



QUALTEK
RECOVERY LOGISTICS

Any Mission. Any Time. Any Place.

2022 Damage Assessor Training



Introduction

Distribution



- The distribution system distributes the electricity to the consumers.
- Distribution is done at much lower voltages and the voltage is reduced using transformers to end user levels the closer the line gets to the consumer
- Primary distribution lines are typically 7,000 to 23,000 Volts, while the secondary distribution lines that take the electricity the final short distance to the home or business are 120V to 600V



Parts of the Electric Distribution System



- Based on the previous sections, you should not be surprised that the Distribution system is comprised primarily of:
 - **Wires** mounted on poles to carry the electric current, consisting of 3 primary phase wires called “A,B and C” and one neutral.
 - **Transformers** that drop the voltage before sending the electricity to the consumer
 - **Secondary wires** that carry the electricity to the consumer at the lowered voltage
 - **Additional components** for mounting the wires and for safety

- Let’s look at these components in more detail...



Pole Specs



- Poles come in various lengths and diameters
- A pole "Class" will be stamped on the pole. This gives you everything you need to know about the pole.
- If the stamp is covered, go to the next pole and it will often have the same stamp.
- For Example:
4 – 40 indicates a class 4, 40ft pole

Class	1	2	3	4	5	6
Minimum Circumference at Top (inches)	27	25	23	21	19	17
Minimum Diameter at Top (inches)	8.6	8.0	7.3	6.7	6.0	5.4



If pole needs replaced, it is very important to report the correct class and length!

Summary of Components on the Pole

What's on an Electric Power Pole?

This is an illustration of basic equipment found on a typical distribution pole and can vary by location.

Insulators prevent energized wires from coming in contact with each other or the utility pole.



A crossarm holds the wires up on the pole.



Lightning arrestors protect the pole and equipment from lightning strikes.



Transformers convert higher voltage electricity carried by primary wires and lowers the voltage for use by customers.



A ground wire runs the entire length of the pole. It directs any electricity on the pole safely into the earth.



Primary wires are on top of the pole and usually carry 12,000 volts of electricity from a substation.



Cutouts act like a fuse and open when there is a problem with the line or a section of it.



The neutral wire is below the transformer and acts as a line back to the substation and balances out the amount of electricity or load on the system.



The secondary wire carries the lower voltage electricity after it passes through the transformer.



Telephone and cable wires are typically the lowest wires.

