DEDICATED TO SAFETY AND SERVICE

2023 DAMAGES REPORT

nm811

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Introduction

In 2023, the Common Ground Alliance (CGA) challenged industry partners to reduce damages by 50% in 5 years. This challenge, dubbed "50 in 5", aims to reduce damage at a time when infrastructure spending is expected to increase. Therefore, we will use the 2023 data as our baseline and then revisit it at some future point in time to identify areas where we successfully reduced damages to underground infrastructure.

In New Mexico, excavators who damage an underground facility are required by law to report the damage to the Underground Facility Owner (UFO) and New Mexico 811 (NM811). Reporting the damage to NM811 will immediately result in a damage ticket notification being sent to the affected UFO to expedite a response to the damage, remediate the problem and restore service as soon as practical. UFOs must also submit any available or relevant information concerning the damage to New Mexico's on-line Utilisphere Damage Reporting System (Damage Repository) within 30 days of the initial damage for review and investigation by the Public Regulation Commission's Pipeline Safety Bureau (PSB).

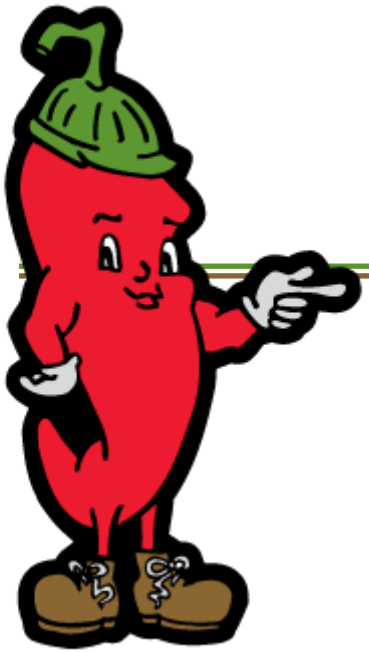
Data Analysis

This report is an analysis of 2023 damage data submitted to New Mexico's Damage Repository. The data collected is a blend of CGA DIRT standards and the PSB investigation requirements. The initial data import included 4,518 records comprised of a single row of data pertaining to each incident of damage reported online, which was further analyzed and reduced to reflect only 2,595 records. Further analysis was necessary to eliminate duplicate records in the Damage Repository database used by both the excavator and UFO in the public process of reporting damages.

Damage Reporting

When a damage report is mage to the NM811 One Call Center, a damage ticket is created which includes such information as the location of the reported event, date and time, and other relevant information pertaining to the damage facility locations (i.e., county, time of date, day of the week, month, and year). An analysis of the root cause for each report of damage is then used to group this information into the ten (10) root causes, as reported by the PSB, so that the data can be placed within the following practice categories: 1) Excavation; 2) Locating; and/or Communication.

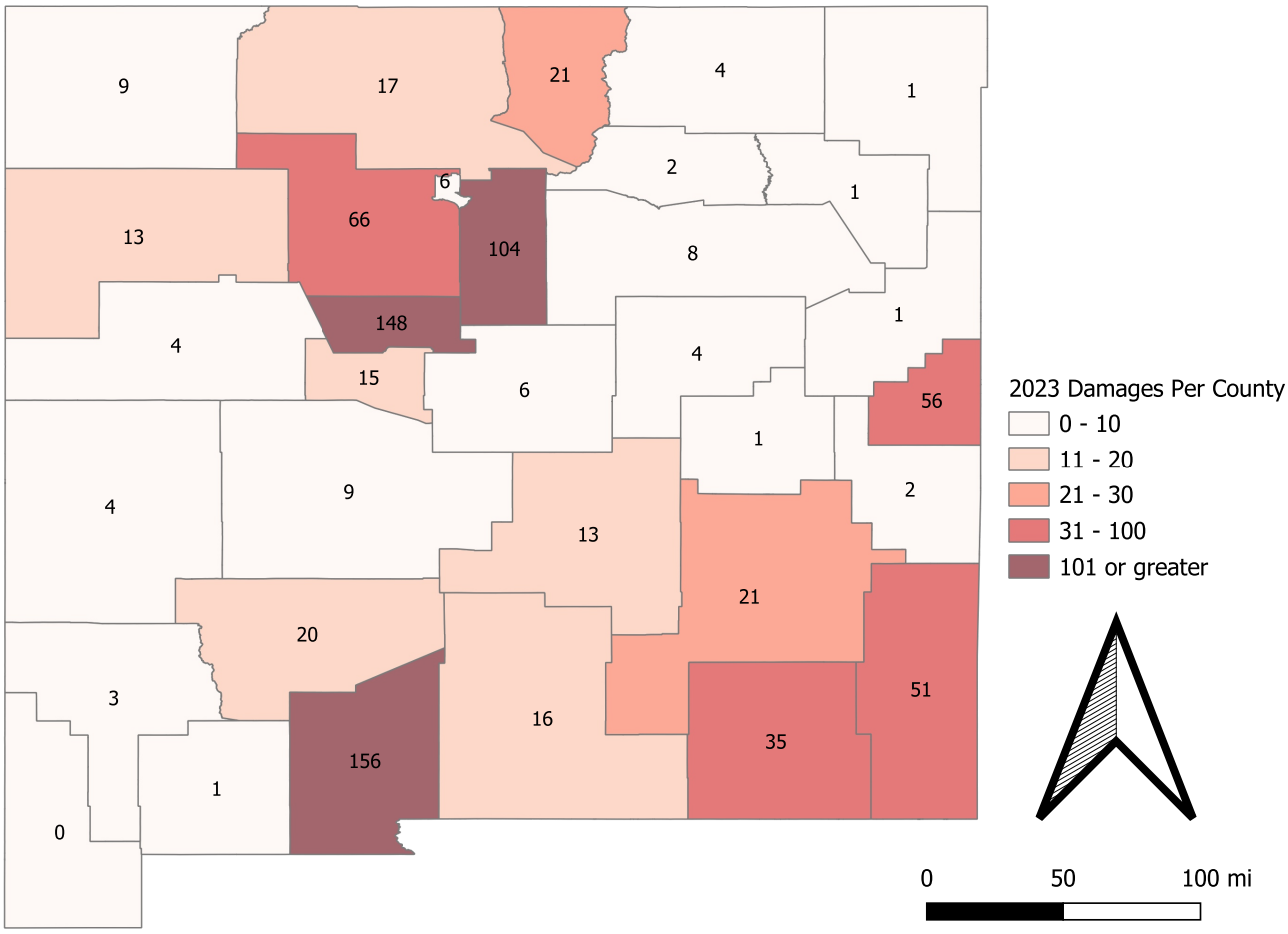
Find us online at NM811.org.



RESULTS

Damages by Location

Damages by location gives us insight into where we can better focus damage prevention and outreach efforts. Doña Ana county had the most damages in 2023 closely followed by Bernalillo and Santa Few counties. There are six counties that had one or no damages, thirteen counties with less than five damages, and three counties with greater that one hundred damages for the year.

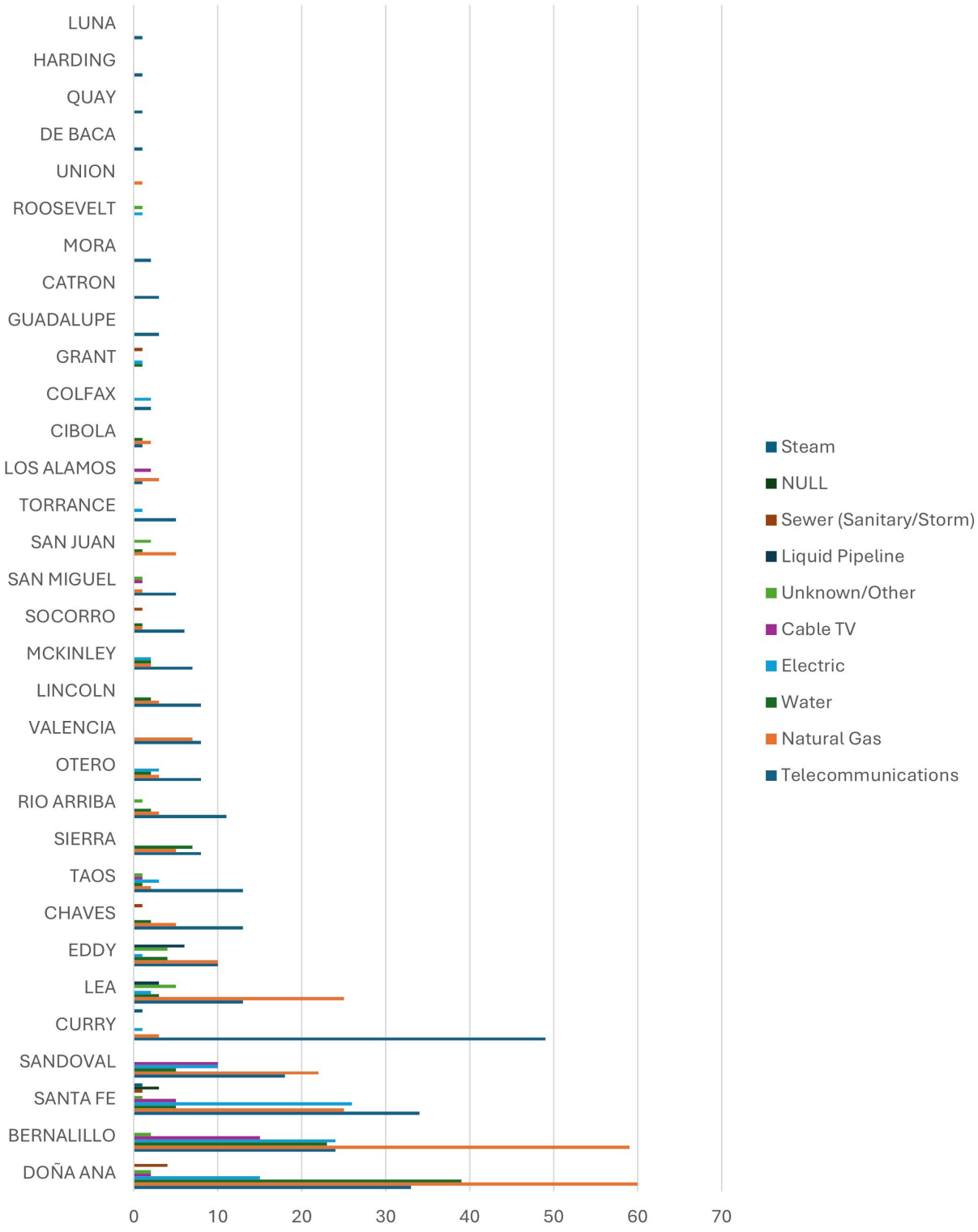


DAMAGES BY COUNTY

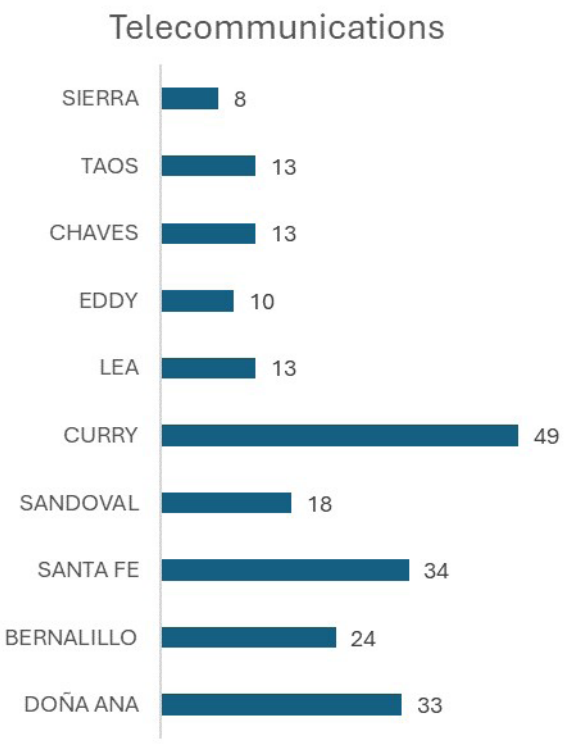
BERNALILLO	148	HARDING	1	ROOSEVELT	2
CATRON	4	HIDALGO	0	SAN JUAN	9
CHAVES	21	LEA	51	SAN MIGUEL	8
CIBOLA	4	LINCOLN	13	SANDOVAL	66
COLFAX	4	LOS ALAMOS	6	SANTA FE	104
CURRY	56	LUNA	1	SIERRA	20
DE BACA	1	MCKINLEY	13	SOCORRO	9
DOÑA ANA	156	MORA	2	TAOS	21
EDDY	35	OTERO	16	TORRANCE	6
GRANT	3	QUAY	1	UNION	1
GUADALUPE	4	RIO ARRIBA	17	VALENCIA	15

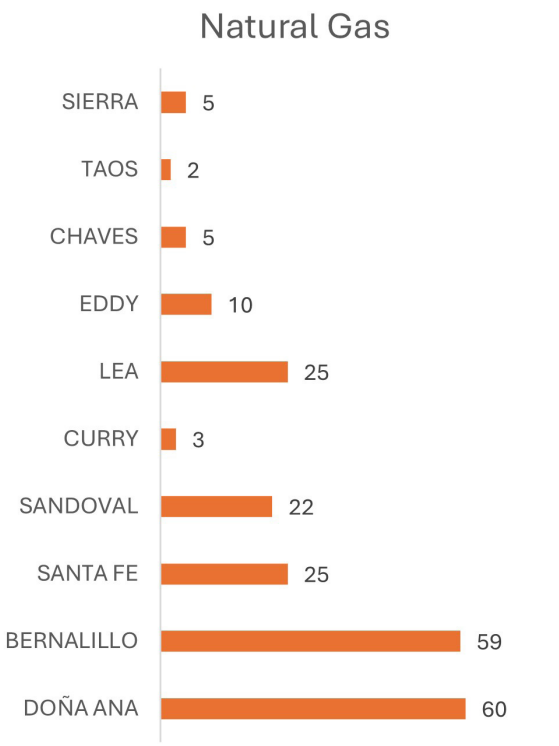
Facilities Damaged by County

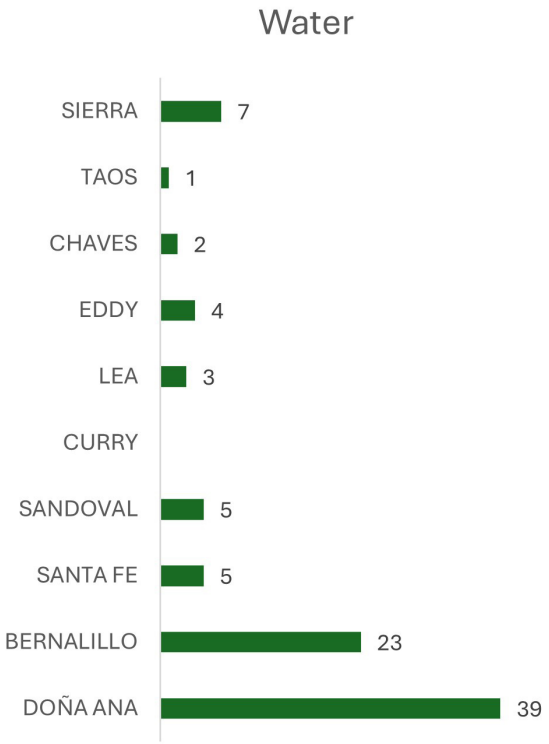
Natural Gas is the facility most often reported as damaged in Doña Ana, Bernalillo, Sandoval, and Lea counties. The remaining counties show Telecommunications as the most common facility damaged.

