

2010 DIRT REPORT

version 4.0

ORCGA Damage Information Reporting Tool
Analysis & Recommendations

Published June 2011



What is the ORCGA?

The Ontario Regional Common Ground Alliance (ORCGA) is a non-profit organization promoting efficient and effective damage prevention for Ontario’s vital underground infrastructure. Through a unified approach and stakeholder consensus, the ORCGA fulfils its motto of “Working Together for a Safer Ontario”.

We are a growing organization with over 430 organizations as active members and sponsors, and represent a wide cross section of stakeholders including:

Oil & Gas Distribution	Equipment & Suppliers	Landscape/Fencing
Transmission Pipeline	One-Call	Telecommunications
Road Builders	Insurance	Excavator
Safety Organization	Regulator	Municipal & Public Works
Homebuilder	Locator	Electrical Distribution
Engineering	Railways	Electrical Transmission
Land Surveying		

For over a decade these stakeholder groups have been active in promoting “Call Before You Dig” and other good damage prevention practices individually, or through smaller separate organizations. In 2003, these groups amalgamated under the ORCGA name to provide a single voice representing the damage prevention community in the province. The ORCGA is a regional chapter of the Common Ground Alliance (CGA) based in Alexandria, Virginia, which was formed in 2000 to further damage prevention efforts in North America.

The ORCGA welcomes comments and new members on its various committees. In order to submit a suggestion, or to join a meeting, please visit www.orcga.com to learn about the scope of the various committees. General inquiries about the ORCGA can be made at:

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To learn more about ORCGA's Dig Safe Campaign, visit www.digsafe.ca

Introduction

The Damage Information Reporting Tool (DIRT) is the result of the efforts made by the Ontario Regional Common Ground Alliance (ORCGA) to gather meaningful data about the occurrence of facility events. An “event” is defined by the ORCGA DIRT User’s Guide as “the occurrence of downtime, damages, and near misses.” Gathering information about these types of events gives the ORCGA the opportunity to perform analyses of the contributing factors and recurring trends, as well as identify potential educational opportunities with the overall goals of reducing damages and increasing safety for all stakeholders.

The Annual DIRT Reports provide a summary and analysis of the events submitted during the prior year, and as additional years of data are collected, also provide the ability to monitor trends over time. The 2010 Report focuses on the data gathered throughout Ontario during the three year period between 2008 and 2010. This data can be helpful for all stakeholders in review of current issues facing the industry not only in their region, but in other regions as well.

In addition to the number of records submitted, another important factor is the completeness of those records. Complete records allow for better overall analysis and provide for a more inclusive review of the contributing factors behind the events themselves. Each submitted record contains numerous data elements that are vital to understanding and interpreting the incidents reported in DIRT. The majority of the submitted events for the 2010 Report were missing one or more data elements, either using “Unknown/Other” or “Data Not Collected” for a required field, or leaving blank a non-required field. When there are small percentages of known data for a specific field, it becomes difficult to perform a meaningful analysis. It is of vital importance that stakeholders align their data collection and reporting practices with those found on the DIRT form. As a way to gauge the overall level of completion for the records submitted, the Data Quality Index, or DQI, was implemented in 2009 and has been reported again in 2010. The DQI provides a quantitative benchmark for stakeholders or organizations to review the quality of the facility event records that they submit on an ongoing basis. More complete event records lead to a higher overall DQI, and therefore a better, more complete analysis.

In 2010, the Reporting and Evaluating (R&E) committee better defined the different root causes included in the Damage Information Reporting Tool (DIRT) – Field Form and included these in a Root Cause Tip Card published within the 2010 Annual DIRT Report. This is an attempt to improve the consistency of how events are reported through DIRT and in turn the data quality.

With the 2009 addition of the DQI and the 2010 addition of the Root Cause Tip Card, it is hoped that stakeholders will be lead to better identify opportunities to improve their data collection and reporting practices. The R&E committee hopes that improved data collection and reporting practices will lead to quality data that can be better used by other ORCGA committees to create best practices and educational programs that prevent damage to underground infrastructure and create a safer Ontario.

When reviewing the statistics published in this report, it is important to note that records with missing data were filtered out, leaving only the events with complete data. Events that are incomplete are illustrated to the left of the main chart as a separate chart and identified as “Unknown/Other”.

The potential exists that more than one report may be submitted for the same event, such as one by the excavator and one by the facility owner. There can be a benefit to this scenario. For example, data may be included on one submission that was omitted on the other. In addition, the way that different Stakeholders interpret the Root Cause of the same event may yield interesting insights. The DIRT system compares each field within each report submitted against the fields of all other reports in DIRT, and calculates the probability that it matches an already submitted event. It becomes more difficult to determine if the DIRT system includes multiple reports for the same event as fewer fields are completed.

Data Analysis Disclaimer: Industry stakeholders have voluntarily submitted their underground facility event data into DIRT. The data submitted is not inclusive of all facility events that occurred during the Report year. The analysis of said data may not be representative of what is actually occurring in any particular geographic area(s) or for any particular industry group(s). Please use caution when drawing conclusions based upon the data or the Report.

Questions in regards to registering and/or inputting data into DIRT may be forwarded to meorcga@cogeco.ca.

Report Index

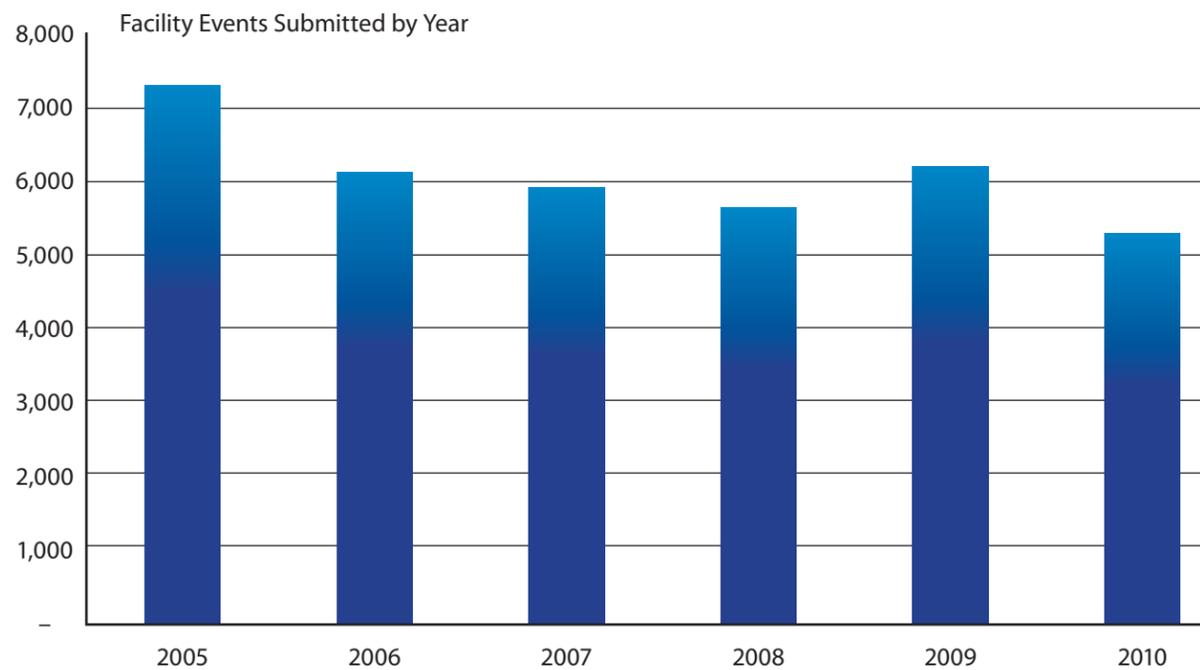
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Data Element Analysis

1. Facility Element Analysis

The number of facility events submitted to DIRT continuously decreased between 2005 and 2008 and increased in 2009. As noted in the 2009 DIRT report, the increase in 2009 may have been due to an increase in the number of events submitted by locators. After further investigation, it was determined that the increase in locator submitted events was, in fact, a duplication error. For this reason, the data presented in this year's 2010 DIRT report does not include the duplicates submitted in 2009. As a result, some 2009 statistics presented here within will be different from those reported in the 2009 report. With the removal of the duplicates, the increase in damages observed in 2009 was 6% as opposed to 11% which was reported in the 2009 DIRT report.

