

MISSOURI PUBLIC SERVICE COMMISSION
STAFF'S GAS INCIDENT REPORT

**426 E Fair Street
Independence, MO
August 26, 2024**

APPENDIX A

FACTS

**Spire Missouri, Inc.
Case No. GS-2025-0068**

*Industry Analysis Division
Safety Engineering Department
Jefferson City, Missouri*

**** Denotes Confidential Information ****

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STAFF’S GAS INCIDENT REPORT
SPIRE MISSOURI, INC.
CASE NO. GS-2025-0068**

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I. EXECUTIVE SUMMARY

On August 16, 2024, JJC Underground (“the Excavator”) requested marking of buried utility locations through Missouri 811 for an area extending along South Hocker Ave. in Independence, Missouri (See Figure 1). On August 20, 2024, the Status History section of the Missouri 811 ticket shows an update to the ticket indicating that Spire Missouri, Inc. (“Spire”)’s facilities were marked.

On August 26, 2024, the Excavator was using directional drilling equipment to install telecommunication facilities along the west side of South Hocker Ave. near the intersection with East Fair St. Based on the markings provided by ** [REDACTED] **, Spire’s Contract Locator, on August 20, 2024, Spire’s gas facilities in this area were anticipated to be parallel with and approximately 6 feet to the east of the bore direction. At approximately 5:45 p.m., the bore head on the horizontal directional drilling equipment damaged Spire’s four-inch plastic main. At approximately 5:51 p.m., the first responding fire department unit arrived on scene. Fire department personnel received no response from knocking on door of the residence at 426 East Fair St. At approximately 5:55 p.m., Spire personnel began arriving on site and performed monitoring to determine the extent of gas migration.

Natural gas released from the four-inch plastic main migrated into 426 East Fair St. and ignited, causing an explosion and fire. Excavation work performed following the explosion exposed a damaged sewer lateral to 426 East Fair St., approximately 10 feet to the north of the location where the natural gas was being released from the 4-inch gas main.

Although Staff was not able to determine when or how this sewer lateral was damaged¹, it is considered to be a likely conduit for the natural gas to have migrated into the residence at 426 East Fair St., assuming that the damage occurred either prior to August 26, 2024, or on August 26, 2024 prior to the explosion.

There were no injuries or fatalities as a result of this incident. Property damages include damages to the residence at 426 East Fair St. and Spire facilities. Spire estimated that the property damage from the incident is \$117,291.

II. PURPOSE AND SCOPE OF STAFF'S INVESTIGATION

III. STAFF ANALYSIS OF INCIDENT

A. Incident Description and Emergency Response

On August 16, 2024, the Excavator notified Missouri 811 of planned excavation work to begin on August 21, 2024, in an area along South Hocker Ave. between East 23rd St. S. and East Fair St. in Independence, Missouri. The ticket the Excavator submitted to Missouri 811 requested an area to be marked that extended 30-feet on either side of South Hocker Ave. from the intersection of E 23rd St. S. and South Hocker Ave. south for 595 feet, including and extending past the intersection of South Hocker Ave. and East Fair St.²

The Status History section of the Missouri 811 ticket³ shows that the ticket was updated to show Spire facilities had been marked at approximately 4:45 p.m. on August

¹ Spire commented in its review of Staff's Draft Appendix A that **

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² Missouri 811 ticket No. 242291655 and Spire response to Staff Data Request 0003 and Spire Attachment 3

³ Missouri 811 ticket No. 242291655.

20, 2024. Spire's facilities in the area include a four-inch plastic main ** [REDACTED]
[REDACTED] ** and a two-inch plastic main ** [REDACTED]
[REDACTED] **. Confidential Figure 2 in Appendix B shows a screenshot of
Spire's mapping system and displays the pipeline system layout in the area of damage on
the date of the incident. A diagram indicating Spire's facilities in the area of the damage
and Spire's markings⁴ is included as Confidential Figure 3 in Appendix B. Spire stated
that the markings provided by Spire's Contract Locator in the area of damage were, at the
closest, offset by at least 3 feet from the edge of Spire's actual facilities, and nearest to the
damage were offset 6 feet.⁵ Confidential Figures 2 and 3 provided by Spire show Spire's
facilities in the area of damage include a section of main that ** [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] **

On August 26, 2024, the Excavator, utilizing directional drilling equipment, was
working to install telecommunication equipment on behalf of Google Fiber from the north
to the south along the west side of South Hocker Ave., parallel and west of Spire's
Contract Locator markings. Figure 4 in Appendix B is a Staff photograph showing the
directional drilling equipment set up to drill south along the west side of South Hocker
Ave. At approximately 5:45 p.m., the bore head on the horizontal directional drilling
equipment damaged Spire's four-inch plastic main. Confidential Figure 5 in Appendix B
is a Spire photograph showing the damage to the pipeline facility. Natural gas released

⁴ Spire response to Staff Data Request 0001.7 and Spire Attachment 1.7

⁵ Spire response to Staff Data Request 0001.7

from the four-inch plastic main migrated into 426 East Fair St.; the natural gas subsequently ignited causing an explosion and fire. The Maximum Allowable Operating Pressure (MAOP)⁶ of the damaged four-inch main was ** [REDACTED] **. At the time of the incident, Spire estimated the pressure in the pipeline at this location to be ** [REDACTED] **. ⁷

Spire and the Independence Fire Department were notified shortly after the damage occurred. Spire's first responder arrived on-site at 5:55 p.m. and began investigating the damage by bar holing and taking gas readings in the area both at the site of damage and at nearby structures and manholes.⁸ Spire's Construction and Maintenance Crew arrived on-site at 6:18 p.m. and worked to excavate the damage.⁹ At approximately 6:50 p.m. the home at 426 East Fair St exploded and caught fire. After this occurred, Spire personnel took action to ensure there were no injuries before continuing their work to isolate the damage and repair the pipeline. Spire's excavation additionally uncovered an east-west sewer lateral to 426 East Fair St approximately 10 feet north of the damage to Spire's

⁶ 20 CSR 4240-40.030(1)(B) defines Maximum Allowable Operating Pressure as the maximum pressure at which a pipeline or segment of a pipeline may be operated under this rule

⁷ Spire response to Staff Data Request 0011

⁸ Spire's response to Staff Data Request 0001.17 stated, "5:55 p.m., [Spire first responder] made contact with [the Excavator] foreman and Fire Department on site. The Fire Department communicated to [Spire first responder] that no one was inside the residence at 426 Fair St. • ~6:00 p.m. to 6:18 p.m. – [Spire first responder] placed a bar hole and confirmed readings over the main at the site of damage. He then placed a bar hole at east foundation wall nearest the damage and got no readings. He then proceeded to place bar holes south of the damage site, near the stop sign. Then a bar hole at the north side, and then across the St towards the east. • 6:18 p.m., C&M crew arrived. [Spire first responder] let [the C&M] crew know where his bar hole with the highest reading was located. This was the bar hole at the area of the damage. • 6:18 p.m. to 6:51p.m., [Spire first responder] then checked neighboring homes to determine which homes were going to have gas outages. [Spire first responder] verified that no meter set was present at 502 E Fair St. As [Spire first responder] was going to each home, he was checking for gas readings in the manholes, all manholes [Spire first responder] verified were zero percent readings." Spire's Attachment 4, the Independence Fire Department report, said, "Upon arrival we made contact with the boring crew. [The Excavator]. The foreman (entered in the report) stated that they were drilling and struck a line underground. Natural gas was noticeable in the air. The strike was on the north west corner of Fair and Hocker. P4 knocked on the door fo (sic) the house on the NW corner and no one answered the door. The initial Spire rep showed up shortly after. He located the leak source and said he had a dig crew enroute. The dig crew arrived and began working on uncovering the line."

