



**Harvest Scientific Services Pty Ltd**  
Geotechnical Environmental & Resource Consultants  
ABN 43 132 363 289

## **2016 ANNUAL ENVIRONMENTAL MANAGEMENT REPORT**

### **SPRING FARM SAND AND SOIL EXTRACTION AND PROCESSING OPERATION (DA 75/256)**

**MACARTHUR ROAD, SPRING FARM**

**Prepared for:**

**M. Collins & Sons Holdings Pty Ltd**



**30th March 2017**

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## **Revisions register**

Date	Details
06-03-2017	Progress Draft Report 1 for client review.
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## INTRODUCTION

Harvest Scientific Services Pty Ltd has been commissioned by M. Collins & Sons Holdings Pty Ltd to prepare this 2016 *Annual Environmental Management Report* (AEMR). The Report has been prepared in accordance with the NSW Department of Planning and Environment requirements for the Collins Sand and Soil Quarry on Lot 22 (DP833317), and Lot 32 (DP 635271), Macarthur Road, Spring Farm.

### 1.1. OBJECTIVES

The objective of this Annual Environmental Management Report is to address Item 4 of Schedule 5 of the NSW Department of Planning and Environment *Notice of Modification* (DA 75/256 Mod 3) dated 25 October 2012.

*By the end of March each year, the Applicant shall review the environmental performance of the project to the satisfaction of the Director-General. This review must:*

- a. *Describe the development (including rehabilitation) that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year;*
- b. *Include a comprehensive review of the monitoring results and complaints records of the project over the previous calendar year, which includes a comparison of these results against:*
  - *The relevant statutory requirements, limits or performance measure/criteria;*
  - *The monitoring results of previous years; and*
  - *The relevant predictions in the EIS, SEE (Mod 2) and EA (Mod 3);*
- c. *Identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;*
- d. *Identify any trends in the monitoring data over the life of the project;*
- e. *Identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and*
- f. *Describe what measures will be implemented over the current calendar year to improve the environmental performance of the project.*

### 1.2. REPORTING PERIOD

This report covers the period between 1 January 2016 and 31 December 2016.

### 1.3. ACTIVE ENVIRONMENTAL MANAGEMENT PLAN

The active Environmental Management Plan is entitled '*Environmental Management Plan for Spring Farm Sand and Soil Extraction and Processing Operation*' by Harvest Scientific Services.

### 1.4. CONSENT AUTHORITIES

The following consent authorities will be provided with a copy of this AEMR:

1. The NSW Department of Planning and Environment;
2. Camden Council; and
3. The NSW Environmental Protection Authority.

## 1.5. CONSENTS AND PERMITS

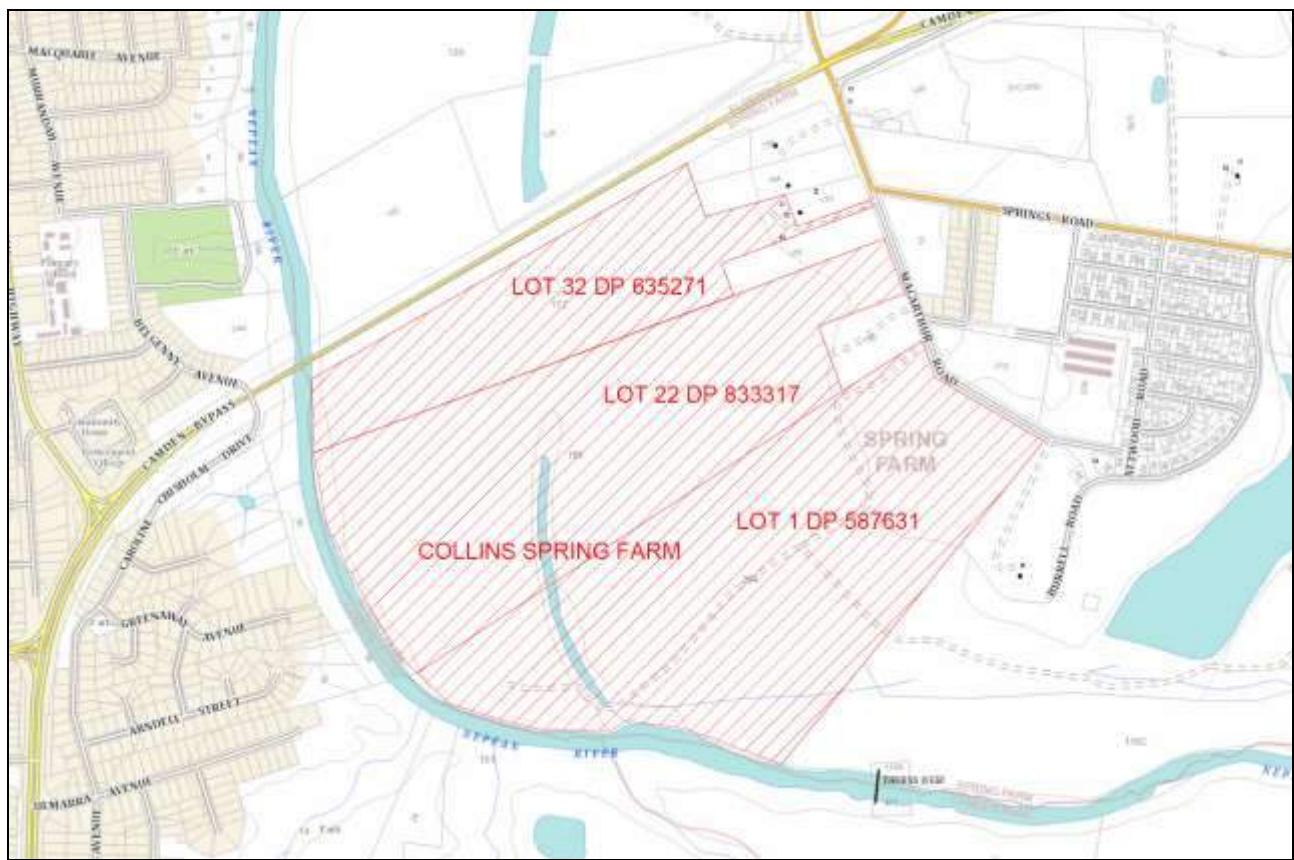
The site is operated by Collins Construction Materials Pty Ltd (a subsidiary of M. Collins & Sons Holdings Pty Ltd). This site is subject to the following consents and permits:

1. NSW Department of Planning and Environment *Notice of Modification* (DA 75/256 Mod 3) dated 25 October 2012;
2. NSW Environmental Protection Authority *Environmental Protection Licence* (EPL) 4093; and
3. Controlled Activity Approval issued by the NSW Office of Water (NOW) dated 8 October 2013.

Other activities which are critical to the operation but do not relate directly to DA 75/256 Mod 3 are undertaken on Lot 1 (DP 587631) and subject to Council approval (DA 252/93) (Figure 1). These activities include access to the premises via the main entrance, weighbridge, wheel wash, site offices, workshops, resource processing and blending area and water supply pump from the Nepean River. These activities were not considered when preparing this AEMR.

## SITE IDENTIFICATION AND LOCATION

Collins Spring Farm Quarry operations occupy Lot 1 (DP 587631), Lot 22 (DP833317) and Lot 32 (DP 635271), situated between Macarthur Road and the Nepean River, Spring Farm (Figure 1).



**Figure 1:** Site Locality

## PROJECT DESCRIPTION

The Collins Spring Farm Quarry is a major supplier of bulk sand and soil materials to the greater Sydney region. Sand and soil is extracted from an approved sixteen hectare (16 Ha) extraction area within the western part of Lot 22 (DP 833317) and more recently from an approved 6.8 hectare (6.8 Ha) extraction area within the western part of Lot 32 (DP 635271) (Figure 1). The sand and soil resource is extracted to a nominated working depth of approximately 8 metres - the purpose of which is to safeguard the underlying groundwater.

The active working area is confined to five hectares (5 Ha) at any one time in accordance with the approved working plan with one hectare (1 Ha) concurrent rehabilitation. Sand and soil is extracted by excavator and placed into dump trucks. The dump trucks convey the material to the processing area where it is screened using a diesel driven screening plant. Sand and soil are screened to -2 mm and -8 mm respectively. Screened sand and soil is then hauled by dump truck from the processing area to a central stockpile and blending area. Oversize material (overburden) is used to backfill voids and for site rehabilitation purposes.

Up to 5,000 tonnes of sand and soil are held at any one time in up to five stockpiles. These are segregated by material type, allowing the company to satisfy market demands for specific blended products. Current operations produce around 250,000 – 300,000 tonnes of sand and soil products annually. Thirteen people are directly employed at the quarry including plant operators, supervisors and clerical staff. In addition, drivers are employed to deliver and distribute material to customers.



**Figure 2:** Active extraction area on Lot 32 (DP 635271)

## ANNUAL PRODUCTION

To address item 26 of Schedule 3 and item 17 of Schedule 5 of the NSW Department of Planning and Environment *Notice of Modification* (DA 75/256 Mod 3) dated 25 October 2012.

Production of sand and soil over the 2016 AEMR is summarized in Table 1. Supporting documentation provided by M. Collins & Sons Holdings Pty Ltd is appended as follows:

1. Copies of the *Industry and Investment Return for Extractive Materials* are provided in Appendix 1.
2. Copies of the *Weigh Bridge Transactions* are provided in Appendix 2.
3. Copies of the *Number of Laden Loads Outwards* are provided in Appendix 3.