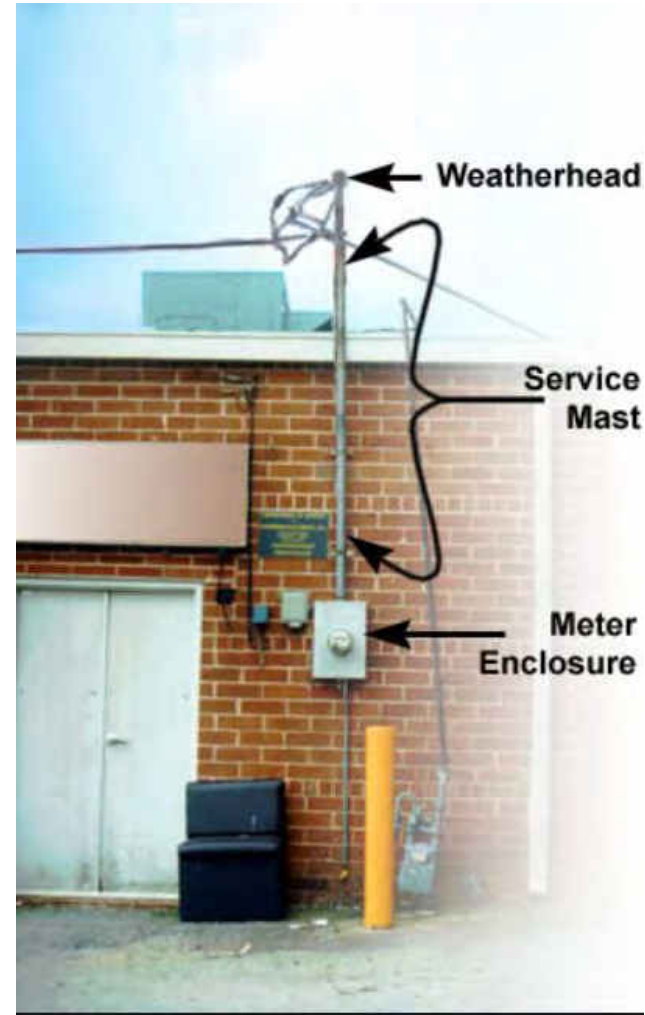


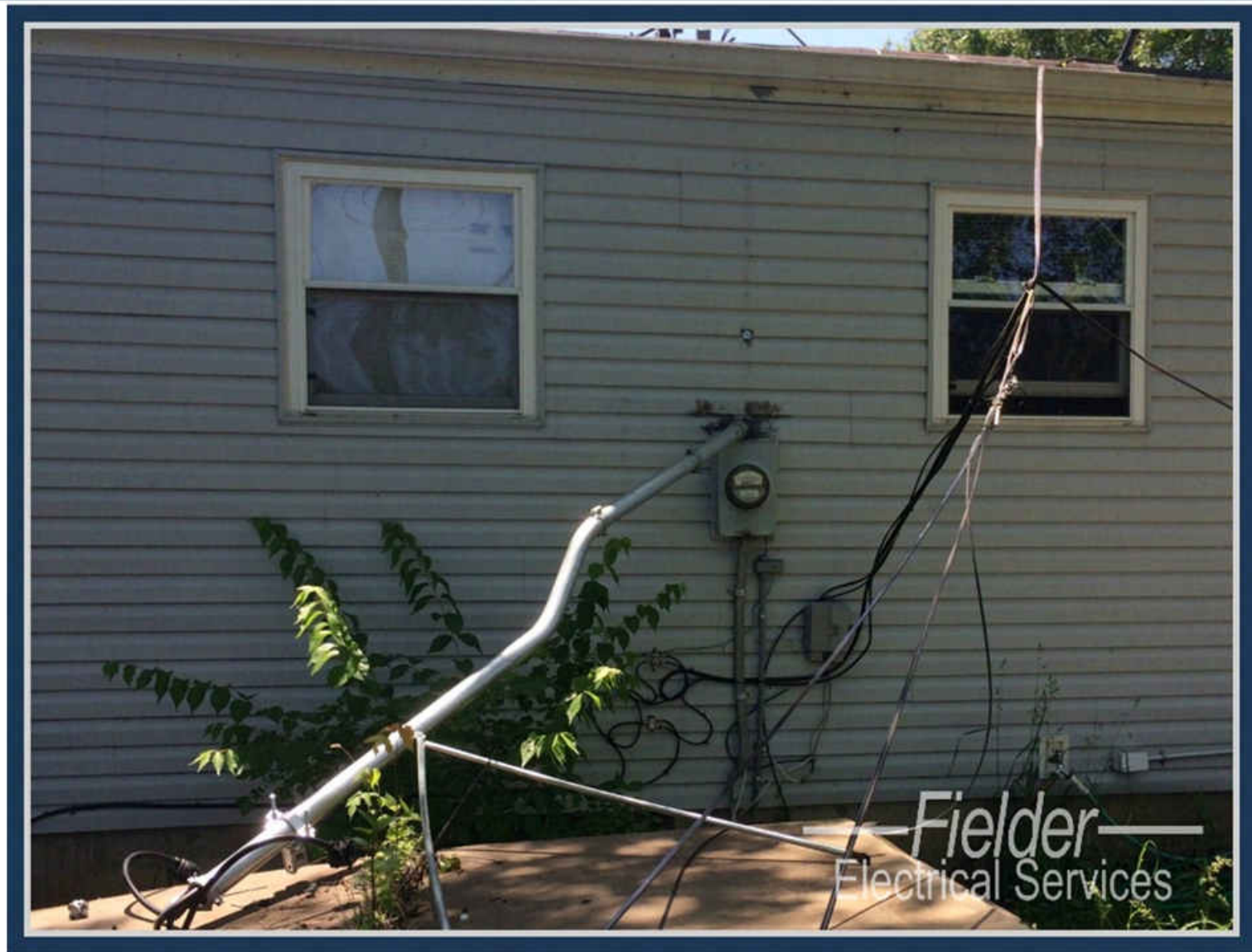
Guy wires help stabilize utility poles.