⁹ Spire response to Staff Data Request 0001 and 0001.17 and Spire Attachment 0001A

facilities that appeared to have sustained damage.¹⁰ Spire's repair work to the damaged segment of main was made by installing a new section of pipe to replace the damaged portion, and joining to the existing four-inch main. The repair work was completed at approximately 2:00 a.m. After repairing the natural gas main, Spire personnel backfilled the excavation in the area of damage and Spire personnel left the site.¹¹

A summary of events is provided in Table 1:

TABLE 1: SUMMARY OF EVENTS	
Date and Time	Activity
8/16/2024; 11:28 a.m.	The Excavator notified Missouri 811 that it planned to excavate an area along South Hocker Ave. between East 23 rd St. S. and East Fair St. in Independence, Missouri, beginning on August 21, 2024. ¹²
8/20/2024; 4:45 p.m.	Missouri 811 ticket updated to indicate Spire facilities were marked the location of Spire's underground facilities in the area to be excavated by painting. ¹³
8/26/2024; Approximately 5:45 p.m.	The Excavator struck the pipeline with bore head of the horizontal directional drilling equipment. ¹⁴
8/26/2024; 5:49 p.m.	Spire Dispatch was notified of a hit service line at 426 East Fair St. ¹⁵
8/26/2024; 5:51 p.m.	Independence Fire Department arrived on-site, knocked at 426 East Fair St. and no one answered the door. ¹⁶
8/26/2024; 5:52 p.m.	Excavator notification to Missouri 811 of damage to gas line. ¹⁷
8/26/2024; 5:55 p.m.	Spire first responder arrived on-site, shortly after he made contact with the Independence Fire Department who communicated that no one was inside the residence at 426 East Fair St. ¹⁸

¹⁰ Spire response to Staff Data Request 0017 and Spire Attachment 17D

¹¹ Spire response to Staff Data Request 0001 and Spire Attachment 0001A

¹² Spire response to Staff Data Request 0003 and Spire Attachment 3

¹³ Missouri 811 Ticket No. 242291655 and Spire responses to Staff Data Requests 0001 and 0015 and Spire Attachments 1A and 15

¹⁴ Spire responses to Staff Data Requests 0001, 0004, 0005, and 0020 and Spire Attachments 0001A, 4, 5, and 20

¹⁵ Spire response to Staff Data Request 0001 and Spire Attachment 0001A

¹⁶ Spire response to Staff Data Request 0001 and 0004 and Spire Attachments 1 and 4

¹⁷ Missouri 811 Ticket No. 242394398.

¹⁸ Spire response to Staff Data Request 0001 and Spire Attachment 0001A

TABLE 1: SUMMARY OF EVENTS	
Date and Time	Activity
8/26/2024; 6:00-6:18 p.m.	Spire first responder performed bar hole tests ¹⁹ around the area of the damage, including tests registering gas-in-air readings over the main at the site of damage and no gas-in-air readings near the foundation wall nearest the damage. ²⁰
8/26/2024; 6:18 p.m.	Spire Construction and Maintenance Crew (C&M Crew) arrived and began excavation work where the Spire first responder had obtained the highest gas-in-air concentration measurement. ²¹
8/26/2024; 6:18-6:51 p.m.	Spire First Responder checked surrounding area including checking manholes; all readings in manholes registered no gas-in-air. ²²
8/26/2024; 6:50 p.m.	Spire C&M Crew identified the damage was to a four-inch plastic main. ²³
8/26/2024; approximately 6:50 p.m.	The home at 426 East Fair St. exploded and caught fire. ²⁴
8/26/2024; approximately 6:51 p.m.	Spire and Independence Fire Department began evacuations of the area following the explosion. ²⁵
8/26/2024; approximately 6:50-6:55 p.m.	Spire performed safety checks to ensure there were no injuries. ²⁶
8/26/2024; 7:49 p.m.	The main was squeezed-off ²⁷ , eliminating gas flow to the damaged portion of the pipeline. ²⁸
8/26/2024; 11:30 p.m. to 8/27/2024; 2:00 a.m.	Damaged portion of pipeline removed and repairs were made by installing a new section of pipe to replace the damaged portion, and joining to the existing four-inch main. ²⁹
8/26/2024; 11:30P.M. to 8/27/2024; 2:45 a.m.	Spire utilized “purgers” ³⁰ to ventilate the natural gas in the area. ³¹

¹⁹ A bar hole test is a check of the subsurface atmosphere using a bar hole plunger to make a small hole which is checked using a gas detection instrument capable of determining gas-in-air concentration levels.

²⁰ Spire response to Staff Data Request 0001.17

²¹ Spire response to Staff Data Request 0001 and 0001.17 and Spire Attachment 0001A

²² Spire response to Staff Data Request 0001.17

²³ Spire response to Staff Data Request 0001 and Spire Attachment 0001A

²⁴ Spire response to Staff Data Request 0001 and 0004 and Spire Attachment 1A and 4

²⁵ Spire responses to Staff Data Request 0004 and 0020.6 and Spire Attachment 4

²⁶ Spire response to Staff Data Request 0001 and Spire Attachment 0001A

²⁷ A squeeze-off of pipe utilizes a clamping tool to constrict the pipe so that natural gas can no longer freely flow past the tool

²⁸ Spire response to Staff Data Request 0001 and Spire Attachment 0001A

²⁹ Spire response to Staff Data Request 0001.19

³⁰ A “purger” in this context is a device that can create a vacuum effect that can be used to evacuate natural gas from underground structures such as bar holes or manholes.