**Table 1:** Collins Spring Farm Annual Production (2016 AEMR period)

Total Number of Laden Loads Outwards	9,688
Average Laden Truck Movements per day	31
Total Material Extracted	115,558 tonnes
Total Site Production	267,131 tonnes

It is noted that Total Site Production was approximately 32,000 tonnes less than anticipated for the period.

## ANNUAL CONTRIBUTIONS

As per Item 7 of Schedule 2 of NSW Department of Planning and Environment *Notice of Modification* (DA 75/256 Mod 3) dated 25 October 2012, the Applicant is required to pay an annual contribution to Camden Council for the maintenance of Macarthur Road between the main site entrance and intersection with Springs Road.

A total of \$8,382.40 was paid to Camden Council on the 1<sup>st</sup> December 2015 (Appendix 4). No further invoices were received for the AEMR period from Camden Council.

## EXTRACTION AND WORKING AREA

### 1.6. PRODUCTION - 2016 AEMR PERIOD

Sand and soil was actively extracted from Lot 32 (DP 635271) between January and December 2016. By the end of the reporting period:

1. The active excavation cells E1 and E2 (Figure 3) on Lot 32 (DP 635271) measured approximately 2.41 Ha with 1.69 Ha within E1 and E2 cells (Figure 4) undergoing concurrent rehabilitation;
2. Lot 22 (DP 833317) had an open area (no active excavation conducted for the period) measuring approximately 0.6 Ha (Figure 3); and
3. Approximately 115, 558 tonnes of raw material had been extracted from Lot 32 (DP 635271);
  - a. Sand (66,842 tonnes);
  - b. Soil (27,056 tonnes); and
  - c. Clay / Overburden (21,660 tonnes).

The 2016 total site combined extraction and open area was 3.01 Ha (0.6 Ha of open area on Lot 22 and 2.41 Ha extraction area on Lot 32) complying with the 5.0 Ha limit approved by Camden Council. Although the 2015 AEMR forecast for 2016 was to recommence extraction of Lot 22, this did not occur and is forecast for the 2017 AEMR period.

## 1.7. FORECAST PRODUCTION - 2017 AEMR PERIOD

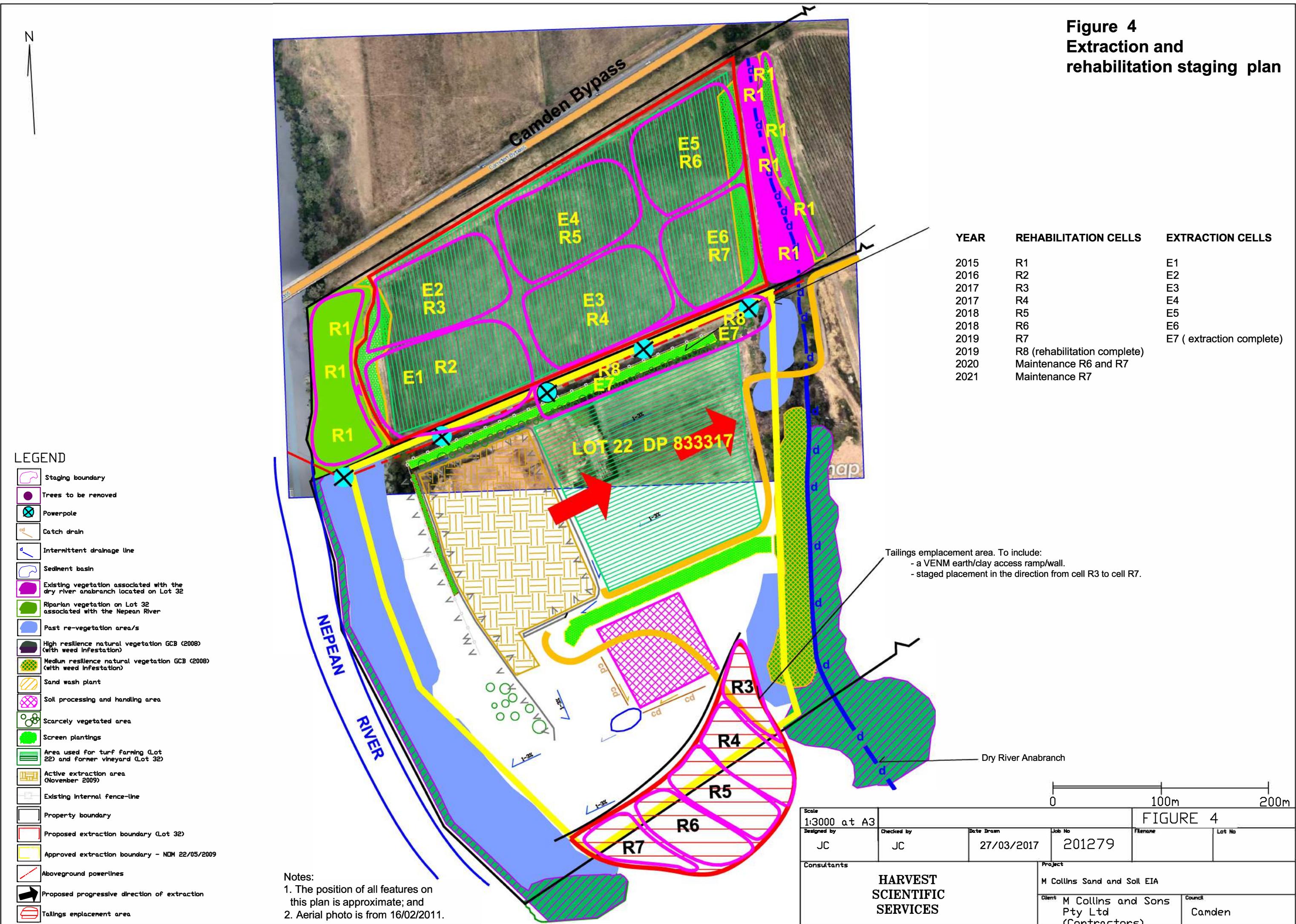
It is proposed to:

1. Recommence extraction from Area 5 of Lot 22 (DP 833317);
2. Continue extraction on Lot 32 (DP 635271) proceeding north as illustrated in Figure 4 into E3 and E4 after exhaustion of E1 and E2. It is estimated that total extraction and production figures for the 2017 reporting year will be similar to that of 2016 (Table 1).



**Figure 3:** 2016 Extraction and Rehabilitation Cells

**Figure 4**  
Extraction and  
rehabilitation staging plan



**REHABILITATION - 2016 AEMR PERIOD****1.8. FINAL LEVELS**

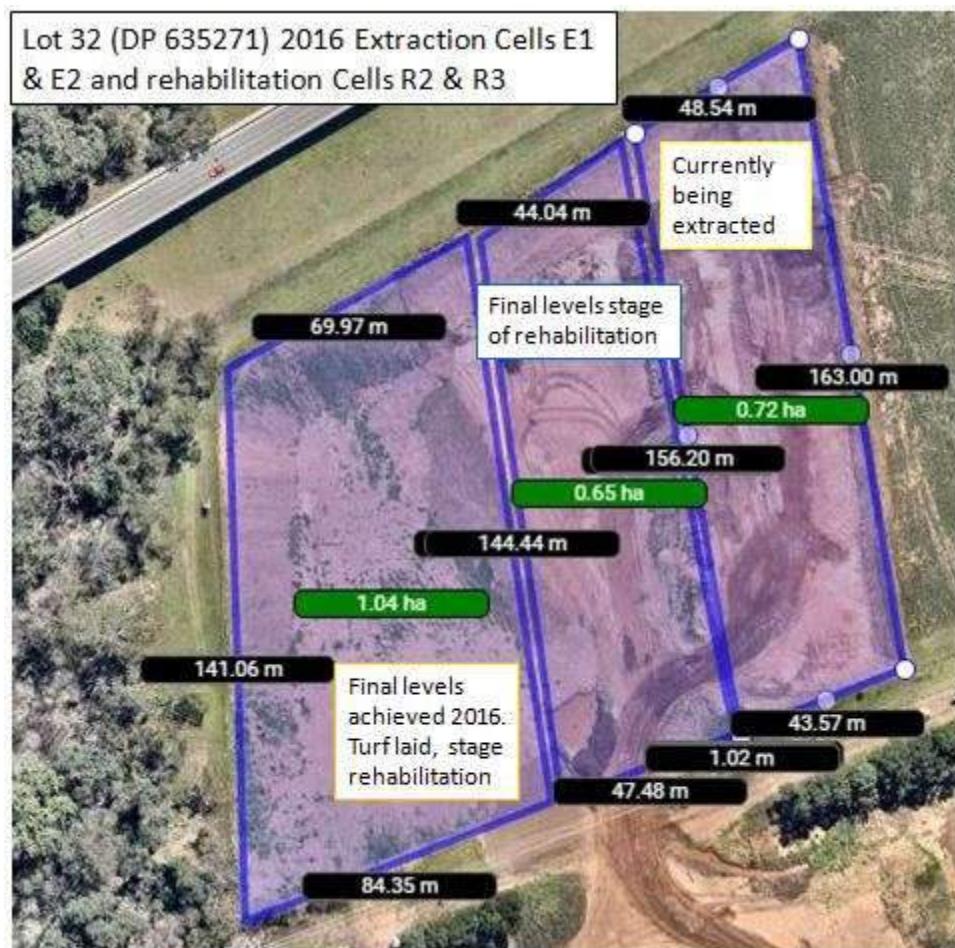
With the exception of minor trimming, final levels (RL66 as confirmed by Keatley Surveyors) were largely achieved within Rehabilitation Cells R3 to R6 denoted on Figure 5 (Lot 1 DP 587631 and Lot 22 DP 83317). At the time of inspection revegetation in the form of pasture grass was establishing well over approximately half the area.



