



## **NATIONAL TRANSPORTATION SAFETY BOARD**

Office of Aviation Safety  
Washington, D.C. 20594

February 8, 2021

### **Specialist's Report**

# **AIR TRAFFIC CONTROL**

ERA20FA020

**Table Of Contents**

A. ACCIDENT.....3

B. AIR TRAFFIC CONTROL (ATC) INVESTIGATOR.....3

C. SUMMARY .....3

D. DETAILS OF THE INVESTIGATION .....3

E. FACTUAL INFORMATION .....3

    1.0 History of Flight.....3

    2.0 Radar Data.....7

    3.0 Air Traffic Control Procedures.....7

        3.1 Safety Alert.....7

            3.1.1 Minimum Safe Altitude Warning (MSAW).....8

F. LIST OF ATTACHMENTS .....8

## **A. ACCIDENT**

Location: Colonia, New Jersey  
Date: October 29, 2019  
Time: 1058 eastern daylight time (EDT)<sup>1</sup>  
1458 coordinated universal time (UTC)<sup>2</sup>  
Airplane: N959MJ, a Cessna 414A

## **B. AIR TRAFFIC CONTROL (ATC) INVESTIGATOR**

Betty Koschig  
Air Traffic Control Investigator  
Operational Factors Division (AS-30)  
National Transportation Safety Board

## **C. SUMMARY**

On October 29, 2019, at 1058 eastern daylight time, a Cessna 414A, N959MJ, was destroyed when it impacted trees and houses in Colonia, New Jersey. The commercial pilot was fatally injured. There were no ground injuries. The airplane was operated by the pilot as a personal flight conducted under the provisions of Title 14 *Code of Federal Regulations* Part 91. Instrument meteorological conditions prevailed, and an instrument flight rules (IFR) flight plan was filed for the flight, which originated from Leesburg Executive Airport (JYO), Leesburg, Virginia, at 0950, and was destined for Linden Airport (LDJ), Linden, New Jersey.

## **D. DETAILS OF THE INVESTIGATION**

Air traffic control (ATC) services were provided by New York Terminal Radar Approach Control (TRACON) (N90). The ATC investigator did not travel or conduct interviews in support of this accident investigation. All data used to produce this specialist report were provided by the Federal Aviation Administration (FAA) unless otherwise noted.

## **E. FACTUAL INFORMATION**

### **1.0 History of Flight**

The history of flight for N959MJ was compiled using resources obtained from the FAA, which included N90 certified ATC audio recordings, certified ATC transcript, aircraft accident package and FAA ATC radar data.

About 1038, the pilot<sup>3</sup> contacted the N90 approach controller reporting level at 12,000 feet (ft)<sup>4</sup>. The approach controller issued the altimeter and the pilot acknowledged.

---

<sup>1</sup> All times are eastern daylight time (EDT) unless otherwise noted.

<sup>2</sup> UTC – coordinated universal time – an international time standard using four digits of a 24-hour clock in hours and minutes based on the time in Greenwich, England.

<sup>3</sup> All references to “pilot” indicate the pilot of N959MJ unless otherwise noted.

<sup>4</sup> All altitudes are mean sea level (msl) unless otherwise noted.

About 1039, the approach controller advised the pilot that flight conditions were currently IFR and asked if he was familiar with the cancellation procedures once he broke out [of the weather]. The pilot responded that he understood that he needed to cancel [IFR flight plan] with approach control.

The approach controller informed the pilot that he needed to cancel before he landed otherwise, they [N90] would have to stop arrival traffic into Newark (Newark Liberty International Airport (EWR), Newark, New Jersey). The pilot responded that he would cancel when he had the airport [LDJ] in sight. The approach controller acknowledged and instructed the pilot to proceed direct LDJ and stand-by for a lower altitude. The pilot read back the instructions.

The approach controller informed the pilot of N969MJ that he did not have the weather for LDJ and asked the pilot if he had the AWOS (automated weather observation system)<sup>5</sup> or ASOS (automated surface observing system)<sup>6</sup> information. The pilot responded that he was getting it now.

About 1040, the approach controller issued the altimeter to the pilot. The pilot acknowledged and stated he was going direct to LDJ. The approach controller acknowledged and then instructed the pilot to proceed direct WARRD<sup>7</sup>. The pilot read back the instructions.