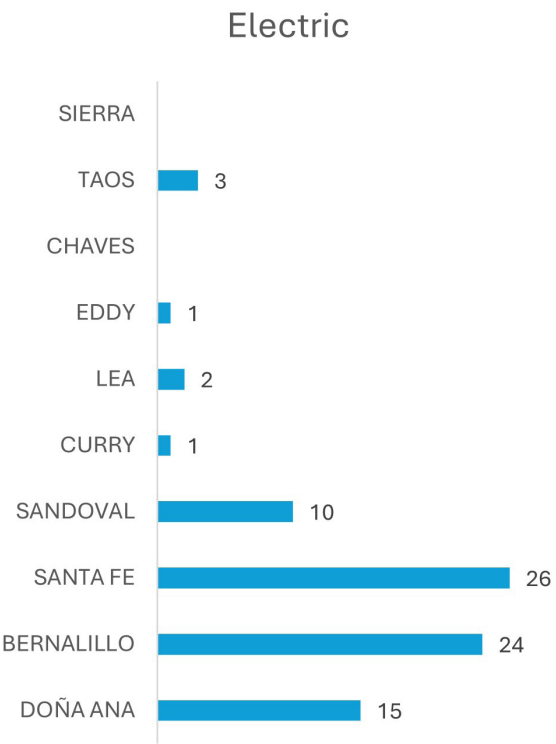


A closer look at the top four facilities in the top 10 counties shows that telecommunications is the most common facility damaged in Curry count and natural gas is the most damaged facility in Bernalillo and Doña Ana counties.



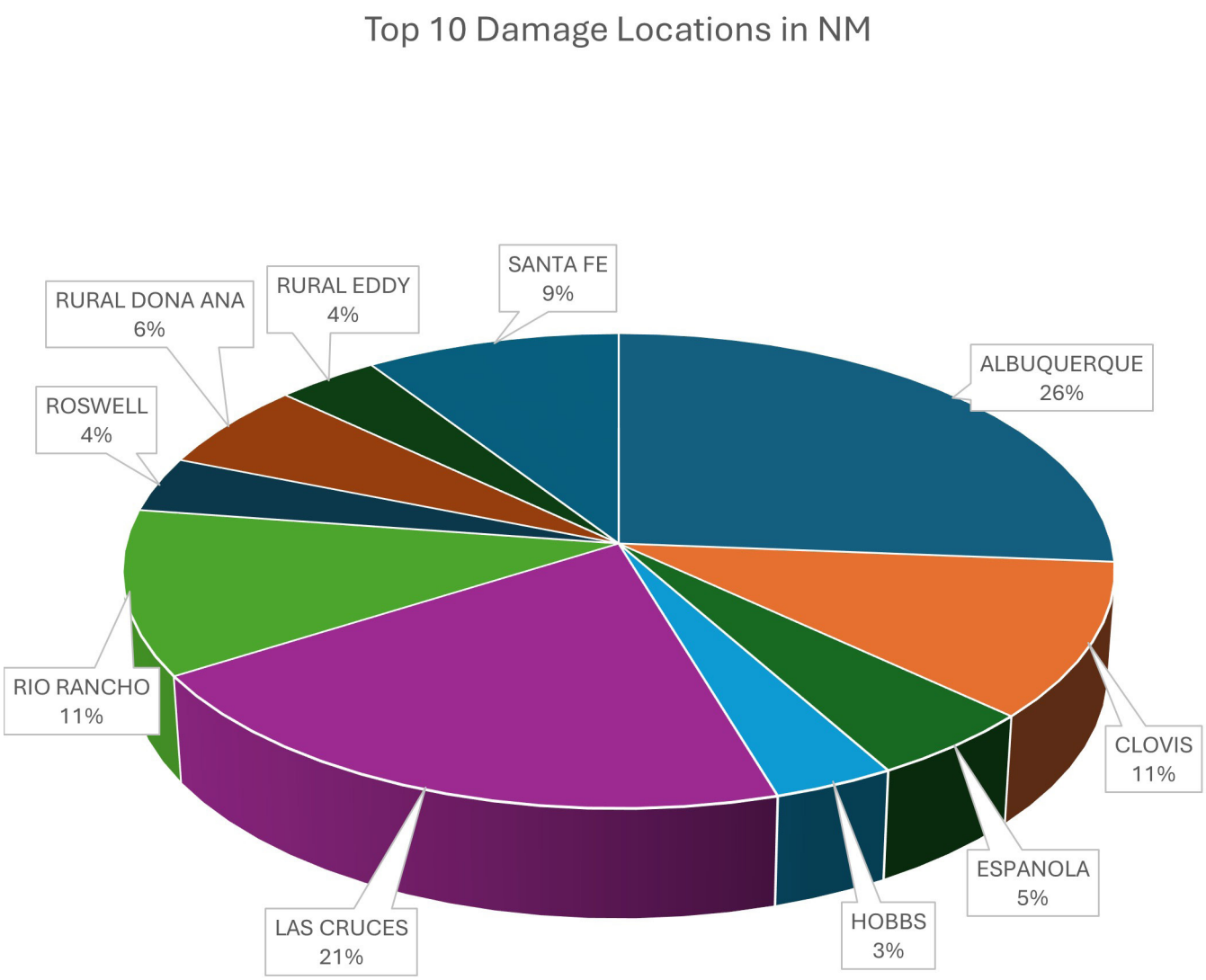






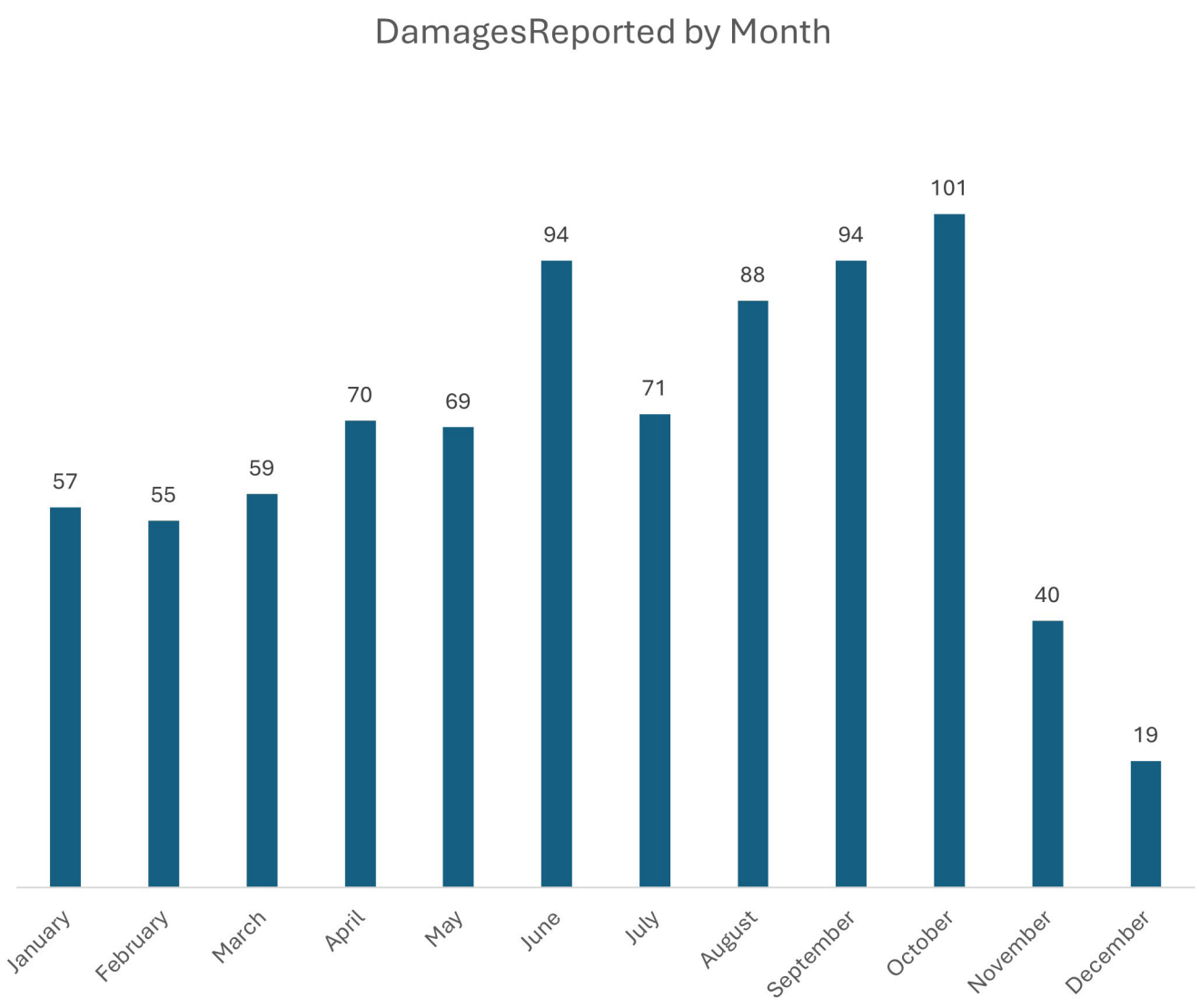
Top 10 Damage Locations in NM

Natural Gas is the facility most often reported as damaged in Doña Ana, Bernalillo, Sandoval, and Lea counties. The remaining counties show Telecommunications as the most common facility damaged.



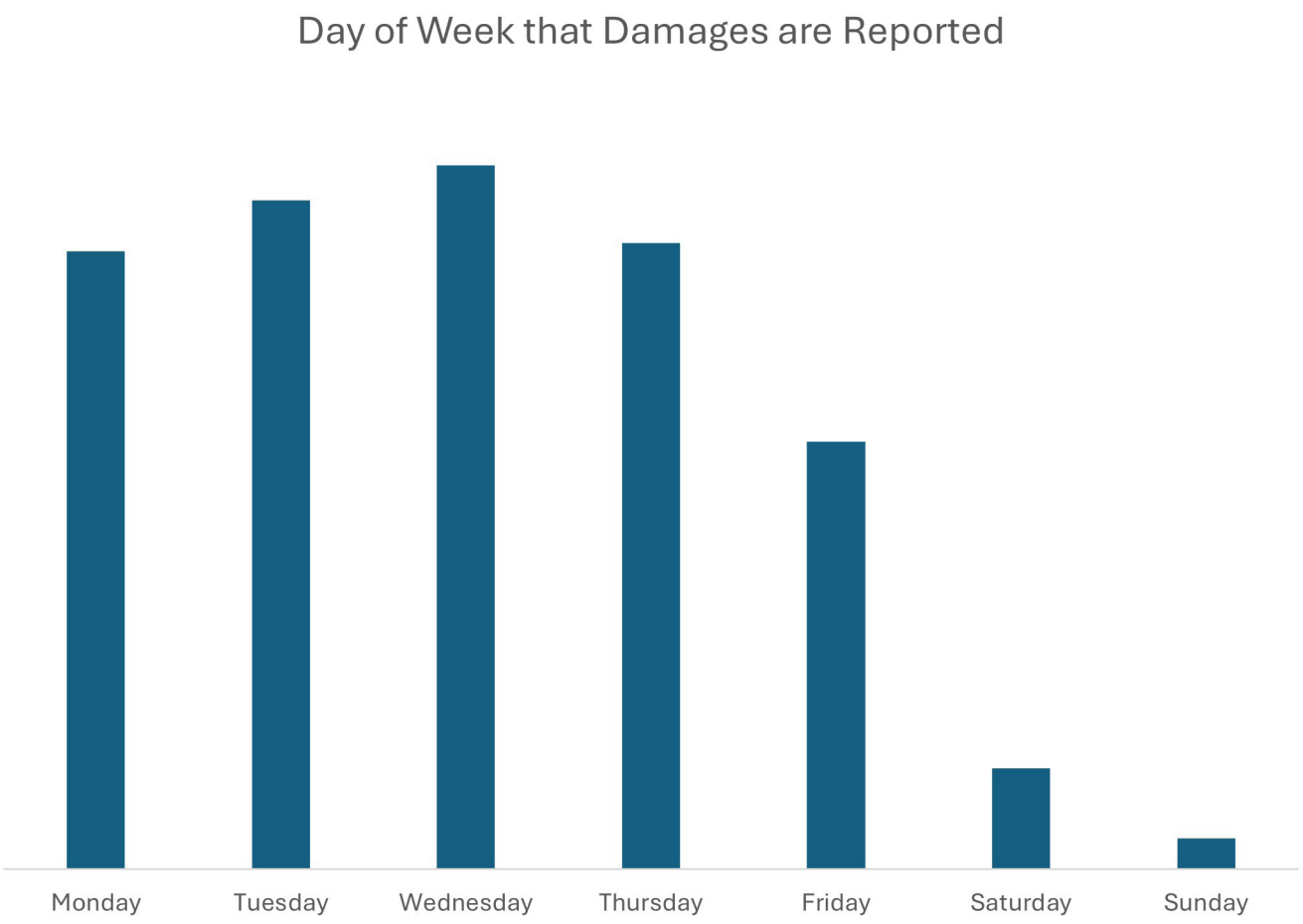
Damages by Time

The peak months for damages in 2023 were October, June, September, and August, with each of those four months having more than 80 damage events.