**Figure 5:** 2016 Aerial photo of the site denoting rehabilitation cells.

Final levels were largely achieved to 1.04 Ha within Rehabilitation Cells E1 and E2 denoted on Figure 6 (Lot 32 DP 635271). Progressive rehabilitation was triggered when final levels were achieved to the area within these cells with turf, turf mulch and hand seeding completed in December 2016 progressing to Class 1 Agricultural land use.

Achieving final level within the remaining 0.65 Ha northern section of cells E1 and E2 commenced in December 2016 and will continue into 2017 heading north with concurrent extraction and rehabilitation on Lot 32.



**Figure 6:** Final levels and staged rehabilitation of E1 and E2 on Lot 32 (DP 635271)

### 1.9. REHABILITATION AND MAINTENANCE

Rehabilitation and maintenance is undertaken in general accordance with the Landscape Management Plan for the site (Harvest Scientific Services). Contractors from Bowantz Bushfire and Environmental Pty Ltd routinely inspect the site each week to perform maintenance tasks as necessary. These tasks include but are not limited to; primary rehabilitation, maintenance, extensive weeding (including manual removal and herbicide applications to woody, herbaceous and scrambling weeds), erosion repair, supplementary planting and mulching, and litter removal.

The two areas for primary active rehabilitation were commissioned during the 2015 reporting period (Figure 4, R1, Lot 32 (DP 635271)) and were completed during the 2016 reporting period (denoted as 'Activated Landscape Management Areas' on Figure 8). These areas consisted of the Nepean River Bank and an associated Anabranch both on Lot 32 (DP 635271). On-going maintenance of all other rehabilitated areas continued throughout 2016. 17,000m<sup>2</sup> of primary rehabilitation was completed on Lot 32 (DP 635271) along the Nepean River Bank (R1) and 7,500m<sup>2</sup> within the (R1) Dry River Anabranch.

Rehabilitation was conducted within 10,385m<sup>2</sup> on Lot 32 (E2 and E1) with turf being laid, turf mulch and hand seeding. (Figure 7) Interim rehabilitation was conducted on Lot 22 (DP 83317) Area 5 with hand seeding 7000m<sup>2</sup> due to delayed commencement of extraction in the area.

Extensive seed collection was conducted by Bowantz Bushfire and Environmental Pty Ltd on Lots 22 and 32 during 2016. Seeds were sent to a local nursery for propagation. When plants have reached a useable size planting will occur in rehabilitation areas early 2017.

Installation of 10 nesting boxes targeted arboreal marsupials as per activated Landscape Management plan, section 5.10.1.1 and Table 2. Brush tail possums are active in the area with sufficient existing habitats; therefore the following nesting boxes were installed due to lack of existing habitat;

- Ringtail possum            2 nesting boxes
- Feather tailed glider    2 nesting boxes
- Kookaburras              2 nesting boxes
- Pardalotes                4 nesting boxes

Permanent 5 strand barbwire fencing was installed and maintained around the entire perimeter of Lot 32 (DP 635271) extraction cells E1 – E6 and the R1 primary rehabilitation areas along the Nepean River and Dry River Anabranch (Figure 4).

Improved monthly progress reporting including photo and record evidence streamlined site processes, and targets throughout the 2016 calendar year. Specific requirements were outlined and supplied to Bowantz Bushfire and Environmental Pty Ltd with monthly progress reports and meetings regarding the active Landscape management plan KPI's achieved.

A copy of the 2016 Completed KPI and Rehabilitation Monthly Monitoring Reports from Bowantz Bushfire and Environmental Pty Ltd are available in Appendix 5.



**Figure 7:** Rehabilitation of E1 and E2 on Lot 32 (DP 635271)



**Figure 8:** Completed active rehabilitation and maintenance areas during the 2016 AEMR period

#### **PROPOSED REHABILITATION - 2017 AEMR PERIOD**

##### **1.10. FINAL LEVELS**

It is proposed to:

1. Achieve final levels (RL66) and trimming within Rehabilitation Cell R7 (Lot 22) denoted on Figure 5 and commence revegetation and planting within Cells R3 to R7; and

2. Rehabilitation and final levels of cells E1 and E2 on Lot 32 (DP 635271) as illustrated in Figures 3 and 4.

### 1.11. REHABILITATION AND MAINTENANCE

The contractors from Bowantz Bushfire and Environmental Pty Ltd will continue to routinely inspect the site each week to perform rehabilitation tasks as necessary. These tasks will be undertaken in general accordance with the active Landscape Management Plan (Harvest Scientific Services) and will include:

1. Fencing maintenance;
2. Rubbish removal;
3. Continue with the current extensive weeding regime incorporating the spraying and manual removal of woody, herbaceous and scrambling weeds;
4. Monitoring and repair as necessary of eroded sites;
5. Extensive planting with endemic species sourced from propagules collected on site;
6. Monitoring of species composition;
7. Monitoring of groundcover; and
8. General on-going maintenance.

In addition it is proposed to:

1. 40,000 m<sup>2</sup> of maintenance along the length of the Nepean River (Lot 22 and Lot 32);
2. 50,000 m<sup>2</sup> of maintenance along the Anabranch (Lot 22 and Lot 32);
3. Installation of an additional 10 nesting boxes as per Landscape Management Plan, Section 5.10.1.1 and Table 2;
4. Planting 1/3 of required plants and species within R1, approximately 24,500 m<sup>2</sup>;
5. Commencement of planting within Lot 22 areas R3 to R7;
6. Installation of drip irrigation within R1 for new plantings;
7. Reporting of completed planting, weed re-growth, plant survival and required replacement after primary rehabilitation;
8. Review Environmental Key Performance Indicators annually and rehabilitation progress.

A copy of the completed 2016 Rehabilitation, Monthly Monitoring Reports and 2017 Schedule from Bowantz Bushfire and Environmental Pty Ltd are available in Appendix 5.

### ENVIRONMENTAL MONITORING

### 1.12. PERFORMANCE MEASURES

As per Item 8 of Schedule 3 of NSW Department of Planning and Environment *Notice of Modification* (DA 75/256 Mod 3) dated 25 October 2012 and the Spring Farm Air Quality Monitoring Program dated 30<sup>th</sup> October 2016, an overview of Environmental Compliance Targets for this quarry is provided in Table 2 below.

**Table 2:** Environmental Targets

Element	Component	Target	Averaging period	Source
Air quality	Deposited Dust (maximum total)	< 4 g / m <sup>2</sup> /month	Annual	DoP Conditions of Consent.
	Deposited Dust (maximum increase)	2 g / m <sup>2</sup> /month	Annual	
	Total Suspended Particles (TSP) Matter	< 90 µg/m <sup>3</sup>	After any legitimate dust related complaint thereafter	
	Particulate Matter (PM <sub>10</sub> )	< 30 µg/m <sup>3</sup>	After any legitimate dust related complaint thereafter	
	Particulate Matter (PM <sub>10</sub> )	< 50 µg/m <sup>3</sup>	After any legitimate dust related complaint thereafter	
Noise	LA10 (15 minute) at each sensitive receptor	< 55 dB(A)	15 minutes	Environmental Protection License 4093.
Groundwater	Electrical conductivity	< 800 µS/cm	N/A	Water Management and Erosion and Sediment Control Plan (30 <sup>th</sup> October 2016)
	Depth to water table <sup>1</sup> (m)	Depth < 5.83 Depth > 15.93	Monthly	Water Management and Erosion and Sediment Control Plan (30 <sup>th</sup> October 2016)
	pH	4.0 – 6.5	N/A	March 2009 – December 2016 Monitoring data. Highest and lowest values rounded up and down to nearest 0.5 respectively.

### 1.13. MONITORING SITES

As per Item 17 of Schedule 5 of the NSW Department of Planning and Environment *Notice of Modification* (DA 75/256 Mod 3) dated 25 October 2012, there are three monitoring sites across the Collins Spring Farm Quarry; MS1 (*Penman*), MS2 (*Turf Farm*), and MS3 (*Wash Plant*). They can be identified on the western boundary of the site, central to the site and nearest the front gate respectively (Figure 9). Monitoring Stations 1 and 3 consist of a dust deposition sampler. Monitoring Station 2 consists of a dust deposition sampler and groundwater monitoring bore.