³¹ Spire responses to Staff Data Requests 0013.2 and 0001.19

TABLE 1: SUMMARY OF EVENTS	
Date and Time	Activity
8/27/2024; 4:00-4:15 a.m.	Excavation in the area of damage was backfilled and Spire personnel left the site. ³²

1. Spire Actions to Comply with 20 CSR 4240-40.030(12)(J)1.:

Spire provided a copy of its plan, Emergency Plan Standard Operating Procedure (SOP) 220.D.7, Reissue Date 11/14/2023 (Emergency Plan) that was effective at the time of the incident.³³

The damage to Spire's pipeline occurred at approximately 5:45 p.m. on August 26, 2024. Spire received notification of the damage at approximately 5:49 p.m., and Spire's first responder arrived on-site at approximately 5:55 p.m. Spire's first responder took actions to ensure that no one was in the home near to where the damage occurred and to investigate where damage occurred by bar holing and taking gas readings in the area both at the site of damage and at nearby structures and manholes.³⁴

³² Spire response to Staff Data Request 0001 and Spire Attachment 0001A

³³ Spire response to Staff Data Request 0012 and Spire Attachment 12

³⁴ Spire's response to Staff Data Request 0001.17 stated, "5:55 p.m., [Spire first responder] made contact with [the Excavator] foreman and Fire Department on site. The Fire Department communicated to [Spire first responder] that no one was inside the residence at 426 Fair St. • ~6:00 p.m. to 6:18 p.m. – [Spire first responder] placed a bar hole and confirmed readings over the main at the site of damage. He then placed a bar hole at east foundation wall nearest the damage and got no readings. He then proceeded to place bar holes south of the damage site, near the stop sign. Then a bar hole at the north side, and then across the St towards the east. • 6:18 p.m., C&M crew arrived. [Spire first responder] let [the C&M] crew know where his bar hole with the highest reading was located. This was the bar hole at the area of the damage. • 6:18 p.m. to 6:51p.m., [Spire first responder] then checked neighboring homes to determine which homes were going to have gas outages. [Spire first responder] verified that no meter set was present at 502 E Fair St. As [Spire first responder] was going to each home, he was checking for gas readings in the manholes, all manholes [Spire first responder] verified were zero percent readings." Spire's Attachment 4, the Independence Fire Department report, said, "Upon arrival we made contact with the boring crew. [The Excavator]. The foreman (entered in the report) stated that they were drilling and struck a line underground. Natural gas was noticeable in the air. The strike was on the north west corner of Fair and Hocker. P4 knocked on the door fo (sic) the house on the NW corner and no one answered the door. The initial Spire rep showed up shortly after. He located the leak source and said he had a dig crew enroute. The dig crew arrived and began working on uncovering the line."

Spire's C&M Crew began work to expose the damage to Spire's pipeline at approximately 6:18 p.m. At approximately 6:50 p.m. the home at 426 East Fair St. exploded and caught fire. After this occurred, Spire personnel acted to ensure there were no injuries before continuing their work to isolate the damage and repair the pipeline. Spire's excavation additionally uncovered an east-west sewer lateral to 426 East Fair St approximately 10 feet north of the damage to Spire's facilities that appeared to have sustained damage.³⁵ After repairing the pipeline, Spire personnel backfilled the excavation before leaving the site.

B. Investigation of Failures and Incidents

1. Spire Actions to Comply with 20 CSR 4240-40.030(12)(L) and Applicable Commission

Orders:

Spire provided its written procedure to investigate and analyze incidents that was in place on August 26, 2024, Investigation of Incidents Standard Operating Procedure (SOP) 220.O.1.³⁶

Spire's procedure requires **

**. **

Additionally, Spire's procedure requires that **

**. **

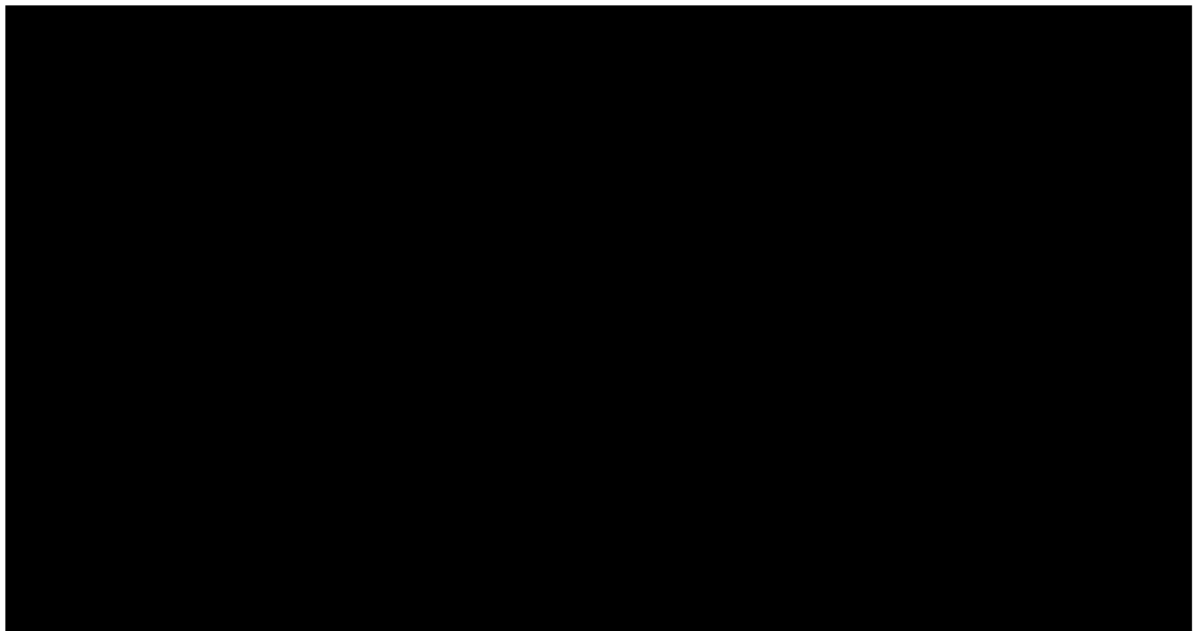
³⁵ Spire response to Staff Data Request 0017 and Spire Attachment 17D

³⁶ Spire response to Staff Data Request 0001.30 and Spire Attachment 1.30

Spire provided its November 7, 2024, Post Incident Review (PIR) for the August 26, 2024, incident³⁷, which included a narrative of the incident, the results of Spire's procedure effectiveness review, and corrective action items to be taken by Spire. A copy of the confidential PIR is provided as Confidential Appendix C of this Report. Spire provided the results of its root cause analysis (RCA) of the incident³⁸; a copy is provided as Confidential Appendix C of this Report.

