

## STAFF REPORT

**TO:** Chairman and Members, Engineering Services Committee

**FROM:** Jeff Cuthbertson, Utilities Asset Manager

**DATE:** 27 November 2009

**REFERENCE:** S304

**SUBJECT:** **COLLINGWOOD WASTEWATER TREATMENT PLANT – SEWAGE SPILL**

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### 1 PURPOSE

The purpose of this report is to inform the Engineering Services Committee of the recent sewage leak from the pond at the Collingwood Wastewater Treatment Plant.

### 2 BACKGROUND

On 9 November 2009 Downer EDi Works staff (Council's maintenance contractor) working at the Collingwood Wastewater Treatment Plant noticed that the pond level had dropped about 100 mm. Prior inspections on 6 November 2009 indicated that the pond was at its normal operating level. Council staff and our consultants, MWH were informed and investigations determined that a pipe in the south-west corner of the pond had failed and water was leaking out into grassland and then into the adjacent water course.

Council staff immediately started "sewage overflow and contamination spill" procedures to ensure that the spill was minimised and all appropriate authorities were informed. In accordance with the procedure, signage was placed in and around Collingwood at the turn-off, the boat ramp, the wharf and adjacent to the Fern Tail Bridge indicating that there had been a sewage overflow and that the waterway was contaminated.

Council, MWH and Downer EDi Works staff immediately proceeded to stop the leak and contain any effluent spilt from the site. Containment was difficult if not impossible and it was accepted that approximately 350 m<sup>3</sup> of water could have leaked from the oxidation pond over the preceding 24-48 hour period. A major concern was the effect the spill would have on the shellfish beds in the Golden Bay area. Personnel from the Marlborough Shellfish Quality Programme immediately carried out testing in the area to ascertain if gathered shellfish had been contaminated and if harvesting would have to cease. Following their extensive testing (copies attached) the industry representatives confirmed that no contamination was evident and decided that there was no need to close the shellfish beds.

Council also undertook contamination monitoring of the waterway adjacent to the wastewater treatment plant upstream, downstream and lower down in the waterway and there was very little evidence of sewage overflow.

### 3 EVENTS TIMEFRAME

#### 06 November

- Steve Webster (Downer EDi Works) carried out routine maintenance checks at the site, no issues were recorded, ie pond levels were as anticipated.

#### 09 November

- 11.30am, Steve Webster attended the site and noticed the pond level had dropped significantly (approx 100 mm), he then carried out further investigation and located a discharge from an area south-west of the pond area. Steve's assessment was that the discharge was effluent and it was potentially leaking from the pond, through the banking area and down into the adjacent stream.
- 12.10pm, Steve Webster contacted Juliet Westbury (MWH) to inform her of the situation and to advise he had organised assistance on-site to investigate the issue and contain the discharge.
- 12.15pm Juliet liaised with Paul Barratt (MWH) who then rang Kim Arnold (Tasman District Council) to inform him of the situation. Kim was on site in Pohara and advised he would make his way to the site ASAP.
- 12.25pm, Paul advised Joe Dean (Downer EDi Works) that appropriate signage regarding the discharge would need to be placed and these were sited in the following locations
  - On SH coming into Collingwood as you turn the sharp right.
  - At the boat ramp
  - At the Wharf
  - Adjacent to Fern Tail Bridge.
- 12.35pm Juliet notified Jim Trembath (Tasman District Council Compliance Officer) regarding the issue, also advised that the pumping station discharging to the ponds (Wally's Rest) had been turned off and the contractor advised to begin draining the pond back into the wetland area. The contractor was also excavating onto the point of discharge to determine the fault and plug the leak to contain the discharge. Juliet and Jim agreed that Jim would contact and advise Graham Caradus (Tasman District Council) and Juliet would advise the shell-fishery bodies.
- 12.55pm Juliet advised Fisheries (Westhaven) Alistair Mc Donald, she also contacted Helen Smale but could not actually get an answer, a message was left on Helen's phone at approximately 12.55pm.
- Approx 14.30pm, update from contractor on site, they had located a pipe from which the discharge was occurring, the leak was plugged with compacted clay and the discharge was stopped. In the interim the contractor had been advised to start tankering the effluent from Wally's Rest pumpstation to the Takaka wastewater treatment plant.
- 16.45pm, Juliet rang Graham to advise the leak had been contained and also gave a brief overview of how the contractor/MWH were dealing with the issue.
- During the course of the afternoon Kim, Joe and Paul had numerous phone conversations to ensure all parties ie, Tasman District Council,

MWH and Downer EDi Works were well informed and aware of proceedings.