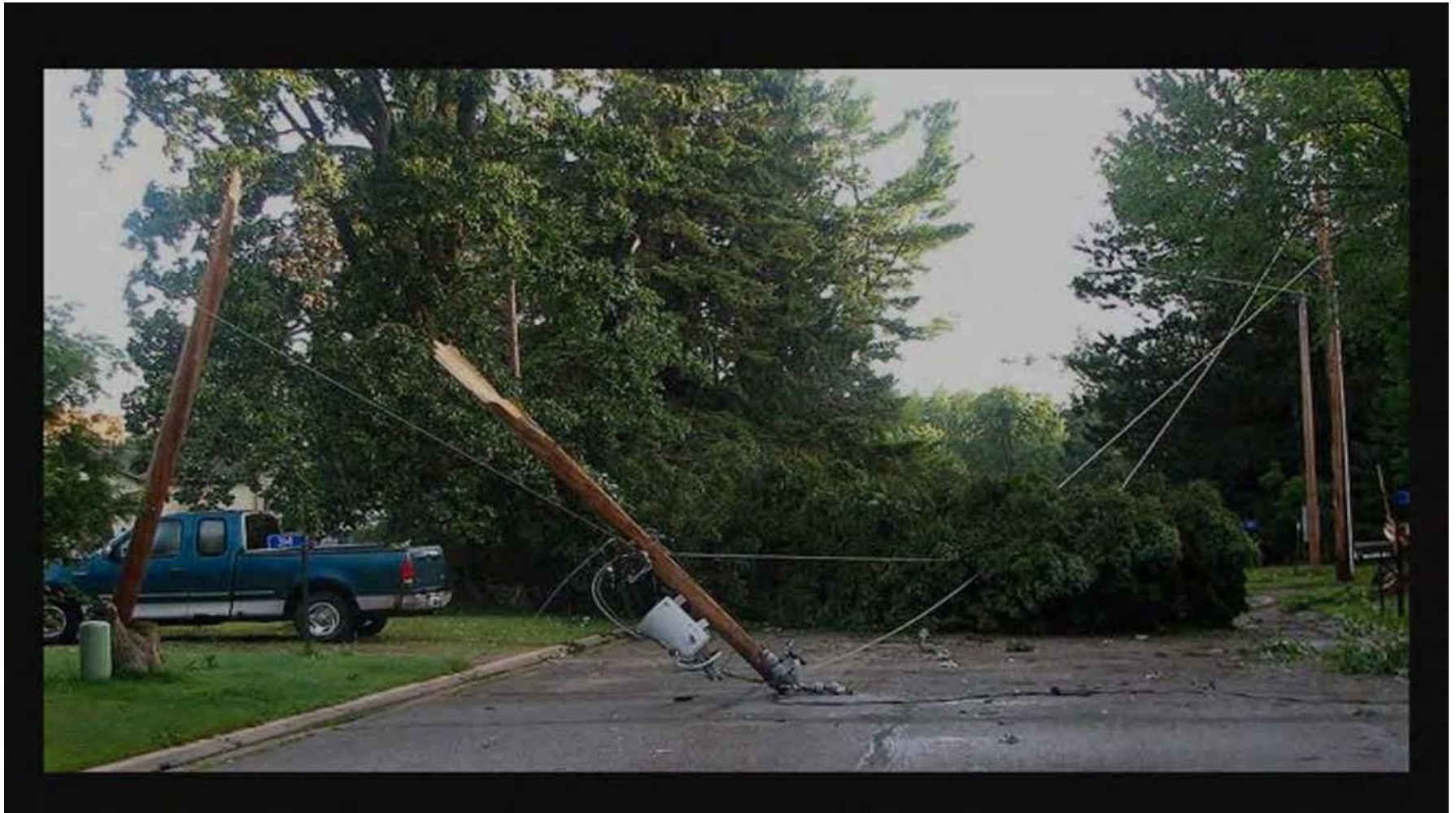
Consumer's Equipment

- Some components of the system belong to the consumer and are not the responsibility of the power company.
- If they are damaged, however, they must be fixed before power can be turned on to the building.
- Typically, anything attached to the home belongs to the consumer, except the power meter.