In its PIR, Spire identified six corrective action items to be completed by Spire (Action Numbers 1-6 in Table 2 of this Report). Spire further identified two further possible corrective action items to be considered by Spire (Action numbers 7-8 in Table 2 of this Report) in its RCA.³⁹

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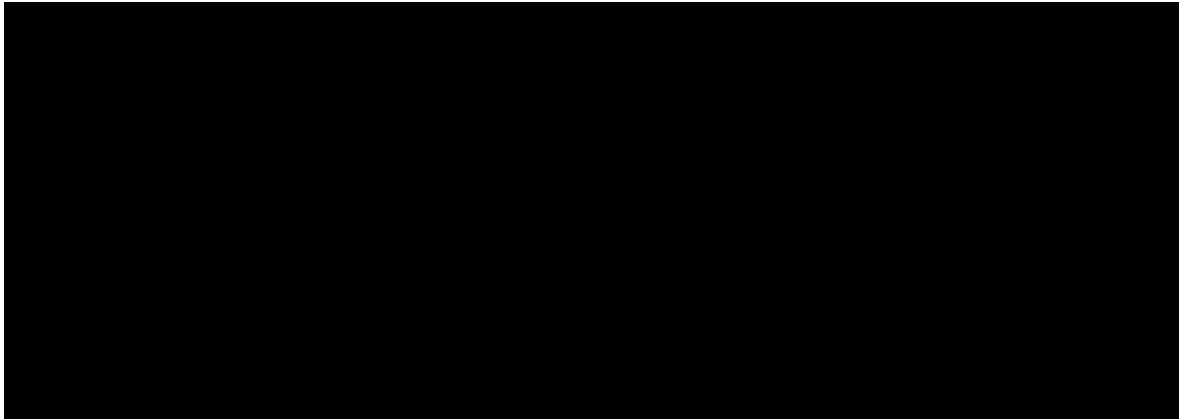
³⁷ Spire response to Staff Data Request 0001 and Spire Attachment 1A

³⁸ Spire Attachment 1B in response to Staff Data Request 0001

³⁹ Spire Attachment 1.30 in response to Staff Data Request 0001.30

⁴⁰ **

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Spire indicated that corrective action items 1, 2, 3, 5, and 6 from Table 2 were completed on August 27, 2024, August 27, 2024, April 24, 2025, May 13, 2025, and March 3, 2025, respectively and provided details on its completion. Spire indicated that corrective action items 4 and 8 from Table 2 are in progress. Spire indicated that corrective action item 7 from Table 2 is no longer being considered as a corrective action item by Spire because: **

[Redacted]

[Redacted]

[Redacted] **42

C. Incident Reporting Requirements

2. Spire Actions to Comply with 20 CSR 4240-40.020(2)(C), (3), (4), and (6) and Applicable Commission Orders

The house explosion occurred at approximately 6:52 p.m. on August 26, 2024 at

⁴¹ In Spire’s response to Staff Data Request 0001.2, Spire clarified that the “three strike rule for locators” is applied when a locator incurs three preventable damages within a rolling twelve-month period. When this happens, the operator is disqualified, making them ineligible to locate Spire facilities. They remain ineligible until one of the three strikes “falls off,” after which they must re-qualify before they can locate Spire facilities again.

⁴² Spire Attachment 1.30 in response to Staff Data Request 0001.30, as edited based on comments provided by Spire in its review of Staff’s Draft Appendix A.

426 E Fair St., Independence, MO⁴³.

Spire employee ** [REDACTED] ** was notified by the Independence Fire Department of the house explosion at 6:52 p.m.⁴⁴

Spire's confirmed discovery that the event meet Missouri incident reporting criteria was at approximately 8:00 p.m.⁴⁵

Spire notified Staff of the incident by telephone at 8:10 p.m.

As the investigation continued, Spire determined at approximately 9:12 p.m. CDT that the federal incident definition may also have been met, and made a notification to the an NRC at 9:21 p.m.⁴⁶

The initial report, NRC #1409102, was submitted to the National Response Center (NRC) at 9:21 p.m. on August 26, 2024. The 48-hour update, NRC #1409265, was submitted to the NRC at 1:07 p.m. on August 28, 2024.

Spire's manager of Distribution, Integrity, and Engagement, ** [REDACTED] **, notified PHMSA that the incident did not reach reportable limits on September 25, 2024⁴⁷. Spire reported a total estimated property damage of \$117,219, which included \$100,132 estimated cost of public and non-Operator private property damage paid/reimbursed by the Operator,

⁴³ According to PHMSA Form 7100.1

⁴⁴ Spire's CONF Attachment 1A, provided in response to Staff Data Request 0001, Post Incident Review on November 7, 2024.

⁴⁵ Spire's response to Staff Data Request 0020.9.

⁴⁶ Spire's response to Staff Data Request 0020.9.

⁴⁷ According to Spire's CONF Attachment 1A, provided in response to Staff Data Request 0001, Post Incident Review on November 7, 2024.

\$6,659 of Operator's property damage and repair and \$500 emergency response.⁴⁸ Spire reported an estimated 138 thousand standard cubic feet of gas lost, at an estimated cost of \$1,294 for the value of the gas released.⁴⁹

D. Damage Prevention Program

1. Spire Actions to Comply with 20 CSR 4240-40.030(12)(I)

Spire provided a copy of its damage prevention program Damage Prevention Program Standard Operating Procedure (SOP), Document number 220.C.8 published August 9, 2024, that was in effect at the time of the incident.⁵⁰ The Damage Prevention Program requires compliance with Chapter 319, RSMo.

A notification of intent to excavate starting on August 21, 2024 in the vicinity of the incident was received from Missouri 811 on August 16, 2024. The Missouri 811 locate ticket indicated the planned excavation was to install fiber optic cable in Independence along Hocker Ave. from 23rd St. S. to south of Fair St. along a route marked in white paint. Spire's Contract Locator painted locate markings on the ground surface to indicate the location of Spire facilities along South Hocker Ave. on August 20, 2024.

On August 26, 2024, the Excavator was using directional drilling equipment to install telecommunication facilities from north to south along the west side of South Hocker Ave., parallel to and west of Spire's markings. At the point of the natural gas main damage, the yellow paint locate marking⁵¹ near the west pavement edge of Hocker Ave. was

⁴⁸ Spire's response to Staff Data Request 0020.

⁴⁹ Spire's response to Staff Data Request 0020.

⁵⁰ Spire response to Staff data request 0014.

⁵¹ The American Public Works Association (APWA) Uniform Color Codes for temporary marking of underground gas, oil, steam, petroleum or gaseous materials is yellow.

approximately 6 feet east from the edge of the buried natural gas main.⁵² There was only one set of yellow paint markings to the east of the natural gas main damage, and that set of yellow paint markings extended to the north and south near to the west pavement edge of Hocker Ave. To the south at East Fair St., there was a second set of yellow paint markings that were closer to the natural gas main, but yellow paint markings were no closer than 3 feet from the edge of the main.⁵³ A diagram indicating Spire’s facilities in the area of the damage and Spire’s markings⁵⁴ is included as Confidential Figure 3 in Appendix B.

The yellow paint markings placed by the Contract Locator employee on the ground surface were determined by Spire and Staff to be outside of the “approximate location”⁵⁵ of Spire’s gas main, therefore Spire’s Contract Locator failed to mark the approximate location as required by Section 319.030, RSMo. Spire also determined that certain requirements of its contract locating procedure Contract Locating Procedure Standard Operating Procedure (SOP), Document number 220.R.5 published August 9, 2024 were not followed.⁵⁶ Spire’s findings regarding procedure compliance were that the Contract Locator employee did not use all available means to locate the main or services, did not pull measurements to verify if the markings were correct, and did not submit a Request for Locate Assistance (RFLA).⁵⁷ The Contract Locator employee did not identify the test point at the west side of Hocker Ave.

⁵² Spire response to Staff data request 001.7.

⁵³ Spire response to Staff data request 001.7.

