NORTHERN WAKE FIRE DEPARTMENT **STANDARD OPERATING GUIDELINES**	
TITLE: LDH Supply Line Relay from a Pressurized Fire Hydrant LDH Supply Line Relay from a Static Water Source (Reverse Lay)	**SECTION/TOPIC:** Water Supply
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I. PURPOSE

A. This Standard Operating Guideline defines the steps of utilizing a reverse lay to relay water to the fire ground when operating from a pressurized fire hydrant or a static water source.

II. SCOPE

A. This Standard Operating Guideline applies to all personnel within the Northern Wake Fire Department.

III. GUIDELINE – HYDRANT SOURCE

A. Driver/Operator – Primary On-Scene Engine

1. Properly position engine at the incident location.
2. Engage parking brake.
3. Engage pump.
4. Chock rear wheels.
5. Open the tank-to-pump valve.
6. Open tank-fill valve.
7. Determine which pump discharge line(s) have been pulled.
8. Close tank fill valve.

9. Open proper pump discharge valve(s).

10. Increase throttle to desired pump discharge pressure.

11. Observe pump intake gauge (no more than 20” Hg) and adjust accordingly.

12. Set pump discharge pressure relief valve.

13. Once the LDH supply line has been laid, connect the LDH supply line to the LDH pump intake valve.

14. Open the LDH pump intake valve air bleeder.

15. Notify the Driver/Operator of the relay Engine, either by radio or by one single air horn blast, to begin the supply of water.

16. Once all air has evacuated from the LDH supply line, close the LDH pump intake valve air bleeder.

17. Open LDH pump intake valve slowly and completely.

18. Close tank-to-pump valve.

19. Adjust pump throttle and re-set pump discharge pressure relief valve

20. Refill booster tank.

21. Observe pump intake gauge (no less than 10 psi residual pressure, no more than 50 psi residual pressure) and adjust accordingly.

22. If available, set pump intake pressure relief device.

23. If available, set LDH pump intake and LDH discharge valve pressure relief devices.

24. Monitor all gauges continuously.

B. Driver/Operator – Primary Relay Engine

1. Stop relay engine 10-feet beyond the primary engine.

2. Remove approximately 20-feet of LDH supply line from the relay engine hose bed utilizing the hose rope.

3. Place hose behind the front or rear wheel of the primary engine.

4. Safely proceed to the hydrant.

5. Travel no faster than approximately 10 mph while laying the LDH supply line near the road shoulder that the hydrant is located on

6. Properly position relay engine for the connection of the LDH supply line between the hydrant and the LDH pump intake valve.

7. Engage parking brake.

8. Chock rear wheel.

9. Remove hydrant bag and a portable radio from the relay pumper.

10. Observe location of last LDH supply line coupling and determine whether to remove additional LDH supply line from the hose bed or use either a 25-foot or 50-foot LDH supply line for making the connection to the engine LDH pump intake valve.

11. Connect the LDH supply line to the LDH pump intake valve.

12. Connect the LDH supply line traveling to the incident location to the LDH pump discharge valve.

13. Remove the 2 ½" hydrant cap located opposite of the incident location.

14. Place hydrant wrench on the operating nut, open hydrant and slightly purge the hydrant.

15. Close the hydrant and connect a closed 2 ½" hydrant gate valve to the open 2 ½" hydrant port.

16. Remove the 4 ½" hydrant cap.

17. Install the LDH x 4 ½" hydrant adapter onto the open 4 ½" hydrant port.

18. Connect the LDH supply line to the LDH x 4 ½" hydrant adapter.

19. Open hydrant slowly and completely.

20. Open LDH pump intake valve slowly and completely.

21. Open an unused pump discharge valve completely.

22. Engage Pump.

23. Advise the Driver/Operator of the primary engine that you are safely prepared to send water to his/her engine.

24. Open the LDH pump discharge valve slowly and completely.

25. Close the unused pump discharge valve completely.

26. Increase pump discharge pressure to 50 PSI and maintain.

27. Observe pump intake gauge (no less than 10 psi residual pressure, no more than 50 psi residual pressure) and adjust accordingly.

28. Set pump discharge pressure relief device.

29. If available, set pump intake pressure relief device.

30. If available, set LDH pump intake and LDH pump discharge valve pressure relief devices.

31. Monitor all gauges

III. GUIDELINE - STATIC SOURCE

A. Driver/Operator – Primary On-Scene Engine

1. Properly position engine at the incident location.

2. Engage parking brake.

3. Engage pump.

4. Chock rear wheels.

5. Open the tank-to-pump valve.

6. Open tank-fill valve.

7. Determine which pump discharge line(s) have been pulled.

8. Close tank fill valve.

9. Open proper pump discharge valve(s).

10. Increase throttle to desired pump discharge pressure.

11. Observe pump intake gauge (no more than 20” Hg) and adjust accordingly.

12. Set pump discharge pressure relief valve.

13. Connect the LDH Manifold to the LDH supply line.

14. Connect a section of LDH supply line form the LDH manifold to the LDH pump intake valve.

15. Open the LDH pump intake valve air bleeder.

16. Notify the Driver/Operator of the relay Engine, either by radio or by one single air horn blast, to begin the supply of water.

