

Sediment runoff, Oxley PDA Q&A

Between Monday 8 March and Tuesday 23 March 2021, the Songbird Oxley site experienced large amounts of rainfall.

EDQ received numerous queries, from the local community, during this major rain event. These Questions and Answers are collated below:

What environmental measures are in place to deal with sediment and water runoff on the Songbird, Oxley site?

Prior to the rain event, EDQ's site contractor, Shadforth, applied appropriate erosion and drainage controls measures in accordance with the 2 December 2020 Erosion and Sediment Control Plan (ESCP) for the Songbird Oxley estate, prepared by Topo, a certified professional in erosion and sediment control.

The ESCP was prepared as follows:

1.1. GUIDELINES

This ESCP has been prepared in accordance with the following documents:

- + Best Practice Erosion and Sediment Control (IECA, 2008), and
- + State Planning Policy (DILGP, 2017)
- + Appendix B (IECA, 2018)
- + Brisbane City Plan (BCC, 2014).
- + Complying with the SPP – Technical Note for Government Development Assessment & Compliance Officers (Healthy Land and Water, 2018)

The control measures adopted by Shadforth (refer to image 1 below), are in accordance with the approved ESCP and include:

- Construction of a high efficiency sediment basin (HES) onsite to capture water runoff so it can be treated.
- Construction of a suitable size Type D sediment basin to capture water runoff.
- A filtering drainage (flocca) system (refer to image 2 below) incorporating a flow based automated dosing unit which accurately doses chemicals to treat collected water on site and store in the HES basin. The system improves finished water quality prior to discharging offsite.
- Installation of v-drains across the site to assist with redirecting water into the HES basin.
- Placement of mulch to act as natural filtering system for uncaptured water sources in high rain events.
- Installation of various bunds across the Songbird Oxley site to divert clean water runoff.
- Applying flocculant and hydrated lime to the HES basin to treat sediment laden water during the high rain event.
- Sediment fencing to stop debris from flowing off-site but allows cleaner water to pass through.

The extent of water runoff external to the actual site was significantly reduced from that experienced prior to EDQ's Stage 1 remediation works.

This runoff was minimised during this rain event due to the erosion and sediment control measures in place and the two large sediment basins capturing the runoff. If these measures were not in place, the runoff experienced in the surrounding area would have been more significant.

The rainfall experienced over two days (Monday and Tuesday) was significant. How was this dealt with?

The overnight rainfall from Monday 22 March 2021 exceeded 120mm over a 24-hour period. This was an extreme amount of rain, over a short period of time.

The high intensity of rain, during Monday 22 March 2021, prevented Shadforth from installing additional erosion and sediment control measures on site. When the weather cleared on Wednesday 24 March 2021, Shadforth immediately continued the cleanup and rectification works. These works included:

- Installing a second 1000L Turbiclear pod, which will be used to treat the water holding onsite.
- Controlled releasing of the treated water from the HES basins.
- Use of machinery onsite to install more bunds to control any further rainfall.

However, it is important to note that the extent of the water runoff external to the actual site was significantly reduced from that experienced prior to EDQ's Stage 1 remediation works.

This runoff was minimised during this rain event due to the erosion and sediment control measures in place and the two large sediment basins capturing the runoff. If these measures were not in place, the runoff experienced in the surrounding area would have been more significant.

Why was the water running off the Songbird Oxley site brown?

EDQ's onsite contractor, Shadforth, started importing clean-fill to site during its remediation works in July 2020 and more recently imported clean fill to site in late-February 2021 (as part of EDQ's approved Stage 1 works).

The water runoff from site during the rain event was not contaminated. EDQ has previously removed and disposed (to a licensed landfill facility) of more than 55,000m³ of "surface and subsurface Asbestos Containing Material" across the Songbird Oxley estate.

How did water runoff external of the Songbird Oxley site occur?

The Type D sediment basin overfilled its capacity on Monday 22 March 2021 due to rainfall exceeding 120mm in 24 hours, which exceeded the basin design limits. To rectify this issue, Shadforth installed a bund wall to increase capacity and overflow drain was constructed to redirect the flows to the HES basin for flocculant and hydrated lime treatment to be applied prior to the water leaving site.

Did the onsite contractor undertake daily environmental inspections to monitor the site during the rain event?

Yes. Shadforth completed daily environmental inspections and audits during the rain event and adopted further onsite environmental controls during this high rain intensive period to best mitigate water runoff from site, these measures included but were not limited to:

- installing additional bunds on-site to control water runoff,
- stabilising areas to ensure clean water is captured in the HES basin, and
- forming additional drainage channels so the HES basin drains to the gully.

What additional preventions are being put in place to address any similar, future weather events?