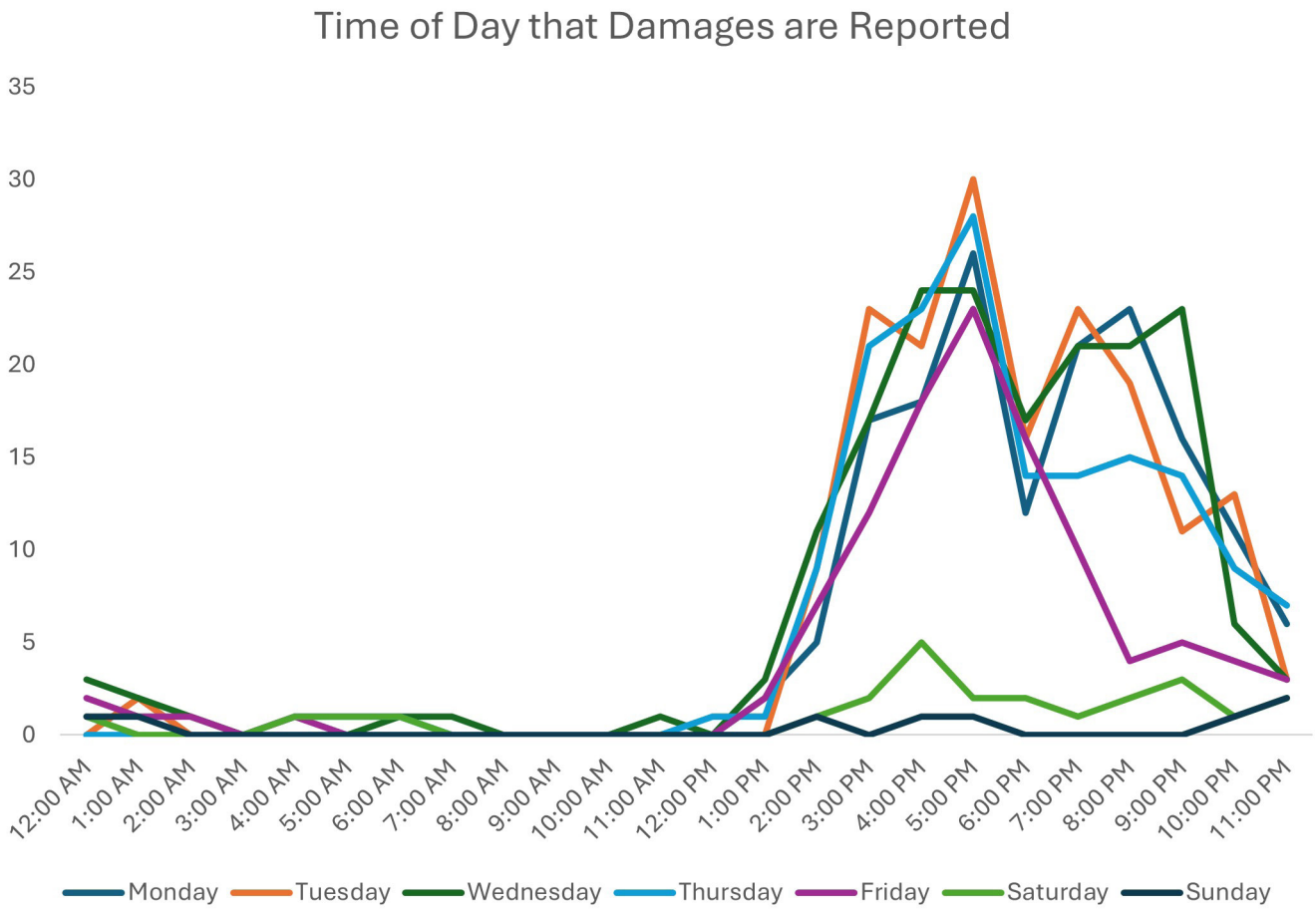
Damages by Day of Week

The two most common days of the week for damages were Wednesday and Tuesday; each with more than 170 damages. However, it is worth noting that each business day had over 100 damages while weekends combined had 34 damage reports.



Damages by Time of Day Reported

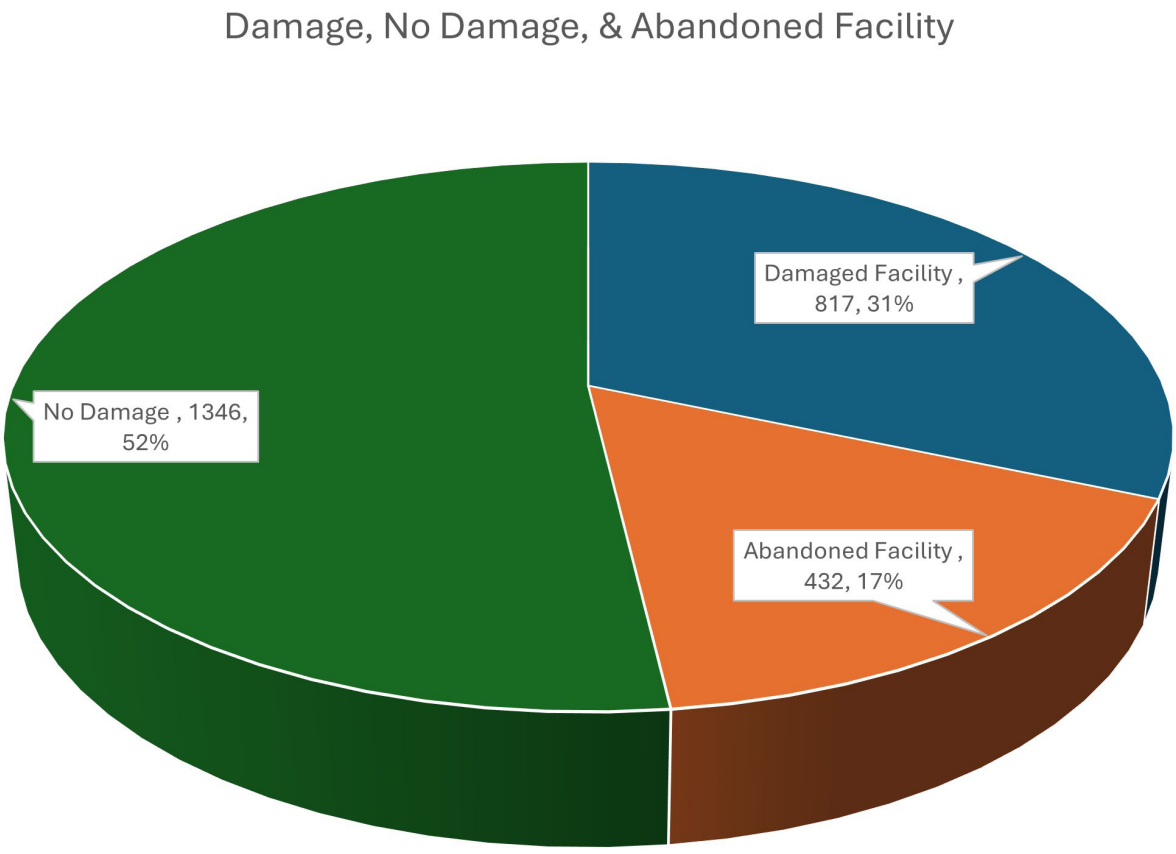
Most damages are reported after noon. The majority of damage events are reported between 3:00 PM and 6:00 PM with the peak damage reporting occurring in the 5:00 PM hour.



Damage Reports by Root Cause

There were 2,595 reports of damage to underground infrastructure in New Mexico in 2023. Of those reported damages 432 were damages to abandoned infrastructure, 1,346 resulted in a finding of "No Damage"*, and the remaining 817 reports resulted in a finding of damage to underground infrastructure.

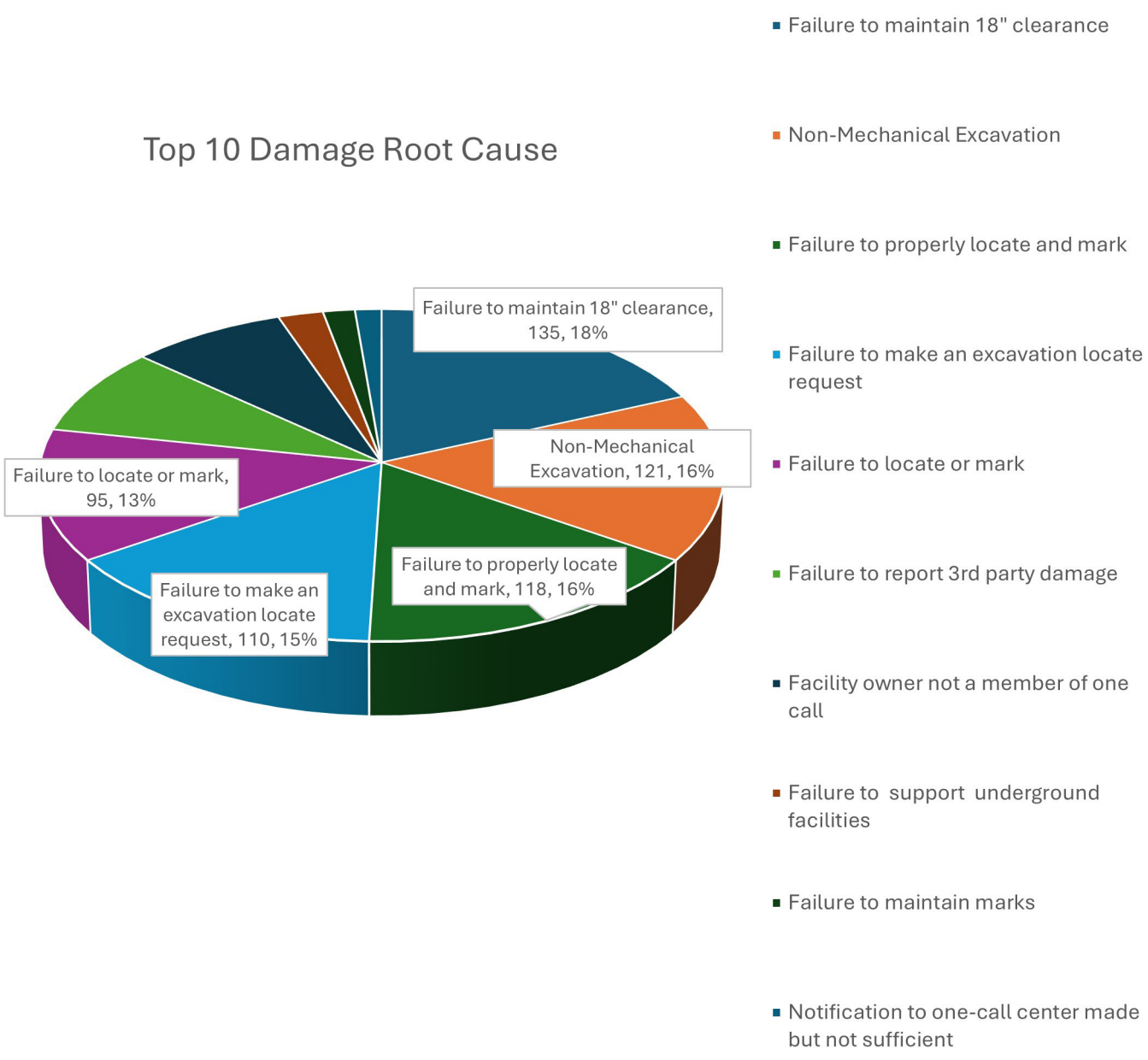
** "No Damage" is based on what the PSB is able to enforce as a damage and does not include damages from hand tools or damages to private service lines.*