Figure 1



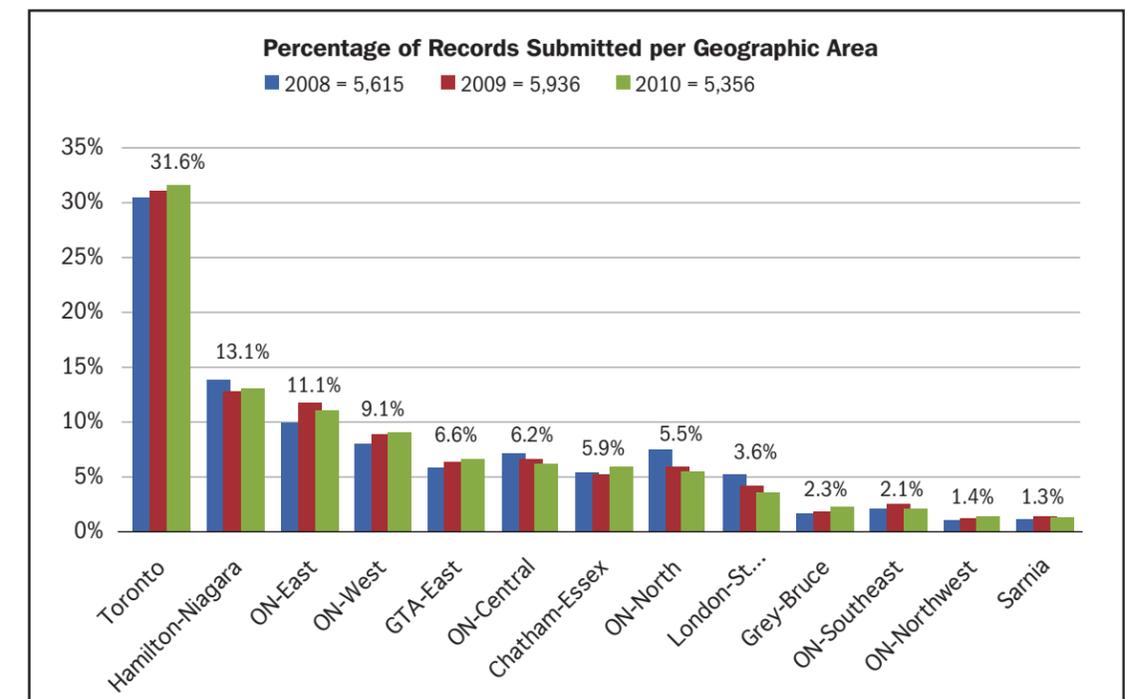
2. Facility events submitted across Ontario

Trends in record submissions remain fairly similar to previous years and do not indicate any significant differences. Table 1 shows the number of submitted events for each geographical area. Figure 2 illustrates that over the past three years, no geographic area has fluctuated greatly in the percentage of records submitted.

Table 1: Submitted Events per Geographical Area

Geographic Council Area	Events	%
Toronto	1,695	31.6%
Hamilton-Niagara	703	13.1%
ON-East	594	11.1%
ON-West	486	9.1%
GTA-East	355	6.6%
GTA-Central	333	6.2%
Chatham-Essex	316	5.9%
ON-North	296	5.5%
London-St. Thomas	194	3.6%
Grey-Bruce	124	2.3%
ON-Southeast	113	2.1%
ON-Northwest	76	1.4%
Sarnia	71	1.3%
Grand Total	5,356	100%

Figure 2



3. Submitted facility events by known stakeholder

In 2009, the number of events submitted by the Excavator, Locator, and Road Builder stakeholders all increased. In 2010, however, these stakeholders did not submit any data. This is unfortunate as the representation of Ontario's damage statistics through DIRT becomes more accurate with increasing numbers of stakeholders submitting data. However, the potential for the submission of more than one report for the same event decreases with decreasing stakeholders.

Figure 3

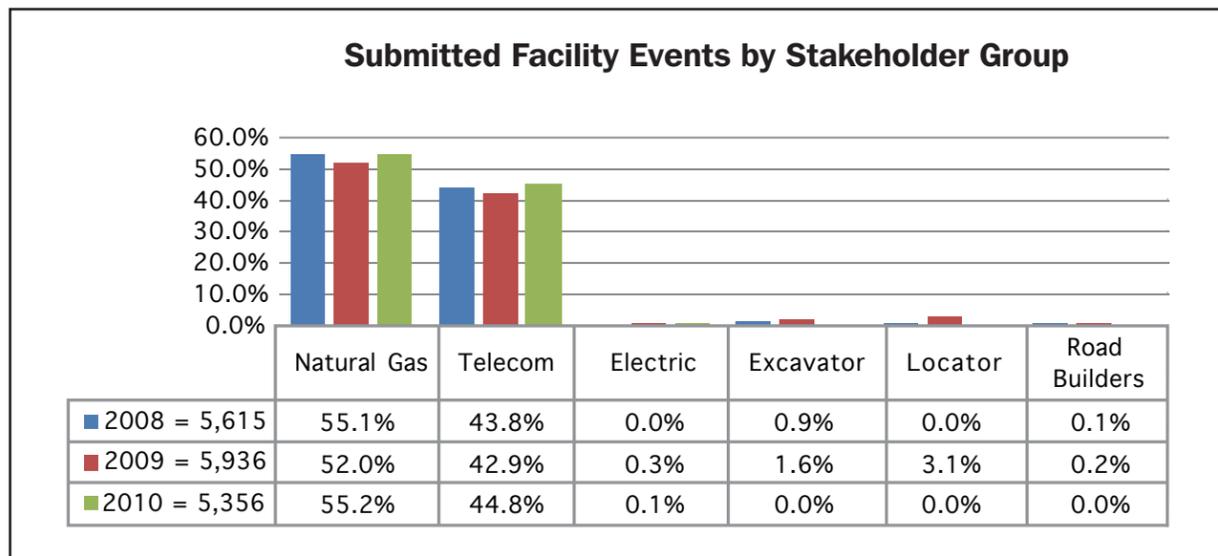


Table 2: Events Submitted by Stakeholder Group

Stakeholder Group	Events	%
Natural Gas	2,954	55.2%
Telecommunications	2,397	44.8%
Electric	5	0.1%
Excavator		0.0%
Locator		0.0%
Road Builders		0.0%
Grand Total	5,356	100%

4. Submitted facility events by known type of facility operation affected

Natural Gas and Telecommunication facilities continue to be identified as the facility operation affected in the majority of events reported in DIRT. This aligns with the fact that Natural Gas and Telecommunication stakeholders continue to submit the majority of events.

