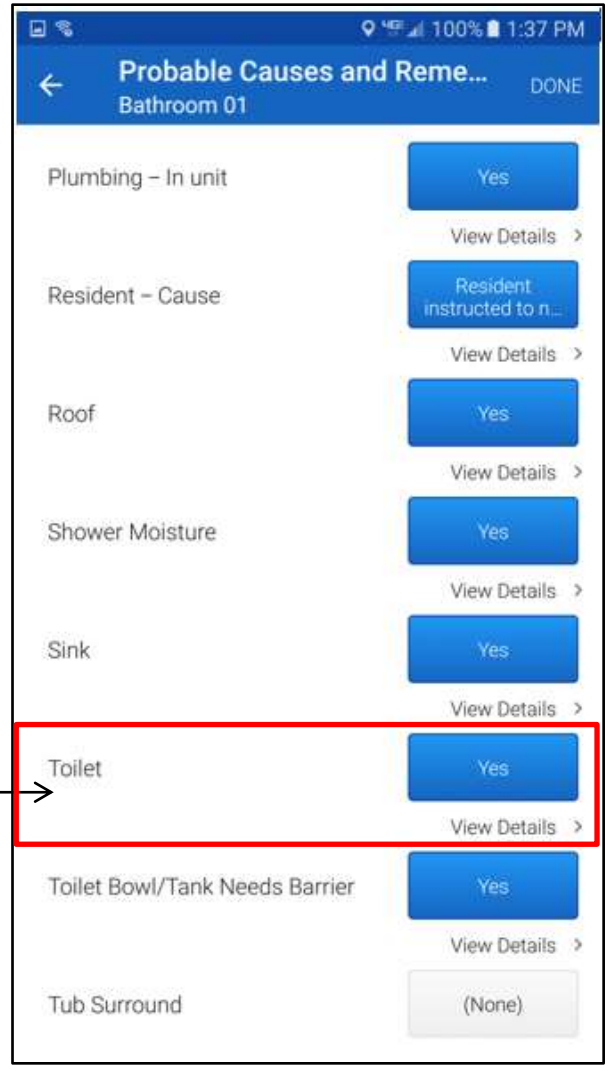
1 Tap **DONE** when complete.



Probable Causes And Remediation – (Continued)

The **Probable Causes and Remediation** screen reappears.

1 Tap **View Details** by the **Toilet**.



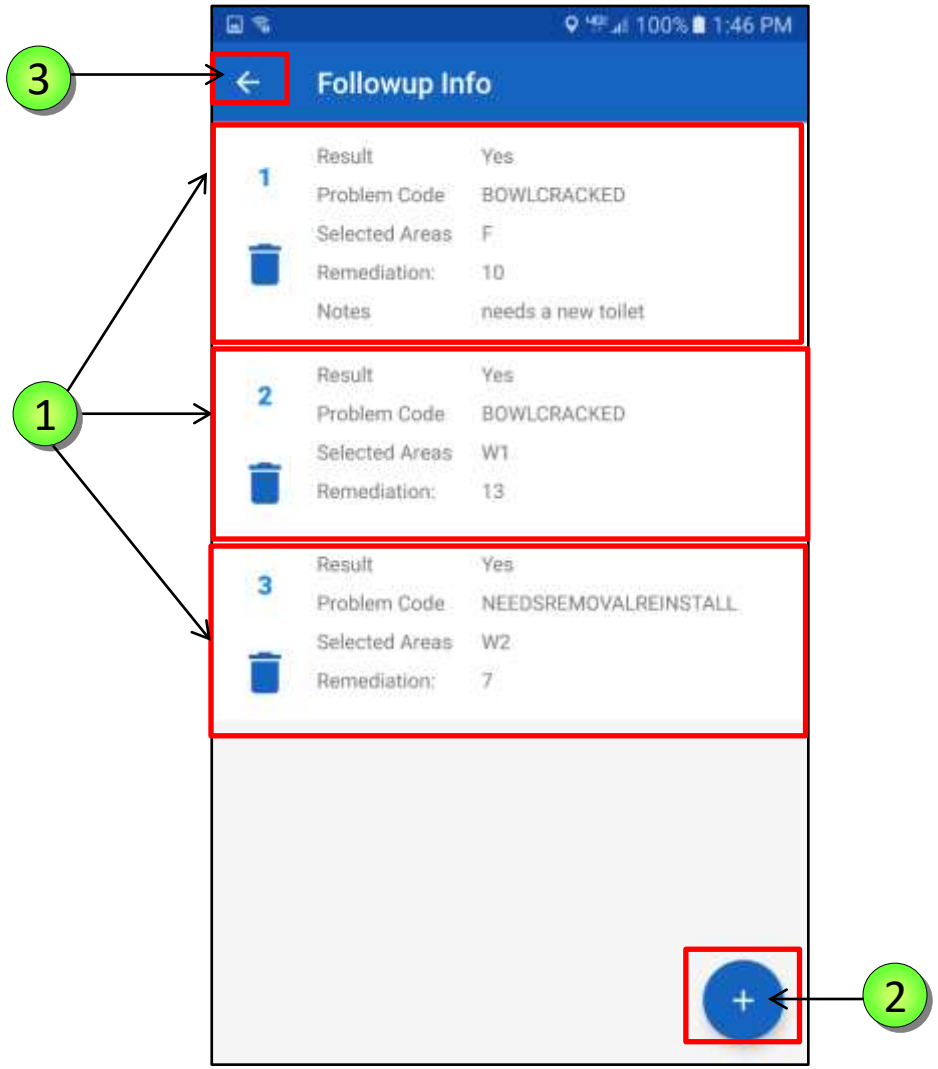
Probable Causes And Remediation – (Continued)

The **Probable Causes and Remediation** screen reappears.

1. Tap **View Details** by the **Toilet**.
2. Tap **plus sign** (+), to add more **Remediation** methods about the same wall.

Then follow the same process as before.

3. Tap the **back arrow** (←) to go back to the **Probable Causes and Remediation** screen.

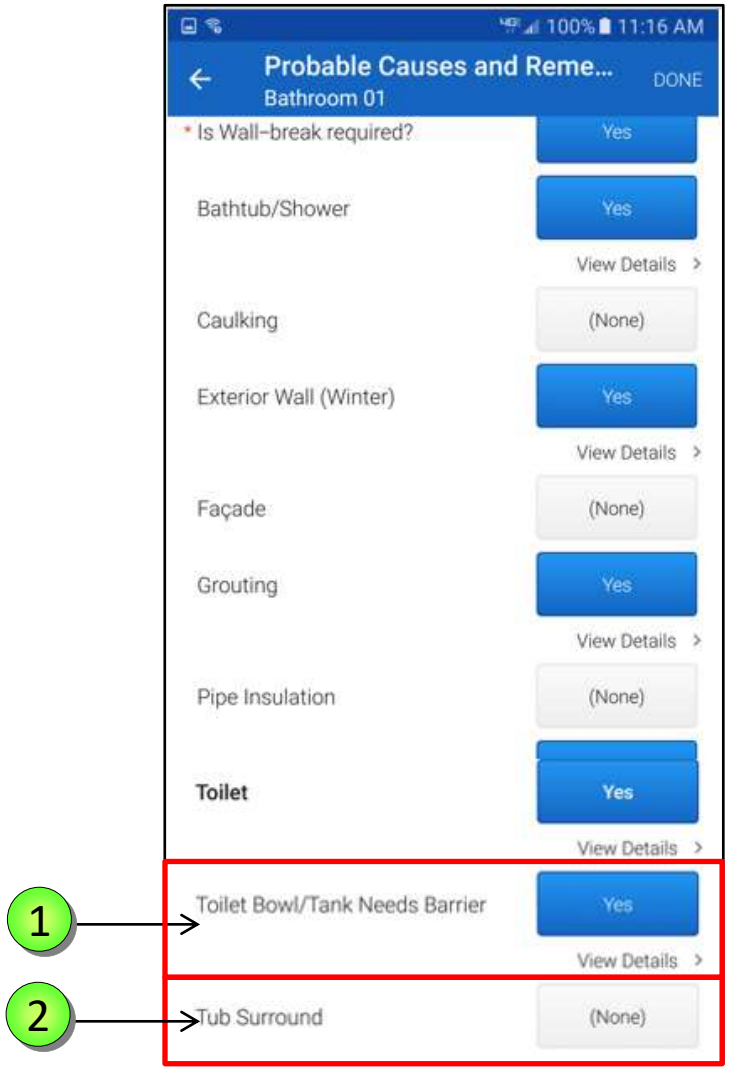


Probable Causes And Remediation – (Continued)

The **Probable Causes and Remediation** screen reappears.

1. Tap **Toilet Bowl/Tank Needs Barrier**
2. Tap **Tub Surround**

Repeat the same process for every **Affected Area** for **Toilet Bowl/Tank Needs Barrier** and **Tub Surround**, by selecting the **Failure class, Problem Code**, **Location**, and **Notes** when needed.

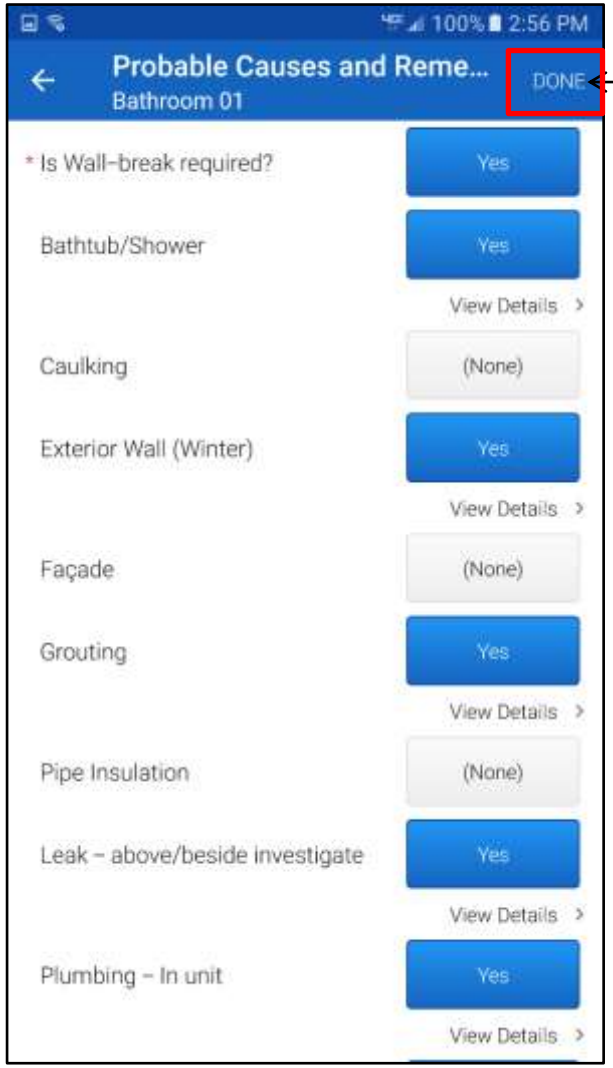


Probable Causes And Remediation – (Continued)

1

Now the **Probable Causes and Remediation** screen are the same.

Tap **DONE** to save all the information the user entered.

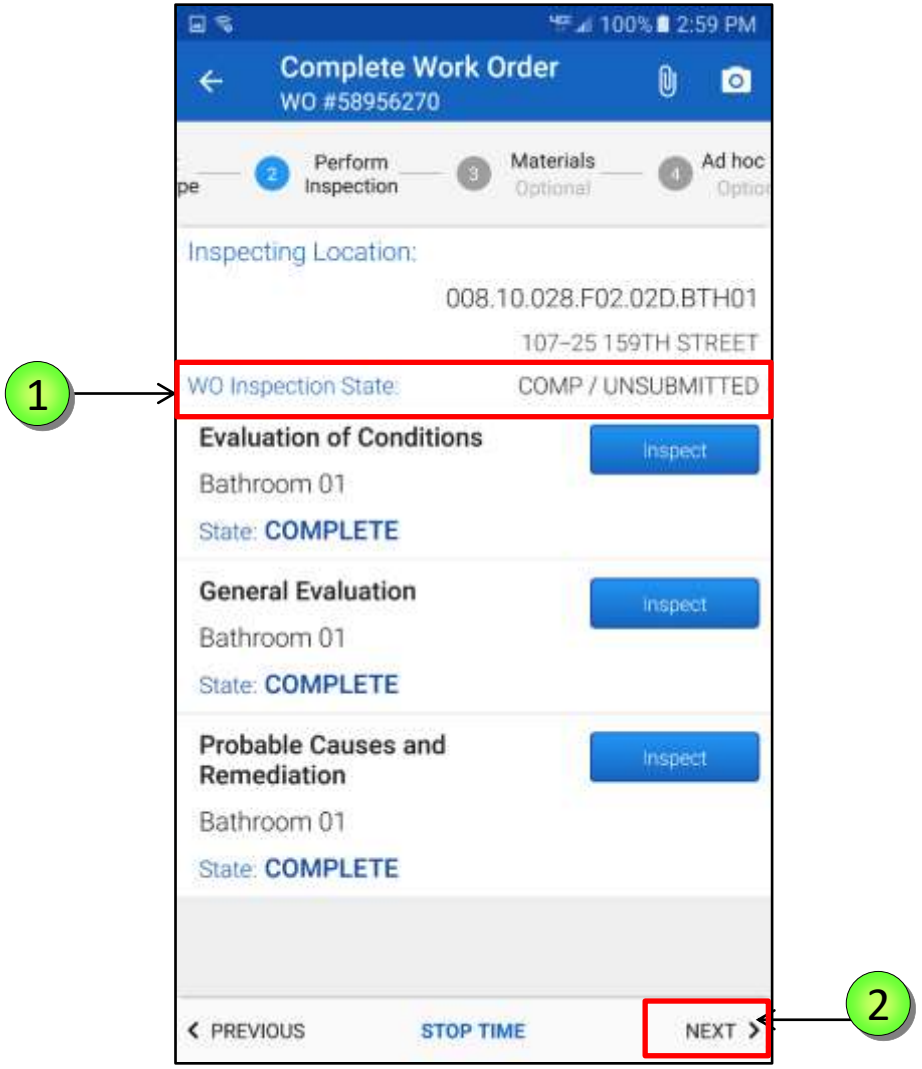


Inspection Status

1. All the **three tasks** now have a Status of **COMPLETE**. The **WO Inspection State** is **COMP/UNSUBMITTED**.

   The Supervisor has answered **all the required fields** after performing the inspection.

2. Tap **NEXT**



Note Requirement

Which example is the “perfect” note?

Note 1:

Leak was fixed before.

Note 2:

Resident reported a previously identified leak from above in bathroom of upstairs apartment, which property management completed repairs ~90 days ago. Maximo shows WO's 68758747 (repair cracked pipe – CLOSE), 68758763 (plaster wall – scheduled) and 68758747 (paint wall - WTSCH) corresponding to the leak from above.

Note Requirement

The Perfect Note Has:

1. Location: Where the previous or current leak was found.
   Example: Bathroom upstairs unit.

2. Repairs: Description of completed repairs.
   Example: Cracked pipe.

3. Date: Of when leak was found AND repairs were completed.
   Example: 90 days ago.

4. Follow Up Work: Explain what remediation work still needs to be done.
   Example: Plaster wall and paint wall.

The PERFECT Note:

Resident reported a previously identified leak from above in bathroom of upstairs apartment, which property management completed repairs ~90 days ago. Maximo shows WO's 68758747 (repair cracked pipe – CLOSE), 68758763 (plaster wall – scheduled) and 68758747 (paint wall - WTSCH) corresponding to the leak from above.

Note & Picture Requirement

Leak From Above - Previously Identified *

Previously Identified should be selected when the root cause or remediation work for the mold, water damage, or wet condition had been identified or abated by Property Maintenance staff or Skilled Trades on a prior work order.

Resident-Caused by Other Actions (Code 6) *

Mold Busters Education will be needed for the resident(s) for future prevention of mold.

A mandatory inspection will be needed to find the exact reason(s).

Other *

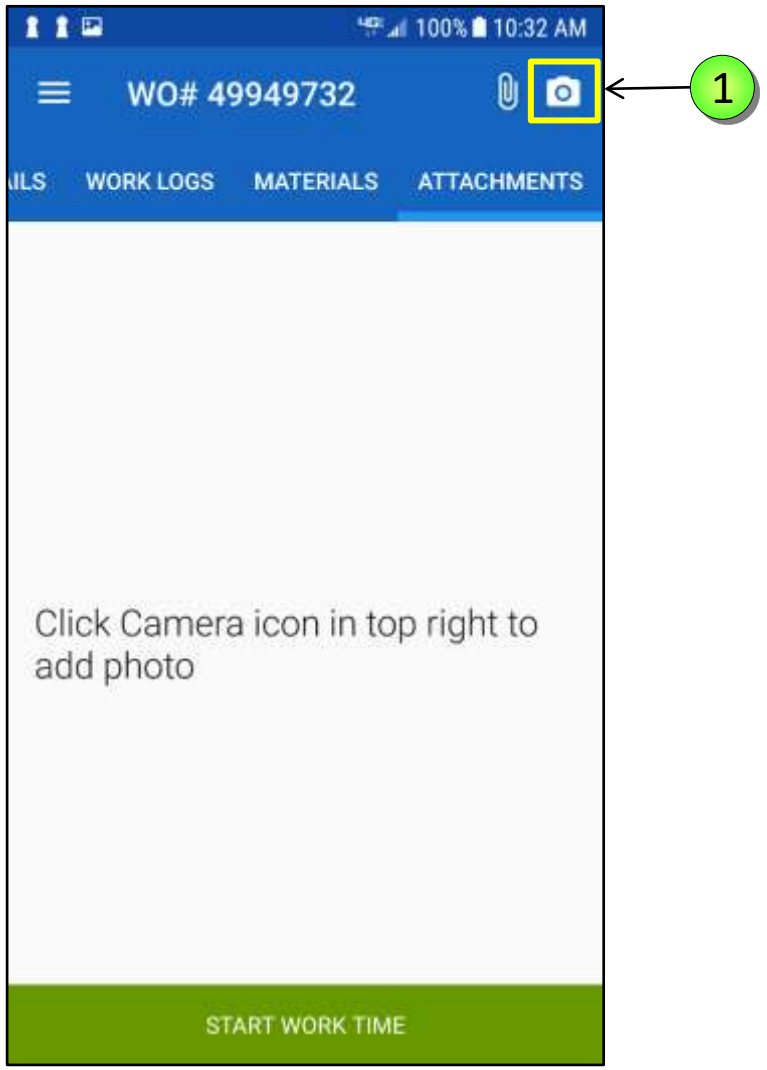
This options should be selected if the root cause is not listed or not evident through the standard assessment practices.

Taking Photos for Work Orders

NYCHA has made it very easy to add photos to Work Orders. Photos can be taken anytime during the work flow and automatically attached to the Work Order.

NOTE: Photos are required for **Mold and Mildew Work Orders** as evidence for supervisors and courts to evaluate.

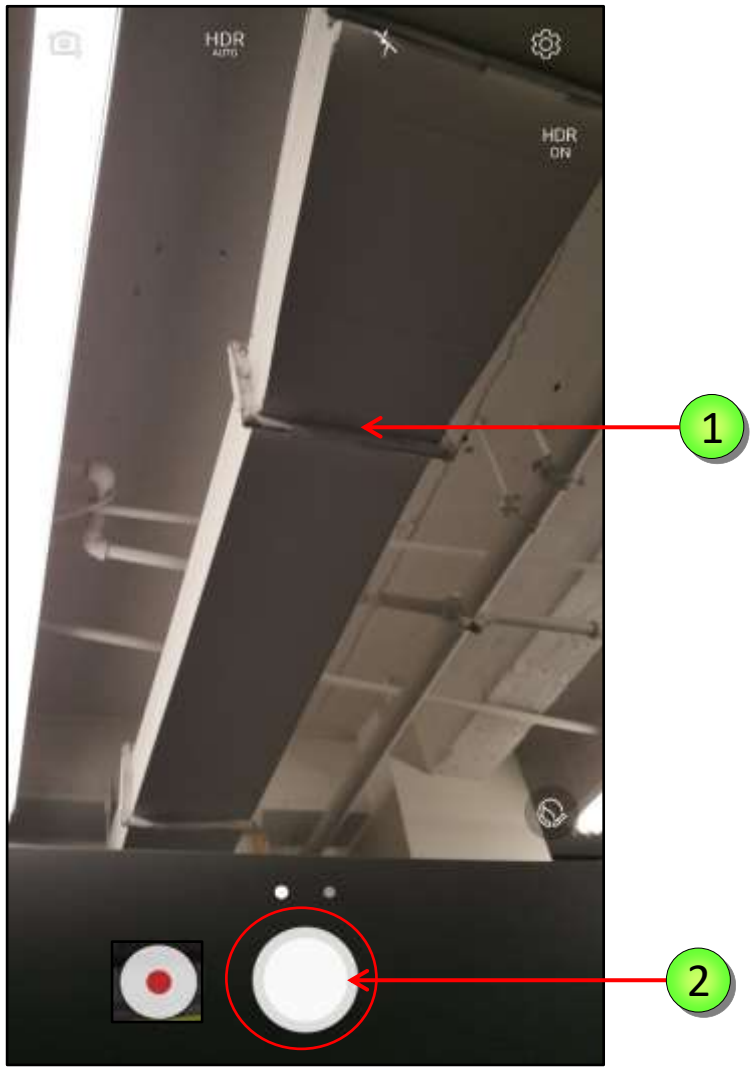
1 Tap on the **Camera icon** in the upper right corner to open the camera.



Taking Photos for Work Orders - (Continued)

1. Tap the image on the preview screen to focus the camera.
2. Then, tap the **Circle** icon at the bottom of the screen to take the photo.

NOTE: Once you save a picture you can not delete it.

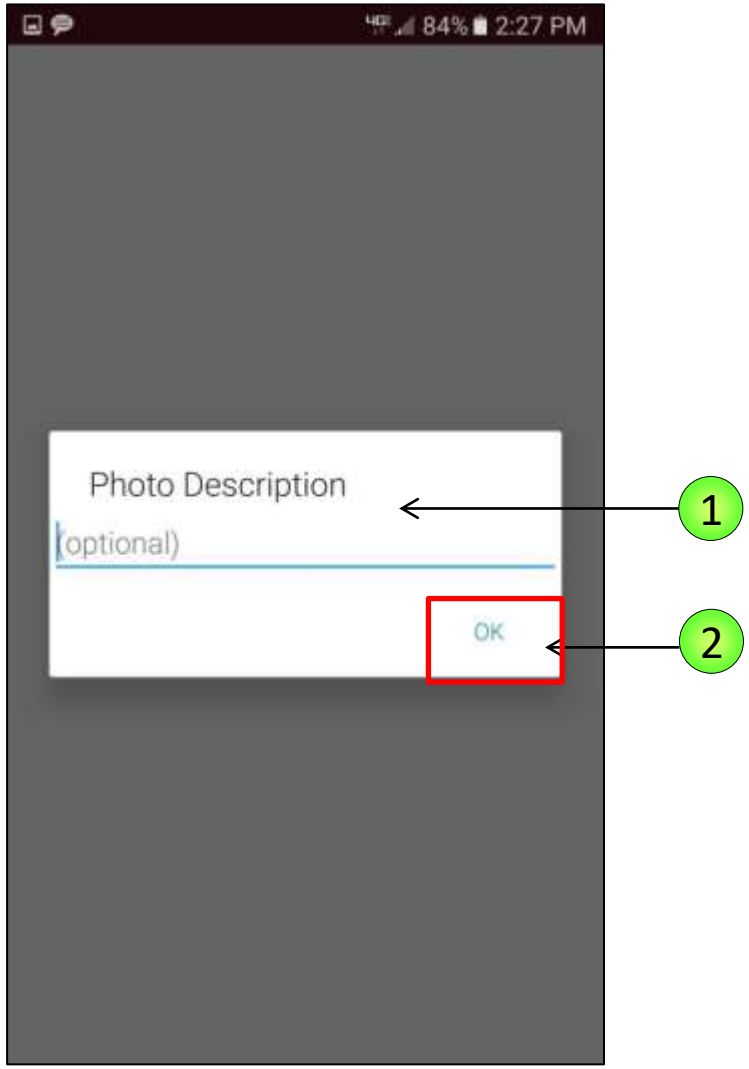


Taking Photos for Work Orders - (Continued)

1. You can then type a **Description** to the photo taken.

2. Tap **OK**

NOTE: All photos taken are automatically saved and stamped with date and time when taken and appear under the **"Attachments"** page of the work flow for evaluation.

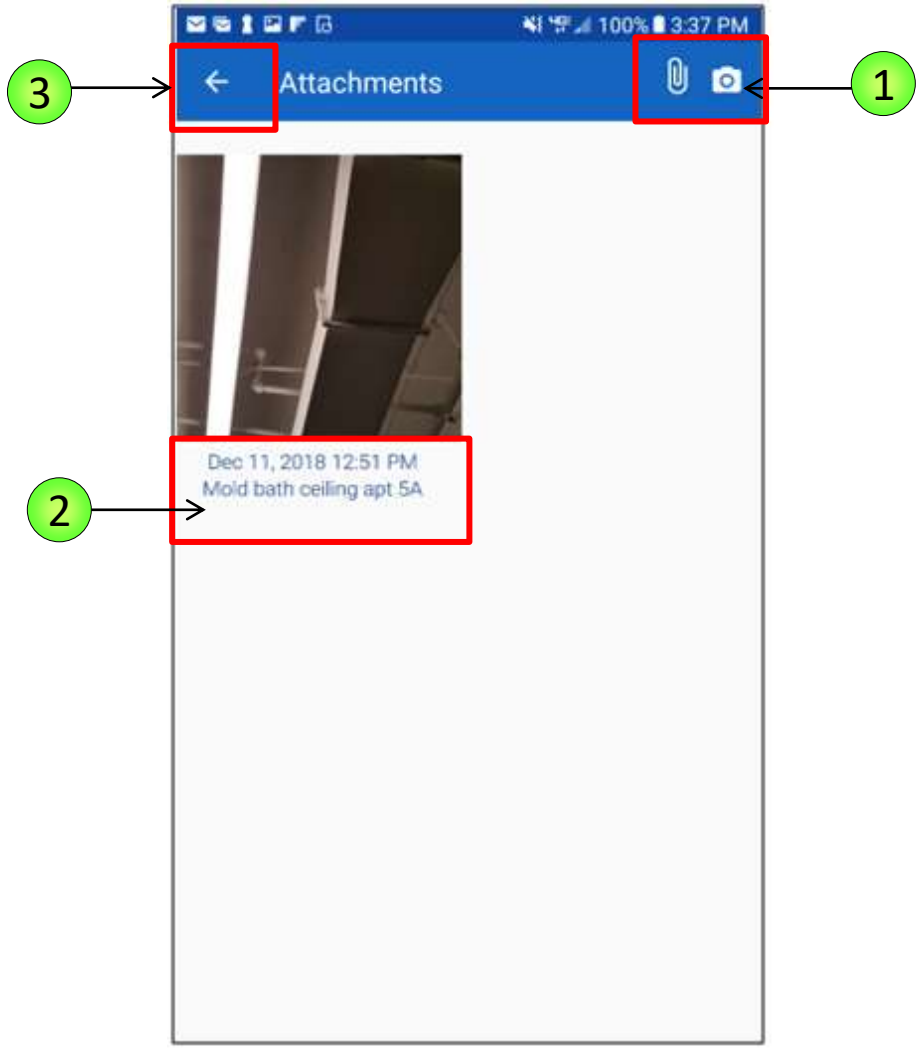


Taking Photos for Work Orders - (Continued)

1. Tap the **paper clip** to see the picture taken.

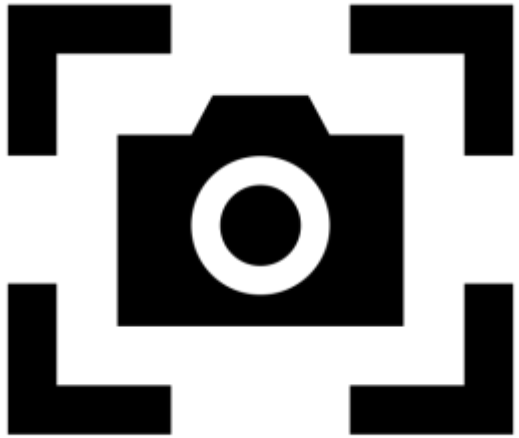
2. All photos taken are automatically saved and stamped with date and time when taken and appear under the **"Attachments"** page of the work flow for evaluation.

3. Tap on the **back arrow** ← to return to the Work Order.



Picture Requirement

Upload two (2) clear pictures of the condition: (1) one close up; (2) the other will be a wide shot with a standard letter paper size (8.5 x 11 in) in the photos to show the relative size of the condition.



Picture Requirement - Example 1

Close Up: Kitchen

Full View: Kitchen

Knowledge Check

Close Up: Living Room Ceiling

Full View: Living Room Ceiling

Knowledge Check

Close Up: Bathroom Window Frame

Close Up: Bathroom Ceiling

Full View: Bathroom Wall

Capture Signatures

1. The **Signatures** screen will display three selections **RESIDENT**, **WORKER** and **SUPERINTENDENT**.

Worker Signature is Optional.

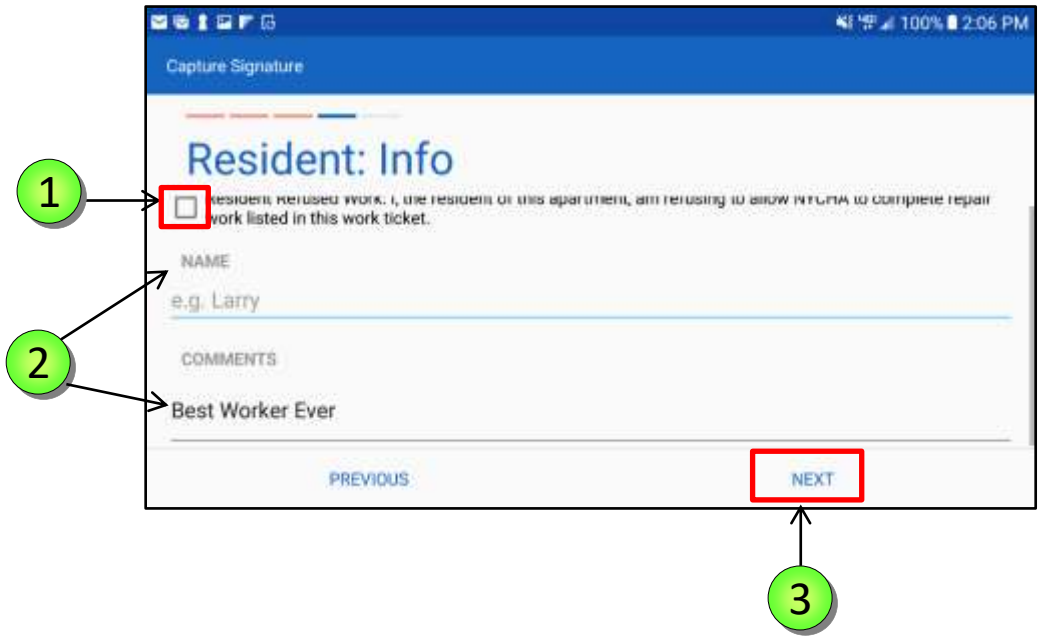
Resident Info

1. The **Resident: Info** screen is displayed. If the **Resident Refused Work** to be completed, check the box.

2. The Resident can enter in their **NAME** and any **COMMENTS**, then tap **DONE**.

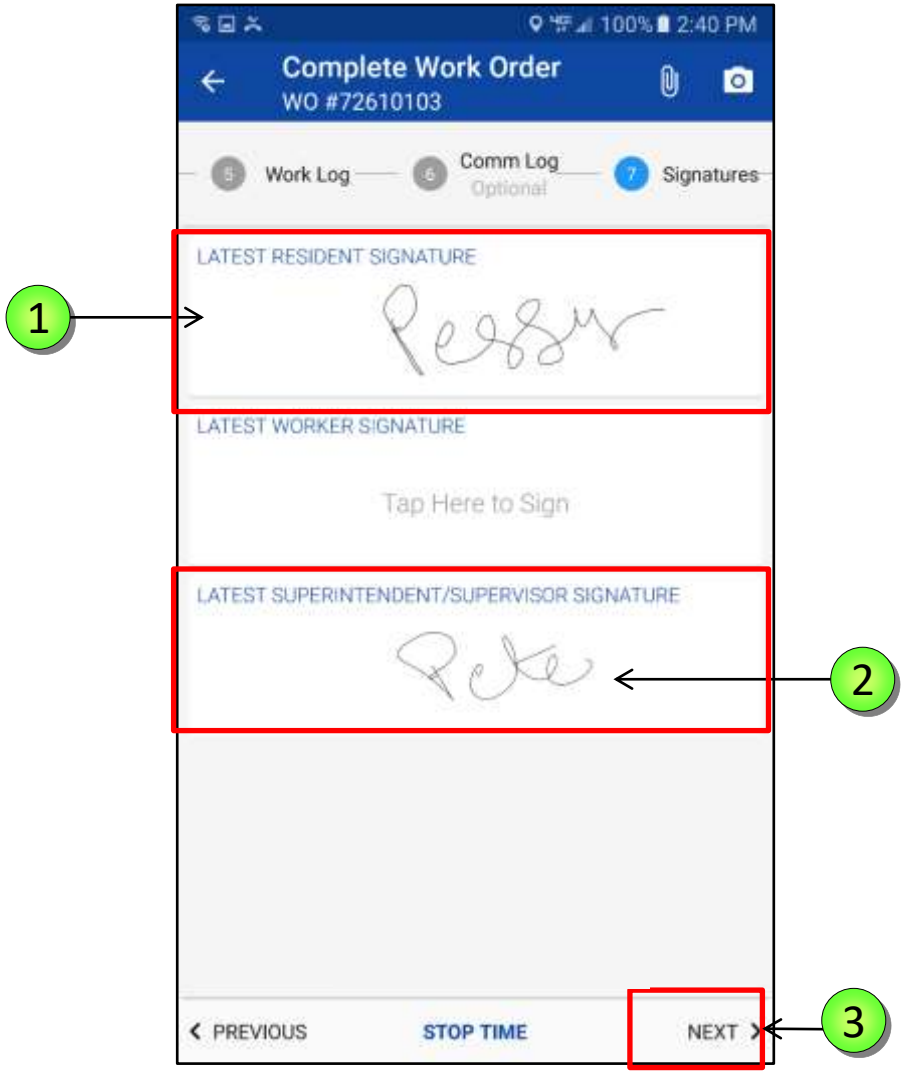
NOTE: This information is optional.