17. Slowly open the LDH manifold discharge valve.

18. Once all air has evacuated from the LDH supply line, close the LDH pump intake valve air bleeder.

19. Open LDH pump intake valve slowly and completely.

20. Close tank-to-pump valve.

21. Adjust pump throttle and re-set pump discharge pressure relief valve

22. Refill booster tank.

23. Observe pump intake gauge (no less than 10 psi residual pressure, no more than 50 psi residual pressure) and adjust accordingly.

24. If available, set pump intake pressure relief device.

25. If available, set LDH pump intake, LDH discharge valve and LDH manifold pressure relief devices.

26. Monitor all gauges and request pressure increases as needed.

B. Driver/Operator – Secondary On-Scene Engine

1. Properly position engine at the incident location.

2. Engage parking brake.

3. Engage pump.

4. Chock rear wheels.

5. Open the tank-to-pump valve.

6. Open tank-fill valve.

7. Connect (2) sections of 3” supply line form the LDH manifold to the auxiliary pump intake valves.

8. Open the auxiliary pump intake valve air bleeders.

9. Slowly open the LDH manifold discharge valves.

10. Once all air has evacuated from the 3” supply lines, close the auxiliary pump intake valve air bleeders.

11. Open the auxiliary pump intake valves slowly and completely.

12. Close tank-to-pump valve.

13. Close tank fill valve.

14. Determine which pump discharge line(s) have been pulled.

15. Open proper pump discharge valve(s).

16. Increase throttle to desired pump discharge pressure.

17. Observe pump intake gauge (no less than 10 psi residual pressure, no more than 50 psi residual pressure) and adjust accordingly.

18. Set pump discharge pressure relief valve.

19. Refill booster tank.

20. If available, set pump intake pressure relief device.

21. If available, reset LDH manifold pressure relief device.

22. Monitor all gauges and request pressure increases as needed.

C. Driver/Operator – Primary Relay Engine

1. Stop relay engine 10-feet beyond the primary engine.

2. Remove approximately 20-feet of LDH supply line from the relay engine hose bed utilizing the hose rope.

3. Place hose behind the front or rear wheel of the primary engine.

4. Safely proceed to the static water source.

5. Travel no faster than approximately 10 mph while laying the LDH supply line near the road shoulder.

6. Properly position relay engine for the connection of the drafting tubes between the static water source and the unrestricted pump intake.

7. If using a dry hydrant for water supply, connect the drafting tubes between the dry hydrant connection and the unrestricted pump intake.

8. If drafting directly from the static water source, place a high-volume floating strainer to the end of the drafting tubes and connect the drafting tubes to the unrestricted pump intake.

9. Place the high-volume floating strainer in the static water source.

10. Engage parking brake.

11. Chock rear wheel.

12. Connect the LDH Siamese to the LDH supply line.

13. Connect a section of LDH supply line from the LDH Siamese to the LDH pump discharge valve.

14. Open an unused pump discharge valve completely.

15. Engage Pump.

16. Engage pump priming system until the pump is primed and water is flowing through the pump. (Increase RPMs to ~1,500 and engage priming system no longer than 30-seconds)

17. Advise the Driver/Operator of the primary engine that you are safely prepared to send water to his/her engine.

18. Open the LDH pump discharge valve slowly and completely.

19. Close the unused pump discharge valve completely.

20. Increase pump discharge pressure to 50 PSI and maintain.

21. Observe pump intake gauge (no more than 20” Hg) and adjust accordingly.

22. Set pump discharge pressure relief device.

23. If available, set LDH pump discharge valve pressure relief device.

24. Monitor all gauges and increase pump discharge pressure as requested.

D. Driver/Operator – Secondary Relay Engine

1. Properly position relay engine for the connection of the drafting tubes between the static water source and the unrestricted pump intake.

2. If using a dry hydrant for water supply, connect the drafting tubes between the dry hydrant connection and the unrestricted pump intake.

3. If drafting directly from the static water source, place a high-volume floating strainer to the end of the drafting tubes and connect the drafting tubes to the unrestricted pump intake.

4. Place the high-volume floating strainer in the static water source.

5. Engage parking brake.

6. Chock rear wheel.

7. Connect a section of LDH supply line from the LDH Siamese to the LDH pump discharge valve.

8. Open an unused pump discharge valve completely.

9. Engage Pump.

10. Engage pump priming system until the pump is primed and water is flowing through the pump. (Increase RPMs to ~1,500 and engage priming system no longer than 30-seconds)

11. Open the LDH pump discharge valve slowly and completely.

12. Close the unused pump discharge valve completely.

13. Match the pump discharge pressure of the primary relay engine.

14. Observe pump intake gauge (no more than 20” Hg) and adjust accordingly.

15. Set pump discharge pressure relief device.

16. If available, set LDH pump discharge valve pressure relief device.

17. Monitor all gauges and increase pump discharge pressure as requested.