Figure 4

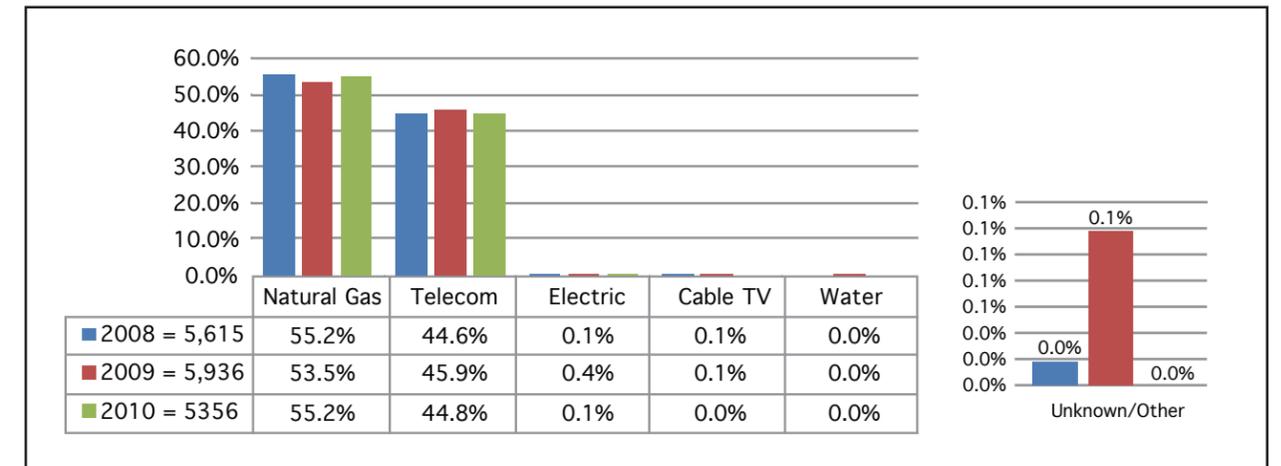


Table 3: Events by Affected Facility

Facility Affected	Events	%
Natural Gas	2,954	55.2%
Telecommunications	2,397	44.8%
Electric	5	0.1%
Cable TV	0	0.0%
Water	0	0.0%
Unknown/Other	0	0.0%
Grand Total	5,356	100%

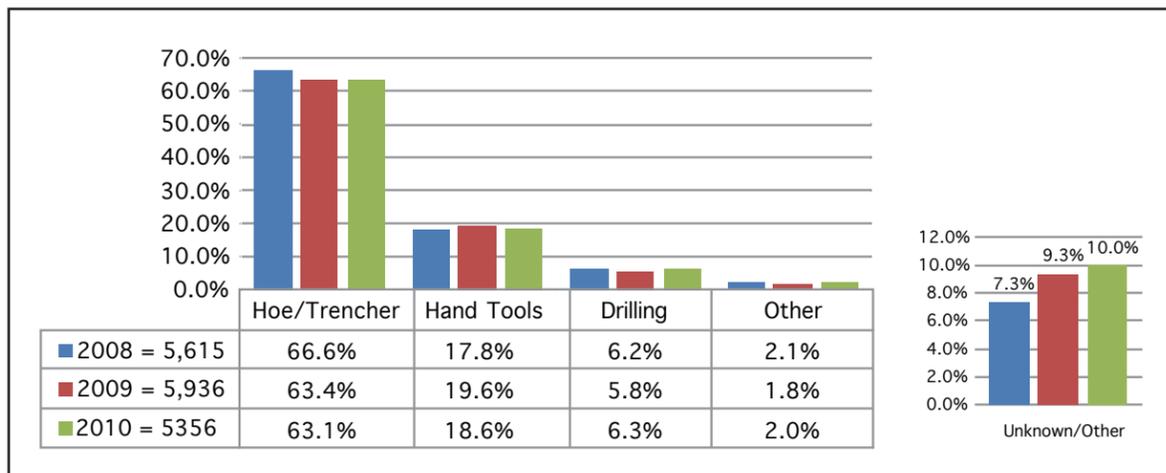
5. Frequency of events by known excavation equipment group

The percentage of events involving backhoes, trackhoes, trenchers, and drilling equipment decreased only slightly in 2010, as did the percentage of events involving hand tools. Events involving augers, boring, directional drilling, drilling, graders, scrapers, and vacuum excavation increased slightly in 2010 as can be seen in figure 5. Table 4 defines the types of excavation equipment included in each equipment group.

Table 4: List of Equipment Groups

Group	Excavation Equipment Type
Hoe/Trencher	Backhoe/Trackhoe Trencher
Hand Tools	Hand Tools Probing Device
Drilling	Auger Boring Directional Drilling Drilling
Other	Explosives Farm Equipment Grader/Scraper Milling Equipment Vacuum Equipment

Figure 5



6. Facility events reported by known root cause group

In 2010, No Locate events accounted for only 0.2% more of the submitted events than those events where excavation practices were not sufficient. Events caused by insufficient notification practices increased in 2010 accounting for a decrease in the percentage of no locate and insufficient excavation practice events. In previous years, events submitted with a root cause type of "Notification to one-call center made but not sufficient" were classified in multiple Root Cause Groups. In 2010, it was decided that events with a root cause type of "Notification to one-call center made but not sufficient" should be classified solely under the Root Cause Group "Notification practices not sufficient". This accounts for the increase in events submitted with a Root Cause Grouping of "Notification practices not sufficient". Of note is the continual and encouraging decrease in events caused by insufficient locating practices. Table 5 explains the detailed root causes included in each root cause category. Refer to the Root Cause Tip Card (Page 22) for a more detailed breakdown of the meaning of each root cause group. Depending upon which reporting stakeholder submits data for a facility event, the root cause percentages can vary significantly as indicated in Table 6.

Table 5: List of Root Causes

Group	Root Cause Type
Excavation practices not sufficient	Failure to maintain clearance
	Failure to maintain the marks
	Failure to support exposed facilities
	Failure to use hand tools where required
	Failure to verify location by test-hole (pot-holing)
	Improper backfilling
	Unknown Subcategory
Locating practices not sufficient	Facility marking or location not sufficient
Miscellaneous root causes	Abandoned facility
	Data Not Collected
	Deteriorated facility
	Other
Notification NOT made	No notification made to the one-call center
Notification practices not sufficient	Notification to one-call center made but not sufficient
	Wrong information provided
Incorrect facility records/maps	Incorrect facility records/maps