Top 10 Damage Root Causes

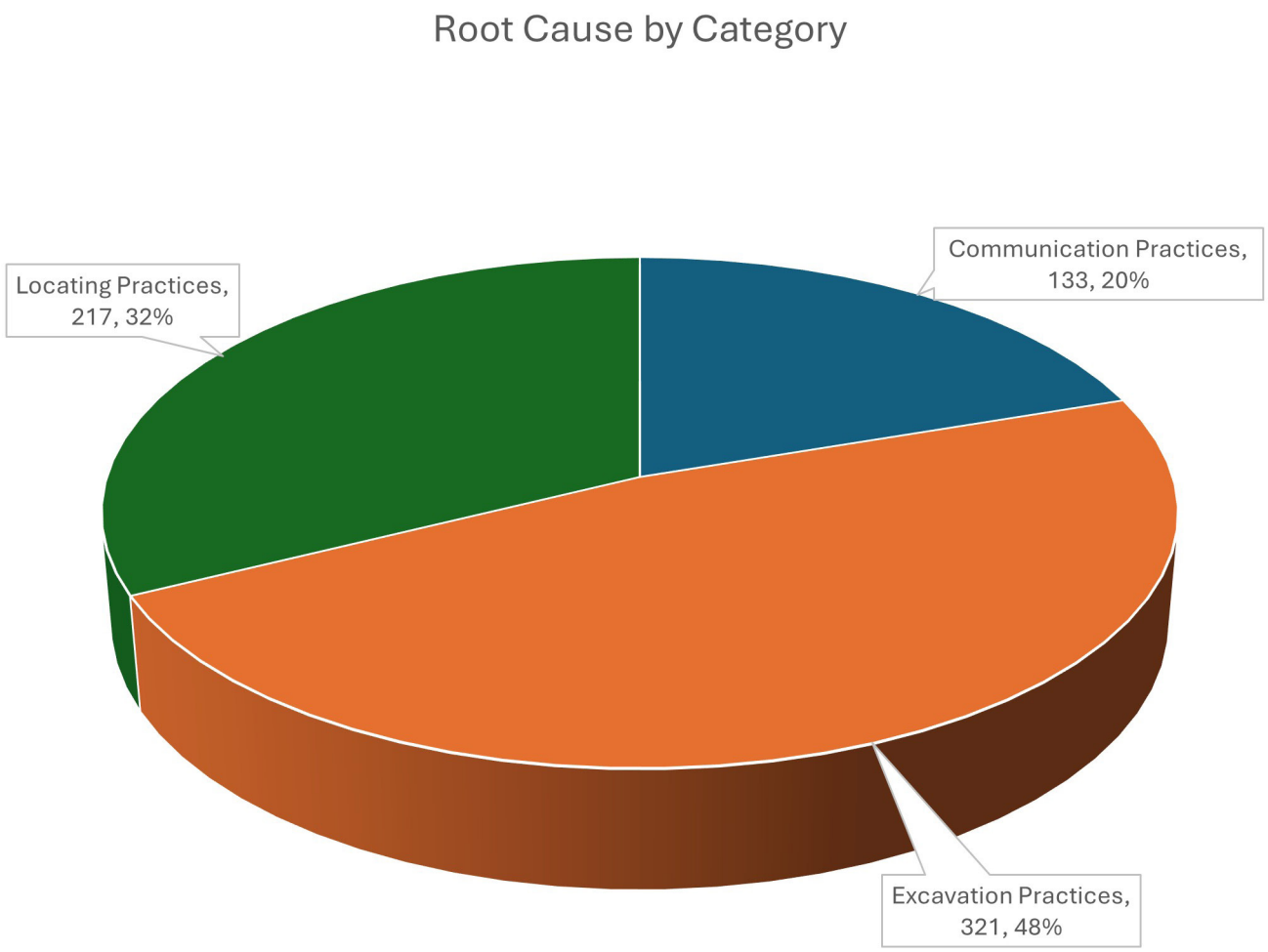
The top five damage root causes account for 70% of the actual damages. Those root causes are: Failure to maintain 18" clearance (135), Non-Mechanical excavation (121), Failure to properly locate and mark (118), Failure to make an excavation request (110), and Failure to locate or mark (95).

**This graph represent the top ten (10) damage root cause, not all damages are represented in this graph.*



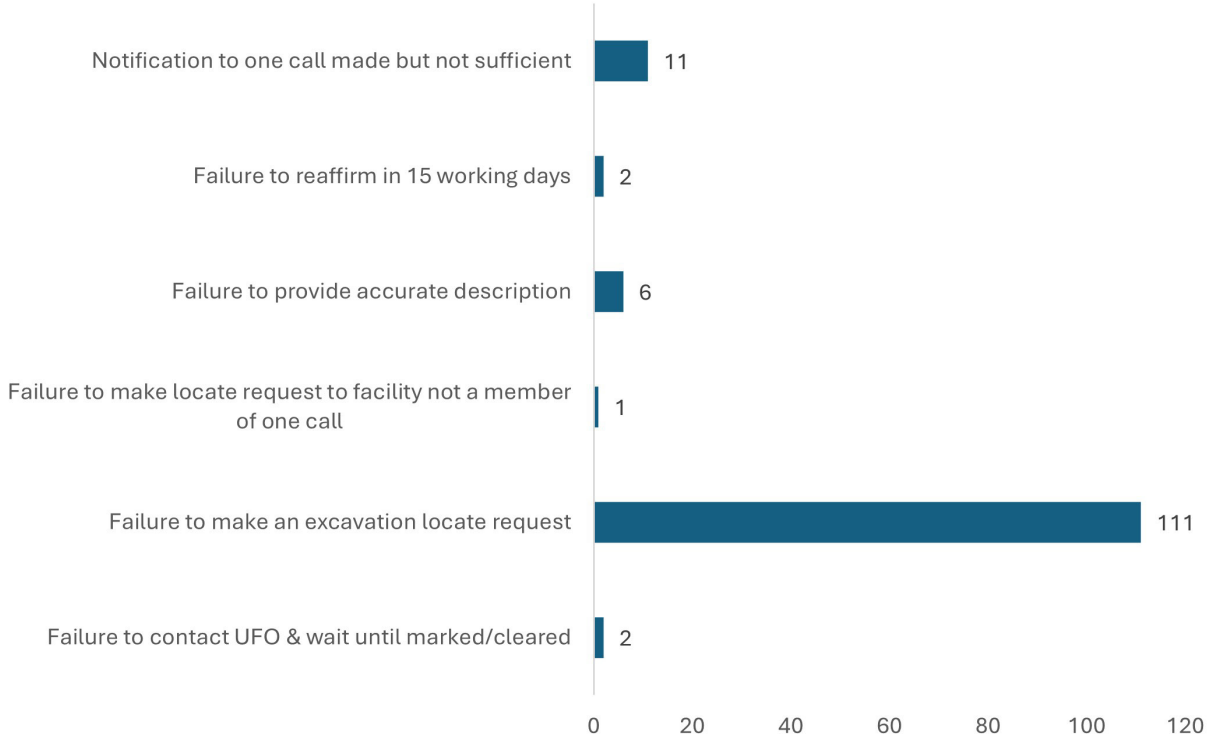
Root Cause by Category

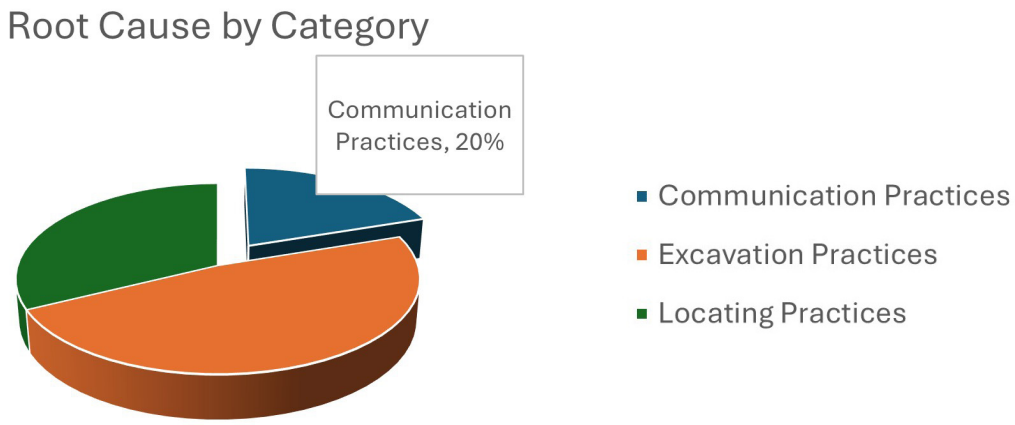
Categorizing the root causes into three main practice areas—Communication, Excavation, and Locating—we observe that Communication accounts for 133 damages, Excavation accounts for 321 damages, and Locating accounts for 217 damages.



Communication Practices

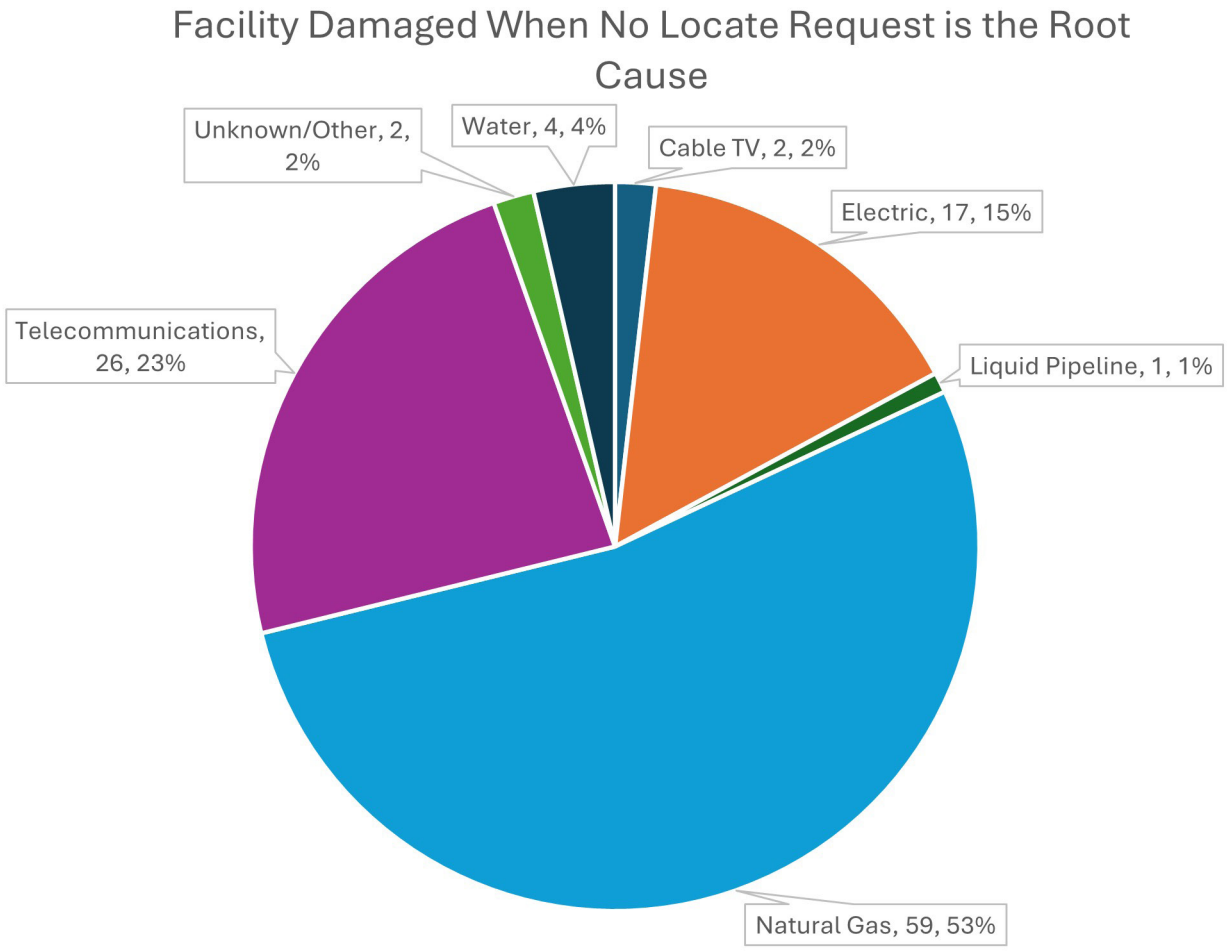
Communication practices are the smallest group of damage root causes and account for 132 damages to underground facilities. The leading cause of communication damages is "Failure to make an excavation request". The graphs in this section show different factors related to "Failure to make an excavation request".





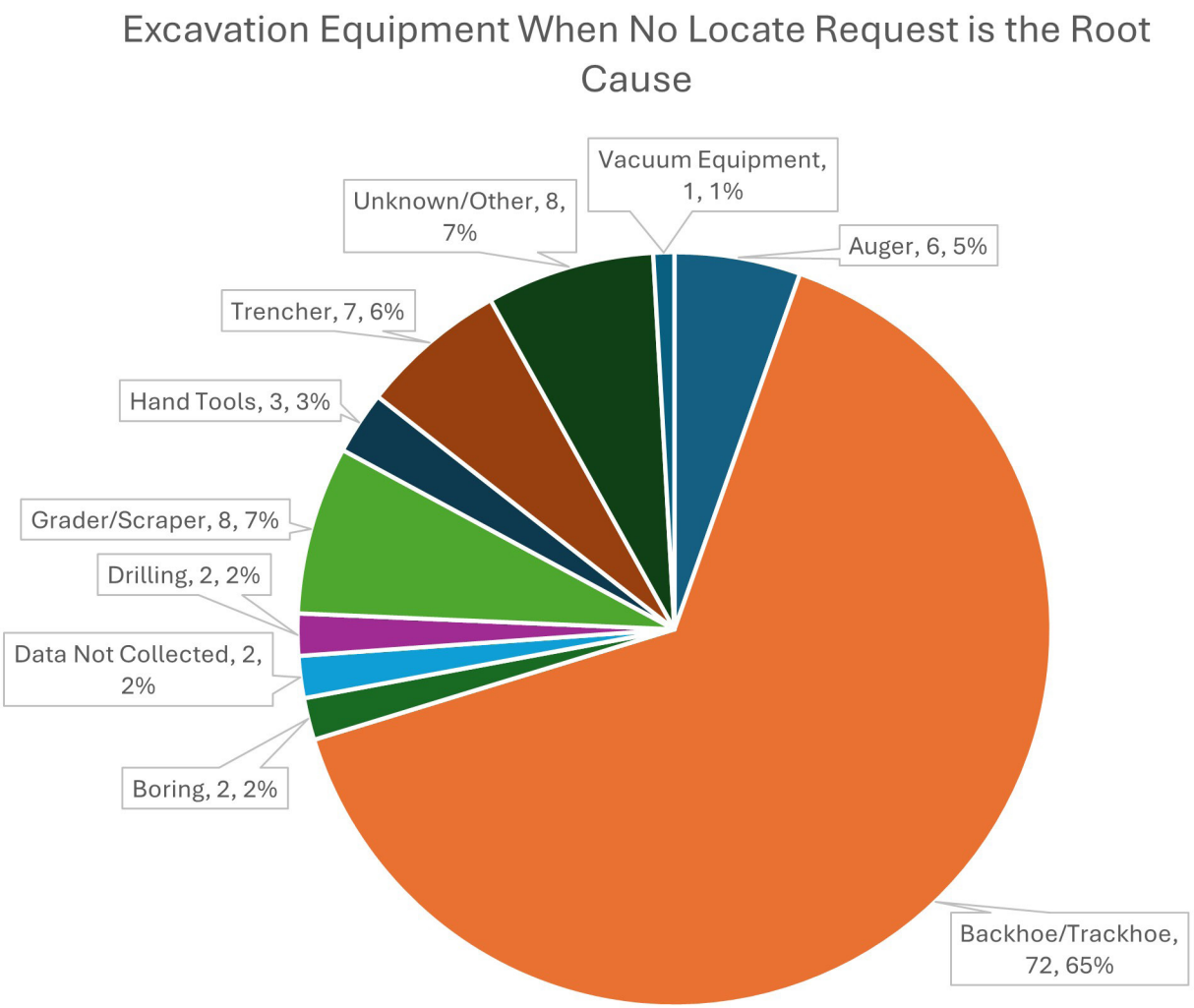
Facility Damaged When No Locate Request is the Root Cause

When "Failure to make an excavation locate request" is the damage root cause, Natural Gas lines account for half of the damages.