About 1042, the approach controller instructed the pilot to descend and maintain 2,000 ft. The pilot read back the instructions.

About 1045, the approach controller instructed the pilot to commence the approach at WARRD and let him know when he was able to cancel. The pilot acknowledged.

About 1047, the approach controller instructed the pilot to turn left direct DAPVY<sup>8</sup>. The pilot read back the instructions.

About 1049, The approach controller advised the pilot that the cloud bases were reported at 500 ft [above ground level (agl)]<sup>9</sup>. The pilot asked the approach controller to say that again. The approach controller stated that the base is reported at 500 ft (agl). The pilot acknowledged.

About 1050, the pilot informed the approach controller that the AWOS at LDJ was still stating 700 ft (agl). The approach controller informed the pilot that [the 500 ft base report] was a PIREP (pilot weather report)<sup>10</sup> they had received from the last arrival inbound to EWR. The pilot acknowledged.

---

<sup>5</sup> AWOS is equipment used to detect and report wind direction, velocity, and altimeter data for weather observation purposes at those locations that are so equipped. They generally report at 20-minute intervals and do not report special observations for rapidly changing weather conditions.

<sup>6</sup> The ASOS systems served as the nation's primary surface weather observing network.

<sup>7</sup> Non-compulsory waypoint.

<sup>8</sup> Non-compulsory waypoint.

<sup>9</sup> For detailed weather information see the Weather Study located in the docket.

<sup>10</sup> A report of meteorological phenomena encountered by aircraft in flight.

About 1051, the approach controller informed the pilot that ATIS (automatic terminal information service)<sup>11</sup> information “November” was current at EWR, with the ceiling at 800 ft (agl) broken. The pilot acknowledged.

The approach controller instructed the pilot he was 3 miles from DAPVY, cross DAPVY at 2,000 ft and cleared N959MJ for the LDJ VOR-A<sup>12</sup> approach. The pilot read back the instructions. The approach controller corrected the clearance instructions and cleared N959MJ for the GPS-A<sup>13</sup> approach. The pilot acknowledged. Figure 1 is the GPS-A approach chart illustrating the requirements of the approach. Figure 2 is a Google Earth screenshot illustrating the last seven minutes of N959MJ flight path.