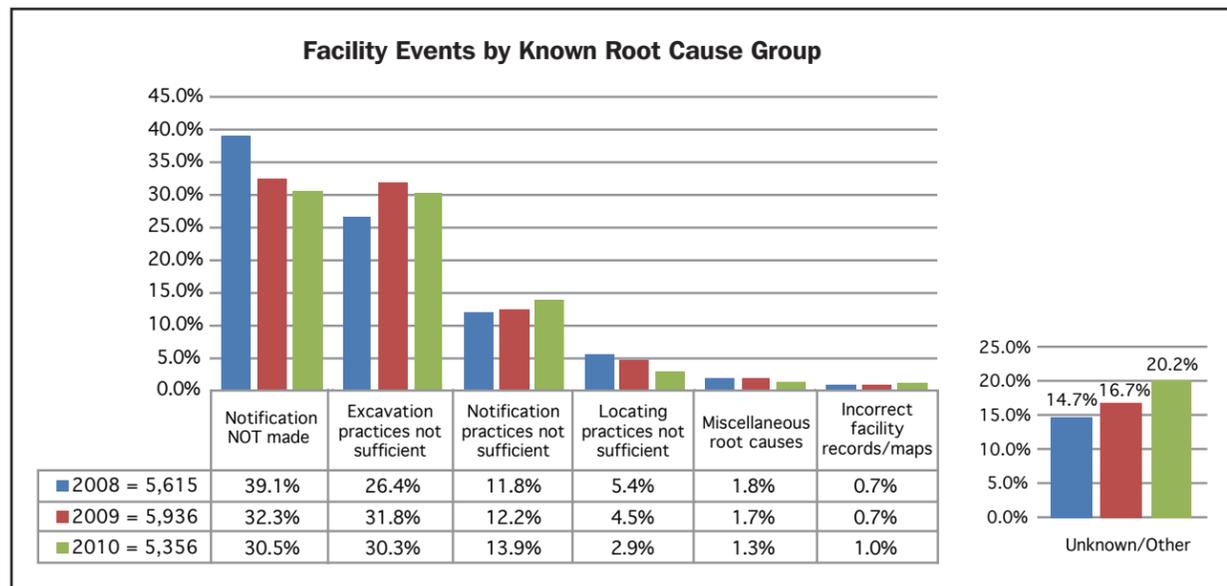
Table 6: Root Cause by Reporting Stakeholder

Root Cause Group	Electric	Natural Gas	Telecommunications	Grand Total
Excavation practices not sufficient	20.0%	30.4%	30.3%	30.3%
Locating practices not sufficient	40.0%	2.2%	3.7%	2.9%
Miscellaneous root causes	0.0%	2.3%	45.1%	21.4%
Notification NOT made	40.0%	38.2%	20.9%	30.5%
Notification practices not sufficient	0.0%	25.2%	0.0%	13.9%
Incorrect facility records/maps	0.0%	1.7%	0.0%	1.0%
Grand Total	100.0%	100.0%	100.0%	100.0%

Table 7: Events by Root Cause

Root Cause	Events	%
Notification NOT made	1,632	30.5%
Excavation practices not sufficient	1,625	30.3%
Miscellaneous root causes	1,148	21.4%
Notification practices not sufficient	744	13.9%
Locating practices not sufficient	156	2.9%
Incorrect facility records/maps	51	1.0%
Grand Total	5,356	100.0%

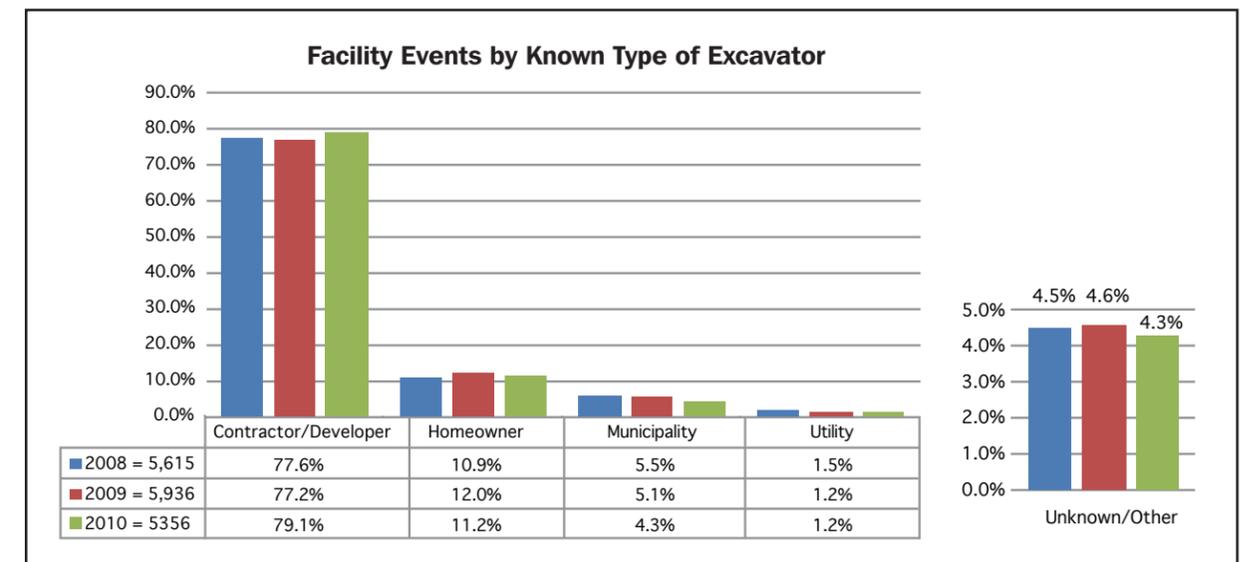
Figure 6



7. Frequency of events by known excavator group

Contractors and developers continue to be involved in the majority of the reported facility events, but saw a slight increase in 2010. This increase was accompanied by a small decrease in events caused by Homeowners and Municipalities. Additional analysis of these groups is provided within the Multiple Field Analysis portion of this report where it can be observed that the number of events submitted with the Homeowner listed as the excavator decreased by 4% in 2010.

Figure 7



8. Facility events by known type of work performed

The Sewer/Water and Utility work type groups continue to be involved in the majority of the facility events. Slight decreases can be observed for the Utility, Green and Construction types of work performed, while Sewer & Water, as well as Street & Road types of work performed increased their percentage. While the percentages may have increased, all work types experienced a decrease in the number of submitted events except for Street & Road which experienced a 10% increase. Table 8 indicates which types of work are included in each group.

Table 8: List of work included in each work group

Group	Type of Work Performed
Construction	Bldg. Construction Bldg. Demolition Driveway Grading Irrigation Site Development
Green	Agriculture Fencing Irrigation Landscaping Waterway Improvement
Sewer & Water	Drainage Sewer (Sanitary/Storm) Water
Street & Road	Curb/Sidewalk Milling Pole Public Transit Authority Railroad Maintenance Road Work Storm Drain/Culvert Street Light Traffic Sign Traffic Signal
Utility	Cable TV Electric Liquid Pipeline Natural Gas Telecommunications
Unknown/Other	Data Not Collected Unknown/Other