**Figure 9:** Collins Spring Farm Monitoring Sites

## AIR QUALITY

### 1.14. MONITORING

To address Item 8 of Schedule 3 of the NSW Department of Planning and Environment *Notice of Modification* (DA 75/256 Mod 3) dated 25 October 2012, Harvest Scientific Services Pty Ltd has been monitoring dust deposition over the Spring Farm Quarry routinely since 2008. Samples are collected monthly from three monitoring stations (Figure 9) and shipped to ALS Environmental Division Pty Ltd and analysed for Total Insoluble Matter ( $\text{g}/\text{m}^2/\text{month}$ ) Analysis. Monitoring data is available on the Collins and Sons website – <http://www.mcollins.com.au/environmental/environmental-monitoring/>

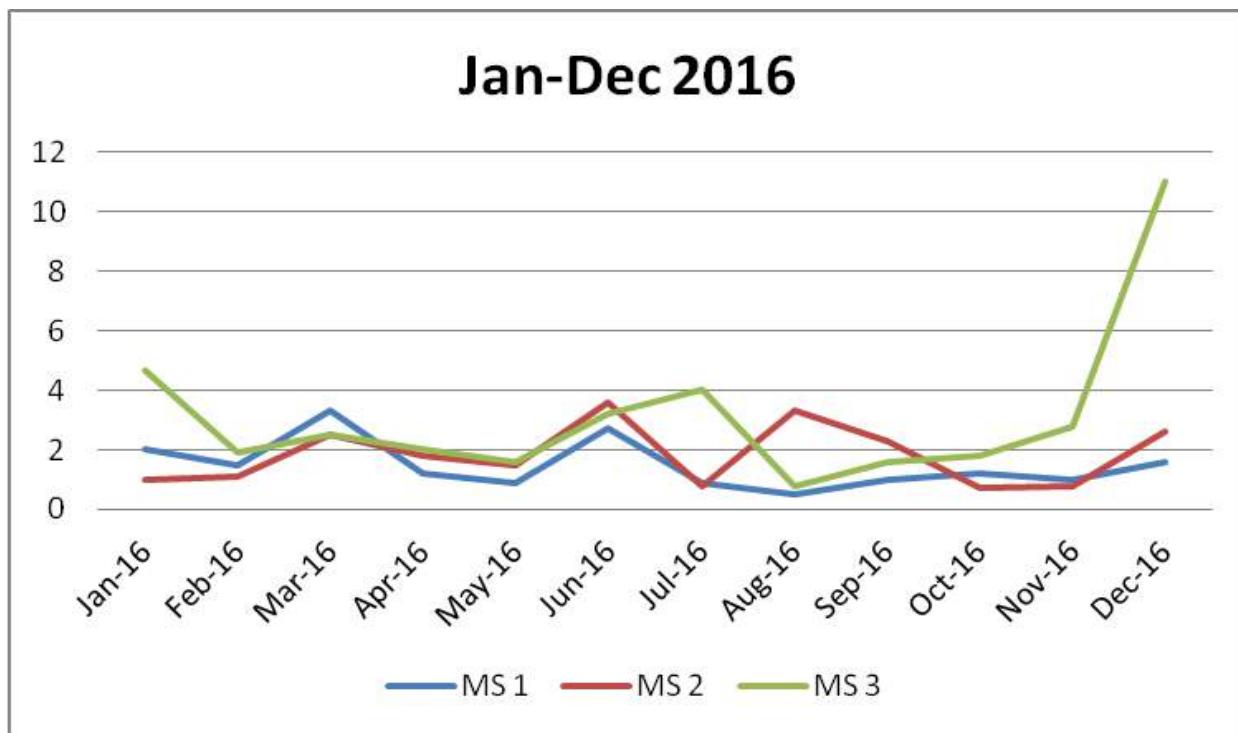
Table 3 and Figure 10 below summarise the results for the 2016 monitoring period. All samples were below the EMP target ( $4 \text{ g}/\text{m}^2/\text{month}$ ) with the exception of the two following recorded exceedances:

1. MS3 (January 2016) The exceedance was largely attributed to earthworks associated with expansion of the nearby Spring Farm urban development site which activities are beyond the control of Collins and Sons. It is considered that mowing and site clean-up activities during hot windy weather and taking place immediately adjacent to MS3 were also responsible for the recorded exceedance.
2. MS3 (December 2016) The exceedance was largely attributed to earthworks associated with the widening of Springs Road which activities are beyond the control of Collins and Sons in conjunction with extremely dry hot weather conditions (wind gusts up to 81km/h for December 2016 according to the Australian BOM – Camden Airport Station).

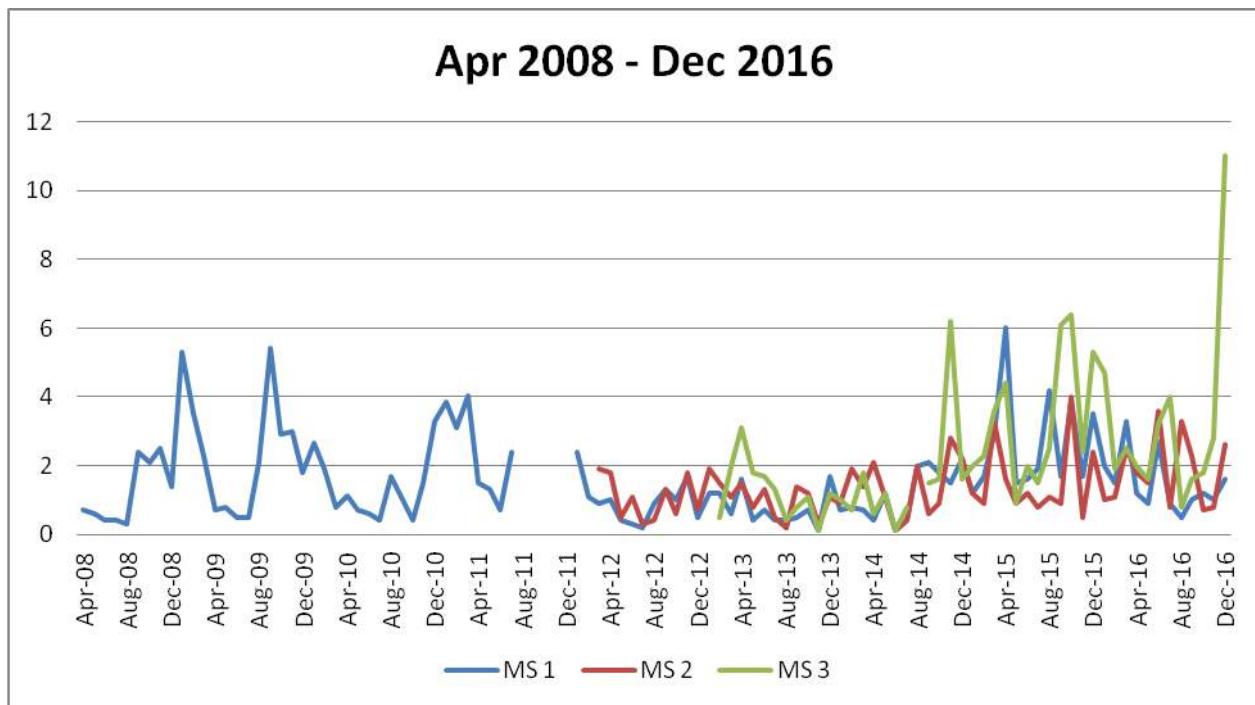
Review of data since introduction of monitoring in 2008 suggests:

1. A general increase in exceedances at Stations 1 and 3 (Figure 11). These are attributed to:
    - a. Expansion of the quarry extraction area into Lot 32 and within 10 m of MS1; and
    - b. Earthworks associated with expansion of the nearby Spring Farm urban development site, widening of Springs Road and extreme heat and windy conditions (MS3).
  2. The data also indicates that exceedances occur mostly during summer months in particular during the December January period, during excessive heat and dry windy conditions.

**Table 3:** Results of 2016 Routine Dust Deposition Monitoring (exceedances highlighted in red)



**Figure 10:** Results of 2016 Routine Dust Deposition Monitoring



**Figure 11:** Results of 2008 - 2016 Routine Dust Deposition Monitoring

### 1.15. IMPROVEMENTS

In an effort to reduce the number of recorded exceedances, Collins and Sons have increased the frequency of access road dust suppression wet downs and water cart frequencies. They have also checked, repaired and replaced where necessary all dust suppression sprinkler heads and extended line lengths to expand the wetted area. A new mobile water cart has been purchased and a full time employee will be dedicated to monitor weather conditions, truck movements and speeds and increase mobile wet down of quarry and road areas in 2017. Bund heights are monitored and increased as ongoing site maintenance to capture quarry and extraction pit dust in conjunction with existing controls and the mobile water cart. During excessive dry heat and wind conditions, the plant is shut down, plant and vehicle speed is reduced, product stockpiles are reduced and wet down to form a crust to reduce windblown dust. Dust migration from the nearby Spring Farm urban re-development is beyond the control of Collins and Sons.

## 1.16. GROUND WATER MONITORING

To address Item 12 of Schedule 3 of the NSW Department of Planning and Environment *Notice of Modification* (DA 75/256 Mod 3) dated 25 October 2012, Harvest Scientific Services Pty Ltd has been monitoring groundwater at the Spring Farm Quarry routinely since 2009. Grab samples are collected monthly from a groundwater bore located at MS2 (Figure 9) and shipped to Sydney Analytical Laboratories Pty Ltd for pH and Conductivity analysis. Groundwater depth is also monitored on a monthly basis. Monitoring data is available on the Collins and Sons website – <http://www.mcollins.com.au/environmental/environmental-monitoring/>

Table 4 and Figures 12 and 13 below summarise the results for the 2016 monitoring period. All samples were below the EMP Salinity target (< 800 µS/cm) and within the nominated pH range (4.00 - 6.50)<sup>(1)</sup> with the exception of the following recorded exceedance;

1. MS2 (August 2016) pH 6.84 moderately acidic and slightly exceeding the nominated pH range of 4-6.50. The consistent on site activities do not indicate any impact on the slight increase in the one result. Trend inconsistent with any major change occurring.