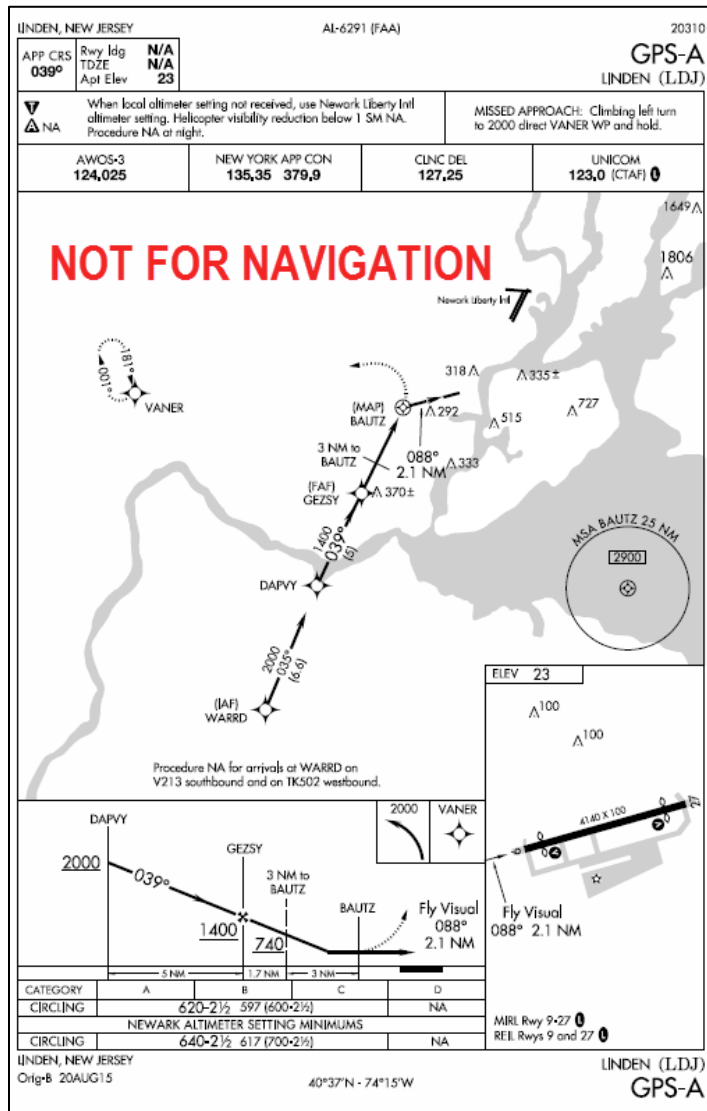


Figure 1. Linden Airport GPS-A approach chart.

<sup>11</sup> ATIS provided advance noncontrol airport/terminal area and meteorological information to aircraft.

<sup>12</sup> Very high frequency (VHF) navigational aid.

<sup>13</sup> Global positioning system.