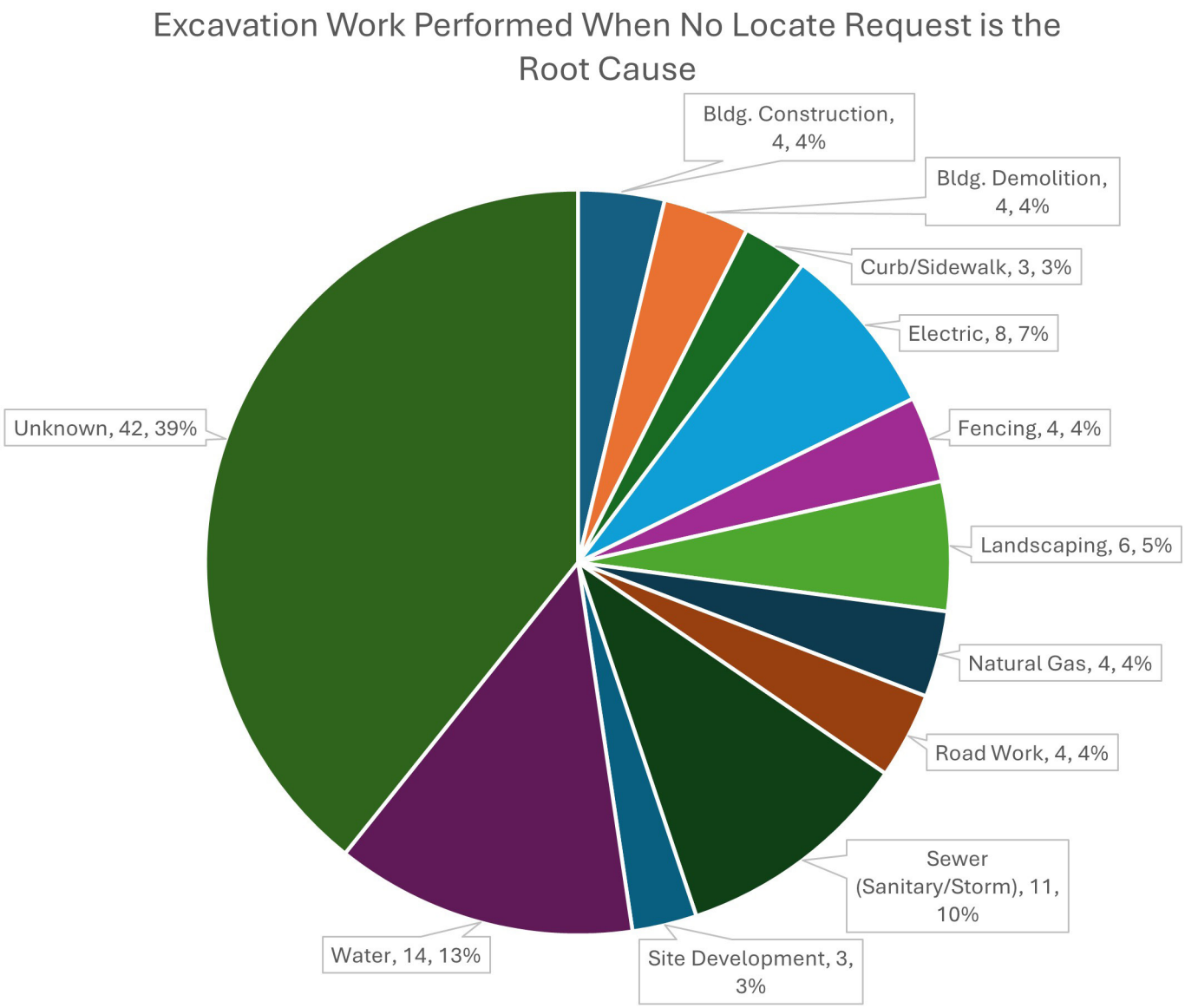
Excavation Equipment When No Locate Request is the Root Cause

The most common excavation equipment associated with damages attributed to "Failure to make an excavation locate request" is Backhoe/Trackhoe with 65% of the underground damages.



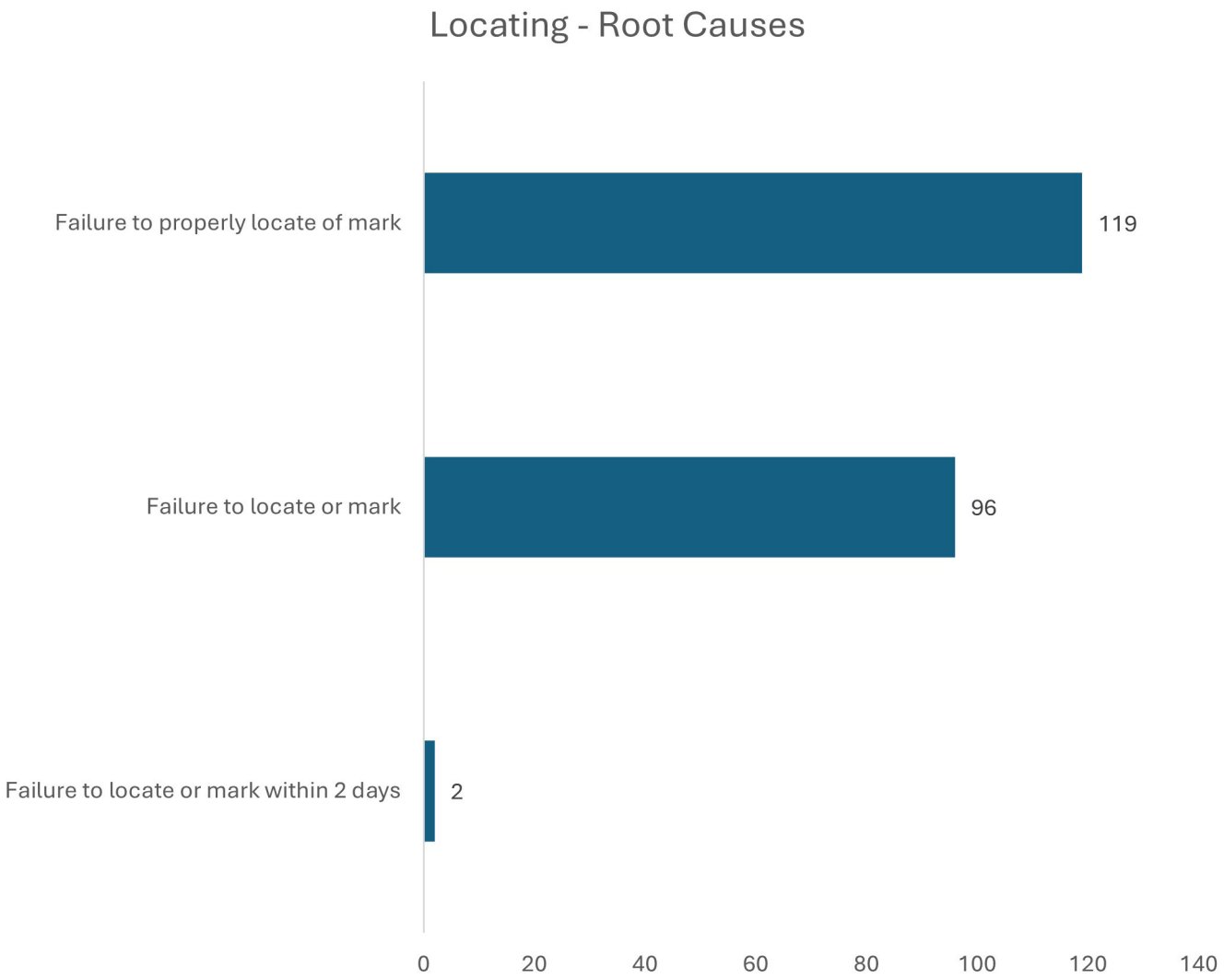
Excavation Work Performed When No Locate Request is the Root Cause

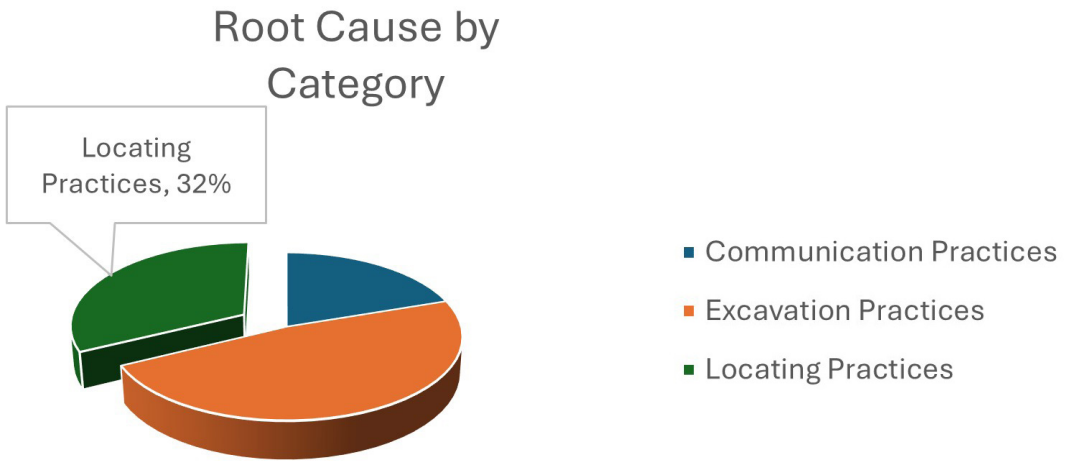
Water and Sewer are the types of excavation work most often associated with "Failure to make and excavation locate request" as a damage root cause.



Locating Practices

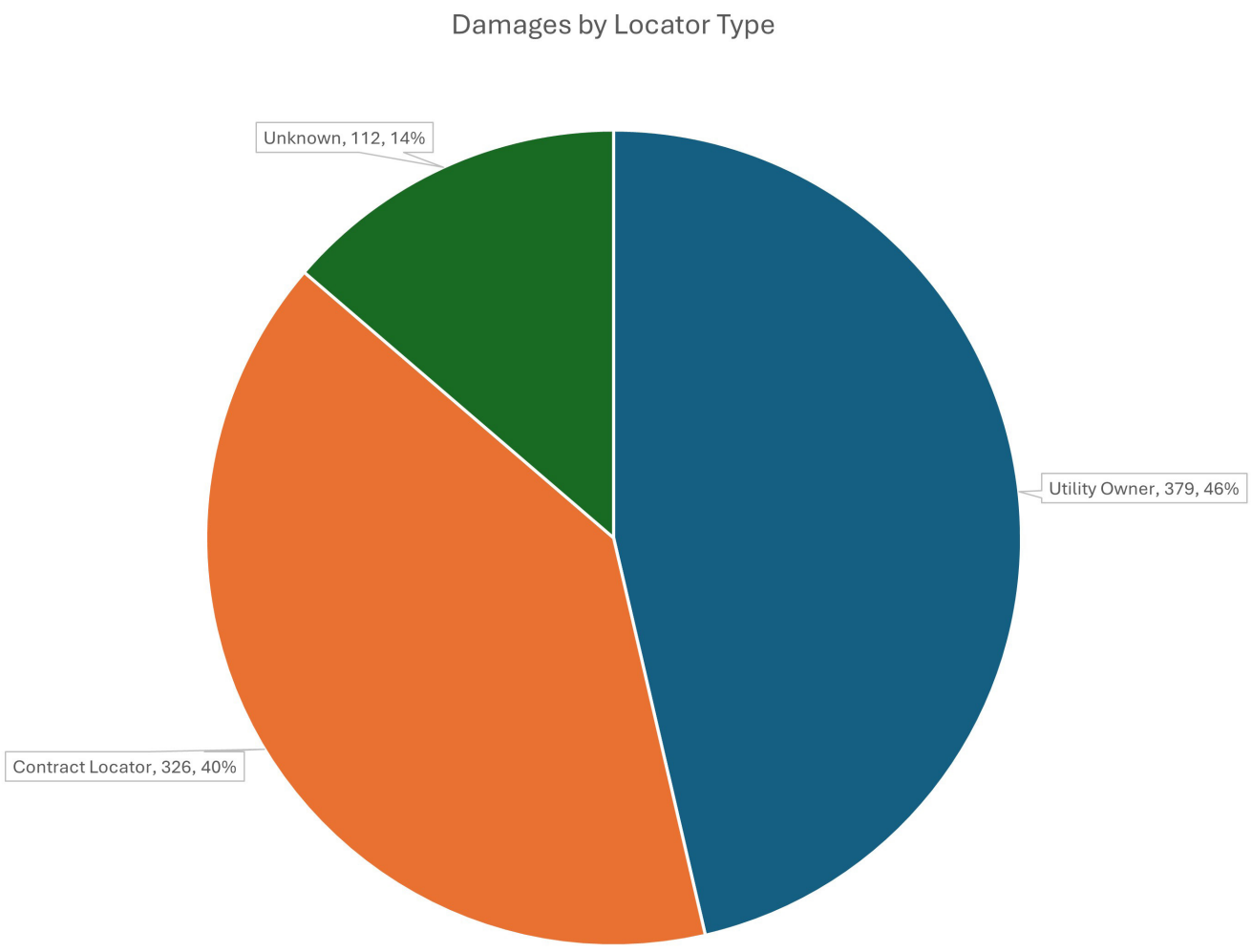
The locating practices that account for the majority of locating damages are "Failure to properly locate and mark" and "Failure to locate or mark".