Figure 8

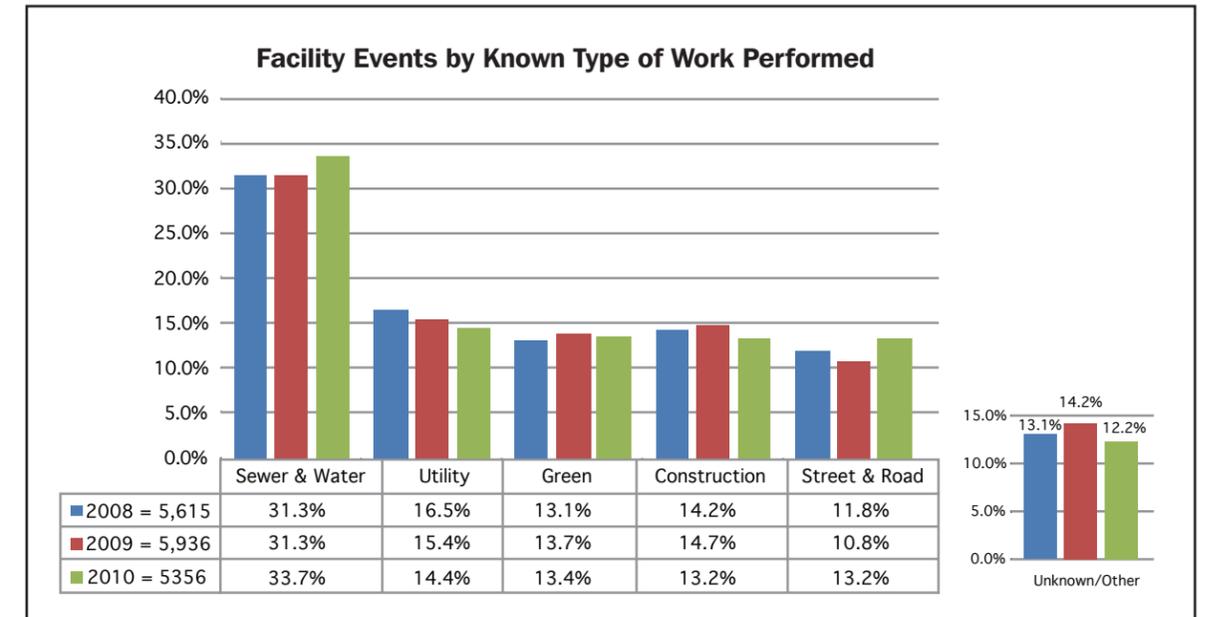
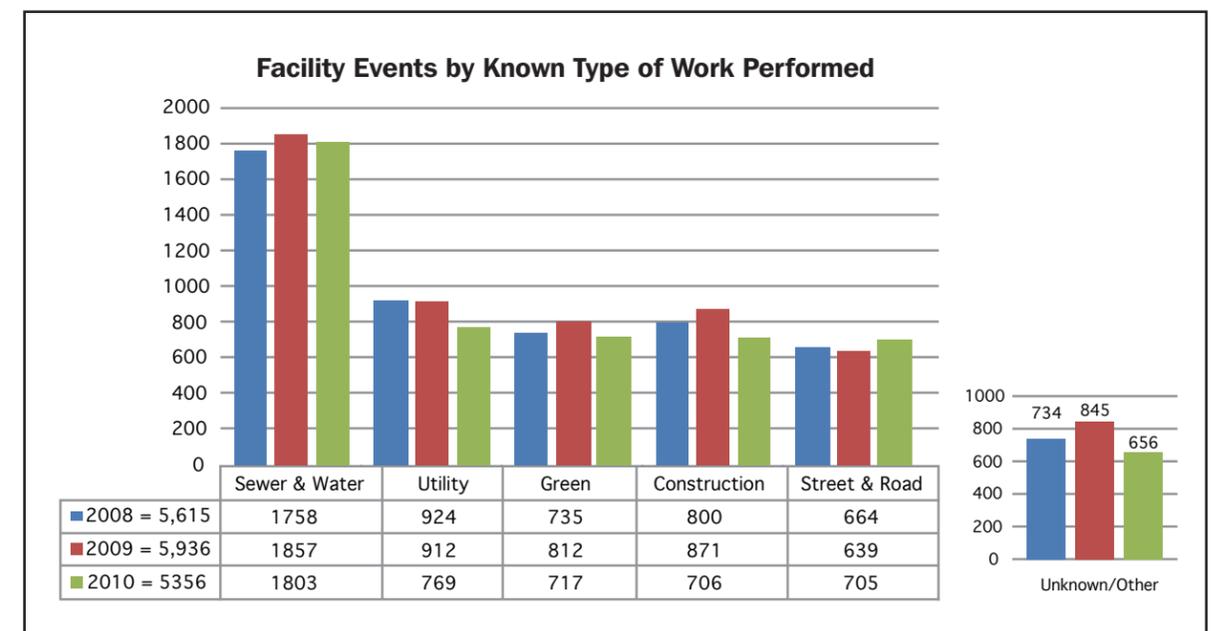


Figure 9



Multi-Field Analysis

1. Analysis of root cause and facilities affected type for five types of work groupings

The following charts illustrate the known root causes of events for the five work groups of Sewer/Water, Green, Construction, Utility, and Street & Roadwork for the years 2009 and 2010. The data presented in figure 10 indicates that the Construction industry's events are caused mostly by the fact that locate requests are not being made. "Notification Not Made" events caused by the other four industries occur less than 50% of the time. These industries mostly cause damages due to insufficient excavation practices. Figure 11 displays the number of events by known root cause group and industry.

Figure 10

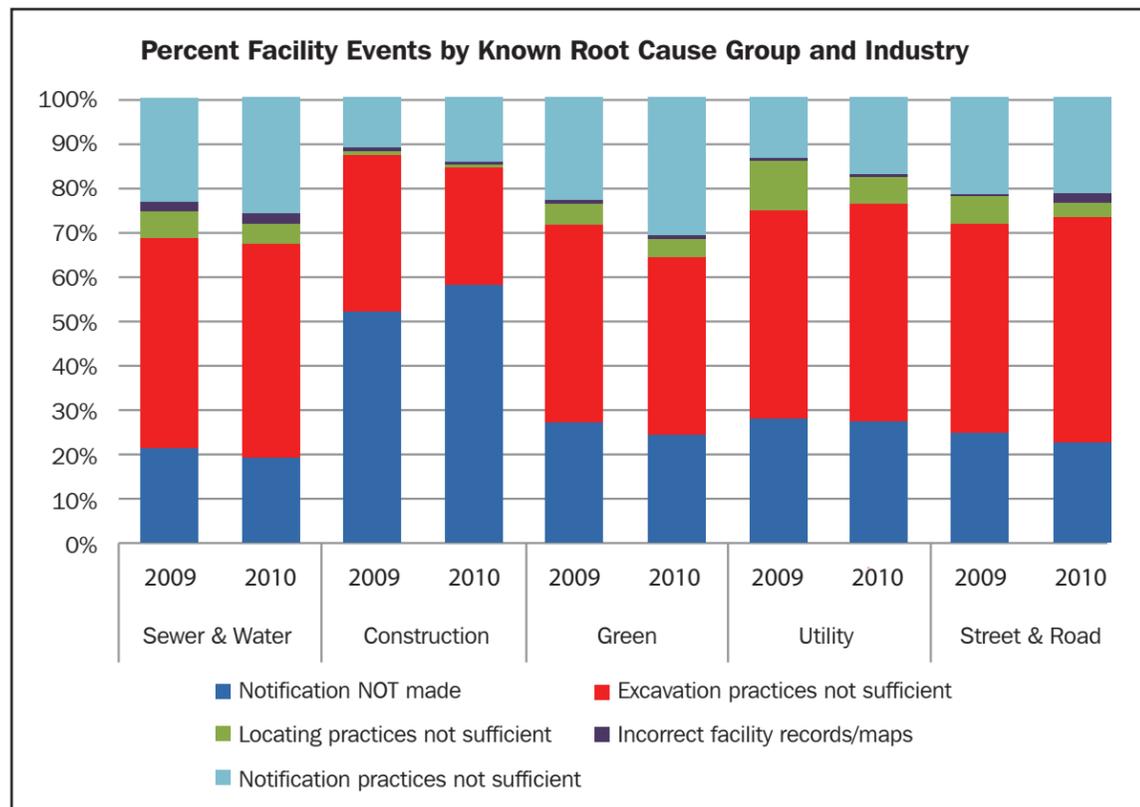
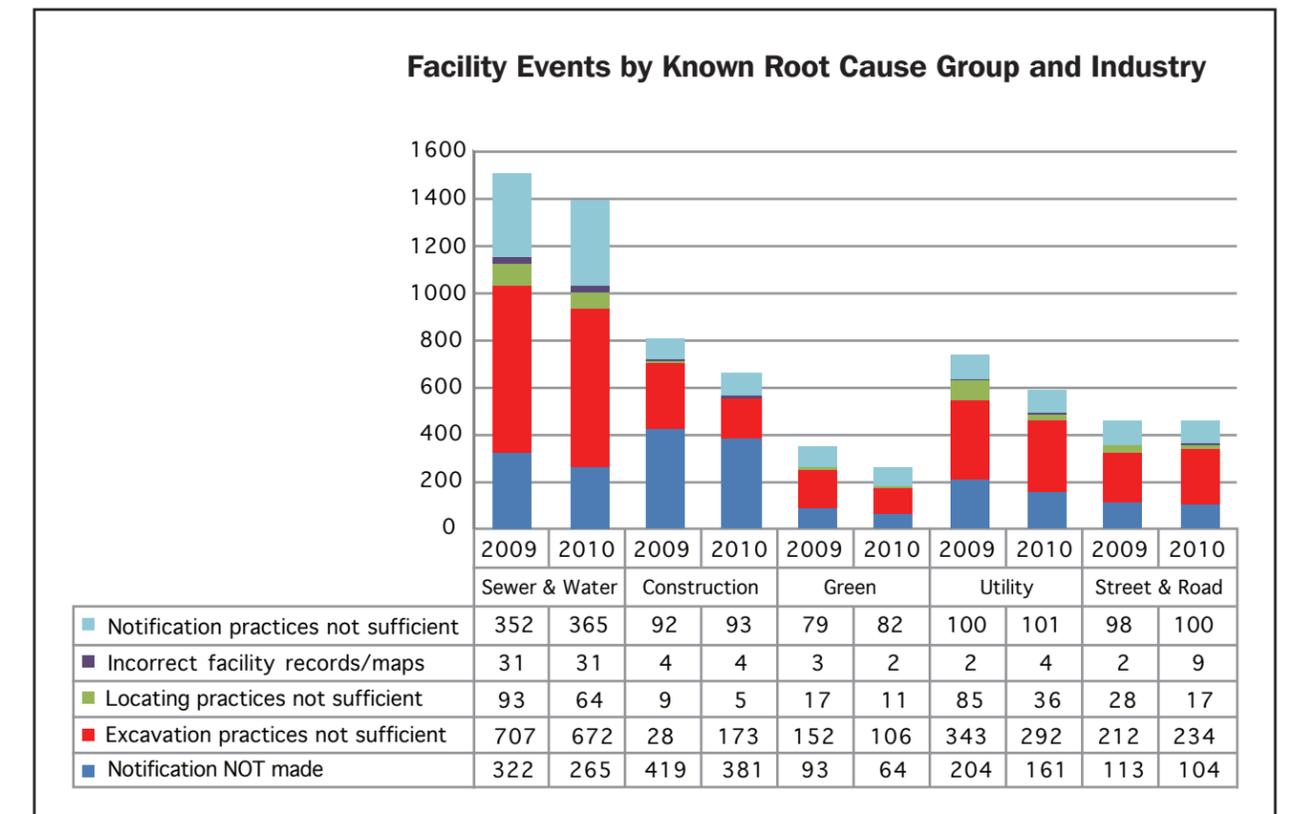