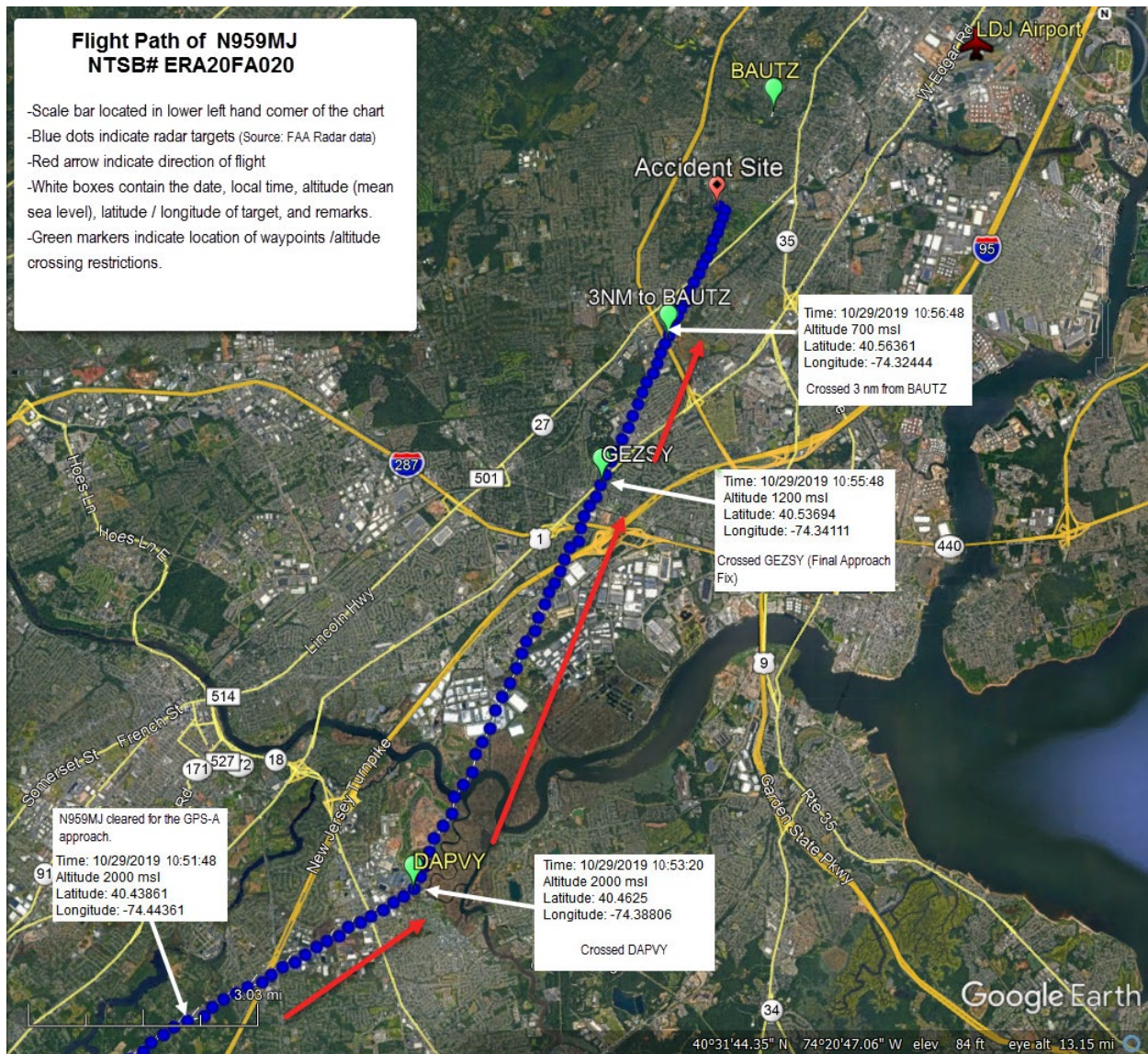


Figure 2. Google Earth Screenshot of the last seven minutes of N959MJ’s flight path.

At 1056:01, a low altitude (LA) alert visually and aurally activated on N959MJ. According to FAA ATC radar data N959MJ’s altitude indicated 1,000 ft. About 55seconds later the approach controller instructed the pilot to say flight conditions. The pilot responded that they were still IFR. Figure 3 is a Google Earth screenshot that shows N959MJ was at 600 ft. and had passed “3NM to BAUTZ” at the time of that transmission.

At 1058:06, an LA alert activated on N959MJ. According to FAA ATC radar data N959MJ’s altitude indicated 200 ft. The approach controller instructed the pilot to “say flight conditions.” The pilot did not respond. Five seconds later, approach controller instructed the pilot to “check altitude immediately.” The pilot did not respond.

The approach controller attempted to contact the pilot two more times. The pilot did not respond to either transmissions. No further communications.