A slight downtrend in groundwater conductivity (EC) values was noted over the 2016 monitoring period. However, no obvious trends or fluctuations in groundwater depth or pH were noted. Groundwater fluctuated between 10.10m and 11.60m depth.

Review of data since commencement of monitoring (March, 2009) indicates:

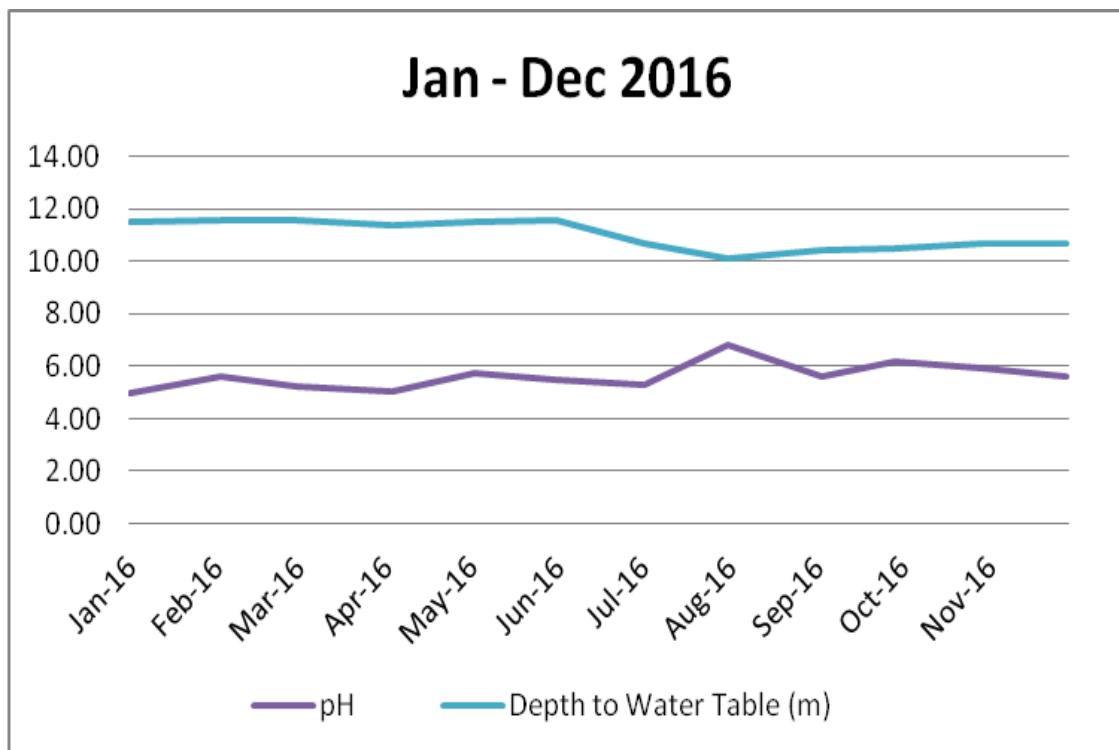
1. Trends inconsistent with any major change occurring over the life of the project;
2. Minor fluctuations in pH and groundwater depth (Figure 14); and
3. Moderate downward trend in groundwater electrical conductivity, showing a positive trend in water quality and salinity, a reduction in the salinity (EC) although remains within target range (Figure 15).

The reason for the moderate downward in electrical conductivity is uncertain but is likely to be associated with prevailing weather and rainfall conditions.

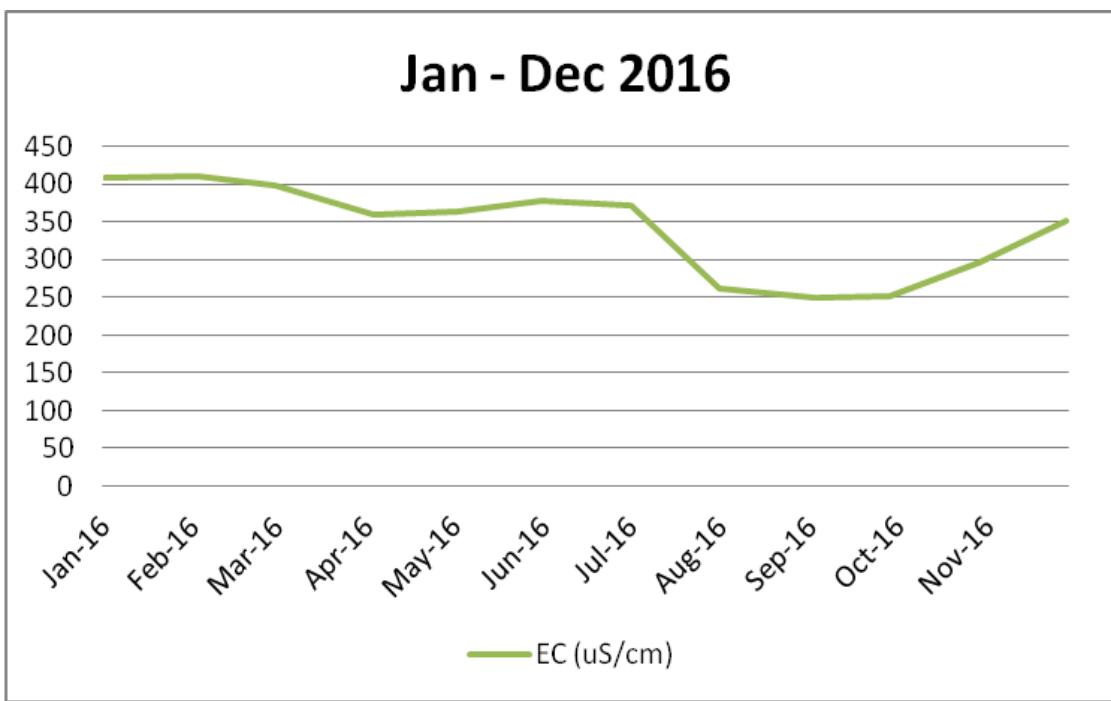
**Table 4:** 2016 Results of Routine Groundwater Analysis (exceedance highlighted in red)

Date	Time	Temp. (°C)	EC (µS/cm)	pH	Depth to Water Table (m)	Comments
1/4/2016	11:00	20	409	5.00	11.50	
2/5/2016	10:45	22	410	5.61	11.60	
3/3/2016	9:00	23	399	5.23	11.60	
4/6/2016	9:00	23	359	5.03	11.40	
5/5/2016	12:30	22	363	5.77	11.50	
6/3/2016	2:00	18	377	5.47	11.60	
7/4/2016	12.30	13	372	5.32	10.70	
						Well above average rainfall for the month of June (326mm) and July (45.8mm) according to the Australia BOM-Camden Airport Station. pH increase inconsistent with trend or any major change occurring.
8/3/2016	10.00	12	261	6.84	10.10	
9/5/2016	10.00	12	250	5.62	10.40	
10/1/2016	10.00	12	252	6.16	10.50	
11/1/2016	8.00	11	296	5.93	10.70	
12/1/2016	8.00	12	352	5.63	10.70	

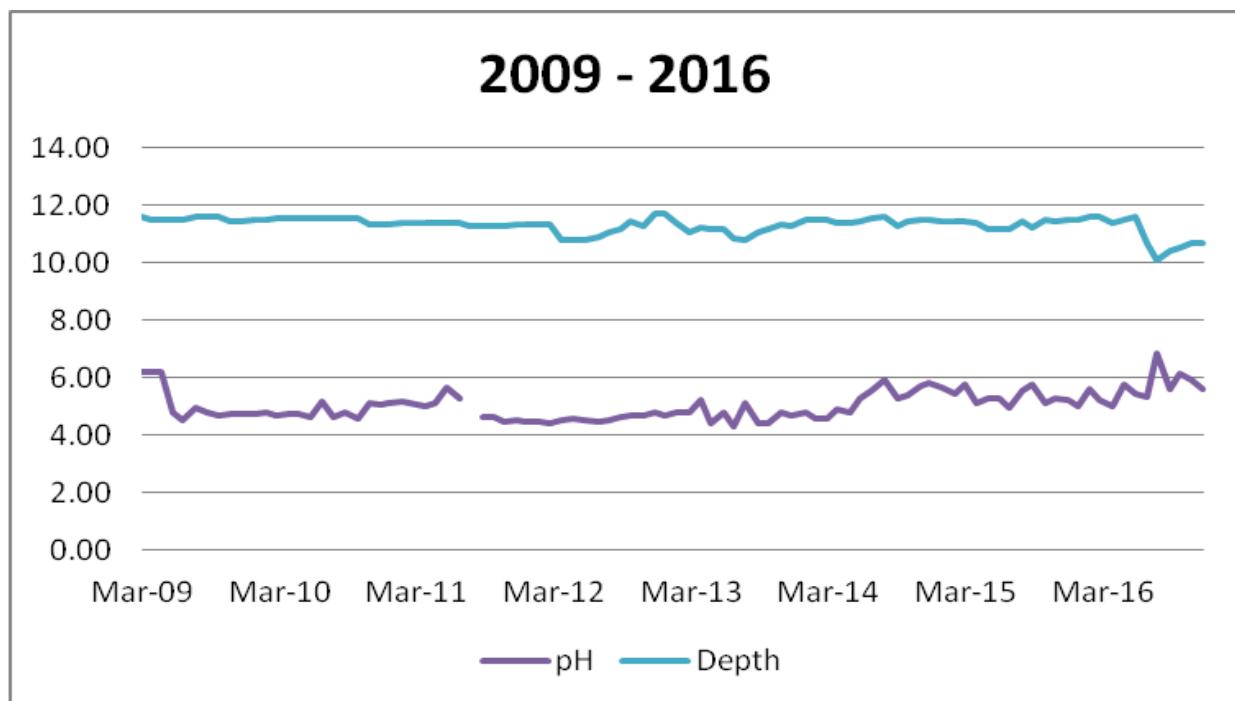
<sup>(1)</sup> March 2009 – December 2015 monitoring data - Highest and lowest values rounded up and down to nearest 0.5 respectively.



