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## AUSTRALIAN SECURITIES EXCHANGE ANNOUNCEMENT

8 May 2017

### EDENCRETE® - FINAL GDOT I-20 FIELD TRIAL UPDATE

The field trial of EdenCrete® that was undertaken in two stages in August 2015 for Georgia Department of Transportation (GDOT) on Interstate Highway I- 20 by Eden Innovations Ltd ("Eden") (ASX: EDE) has been formally completed.

#### HIGHLIGHTS

- EdenCrete® extended the service life of the concrete and far outperformed the Reference mix.
- The two Reference slabs both cracked - the first requiring replacement in less than 3 weeks, and the second materially cracking within 7 months, and very severely cracking in less than 14 months, along the full length of, and to the bottom of, the slab and showed considerable surface abrasion from tyre wear.
- After 20 months, the first EdenCrete® enriched slab had not cracked and showed little abrasion from tyre wear, far outperforming both of the Reference slabs.
- After 14 months, the second EdenCrete® enriched slab evidenced no cracking but after approximately 16-17 months, showed little abrasion from tyre wear but had developed a shallow, superficial crack over only a portion of the slab, thus also far outperforming both of the Reference slabs.
- EdenCrete® was approved and is used commercially by GDOT in concrete repairs.

#### GDOT- INTERSTATE HIGHWAY - I- 20 FIELD TRIALS

##### First I - 20 Field Trial - 10-11 August 2015

The I-20 field trials were conducted on a problematic section of the I-20 roadway that has a substantial amount of water beneath the concrete above a clay sub-surface (flowing down to the Savannah River), that undermines the concrete, leaving it with little or no support. The sub-base was not properly prepared for the first stage, necessitating that the whole trial (with a second Reference slab and second EdenCrete® enriched slab) be repeated.

- The first Reference slab, installed 10 August 2015 (after the inadequate sub-base preparations for both the Reference slab and EdenCrete® enriched slab (see Figure 1)), was so damaged within three weeks it justified replacement on 27 August 2015, after 17 days.

- The first EdenCrete® enriched slab, installed 11 August 2015, evidenced no cracking in April 2017, after 20 months. The surface remained in good condition, and showed very little surface abrasion from tyre wear.



Figure 1. First Trial - Difficult Sub-soil Conditions and Inadequate Sub-surface Preparation.

## Second I - 20 Field Trial - 26-27 August 2015

A far better sub-base preparation was installed over the difficult sub-surface for the second Reference slab (the replacement of the first Reference slab) and a second EdenCrete® slab.

- This second Reference slab evidenced material cracking within 7 months of installation and after 14 months (October 2016) showed severe cracking that extended to the full length and full depth of the slab (evident from the clay staining along the crack). Also, material ravelling on edges and joints had occurred with large sections chipped off the perimeter and showing surface abrasion from tyre wear. (see Figure 2).



Figure 2. Second Reference Slab after 14 months (Oct 2016) - crack to full depth of slab.

- The second EdenCrete® enriched slab, however, showed no signs of cracking even after 14 months (October 2016) (see Figure 3). On 19 January 2017, it was observed that this slab still showed very little surface abrasion from tyre wear but had developed a shallow, superficial crack that was quite difficult to see from some angles, on the eastern end of slab (i.e. the end of the slab away from the approaching vehicles), that had formed above an apparently slightly elevated portion of the slab. The crack extended approximately half the length of the EdenCrete® enriched slab, was very shallow in depth (see Figure 4) and difficult to see from all angles.



Figure 3. Second EdenCrete® Slab after 14 months (Oct 2016) - showing no cracking.



Figure 4 - Second EdenCrete® Slab after 18 months (19 Jan 2017) - showing a superficial crack.

## Results and Outcomes - GDOT- I- 20 Field Trials

Although the precise sub-surface ground conditions of each of the Reference slabs and the two EdenCrete® enriched slabs were not identical, they were very similar and in all cases the EdenCrete® enriched concrete achieved its objective of far outperforming both of the Reference mixes in very difficult conditions.

Both Reference slabs cracked severely and suffered significant ravelling; the first requiring replacement in less than 3 weeks; and the second cracking within 7 months of installation and being very severely cracked and worn in less than 14 months and showing surface abrasion from tyre wear.

After approximately 20 months (April 2017), the first EdenCrete® enriched slab still shows no evidence of cracking and very little surface abrasion from tyre wear, thus far outperforming both the Reference slabs.

The second EdenCrete® enriched slab, after 17 months (January 2017) had developed a shallow, superficial crack (perhaps due to undermining of the sub-surface support), which after 20 months (April 2017) still only extended over a portion of the slab and did not penetrate far below the surface of the slab such that it was difficult to see from all angles, but very little surface abrasion from tyre wear, thus also far outperforming both the Reference slabs.

The formal end of the field trials occurred after 12 months (August 2016).

Following the high performance of EdenCrete® in the field trials, in March 2017 Eden received its first commercial order from GDOT for use of EdenCrete® in its 24 hour concrete repair mix on a GDOT repair project. Additionally, in March 2017, a further Field Trial of EdenCrete™ in a GDOT new concrete pavement project (GDOT Specification Section 430 and/or 439) was conducted.

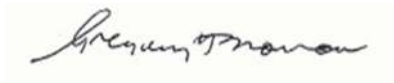
These two milestones for Eden followed the approval, in December 2015, by the GDOT New Products Evaluation Committee of:

- the use of EdenCrete™ in GDOT construction and maintenance projects in both GDOT's Class 24-Hour accelerated strength concrete mix applications and also its Class B concrete application; and
- EdenCrete™ being Field Tested in the GDOT applications of Portland cement for concrete pavements (GDOT Specification Section 430 and/or 439) and concrete whitetopping (GDOT Specification Section 453) (replacing the surface of an asphalt pavement with a concrete surface layer).

These two approvals from the GDOT New Products Evaluation Committee followed a review of independent laboratory trials of the EdenCrete™ enriched concrete used in the I-20 Field Trials, after 56 days, that produced a 45.8% improvement in the compressive strength over the Reference mix, and a 56% reduction in the depth of wear of the concrete in an accelerated abrasion trial.

## **BACKGROUND**

*EdenCrete® is Eden's 100% owned, proprietary carbon-strengthened concrete additive, one of the primary target markets for which is improving the performance of concrete used in the construction and maintenance of concrete roads, bridges and other infrastructure. Additionally, it has potential for use in a range of other concrete applications including high-rise building construction, marine and coastal applications, water storage and pipelines, and pre-fabricated concrete structures and products.*

A handwritten signature in black ink, appearing to read "Gregory H. Solomon", is displayed on a light yellow rectangular background.

**Gregory H. Solomon**

Executive Chairman