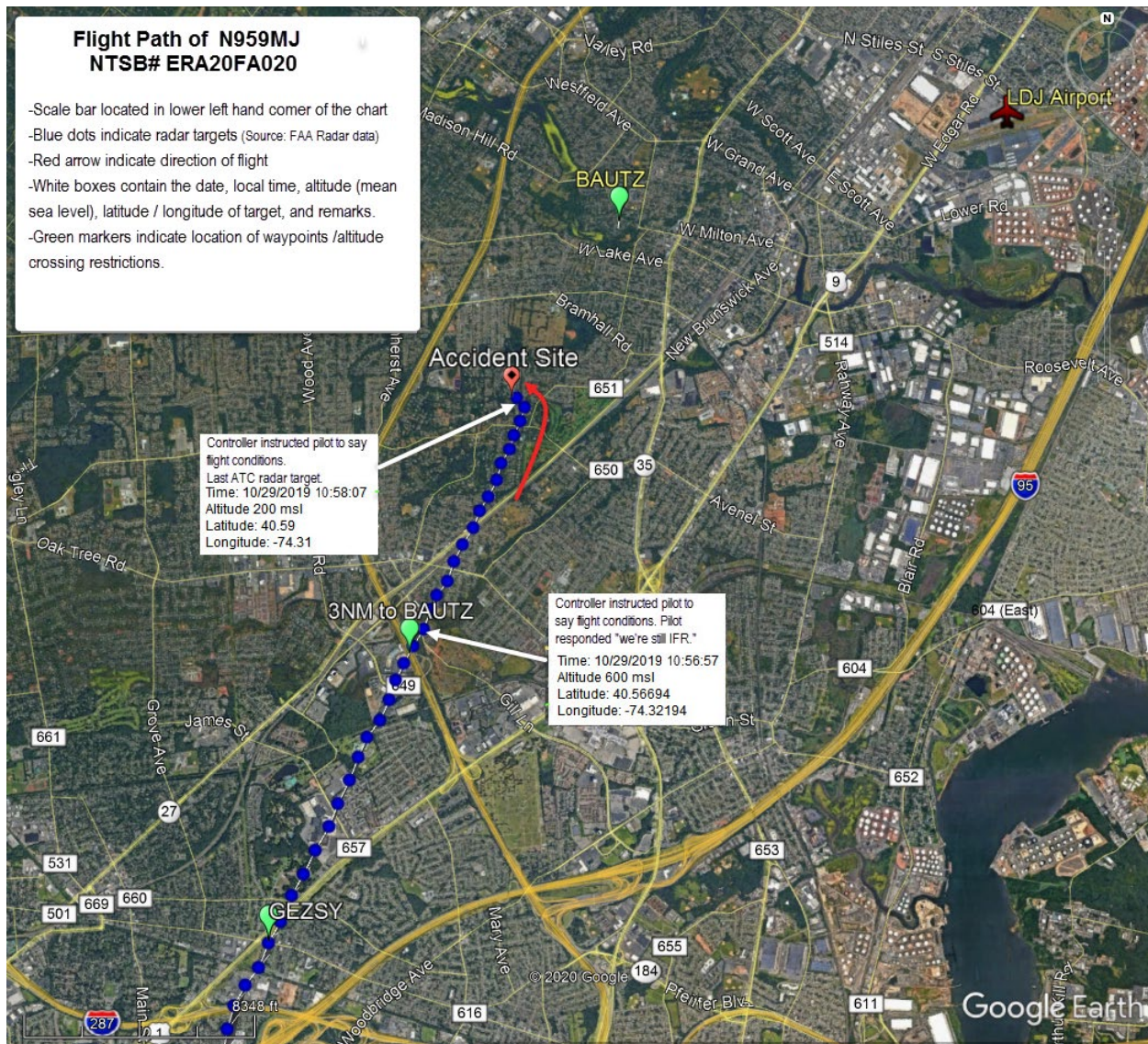


Figure 3. Google Earth screenshot illustrates the flight route of N959MJ and depicts the locations of pilots/controller communications.

## 2.0 Radar Data

FAA radar data was provided by N90. The radar source data was obtained from the Newark (EWR) ASR-9 antenna.

## 3.0 Air Traffic Control Procedures

### 3.1 Safety Alert

FAA order 7110.65Y, Air Traffic Control, paragraph 2-1-6, "Safety Alert," described the circumstances for a controller to issue a "safety alert." The paragraph stated in part:

Issue a safety alert to an aircraft if you are aware the aircraft is in a position/altitude that, in your judgment, places it in unsafe proximity to terrain, obstructions, or other aircraft

Once the pilot informs you action is being taken to resolve the situation, you may discontinue the issuance of further alerts. Do not assume that because someone else has responsibility for the aircraft that the unsafe situation has been observed and the safety alert issued; inform the appropriate controller.

**NOTE–**

1. The issuance of a safety alert is a first priority...once the controller observes and recognizes a situation of unsafe aircraft proximity to terrain, obstacles, or other aircraft. Conditions, such as workload, traffic volume, the quality/limitations of the radar system, and the available lead time to react are factors in determining whether it is reasonable for the controller to observe and recognize such situations. While a controller cannot see immediately the development of every situation where a safety alert must be issued, the controller must remain vigilant for such situations and issue a safety alert when the situation is recognized.

2. Recognition of situations of unsafe proximity may result from MSAW<sup>14</sup>/E–MSAW, automatic altitude readouts, Conflict/Mode C Intruder Alert, observations on a PAR scope, or pilot reports.

3. Once the alert is issued, it is solely the pilot’s prerogative to determine what course of action, if any, will be taken.

a. Terrain/Obstruction Alert. Immediately issue/ initiate an alert to an aircraft if you are aware the aircraft is at an altitude that, in your judgment, places it in unsafe proximity to terrain and/or obstructions. Issue the alert as follows:

**PHRASEOLOGY–**

LOW ALTITUDE ALERT (call sign) CHECK YOUR ALTITUDE IMMEDIATELY.

**3.1.1 Minimum Safe Altitude Warning (MSAW)**

FAA order 7110.65Y, Air Traffic Control, Pilot/Controller Glossary, defined “Minimum Safe Altitude Warning (MSAW)” as:

A function of the ARTS III computer that aids the controller by alerting him/her when a tracked Mode C equipped aircraft is below or is predicted by the computer to go below a predetermined minimum safe altitude.

**F. LIST OF ATTACHMENTS**

- Attachment 1 – N90 ATC Audio Recording
- Attachment 2 – N90 ATC Transcript
- Attachment 3 – Aircraft Accident Package
- Attachment 4 – FAA ATC Radar Data

---

<sup>14</sup> Minimum safe altitude warning.



Attachment 5 – Covered Event Review

Submitted by:

---

Betty Koschig  
Senior Air Traffic Investigator