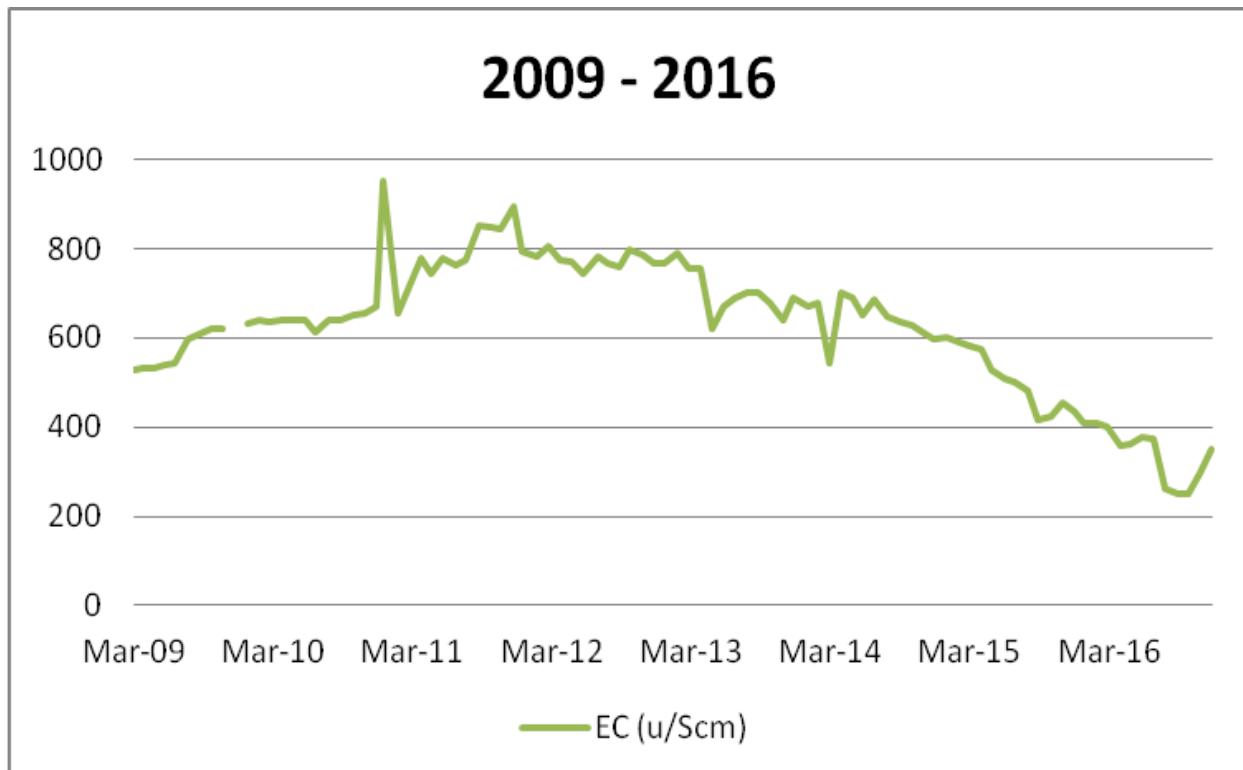
**Figure 12:** Results of 2016 Groundwater Monitoring (pH and Depth)



**Figure 13:** Results of 2016 Groundwater Monitoring (EC)



**Figure 14:** Results of 2009 - 2016 Groundwater Monitoring (pH and Depth)



**Figure 15:** Results of 2009 - 2016 Groundwater Monitoring (EC)

## 1.17. PROJECTIONS

The following was extracted from Environmental Assessment - Macarthur Road, Spring Farm (Pascoe Planning Solutions, July 2011):

Groundwater monitoring has been undertaken on a monthly basis in conjunction with the existing operations on Lot 22 since March 2009. Monitoring results are summarised in Table 5<sup>(1)(2)</sup>.

**Table 5:** Groundwater Monitoring

Parameter	Depth to water table <sup>1</sup> (m)	EC <sup>1</sup> (uS/cm)	Salinity category <sup>2</sup>
Minimum	10.65	528	
Maximum	10.93	952	Medium salinity (280-800 uS/cm)
Average	10.82	643	

Based on historical groundwater monitoring detailed in Table 5 above, groundwater is approximately 10 to 11 metres below the natural ground surface. Assuming a final landform level of up to 8 metres below the existing natural ground level, permanent groundwater is anticipated to be approximately 3 metres below the finished final landform. This distance is considered to be sufficient buffer distance for the protection of the local groundwater regime from future agricultural impacts.

A test-pitting regime was undertaken at six locations across the extraction site by Harvest Scientific Services; such investigation did not intercept free-flowing groundwater at any location.

It is proposed that groundwater be managed onsite as follows:

1. Maintenance of 1m vertical buffer distance. During active extraction a buffer distance of 1 meter is to be maintained between the base of the quarry floor and the permanent groundwater horizon. The purpose of the buffer is to ensure adequate protection of groundwater. This buffer is based upon accepted practice on adjacent operations.
2. If, during active extraction, the permanent groundwater is inadvertently intercepted, the quarry floor is to be back-filled to provide a 1 meter buffer between the operational surface and groundwater.
3. Monitoring. Groundwater depth, pH and salinity levels are to be continued to be monitored at the existing groundwater monitoring location on a monthly basis.

## 1.18. IMPROVEMENTS

Recorded values are well within realistic ranges and no groundwater management improvements are considered necessary at this point. The Site Manager and machine operator working within the extraction cell checks for floor and wall seepage prior to commencing work, throughout the day and at the end of the day and records findings on the inspection schedule. Any sighting of seepage is reported immediately, although no occurrences to date.

<sup>(1)</sup> EC and groundwater depth values presented in this table represent a summary of 26 samples collected on a monthly basis from March 2009 until November 2009.

<sup>(2)</sup> Medium salinity (280-800 uS/cm) - This water can be used for irrigation purposes if moderate leaching occurs. Plants with medium salt tolerance can be grown, usually without special measures for salinity control. Sprinkler irrigation with the more saline waters in this group may cause leaf scorch on salt sensitive crops, especially at high temperatures in the daytime and with low application rates (Based on Table 5.6 of the Australian and New Zealand Environment and Conservation Council (ANZECC) 1992 Australian Water Quality Guidelines for Fresh and Marine Waters).

## **COMPLAINTS**

To address Item 4 of Schedule 5 of the NSW Department of Planning and Environment *Notice of Modification* (DA 75/256 Mod 3) dated 25 October 2012.

### **1.19. NOISE**

To address Item 6 of Schedule 3 of the NSW Department of Planning and Environment *Notice of Modification* (DA 75/256 Mod 3) dated 25 October 2012. Noise from the premises must not exceed an LA10 (15 minute) noise emission criterion of 55 dB(A). Noise from the premises is to be measured or computed at any point within one metre of the boundary of any residential premises or other noise sensitive areas (such as schools, hospitals) in the vicinity of the premises to determine compliance. 5dB(A) must be added if the noise is tonal or impulsive in character.

No noise related complaints were received during the 2016 AEMR period.

### **1.20. DUST**

No dust related complaints were received during the 2016 AEMR period.

### **1.21. ODOUR**

Section 129 of the Protection of the Environment Operations Act 1997, provides that the licensee must not cause or permit the emission of any offensive odour from the premises but provides a defence if the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour.

No odour related complaints were received during the 2016 AEMR period.

### **1.22. RUN-OFF**

No run-off related complaints were received during the 2016 AEMR period.

## **COMPLIANCE WITH CONDITIONS OF CONSENT**

### **1.23. INTRODUCTION**

Compliance findings pertaining to the Collins and Sons quarrying activities have been highlighted by the NSW Department of Planning and Environment. These findings are dealt with in the following sections.

### **1.24. RESPONSE TO 2015 AEMR**

In direct response to the submission of the 2015 AEMR, the NSW Department of Planning and Environment highlighted the following items. These matters and the appropriate response have been addressed in Table 6.

**Table 6:** 2015 AEMR - NSW Department of Planning and Environment Response

Item	Response
Evidence of payment to Camden Council missing from Appendix 4.	Refer Section 5.0 Annual Contributions. 'The version of the AEMR report file which you submitted last week includes the evidence of payment of page 47 of the document. This point is now closed.'
Section 6 Extraction and working area: Please provide an indication in Figures 3 and 4 of which areas in the figures are rehabilitation, which is open/extraction/working areas,	Refer Section 6 Extraction and Working Areas, Figure 3 and Figure 4.

and which are topsoil stockpiles. Please clearly distinguish between areas that relate to the different lots (ie. Lot 1 vs Lots 22 and 32).	
Please include all consent conditions in the table in Appendix 7 and state whether the project was compliant or not.	Refer to Appendix 7.