3. Tap **NEXT**



Capture Signatures – (Continued)

1. The **RESIDENT** signs the Work Order.
2. The **SUPERVISOR** signature if required.
3. Tap **NEXT**



Capture Resident Signature – (Continued)

1. To change or correct the **Resident** signature, tap the **X**

2. When the **New Signature** screen appears, tap **YES**

When the **Resident Signature** screen reappears where the **Resident** can sign again.

3. Tap **NEXT**

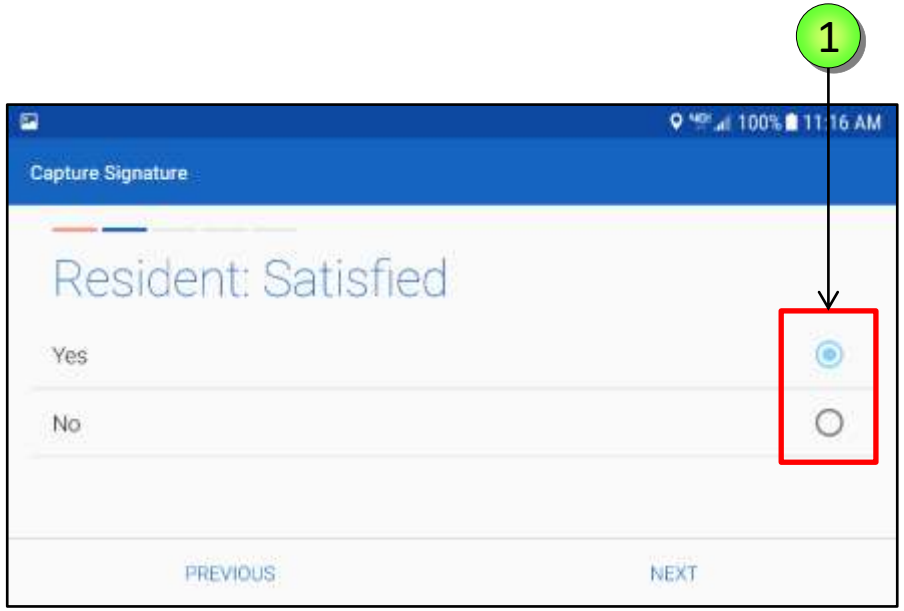
Resident Satisfied?

The resident can fill out additional information. The next screen asks if the **Resident is Satisfied YES/NO**.

1 The resident can select **YES** or **NO** by tapping on the radio button.

NOTE: This information is optional for the **Resident**.

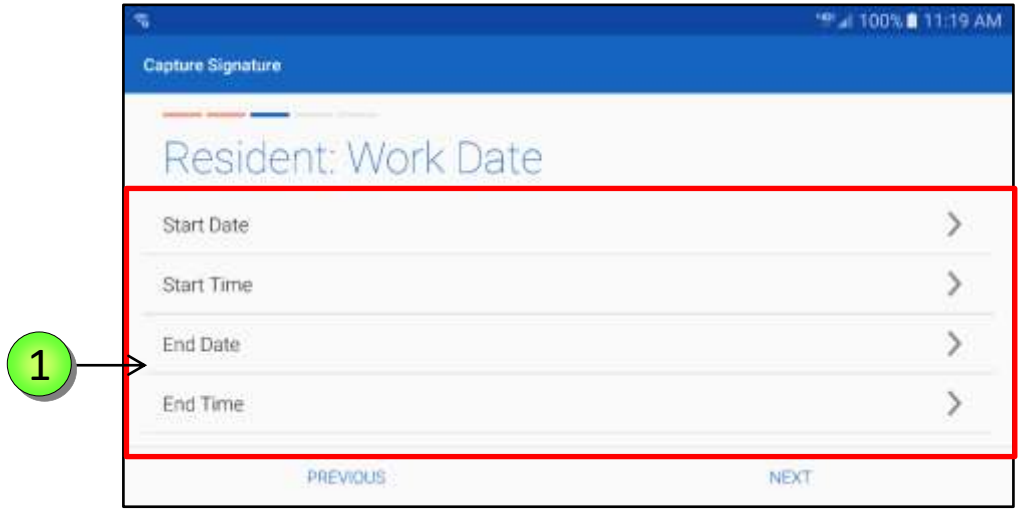
Once the user answers the question, the **RESIDENT: WORK DATE** screen appears.



Resident: Work Date

The **Resident: Work Date** screen asks the **Resident** to input the **Start Date and Time** and **End Date and Time** of the Work.

1. Tap on **Start Date** in order to enter in date.

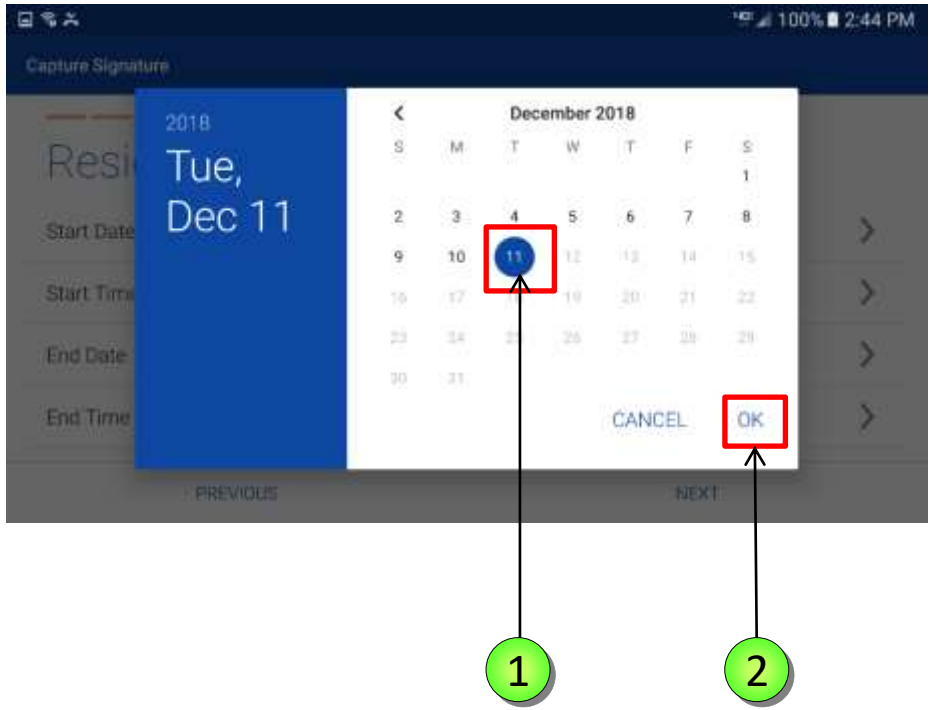


Resident Confirmed Work

Using the **Calendar**, the resident will select the **Start Date** by tapping on the date.

1. In this example, the user selected **December 11th, 2018**.
2. Tap **OK** to confirm the date.

NOTE: Depending on **Android OS** version installed on your device the next screen will look different.



Resident Confirmed Work – For Android 6 Users Only

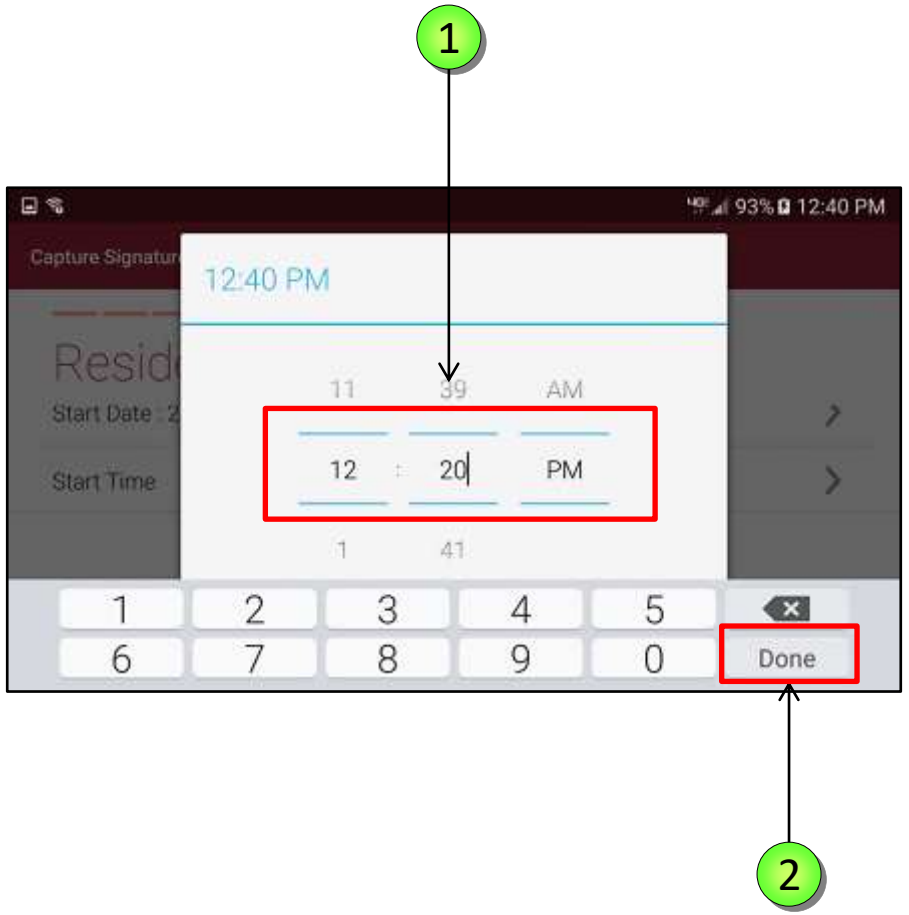
If the resident selected **Start Time**:

1. Using the clock, the resident will select the **Start Time** by scrolling through the hour, minute and AM/PM fields to select the desired time.

   In this example, the user selected **12:20 pm**

2. Tap on **DONE** to confirm the time.

*The clock will always start at the present time. Make sure they back the time up to reflect when you really started.



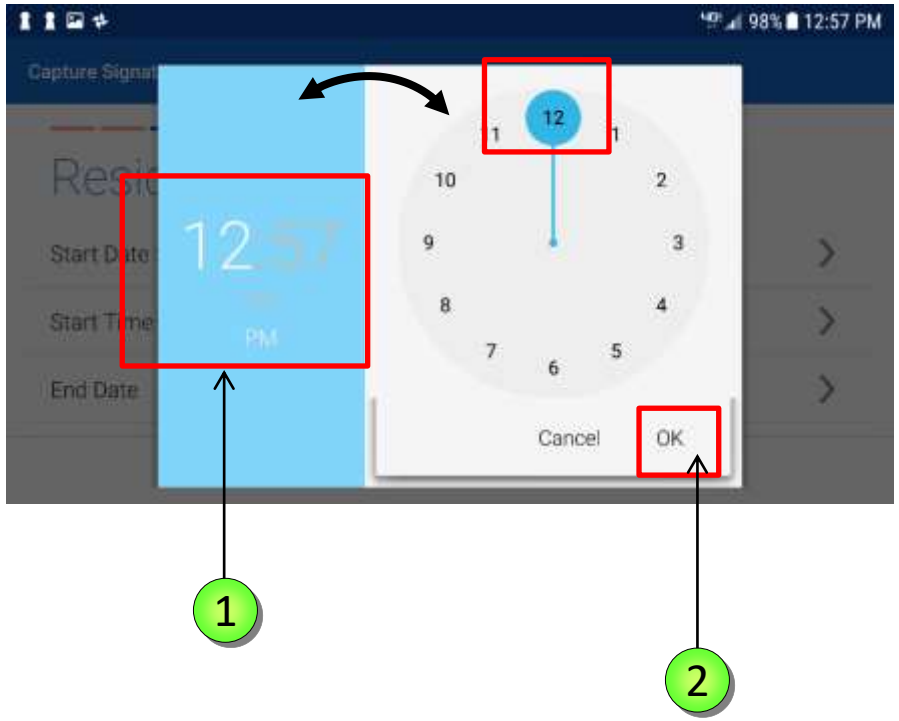
Resident Confirmed Work – For Android 7 Users Only

*The clock will always start at the present time. Make sure the resident backs the time up to reflect when you really started.

1. If the resident selected **Start Time**:
   Using the clock, the resident can select the **Start Time** by tapping on the **hour**, and the **minute** by moving the **blue** circle to the right or left accordingly. Then tap on **AM/PM** field to select the desired time.

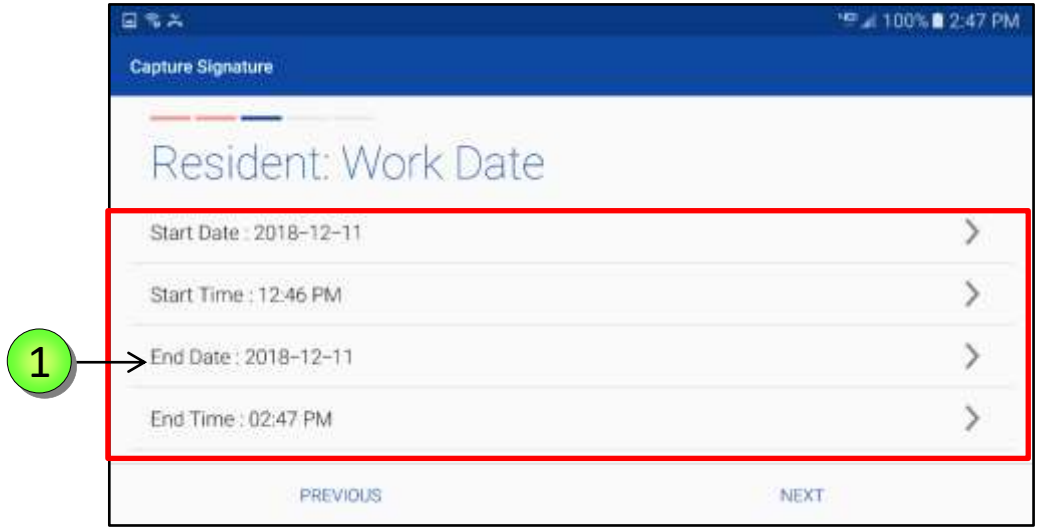
   In this example, the user selected **11:45 am**

2. Tap on **OK** to confirm the time.



Resident: Work Date

1. The resident entered the **Start Date/Time** and **End Date/Time** of the Work.

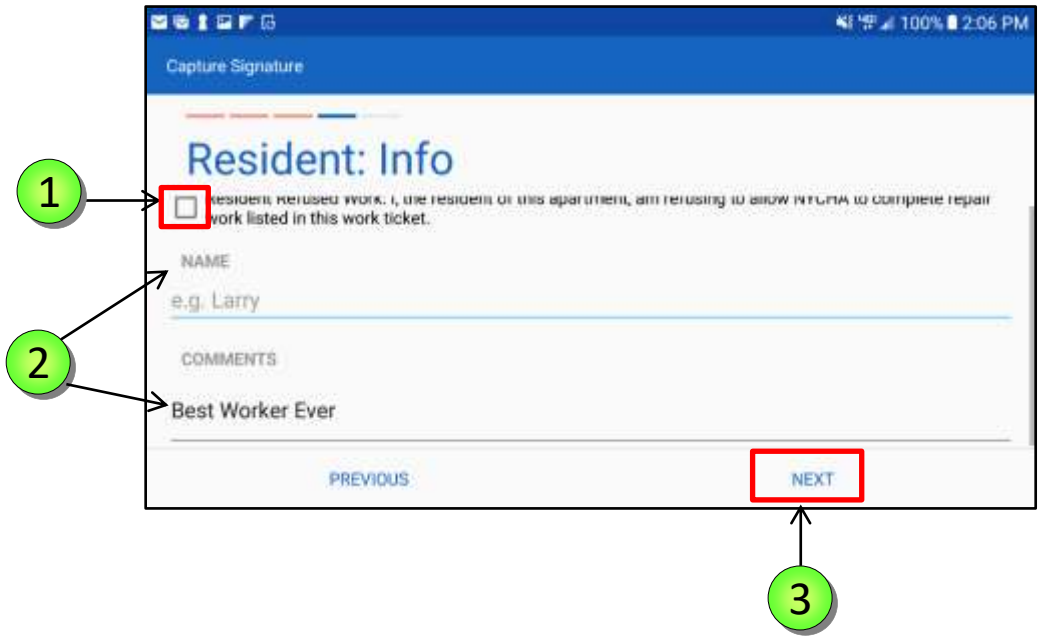


Resident Info

1. The **Resident: Info** screen is displayed. If the **Resident Refused Work** to be completed, check the box.
2. The Resident can enter in their **NAME** and any **COMMENTS**, then tap **DONE**.

NOTE: This information is optional.

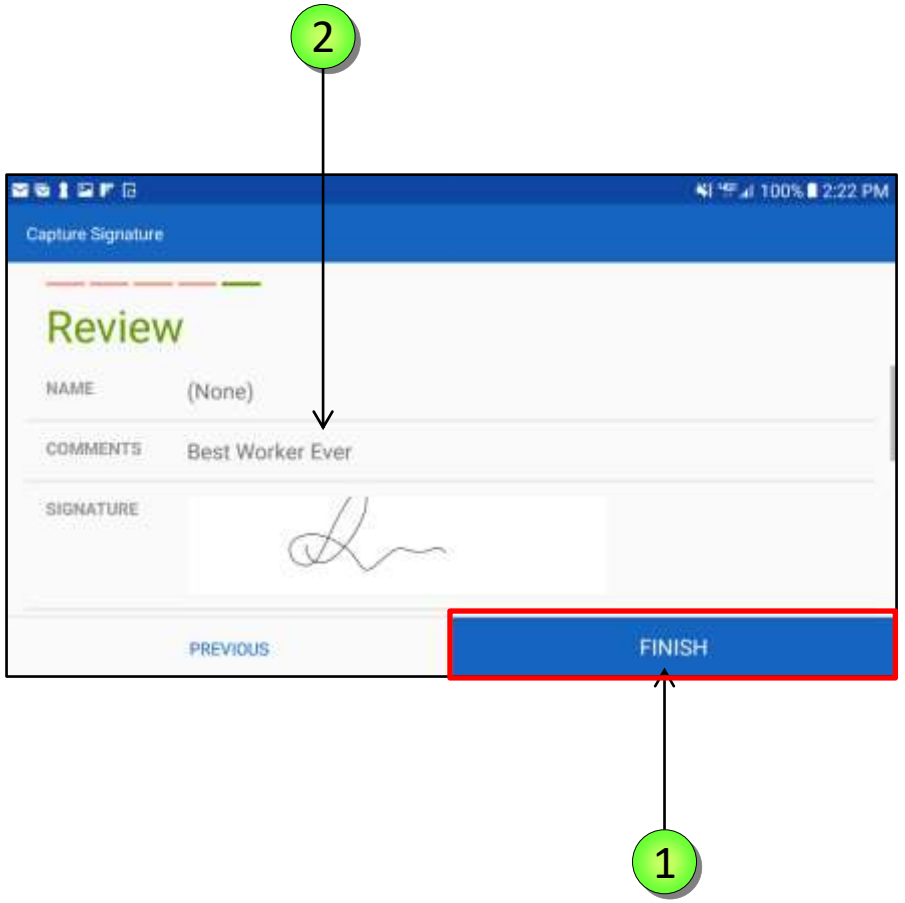
3. Tap **NEXT**



Review Resident Signature

Review the resident **Name**, **Comments,** and **Signature**.

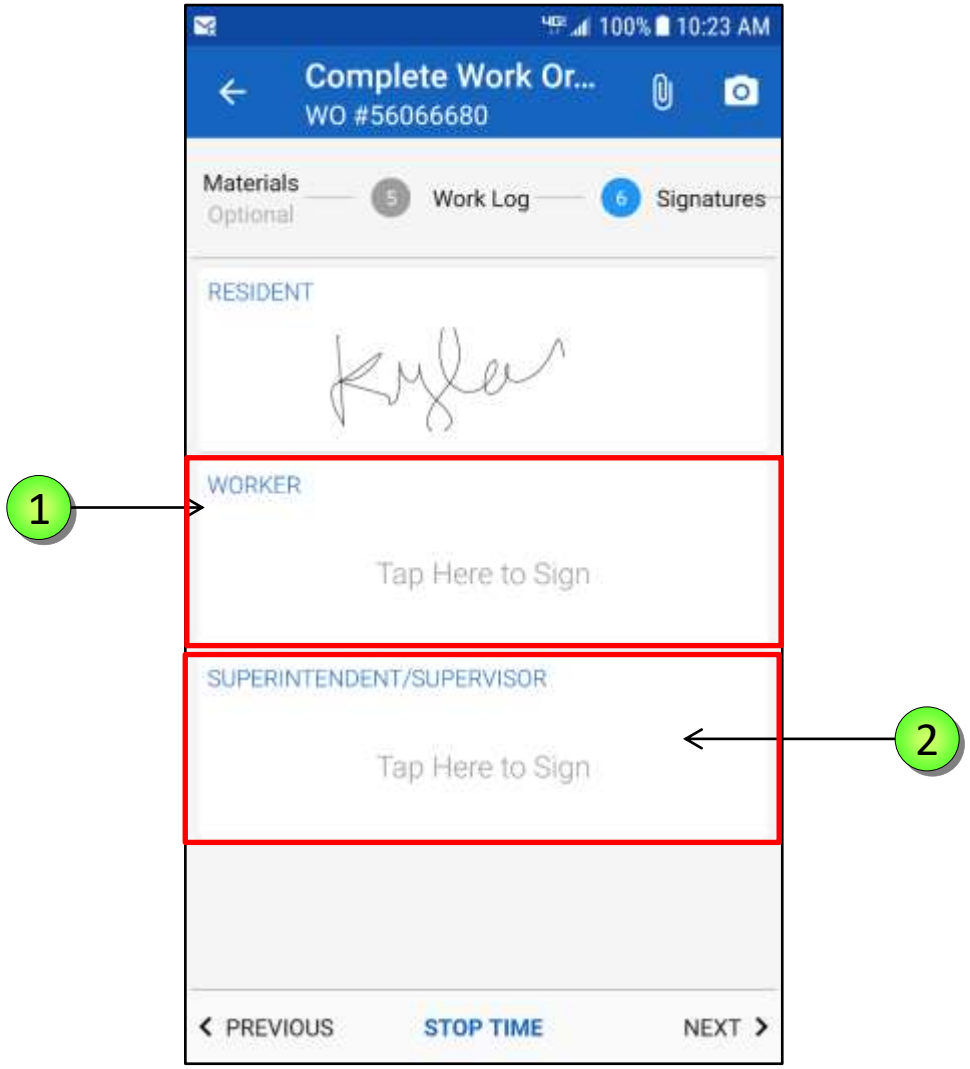
1 Tap **FINISH**.



Worker Signature - Optional

1. **WORKER** signature is Optional.

2. The signature should be added in the <u>same</u> way as the **Resident's Signature**.

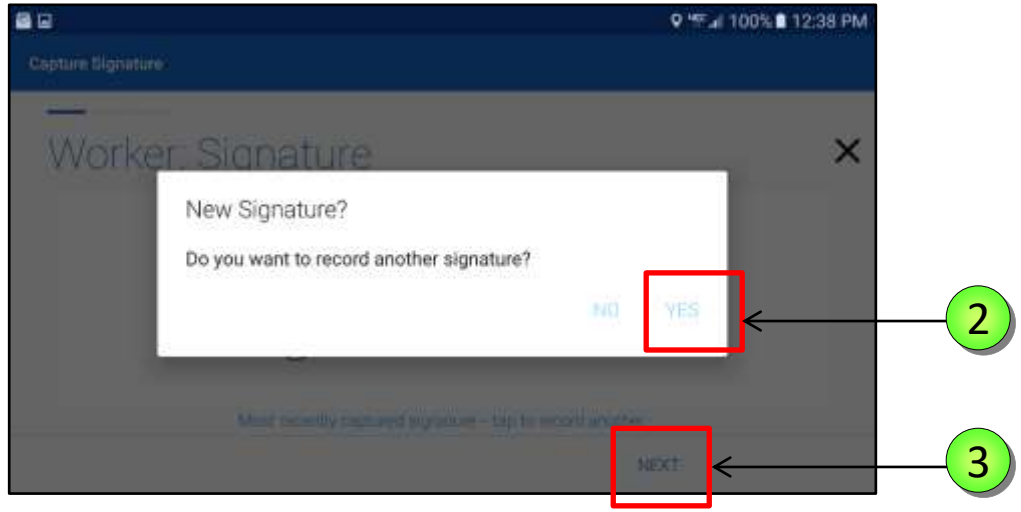


Worker Signature - Optional

This signature should be added in the same way as the **Resident Signature** was added

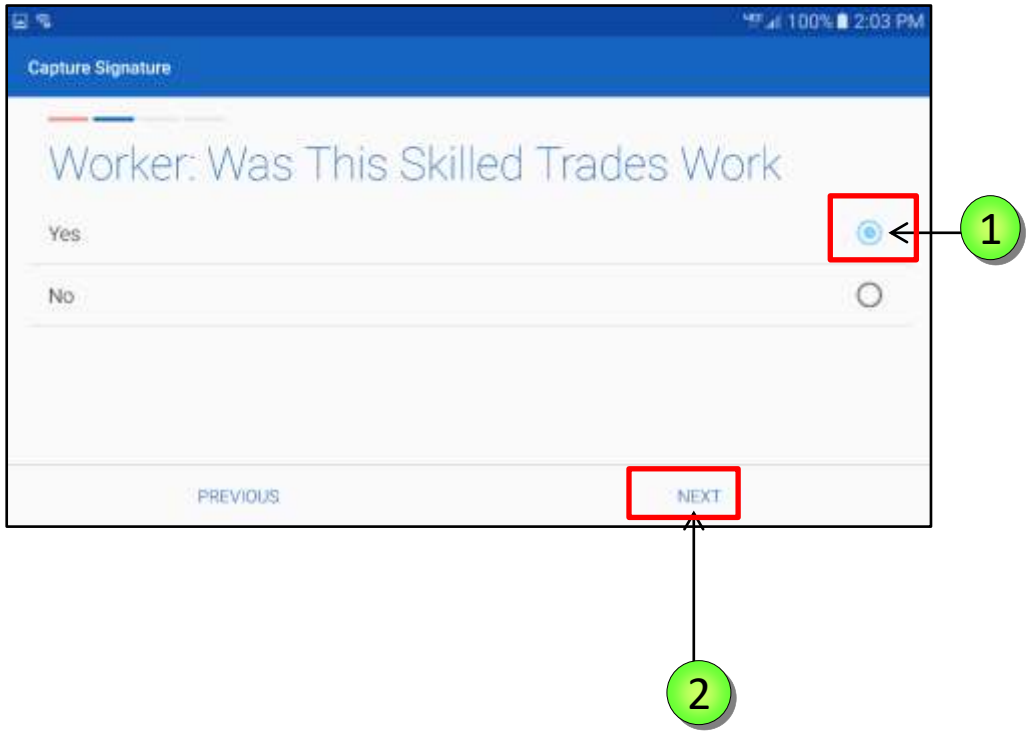
To change or correct the entered Signature, tap **X**

1. The **New Signature** screen appears, tap **YES**
2. Sign the screen again.
3. Tap **NEXT**



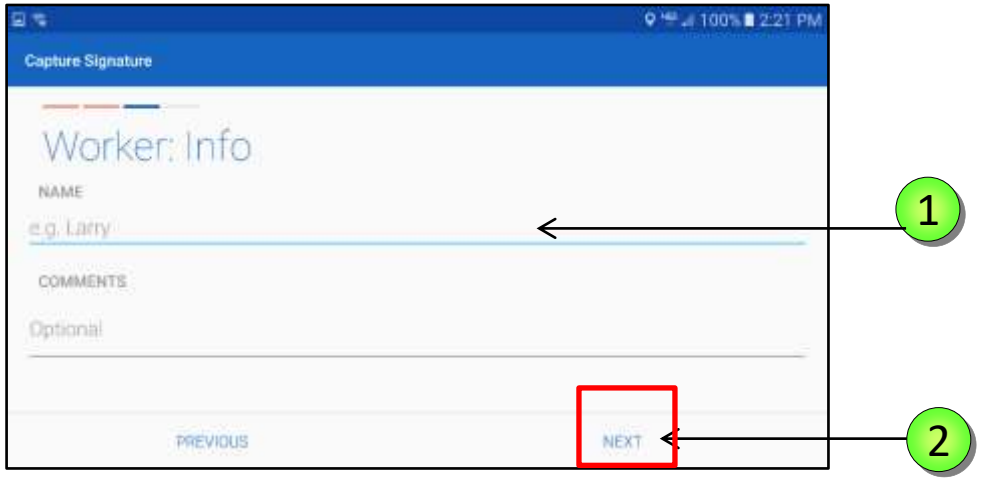
Worker Signature - Optional

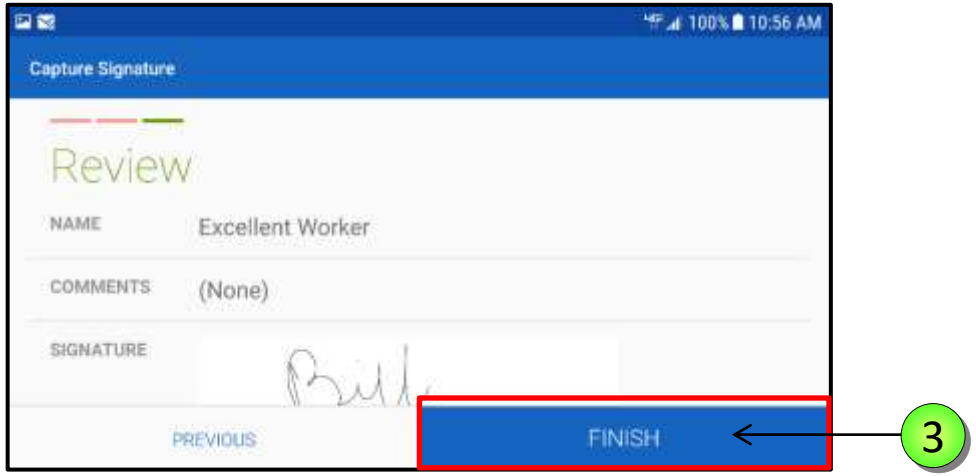
1. Answer the question for **Worker Was Skilled Trades Work (Yes/No)**
2. Tap **YES**



Review Worker Information

1. **Review** the worker **Name**, **Comments,** and **Signature**.
2. Tap **NEXT** the Final review screen appears
3. Tap **FINISH**