Figure 11 indicates that although the Construction industry has caused a greater number of damages than other industries due to "Notification NOT made", the number of Construction damages caused by lack of notification has decreased by 9%. In fact, all industries decreased their no locate damages between 2009 and 2010. This may be attributed to the continued aggressive promotion of the "Call Before You Dig" message. All industries also saw a decrease in the number of damages caused by insufficient excavation practices. This trend may be attributed to the promotion of Dig Safe which began in April of 2010.

Figure 11



Apart from Homeowners who experienced a 7% increase in percentage of No Locate events, all excavator groups decreased their percentage of No Locate events as can be seen in figure 12. Figure 13 shows that all excavator groups decreased their overall number of No Locate events.

Figure 12

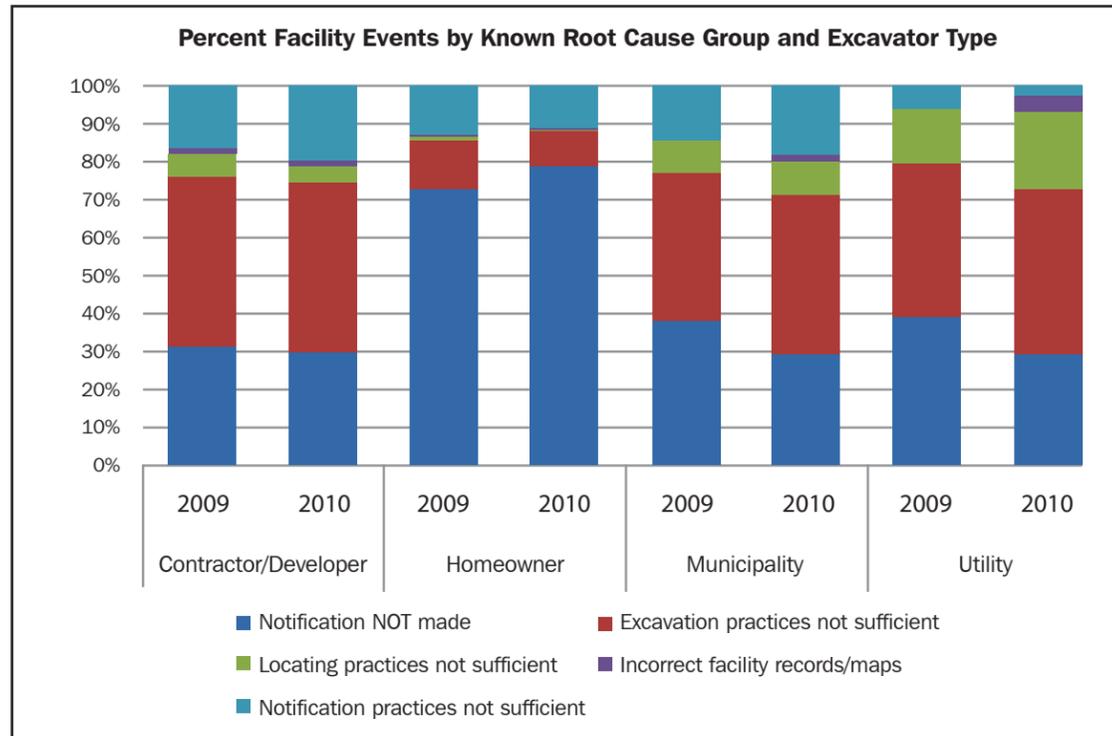
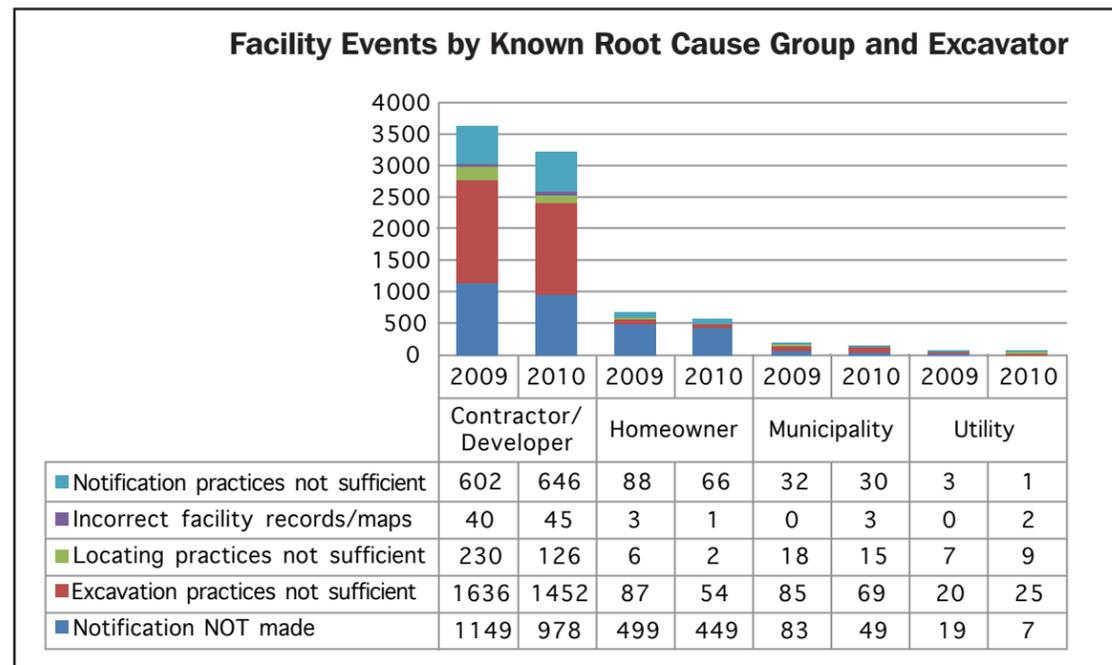