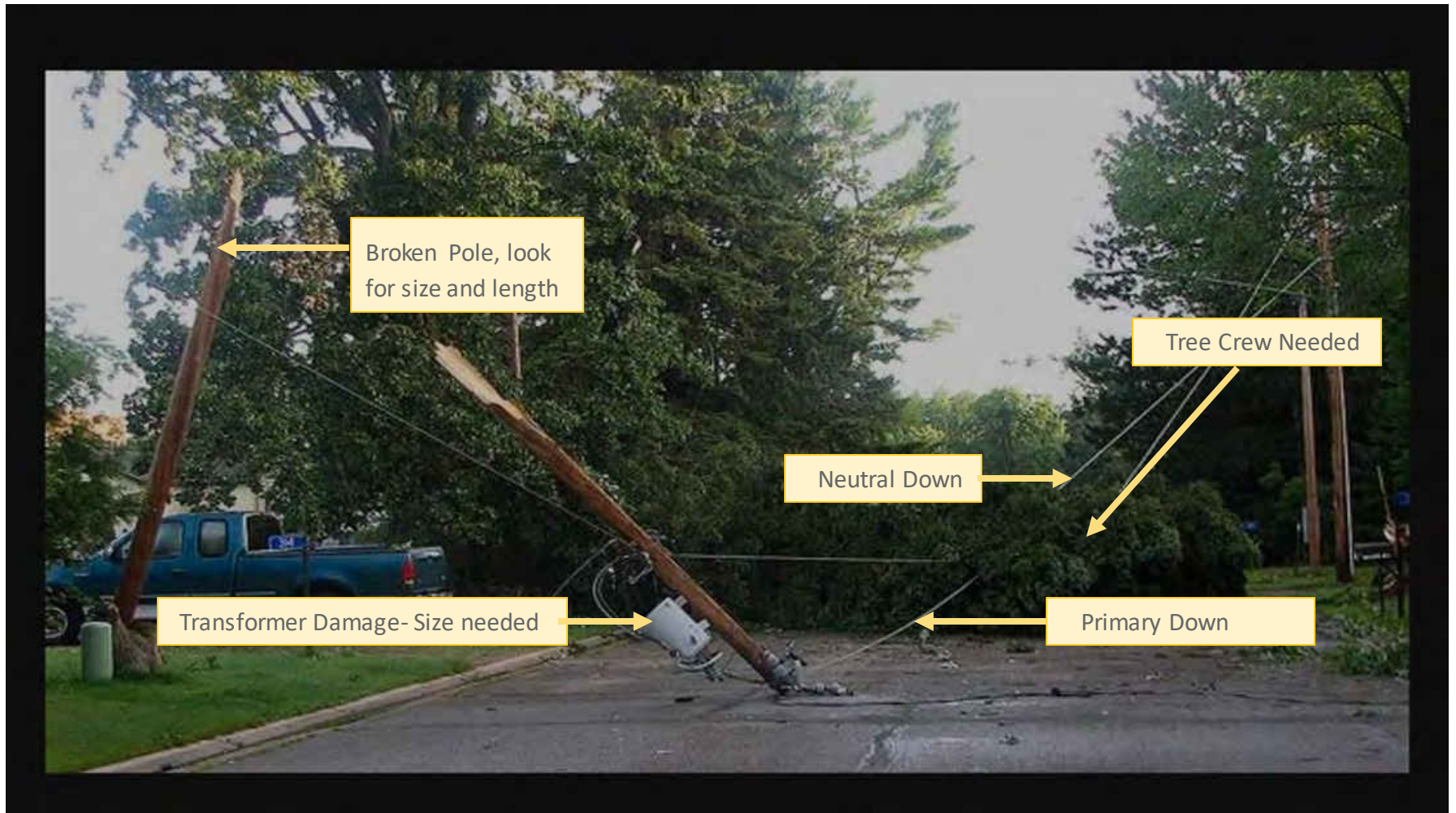
Damage Assessment Practice



Review the photo and determine what you would report on this ticket



Damage Assessment Practice



Review the photo and determine what you would report on this ticket







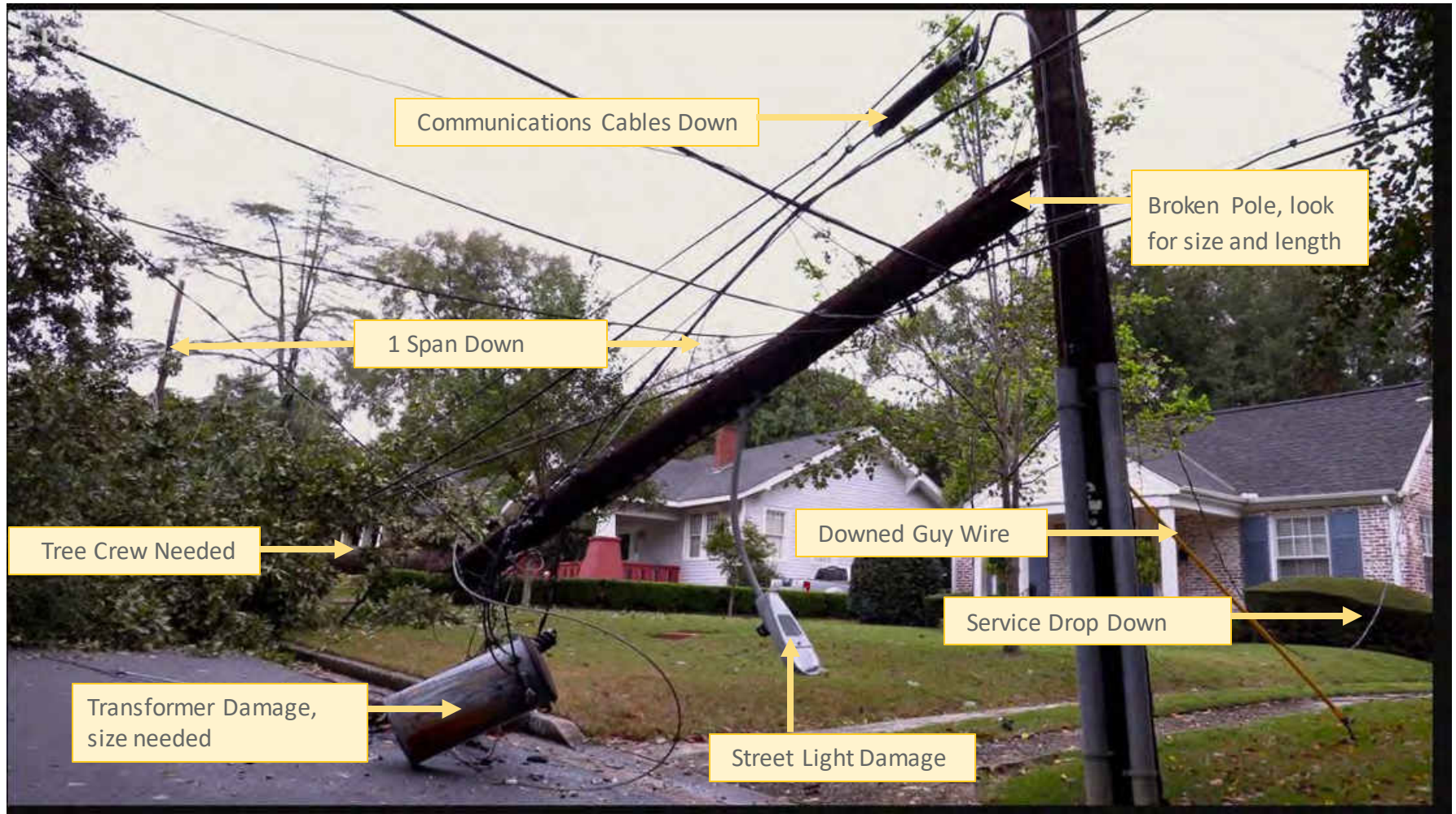


Damage Assessment Practice



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Damage Assessment Practice



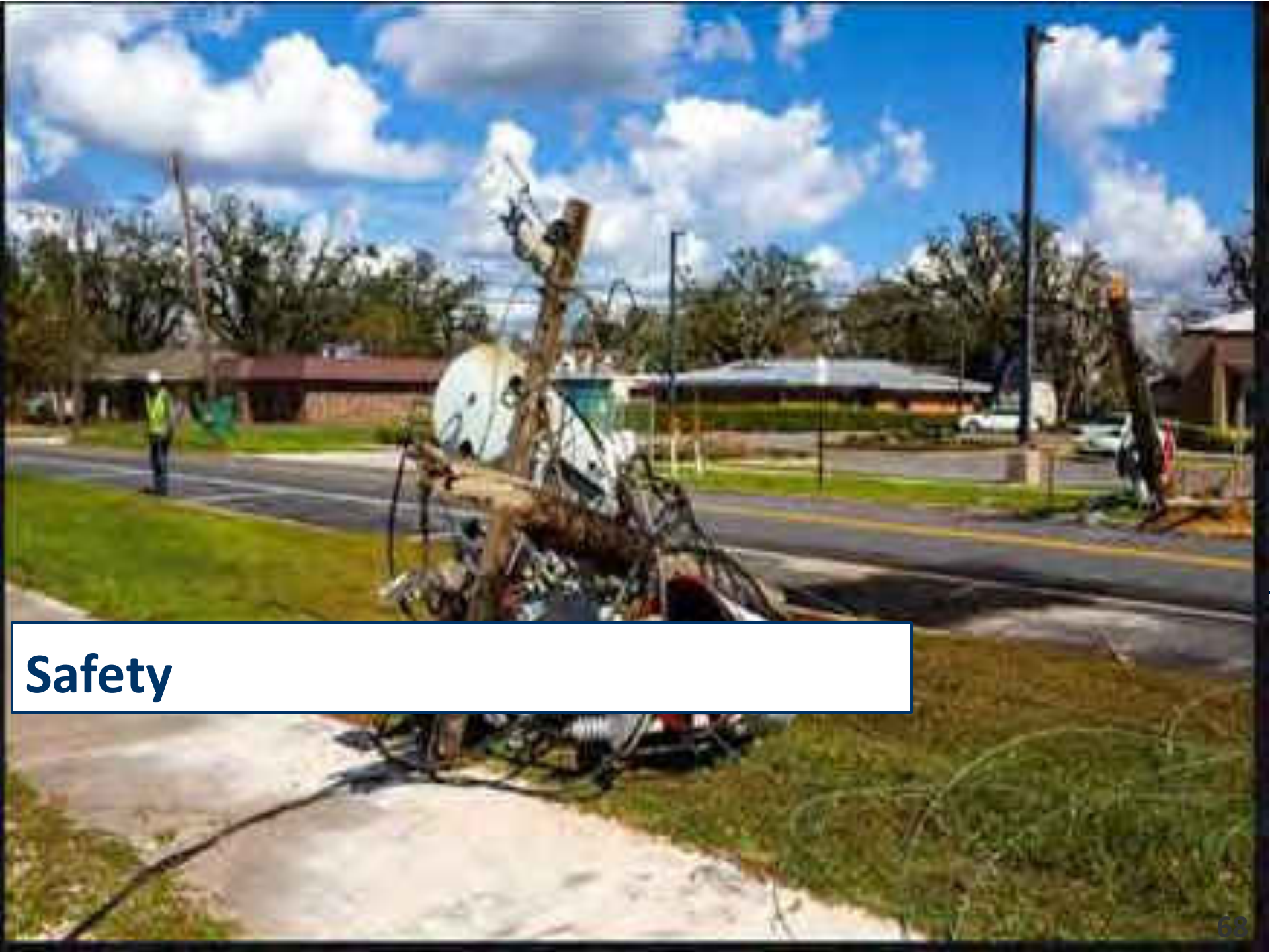
DISTRICT FIELD ASSESSMENT

EVENT NO.	DATE/TIME:	DISTRICT	CIRCUIT	POLE/DEVICE
	7-15-22 12:30	Triangle		
TROUBLE	ADDRESS 1071 Classic Rd, Apex			CONTACT NO.
811 - DUPS REFERENCE#		ENVIRONMENTAL SPILL - 1-800-527-3853 REFERENCE#		
IN & OK <input type="checkbox"/>	CUSTOMER TROUBLE <input type="checkbox"/>	CUSTOMER NEEDS ELECTRICIAN <input type="checkbox"/>		
CUSTOMER HAS POWER? <input type="checkbox"/> Y / <input checked="" type="checkbox"/> N	ADVISED CUSTOMER <input type="checkbox"/>	LEFT DOOR HANGER <input type="checkbox"/>		
WIRE DOWN				