### **10 November**

- The contractor continued further investigation/excavation into the pipeline from which the effluent had been discharging, as-built information, land owners and local contractors (who built the pond) were all researched and unfortunately nobody was aware of the existence of the pipe.
- 10.30am approx, Kim contacted Graham to give him an update on the situation and advise that signage had been placed the previous day, Graham's advice was to leave the signage out until 17 November.
- 14.50pm; MWH updated Kim to give an estimate of effluent that had been discharged from the pond (approx 350m<sup>3</sup>) and an estimated duration ie, 24 to 48 hrs.

### **11 November**

- The contractor (with Juliet on site) discovered that the pipe was actually two pipes, one 100mm diameter and one 90mm diameter which went approximately five to 10 metres into the pond and stopped; the assumption was made that the pipes had been utilised to drain stormwater or ground water away from the construction area when the pond was built and had never been removed. The pond was desludged approximately nine to 10 months ago and it could be that one or both of these pipes had been disturbed at this stage and eventually (9 November 2009) failure had occurred resulting in the discharge from the pond. The contractor continued to empty the pond back to the wetlands and tanker flows out of Collingwood to Takaka.

### **12 November**

- The contractor continued to expose the pipes and Tasman District Council, MWH and Downer EDi Works staff formulated a method of repair. In conjunction with this several options for imported fill material (to undertake the repair) were investigated and repair methods discussed.
- The contractor began to excavate out the contaminated area and undertake the repair; unfortunately the material (clay) brought to site was found to be too wet so it was decided to leave the material on site over the weekend (spread-out so it had the opportunity to dry) and test it again on Monday to check it's suitability. In the interim a temporary bund was built at the south-western area of the pond to enable the pond to start to be refilled.

### **14 and 15 November**

- Contractor visited the site regularly to ensure pond was filling up and no operational issues were occurring.

### **16 November**

- Contractor, under the supervision of MWH began to undertake the repair of the pond/banking area, however when tested the material (clay) on-site still proved unsuitable. MWH and Downer EDi Works then investigated sourcing some alternative material (from either Golden Bay or the Ruby Bay bypass site). The Ruby Bay bypass site source proved to be unsuitable, however a suitable material was sourced from a small private quarry in Pohara. Contractor continued to prepare the excavation area

ready for the imported clay to be brought in and installed in the trench on 17 November.

#### **17 November**

- Contractor and MWH on site placing the clay in the trench/compacting and testing as appropriate.
- Contractor removed signs from the locations mentioned above.
- MWH (Shane Jellyman) forwarded sampling results to Kim Arnold.

#### **4 TEST RESULTS**

Attached are the results of testing carried out by Helen Smale of the Marlborough Shellfish Quality Programme and her comments regarding the spill along with the results of tests undertaken on behalf of Council's contractor, Downer EDi Works.

#### **5 WHAT DID WE LEARN AND WHAT WILL WE DO DIFFERENTLY?**

One of the major issues that arose from this spill is that Council has a formal policy within the Emergency Procedures Manual (Section 8) regarding the procedures for spillage. This policy and procedures thoroughly deal with sewerage spills. However, the problem highlighted within this process is that in the preceding four years since the policy was developed a number of government organisations have changed identity or have been merged. These changes have not been applied to our policy. We have also not kept a current database of contact details for these organisations.

Coincidentally a number of the people involved in the original process now work for different organisations. Council staff will review the policy and the procedures to ensure that when we have a spill of this significance again, Engineering staff will have an up-to-date database to ensure we can contact the correct parties and they can react in a timely manner.

Overall, the procedures worked very well and staff carried out all of the requirements of the policy and procedures and the correct people were informed of the incident in a timely manner.

#### **6 SUMMARY**

In summary the Collingwood wastewater treatment plant sewerage spill involved approximately 350m<sup>3</sup> of semi-screened liquid leaking outside the containment area. The appropriate external organisations and Council staff were notified of the spill in a timely manner and appropriate measures were put in place to monitor the shellfish beds.

#### **7 RECOMMENDATION**

**THAT this report be received**

Jeff Cuthbertson  
**Utilities Asset Manager**