Figure 13



Industry practice is to measure damage prevention performance by the volume of damages per thousand locates requested. Figure 14 shows the damage ratio of damages reported through DIRT over the past 4 years against the number of locates called in to Ontario One Call. This is not a true picture of Ontario's damage prevention performance as it can't be determined if stakeholders inputting data into DIRT are also calling Ontario One Call for locates. With increased stakeholder input into DIRT however, this statistic becomes a more accurate picture of what is happening in Ontario. Figure 14 shows that the damage ratio has been decreasing from year to year. Figure 15 shows the damage ratio for each excavator type based on damage volumes collected through DIRT and locate requests to Ontario One Call.

Figure 14

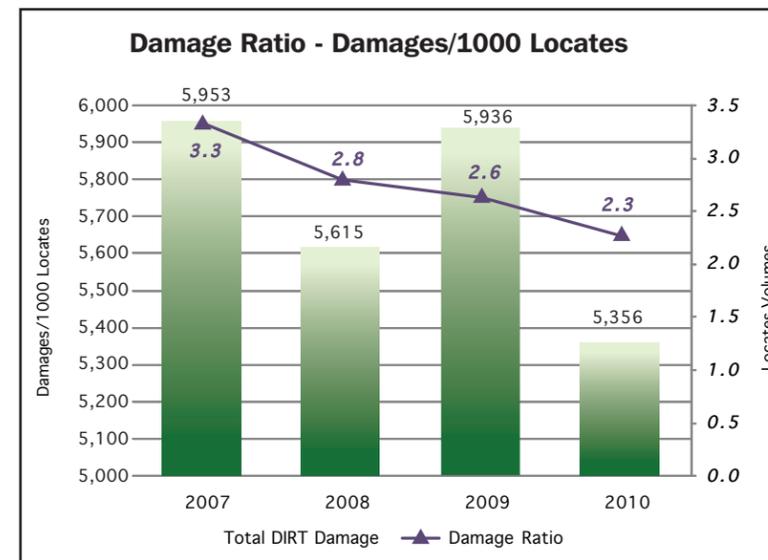
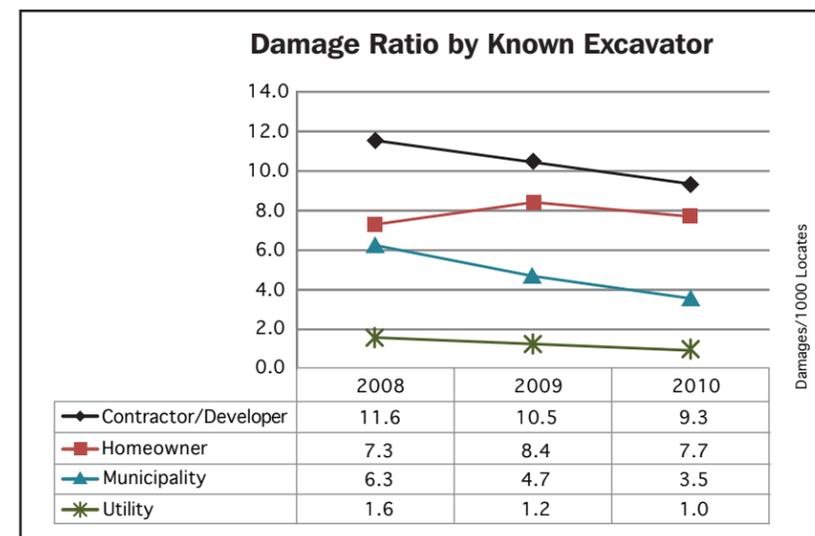


Figure 15



Report Findings Summary

1. Data Quality Index Indications

The DQI is a measure of data quality and consists of the evaluation of each organization that submitted records, in addition to the evaluation of each record submitted to DIRT. The overall average DQI is 73.6. The breakdown of DQI for each individual part of the DIRT field form is illustrated in Table 9 below. The weight assigned to the various DIRT parts varies based upon its value in analyzing the event for damage prevention purposes, with root cause receiving the largest weight. The DQI for a set of records can be obtained by averaging the individual DQI of each record. The “DQI” column in the table below represents the average of all 5356 submitted events in the 2010 data set.

Table 9: DIRT Submission Parts and DQI

DIRT Parts	Relative Weight	DQI
A: Who is submitting this information?	5%	100.0
B: Date and Location of the event	12%	76.2
C: Affected Facility Information	12%	93.3
D: Excavation Information	14%	91.3
E & F: Notification, Locating and Marking	12%	88.8
G: Excavator Downtime	6%	10.9
H: Description of Damage	14%	32.2
I: Description of the Root Cause	25%	78.0
Total Weighted DQI	100%	73.6

Of the various parts of the damage report, parts G and H are not often included as most of the organizations inputting data into DIRT do not track this information. The DQI for part G, however, has increased between 2009 and 2010. The DQI for part I was 81.3 in 2009 and has decreased to 78.0 in 2010. Because this part contains the description of the root cause, information used to determine what messages should be promoted to mitigate damages, there is still room to improve this DQI.

2. STATUS & RECOMMENDATIONS:

DIRT Data Integrity

In order to increase confidence and clarity in the data, the R&E Committee has created a Root Cause Tip Card (Refer to page 22) which includes more clear descriptions and examples of events that should be considered under each root cause category when reporting events in DIRT. Moving forward, the R&E Committee will ensure that new users follow the committee guidelines for inputting data and are aware of the Root Cause Tip Card.

Root Cause Tip Card

LOCATING PRACTICES NOT SUFFICIENT

Facility could not be found or located

- ◆ Type of facility or lack of records prevented locating of facility.

Example: Plastic pipelines installed without tracer wire.

◆ Facility marking or location not sufficient

Includes all areas where marking was insufficient.

Example: Locator marked the work zone, but missed a service.

Locator misread the ticket and did not locate the entire work zone.

Locator did not use records or interpreted the records incorrectly.

Locator did not tone correctly.

Facility was outside the tolerance zone.

◆ Facility was not located or marked

No locating or marking was completed prior to excavation activities.

Example: The company received a valid ticket but did not mark, locate, or communicate with the excavator prior to start of work.