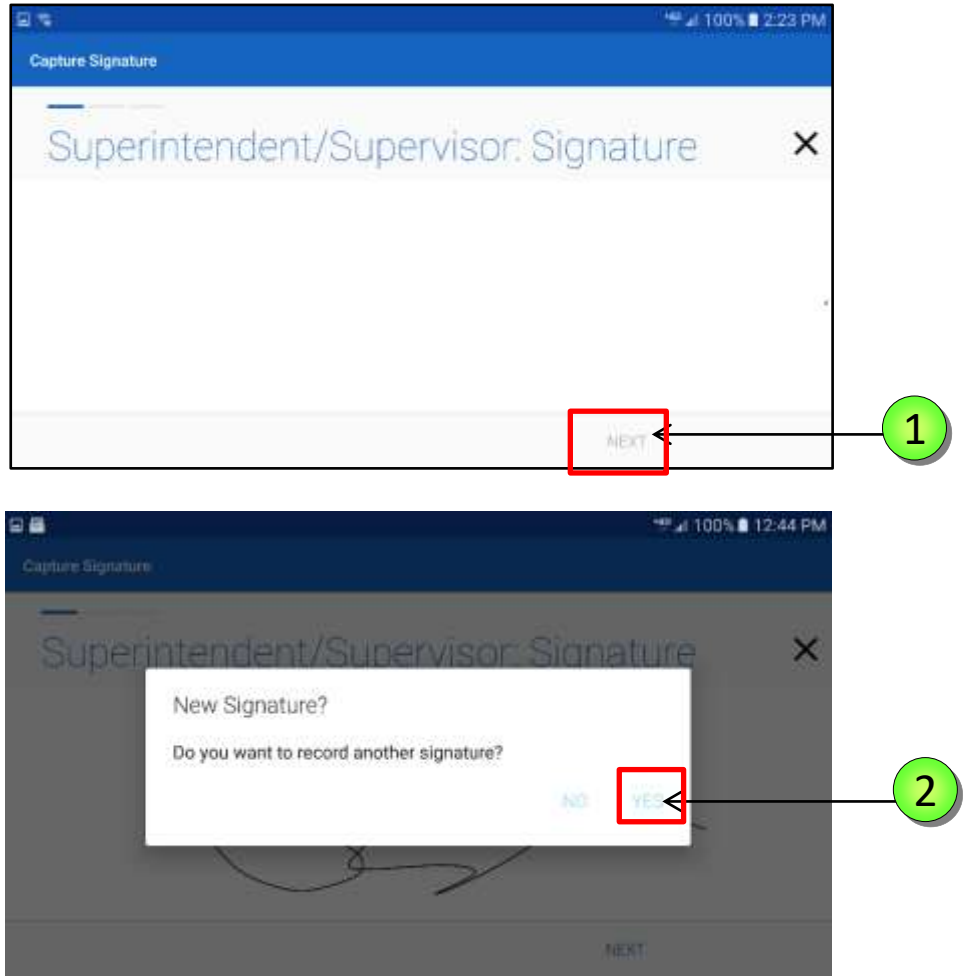




Supervisor Signature

1. If necessary obtain the **SUPERVISOR'S** signature if required.

2. This signature should be added in the **same** way as the **Resident Signature** was added.



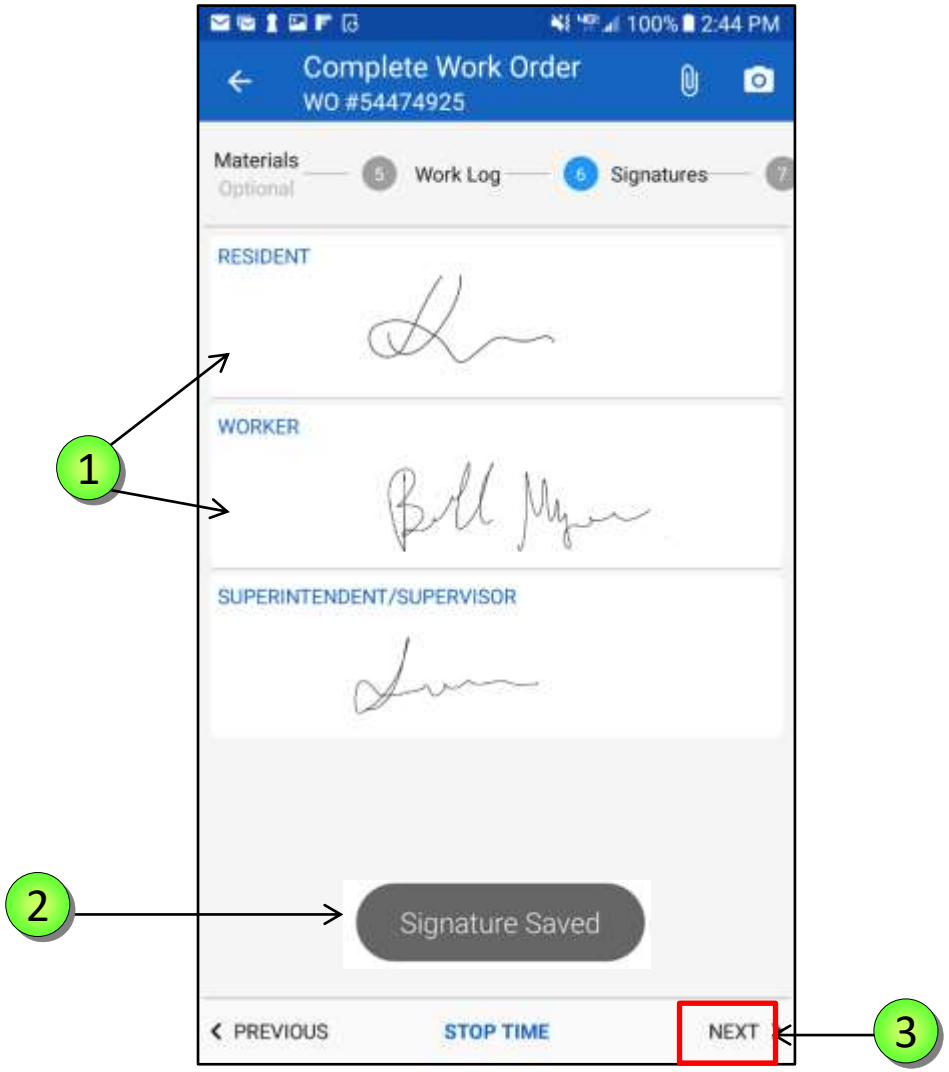
Review Captured Signatures

1. The **Resident** and **Worker Signatures** are displayed.

2. **NOTE: ALL** Signatures entered are saved.

3. Tap **NEXT**

NOTE: The **Supervisor's Signature** is **mandatory** in a **Mold/Mildew** Work Order in order to **Submit /Close** it.



Labor

1. **IN PROGRESS Labor Record** (in green) in the **Labor** tab, indicates the **Labor Timer** is running.

2. An **IN PROGRESS Labor Record** cannot be edited.

Additional Labor

This is your **Labor Log:** To add a helper or assistant that started work with you, you **must** add your helper's labor time.

1. Tap the **Plus icon** + .

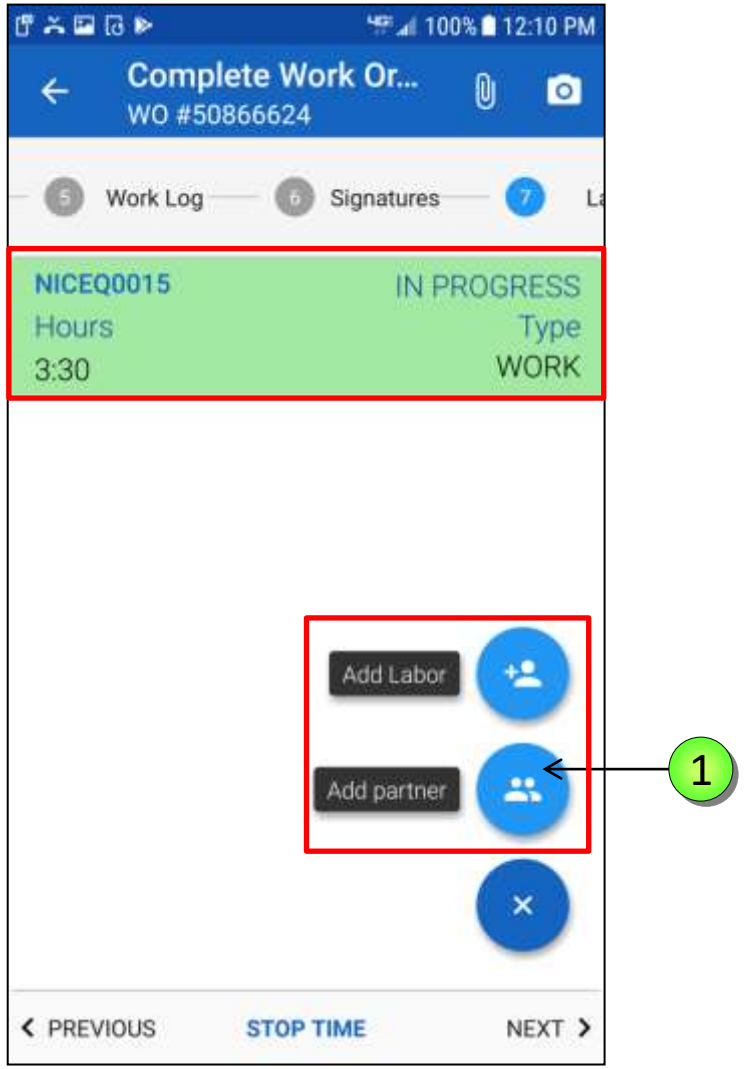
Reviewing and Adding Additional Labor

Add Labor to add a helper that has a different work time duration.

Add Partner if you and your helper have identical work time duration.

NOTE: To add a partner you must tap the **Add Partner** icon while the **timer is still running and the record is in green color.**

1 Tap **Add Partner**

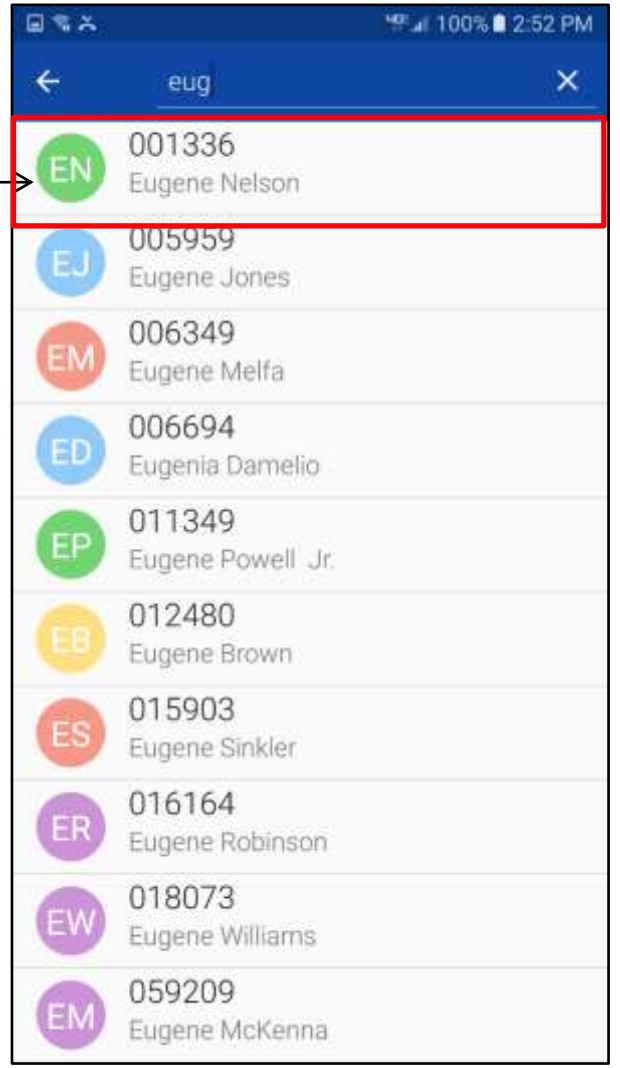


Additional Labor - (Continued)

Select the name of an **Additional Laborer** to add as a contributor to this Work Order.

Search for your helper either by typing his badge ID or by first and last name.

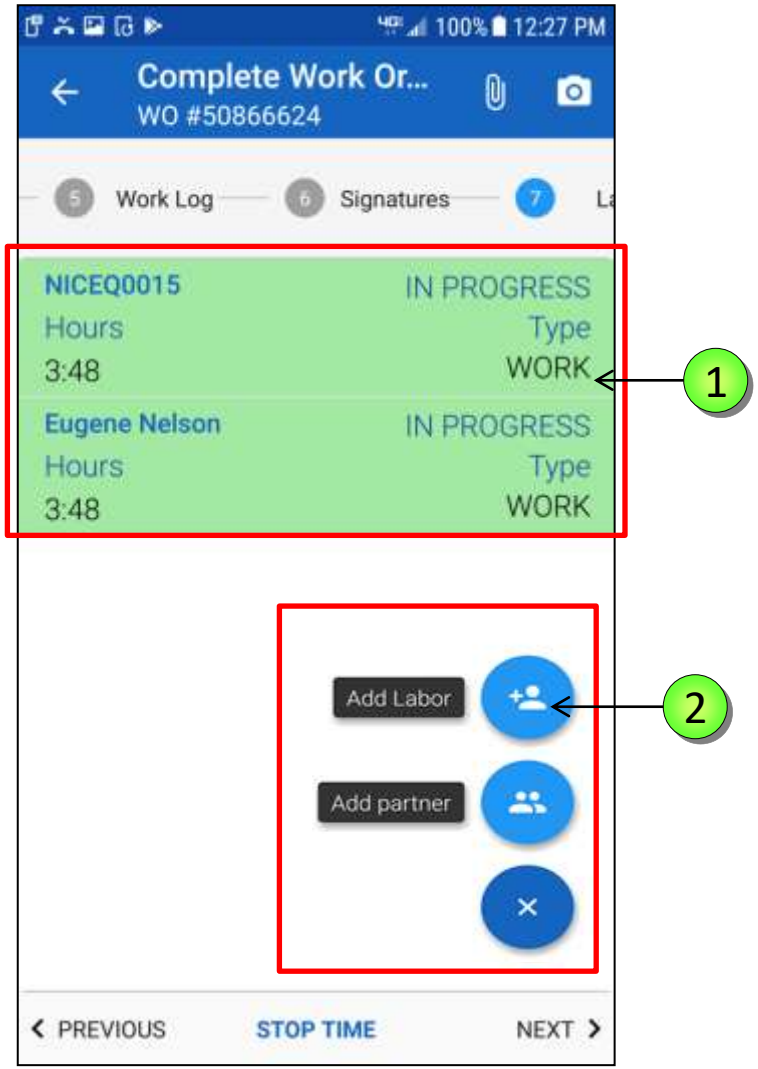
1 Tap on the **selected name** to add the laborer name to the Work Order.



Additional Labor - (Continued)

1. Notice the **Labor** Record for you, and your partner are both colored green, and have an identical time duration.

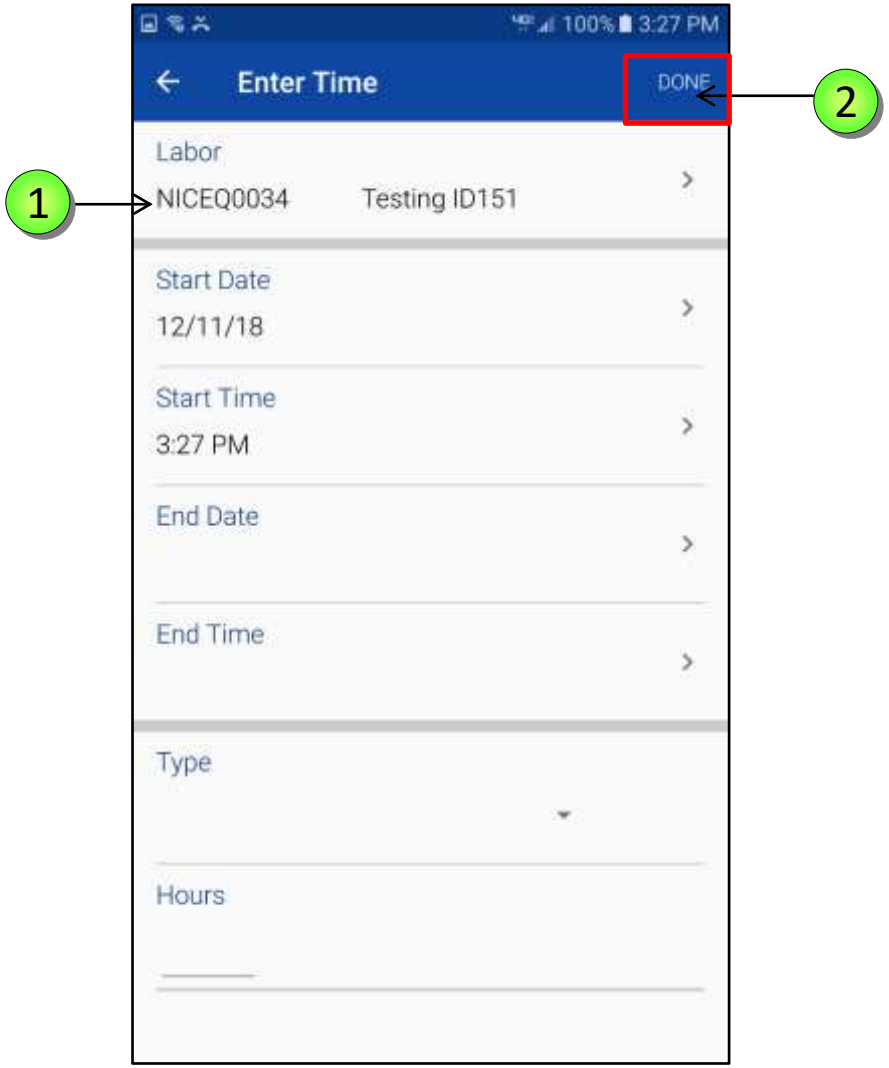
2. To add an additional helper, that has a different work time, and contributed some labor to this Work Order, tap the **Plus icon** and tap **Add Labor.**



Additional Labor - (Continued)

1. At the top of screen you will see the **Employee Number** and the **Name**.

2. Tap on the **> symbol** to select the Name from the additional Labor screen.

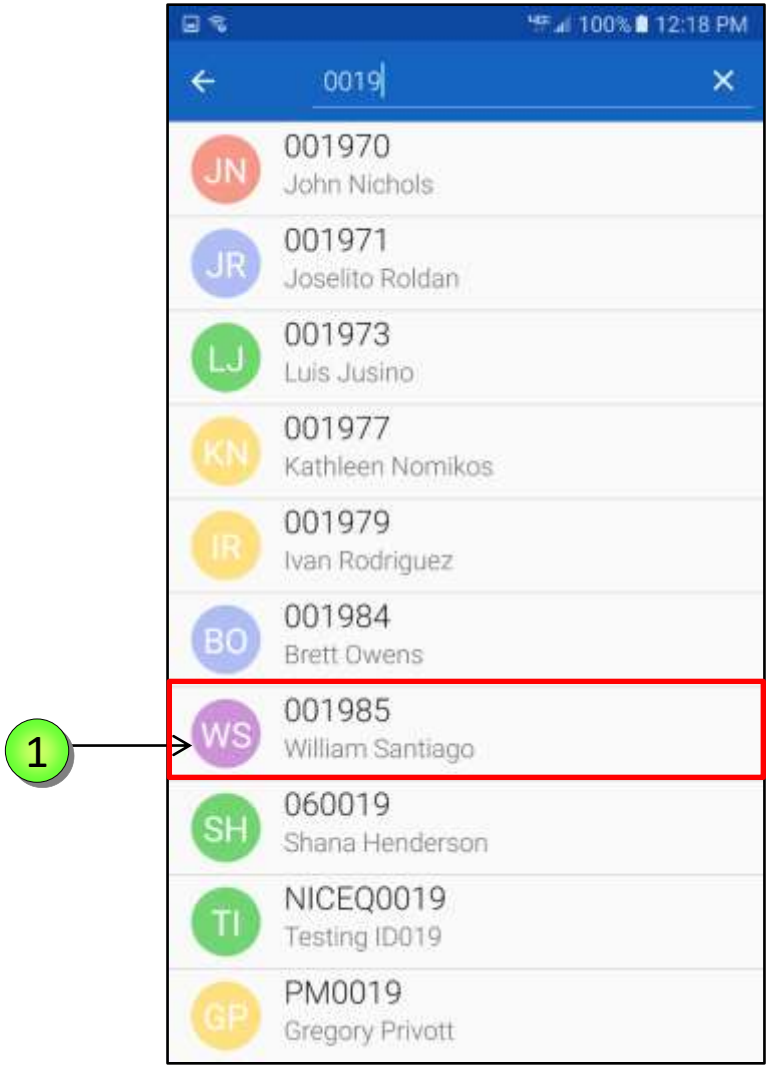


Additional Labor

1. Select the name of the **Additional Laborer** to add as a contributor to this Work Order.

Search for your helper, either by typing your helper's badge ID, or by first and last name.

Tap on the **selected name,** to add the laborer name to the Work Order.

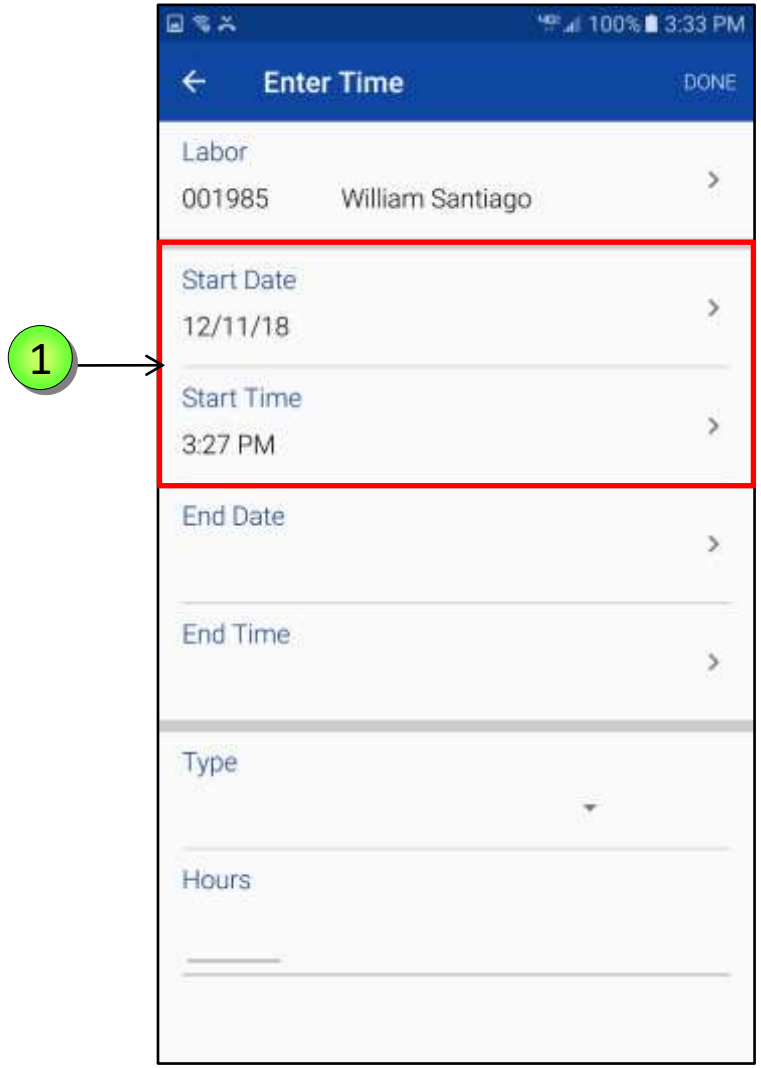


Additional Labor - (Continued)

1. The **Enter Time** screen is displayed. Edit the **Start Date and Time** and **End Date and Time** for the additional Laborer.

   Make sure the **Start Date** and **Start Time** are accurate. When you first were on the screen, it started you out at the **present time**, not the time the work was started.

   NOTE: You **CANNOT** click on **End Date** and **End Time,** without first adjusting and making sure that the **Start Time is at least 1 minute before End Time.**



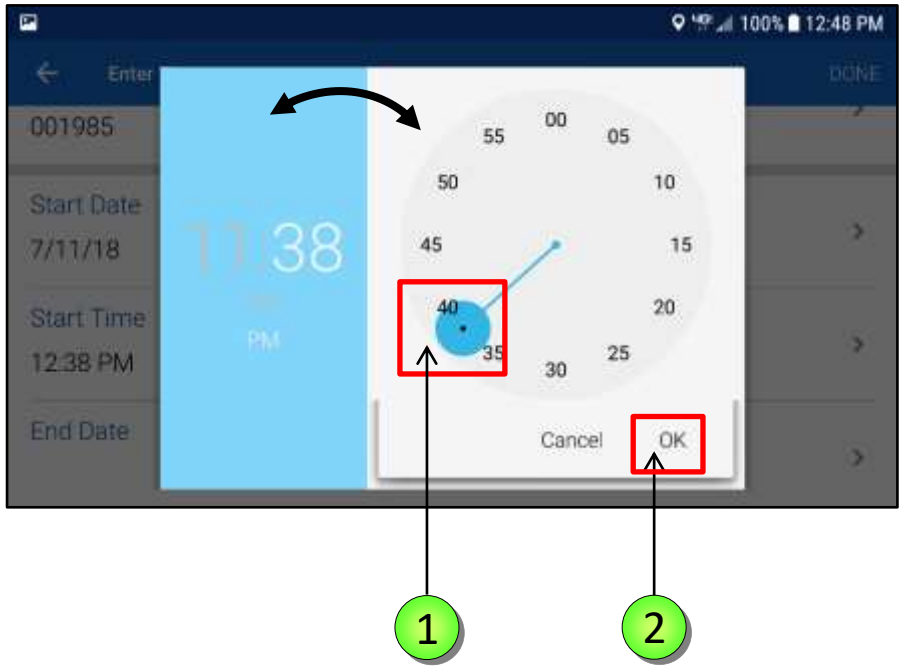
Additional Labor - (Continued)

*The clock will always start at the present time. Make sure to select the correct time when you really started.

Using the clock, you can select the **Start Time** by tapping on the **hour**, and the **minute** by moving the **blue** circle to the right or left accordingly. Then tap on **AM/PM** field to select the desired time.

In this example, the user selected **11:38 am**

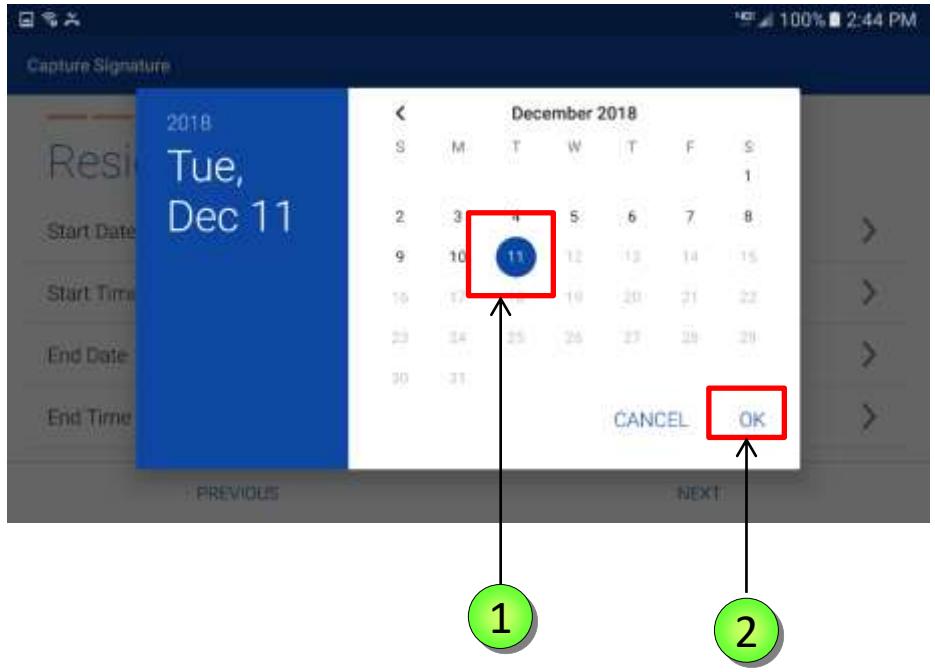
Tap on **OK** to confirm the time.



Additional Labor - (Continued)

Using the **Calendar**, the Worker will select the **Start Date** by tapping on the date.

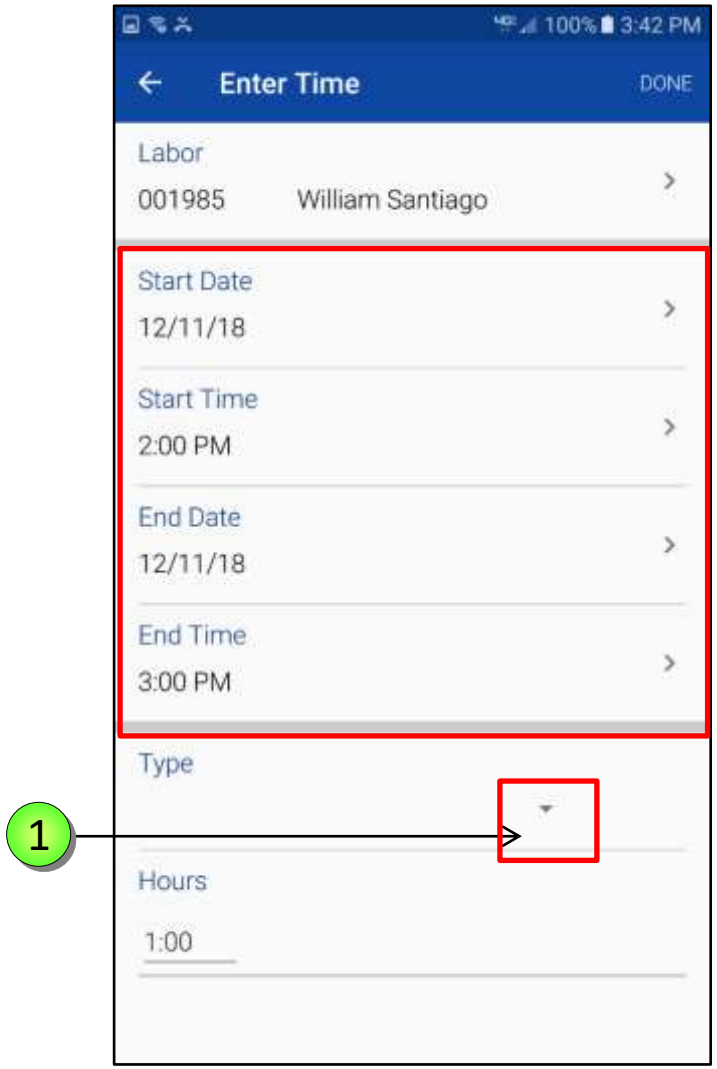
1. In this example, the user selected **December 11th, 2018**.
2. Tap **OK** to confirm the date.



Additional Labor - (Continued)

Tap **End Date and End Time** and adjust them accordingly to when the work ended for the additional Laborer.

1 Tap on the **Type** field to select the **Labor** Type.

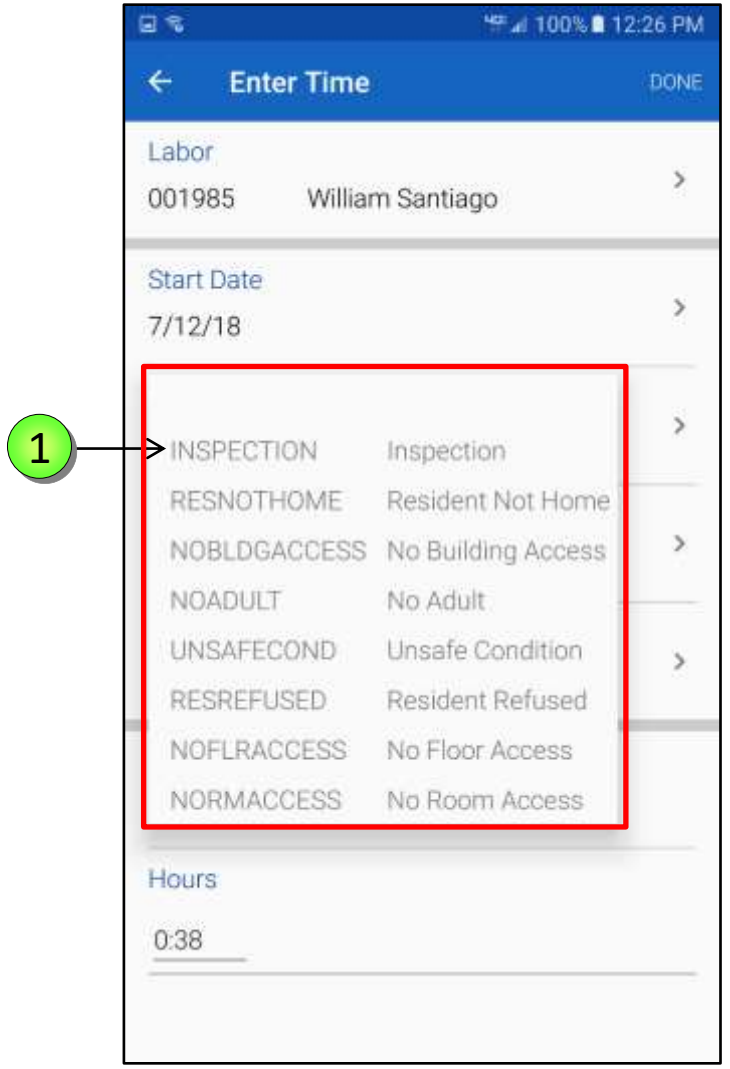


Additional Labor - (Continued)

The **Type** field window selection appears, select the appropriate **Labor** Type.

