

Investigation report

F-OHS-129630-54B95

Worker fatally injured after being struck by a section of  
road barrier during unloading activities  
September 12, 2017

# Investigation report

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## **The contents of this report**

This document reports the Occupational Health and Safety (OHS) investigation of a fatal incident that occurred in September 2017. It begins with a short summary of what happened. The rest of the report covers this same information in greater detail.

## **Incident summary**

A track hoe operator was positioning temporary road barriers along a construction site on northbound Highway 2 when the load was struck by a passing vehicle. The load reversed direction, striking a swamper causing the worker to be fatally injured.

## **Background information**

### **Prime Contractor**

Aecon Transportation West Ltd. (AECON) was a multiple-discipline construction company that bid on large-scale projects (e.g., Government of Alberta). AECON contracted out part of the project work to third-party companies such as Candesto Enterprise Corp. AECON had operated over four decades on multiple large-scale highway, municipal infrastructure and commercial developments in Alberta and Saskatchewan.

Aecon Traffic Accommodation Strategy (TAS) was a sub-division of Aecon Transportation West Ltd. TAS was involved in setting up temporary traffic control measures prior to Candesto Enterprise Corp. commencing work each night.

### **Employer**

Candesto Enterprise Corp. (Candesto) was a highway infrastructure contracting company. Candesto provided highway signage and guardrail installation services, and miscellaneous fencing services primarily related to the construction, refurbishment or upgrading of roads and highways. Candesto had extensive experience providing such services with approximately twenty-six years in the industry.

Candesto had been contracted by AECON to install temporary road barriers along the construction areas adjacent to Highway 2. Candesto operated in the Calgary and Grande Prairie regions and had highway infrastructure contracts with AECON at time of incident.

### **Truck Driver**

A part-time/casual truck driver was employed/contracted by Candesto since the start of the project in June 2017. The Truck Driver had over 38 years of experience and held a class 1-A licence.

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## **Site Supervisor**

The Site Supervisor had been working on the project since June 2017, and had approximately seven years' experience supervising crews for Candesto. On the date of incident, the Site Supervisor was not on site.

## **Excavator Operator**

The Excavator Operator was an employee of Candesto and had four to five years' experience operating power mobile equipment including the excavator involved in the incident.

## **Swamper 1**

Swamper 1 had been employed by Candesto for a few weeks prior to the incident and was coordinating the movement of loads with the Excavator Operator. Swamper 1 was positioned at the rear of the trailer and was guiding the sections of barrier being lifted by the Excavator Operator. Swamper 1 also provided on-the-job advice and training to Swamper 2.

## **Swamper 2**

Swamper 2 had been employed by Candesto for two days. Swamper 2 had previous construction experience prior to joining Candesto. At the time of incident, Swamper 2 was positioned between the truck cab and the trailer hook-ups (closest to the cab).

## **Other Party involved in Incident**

A trucker driver employed by Continental Sales & Rentals Ltd. was passing through the construction zone where Candesto was working when one of the barriers that was being lifted off a flat-bed trailer swung into live traffic and struck the passing transport truck.

## Work site, equipment and materials

### Work site

The work site was part of an on-going road construction project on Highway 2 northbound (near Highway 72, and approximately 5 kilometres (km) north of Airdrie)(Figures 1 and 2). While TAS was setting up traffic controls, Candesto workers were installing barriers.

### Location Maps

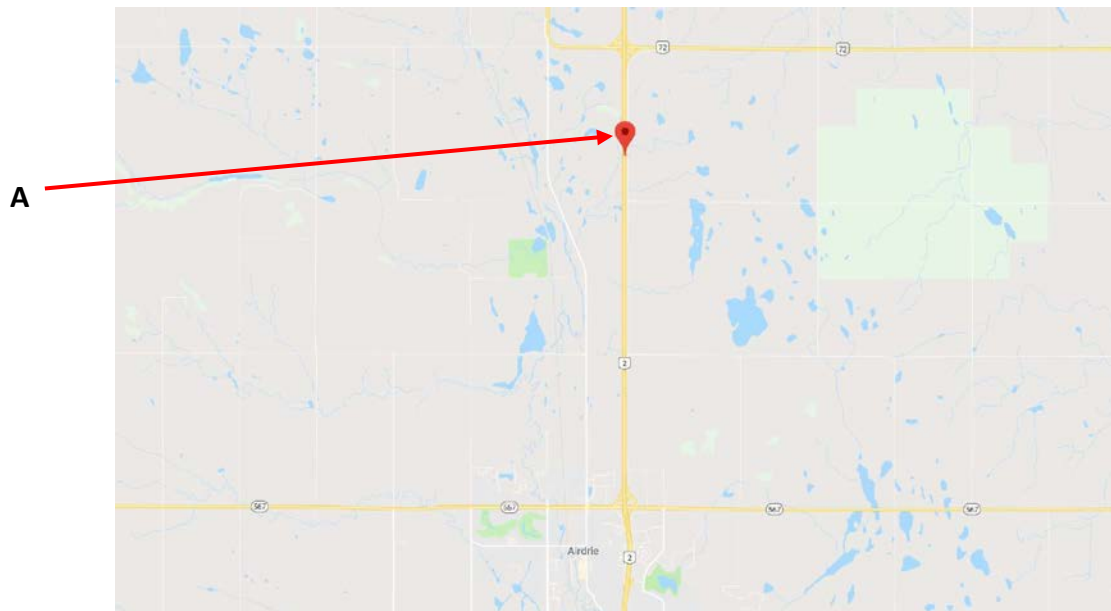


Figure 1. Approximate location of incident (Image provided by Anderson Associates Consulting Engineers Inc. Reference: Google Maps)