### 1.25. AUDIT ITEMS RAISED BY INDENTENT ENVIRONMENTAL AUDIT (IEA)

To address Item 5 of Schedule 5 of the NSW Department of Planning and Environment *Notice of Modification* (DA 75/256 Mod 3) dated 25 October 2012. A request was made on the 8<sup>th</sup> April 2016 to The NSW Department of Planning and Environment for approval of Peter Marshman, J2M Systems Pty Limited to conduct the Collins Spring Farm Independent Environmental Audit. Approval was granted by Howard Reed on 11<sup>th</sup> April 2016. A request was also granted by Howard Reed from The NSW Department of Planning and Environment on 30<sup>th</sup> September 2016 to submit the next IEA no later than June 2019. The IEA was conducted by Peter Marshman from J2M Systems Pty Limited on 5<sup>th</sup> and 6<sup>th</sup> May 2016. A number of audit items were recorded and are outlined in Table 7. A comprehensive schedule of items was provided to Collins and is available in Appendix 8.

**Table 7: Items Raised by Independent Environmental Audit**

Item	Audit Comments / Recommendations	Response
<p><b>DA 75/256 NoM S5.5 – Independent Environmental Audit</b></p> <p>Within 12 months of the date of the consent, and every 3 years thereafter, unless the Director-General directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit shall:</p> <p>(a) be conducted by a suitably qualified, experienced, and independent person(s) whose appointment has been approved by the Director-General;</p> <p>(b) include consultation with the relevant agencies;</p> <p>(c) assess the environmental performance of the development, and its effects on the surrounding environment;</p> <p>(d) assess whether the development is complying with the relevant standards, performance measures and statutory requirements; and review the adequacy of any strategy/plan/program required under this approval, and, if necessary, recommend measures or actions to improve the environmental performance of the development, and/or any strategy/plan/program required under this approval.</p>	<p>In April 2016, J2M Systems was contacted and subsequently engaged by Collins to conduct this Independent Environmental Audit. As such the requirements of this condition have not been met. The last independent environmental audit was completed in February 2011. Recommend that Collins clarifies with NSW DP&amp;E to confirm when the next audit will fall due and then make plans to engage a suitably qualified auditor.</p>	<p>A request was made on the 8<sup>th</sup> April 2016 to The NSW Department of Planning and Environment for approval of Peter Marshman, J2M Systems Pty Limited to conduct the Collins Spring Farm Independent Environmental Audit. Approval was granted by Howard Reed on 11<sup>th</sup> April 2016. A request was also granted by Howard Reed from The NSW Department of Planning and Environment on 30<sup>th</sup> September 2016 to submit the next IEA no later than June 2019. The IEA was conducted by Peter Marshman from J2M Systems Pty Limited on 5<sup>th</sup> and 6<sup>th</sup> May 2016. A number of audit items have been completed and all items are progressively being completed.</p>
<p><b>DA 75/256 NoM S5.7 Revision of Strategies, Plans &amp; Programs</b></p> <p>Within three months of:</p> <p>(a) the submission of an incident report under Condition 3 above;</p> <p>(b) the submission of an Annual Review under Condition 4 above;</p> <p>(c) the submission of an audit report under Condition 5 above, or</p> <p>(d) any modification of the conditions of this approval (unless the conditions require otherwise), the Applicant shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Director-General.</p>	<p>There is evidence that management plans are updated following identification of Improvements.</p> <p>In accordance with this clause, SFQ is required to review, revise if necessary, the strategies, plans, and programs required under this approval to the satisfaction of the Director-General. It is recommended that SFQ submit the current suite of strategies, plans, and programs to NSW DP&amp;E</p>	<p>All Collins Spring Farm Management Plans have been updated and forwarded to DP&amp;E for approval. Post approval items received from the DP&amp;E are currently being addressed for Management Plan resubmission via consultation with DPI Water. The current Management Plans submitted within the approval process are;</p> <ul style="list-style-type: none"> <li>• Environmental Management Plan (including Environmental Monitoring Program)</li> <li>• Water, (including groundwater) Erosion and Sediment Control Management Plan</li> <li>• Air Quality Monitoring Program</li> </ul>

**Table 7: Items Raised by Independent Environmental Audit**

		Management Plan Landscape Management Plan (including Rehabilitation)
<b>DA 75/056 NoM S5.8 Access to Information</b> Within 1 month of the approval of any plan/strategy/program required under this approval (or any subsequent revision of these plans/strategies/programs), or the completion of the audits or AEMR required under this approval, the Applicant shall: (a) provide a copy of the relevant document/s to the relevant agencies and to members of the general public upon request; and ensure that a copy of the relevant document/s is made publicly available on its website	SFQ to provide relevant agencies with the current suite of management plans. SFQ to make documents publicly available on the website, as required by this condition.	Copies of relevant documents, plans, programs are provided to relevant agencies and the general public upon request. Ongoing monitoring results, the 2016 AEMR and 2016 audit reports are publicly available on the website. <a href="http://www.mcollins.com.au">www.mcollins.com.au</a> The approved Management Plans will be uploaded to the website within 1 month of approval.

## LIMITATIONS OF THIS REPORT

This report has been prepared subject to a number of limitations. These include:

1. The application of conditions of approval or impacts of unanticipated future events could modify the outcomes described in this document. In particular, the occurrence of earthquakes of any magnitude, extreme rainfall events or the effects of climate change have not been considered but should they occur, may have a significant impact on the site. The client agrees that such events are possible but nevertheless accepts the risk that they pose;
2. The findings contained in this report are the result of discrete/specific methodologies used in accordance with normal practices and standards. To the best of our knowledge, they represent a reasonable interpretation of the general condition of the site in question. Under no circumstances, however, can it be considered that these findings represent the actual state of the site/sites at all points;
3. In preparing this report, Harvest Scientific Services Pty Ltd has relied upon information and documentation provided by the client and/or third parties. Harvest Scientific Services Pty Ltd did not attempt to independently verify the accuracy or completeness of that information. To the extent that the conclusions and recommendations in this report are based in whole or in part on such information, they are contingent on its validity. Harvest Scientific Services Pty Ltd assume no responsibility for any consequences arising from any information or condition that was concealed, withheld, misrepresented, or otherwise not fully disclosed or available to Harvest Scientific Services Pty Ltd; and
4. This report is not to be relied upon for any purpose other than that defined in this report.

Prepared by:



Cheyne Hudson (BEnvSc(Hons))

Environmental Scientist

**APPENDICES**

**1.26. APPENDIX 1: INDUSTRY AND INVESTMENT RETURN (2016 FINANCIAL YEAR)**



Department  
of Industry  
Resources & Energy

Form S 1

RETURN FOR EXTRACTIVE MATERIALS: YEAR ENDED 30 JUNE 2016

Quote RIMS ID in all correspondence  
Quarry Id: 6339      Rims ID: 400233

Operators Name: COLLINS CONSTRUCTION MATERIALS PTY LTD  
Address: PO BOX 55  
MILPERRA  
NSW 2214

Email: matt@mcollins.com.au,

Quarry Name: SPRING FARM/NESBITT QUARRY  
Quarry Location: MACARTHUR RD

Inquiries please telephone:  
(02) 4931 6435,  
Completed or Nil Returns  
Email –  
mineral.royalty@industry.nsw.gov.au

Please amend name, postal  
address and location of mine or  
quarry if incorrect or incomplete

The return should be completed and forwarded to the STATISTICAL OFFICER, NSW DEPARTMENT OF INDUSTRY RESOURCES AND ENERGY, PO BOX 344, HUNTER REGION MAIL CENTRE NSW 2310 on or before 30 November, 2016. If completion of the return is unavoidably delayed, an application for extension of time should be requested before the due date. If no work was done during the year, a NIL return must be forwarded.

The return should relate to the above quarrying establishment, and should cover the operations of quarrying and treatment (such as crushing, screening, washing etc.) carried out at or near the quarry. A return is required even if the operations are solely of a developmental nature, and whether the area being worked is held under a mining title or otherwise.

Zane West, Royalties and Advisory Services Manager

Please complete the following information to assist in identifying the location of the Quarry

Typical Geology ALLUVIA Flood PLAIN

Nearest Town to Quarry CAMDEN

Local Council Name CAMDEN

Deposited Plan and Lot Number/s of Quarry DP833317 Lot 1 & DP587631 Lot 22

Email Address of Operator matt@mcollins.com.au

Name of Owner or Licensee COLLINS CONSTRUCTION MATERIALS PTY LIMITED

Postal Address of Licensee P.O. Box 378 NARELLAN NWS 2567

Licence/Lease Number/s (if any)

From Mineral Resources NSW (Industry & Investment NSW)

From Department of Lands or other Department

If any output was obtained from land NOT held under licence from the above Departments, state the Name/s and Address/es of the Owners of the land

- To the best of my knowledge, the particulars which have been entered in this return are correct and no blank spaces have been left where figures should have been inserted.

- SIGNATURE of PROPRIETOR or MANAGER

DATE 29<sup>th</sup> Nov. 16

- PERSON to be contacted if queries arise regarding this return

- NAME (Block letters)

MATTHEW J. COLLINS

Telephone (02) 9774-1544

**SALES During 2015-2016**

Production information may be published in aggregated form for statistical reporting. However, production data for individual operations is kept strictly confidential.