Shadforth is currently working with Topo, a certified professional in erosion and sediment control to implement additional controls including construction of an additional sediment basin, increase stabilisation to the Type D basin and install additional open drains onsite to capture additional water in future events.

How can you be sure the sediment runoff is clean? It was previously contaminated with asbestos containing material.

The Songbird Oxley site is currently listed on the Environmental Management Register (EMR), which is held by the Department of Environment and Science (DES). The development of the site for a range of intended uses (residential, retirement, public open space etc.), is associated with the validation of the site as “clean” by a Senior Environmental Engineer and Department of Environment and Science Auditor.

EDQ has removed and disposed (to a licensed landfill facility) of more than 55,000m³ of “surface and subsurface Asbestos Containing Material” across the Songbird Oxley site, improving the quality of any water discharged from the site. The Stage 1 site is in the process of being removed from the EMR, which is forecast to occur during June/July 2021.

Is EDQ required to report water runoff external of site to the appropriate Government authority?

The *Environmental Protection Act 1994* requires the relevant government authority (DES) to be notified when water runoff occurs external of site. Shadforth notified DES on the 25 March 2021 of the incident.

If you have any further questions, please do not hesitate to contact us by emailing edgengagement@dsdti.qld.gov.au.

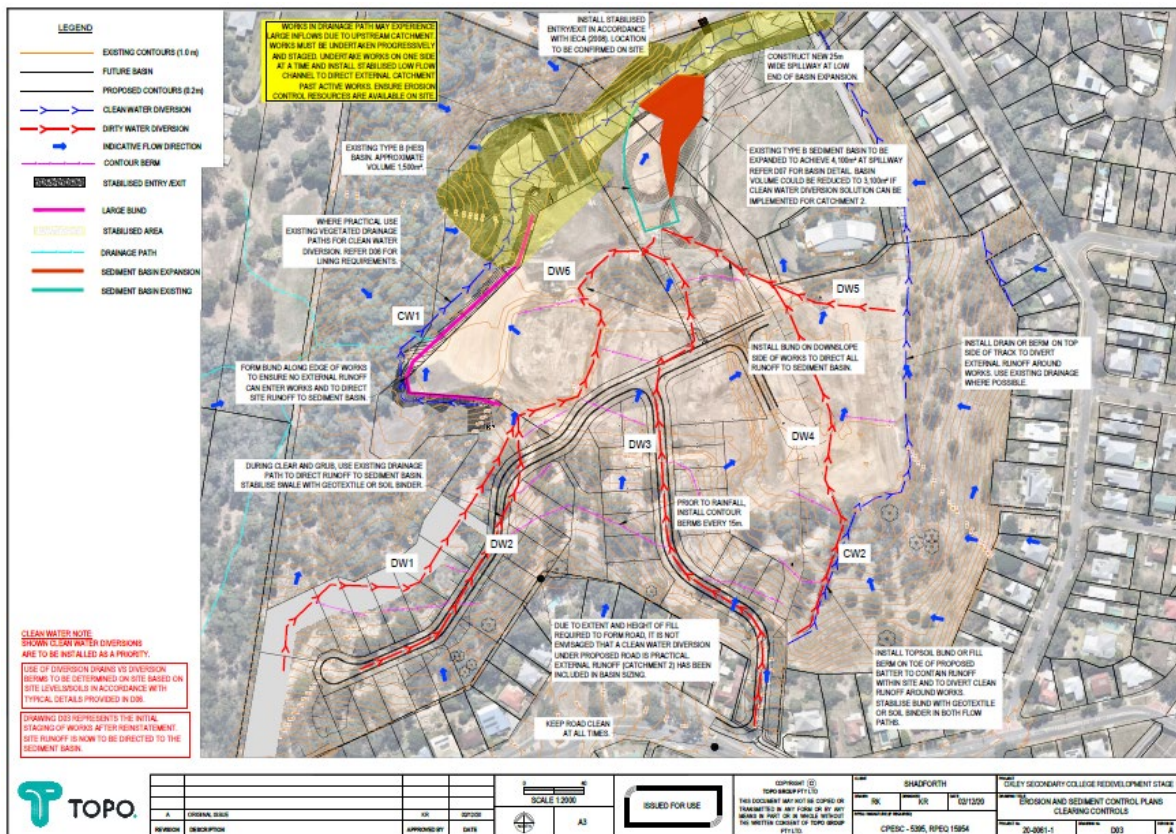


Image 1. Erosion and Sediment Control measures adopted on Songbird Oxley estate.



Image 2. Illustrates a filtering drainage (floccla) system installed on the Songbird Oxley site. adopting a flow based automated dosing unit which accurately doses chemicals to treat collected water on site. The system improves finished water quality prior to discharging offsite.