



Excelsior Fire District

Proudly Serving the Communities of:

Deephaven – Excelsior – Greenwood – Shorewood – Tonka Bay

24100 Smithtown Road

Shorewood, MN. 55331

952-401-8801 Phone

952-960-1690 Fax

Excelsior Fire District Aerial 11 Key Questions

1. Water Capacity
 - a. Current Truck – 600 gallons
 - b. Looking for at least 400-500 gallon tank
 - c. Hydrants vs. no hydrants

2. Pump Size and Capacity
 - a. Current Truck 1500 gpm
 - b. Looking for 1500 gpm
 - c. Needed for Master Stream Operations
 - d. Engines 1250 gpm

3. Maneuver in the Streets
 - a. Current Truck Single Axle
 - b. Looking for Single Axle
 - c. Length – turning radius, crimp angle

4. Regional Aerial Device Availability and Use
 - a. Long Lake – No Aerial Device
 - b. Wayzata – 100 Platform Aerial Device
 - c. Mound – 78 foot Stick Aerial Device
 - d. Maple Plain – 100 foot Stick Aerial Device
 - e. Minnetonka – Multiple Aerial Devices and lengths – Platform and Stick
 - f. Chanhassen – 100 foot Platform Aerial Device
 - g. Chaska – 100 foot Platform Aerial Device
 - h. Hopkins – 100 Foot Platform Device
 - i. Eden Prairie – 100 foot Platform Aerial device and 78 foot Aerial stick device
 - j. St. Louis Park – 78 foot Aerial stick device
 - k. St. Boni – No Aerial Device
 - l. Victoria – No Aerial Device

5. Size of the Ladder

- a. Current Ladder – 65 feet
- b. Devices today
 - i. 75 feet
 - ii. 78 feet
 - iii. 79 feet
 - iv. 107 feet
- c. Key Factor – Reach

6. Key usage

- a. Firefighter Safety
 - i. A firefighter working over a fire in today's building construction is much safer working from an aerial device than from a 35 foot ladder and a roof ladder. The reason is that the aerial device provides the necessary elevation without relying on the support of the structure itself which may be compromised.
 - ii. Light at top of ladder can be used to light up scene from the top.
- b. Fire Suppression
 - i. Elevated Master Stream – having an elevated master stream device that can work from above a structure to help suppress a fire is important and beneficial. The reason is that you can get at the seat of the fire from above a fire that is “through the roof” that cannot be done from the ground level. An example was the 165 Lakeview fire in Tonka Bay where the elevated master stream was able to extinguish the fire when ground operations could not, resulting in saving half the house and belongings.
 - ii. In large apartment or commercial building without stand pipes, Aerial can be raised into a window and used as a stand pipe for internal operations. This was the case at the Hans Hardware fire in Excelsior a number of years ago.
 - iii. Exposure protection – having an aerial device that can provide a “water curtain” to a neighboring home or business to minimize exposure damage as a result of a structure fire is effective and beneficial. With increasing land values, lots are becoming smaller and communities are doing more P.U.D.'s with cluster housing which will increase the potential for greater aerial use for exposure protection.
 - iv. Greater reach from an elevated master stream.



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Excelsior Fire District and the Usage of Aerial 11

The Use of the Ladder truck (Aerial 11) in our fire protection district and on our regional borders just outside of the Excelsior Fire District has many documented uses. We have documented some critical use events below.

1. Deephaven
 - a. Roof fire at Minnetonka Blvd when the roofing supplies caught on fire.
2. Greenwood
 - a. Excelsior Blvd house fire that was under construction.
3. Orono – Long Lake Fire
 - a. Long lake mutual aid for full engulfed house fire. A11 used to help protect the garage and put out fire in main house as it was fully engulfed.
4. Tonka Bay –
 - a. Lakeview fire – structure fire with exposure protection.
5. Tonka Bay
 - a. Structure Fire
6. Shorewood – Murfield Circle.
 - a. Used it also to ladder the roof on Murfield circle fire.
7. Excelsior
 - a. Fire alarm beacon bank on Water street
 - i. Used it to get to the top of the building to check the roof.
8. Multiple Cities
 - a. Chimney Fires

9. Orono - Long Lake Fire
a. Roof Extension

10. Excelsior
a. Hans Hardware Fire



Photos of usage



Tonka bay – Garage fire – operations, set-back



Structure Fire with Water Curtain (Exposure Protection) in Orono



Night usage - Waterford place – Shorewood



Roof operations – Equipment and Lack of a Turntable



Trucks – usage of Apparatus, Water Supply, driveway access, initial arrival



Trucks – usage of Apparatus, Access to the Roof



Trucks – usage of Apparatus, Access to the Roof – extended to full 65 ft



Water Supply – Hydrants or Tanker operations



Ground Ladders – important use



Roof Operations



Re-loading Hose



Ladder Operations - tip load, flowing water and not flowing water



Defensive fire operations, Exposure protection, Water Curtain



Ladder Operations – Defensive fire operations, Exposure protection, Water Curtain



No Station modifications



Road and Driveway access – Above Ground Power Lines

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Louisburg (KS) Fire Department Adds 107-Foot Ascendant Aerial Quint to Fleet



specs

Pierce Manufacturing 107-Foot Ascendant Aerial Ladder Quint

One of the first 107-foot Ascendant aerial ladder quints in the country has been delivered to the Louisburg (KS) Fire Department by Pierce Manufacturing Inc.