For **all** Work Orders, the Labor record **Type** is required to match the primary laborer's type of labor performed, i.e., **INSPECTION**, or **UNSAFE CONDITION.**

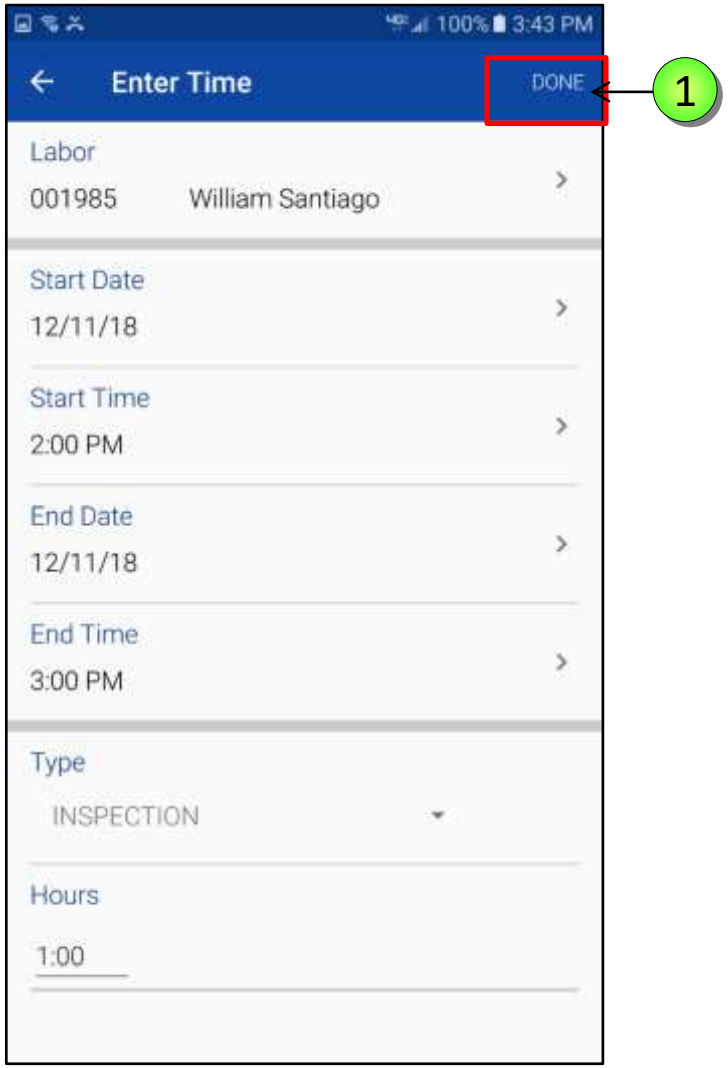
1 Tap **INSPECTION**



Additional Labor - (Continued)

The **Edit Labor Time** screen reappears, review the **Start Time** and **Date**, **End Date** and **Time**, and **Labor Type**.

1 Tap **DONE**



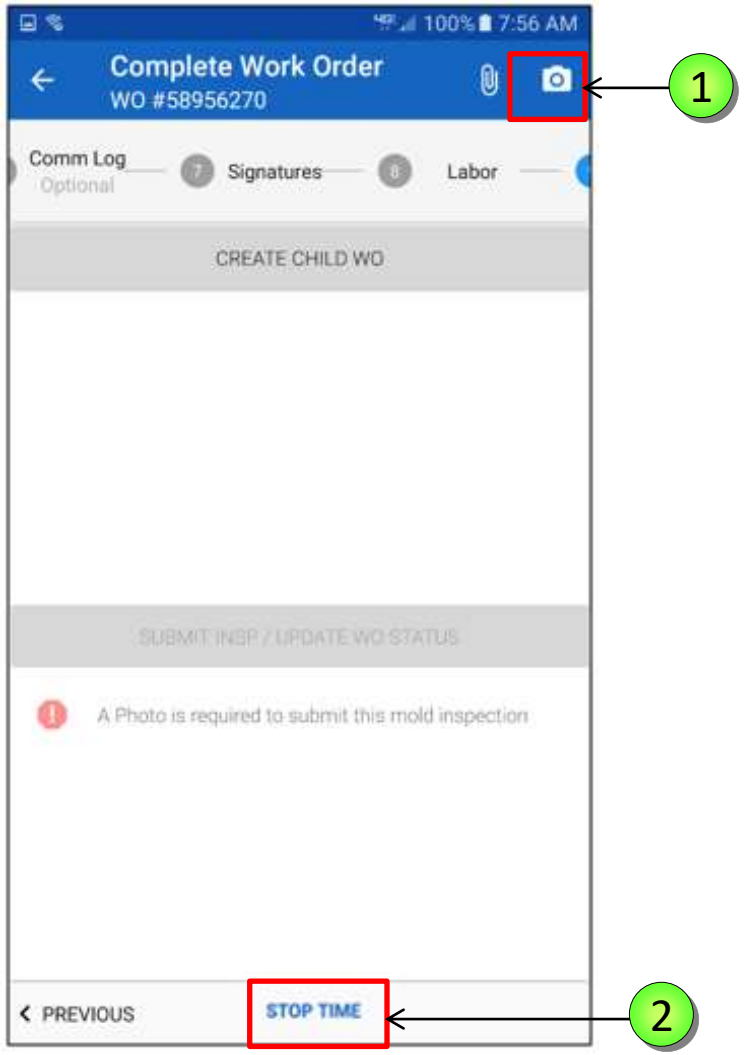
Submit The Inspection Work Order

1. You must resolve any errors with the WO before continuing on. Errors will be preceded with an **Orange color Exclamation Mark.**

Tap on **Exclamation Mark** next to each error, read the screen and correct the errors.

NOTE: a photo is required for all Mold Inspection Work Order.

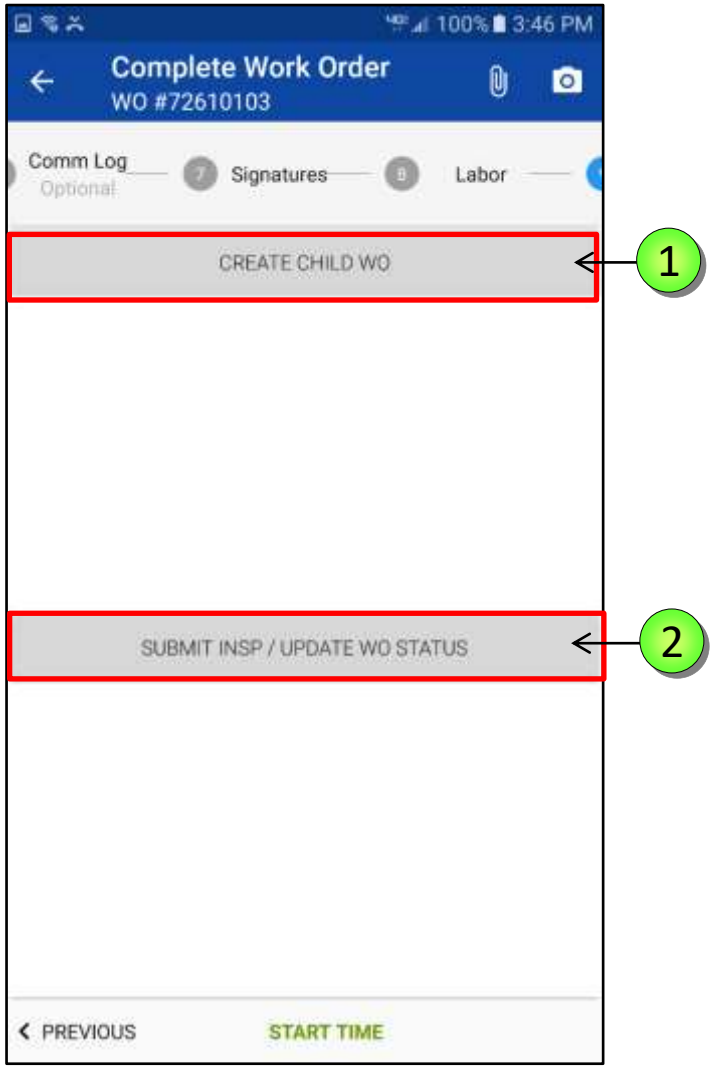
2. **Tap Stop Timer**



Submit The Inspection Work Order – (Continued)

1. If you want to a **Create Child WO** for an issue other than **MOLD**, tap on **CREATE CHILD WO** gray bar.

2. When all the errors are corrected, you can click the **SUBMIT INSP/ UPDATE WO STATUS** gray bar.

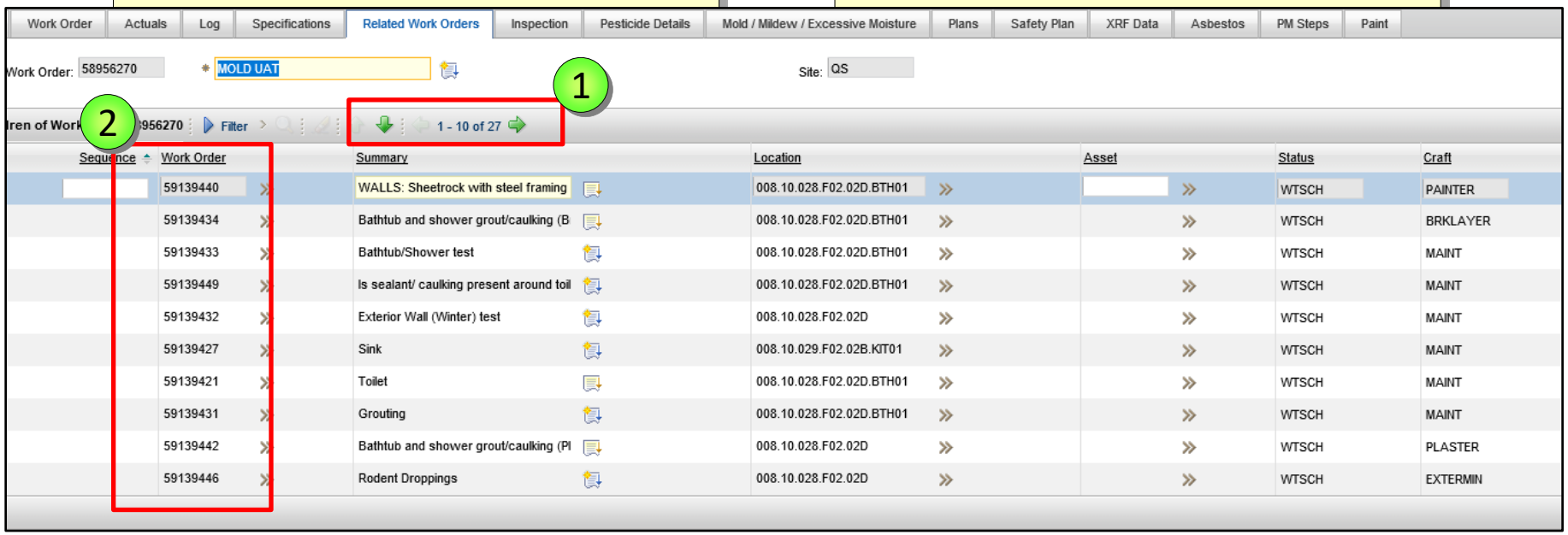


Auto-Generated Child Work Orders

1

Once the **Inspection Work Order** is Submitted, **Maximo** will **auto-generate** multiple Child Work Orders needed from this Inspection. In our scenario, there are **27** Child Work Orders Generated.

The work on **ALL** the auto-generated Child Work Orders must be completed and closed. **Maximo** then waits **25-days** to auto-generate the **QA Work Order**.



IWM App Practical Exercises

- *Mold Inspection Work Orders - CM*
  - *Kitchen Issues*

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NYCHA MOLD TRAINING

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Remediation Overview

Remediation Overview

Remediation Planning

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Remediation Basics

- Get rid of the water!
- Get rid of the food!
- Kill, then control!
- Don’t forget the air!
- Vac! Wash! Vac!

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Remediation Basics

- Restrict access to work area
- Construct containment & install engineering controls
- Remove contaminated and water damaged porous building materials
- Clean & decontaminate non-porous materials
- Clean & seal exposed surfaces
- Evaluate for completeness of work

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Containment

- Containment
  - plastic sheeting, duct tape
  - exhaust fan with HEPA filter
  - allow for decontamination, staging areas
- Control of Exposure
  - vacate adjacent areas as appropriate

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Containment

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HEPA Filtration

- 99.97% efficient to 0.3 microns

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Engineering Controls

- HEPA Equipped
  - Vacuum

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Engineering Controls

- HEPA Equipped
    - Exhaust Filtration

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Cleaners & Disinfectants

- Specialized chemicals for mold remediation
- Anti-microbial cleaners used first
- Disinfectants used AFTER cleaning is complete
- NYCHA Products

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Remediation Basics

- You can clean without disinfecting
- You can NOT disinfect without cleaning

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Sodium Hypochlorite (Bleach)

- **Advantages**
  - Cheap
  - Effective
  - Removes discoloration from white surfaces
- **Disadvantages**
  - Not compatible with all surfaces
  - Safety issues
  - Not a cleaner
  - Inactivated by heavy organic soil
  - Unstable

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Follow Manufacturer's Directions

- Use the right dilution
- Use the right application
- Change solution when recommended
- Avoid cross-contamination

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Points to Remember

- Eliminating water is the best way to eliminate fungi
- You cannot disinfect and kill fungi without cleaning first
- Choose the right chemicals &/or equipment for the job and follow manufacturer's directions
- Healthy employees are the best

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SP 040:14:1 Mold/Mildew Control in NYCHA Buildings

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NYCHA Remediation Procedures

Remediation Procedures

1. All remediation work must conform to the protocols in the following documents:

- SP 040:14:1 Mold/mildew Control in NYCHA Buildings Appendix A, Remediation Methods
- SP040:18:02 Revised, Maintenance Tasks – Dust Control and Clean Up in Apartments, which establishes Work Area Preparation/Performance Levels
- Interim Guidance on Wall Breaks
- Interim Guidance on Pipe Insulation

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Remediation Procedures – Note!

If cracked or crumbling tile is present, staff must:

- cover the exposed area of floor with plastic
- tape all edges securely with duct tape
- instruct the resident not to disturb the covered area
- contact the Technical Services Department's Asbestos Unit for further instructions.

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Remediation Procedures

2. All work must be documented with photographs, including at least one close-up photo of the condition(s) and at least one photo of the larger area.

- Employees must take and upload photos into Maximo using the handheld device of:
- The condition before work is performed.
- The condition after work is completed.
- Other photos as needed to demonstrate that work behind a surface was completed to standard, e.g. photos of insulated pipes, mold free areas.

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Remediation Procedures – Note!

Any work that would disturb more than 2 square feet per room in a unit which could contain lead-based paint must use lead-safe work practices and RRP certified workers.

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Personal Protective Equipment

Mold Remediation of Less than 100 Square Feet

Employees must wear the following:

- An N95 disposable respirator (i.e., a dust mask) in accordance with the OSHA respiratory protection standard (29 CFR 1910.134)
- Disposable protective clothing covering both head and shoes
- Gloves
- Eye protection

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Personal Protective Equipment

Mold Remediation of 100 Square Feet or More (Large Remediation Jobs)

Employees must wear the following:

- A minimum of a half-face elastomeric respirator with a P-100 filter used in accordance with OSHA respiratory protection standard (29 CFR 1910.134)
- Disposable protective clothing covering both head and shoes
- Gloves
- Eye protection

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Personal Protective Equipment – Note!

Employees using respirators must follow the requirements in SP 001:17:2, Respiratory Protection Safety Program.

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Correcting Root Causes

Employees must ensure that all repairs to correct root causes:

- Are completed to industry standards.
- Conform to the protocols in the following documents:
  - GM-3666 Revised, Maintenance Tasks – Dust Control and Clean Up in Apartments, which establishes Work Area Preparation/Performance Levels.
  - Interim Guidance on Wall Breaks
  - Interim Guidance on Pipe Insulation
  - Interim Guidance on Roof Fan Inspections
- Are documented with photographs

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Instructions for Specific Tasks – Pipe Insulation

When performing any wall break including instances where the probable root cause is the lack of pipe insulation in the wall, employees must install or replace pipe insulation in any area inside the wall cavity where the employee determines that the insulation is missing or defective.

The employee creating the wall break shall create an opening of sufficient size to allow visibility of all pipes within the wall cavity with assistance of the borescope.

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Pipe Insulation Guidance

- K-flex is no longer the approved insulation product
- Fiberglass should be used & is available in storerooms
- Use of appropriate PPE is required when handling this material
- Interim Guidance in Course Manual

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Personal Protective Equipment (PPE)

- Employees must wear the PPE required to perform their specific task. An employee should refer any questions about the required PPE to their supervisor, or contact the Office of Safety and Security at 212-306-8800.
- Please refer to the Personal Protective Equipment (PPE) and Other Safety Equipment Catalogue for HA numbers and item descriptions. The catalogue is located on the SafeNYCHA webpage on NYCHA Connect/Departments.

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Cleaning Horizontal Vent Ductwork

When cleaning horizontal vent ductwork from inside the apartment, employees:

- Remove the face of the grill to the vertical shaft and HEPA-vacuum the grill and the interior and exterior of the horizontal vent ductwork.
- *Use caution when cleaning the fire damper inside the ductwork*.

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Ceiling: Painted Concrete (All Rooms)

A. HEPA-vacuum and clean with a detergent solution surfaces displaying water damage, mold growth, and/or that measure wet.
B. Wet-scrape or wire-brush any loose paint.
C. Repaint with mold resistant paint. In bathrooms & kitchens repaint with mod resistant paint

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Ceiling: Sheetrock with Steel Framing (Leak; all rooms)

A. Remove and dispose of sheetrock displaying visible water damage, mold growth, and/or that measure wet. Continue removal to a point of at least 6 inches beyond any visible water damage or mold growth on the front or back sides of the sheetrock and/or areas that measure wet or to the next available framing member. **If mold growth is observed non the exposed adjacent wall, remove and dispose of sheetrock displaying visible water damage, mold growth, and/or that measure wet.** In areas where significant water damage, mold growth, or moisture is present on sheetrock, use a HEPA-vacuum at the point of dust generation during the sheetrock removal work.

B. Replace sheetrock. **In bathrooms & kitchens replace w mold resistant paint**

C. Repaint with standard paint. **In bathrooms & kitchens repaint with mold resistant paint.**

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Ceiling: Sheetrock with Wood Framing (Leak; All Rooms)

A. Remove and dispose of sheetrock displaying visible water damage, mold growth, and/or that measure wet. Continue removal to a point of at least 6 inches beyond any visible water damage or mold growth on the front or back sides of the sheetrock and/or areas that measure wet or to the next available framing member. **If mold growth is observed non the exposed adjacent wall, remove and dispose of sheetrock displaying visible water damage, mold growth, and/or that measure wet.** In areas where significant water damage, mold growth, or moisture is present on sheetrock, use a HEPA-vacuum at the point of dust generation during the sheetrock removal work.

B. HEPA-vacuum and clean with a soap or detergent solution any wood framing components displaying water damage and/or minor levels of mold growth.

C. Paint any wood framing components displaying water damage and/or minor levels of mold growth conditions with mold resistant paint.

D. Remove and replace wood framing displaying significant mold growth.

E. Replace sheetrock. **In bathrooms & kitchens repaint with mold resistant paint**.

F. Repaint with standard paint. **In bathrooms & kitchens repaint with mold resistant paint.**

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Ceiling: Sheetrock with Steel Framing (Condensation; Bathroom or Kitchen)

A. Remove and dispose of sheetrock displaying visible water damage, mold growth, and/or that measure wet. Continue removal to a point of at least 6 inches beyond any visible water damage or mold growth on the front or back sides of the sheetrock and/or areas that measure wet or to the next available framing member. **If mold growth is observed non the exposed adjacent wall, remove and dispose of sheetrock displaying visible water damage, mold growth, and/or that measure wet.** In areas where significant water damage, mold growth, or moisture is present on sheetrock, use a HEPA-vacuum at the point of dust generation during the sheetrock removal work.
B. Replace sheetrock.
C. Repaint with mold resistant paint.

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Ceiling: Sheetrock with Steel Framing (Condensation; Other Rooms)

A. Remove and dispose of sheetrock displaying visible water damage, mold growth, and/or that measure wet. Continue removal to a point of at least 6 inches beyond any visible water damage or mold growth on the front or back sides of the sheetrock and/or areas that measure wet or to the next available framing member. **If mold growth is observed non the exposed adjacent wall, remove and dispose of sheetrock displaying visible water damage, mold growth, and/or that measure wet.** In areas where significant water damage, mold growth, or moisture is present on sheetrock, use a HEPA-vacuum at the point of dust generation during the sheetrock removal work.
B. Replace sheetrock.
C. Repaint with standard paint.

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Ceiling: Sheetrock with Wood Framing (Condensation; Bathroom or Kitchen)

A. Remove and dispose of sheetrock displaying visible water damage, mold growth, and/or that measure wet. Continue removal to a point of at least 6 inches beyond any visible water damage or mold growth on the front or back sides of the sheetrock and/or areas that measure wet or to the next available framing member. **If mold growth is observed non the exposed adjacent wall, remove and dispose of sheetrock displaying visible water damage, mold growth, and/or that measure wet.** In areas where significant water damage, mold growth, or moisture is present on sheetrock, use a HEPA-vacuum at the point of dust generation during the sheetrock removal work.

B. HEPA-vacuum and clean with a soap or detergent solution any wood framing components displaying water damage and/or minor levels of mold growth.

C. Paint any wood framing components displaying water damage and/or minor levels of mold growth conditions with mold resistant paint.

D. Remove and replace wood framing displaying significant mold growth.

E. Replace sheetrock.

F. Repaint with mold resistant paint.

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Walls: Painted Plaster (Leak or Condensation; all rooms)

A. HEPA-vacuum and clean with a detergent solution surfaces displaying water damage, mold growth, and/or that measure wet.
B. Wet-scrape to remove the affected paint and top-coated plaster or skim-coating to which the paint is adhered. Continue wet-scraping to a point of at least 12 inches beyond any visible water damage, mold growth, and/or areas that measure wet.
C. Repaint with standard paint.

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Walls: Sheetrock with Steel Framing (Lead or Condensation; All Rooms)

A. Remove and dispose of sheetrock displaying visible water damage, mold growth, and/or that measure wet. Continue removal to a point of at least 6 inches beyond any visible water damage or mold growth on the front or back sides of the sheetrock and/or areas that measure wet or to the next available framing member. **If mold growth is observed non the exposed adjacent wall, remove and dispose of sheetrock displaying visible water damage, mold growth, and/or that measure wet.**
B. Replace sheetrock. **In bathrooms & kitchens repaint with mold resistant paint.**
C. Repaint with standard paint. **In bathrooms & kitchens repaint with mold resistant paint.**

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Walls: Sheetrock with Wood Framing (Leak or Condensation; all rooms)

A. Remove and dispose of sheetrock displaying visible water damage, mold growth, and/or that measure wet. Continue removal to a point of at least 6 inches beyond any visible water damage or mold growth on the front or back sides of the sheetrock and/or areas that measure wet or to the next available framing member. **If mold growth is observed non the exposed adjacent wall, remove and dispose of sheetrock displaying visible water damage, mold growth, and/or that measure wet.** In areas where significant water damage, mold growth, or moisture is present on sheetrock, use a HEPA-vacuum at the point of dust generation during the sheetrock removal work.

B. HEPA-vacuum and clean with a soap or detergent solution any wood framing components displaying water damage and/or minor levels of mold growth.

C. Paint any wood framing components displaying water damage and/or minor levels of mold growth conditions with mold resistant paint.

D. Remove and replace wood framing displaying significant mold growth.

E. Replace sheetrock. **In bathrooms & kitchens repaint with mold resistant paint.**

F. Repaint with standard paint. **In bathrooms & kitchens repaint with mold resistant paint**.

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Floors: Finished Wood Floors (Leak or Condensation; all rooms)

A. Remove and dispose of finished wood floorboards displaying significant water damage (buckling) and/or that measure wet. Continue removal to a point of at least 12 inches beyond any visible mold growth on the top and/or bottom sides of finished wood floorboards, plywood sub-flooring, and/or sleepers or to the perimeter of the room.
B. If wet, water-damage, and/or mold growth conditions reach the perimeter of a room, evaluate flooring in the adjacent room to determine if additional removal work is necessary.
C. Replace flooring.

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Floors: Ceramic Floors (Leak or Condensation: All Rooms)

A. Clean surfaces thoroughly using a low-toxicity household cleaner with slightly abrasive properties

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Floors: Vinyl Floor Tiles (Leak or Condensation; all rooms)

A. Remove and dispose of water-damaged vinyl floor tiles or tiles measuring wet.

B. HEPA-vacuum underlying concrete slab and clean using a detergent solution.

C. Replace floor tiles.

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Kitchen Cabinetry and Bathroom Vanities (Significant Mold)

A. Remove and dispose of cabinetry.

B. Replace cabinetry.

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Bathtub & Shower Grout or Caulking

A. Where grout or caulking displays heavy and widespread levels of mols growth, dig out existing grout or caulking and replace with an approved mold resistant product.

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Minor Mold Growth (On Painted Surfaces, Shower Grout, Cabinets, etc)

A. Clean surfaces thoroughly using a low-toxicity household cleaner with slightly abrasive properties

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NYCHA Product - Cleaner

Micro Bio-Wash Cleaner

- NYCHA Approved mold cleaner - HA# 0806938344
- Staff must follow directions
- Use correct dilution
- Allow adequate dwell time
- Safe for use on washable surfaces

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NYCHA Product - Disinfectant

Shockwave RTU

- NYCHA Approved mold disinfectant – HA# 080657583
- Staff must follow directions
- No dilution
- Apply product with a cloth, sponge or other suitable applicator until surface is thoroughly wet.
- Wait 10 minutes, and wipe dry or air dry.

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SP 040:18:2 – Dust Control RRP - Performing Work

The following work practices are prohibited:

- Open flame burning or torching of painted surfaces.
- Use of machines that remove paint or other surface coatings through high-speed operation, unless they have shrouds or containment systems and are equipped with a HEPA vacuum attachment.
- Operating a heat gun on painted surfaces above 1100 degrees Fahrenheit or charring the paint.
- Paint stripping using a volatile stripper in poorly ventilated space.
- Dry sanding or scraping, except within one (1) foot of electrical fixtures (e.g. switches, outlets, light fixtures, breaker boxes).

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Work Place Hazards

Work Site Hazards

- Physical
  - Confined Space
  - Electrical
  - Slips, Trips & Falls
  - Heat-related disorders
- Chemicals
  - Asbestos containing materials
  - Lead based paint
  - Cleaners, disinfectants & sealers

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Chemical Work Site Safety Hazards

- Asbestos Containing Materials (ACM)
- Lead (LBP)
- Chemicals
  - Cleaners
  - Disinfectants
  - Sealers

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Work Site Safety Hazards

- Sharp objects
- Slippery surfaces
- Falling objects
- Terrain
- Unstable surfaces
- Burns
- Improper lifting Ergonomic hazards
- Pinch points
- Environmental (weather, animals, poisonous plants)
- Struck-by / Roll Over
- Public/Other Contractors
- Dehydration

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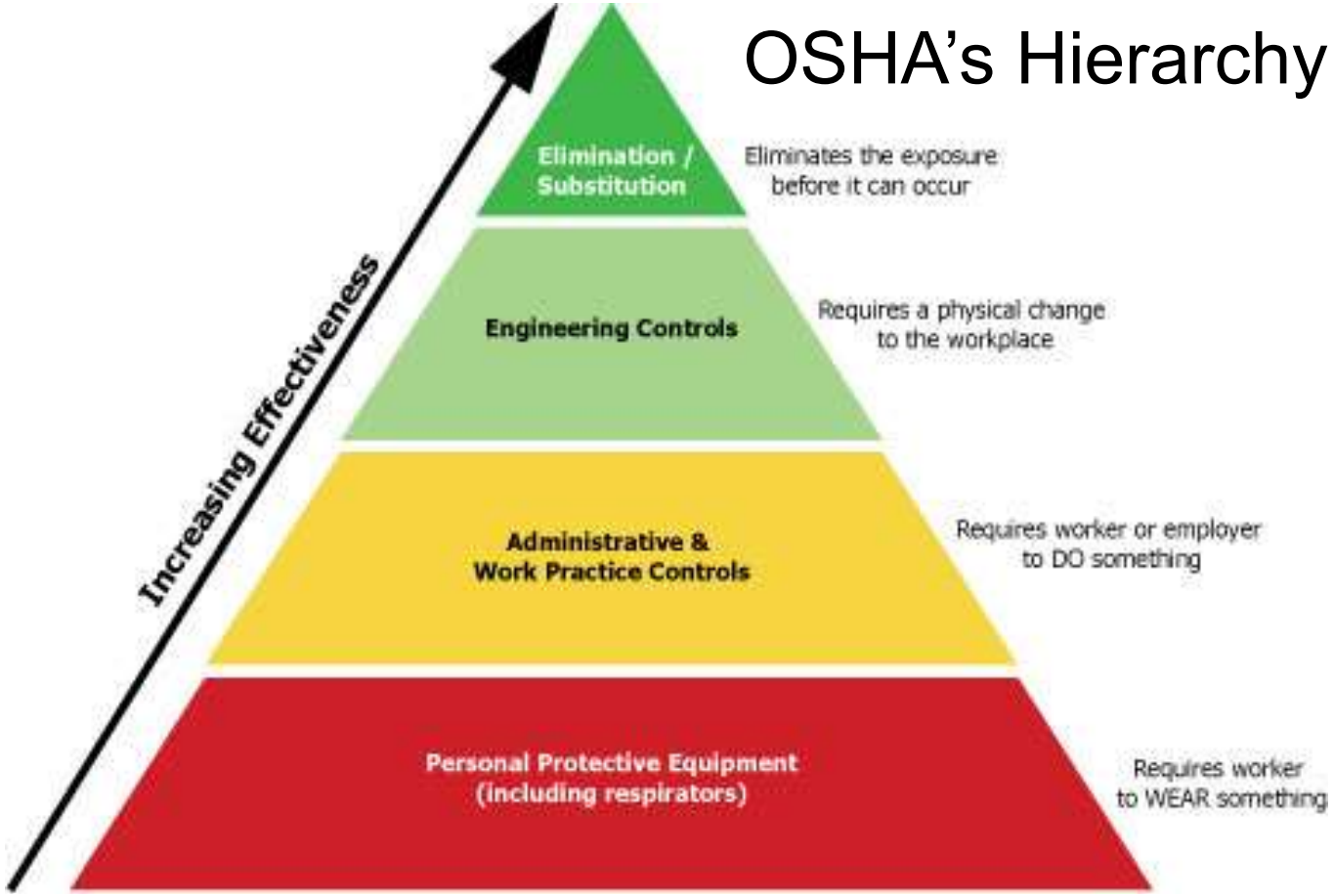
Work Place Hazards

OSHA's Hierarchy of Controls



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Personal Protective Equipment

- 29 CFR 1910.132
- “Protective equipment, including personal protective equipment for eyes, face, head, and extremities, protective clothing, respiratory devices…shall be provided, used and maintained whenever it is necessary by reason of hazards of processes or environment… capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.” - OSHA

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Protective Clothing

- Protective Clothing
- Hoods and boots
- Respirator inside of hood
- Oversize suits for ease of movement
- Reinforce suits with duct tape
- Tape wrists to gloves, ankles

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Respiratory Protection

- Respirators are the last option after:
  - engineering controls
  - administrative controls
  - work practices
  - alternative materials
  - other methods

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Personal Protective Equipment

Mold Remediation of Less than 100 Square Feet

Employees must wear the following:

- An N95 disposable respirator (i.e., a dust mask) in accordance with the OSHA respiratory protection standard (29 CFR 1910.134)
- Disposable protective clothing covering both head and shoes
- Gloves
- Eye protection

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Personal Protective Equipment – Note!