◆ Incorrect facility records/maps

Incorrect facility records or maps led to an incorrect locate.

Example: Records show the facility located on the wrong side of the street, and ticket was cleared. Records do not accurately reflect current plant status.

ONE-CALL NOTIFICATION PRACTICES NOT SUFFICIENT

◆ No notification made to the one-call Center

Excavator did not call the one-call center.

◆ Notification to one-call center made, but not sufficient

The excavator contacted the notification center, but did not provide sufficient information, or the excavator did not provide sufficient notification time according to requirements and guidelines.

Example: Excavator did not wait for the locate to be completed prior to digging.

MISCELLANEOUS ROOT CAUSES

◆ One-Call Center Error

Includes all issues related to the center such as incorrectly entered data, ticket transmission failures, et al.

Example: This would include damages that occurred because the center's database registry had not been updated to reflect correct location of underground facilities.

The one-call center system crashed and failed to deliver the ticket.

◆ Abandoned Facility

Damage related to abandoned facilities. Select a more specific root cause.

Example: The abandoned facility may have been located, instead of the active facility.

This does NOT include when an abandoned facility is thought to have been located, but it is found to be active after the excavation exposed the facility or damaged it.

◆ Deteriorated Facility

Those situations in which an excavation disrupts the soil around the facility resulting in damage, failure or interruption of service. However, the deterioration and not the excavation caused the facility damage.

◆ Previous Damage

Damage occurred during previous excavation.

Example: Pipe coating was damaged during a previous excavation and was not reported.

Subsequently, a corrosion leak occurred, or subsequent excavation at the site revealed the damage to the pipe.

◆ Data Not Collected

Damage occurred, but Root Cause was not identified.

Example: Damage investigator did not indicate a Root Cause.

Rev: 1/16/2009
** indicates a Required Field

Damage Information Reporting Tool (DIRT) - Field Form

Part A – Who is Submitting This Information

Who is providing the information? Electric Engineer/Design Equipment Manufacturer
 Excavator Insurance Liquid Pipeline Locator Natural Gas
 One-Call Center Private Water Public Works Railroad
 Road Builders State Regulator Telecommunications Unknown/Other

Name of the person providing the information:

Part B - Date and Location of Event

*Date of Event: (MM/DD/YYYY) _____
 *Country _____ *State _____ *County _____ City _____
 Street address _____ Nearest Intersection _____
 *Right of Way where event occurred
 Public: City Street State Highway County Road Interstate Highway Public-Other
 Private: Private Business Private Land Owner Private Easement
 Pipeline Power /Transmission Line Dedicated Public Utility Easement
 Federal Land Railroad Data not collected Unknown/Other

Part C – Affected Facility Information

*What type of facility operation was affected?
 Cable Television Electric Natural Gas Liquid Pipeline Sewer (Sanitary Sewer)
 Steam Telecommunications Water Unknown/Other
 *What type of facility was affected?
 Distribution Gathering Service/Drop Transmission Unknown/Other
 Was the facility part of a joint trench?
 Unknown Yes No
 Was the facility owner a member of One-Call Center?
 Unknown Yes No

Part D – Excavation Information

*Type of Excavator
 Contractor County Developer Farmer Municipality Occupant
 Railroad State Utility Data not collected Unknown/Other
 *Type of Excavation Equipment
 Auger Backhoe/Trackhoe Boring Drilling Directional Drilling
 Explosives Farm Equipment Grader/Scraper Hand Tools Milling Equipment
 Probing Device Trencher Vacuum Equipment Data Not Collected Unknown/Other
 *Type of Work Performed
 Agriculture Cable Television Curb/Sidewalk Bldg. Construction Bldg. Demolition
 Drainage Driveway Electric Engineering/Survey Fencing
 Grading Irrigation Landscaping Liquid Pipeline Milling
 Natural Gas Pole Public Transit Auth. Railroad Maint. Road Work
 Sewer (San/Storm) Site Development Steam Storm Drain/Culvert Street Light
 Telecommunication Traffic Signal Traffic Sign Water Waterway Improvement
 Data Not Collected Unknown/Other

Part E – Notification

*Was the One-Call Center notified?
 Yes (If Yes, Part F is required) No (If No, Skip Part F)
 If Yes, which One-Call Center?
 If Yes, please provide the ticket number

Part F - Locating and Marking

*Type of Locator
 Utility Owner Contract Locator Data Not Collected Unknown/Other
 *Were facility marks visible in the area of excavation?
 Yes No Data Not Collected Unknown/Other
 *Were facilities marked correctly?
 Yes No Data Not Collected Unknown/Other

Rev: 1/16/2009
** indicates a Required Field

Part G – Excavator Downtime

Did Excavator incur down time?
 Yes No
 If yes, how much time?
 Unknown Less than 1 hour 1 hour 2 hours 3 or more hours Exact Value _____
 Estimated cost of down time?
 Unknown \$0 \$1 to 500 \$501 to 1,000 \$1,001 to 2,500 \$2,501 to 5,000
 \$5,001 to 25,000 \$25,001 to 50,000 \$50,001 and over Exact Value _____

Part H – Description of Damage

*Was there damage to a facility?
 Yes No (i.e. near miss)
 *Did the damage cause an interruption in service?
 Yes No Data Not Collected Unknown/Other
 If yes, duration of interruption
 Unknown Less than 1 hour 1 to 2 hrs 2 to 4 hrs 4 to 8 hrs 8 to 12 hrs 12 to 24 hrs
 1 to 2 days 2 to 3 days 3 or more days Data Not Collected Exact Value _____
 Approximately how many customers were affected?
 Unknown 0 1 2 to 10 11 to 50 51 or more Exact Value _____
 Estimated cost of damage / repair/restoration
 Unknown \$0 \$1 to 500 \$501 to 1,000 \$1,001 to 2,500 \$2,501 to 5,000
 \$5,001 to 25,000 \$25,001 to 50,000 \$50,001 and over Exact Value _____
 Number of people injured
 Unknown 0 1 2 to 9 10 to 19 20 to 49 50 to 99
 100 or more Exact Value _____
 Number of fatalities
 Unknown 0 1 2 to 9 10 to 19 20 to 49 50 to 99
 100 or more Exact Value _____

*Part I – Description of the Root Cause *Please choose one

One-Call Notification Practices Not Sufficient <input type="checkbox"/> No notification made to the One-Call Center <input type="checkbox"/> Notification to one-call center made, but not sufficient <input type="checkbox"/> Wrong information provided to One Call Center	Locating Practices Not Sufficient <input type="checkbox"/> Facility could not be found or located <input type="checkbox"/> Facility marking or location not sufficient <input type="checkbox"/> Facility was not located or marked <input type="checkbox"/> Incorrect facility records/maps
Excavation Practices Not Sufficient <input type="checkbox"/> Failure to maintain marks <input type="checkbox"/> Failure to support exposed facilities <input type="checkbox"/> Failure to use hand tools where required <input type="checkbox"/> Failure to test-hole (pot-hole) <input type="checkbox"/> Improper backfilling practices <input type="checkbox"/> Failure to maintain clearance <input type="checkbox"/> Other insufficient excavation practices	Miscellaneous Root Causes <input type="checkbox"/> One-Call Center error <input type="checkbox"/> Abandoned facility <input type="checkbox"/> Deteriorated facility <input type="checkbox"/> Previous damage <input type="checkbox"/> Data Not Collected <input type="checkbox"/> Other

Part J – Additional Comments

Additional comments area.

Visit DIRT at www.cga-dirt.com

Notes:

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