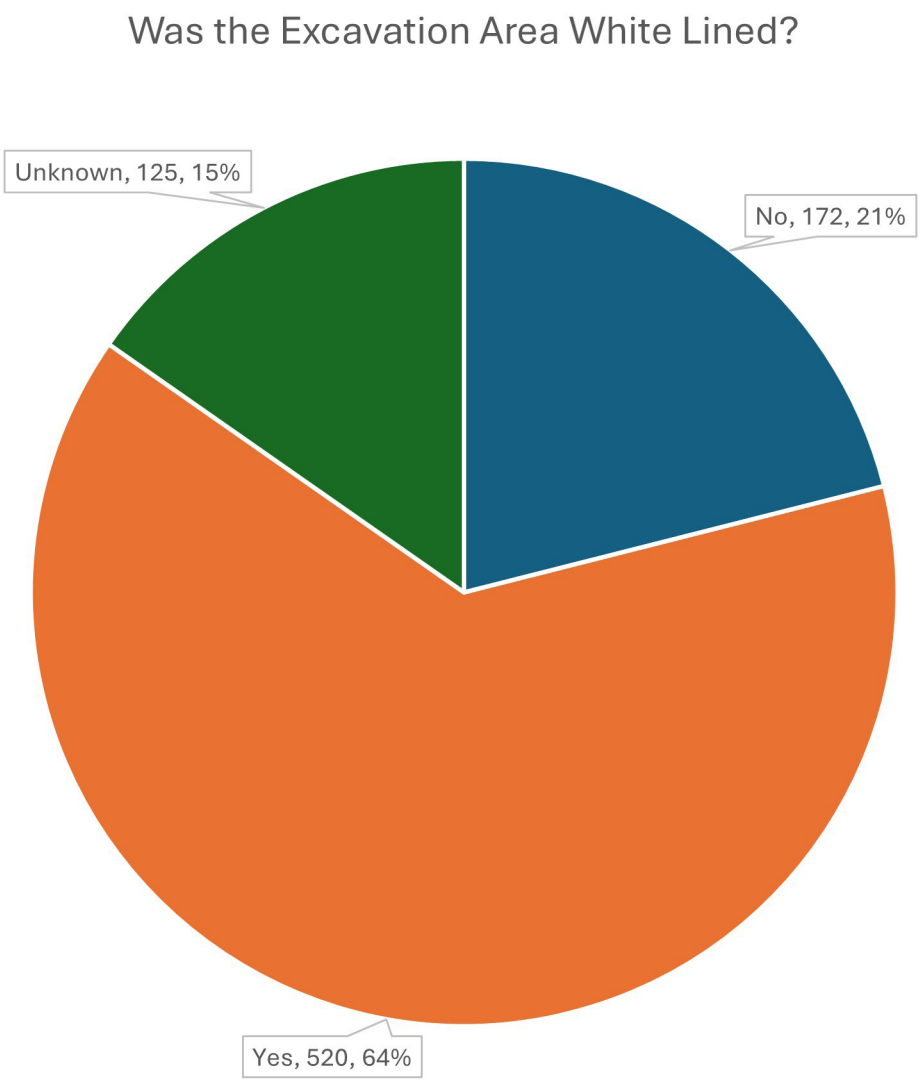
Damages by Locator Type

Of the known locator type for the actual damages; contract locators account for 326 damages while utility locators account for 379 damages.



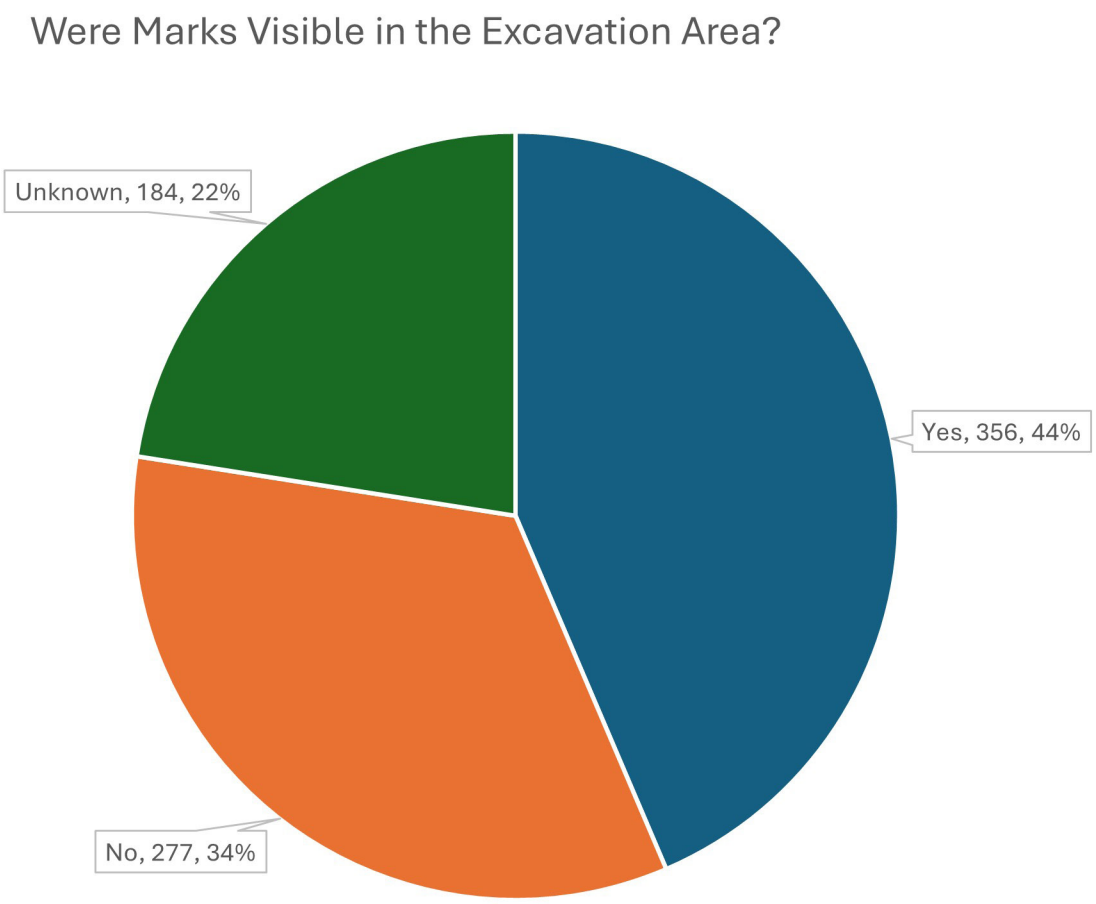
Was the Excavation Area White Lined?

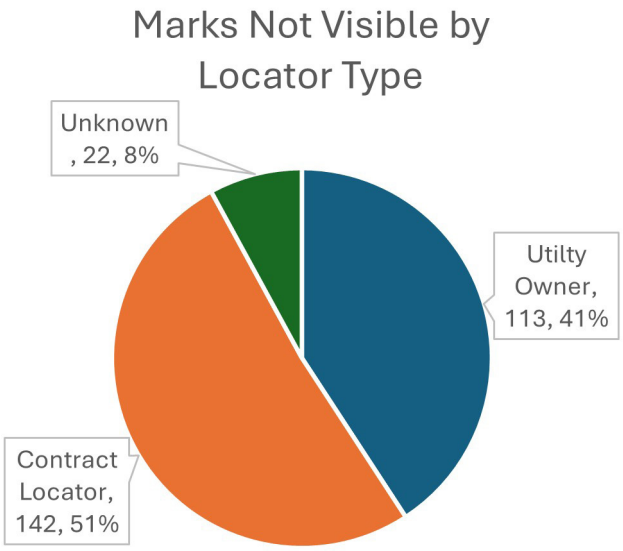
White lining an excavation site prior to submitting an excavation request is a requirement in every incorporated area, or when the excavation site can not be clearly and adequately identified on the locate ticket. In addition to being a legal requirement, it is also an important part of damage prevention as white lining an excavation site is the best way for excavators to communicate with locators where they will be digging. In 2023, there were 172 damages that occurred in excavation sites that were not white lined.



Were Marks Visible in the Excavation Area?

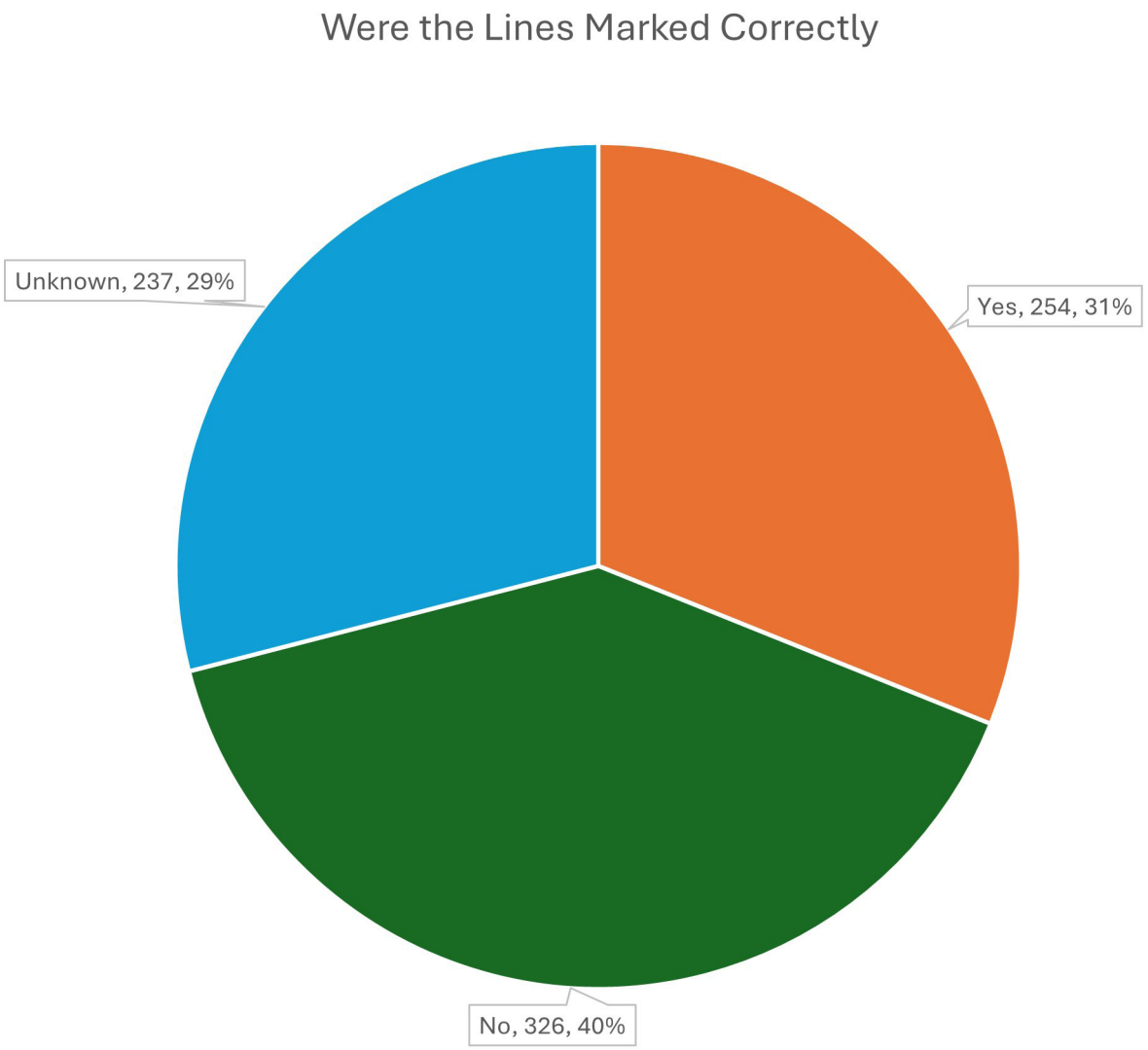
In New Mexico, excavators are responsible for ensuring that all utilities listed on a ticket have responded with "Site Marked" or "Clear" prior to beginning excavation. Additionally, the excavators are responsible for ensuring that locator marks remain intact or have offset marks when excavating. In 2023, there were 277 damages where the marks were not visible at the time of damage.