CABLE TV <input checked="" type="checkbox"/>	TELEPHONE <input checked="" type="checkbox"/>	SERVICE <input checked="" type="checkbox"/>	CUST OWNED <input type="checkbox"/>	DOWN GUY <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>
# SPANS DOWN: 1	PRIMARY <input checked="" type="checkbox"/>	SECONDARY <input checked="" type="checkbox"/>	NEUTRAL <input checked="" type="checkbox"/>	1Ø <input type="checkbox"/> 2Ø <input type="checkbox"/> 3Ø <input type="checkbox"/>
WIRE SIZE _____	WIRE LENGTH _____	#CROSSARMS _____	SIZE / XARMS _____	
NEED SERVICE PERSON TO MAKE REPAIRS? <input type="checkbox"/>	NEED CREW TO MAKE REPAIR? <input checked="" type="checkbox"/>	TRUCK ACCESSIBLE? <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N		
EQUIPMENT DOWN				
No. BROKEN POLES: 1	No. LEANING POLES: _____	HEIGHT: 40'	CLASS: 4	
No. TRANSFORMERS: 1	SIZE: 25KVA	PHASE: _____	WIRE: _____	VOLTAGE: _____
OIL SPILL? <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N	SPILL AREA _____ ft. X _____ ft.			
NEED SERVICE PERSON TO MAKE REPAIRS? <input type="checkbox"/>	NEED CREW TO MAKE REPAIR? <input checked="" type="checkbox"/>	TRUCK ACCESSIBLE? <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N		
TREES				