⁵⁴ Spire response to Staff Data Request 0001.7 and Spire Attachment 1.7

⁵⁵ RSMo 319.015 defines “approximate location” to be a strip of land not wider than the width of the underground facility plus two feet on either side thereof. In situations where reinforced concrete, multiplicity of adjacent facilities or other unusual specified conditions interfere with location attempts, the owner or operator shall designate to the best of his or her ability an approximate location of greater width.

⁵⁶ Spire response to Staff Data Request 0001.5 and Spire Attachment 1.5

⁵⁷ Spire responses to Staff Data Requests 0001.5 and 0001.11

north of Fair St.⁵⁸ that was closest to the damage location. Instead, the Contract Locator employee used an access point at the southwest corner of Fair St. and Hocker Ave.

According to the Contract Locator District Manager, this produced a "poor tone and locator thought he was bleeding off on the old steel".⁵⁹ Regarding the two sets of inaccurate yellow markings, Spire found that one set of markings was the alleged tone received by the Contract Locator employee. Believing the tone was "bleeding" onto the abandoned steel main, the additional set of markings were based on measurements applied by the Contract Locator employee using mapping information provided by Spire.⁶⁰ Section 4.1.1.1.2 of SOP 220.R.5

states: _**

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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Prior to the main configuration that is shown in Confidential Figures 2 and 3 of this Report, an underground steel main Hocker Ave. was installed along the west edge of the pavement. A portion of the steel main had been relocated with plastic main at the incident location and was offset to the west and located in the lawns west of the pavement. In the area of the plastic main damage, the Contract Locator employee had located the abandoned steel main instead of the plastic main that was off-set several feet to the west. The Contract Locator employee did not identify and use the test point at the steel tee near the damage location and

⁵⁸ Spire response to Staff Data Request 0001.8

⁵⁹ Spire responses to Staff Data Requests 0001.12

⁶⁰ Spire responses to Staff Data Requests 0001.7 and 0001.8.

⁶¹ Spire responses to Staff Data Requests 0001.11

instead used an access point at the southwest corner of Hocker Ave. and East Fair St., resulting in a poor locate tone. The plastic main offset was shown on a map that was available to the Contract Locator employee, but the yellow paint marking of 4-inch plastic main was placed over the abandoned steel main instead of the plastic main. Since the Contract Locator employee was not able to determine the location of the offset plastic main, the Request for Locate Assistance (RFLA) process should have been used.

Spire deemed that the Contract Locator was at fault and since this was the third at fault locate performed by this Contract Locator employee, the employee's qualification was pulled by the Contract Locator per Spire's request.⁶² The three at-fault locates by this Contract Locator employee met the three-strike rule.⁶³

E. Drug and Alcohol Testing

1. Spire's Actions to Comply with 20 CSR 4240-40.080:

Spire provided copies of the Drug and Alcohol Testing Policies for Spire and for Spire's Contract Locator) that were in effect at the time of the incident.⁶⁴

Spire identified a total of four individuals who were assigned to the project and on site at the time of the incident: Spire employees ** [REDACTED]

[REDACTED] **.65

Pre-Employment Drug Testing:

⁶² Spire response to Staff Data Request 0001 and Spire Attachment 1A

⁶³ Spire response to Staff Data Request 0001.16

⁶⁴ Spire's response to Staff Data Request 0024.

⁶⁵ Post Incident Review dated November 7, 2024.

Spire provided documentation of pre-employment drug testing for the Contract Locator employee, ** [REDACTED] ** and all of its four employees on site at the time of the incident:

** [REDACTED] **. **66

Random Drug Testing:

Spire provided documentation of the number of random drug testing performed during calendar year 2023⁶⁷ and 2024⁶⁸ for Spire and the testing pools for its Contract Locator.

Post Incident Drug Testing:

Spire identified a total of four individuals who were assigned to the project and on site at the time of the incident: Spire employees ** [REDACTED] [REDACTED] **. ** All four employees were tested in a timely manner resulting in negative test results.⁶⁹ There were no other Spire contractors working during this emergency response.⁷⁰

F. Operator Qualification

1. Spire's Actions to Comply with 20 CSR 4240-40.030(12)(D):

Spire provided a copy of its *Spire Operator Qualification Plan MO West-MO East Last Update Date: 3/29/2024* , as the written operator qualification (OQ) program that was applicable to all personnel, including Spire employees and all contractor personnel working for Spire performing work at the incident location on August 26, 2024, in Independence,

⁶⁶ Spire's Confidential Attachment 25 provided in response to Staff Data Request 0025.

⁶⁷ Spire's Confidential Attachment 26C provided in response to Staff Data Request 0026.

⁶⁸ Spire's Confidential Attachments 26.1(A) and 26.1(B) provided in response to Staff Data Request 0026.1

⁶⁹ Post Incident Review dated November 7, 2024.

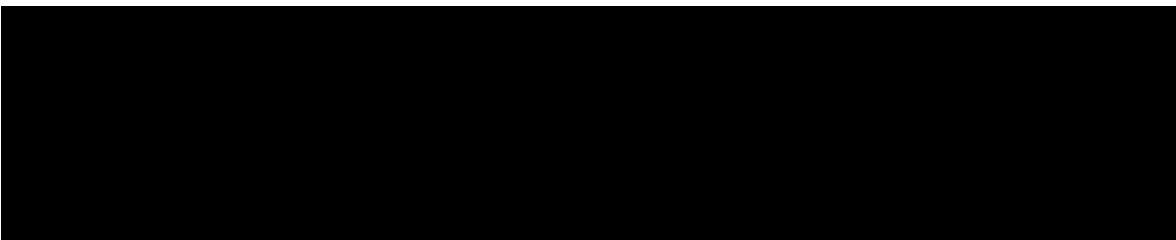
⁷⁰ Spire's response to Staff Data Request 0024.

Missouri. This includes personnel who performed the tasks of receiving, recording, and responding to notification(s) of the excavation activity occurring in the vicinity of the incident.⁷¹

Spire identified four groups of individuals who performed covered tasks as part of its work related to this incident: Contract Locator personnel, Service Department personnel, Construction (Street) Department personnel, and Pressure & Measurement Operator personnel.⁷² Specific descriptions of the tasks performed by each group and its personnel OQ records follow below.