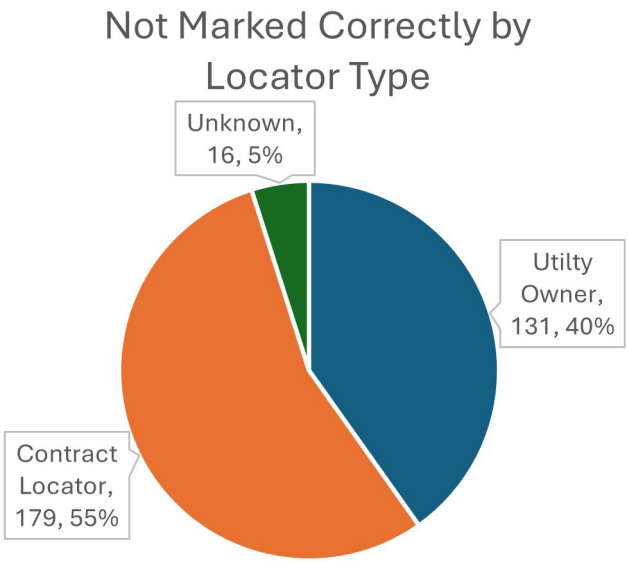




Were the Lines Marked Correctly

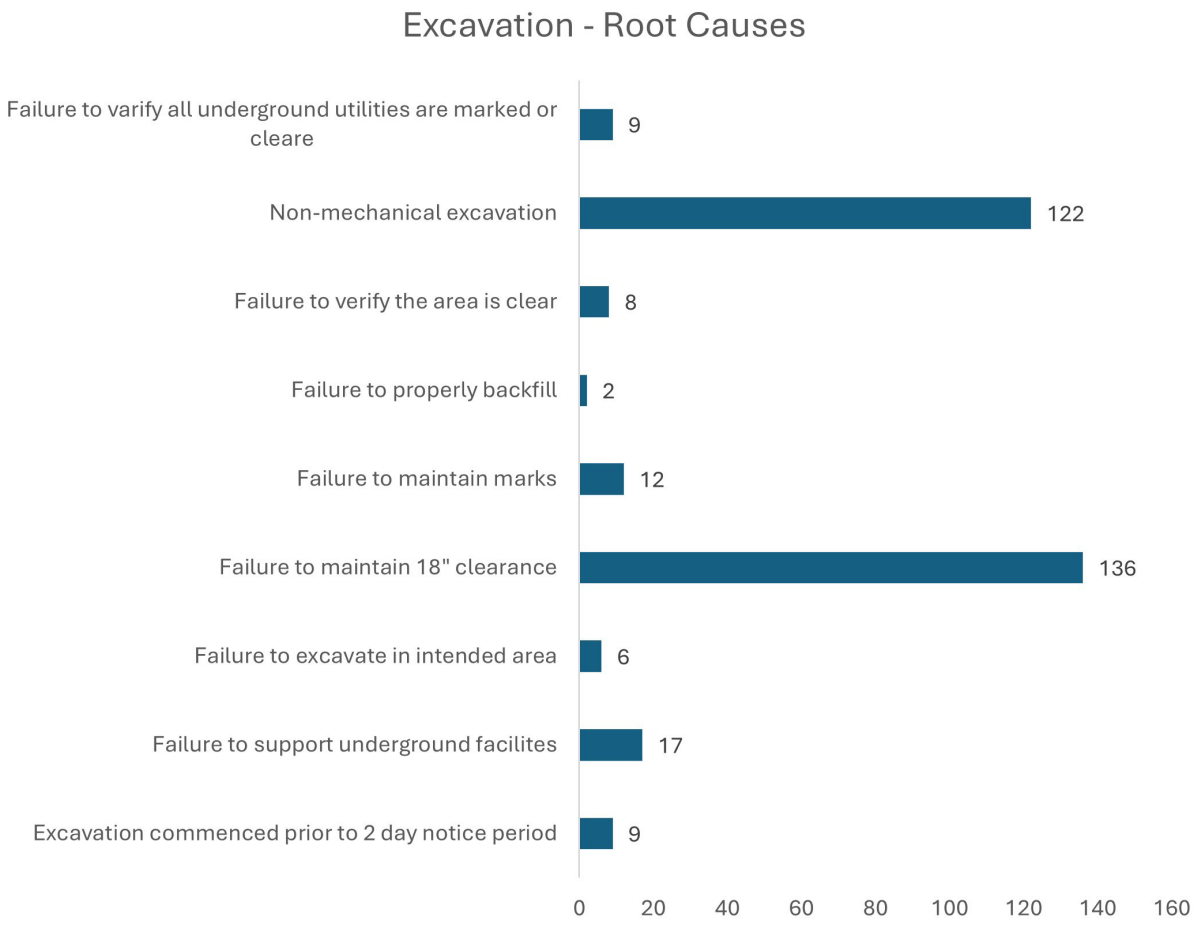
Marks can be visible but incorrect, there were 326 damages where the lines were marked incorrectly resulting in damaged facilities. Of those 326 damages from incorrectly marked facilities, 54% were located by contract locators and 40% were located by utility operators.

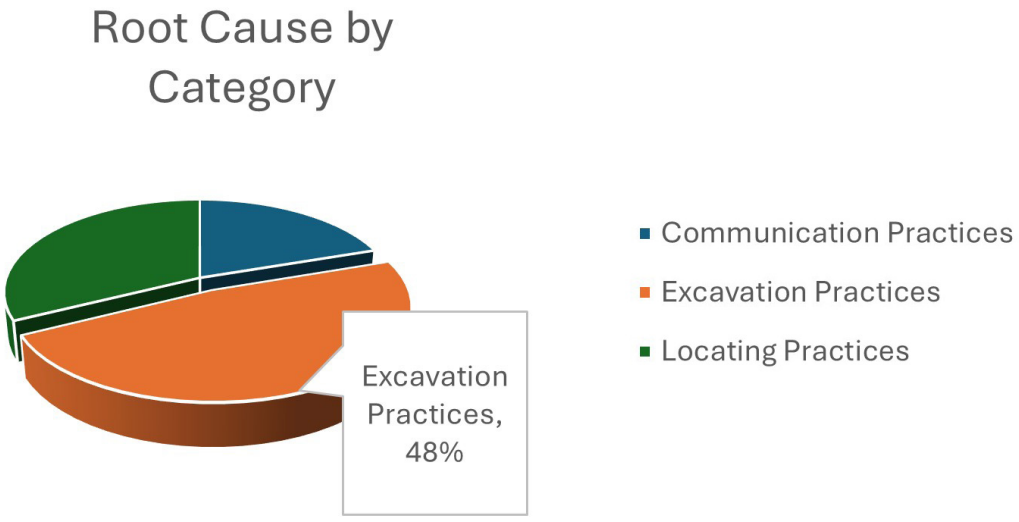




Excavation Practices

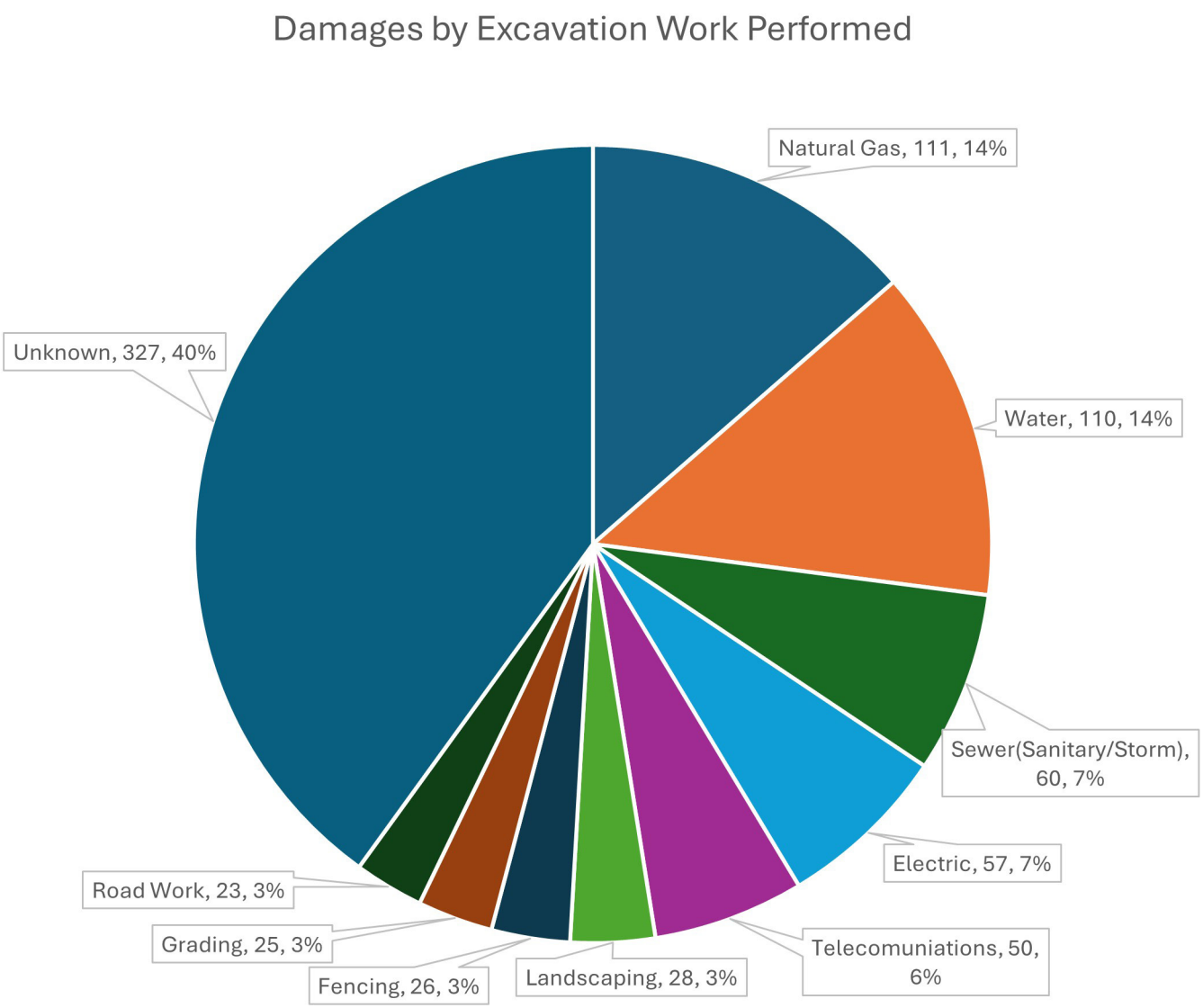
In the excavation root cause category, the top root cause of damage is "Failure to maintain 18" clearance" followed closely by "Non-mechanical excavation"





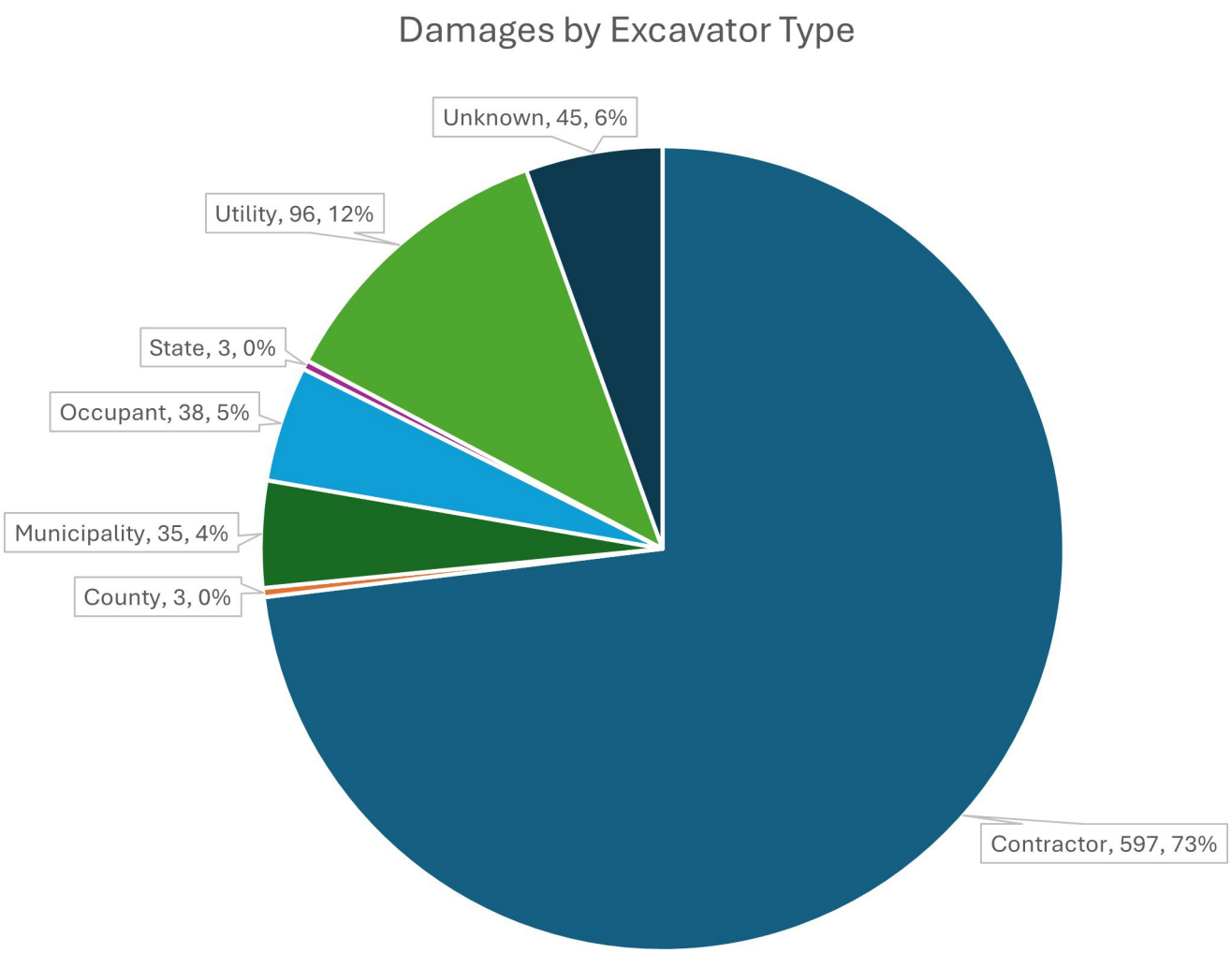
Damages by Excavation Work Performed

Natural Gas and Water are the top two excavation work performed associated with damages, combined they account for 28% of all damages.