A. Incident Location.

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Figure 2. Approximate location of incident (Image provided by Anderson Associates Consulting Engineers Inc. Aerial Photo, Reference: Google Maps)

A. Incident Location

## Work site layout



Figure 3. Diagram and site description provided to Occupational Health and Safety by Anderson Associates Consulting Engineers Inc. (Note: Barrier 2 struck Swamper 1)

## Equipment and materials

### Zoneguard<sup>®</sup> Portable Traffic Barrier

- Reference Figure 3, Label: Barrier 1 and Barrier 2
- Weight: +/- 1 404 kilograms (kg) (3 097 pounds)
- Length/Depth/Width: +/- 15.24 metres (m) (50 feet) long, +/- 1.83 m (6 feet 3/16 inch) wide at top, +/- 0.68 m (2 feet 9/16 inch) wide at bottom and +/- 0.81 m (2 feet 8 inch) high

### Hitachi Super EX120-V Excavator

- Unit was owned/operated by Candesto and Candesto crew
- Reference (Figures 3 and 5), Label: Excavator
- Operating Weight: +/- 12 111 kg (26 700 pounds)

### 2012 International Pro Star+ 122 6x4 Truck with 2008 Lode-King PFL53-3 flat-deck trailer

- Reference (Figures 3 and 5)
- Weight: +/- 6 577 kg (14 500 pounds)
- Length/Depth/Width: Fender Width - +/- 2.42 m (95.4 inch); Mirror to Mirror - +/- 2.93 m (115.5 inch); Height to Exhaust - +/- 3.35 m (132 inch); Length - 5.74 m (226 inch)

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## 2018 Peterbilt 567 Truck and Trailer

- Owned by Continental Sales & Rentals Ltd. (Figure 4).



Figure 4. Continental Sales & Rentals Ltd. truck involved in incident, showing damage on the passenger side exhaust stack (Image provided by Anderson Associates Consulting Engineers Inc.)



Figure 5. Diagram and site descriptions for the incident area on northbound Highway 2 (Image provided by Anderson Associates Consulting Engineers Inc.)

### Sequence of events

On September 12, 2017, at approximately 9:00 p.m., a crew of four workers employed by Candesto were tasked with transporting and positioning 'Zone Guard' road barriers along Highway 2 (northbound on right-side shoulder approximately 5 km north of Airdrie). The crew consisted of a Candesto Truck Driver, two Swampers, and an Equipment Operator.

The Candesto crew started their shift around 6:00 p.m. at the laydown area where they loaded the trailer with eight barrier sections stacked two high. Once the trailer was loaded, the crew proceeded to move the equipment and materials to the previous night's location in order to continue the installation of the temporary barrier.

At approximately 6:00 p.m. on September 12, 2017, a work crew from AECON's TAS division started road-closure activities to close the northbound lane adjacent to Candesto's work area to traffic so that Candesto could continue installing barrier sections.

The Candesto crew placed the first section of 'Zone Guard' barrier without issues and proceeded to re-position to install the second section.

As the crew prepared to rig and lift the second 'Zone Guard' barrier into place, the Excavator Operator lifted the second section of 'Zone Guard' barrier from the top layer on the trailer.



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As the Excavator Operator lifted the second section of 'Zone Guard' barrier, the load shifted and swung outwards into the live/active traffic lane. Swamper 1, who was on the trailer, went to the passenger side of the trailer in order to try and control the swinging 'Zone Guard' barrier section. Meanwhile, a semi-truck operated by Continental Sales & Rentals Ltd., which was passing the Candesto work site, made contact with the part of the "Zone Guard' barrier which had swung over the live/active traffic lane. When the 'Zone Guard' barrier made contact with the semi-truck, it spun back towards the passenger side of the trailer and struck Swamper 1; the worker subsequently fell to the ground.

Immediately after the incident, the Excavator Operator exited their cab to assist the injured worker. Swamper 2 and the Candesto Truck Driver also came to provide assistance until Emergency Medical Services arrived. The injured worker was pronounced deceased on site.

### Completion

A review for enforcement action was completed on February 20, 2019, and it was determined that the file would be referred to Alberta Justice for review. The entire file was sent to Alberta Justice on March 11, 2019. Charges were laid on September 6, 2019. On December 2, 2020, Candesto Enterprises Corp. pled guilty to contravention of Section 2(1)(a)(i), of the *Occupational Health and Safety Act*, did fail to ensure, as far as it was reasonably practicable to do so, the health and safety of deceased worker engaged in the work of that employer by failing to adequately train the employees. At sentencing, Candesto Enterprises Corp. was fined \$1150 inclusive of the 15% Victim Fine Surcharge and ordered, under *Occupational Health and Safety Act* Section 75, to pay \$170 850.00 to the Alberta Roadbuilders and Heavy Construction Association for the purpose of training or educational programs regarding the health and safety of workers. They were also placed on Enhanced Regulatory Supervision for two years.

This investigation was completed on June 2, 2021.

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**Signatures**

ORIGINAL REPORT SIGNED

Lead Investigator

June 2, 2021

Date

ORIGINAL REPORT SIGNED

Manager

June 2, 2021

Date