Spire identified one covered task was performed by its Contract Locator personnel prior to the incident⁷³:

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**

Spire identified one Contract Locator employee that performed the covered task identified in Table 3, and provided documentation that this individual was qualified at the time he performed the task.⁷⁴

For Service Department personnel, Spire identified the following covered tasks that were performed in response to the incident⁷⁵:

⁷¹ Spire response to Staff data request 0018

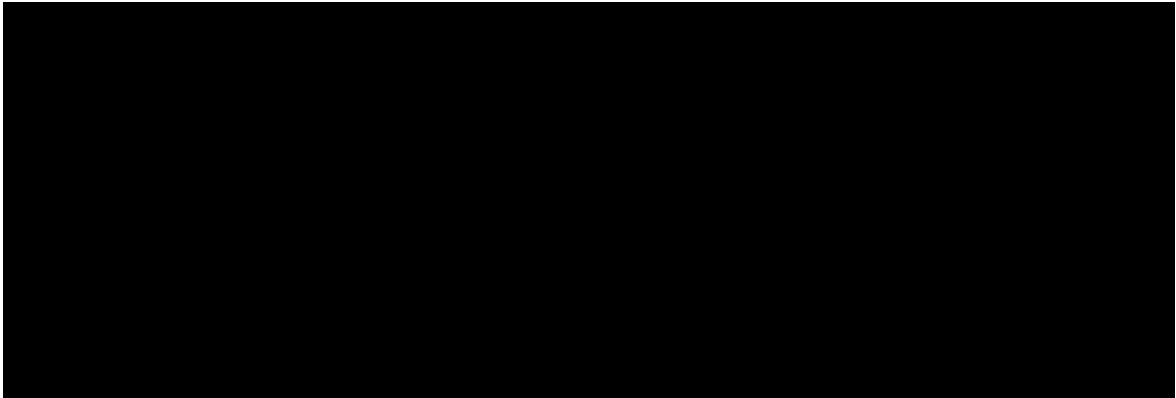
⁷² Spire response to Staff data requests 0018.1 and 0018.3

⁷³ Spire response to Staff data request 0018.3

⁷⁴ Spire response to Staff data request 0018.3 and Spire Attachment 18.3

⁷⁵ Spire response to Staff data request 0018.1

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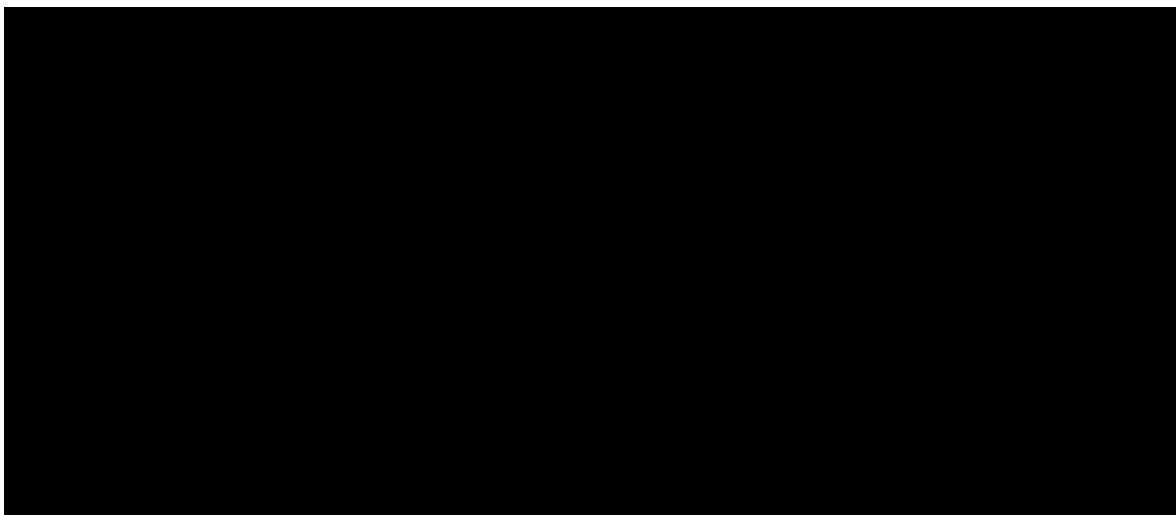


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Spire identified eight Spire employees from Spire's Service Department that conducted the covered tasks identified in Table 4 above in response to the incident. Spire provided records showing the eight Spire employees identified were qualified to perform the covered tasks identified in Table 4 on the date of the incident.⁷⁶

For Construction (Street) Department personnel, Spire identified the following covered tasks that were performed in response to the incident⁷⁷

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⁷⁶ Spire response to Staff data request 0018

⁷⁷ Spire response to Staff data request 0018.1

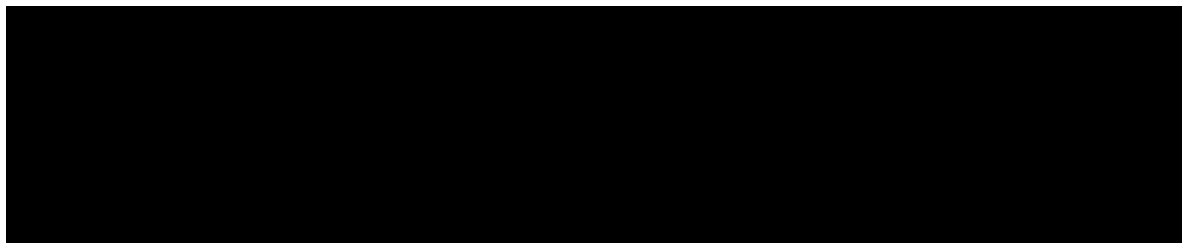


**

Spire identified nine Spire employees from Spire's Construction (Street) Department that conducted the covered tasks identified in Table 5 at the incident location. Spire provided records showing the nine Spire employees identified were qualified to perform the covered tasks identified in Table 5 on the date of the incident.⁷⁸

For Pressure & Measurement Operator personnel, Spire identified the following covered task that was performed in response to the incident⁷⁹

**



⁷⁸ Spire response to Staff data request 0018

⁷⁹ Spire response to Staff data request 0018.1

**

Spire identified one Spire employee from Spire’s Pressure & Measurement Operator personnel that conducted the covered task identified in Table 6 in response to the incident. Spire provided a record showing the Spire employee identified was qualified to perform the covered task identified in Table 6 on the date of the incident.⁸⁰

G. Distribution Integrity Management Program (“DIMP”)

1. Spire Actions to Comply with 20 CSR 4240-40.030(17):

Spire provided a copy of its written DIMP Plan Spire, Gas Distribution Integrity Management Program published August 31, 2021, that was in effect at the time of the incident.⁸¹

In its incident report provided to PHMSA⁸², Spire lists the apparent cause of the incident as “Excavation Damage”. “Excavation Damage” is one of the threat categories that must be considered in an operator’s DIMP. The DIMP Plan that was effective for Spire at the time of the incident included a written action plan Damage Prevention Action Plan, Version 3.0 dated July 31, 2021.⁸³ This action plan addressed excavation damage sub-threats including “Locating Practices Not Sufficient”, and the Damage Prevention Program (SOP 220.C.8) was updated on August 9, 2024.⁸⁴ ** [REDACTED]

[REDACTED] ** was an action Spire identified to address locating practices and

⁸⁰ Spire response to Staff data request 0018

⁸¹ Spire response to Staff Data Request 0022.

⁸² 20 CSR 4240-40.020(6)(A) requires that each operator submit a federal incident report on Form PHMSA F 7100.1 as soon as practicable but not more than thirty (30) days after detection of an incident required to be reported under 20 CSR 4240-40.020(3). Spire’s incident report was provided in response to Staff Data Request 0020.

⁸³ Spire response to Staff Data Request 0022.