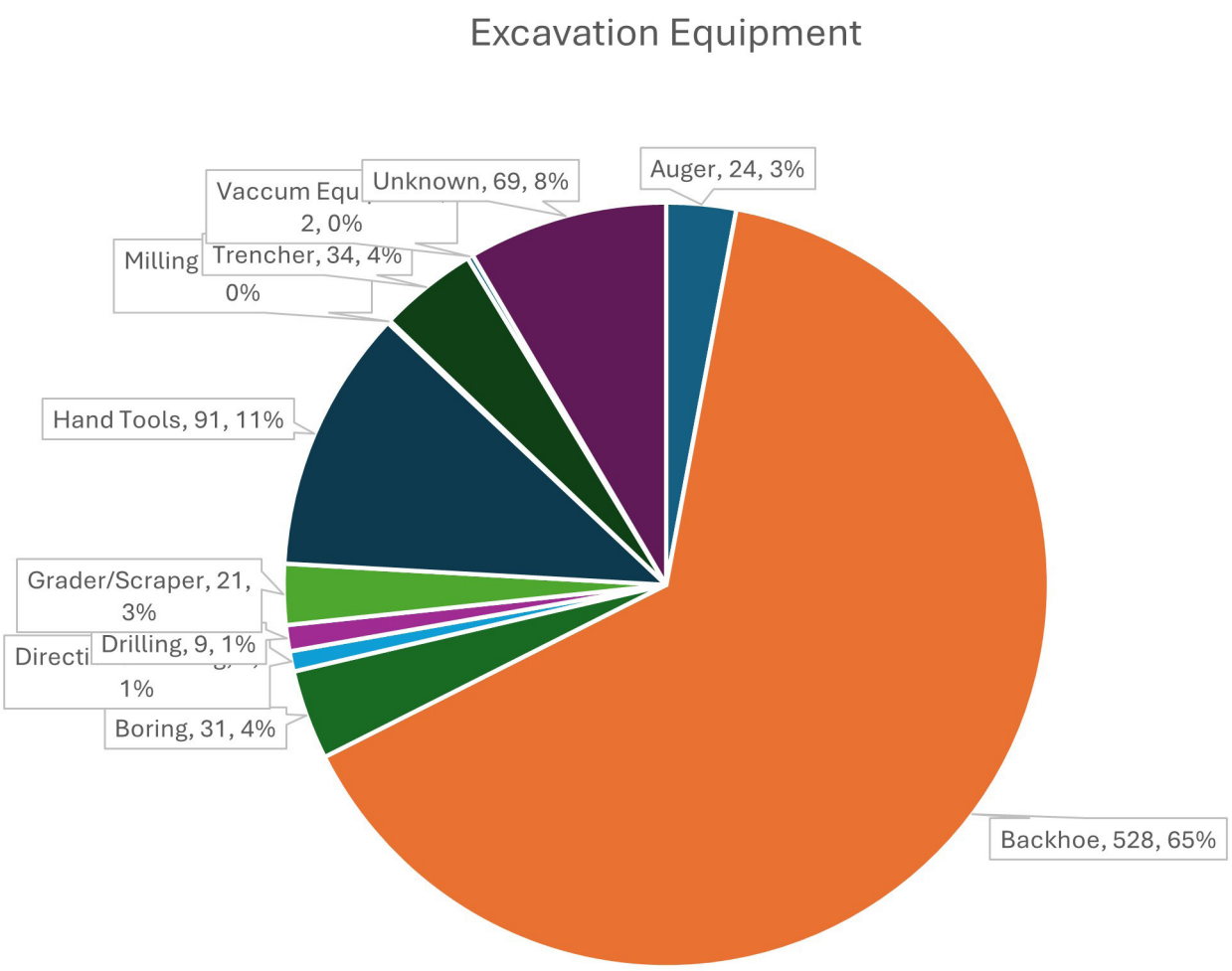
Damages by Excavator Type

The excavator type with most damages is the "Contractor" category.

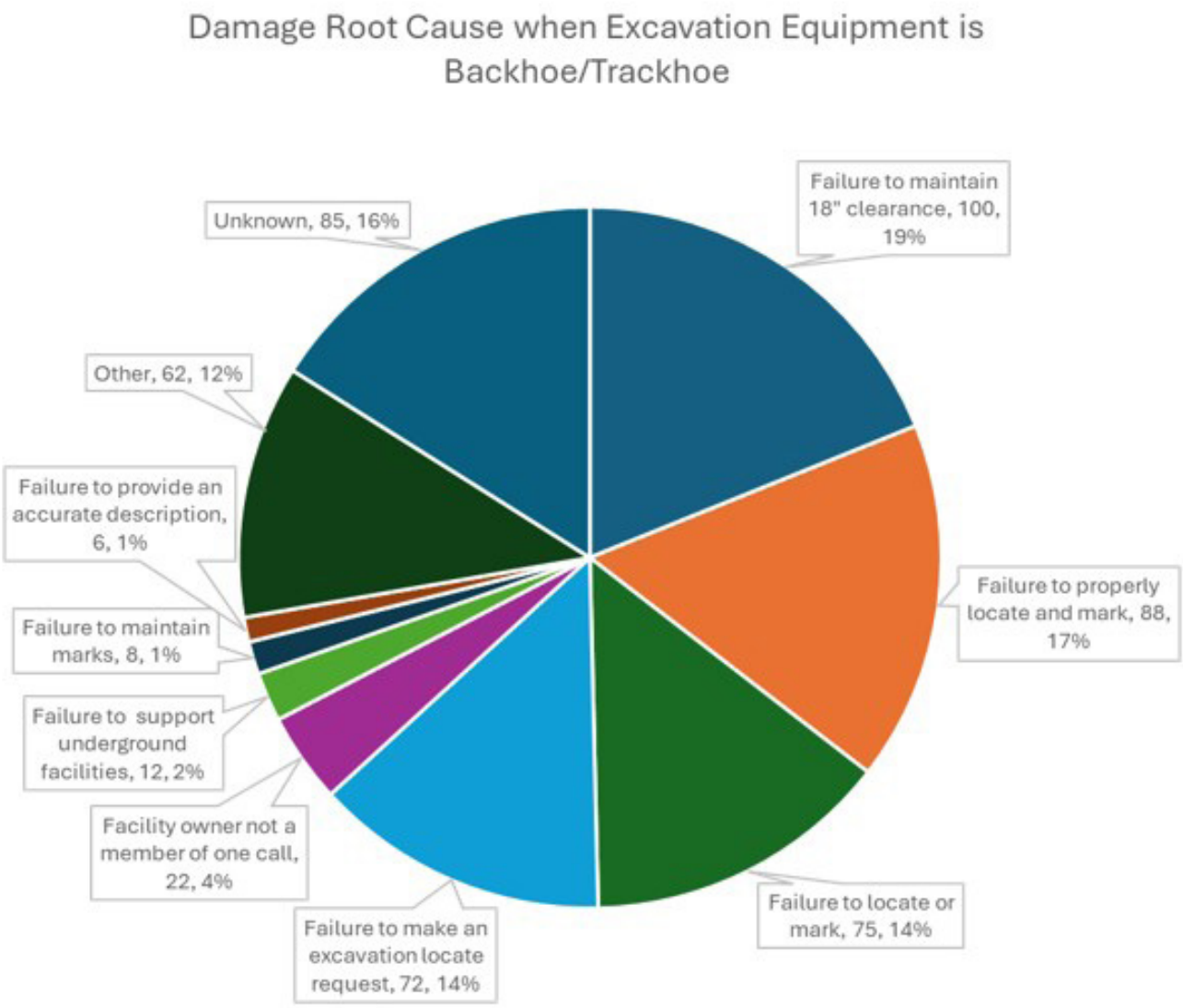


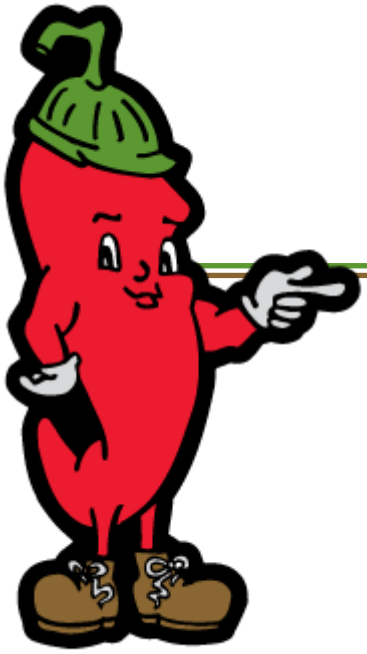
Excavation Equipment

The excavation equipment with the most damages is Backhoe. The most associated damage root cause is "Failure to maintain 18" clearance" which accounts for 100 damages.



Damage Root Cause When Excavation Equipment is Backhoe/Trackhoe





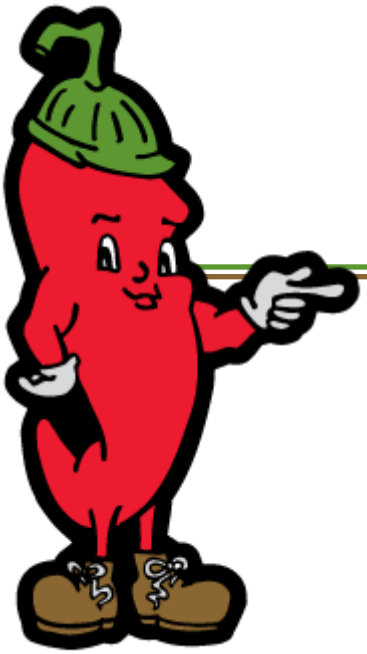
DISCUSSION

Average Damages

New Mexico averages 2.3 damages to underground infrastructure per day. But what leads to those damages? What is getting damaged? And how do we reduce the risk of damage to underground facilities?

These questions are not as easy to answer as they may seem on the surface. Multiple factors combine to lead to underground damage, the damaged facilities vary from sewer to communication to natural gas and electricity, and reducing damage to underground facilities requires a team effort. It is often stated that "Damage prevention is a shared responsibility"; but how many of us take this responsiblityh seriously and how many of us are looking for a way to point the finger at the other stakeholder groups?

This discussion aims to identify the Strengths, Weaknesses, Opportunities, and Threats of the damage prevention regulatory framework.



DISCUSSION

Prevention Regulation

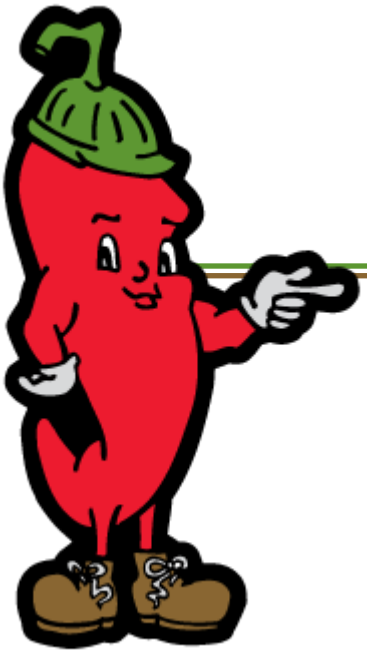
New Mexico has a robust damage prevention regulatory framework spearheaded by the PSB and supported by NM811. The damage prevention legislation in New Mexico is codified in state statue Chapter 62, Article 14, NMSA 1978; the purpose of which is to prevent injury to persons and damage to property from accidents resulting from damage to pipelines, underground utility lines, and related facilities by excavating and blasting.

The law and associated rules are described in the Excavation Handbook, available in Spanish and English on the NM811 website. In addition to the handbook, excavation law courses are offered for free by NM811 and are required as a penalty for exceeding the acceptable number of Notice of Probable Violation notices from the PSB.

Excavators

Excavators are required by law to notify NM811 of all damages incurred from excavation. Utility operators must submit their 3rd party reports to the PSB investigative body within 30 days of the damage report. All reports of damage to underground infrastructure are reviewed by the PSB investigators and documented online where the final determinations and all supporting documentation are available for review by the utility operators and excavators. As a result of the strong New Mexico regulatory environment, damage reports account for 1.4% of all excavation requests while actual damages account for 0.4% of excavation requests.

**calculation for percentages stated*
*2,595 (damage reports)/189,516 (billable tickets)*100 = 1.369277528*
*817 (actual damages)/189,516 (billable tickets)*100 = 0.431098166*



DISCUSSION

NMRCGA

The New Mexico damage prevention program works with stakeholders through the New Mexico Regional Common Ground Alliance (NMRCGA) which facilitates conversations between regulators, excavators, and faculty operators. The NMRCGA is an active group of stakeholders that hosts an annual damage prevention summit and facilitates meetings between stakeholders and regulators to discuss and submit feedback on how to optimize the rules around excavation law.

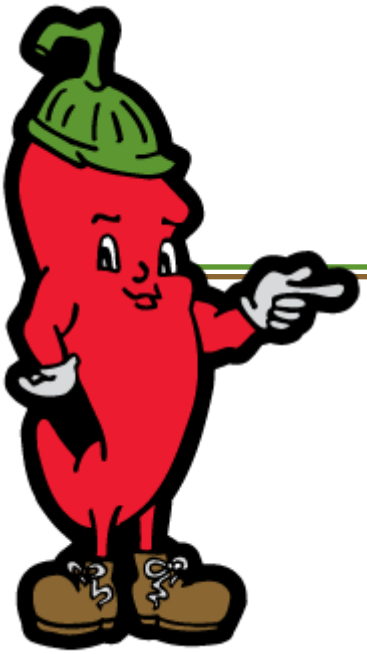
It is worth noting that excavators and contractors who are members of the NMRCGA have a lower incidence of damage than their counterparts who are not members of the organization.

The 2023 Damage Analysis

The results of the 2023 damage analysis highlight the opportunities in New Mexico for continuous damage prevention improvements. According to our data, late, non-existent, or inaccurate marks are the major contributor to underground damage events. By increasing the prevalence of accurate marks in New Mexico excavation sites we can reduce damage events.

In 2020 the national CGA released a white paper on locator practices in which they present the results of surveys and interviews with the locating industry. The most prevalent issues identified in that paper were too much work and not enough time to do it, not enough training, and transient nature of the locating industry. Some of the CGA suggested solutions include—restructuring locating contracts to focus on safety instead of volume, increasing opportunities for training, and emphasizing locating as a career with longevity.

In the spring of 2024, the NM811 office hosted locator training and plans to host more locator trainings to support the locator community in New Mexico.



DISCUSSION

Other Opportunities

Other opportunities for improvement can be categorized as improved communication between stakeholders. The NMRCGA damage prevention summit held every autumn is a great opportunity for stakeholder groups to get together and submit their feedback to the regulatory bodies. NM811 also advocates for improved communication between excavators, locators, and utility operators; instead of seeing the different stakeholder groups as "other", we should work together to solve the challenging issues facing our industry.

Clear communication regarding the excavation site (white marks) is essential for locating marks to be accurate. Reasonably sized locate requests assist the locator community by enabling them to manage their time better.

"Safety is in your hands. Every Dig. Every Time."

Threats to damage prevention in New Mexico come from stakeholders' lack of education and or willingness to participate in damage prevention. Simple and legally mandated steps are often skipped or ignored resulting in damage to underground facilities.

In 2023, the national CGA released a new tagline **"Safety is in your hands. Every Dig. Every Time."** This is to bring attention to the fact that you need to call every time you plan to excavate; the one time you don't call is likely going to be the one time you will hit a line and with out that dig ticket you may find yourself in a pile of costly expenses.

Finally, a thread that is out of everybody's control and impacts so many is the prevalence of abandoned lines. With the number of abandoned lines in New Mexico, it is hard to know what an abandoned line is and what is a live line; the best an excavator can do is make sure they are following safe digging protocols.

nm811®

Know what's **below**.
Call before you dig.

NM811.org