1 The Louisburg (KS) Fire Department 107-foot aerial ladder quint, built by Pierce Manufacturing, Inc., is powered by a 450-hp Cummins ISL 9 diesel engine and an Allison 3000 EVS automatic transmission. [Photos courtesy of the Louisburg (KS) Fire Department unless otherwise noted.] **2** The 107-foot aerial ladder quint has a Waterous CSU 1,500-gpm pump, a 500-gallon water tank, and 115 feet of ground ladders.

Paul Richards, chief of the Louisburg Fire Department, says, "This is the first aerial our department has ever had. We were considering buying a 75-foot quint but were able to save a lot of money by going with this demo 107-footer. Plus we get a lot more reach and aerial height than with a 75-footer."

RESPONSE AREA

Richards notes that while the Louisburg fire protection area doesn't have a lot of high-rises, it has other issues that made the department consider the longer aerial. "We have a number of setback issues in our town with several strip malls and also one of our

a four-square-mile city and contracts to cover 112 square miles of Miami County with a paid chief, a paid part-time firefighter-inspector, and 22 volunteer firefighters out of one station that shares both city and county fire apparatus. The city of Louisburg has hydrants; some areas of the county have hydrant water sources.

THE QUINT

The Louisburg Ascendant is a 107-foot aerial ladder quint on a single rear axle built on an Enforcer chassis and powered by a 450-horsepower (hp) Cummins ISL 9 diesel engine and an Allison 3000 EVS automatic transmission. The quint has a Waterous 1,500-gallon-per-minute (gpm) pump, a 500-gallon water tank, 115 feet of ground ladders, and 198 cubic feet of compartment space and carries 800 feet of five-inch large diameter hose (LDH), although the hosebed can handle up to 1,000 feet of LDH. The 107-foot aerial ladder quint carries a 1,500-gpm Akron Brass monitor at the ladder's tip, has a 750-pound dry tip load, and has a 500-pound wet tip load.

Tim Smits, national sales manager for Pierce, says the 107-footer is two feet shorter overall than a tandem-axle 100-foot aerial ladder and only 1½ feet longer than a 75-foot aerial ladder on a single axle. "The ladder is all 100,000-pounds-per-square-inch (psi) steel," Smits says, "has a vertical reach of 107 feet, a horizontal reach of 100 feet, and an 18-foot stabilizer spread set

- Pierce Enforcer cab and chassis with seating for six firefighters
- 107-foot heavy-duty, high-strength steel aerial ladder
- 39-foot, two-inch overall length
- 11-foot, five-inch overall height
- 234-inch wheelbase
- Collision-avoidance and multiplex systems
- Cummins 450-hp ISL 9 diesel engine
- Allison 3000 EVS automatic transmission
- Waterous CSU 1,500-gpm pump
- 500-gallon water tank
- Akron Brass 1,500-gpm monitor at tip with storefront blitz 30-degree vertical nozzle angle
- 750-pound dry tip load
- 500-pound wet tip load
- 100-foot horizontal reach
- Below grade operation to minus 10 degrees
- Pair of H-style outriggers and one downrigger
- 115 feet of ground ladders
- Hosebed capacity of 1,000 feet of five-inch LDH

Price without equipment:
\$794,000

forward of the rear wheels that gives it feet more reach than a 75-foot aerial."

Roger Brown, salesman at Conrad Equipment, who sold the aerial quint to Louisburg, reiterated the department's concern for dealing with setbacks. "When the 107-footer came out, they got very interested in it compared with the 75-footer they were considering," Brown says. "They were to purchase the 107-footer for basically the same price of the shorter aerial but

department

Louisburg (KS) Fire Department

STRENGTH: paid full-time chief, one paid part-time firefighter-inspector, 22 volunteer firefighters; one station.

SERVICE AREA: Provides fire protection and rescue for the four-square-mile city of Louisburg, Kansas, and is under contract for 112 square





erial quint over a 75-foot model because of the 107-footer's greater reach maintaining the same footprint and single rear axle as the 75-footer. Shown oter in the foreground and a 75-footer at the back. (Photo courtesy of Pierce

n more structure, its high-strength steel, custom
ach, and tubing, and unique gusseting that puts
the weight and mass only where required,
the aerial can deliver a full 107-foot ver-
design tical reach and a 100-foot horizontal



4 The Louisburg 107-foot aerial ladder quint has an Akron Brass 1,500-gpm monitor at the tip with a storefront blitz 30-degree vertical nozzle angle. Tip load is 750 pounds dry and 500 pounds wet.



5 Pierce's 107-foot aerial ladder quint uses two H-style outriggers, shown extended here, and one rear downrigger to stabilize the vehicle during aerial operations. The vehicle has an 18-foot jack spread that can be short jacked to a 13-foot spread.

reach with an operating range that goes from minus 10 degrees to plus 77 degrees.

He points out that the Ascendant 107-footer's single set of H-style stabilizers can be short jacked to a 13-foot spread. "The rotation

added support. Smits adds that having the 107-footer on a single rear axle also makes the aerial a more maneuverable vehicle. "And, there's no scrub area on the rear tires like you would have on a tandem rear axle aerial," he says, "which kills those tires about every 10,000 miles." **FA**

ALAN M. PETRILLO is a Tucson, Arizona-based journalist and is a member of the *Fire Apparatus & Emergency Equipment* editorial advisory board. He served 22 years with the Verdox (NY) Fire Department, including in the position of chief.

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