⁸⁴ Spire response to Staff Data Request 0022.2.

the DIMP Plan was updated on August 9, 2024, with training completed on July 17 through 19, 2024.⁸⁵ ** [REDACTED] ** was another action that was addressed by the action plan.⁸⁶ Spire's DIMP Plan does not currently contain any other action plans to address "Locating Practices Not Sufficient".

The Form PHMSA F 7100.1-1 annual report Spire submitted for its Spire Missouri Inc. West service area showed that in calendar year 2024, there were a total of 387 damages to Spire's pipelines that Spire attributed to location issues, 150 of which Spire attributed to "Facility marked inaccurately due to Incorrect facility records/maps".

Spire stated that events and incidents are reviewed with Subject Matter Resources (SMR's) on a quarterly basis and are discussed to determine if changes are needed.⁸⁷ This incident was reviewed with the SMR's on November 19, 2024, and no changes were identified by the SMR's as being needed.⁸⁸

H. Oversight of Contractors

2. Spire Actions to Comply:

Spire provided a copy of its Company Service Providers Inspection & Field Oversight Standard Operating Procedure (SOP) 220.K.2 ("SOP 220.K.2"). An employee of Spire's Locating Contractor, ** [REDACTED] ** completed the locate on August 20, 2024. The incident occurred on August 26, 2024.

⁸⁵ Spire response to Staff Data Request 0022.2.

⁸⁶ Spire response to Staff Data Request 0022, the "Damage Prevention Action Plan" states that the ** [REDACTED] **

⁸⁷ Spire response to Staff Data Request 0022.

⁸⁸ Spire response to Staff Data Request 0022.1.

MISSOURI PUBLIC SERVICE COMMISSION

STAFF'S GAS INCIDENT REPORT

**426 E Fair Street
Independence, MO
August 26, 2024**

APPENDIX B

FIGURES

**Spire Missouri, Inc.
Case No. GS-2025-0068**

*Industry Analysis Division
Safety Engineering Department
Jefferson City, Missouri*

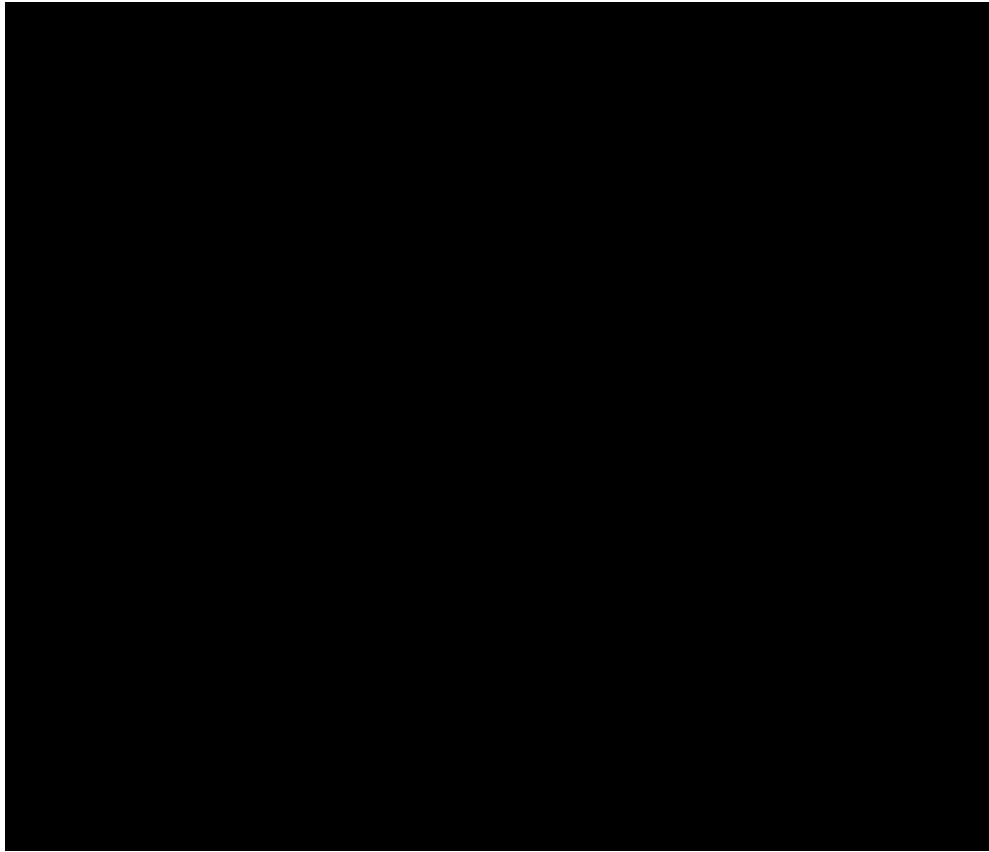
**** Denotes Confidential Information ****

APPENDIX B FIGURES



Figure 1: Incident Location and Street View of Residence at 426 E Fair Street, Independence, MO, Street View is Prior to Incident (Source: Google Maps, Image Capture Date June 2024, Staff added arrow and address)