Employees using respirators must follow the requirements in SP 001:17:2, Respiratory Protection Safety Program.

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NIOSH

NIOSH Recommendation:

"Respiratory protection may be necessary for certain operations or methods such mold removal and paint removal by chemicals, heat gun, or abrasive techniques, and some set-up, and cleaning operations. However, respirators are the least preferred method of controlling airborne Mold exposure, and **they should not be used as the only means of preventing or minimizing exposures. Respiratory protection requirements are not an acceptable substitute for adequate training, supervision, appropriate engineering controls, and environmental or medical monitoring.** Initial respiratory protection requirements for abatement work (which may be based on conservative assumptions) should be modified with appropriate job-specific requirements based on air monitoring results. Respirator selection for each job category at every worksite should be determined by an industrial hygienist or other qualified individual, based on maximum airborne exposures measured."

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Types of Respirators

- Three levels of particulate filter efficiency are 95%, 99%, and 99.97%. The three categories of resistance to filter efficiency degradation are labeled N, R, and P. The class of filter will be clearly marked on the filter, filter package, or respirator box.

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Types of Respirators

- **Filter Efficiency** - selection of filter efficiency (i.e., 95%, 99%, or 99.97%) depends on how much filter leakage can be accepted. Higher filter efficiency means lower filter leakage.
- **Oil Resistance** - selection of N-, R-, and P-series filters depends on the presence or absence of oil particles, as follows: If no oil particles are present in the work environment, use a filter of any series (i.e., N-, R-, or P-series).
  - If oil particles (e.g., lubricants, cutting fluids, glycerine, etc.) are present, use an R- or P-series filter.

    ***Note*:** N-series filters cannot be used if oil particles are present.
  - If oil particles are present and the filter is to be used for more than one work shift, use only a P-series filter.

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Types of Respirators

- Half Face Negative Pressure
- N100 Fitted Facepiece
- N95 Fitted Facepiece
  (i.e. dust mask)

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Types of Respirators

- NIOSH Video

“A Particle is a Particle”

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Respiratory Program

- **Minimum Requirements:**
  - ***written SOP***
  - ***MSHA/NIOSH certified respirators***
  - ***appropriate for hazard***
  - ***training of wearer***
  - ***individual respirators***
  - cleaning & disinfection
  - respirator storage
  - inspection & repair
  - work area monitoring
  - medical review
  - annual evaluation of respiratory program

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Other Important Issues

- Medical fitness to wear a respirator
- Facial hair & respiratory protection
- Care & cleaning of respirators
- Inspection of respirators
- Cleaning & disinfection
- Repairs
- Storage

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Asbestos: What Is It?

- Asbestos minerals share some common characteristics:
  - Naturally occurring from Ores rich in Magnesium, Calcium, Silica, and Iron
  - High tensile strength along the axis of the fiber
  - Chemically inert
  - Non-combustible

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Mold on Asbestos Containing Materials

ACM- Pipe insulation (T.S.I)

ACM- Spackle/Joint compound

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Definition

ACM= **A**sbestos **C**ontaining **M**aterials

- This is any material that contains **greater** than 1% asbestos fibers

PACM=**P**resumed **A**sbestos **C**ontaining **M**aterials

- This is any TSI, Surfacing, or Misc vinyl/asphalt flooring or roofing installed before 1980

It should be noted that New York State Department of Labor (NYSDOL), United States Environmental Protection Agency (EPA), and the Occupational Safety and Health Administration (OSHA) all have specific requirements for the testing, handling and disposal of ACM, also for licensing and training. One should always check with all applicable regulations before disturbing any Known or suspect ACM/PACM present on a mold remediation/Assessment

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ACM at NYCHA

ACM- Pipe insulation (T.S.I)

ACM - Flooring

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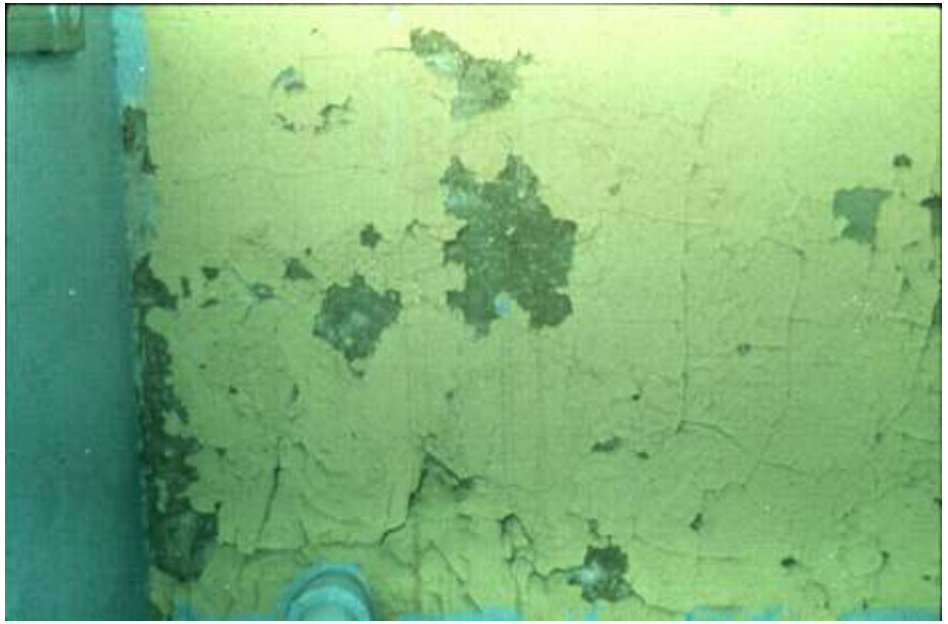
Lead Based Paint

On mold remediation projects lead based paint can also be impacted.

- It will typically be in the paint on or near the areas with mold growth
- Demolition or removal of these painted surfaces can create potentially dangerous exposures to lead dust and lead contaminated debris



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Why are Dust and Debris a Problem?

- Remediation activities that disturb lead-containing materials create dust and debris
- Lead-contaminated dust is poisonous
- Very small amounts of lead-contaminated dust can poison children and adults
  - **Children swallow dust during ordinary play activities.**
  - **Adults swallow or breathe dust during work activities.**
- Workers can bring lead-contaminated dust home and poison their families

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Lead Renovations

- EPA requires that those conducting renovation, repair & painting obtain RRP certification and use Lead Safe Work Practices (LSWP)
- HUD requires LSWP for activities that disturb more than 2 sq ft of painted surface in any one room

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Remediation Procedures – Note!

Any work that would disturb more than 2 square feet per room in a unit which could contain lead-based paint must use lead-safe work practices and RRP certified workers.

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Remediation Procedures

1. All remediation work must conform to the protocols in the following documents:

- SP 040:18:2 Revised, Maintenance Tasks – Dust Control and Clean Up in Apartments, which establishes Work Area Preparation/Performance Levels
- Appendix A, Remediation Methods
- Interim Guidance on Wall Breaks
- Interim Guidance on Pipe Insulation

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Hazard Communication

Mold remediation involves use of :

- Cleaners
- Disinfectants
- Anti-microbials
- Biocides

Chemicals in these substances require that an employer have a hazard communication programs in place

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Hazard Communication

The basic goal of a Hazard Communication Program is to be sure employers and employees know about work hazards and how to protect themselves; this should help to reduce the incidence of chemical source illness and injuries.

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HAZCOM . . .

OSHA has estimated that more than 32 million workers are exposed to 650,000 hazardous chemical products in more than 3 million American workplaces.*

Does this pose a serious problem for exposed workers and their employers …

What do you think?

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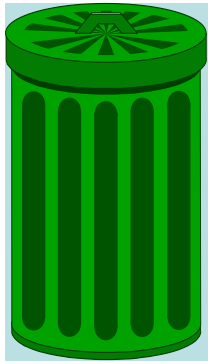
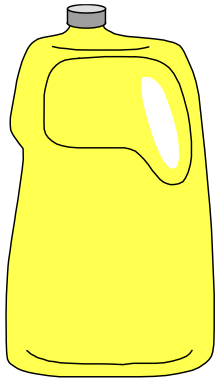
Case Studies

New York City Sanitation, November 1996



Michael Hanly, trash collector,
killed while standing behind his truck
as 70% hydrofluoric acid gas escaped
from containers under compaction

City workers in another location find
six plastic jugs of hydrofluoric acid
placed curbside with recyclables



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What Does This Standard Do?

- The HCS provides workers the right-to-know concerning the hazards and the identities of the chemicals they are, or may have the potential to be, exposed to in the workplace.

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Steps to an Effective HAZ-COM program

- Hazard Assessment
- Develop a written HAZCOM Plan
- Appointment of a HAZCOM Coordinator
- Conduct the chemical inventory
- Initiate labeling requirements
- Maintain the SDS library
- Establish employee training

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Hazard Determination

- The standard requires that employers inventory all hazardous chemicals in the workplace and include that inventory as a part of the written hazard communication program.
- This inventory will eventually serve as a master list for which a SDS must be obtained and maintained.

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Safety Data Sheets

- Chemical manufacturers and importers are required to obtain or develop a safety data sheet for each hazardous chemical they produce or import. Distributors are responsible for ensuring that their customers are provided a copy of these SDSs. Employers must have an SDS for each hazardous chemical which they use.*

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SDS Date: April, 2015

Safety Data Sheet

Per GHS Standard Format

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name: ShockWave Concentrate No. 8310, No. 8311 (10oz. bottles) & No. 8310CA
ShockWave California
General Use: Disinfectant, Virucide, Fungicide
Product Description: Disinfectant and Cleaner
Chemical Family: Quaternary ammonium chloride blend
EPA Registration Number: 61178-1-73884

Information on the Supplier of the Safety Data Sheet

Manufactured For:
Fiberlock Technologies, Inc.
150 Dascomb Road
Andover, MA 01810
P: 800-342-3755 F: 978-475-6205

Emergency Telephone Numbers:
CHEM TEL: (U.S.): 1-800-255-3924
(Outside the U.S.): 813-248-0585
Poison Control Center (Medical): 800-222-1222

SECTION 2: HAZARDS IDENTIFICATION

Signal Word: **DANGER**

GHS Label Statements
Hazard Statements:
Causes severe skin burns and eye damage.
Harmful if swallowed.
Toxic to aquatic life.

GHS Classifications
Health:
Acute Toxicity (Oral), Category 5
Skin Corrosion, Category 1C
Eye Corrosion, Category 1
Environmental:
Acute Hazards to the Aquatic Environment, Category 1

PRECAUTIONARY STATEMENTS

Prevention: Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe fumes, mist, vapors or spray. Avoid release to the environment. Wash hands thoroughly after handling. Keep out of reach of children.
Response: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. Wash contaminated clothing before reuse. Collect spillage.
Storage: Store locked up.
Disposal: Dispose of contents/container in accordance with all local, state, and federal regulations.

EMERGENCY OVERVIEW
Physical appearance: Blue liquid
Immediate concerns: Causes irreversible eye damage and skin burns.

POTENTIAL HEALTH EFFECTS
Eyes: Corrosive, contact causes severe eye burns.
Skin: Contact causes severe skin irritation and possible burns.
Skin absorption: Harmful if absorbed through skin.
Ingestion: Harmful if swallowed.
Inhalation: Mist is irritating to nose, throat and lungs.

REPRODUCTIVE TOXICITY
Teratogenic effects: None known.

Carcinogenicity: None known.
Mutagenicity: None known.
Routes of entry: Eye, skin, ingestion.
Warning caution labels: Corrosive
Physical hazards: None expected.

SECTION 3: COMPOSITION INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight, %
N-Alkyl Dimethyl Benzyl Ammonium Chloride (C12-C18)	68391-01-5	2.37
N-Alkyl Dimethyl Ethyl Benzyl Ammonium Chloride (C12-C14)	68956-79-6	2.37
Tetrasodium Ethylenediamine Tetraacetate	64-02-8	0-5
Sodium Carbonate	497-19-8	0-5
Secondary Ethoxylated Alcohol	84133-50-6	0-5
Fragrance	N/A	<1
Dye	N/A	<0.1
Water	7732-18-5	85-95

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Establish Employee Training

- Each employee who may be "exposed" to hazardous chemicals when working must be provided information and trained prior to initial assignment to work with a hazardous chemical, and whenever the hazard changes.

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Employee Responsibilities

- Know where to get information about hazardous substances used, stored, or handled at your inspection sites.
- Learn to read labels and understand SDSs.
- Identify hazards before you begin a task.
- Do not be afraid to ask questions.
- Use personal protective equipment.

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Confined Spaces

NYCHA staff may encounter the following confined spaces during mold remediation:

- Roof fan housing
- Chimneys
- Interstitial spaces
- Elevator shafts
- Others?

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Confined Spaces

- Definition of a confined space is any space that
  - A person can enter
  - Has a limited opening for entry or exit
  - Is not designed for continuous occupancy
- A confined space that has any associated hazard is considered a permit-required confined space
- Hazards can include oxygen deficient or enriched atmospheres, toxic or flammable atmospheres, mechanical or electrical hazards, falls, engulfment, etc.

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Confined Spaces

60% of confined space deaths are among would-be rescuers.

Don’t become a statistic!

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Electrical Hazards

- Electrocution and electric shocks are among the most common hazards.
- Incorrect wiring, improper grounding, and lack of proper insulation result in over 1,000 people being electrocuted each year

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Worker Responsibilities

- Being aware of potential hazards
- Knowing how hazards should be treated
- Knowing what to do to protect themselves from electrical shock while working in a regulated abatement work area.

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Hazard – Damaged Cords

- Cords can be damaged by:
  - Aging
  - Door or window edges
  - Staples or fastenings
  - Abrasion from adjacent materials
  - Activity in the area
  - Improper use can cause shocks, burns or fire

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Hazard – Defective Cords & Wires

- Plastic or rubber covering is missing
- Damaged extension cords & tools

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Hazard - Improper Grounding

- Tools plugged into improperly grounded circuits may become energized
- Broken wire or plug on extension cord
- Some of the most frequently violated OSHA standards

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Clues that Electrical Hazards Exist

- Tripped circuit breakers or blown fuses
- Warm tools, wires, cords, connections, or junction boxes
- GFCI that shuts off a circuit
- Worn or frayed insulation around wire or connection

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Slips, Trips and Falls

- Mold remediation sites present some significant risks for slips, trips and falls.
- Non-slip rubber boots or shoes with non skid soles can greatly reduce slips and falls when working on wet polyethylene
- No running, jumping, or “horseplay” should be allowed in the work area

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Problems With Heat

- The body naturally tries to cool itself by sweating
- If you are wearing an impermeable suit, your body heat cannot escape
- Your lungs are already in overdrive due to the added stress of the respirator
- The Air Conditioning has been shut off for the summer, and the air in the work area is much warmer than the air outside
- Perfect conditions for the onset of HEAT STRESS or HEAT STROKE

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Hazard Recognition

Hurt at Work

- You've carefully thought out all the angles.
- You've done it a thousand times.
- It comes naturally to you.
- You know what you're doing, its what you've been trained to do your whole life.
- Nothing could possibly go wrong, right ?

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Hazard Recognition

Hurt at Work

- You've carefully thought out all the angles.
- You've done it a thousand times.
- It comes naturally to you.
- You know what you're doing, its what you've been trained to do your whole life.
- Nothing could possibly go wrong, right ?

Think Again!

End of Day 2

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NYCHA MOLD TRAINING

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Quality Assurance

Quality Assurance Inspections

- Maximo automatically generates a quality assurance inspection work order twenty-five (25) days after the last child work order is closed for all apartments where a mold, water damage, or moisture (i.e. a wet measurement) condition was identified during the inspection.
- The target start date is automatically populated as 30 days after the last child work order closed and the target end date is populated as 45 days after the last child work order closed.
- Once the quality assurance inspection work order is generated, property management staff contacts the resident and schedules the quality assurance inspection to take place between 30-45 days after the last child work order is closed. See Section VIII.A.3 for the process to schedule appointments.

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Quality Assurance Inspections – Note!

- For quality assurance purposes, whenever possible the inspector conducting the quality assurance inspection should be different than the inspector who performed the initial inspection.
- Quality assurance inspections are performed using the handheld device. If a handheld device is not operating during the quality assurance inspection, the inspector must record the results on a paper quality assurance inspection work order and enter the results into Maximo immediately following the quality assurance inspection.

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Quality Assurance Inspections

Prior to visiting the apartment on the day of the quality assurance inspection appointment, the inspector:

1) Checks the mold inspection tool kit, to ensure that the following instruments are in working order: anemometer, hygrometer, and moisture meter. Brings all the tools on the quality assurance inspection in case a full new initial inspection is needed.
2) Assigns a caretaker and maintenance worker to accompany them on the quality assurance inspection or be on call in case there is follow up work or a full new initial inspection is required. The maintenance worker must bring a borescope and tools appropriate for making wall-breaks.
3) Must make a courtesy call to the resident via the handheld device on the way to the quality assurance inspection to remind them of the appointment. If the resident does not answer the call, the inspector must still go to the apartment at the scheduled time.

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Quality Assurance Inspections

Inspecting for Mold, Water Damage, and Moisture

The Inspector:

- Visually inspects for mold any wall, floor, ceiling, or component identified in the initial inspection as having mold and records the results in the handheld device.
- Visually inspects for water damage any wall, floor, ceiling, or component identified in the initial inspection as having water damage and records the results in the handheld device.
- Uses the moisture meter to measure for subsurface moisture any, wall, floor, ceiling, or component that measured wet during the initial inspection and records the results in the handheld device.

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Quality Assurance Inspections

If mold, water damage, or moisture (i.e. a wet measurement) is found during the quality assurance inspection:

- The inspector immediately stops the quality assurance inspection and completes and closes the quality assurance inspection work order.
- Maximo automatically generates a new parent mold work order.
- The inspector immediately conducts a full inspection following the steps in Section VIII.B.3-5.

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Quality Assurance Inspections

Inspecting for Mold, Water Damage, and Moisture: (Cont.)

- If no mold, water damage, or moisture (i.e. a wet measurement) is found, the inspector continues with the quality assurance inspection.

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Quality Assurance Inspections

If an air flow measurement was taken during the initial inspection:

- The inspector uses an anemometer to take an air flow measurement in cubic feet per minute (CFM) of the kitchen or bathroom exhaust vent.

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Quality Assurance Inspection – Note!

The user must ensure the anemometer is properly calibrated by:

- Entering the correct size of the exhaust duct (i.e. the height and width in inches);
- Ensuring that the Free Air Percentage is set to 15%.

See Appendix C for instructions on how to use the anemometer. Users must follow the manufacturer's instructions when using inspection tools.

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Quality Assurance Inspections

Confirms that all work (i.e. child work orders) to remediate mold and correct root causes and related conditions was satisfactorily completed.

The inspector:

- Reviews the work actuals of the child work orders using the handheld device.
- Visually inspects all completed work in the apartment related to the child work orders.

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Quality Assurance Inspections

If all work was satisfactorily completed:

- The inspector completes the quality assurance inspection by taking photo(s) of the inspection area free of mold, water damage, and/or moisture and uploading the photo(s) into Maximo.

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Quality Assurance Inspections

If any work was not satisfactorily completed:

The inspector:

- Immediately creates a child work order in Maximo.
- Takes and uploads a photograph of the unsatisfactory work into Maximo if the work is visible in the apartment.
- Closes the existing quality assurance inspection work order.
- Follows up with supervisor of the staff person(s) who performed the work to report the unsatisfactory work and ensure the work is completed.

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Quality Assurance Inspections – Note!

See Section XII, Non-Compliance, for steps to address work that is not performed to standard.

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Quality Assurance Inspections

Quality Assurance Inspection Complete – All Work Satisfactorily Completed

The inspector:

- Reviews the quality assurance inspection findings with the resident.
- Requests that the resident sign the quality assurance inspection work order on the handheld device confirming that mold and any related conditions are not present and that all work was completed satisfactorily.
- Indicates on the handheld device if the resident refuses to sign or is dissatisfied with the work.
- Provides the resident with the name and contact information of the ombudsperson.
- Closes the quality assurance inspection work order.

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Quality Assurance Inspections

If additional work is needed, the inspector advises the resident of:

- The next steps to complete the work and the required timeframe for completion of all work.
- The requirement for a new quality assurance inspection once the work is completed.

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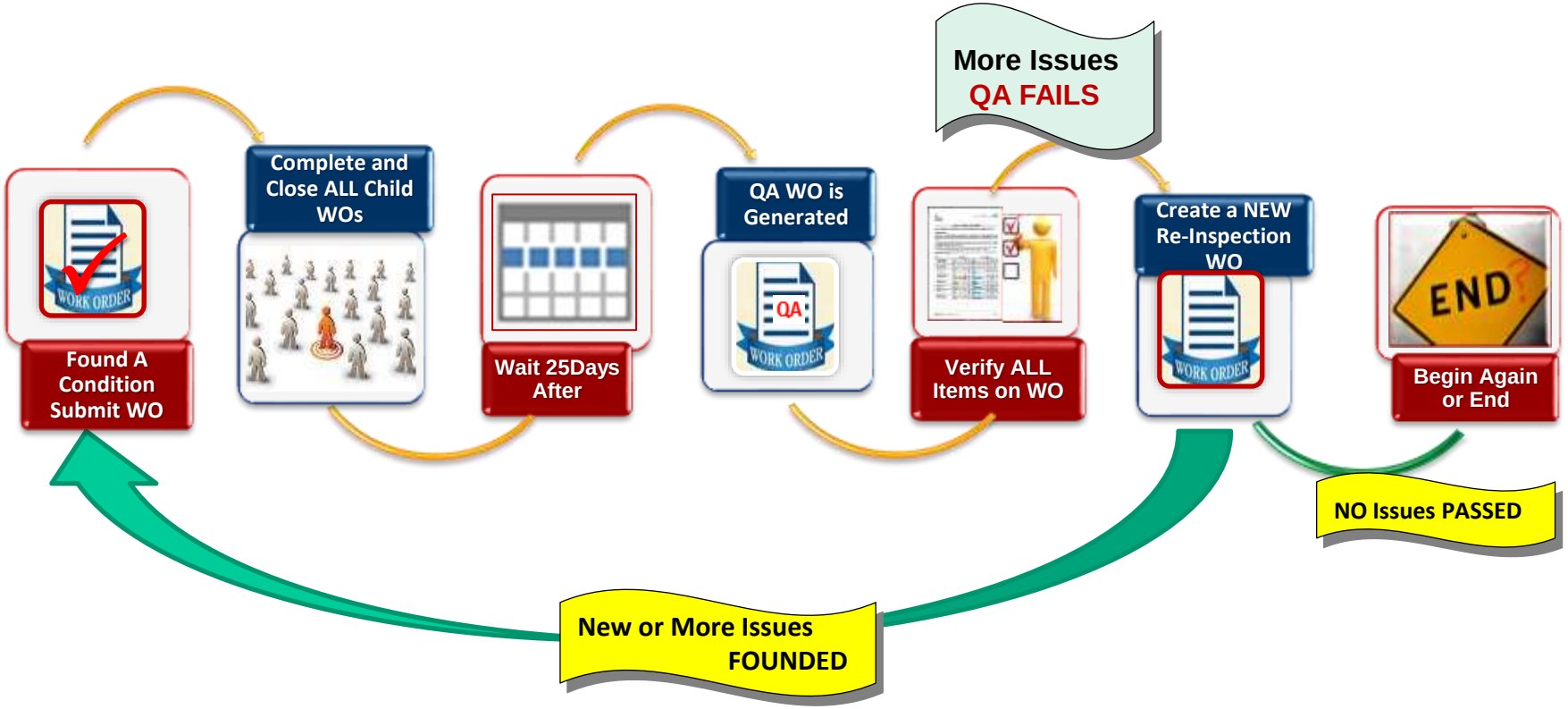
QA and Re-Inspection Workflow Process

QA: MOLD/MILDEW WO Workflow

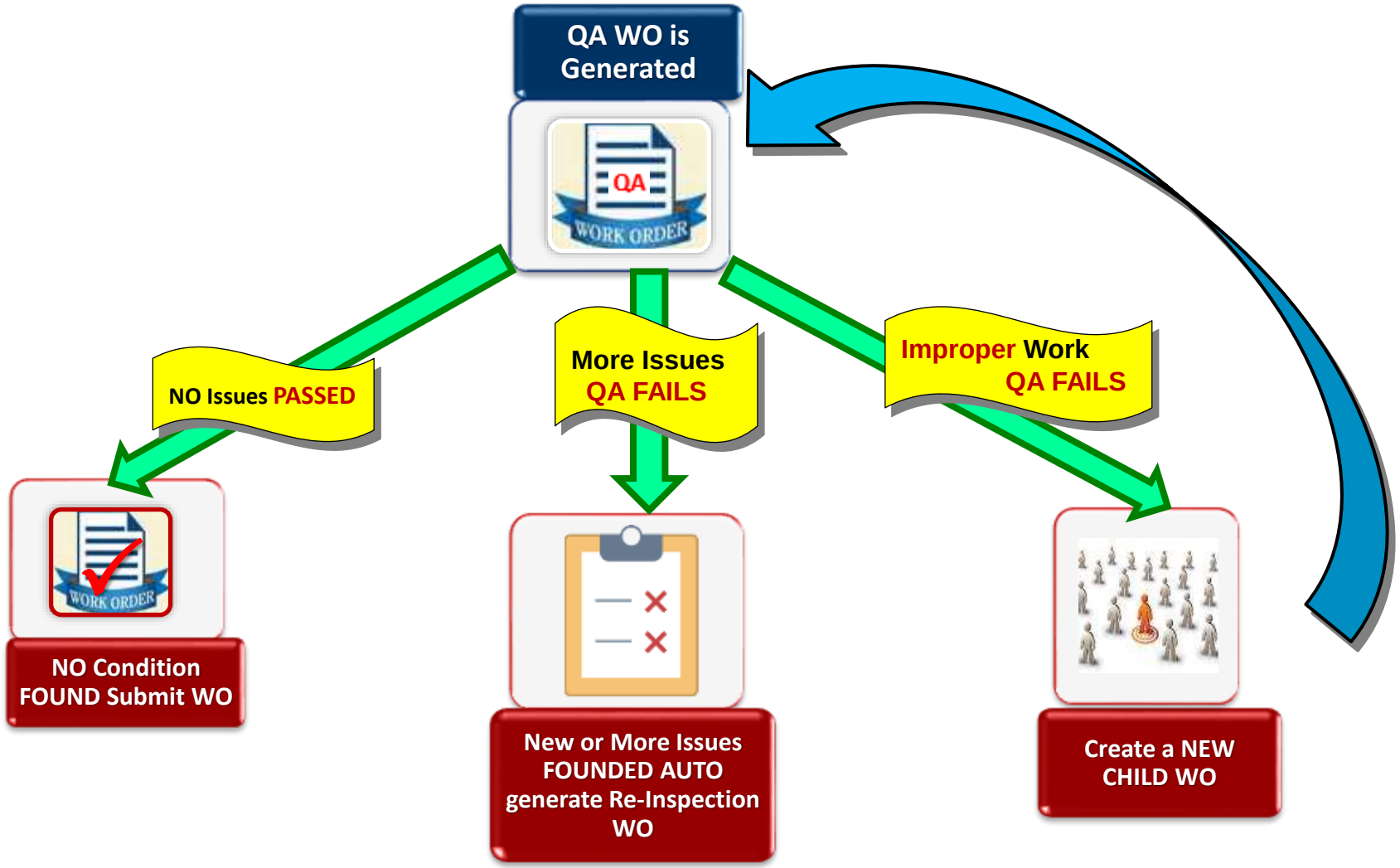
NO Mold was Found…

QA and Re-Inspection Work Order Workflow

Mold was Found…



Different Paths for QA …



Mold Work Orders Process - QA

1

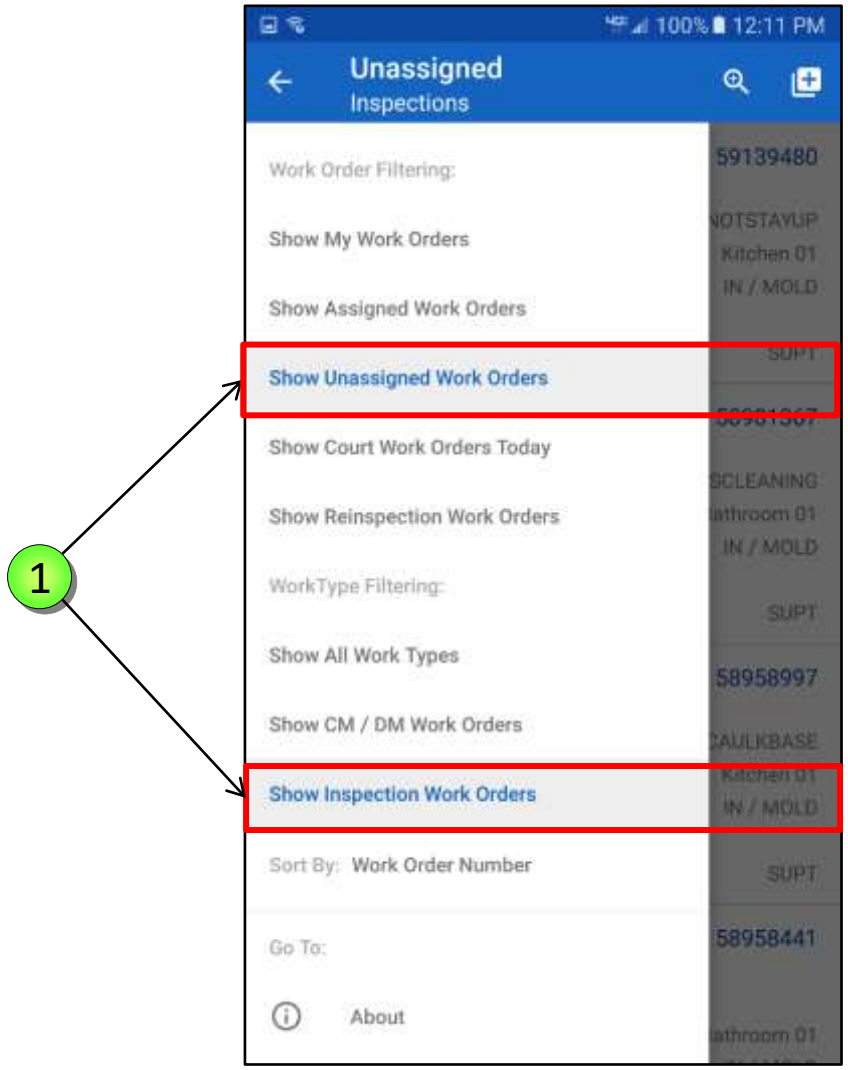
The first **QA Work Order** appears in:

- **Show Unassigned Work Orders**
- **Show Inspection Work Orders**

NOTE: The **QA Work Order** is automatically generated in **Maximo 25-days**, and the new **Target Start Date** will be set to **30 days** after the last Child Work Order is closed (or **25-days** after the mold inspection gets closed if no children are created).

The **Target Finish Date** is set to **15 days** after the **Target Start Date**.

If either **Target Start Date** or **Target Finish Date** fall on a weekend or a holiday, then **next business day**.



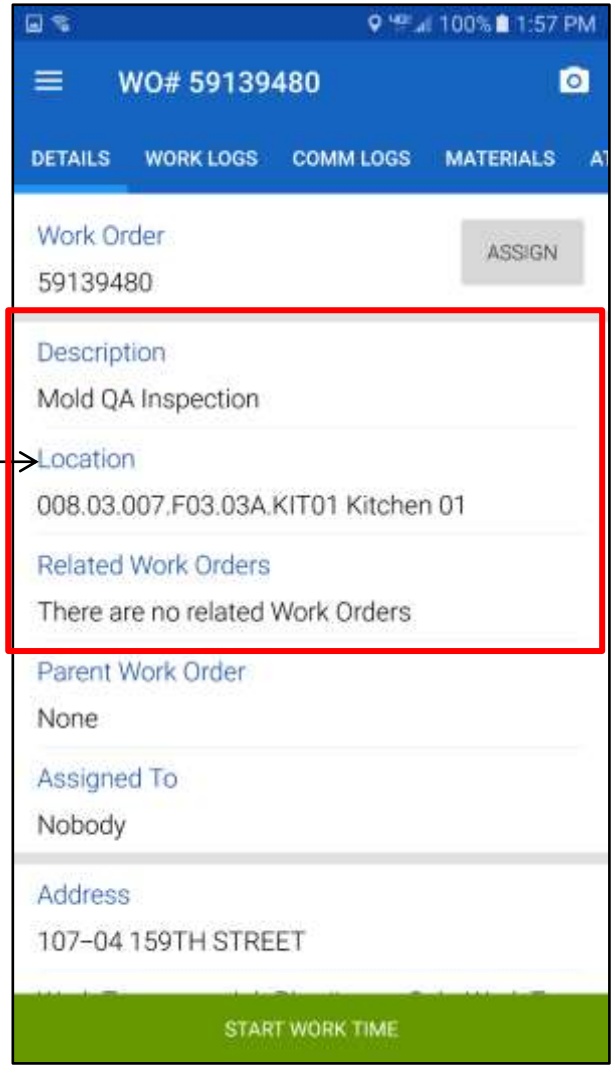
View QA Work Order Details

The start of the QA Process assumes **Mold Growth**, **Water Damage** or the **Moisture Measurement** question was answered **YES** in the **Mold Inspection**. If any were **YES**, this means a condition was found, and therefore, a QA Inspection must be done.