TREE TRIMMERS NEEDED? <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N	MANUAL CREW: <input type="checkbox"/>	BUCKET CREW: <input type="checkbox"/>		
NEED TREE TRIMMERS ONLY - NO REPAIR CREW? <input type="checkbox"/> Y / <input checked="" type="checkbox"/> N	TRUCK ACCESSIBLE? <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N			
ASSESSOR REMARKS				
NOTES: - Transformer Damage. Possible oil spill - Broken Pole - Street light damage - Downed guy wire - communications cables down - Service Drop to customer house is down - Tree crew needed.				

Fill out DA Field Form with as much information as possible about the ticket

Make sure to stress that a tree crew is needed.





Safety



Remember that as a Damage Assessor, you are there to observe only. Assume that any wires you see on the ground are live and stay at least 10 ft away. Electricity at high voltages can arc across multiple feet under the right circumstances!





Damage Assessment PPE Requirements

- Partner Vendors will provide and maintain vehicles and tools that are safe to operate, meet all Duke Energy, OSHA requirements, and Environmental standards.
- This will include, but is not limited to the following items for the personnel:
 - PPE (Hard hats, Rubber gloves, PVD-Personal Voltage Detector*, safety glasses, safety boots with reinforced toe and EH soles, rain gear, safety vest, etc.)
 - Proper Attire for the environment/weather conditions for which you will be working. (e.g. ice cleats, thermal, waders, etc.)
- This would include, but is not limited to the following for the equipment (if applicable):
 - All equipment and rubber goods have been dielectric tested and are within proper date per OSHA guidelines.
 - All equipment must be properly equipped to allow the crews to perform restoration or clean-up efforts, day or night.
- ***PVD-Personal Voltage Detectors will be supplied by RLI at the beginning of the event and must be returned prior to mobilization home from the event.**



Damage Assessment Safety



- ✓ Cell Phone
- ✓ Hard Hat
- ✓ Safety Glasses
- ✓ Safety Vest
- ✓ Voltage Detector
- ✓ Hand Protection
- ✓ Company ID
- ✓ Light
- ✓ Proper Footwear
- ✓ Sunscreen
- ✓ Insect Spray
- ✓ First Aid Kit