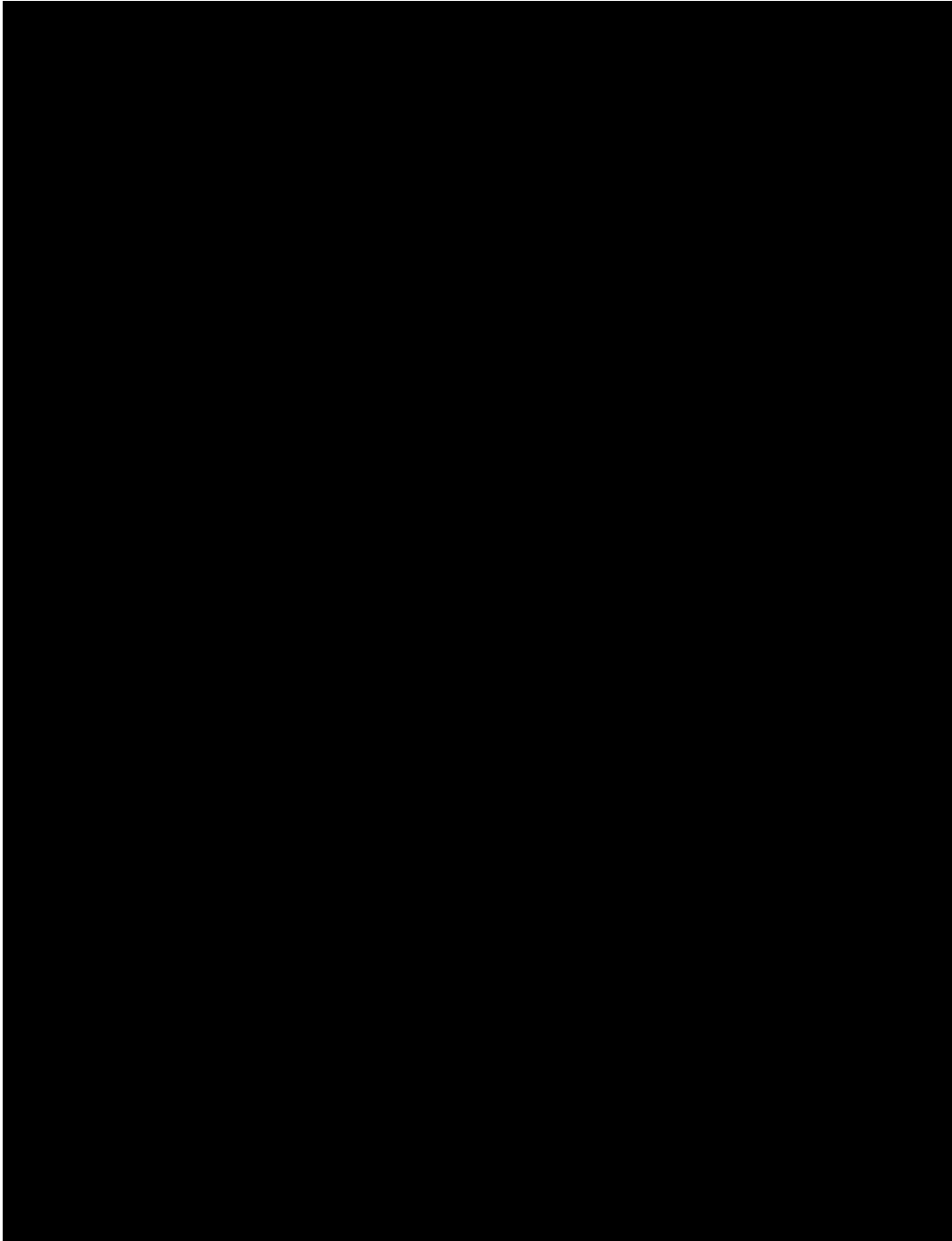
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Figure 2 – Screenshot of Spire GIS mapping system. This displays the pipeline system layout on the day of the incident (red arrow added by Staff to indicate approximate location of damage). Staff notes that the service line to 426 E Fair St shown in the figure does not depict the actual location of the service line. The service line to E 426 Fair St is located along the west side of the home. (Source: Spire provided figure as part of Spire Confidential Attachment 11 in response to Staff Data Request 0011).

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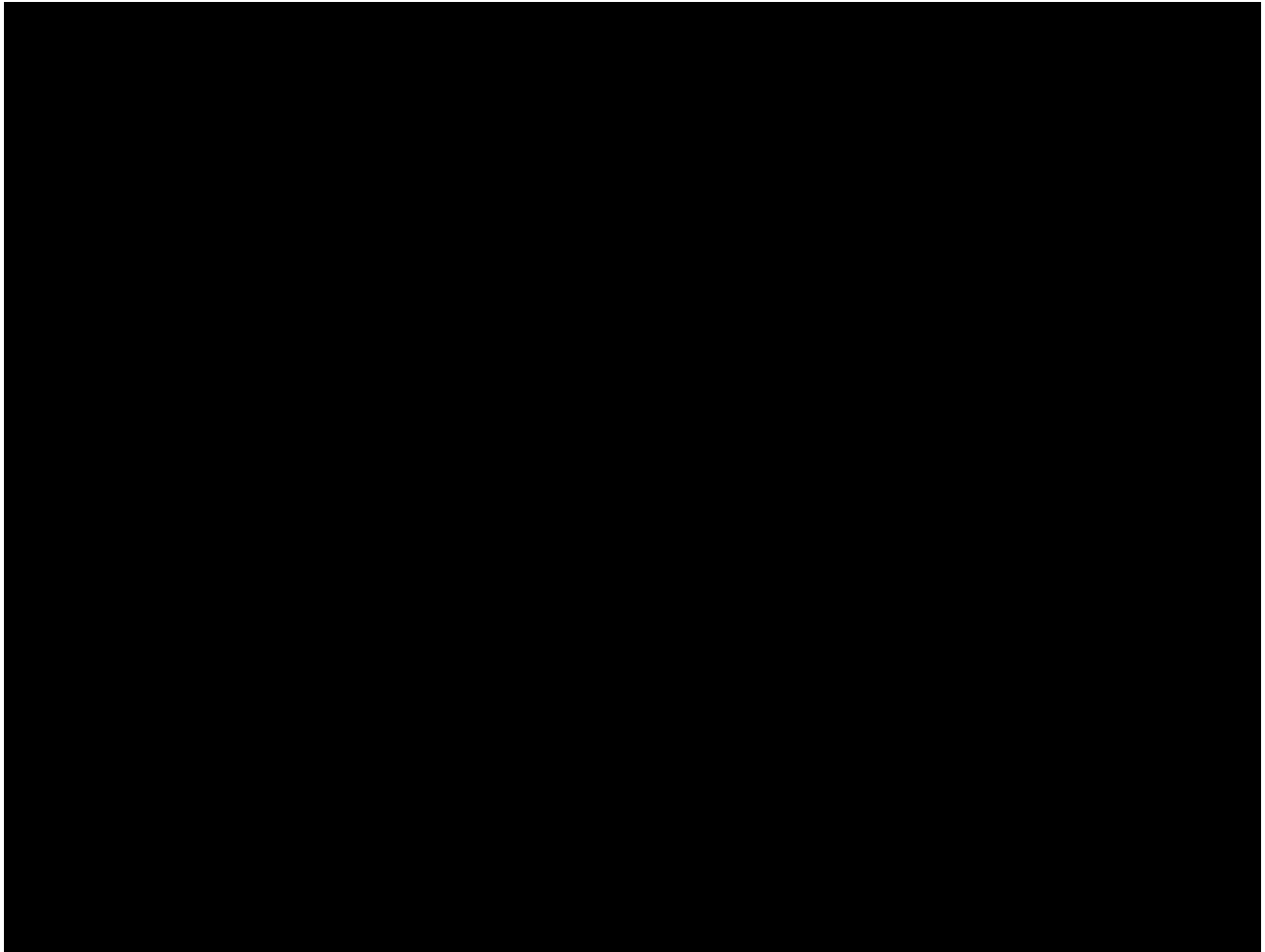
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Figure 3 - Spire drawing depicting the location of Spire pipeline facilities in the area of damage, as well as depicting visible markings that were intended to indicate the location of Spire's facilities to the Excavator. (Source: Spire figure provided as Spire Confidential Attachment 1.7 in response to Staff Data Request 0001.7)



Figure 4 – Photograph looking south along South Hocker Ave. The horizontal directional drilling machine is set up on right side of image in order to install telecommunications line heading south alongside South Hocker Ave. (Staff photograph)

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Figure 5 – Photograph of damage to pipeline prior to removal of pipeline from incident location.
(Source: Photo provided by Spire as Confidential Attachment 17C in response to Staff Data Request 0017)

Case No. GS-2025-0068

APPENDIX C

HAS BEEN DEEMED

CONFIDENTIAL

IN ITS ENTIRETY