If all were **NO**, this means no issue was found on the inspection, and no QA gets generated.

Remember the QA Work Orders are auto-generated **25 days** after the **last** Child Work Order is closed.

1 **Description** – Mold QA Inspection

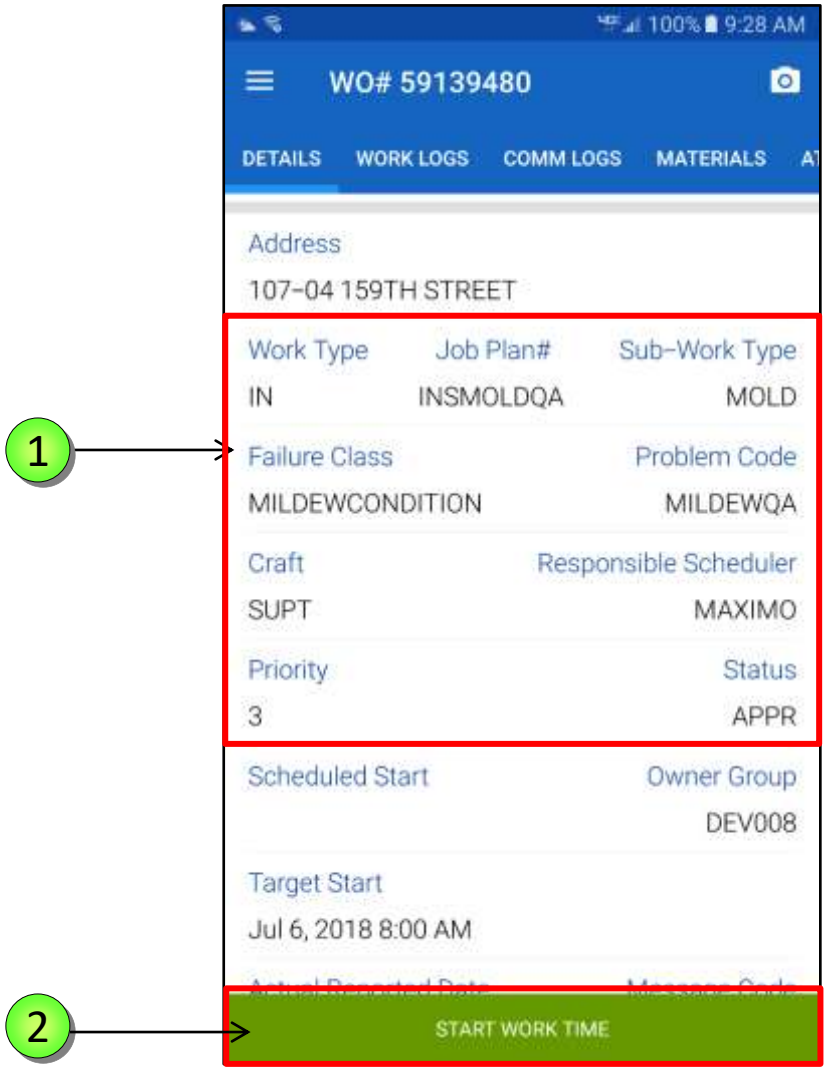


View QA Work Order Details – (Continued)

The **Work Order Type** and **Job Plan** have changed in **Mold QA** as they appear on the screen.

1. **Work Type = IN**
   Job Plan# = INSMOLDQA
   Sub-Work Type = MOLD
   Failure Class = MILDEWCONDITION
   Problem Code = MILDEWQA

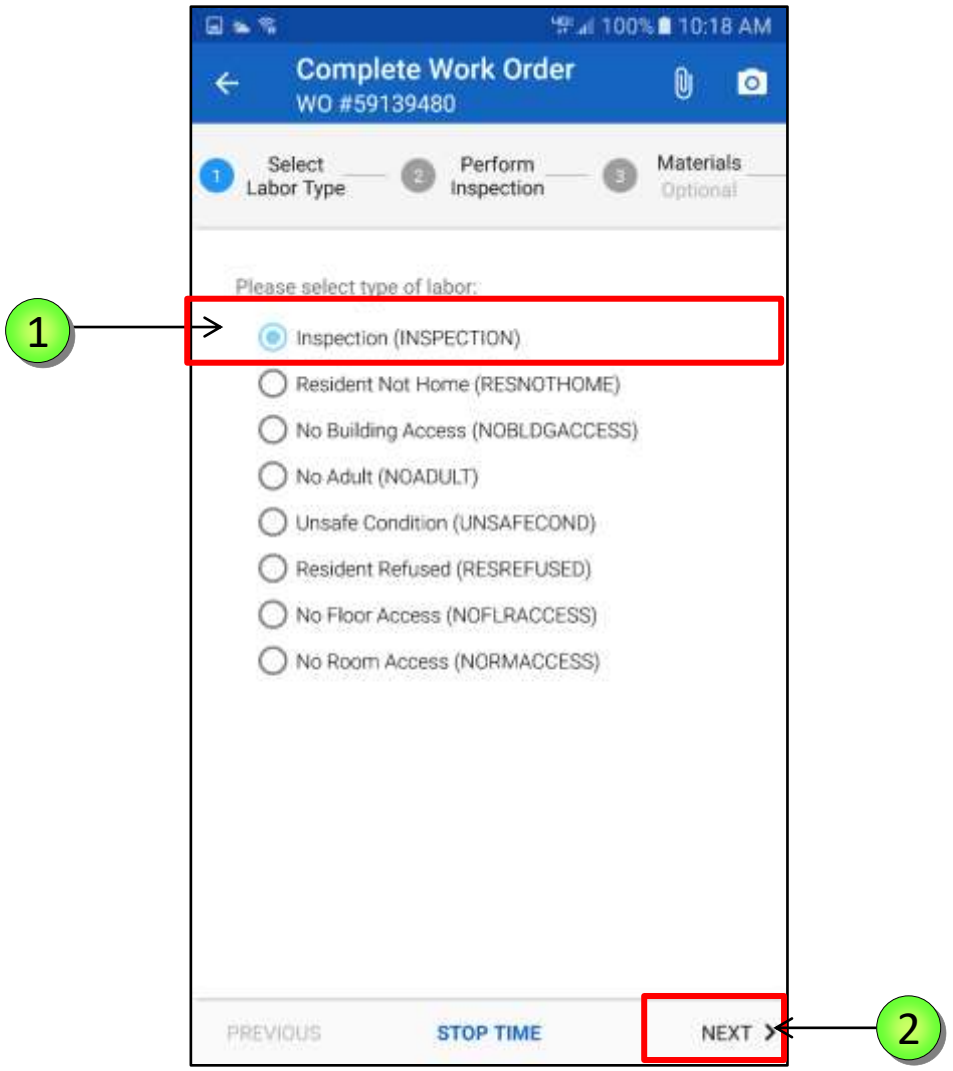
2. Tap **START WORK TIME**



View and Select Labor

After reviewing the **WO Details** the user is now ready to begin the work. **START TIME** is displayed at the bottom of the screen.

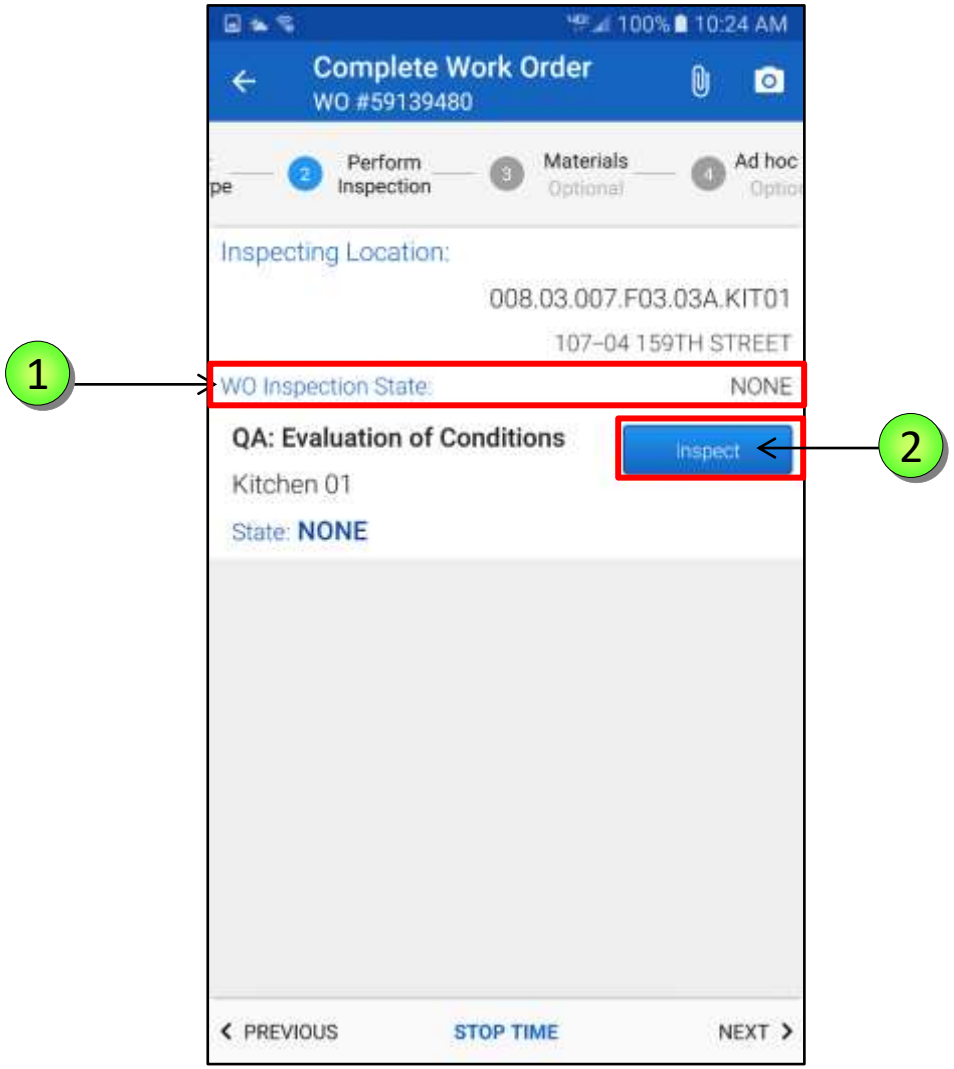
1. Select **Inspection**
2. Tap **NEXT**



QA: Evaluation of Conditions

QA: Task 1: Evaluation of Conditions

1. **WO Inspection State** is **NONE**
2. Tap **INSPECT**



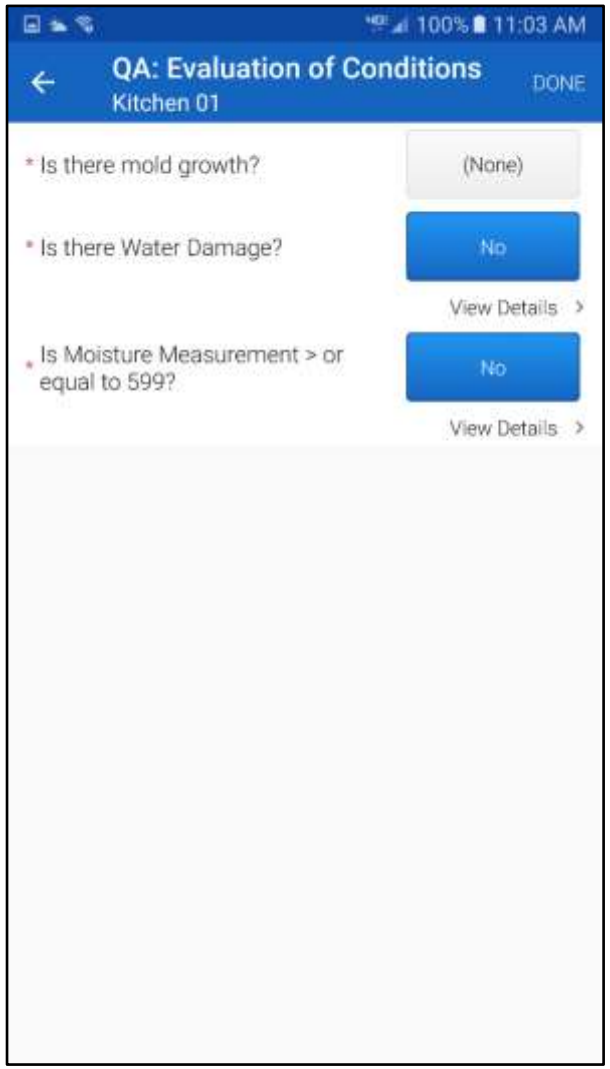
QA: Evaluation of Conditions – (Continued)

If the user answers **YES** to any of these questions, this triggers the process for **Re-inspection** as the **QA has failed.** The remaining questions on the QA do not have to be answered.

Maximo will generate a **Re-inspection Work Order** once user submits their results on the QA.

On the **QA Work Order**, the user shall be asked:

Mold Growth?
Water Damage?
Moisture Measurement >= 599

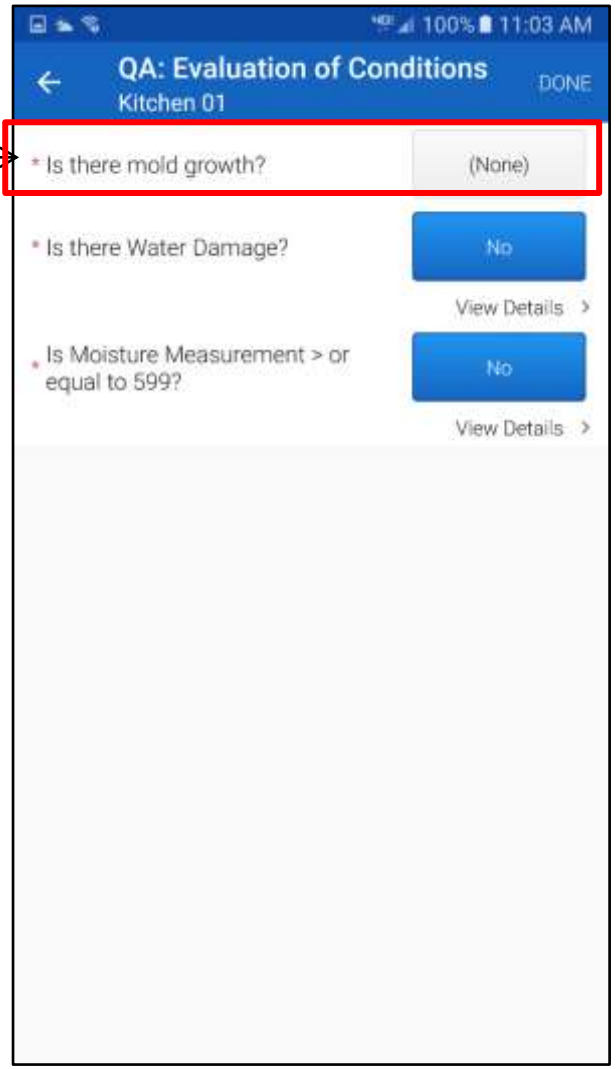


QA: Evaluation of Conditions – (Continued)

When a QA is generated, it brings over any of the **NO** answers from the **first 3 questions** from the initial inspection. So the user knows what the previous answers were.

So in this scenario, the question "I**s there Mold Growth?"** The answer was **YES**, and the other 2 answers were **NO**. That's why the answer to the first question is blank. This way the user can quickly answer the question or address a new issue.

1 Tap **NONE** next to **Is there mold growth?**

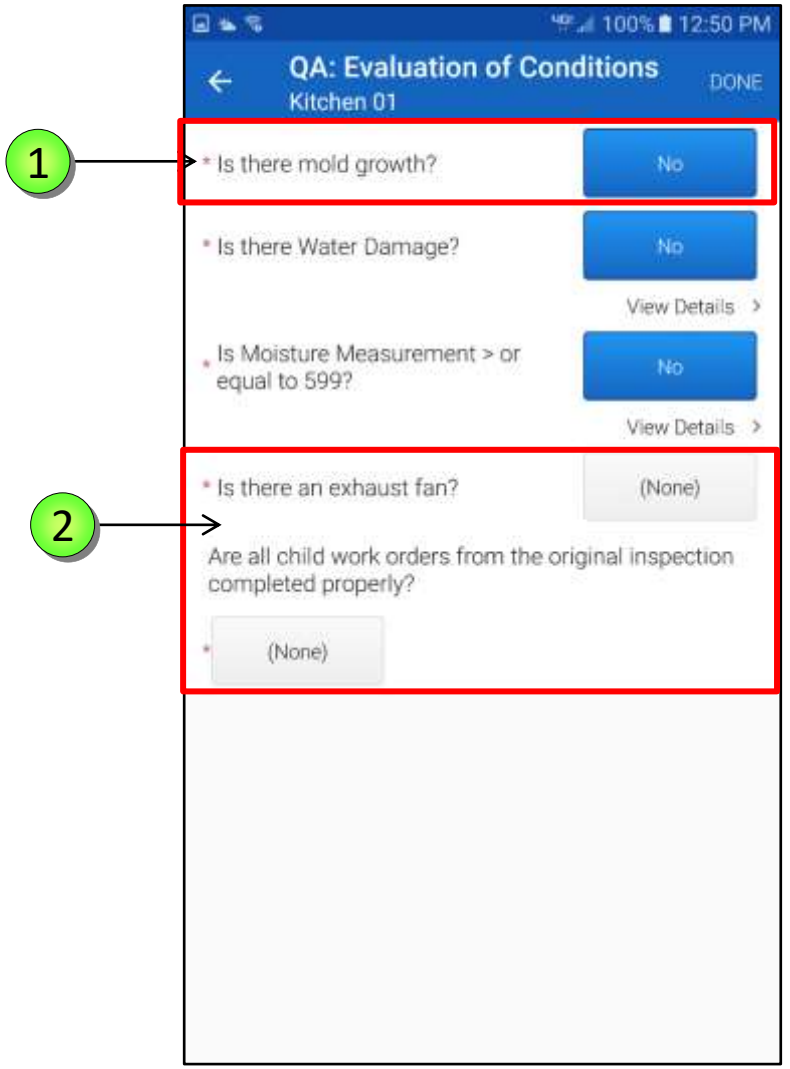


QA: Evaluation of Conditions – (Continued)

1. Answer **NO** for **"Is there Mold Growth"** question.

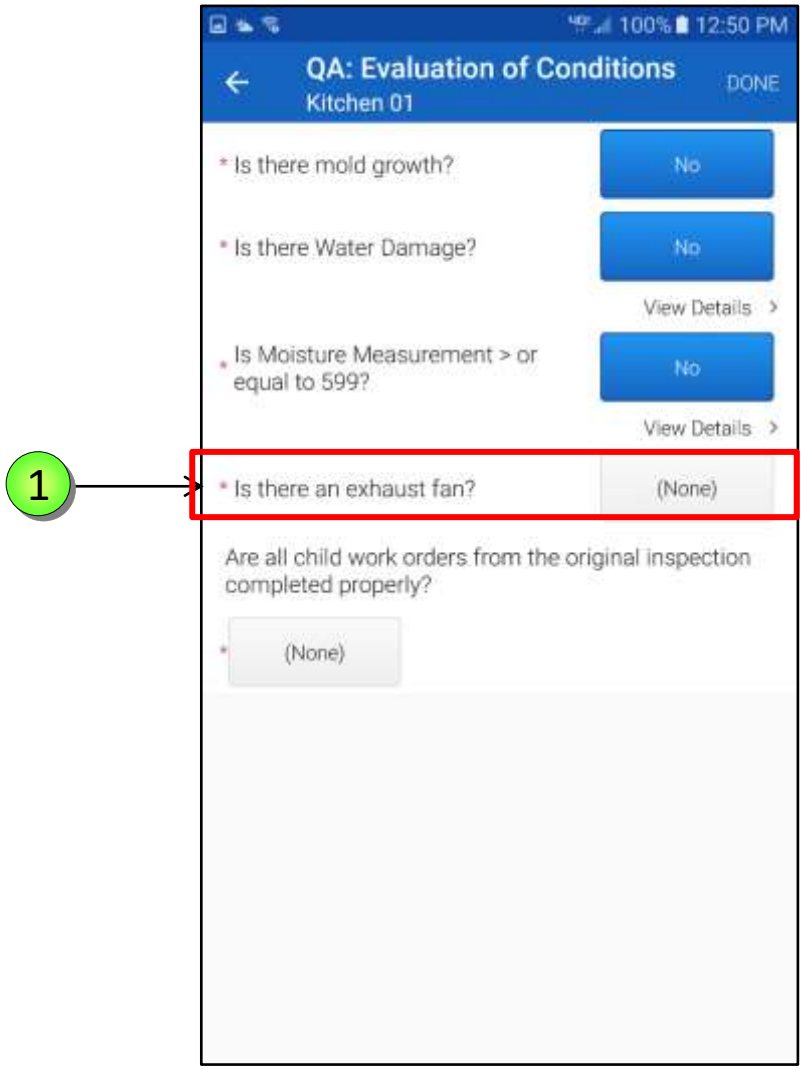
   If **NO Mold Growth**, **Water Damage** or **Moisture Measurement** was found on the QA Work Order, then the remaining questions on the QA **must be answered**.

2. **Maximo** checks if the location of the QA Work Order was a bathroom or kitchen, as this drives logic for **Exhaust Fan** question to show.



QA: Evaluation of Conditions – (Continued)

1. Tap **NONE** next to the **Exhaust Fan** question.



QA: Evaluation of Conditions – (Continued)

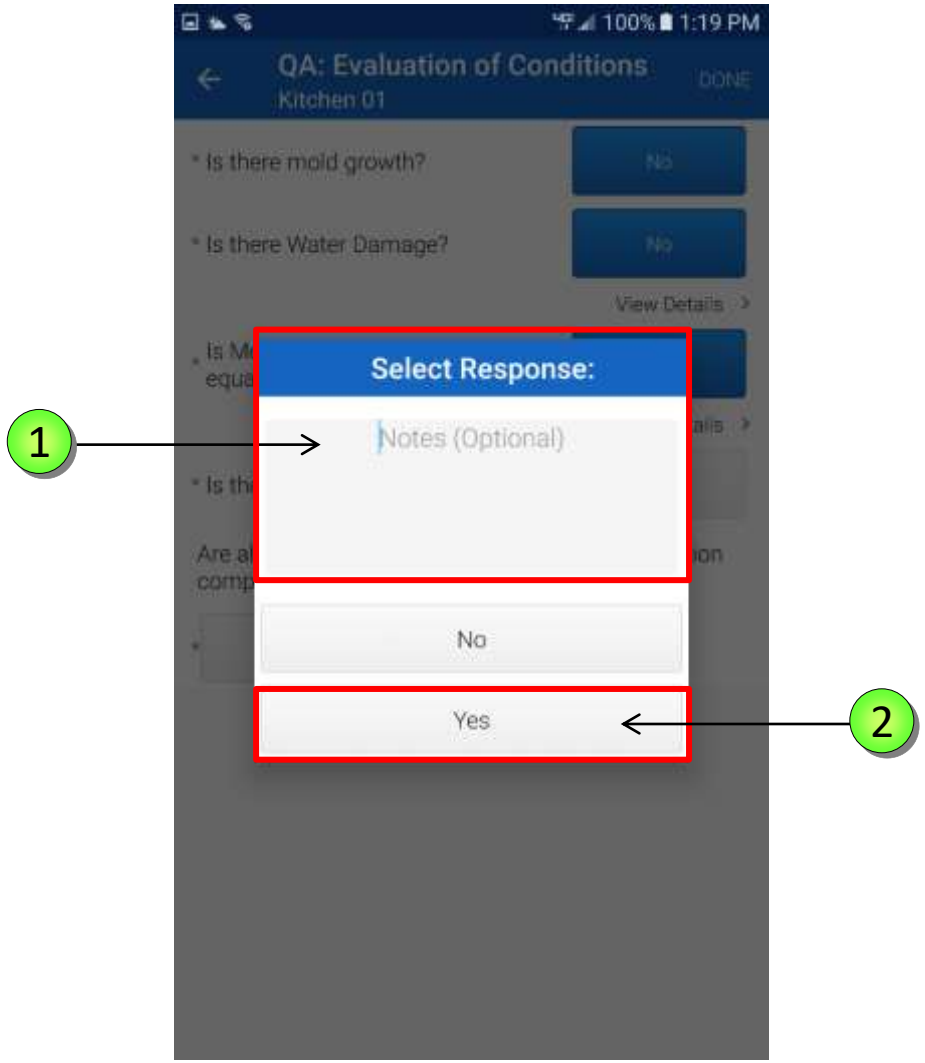
The **Select Response** Window display 3 options:

- **Notes** (optional)
- **No**
- **Yes**

1. In the **Notes** field, the user can input free text information.

2. Tap **YES**

NOTE: if the answer is **YES**, **Maximo doesn't auto-generate** a Work Order for the Roof fan.



QA: Evaluation of Conditions – (Continued)

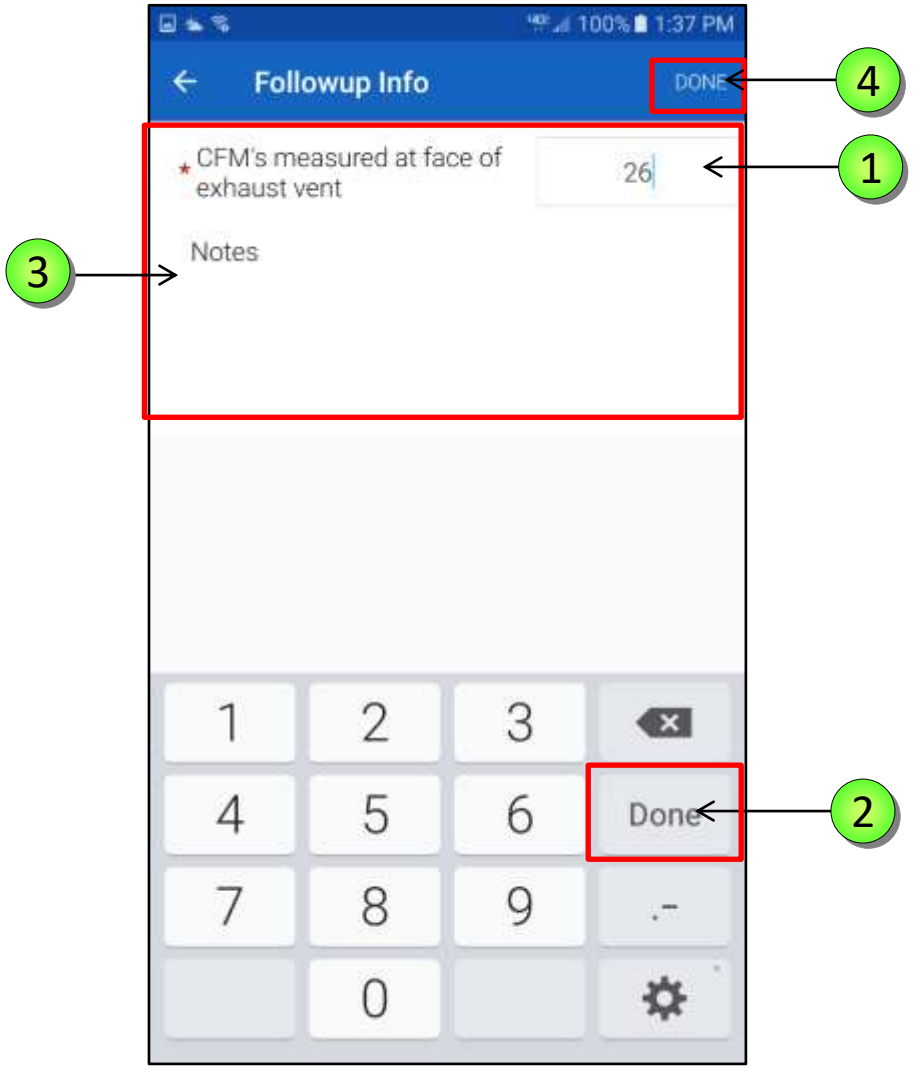
The Supervisor shall enter the **CFMs (Cubic Feet Measurement)** at the exhaust vent in the appropriate field.

The CFM's measurement is a mandatory field.

1. Type **26** on the device keyboard.
2. Tap **DONE** on the device keyboard.
3. The **Notes** field is optional.

NOTE: If **CFM** is less than **(<25)**, **Maximo** will not auto-generate a Work Order to check the roof fan.

4. Tap **DONE**



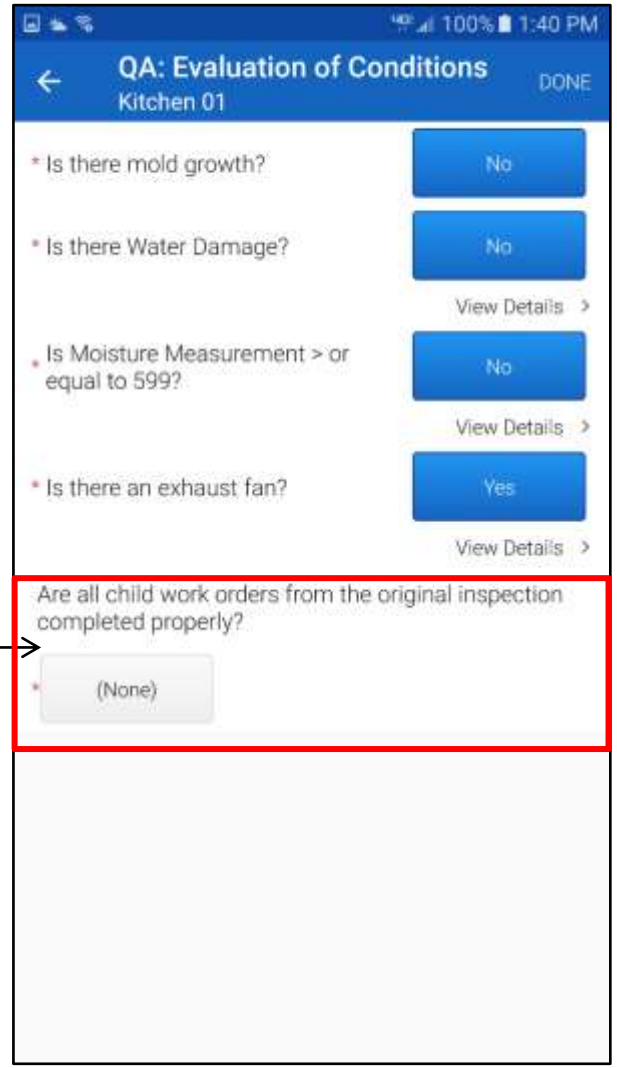
QA: Evaluation of Conditions – (Continued)

If **NO Mold Growth**, **Water Damage** or **Moisture Measurement** was found on the QA Work Order, the user must answer the question verifying if **"All children Work Orders from the original inspection were completed properly."**

1

If **YES**, the QA Work Order has passed and the process is complete.

If **NO**, the QA Work Order fails because the children Work Orders were not completed properly.



QA: Evaluation of Conditions – (Continued)

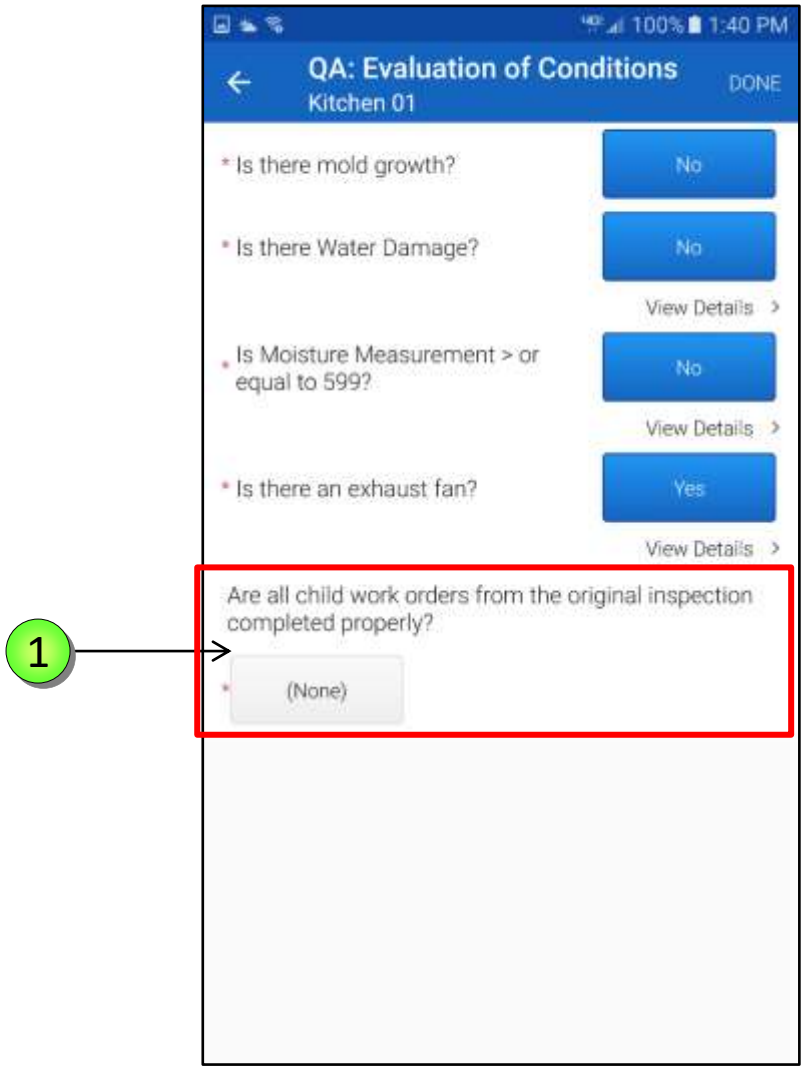
All Children Work Orders from the original inspection were completed properly:

1

If the answer is **NO**, the user shall be mandated to create a Child Work Order off the **QA Work Order**.

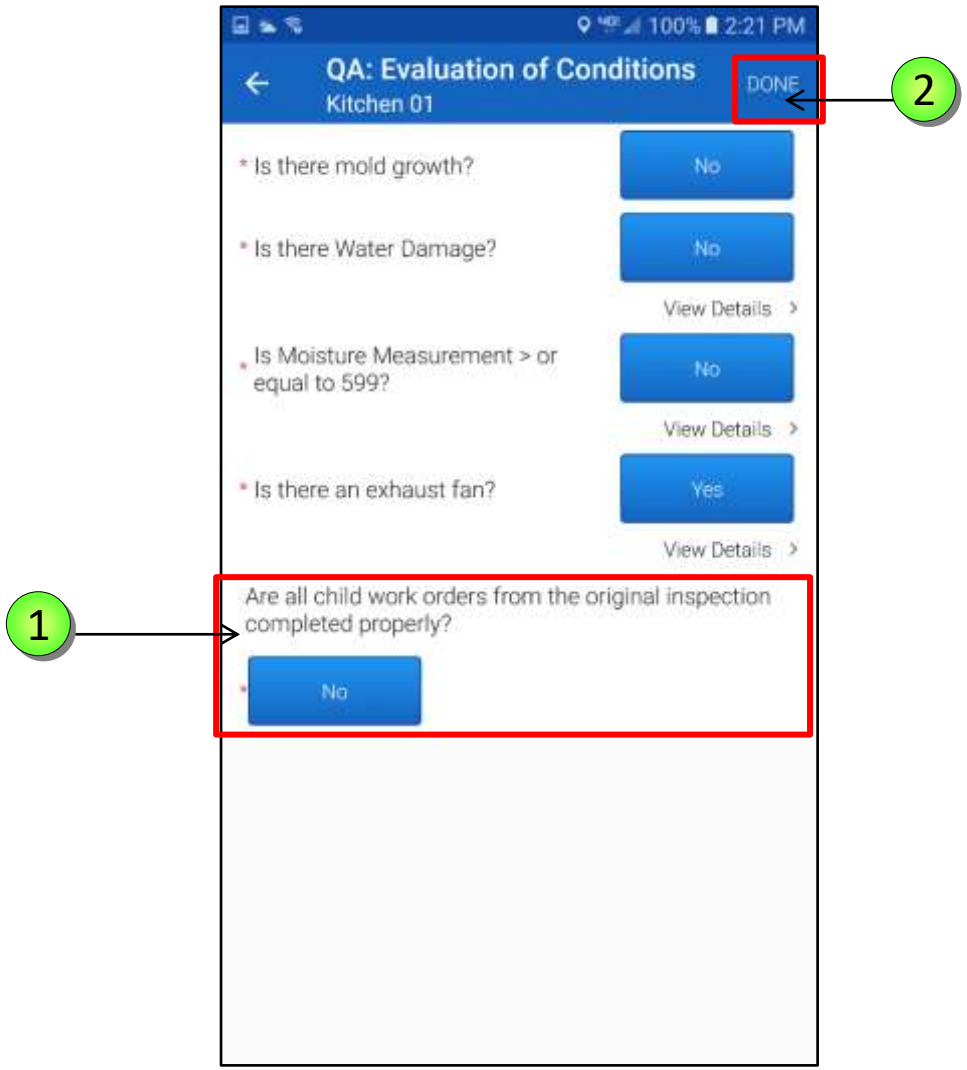
This is to ensure the remaining underlying issue is fixed. Users can create multiple Children Work Orders.

The Child Work Order(s) are completed by the responsible party. The process returns to step 1 as this triggers a new **QA Work Order** to get generated.



QA: Evaluation of Conditions – (Continued)

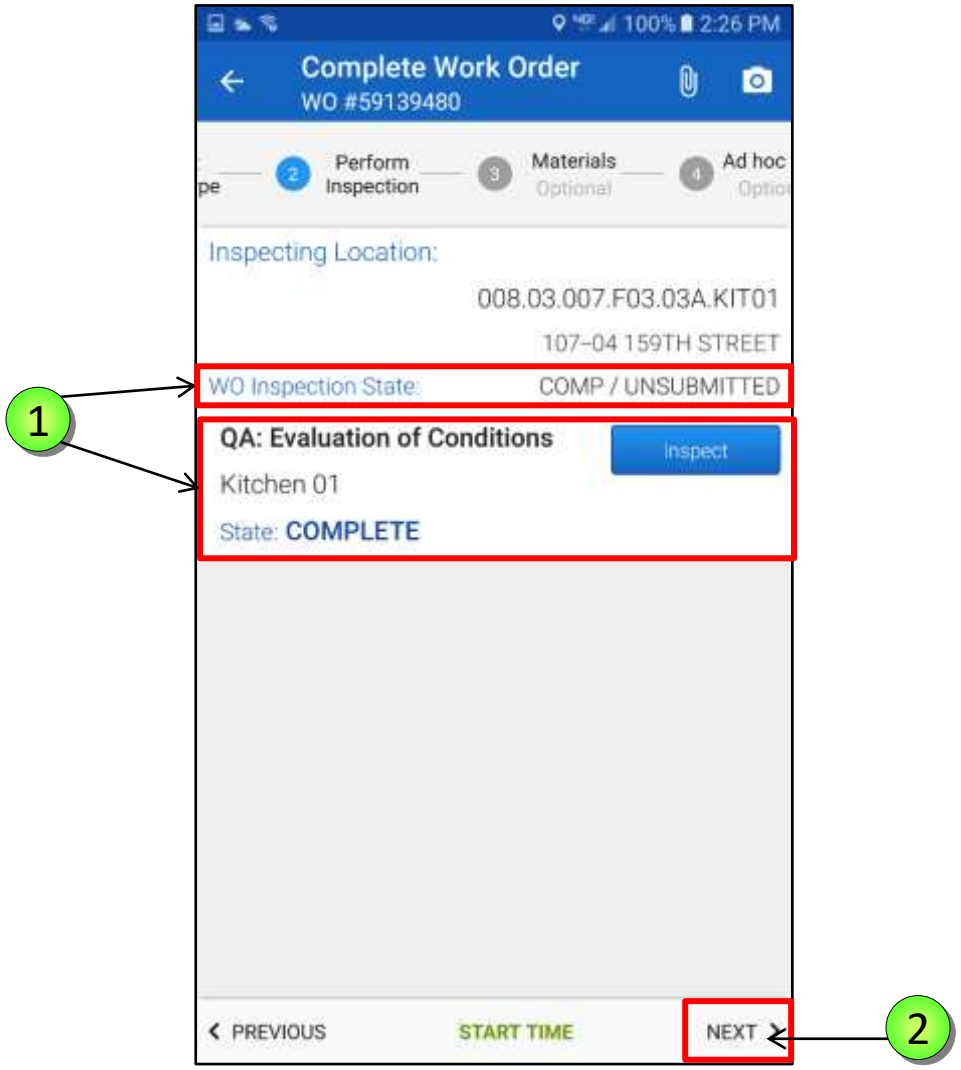
1. The **Select Response** window display, select **NO**.
2. Tap **DONE**



QA: Evaluation of Conditions – (Continued)

1. **QA: Evaluation of Conditions** status is now **COMPLETE**, and **WO Inspection State** is **COMP/UNSUBMITTED**.

2. Tap **NEXT**

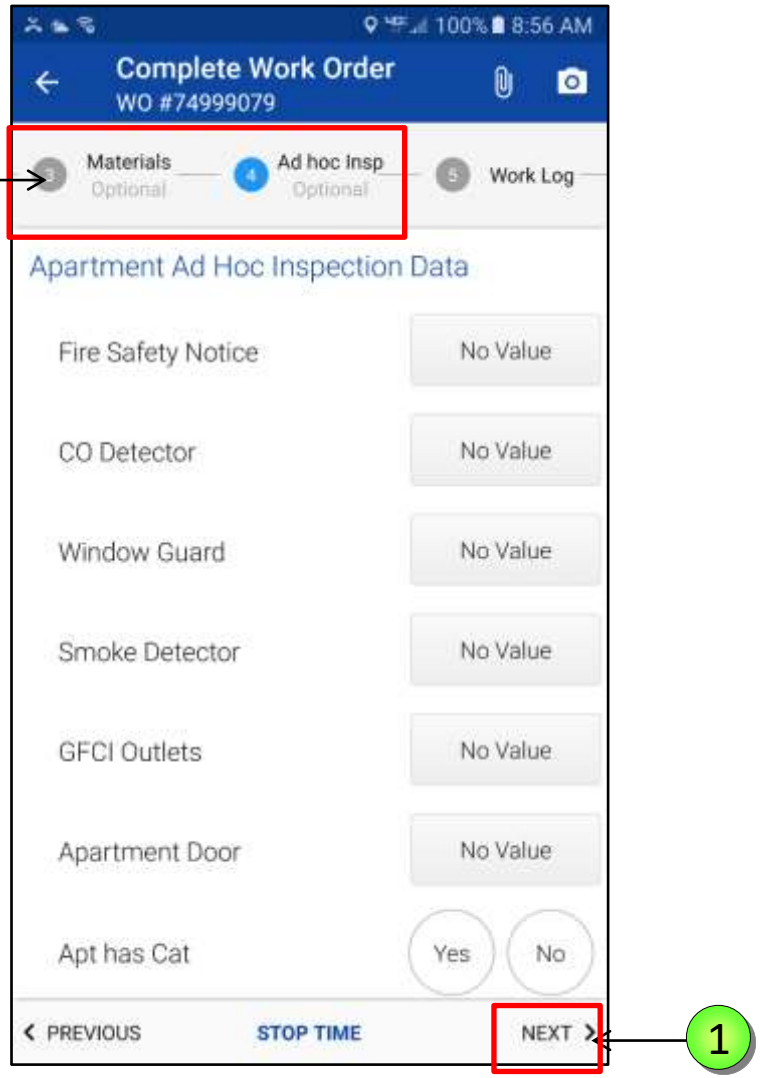


QA: Complete Work Order

Complete the **QA: Work Order** by completing the steps below:

1. • **Materials:** (**Optional**) - record any Materials used from the Storeroom.
   • **Ad Hoc Insp: (Optional)** – record any findings in the apartment not related to Mold Issue.

2. Tap **NEXT**



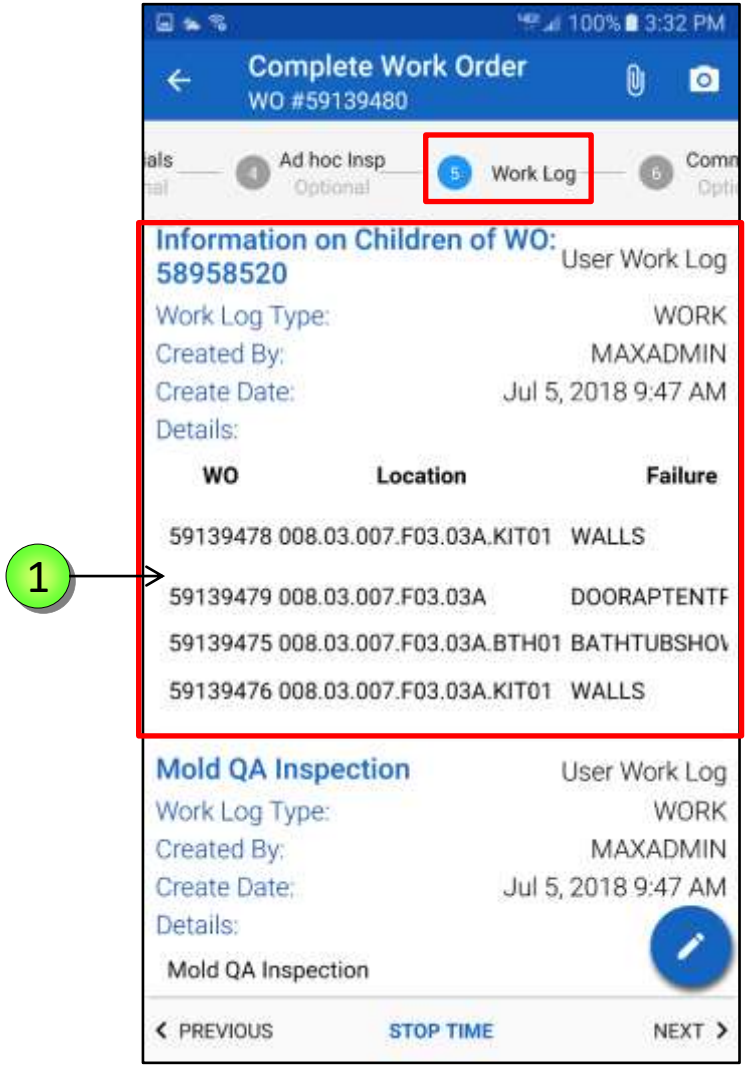
QA: Work Log

Work Log now contains all the different **Child Work Orders** that were created and completed for this Mold Inspection.

The Supervisor can check what was done, check the quality of work, and what was reported as an issue.

If the Supervisor finds that the reported issues were not resolved correctly that meets NYCHA standards then, then Super can create another Child Work to fix the problem.

In this case, the process starts again.



QA: Work Log – (Continued)

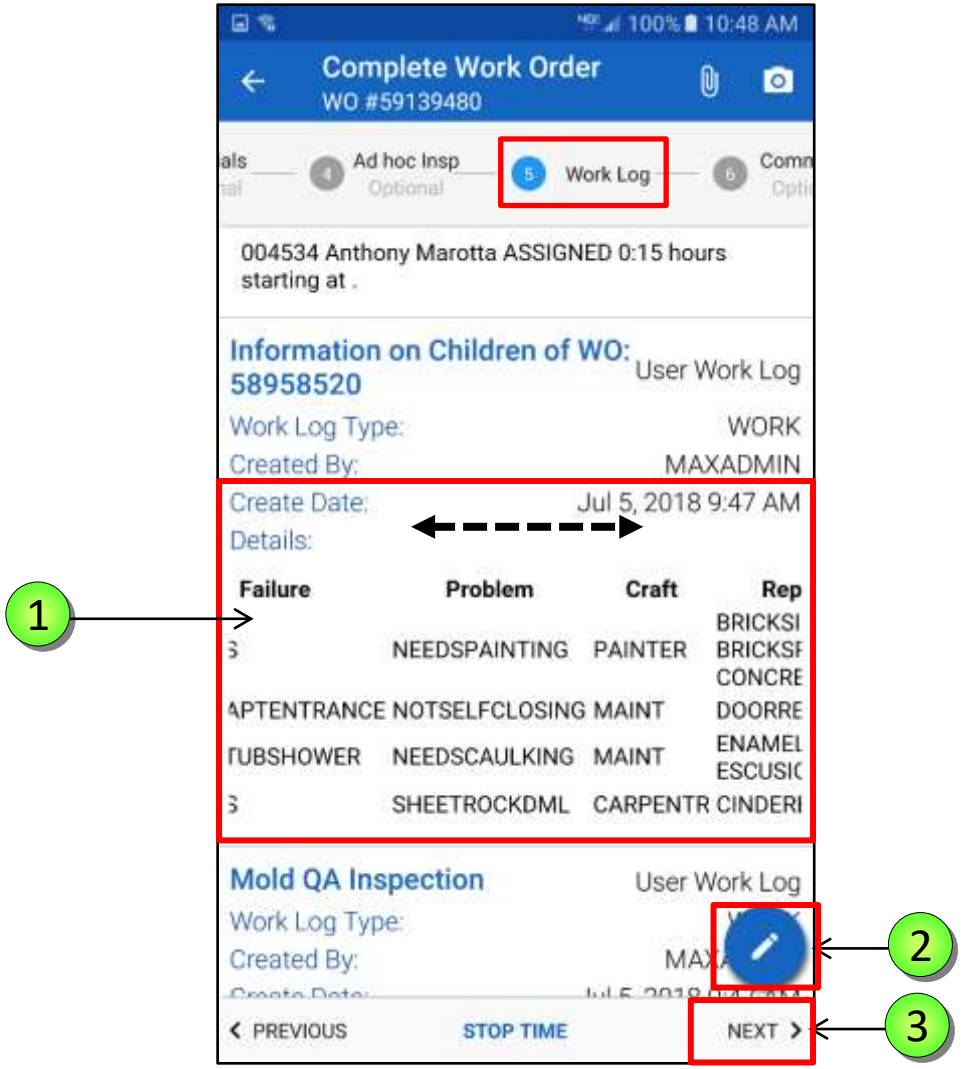
1. Swipe sideways ◄- - -► to the right and left to see a summary of each Child Work Order that was created and completed for this QA.

   Each **Child Work Order Number** has the **Location**, **Failure Class**, **Problem Codes**, **Responsible Craft**, and the **Repairs and resolution**.

   The user can view the details for each closed and completed Work Order in **Maximo** desktop.

2. Tap the **pencil** icon to add more information of your findings.

3. Tap **NEXT**

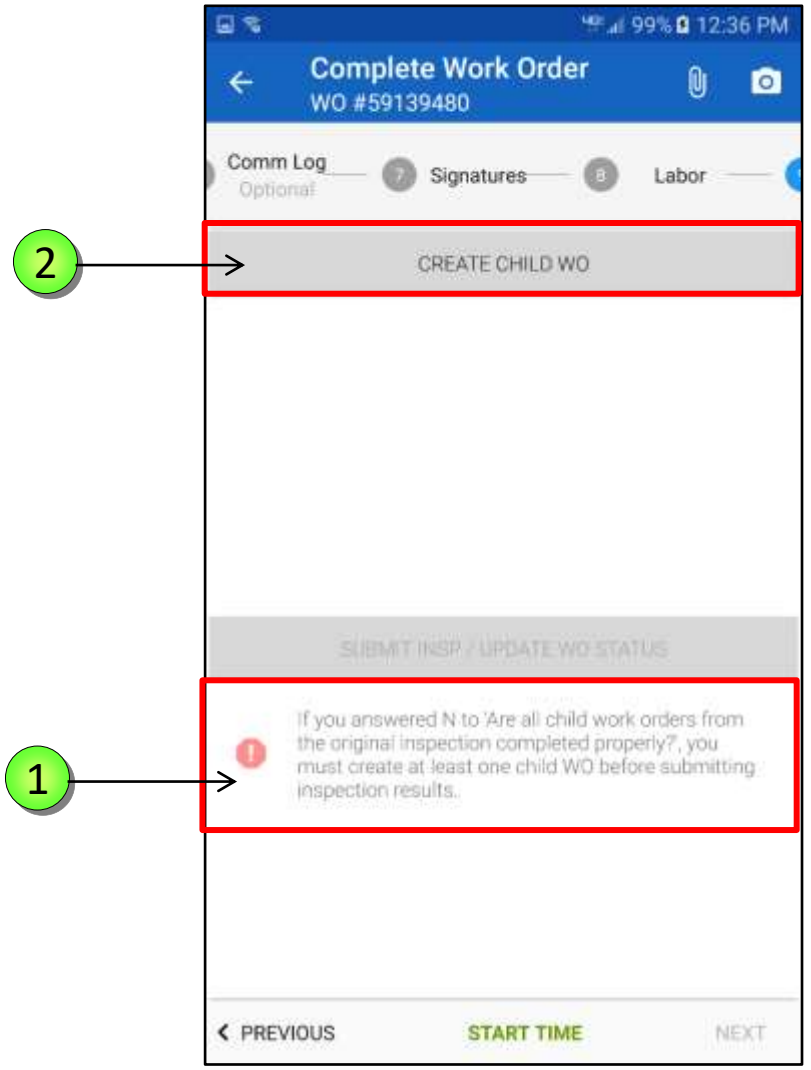


QA: Submitting The Work Order – (Continued)

Complete the process as before in the Mold Inspection **for Comm Log, Signatures,** and **Labor** screens.

1. Remember if you answered **NO** for the question **"Are all Child Work Order from the Original Inspection completed properly?"** You must create a Child Work Order before submitting the **QA Inspection** results.

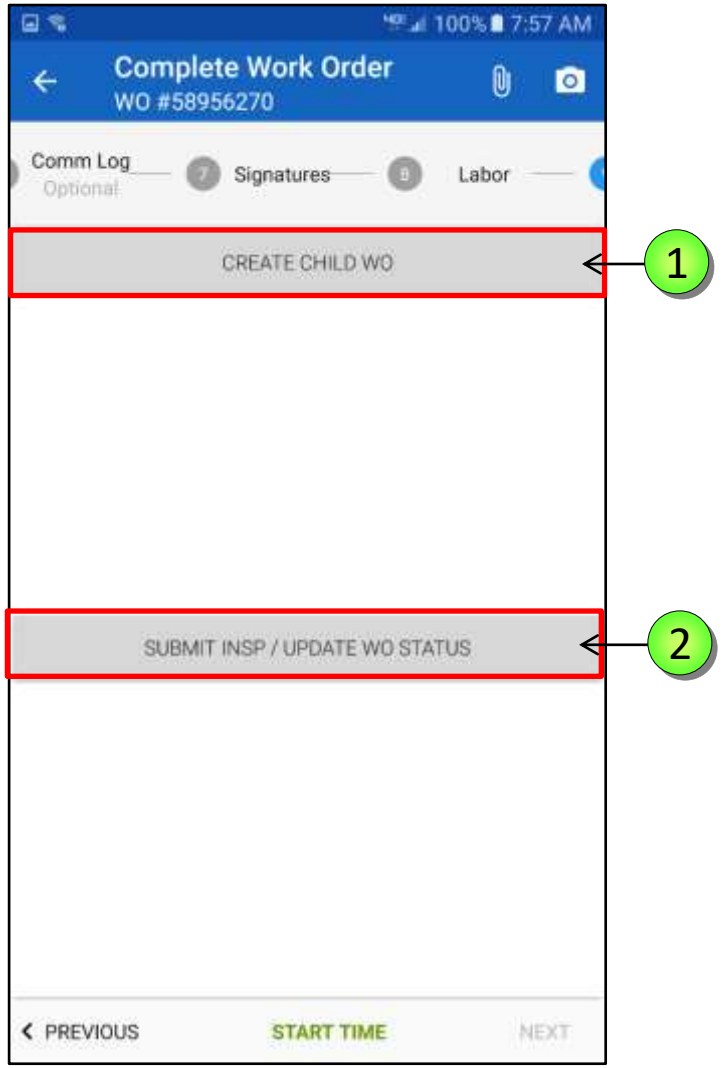
2. In this case, tap **CREATE CHILD WO** gray bar and follow the instruction for creating a Child or Parent Work Order.



QA: Submit The Work Order

1. If you want to a **Create Child WO** for an issue other than mold, tap on **CREATE CHILD WO** gray bar.

2. When all the errors are corrected, you can click the **SUBMIT INSP/ UPDATE WO STATUS** gray bar.



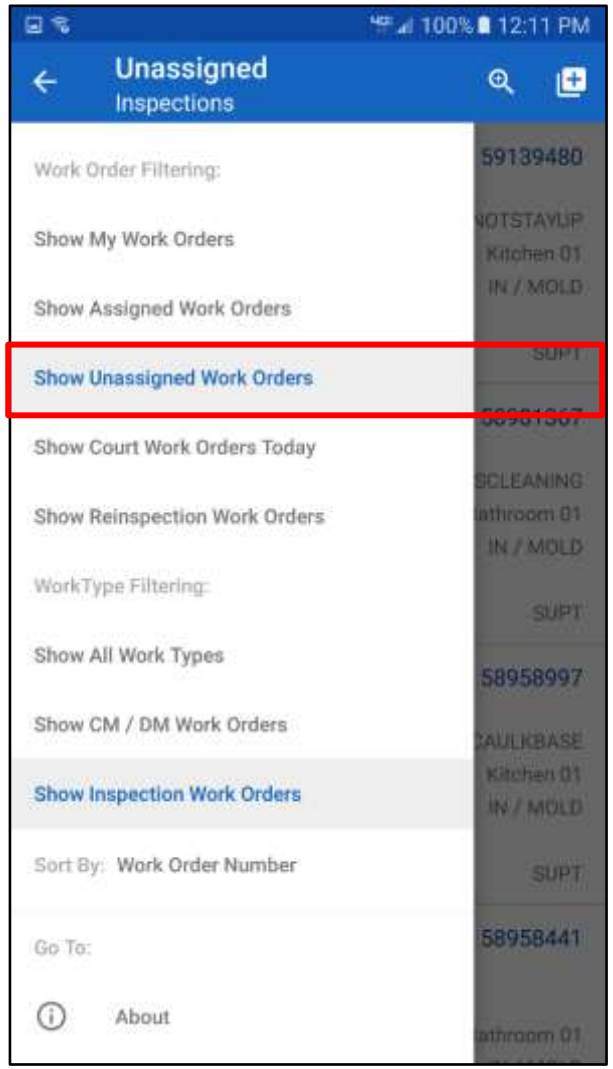
QA: Different Paths

There are **3 paths** for a QA Work Order:

- **FIRST** QA can pass. This will close the original inspection WO

- **SECOND** QA can fail immediately if mold growth, water damage or moisture measurement is answered **YES** (I.e., big issues still exist). This would immediately **AUTO-generate a REINSPECTION WO** (parent WO) upon submission.

When **Re-Inspection WO** and its children are done, it will generate another **QA**.

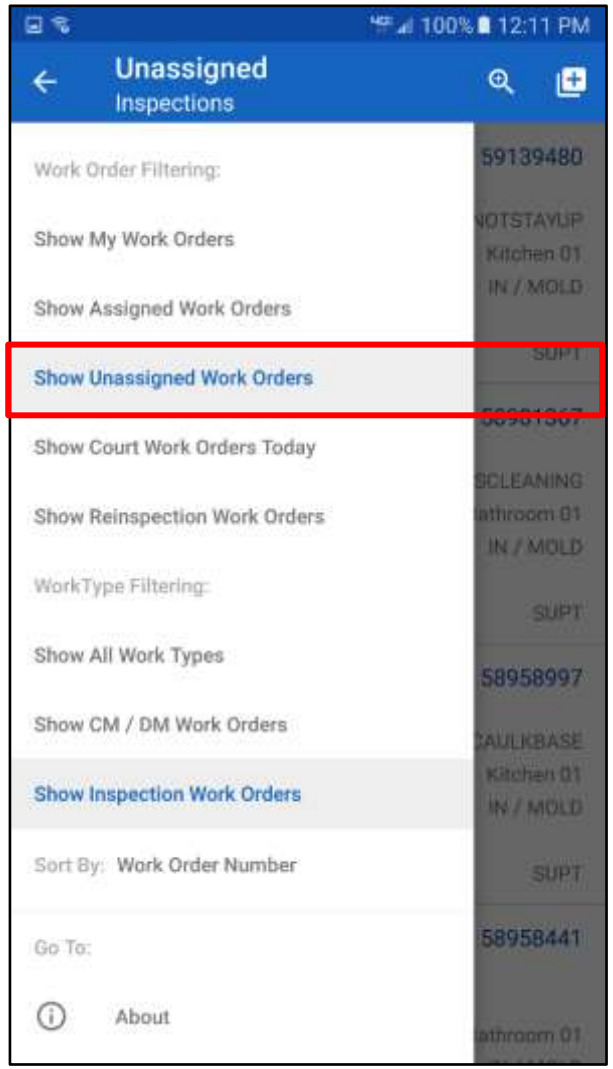


QA: Different Paths – (Continued)

There are **3 paths** for a QA Work Order:

- **THIRD** QA can fail because a child Work Order to fix the issues from the **first** inspection wasn't done properly.
  So no mold/water damage/ moisture was found (all **NO**), but child WO question indicates a failure. In this case they must **manually** create a child WO to fix the improperly done one.

  No **Re-Inspection WO** gets generated here. Once the child they created gets done, then it will **generate** another QA.



C. Non-Compliance

SP 040:14:1, *MOLD/MILDEW CONTROL IN NYCHA RESIDENTIAL BUILDINGS*

Section XII. NON-COMPLIANCE

A. If unsatisfactory work is identified during a quality assurance inspection described in Section VIII.H, or at any other time, supervisory staff must take one or more of the following actions:

   1. Identify areas for follow up training for the employee and ensure training is scheduled and provided.

   2. Reinforce with the employee(s) the job expectations, accountabilities, and the progressive discipline process.

B. Failure to comply with the requirements of this Standard Procedure may result in disciplinary actions.

IWM App Practical Exercises

- *Mold **QA** Work Orders – IN*
  - *Kitchen 01*
  - *Bathroom 01*

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Re-Inspection

Re-Inspection Work Order Cycle Workflow

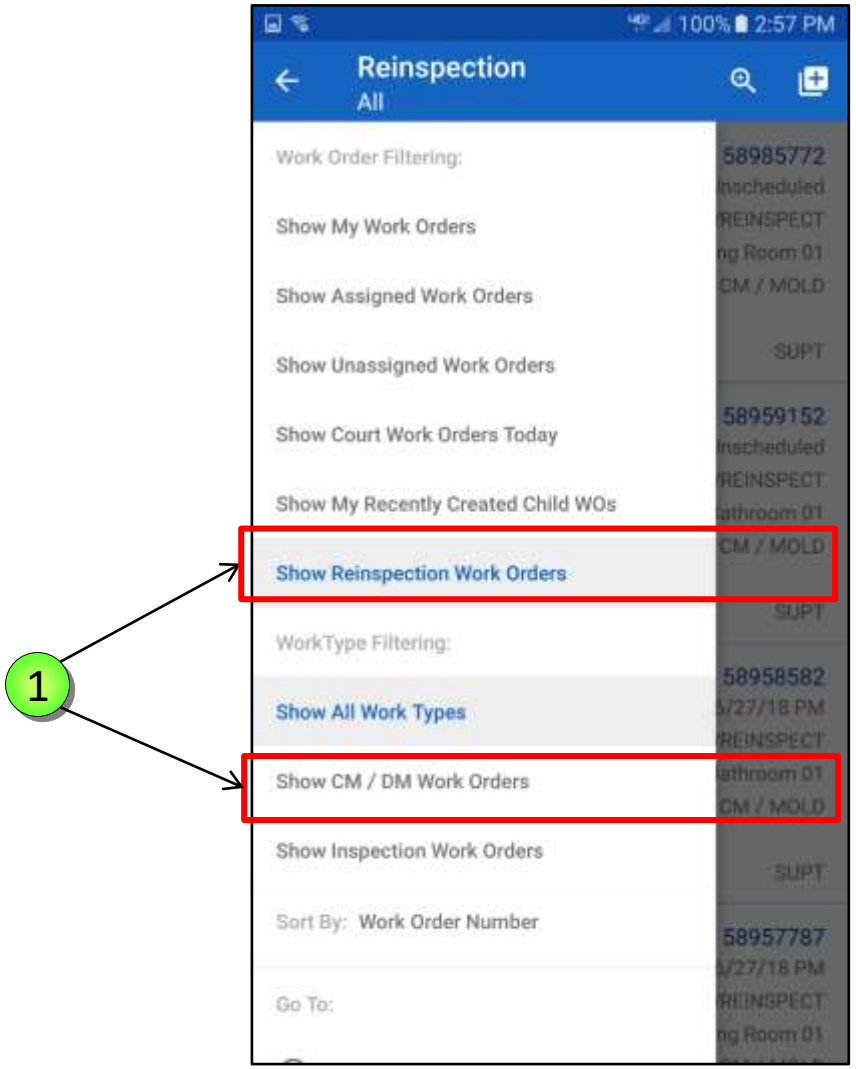
Mold was Found…

Re-Inspection Work Order

The Re-Inspection Work Order is **autogenerated** if you answer **YES** to one of the first 3 questions on the QA (**Evaluation of Conditions**).

It's a new parent WO that is auto-related to the QA (and the first original inspection).

1 The **Re-Inspection Work Order** appears in **Show Reinspection Work Orders** and **Show CM/DM Work Orders.**

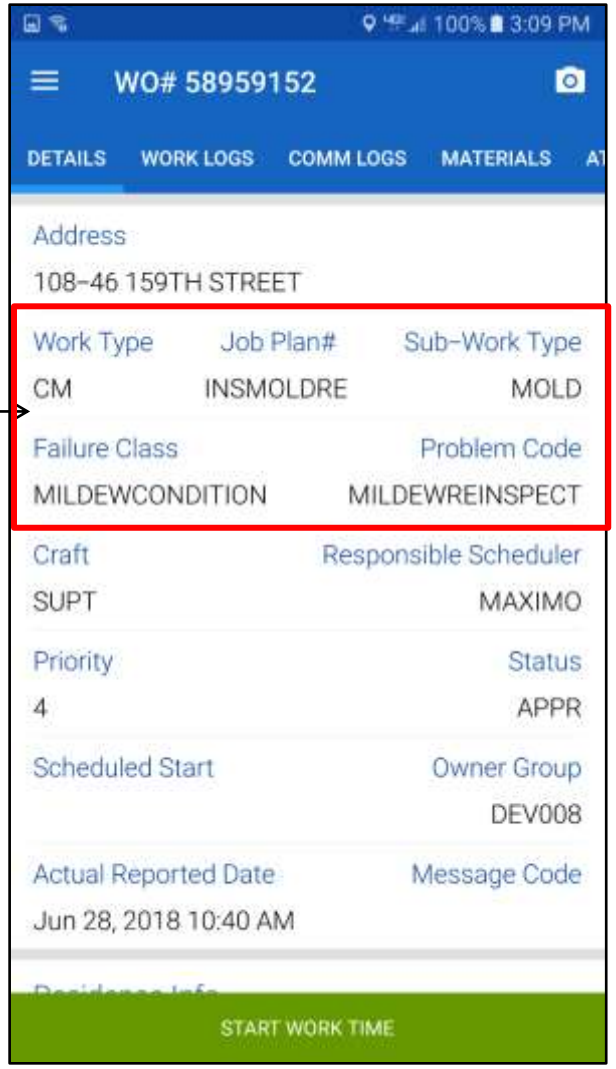


Re-Inspection Work Order Details

The **Work Order Type** and **Job Plan** have changed in **Mold QA** as they appear on the screen.

Work Type = CM
Job Plan# = INSMOLDRE
Sub-Work Type = MOLD
Failure Class = MILDEWCONDITION
Problem Code = MILDEWREINSPECT

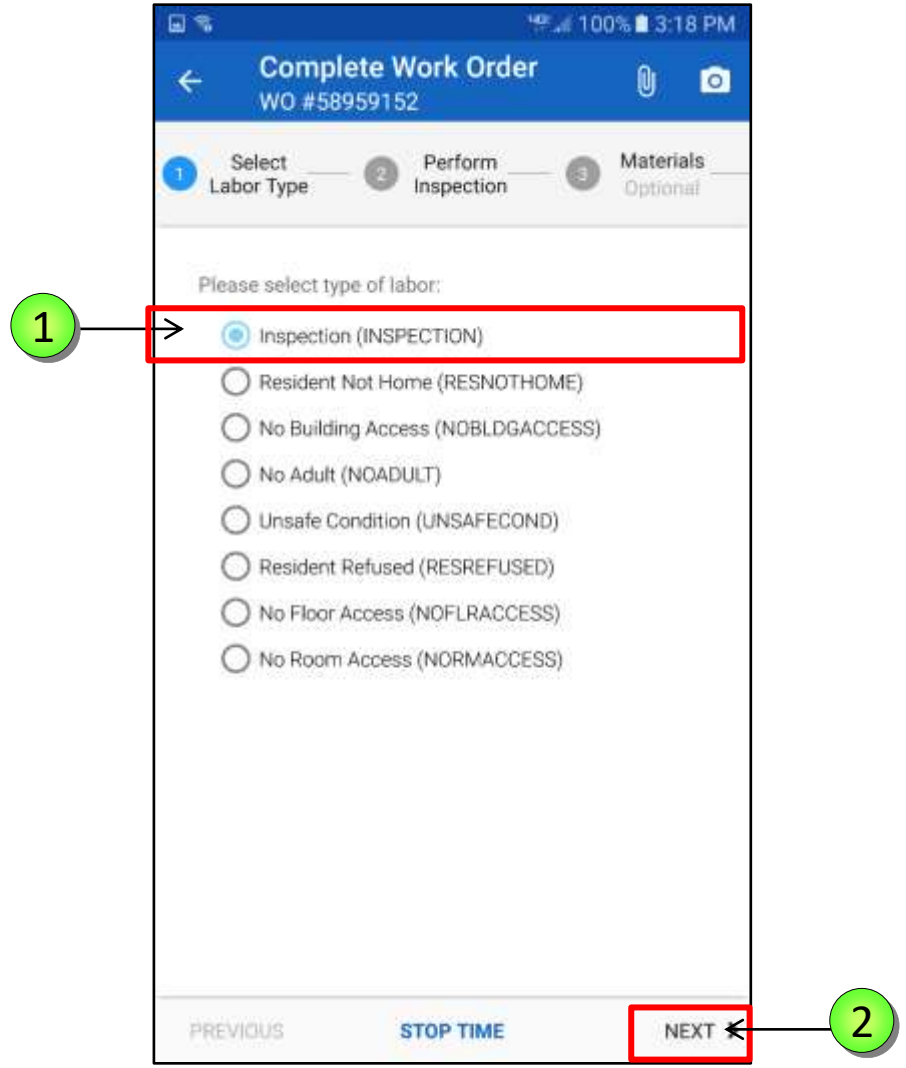
1 Tap **START WORK TIME**



Re-Inspection Work Order

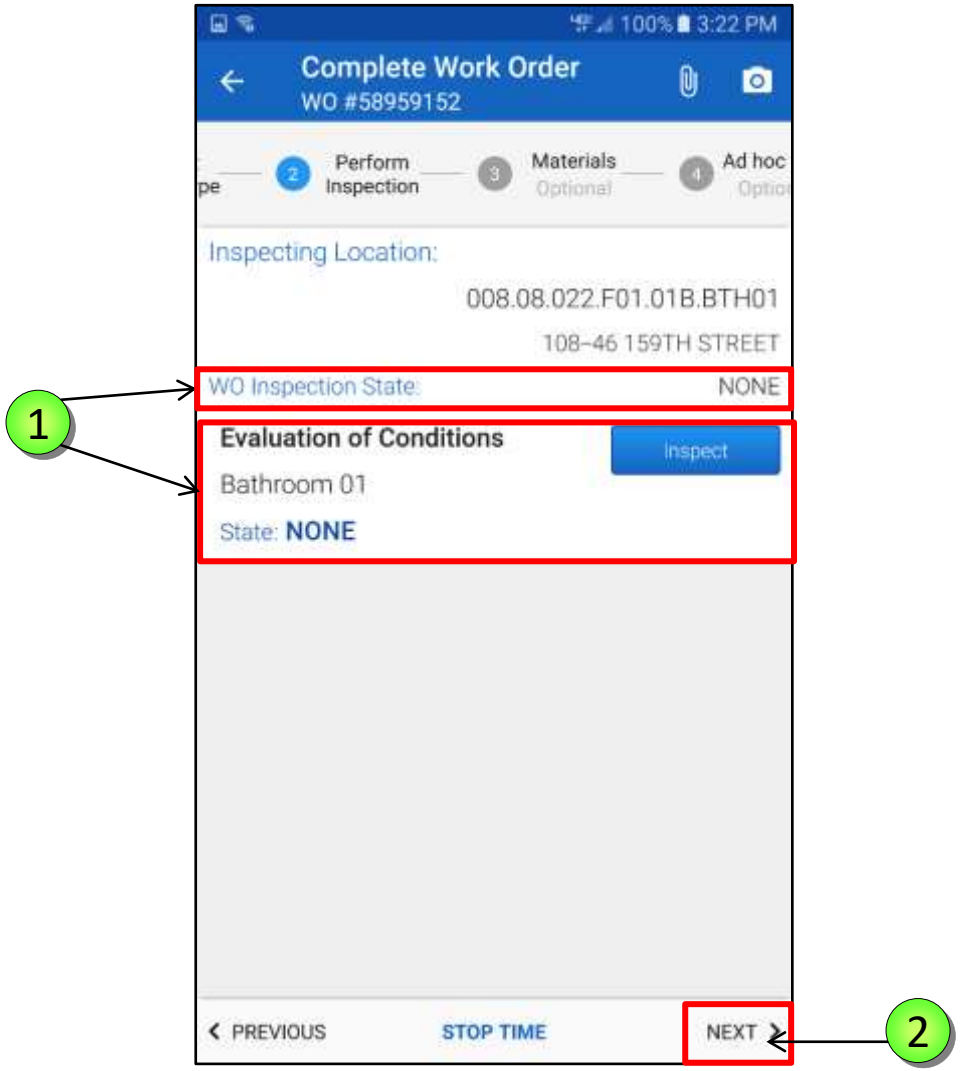
After reviewing the **WO Details** the user is now ready to begin the work. **START TIME** is displayed at the bottom of the screen.

1. Select **Inspection**
2. Tap **NEXT**



Re-Inspection: Evaluation of Conditions

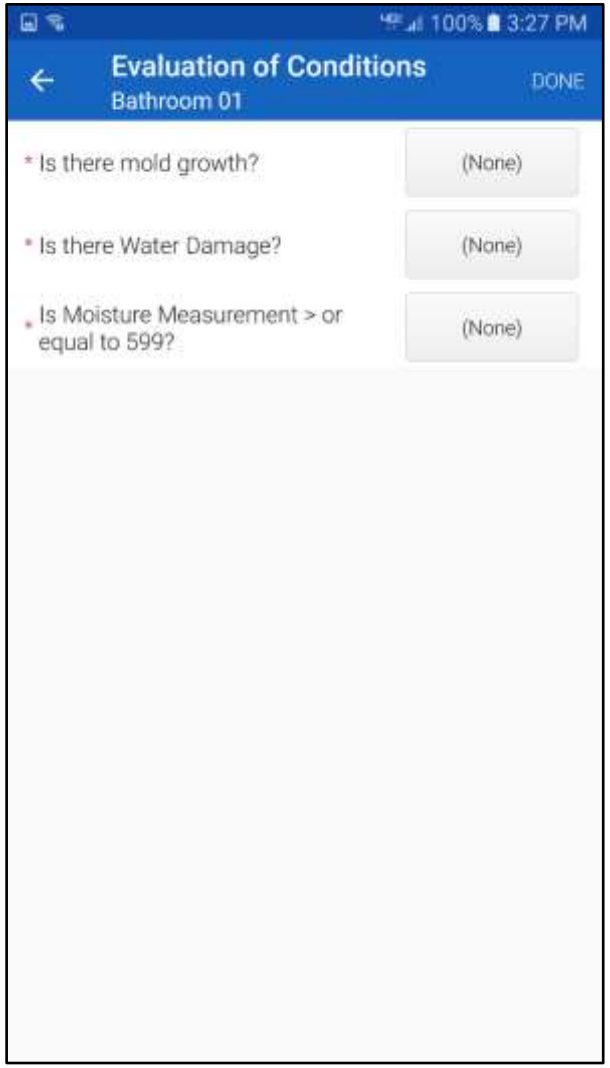
1. **Re-Inspection: Evaluation of Conditions** status is now **NONE**, and **WO Inspection State** is **NONE**.
2. Tap **INSPECT**



Re-Inspection: Evaluation of Conditions

The **Re-Inspection** will follow the same logic/rules as the original inspection. If an issue is found, another **QA** will be generated after the **Re-Inspection** and its children are completed.

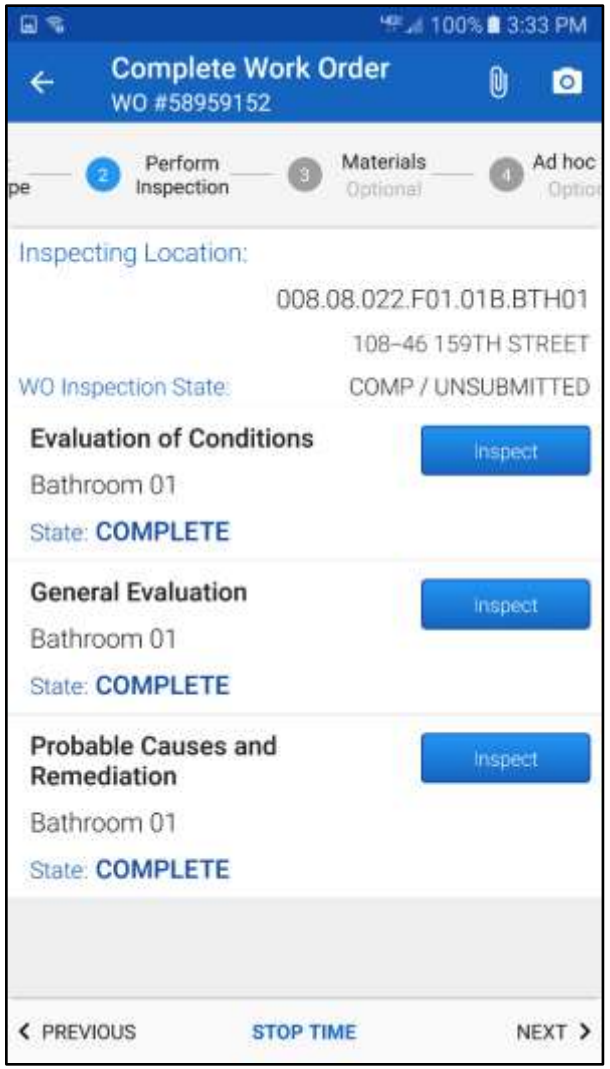
A **Re-Inspection** that is generated based on results from a **QA Work Order** **shall not be** considered a reoccurrence, as it just means the original issue/incident was not properly resolved.



Re-Inspection: Completing The Work Order

The **Re-Inspection** will follow the same logic/rules as the original inspection. If an issue is found, another **QA** will be generated after the **Re-Inspection** and its children are completed.

A **Re-Inspection** that is generated based on results from a **QA** Work Order **shall not be** considered a reoccurrence, as it just means the original issue/incident was not properly resolved.



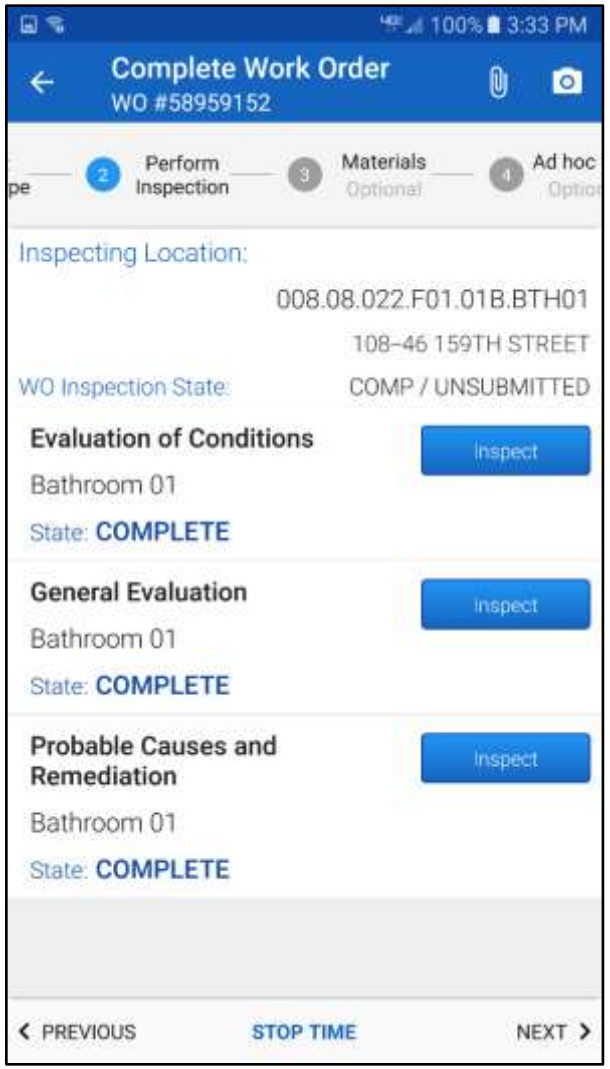
Re-Inspection: Completing The Work Order – (Continued)

If as a result of the **Re-Inspection** there was a new issue, then **Maximo <u>auto-generates</u>** new Child Work Orders.

The work has to be completed on **all** the new Child Work Orders.

Maximo will **<u>auto-generate</u>** a new **QA Work Order 5-days** after closing all the new Child Work Orders.

Refer to the information at the beginning of this **Reference Guide**.



IWM App Practical Exercises

- *Mold Re-Inspection Work Orders - CM*
  - *Kitchen 01*
  - *Bathroom 01*

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Simulation- QA

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NYCHA MOLD TRAINING

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Outputs, Reports, and Record Keeping

Outputs

- Mold in NYCHA apartments is remediated and the root causes are identified and corrected within the allowable timeframes.

- Mold recurrence is reduced

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Records for Residents

- **Mold Receipt** – all projects (photo required)
- **Controlling Mold in Your Apartment** – projects where mold was found
- **Mold Inspection Review (Mold Remediation Plan)** – projects where mold was found. Must include:
  - The initial inspection and probable root cause findings.
  - The next step(s) to remediate the mold, excessive moisture, or related condition and correct the root cause.
  - The specific instruction(s) on how to correct the probable root cause if the probable root cause is Resident – Cause.
  - The requirement that NYCHA conduct a quality assurance inspection between 30-45 days after all work is completed.
  - The required timeframe for the completion of all work.
  - The name and contact information of the ombudsperson.

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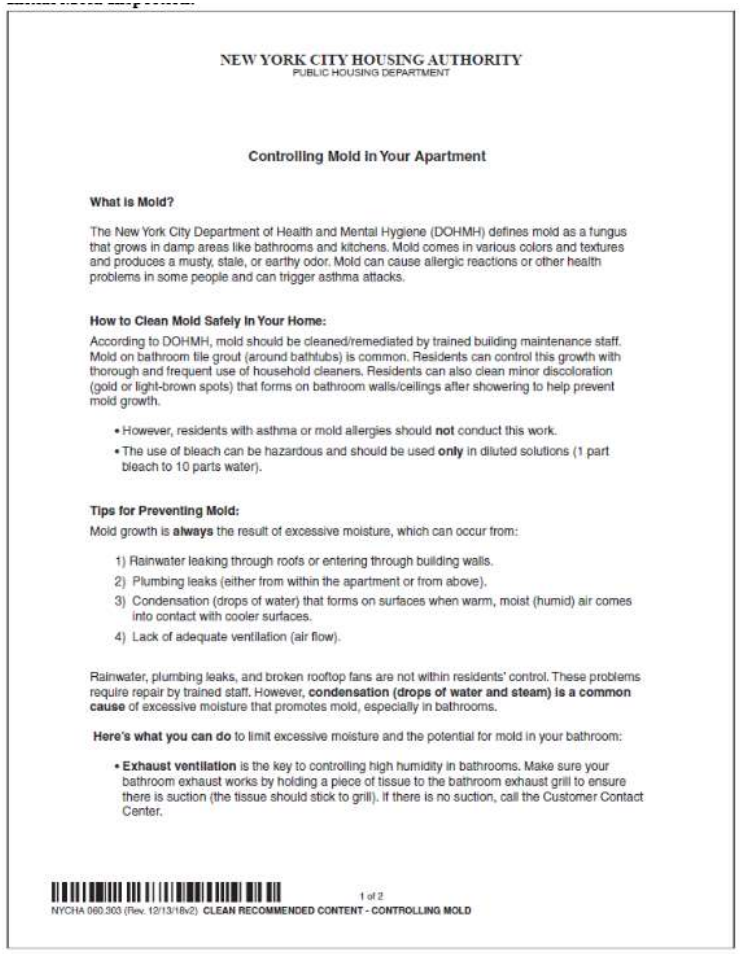
Controlling Mold Flyer



NEW YORK CITY HOUSING AUTHORITY
PUBLIC HOUSING DEPARTMENT

Controlling Mold in Your Apartment

What is Mold?

The New York City Department of Health and Mental Hygiene (DOHMH) defines mold as a fungus that grows in damp areas like bathrooms and kitchens. Mold comes in various colors and textures and produces a musty, stale, or earthy odor. Mold can cause allergic reactions or other health problems in some people and can trigger asthma attacks.

How to Clean Mold Safely In Your Home:

According to DOHMH, mold should be cleaned/remediated by trained building maintenance staff. Mold on bathroom tile grout (around bathtubs) is common. Residents can control this growth with thorough and frequent use of household cleaners. Residents can also clean minor discoloration (gold or light-brown spots) that forms on bathroom walls/ceilings after showering to help prevent mold growth.

- However, residents with asthma or mold allergies should **not** conduct this work.
- The use of bleach can be hazardous and should be used **only** in diluted solutions (1 part bleach to 10 parts water).

Tips for Preventing Mold:

Mold growth is **always** the result of excessive moisture, which can occur from:

1) Rainwater leaking through roofs or entering through building walls.
2) Plumbing leaks (either from within the apartment or from above).
3) Condensation (drops of water) that forms on surfaces when warm, moist (humid) air comes into contact with cooler surfaces.
4) Lack of adequate ventilation (air flow).

Rainwater, plumbing leaks, and broken rooftop fans are not within residents' control. These problems require repair by trained staff. However, **condensation (drops of water and steam) is a common cause** of excessive moisture that promotes mold, especially in bathrooms.

Here's what you can do to limit excessive moisture and the potential for mold in your bathroom:

- **Exhaust ventilation** is the key to controlling high humidity in bathrooms. Make sure your bathroom exhaust works by holding a piece of tissue to the bathroom exhaust grill to ensure there is suction (the tissue should stick to grill). If there is no suction, call the Customer Contact Center.

1 of 2
NYCHA 060.303 (Rev. 12/13/18v2) **CLEAN RECOMMENDED CONTENT - CONTROLLING MOLD**

- If your bathroom exhaust vent grill is clogged with dust, report the issue by calling the Customer Contact Center.
- Don't use shower racks/clothes lines above bathtubs.
- Open bathroom windows and doors after showering.
- In the summertime, use an air conditioner.
- Open windows slightly when the weather allows.
- Request repairs for leaky plumbing or other water leaks as soon as possible.

If you have mold growth, excessive moisture, or a plumbing or rainwater leak, please call the Customer Contact Center at 718-707-7771 to report the issue.

A translation of this document is available in your management office.
La traducción de este documento está disponible en la Oficina de Administración de su residencial.
Перевод этого документа находится в Вашем домоуправлении.
所居公房管理處備有文件譯本可供索取。
所居公房管理处备有文件译本可供索取。

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Mold Inspection Receipt

NEW YORK CITY HOUSING AUTHORITY
Public Housing Department
<<DEVELOPMENT NAME>>

Work Order #: _____
Date: _____

Mold Inspection Receipt

☐ NYCHA has not found mold, water damage, and/or a moisture level indicating excessive moisture and/or a possible leak and is closing your work order as "unfounded".

☐ NYCHA has found mold, water damage, and/or a moisture level indicating excessive moisture and/or a possible leak. NYCHA will send you the Mold Inspection Review form, which will include the findings of this inspection.

NYCHA is committed to completing all mold and excessive moisture work orders within 7 days for simple repairs and 15 days for complex repairs, starting from the date that the initial complaint is reported to the Customer Contact Center. If resident access is not provided for the scheduled follow-up appointments, NYCHA may use its right to access a tenant's apartment, immediately after providing 48 hours' notice, as indicated in the NYCHA Resident Lease Agreement.

A final Quality Assurance re-inspection will be conducted by NYCHA staff 30 to 45 days after the necessary work orders are completed to ensure that the mold and excessive moisture remediation work was done correctly and effectively.

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Must Take Photo & Save as "Mold Receipt"

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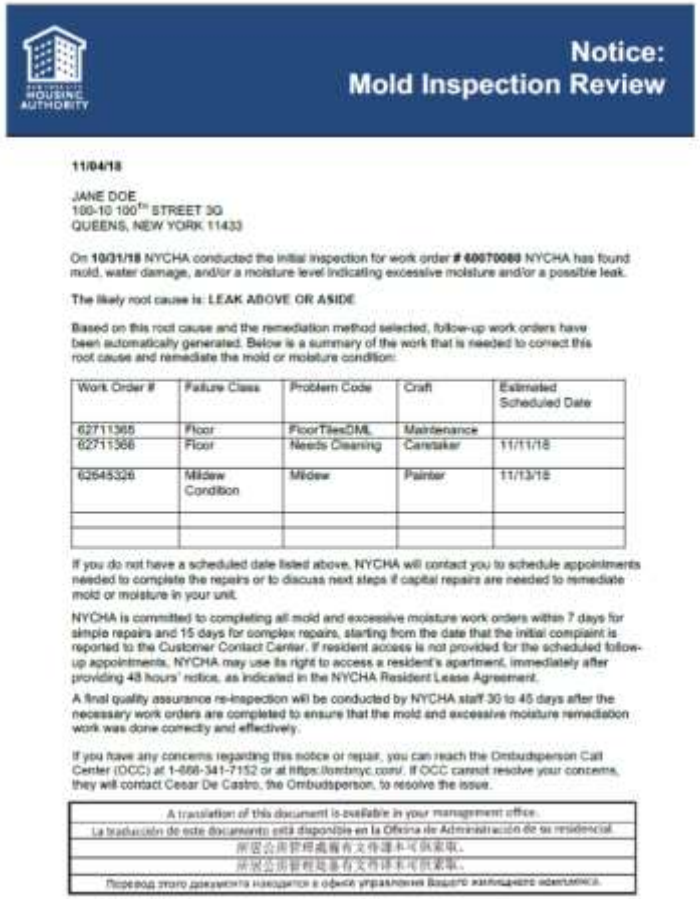
Mold Inspection Review



Notice:
Mold Inspection Review

11/04/18

JANE DOE
100-10 100th STREET 3G
QUEENS, NEW YORK 11433

On **10/31/18** NYCHA conducted the initial inspection for work order **# 60070080** NYCHA has found mold, water damage, and/or a moisture level indicating excessive moisture and/or a possible leak.

The likely root cause is: **LEAK ABOVE OR ASIDE**

Based on this root cause and the remediation method selected, follow-up work orders have been automatically generated. Below is a summary of the work that is needed to correct this root cause and remediate the mold or moisture condition:

Work Order #	Failure Class	Problem Code	Craft	Estimated Scheduled Date
62711365	Floor	FloorTilesDML	Maintenance	
62711366	Floor	Needs Cleaning	Caretaker	11/11/18
62645326	Mildew Condition	Mildew	Painter	11/13/18

If you do not have a scheduled date listed above, NYCHA will contact you to schedule appointments needed to complete the repairs or to discuss next steps if capital repairs are needed to remediate mold or moisture in your unit.

NYCHA is committed to completing all mold and excessive moisture work orders within 7 days for simple repairs and 15 days for complex repairs, starting from the date that the initial complaint is reported to the Customer Contact Center. If resident access is not provided for the scheduled follow-up appointments, NYCHA may use its right to access a resident's apartment, immediately after providing 48 hours' notice, as indicated in the NYCHA Resident Lease Agreement.

A final quality assurance re-inspection will be conducted by NYCHA staff 30 to 45 days after the necessary work orders are completed to ensure that the mold and excessive moisture remediation work was done correctly and effectively.

If you have any concerns regarding this notice or repair, you can reach the Ombudsperson Call Center (OCC) at 1-866-341-7152 or at https://ombnyc.com/. If OCC cannot resolve your concerns, they will contact Cesar De Castro, the Ombudsperson, to resolve the issue.

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所居公房管理處备有文件译本可供索取。
Перевод этого документа находится в офисе управления Вашего жилищного комплекса.

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Performance Reporting

NYCHA shall centrally assign:

Staff to review reports to identify developments with:

- High parent mold work order completion time frames.
- High rates of unfounded mold work orders.
- High reoccurrence rates for mold work orders.

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Performance Reporting

NYCHA shall centrally assign:

Supervisory staff trained in mold inspections to:

- Visit developments and inspect randomly selected apartments with high rates of unfounded or reoccurring (as applicable) mold work orders.
- Report findings on the underlying issue, i.e. a building system and/or mold inspection and remediation process issue.
- Provide follow up recommendations to the Neighborhood Administrators.

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Performance Reporting

- For building system issues, the supervisory staff may, for example, recommend additional repairs.

- For process issues, the Neighborhood Administrators follows up with the property manager and property maintenance supervisor to address the process issue which could include providing additional training, reviewing key accountabilities, or providing progressive discipline.

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Reports

- Operations reports to be developed with the independent data analyst

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Record Keeping

- The IT Business Solutions Technology Department's Maximo Team retains electronically created and stored completed work orders for at least seven (7) years

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Training Summary

- Your inspection is key to fully fix issues for residents.
- Document what you SEE to tell a full story.
- Communicate with residents.

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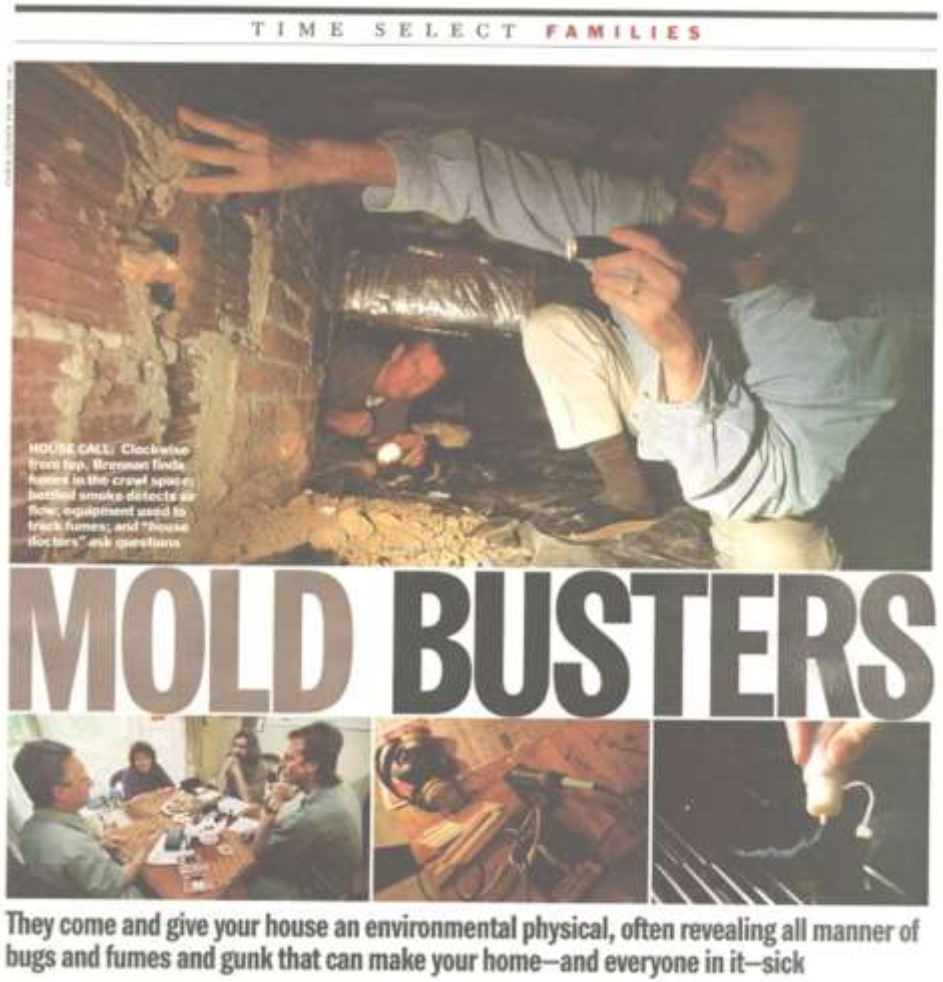
Knowledge Assessment

- See what you've learned!



TIME SELECT FAMILIES

MOLD BUSTERS

They come and give your house an environmental physical, often revealing all manner of bugs and fumes and gunk that can make your home—and everyone in it—sick

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