Product	Description	Quantity Tonnes
<b>Virgin Materials</b>		
• <b>Crushed Coarse Aggregates</b>		
Over 75mm		
Over 30mm to 75mm		
5mm to 30mm		
Under 5mm		
Natural Sand	ON SITE SAND.	26,600.
Manufactured Sand		
Prepared Road Base & Sub Base		
Other Unprocessed Materials		
<b>Recycled Materials</b>		
• <b>Crushed Coarse Aggregates</b>		
Over 75mm		
Over 30mm to 75mm		
5mm to 30mm		
Under 5mm		
Natural Sand	IMPORTED SAND.	112,900
Manufactured Sand		
Prepared Road Base & Sub Base		
Other Unprocessed Materials		
• <b>River Gravel</b>		
Over 30mm		
5mm to 30mm		
Under 5mm		
• <b>Construction Sand</b>	Excluding Industrial	121,750.
• <b>Industrial Sand</b>		
Foundry, Moulding		
Glass		
Other (Specify)		
• <b>Dimension Stone</b>	Building, Ornamental, Monumental	
Quarried in Blocks		
Quarried in Slabs		
• <b>Decorative Aggregate</b>	Including Terrazzo	
• <b>Loam</b>	Soil for Topdressing, Garden soil, Horticultural purposes)	26,900.
• <b>TOTAL SITE PRODUCTION</b>		288,150.
• <b>Gross Value (\$)</b> of all Sales		
• <b>Type of Material</b>		
• <b>Number of Full-Time Equivalent (FTE) Employees</b>	Employees: Quarry 10	Contractors Quarry 6

Please Note: A return for clay based products can be obtained by contacting the inquiry number.

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**1.27. APPENDIX 2: DELIVERED TONNAGES (2016 CALENDAR YEAR)**

## M Collins & Son - weigh-bridge Transactions

Transactions by Product Report  
Transactions dated between 1/1/2016 and  
31/12/2016

Load Type	DELIV
Row Labels - Product Codes	TOTAL
01-012SF	509.88
01-100	3,571.10
01-100SFSW	33,379.42
01-101WSC	63.26
01-102	103,907.59
01-104	1,389.64
01-110WSC	8,109.14
01-111	1,903.94
01-115	2,579.33
01-117	4,935.94
01-126	19,942.45
01-978	1,363.48
01-986	440.40
02-008	1,268.91
04-001	1,167.98
04-001FSC	323.22
05-001	23,825.68
05-002	64.76
05-012	625.68
05-042	392.36
05-062	5,169.60
05-066	286.86
05-075	51.72
05-076	1,812.97
05-800	795.04
06-100	297.44
06-101	60.44
06-150	224.50
06-151	1,979.95
06-160	1,431.70
06-900	5,633.14
07-003	531.83
07-003P	3.98
07-007	4,246.46
07-008	7.91
07-015	2,408.50
07-016	5,557.81

## M Collins & Son - weigh-bridge Transactions

Transactions by Product Report  
Transactions dated between 1/1/2016 and  
31/12/2016

Load Type	DELIV
Row Labels - Product Codes	TOTAL
07-019	36.05
07-053	737.22
07-058	239.24
07-058P	190.92
07-065	561.52
07-070P	986.70
07-100	192.02
07-100P	2,551.98
07-101	1,351.16
07-101P	2,119.32
07-105	126.56
07-105P	464.20
07-107	1,202.38
07-109	156.90
07-109P	1,422.86
07-113P	922.94
07-985	73.28
07-986	8,629.06
07-989	60.56
09-201	1,230.34
09-202	228.76
09-204	267.46
10-010SF	2,452.00
10-011SF	29.00
11-001	172.56
16-002	461.84
<b>Grand Total</b>	<b>267,130.84</b>

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**1.28. APPENDIX 3: LADEN LOADS OUTWARDS (2016 CALENDAR YEAR)**

## M Collins & Son - weigh-bridge Transactions

Transactions dated between 1/1/2016 and 31/12/2016

Product Codes	(Multiple Items)
Row Labels - Date	Count
Mon-4-Jan-16	18
Tue-5-Jan-16	4
Wed-6-Jan-16	1
Thu-7-Jan-16	14
Fri-8-Jan-16	22
Sat-9-Jan-16	13
Mon-11-Jan-16	28
Tue-12-Jan-16	50
Wed-13-Jan-16	61
Thu-14-Jan-16	52
Fri-15-Jan-16	7
Sat-16-Jan-16	3
Mon-18-Jan-16	39
Tue-19-Jan-16	30
Wed-20-Jan-16	40
Thu-21-Jan-16	41
Fri-22-Jan-16	32
Sat-23-Jan-16	5
Mon-25-Jan-16	17
Wed-27-Jan-16	38
Thu-28-Jan-16	46
Fri-29-Jan-16	38
Sat-30-Jan-16	8
Mon-1-Feb-16	39
Tue-2-Feb-16	45
Wed-3-Feb-16	49
Thu-4-Feb-16	30
Fri-5-Feb-16	42
Sat-6-Feb-16	21
Mon-8-Feb-16	47
Tue-9-Feb-16	67
Wed-10-Feb-16	57
Thu-11-Feb-16	50
Fri-12-Feb-16	59
Sat-13-Feb-16	28
Mon-15-Feb-16	39
Tue-16-Feb-16	42
Wed-17-Feb-16	49
Thu-18-Feb-16	60
Fri-19-Feb-16	54

## **M Collins & Son - weigh-bridge Transactions**

Transactions dated between 1/1/2016 and 31/12/2016

Product Codes	(Multiple Items)
Row Labels - Date	Count
Sat-20-Feb-16	18
Mon-22-Feb-16	53
Tue-23-Feb-16	59
Wed-24-Feb-16	56
Thu-25-Feb-16	54
Fri-26-Feb-16	67
Sat-27-Feb-16	18
Mon-29-Feb-16	53
Tue-1-Mar-16	63
Wed-2-Mar-16	82
Thu-3-Mar-16	52
Fri-4-Mar-16	55
Sat-5-Mar-16	30
Mon-7-Mar-16	49
Tue-8-Mar-16	47
Wed-9-Mar-16	40
Thu-10-Mar-16	71
Fri-11-Mar-16	61
Sat-12-Mar-16	25
Mon-14-Mar-16	71
Tue-15-Mar-16	45
Wed-16-Mar-16	49
Thu-17-Mar-16	51
Fri-18-Mar-16	39
Sat-19-Mar-16	23
Mon-21-Mar-16	36
Tue-22-Mar-16	54
Wed-23-Mar-16	50
Thu-24-Mar-16	52
Sat-26-Mar-16	1
Tue-29-Mar-16	39
Wed-30-Mar-16	34
Thu-31-Mar-16	57
Fri-1-Apr-16	59
Sat-2-Apr-16	14
Mon-4-Apr-16	50
Tue-5-Apr-16	38
Wed-6-Apr-16	54
Thu-7-Apr-16	50
Fri-8-Apr-16	44

## **M Collins & Son - weigh-bridge Transactions**

Transactions dated between 1/1/2016 and 31/12/2016

Product Codes	(Multiple Items)
Row Labels - Date	Count
Sat-9-Apr-16	15
Mon-11-Apr-16	60
Tue-12-Apr-16	42
Wed-13-Apr-16	49
Thu-14-Apr-16	34
Fri-15-Apr-16	29
Sat-16-Apr-16	11
Mon-18-Apr-16	52
Tue-19-Apr-16	43
Wed-20-Apr-16	44
Thu-21-Apr-16	49
Fri-22-Apr-16	32
Sat-23-Apr-16	5
Tue-26-Apr-16	35
Wed-27-Apr-16	39
Thu-28-Apr-16	45
Fri-29-Apr-16	42
Sat-30-Apr-16	7
Mon-2-May-16	23
Tue-3-May-16	42
Wed-4-May-16	50
Thu-5-May-16	42
Fri-6-May-16	37
Sat-7-May-16	15
Mon-9-May-16	9
Tue-10-May-16	28
Wed-11-May-16	34
Thu-12-May-16	30
Fri-13-May-16	40
Sat-14-May-16	14
Mon-16-May-16	32
Tue-17-May-16	41
Wed-18-May-16	43
Thu-19-May-16	48
Fri-20-May-16	32
Sat-21-May-16	11
Mon-23-May-16	33
Tue-24-May-16	43
Wed-25-May-16	32
Thu-26-May-16	30

## **M Collins & Son - weigh-bridge Transactions**

Transactions dated between 1/1/2016 and 31/12/2016

Product Codes	(Multiple Items)
Row Labels - Date	Count
Fri-27-May-16	50
Sat-28-May-16	14
Mon-30-May-16	33
Tue-31-May-16	38
Wed-1-Jun-16	22
Thu-2-Jun-16	16
Fri-3-Jun-16	20
Sat-4-Jun-16	1
Mon-6-Jun-16	1
Tue-7-Jun-16	13
Wed-8-Jun-16	14
Thu-9-Jun-16	36
Fri-10-Jun-16	44
Sat-11-Jun-16	12
Tue-14-Jun-16	37
Wed-15-Jun-16	24
Thu-16-Jun-16	47
Fri-17-Jun-16	20
Sat-18-Jun-16	5
Mon-20-Jun-16	18
Tue-21-Jun-16	18
Wed-22-Jun-16	29
Thu-23-Jun-16	33
Fri-24-Jun-16	16
Sat-25-Jun-16	5
Mon-27-Jun-16	14
Tue-28-Jun-16	27
Wed-29-Jun-16	40
Thu-30-Jun-16	18
Fri-1-Jul-16	34
Sat-2-Jul-16	3
Mon-4-Jul-16	18
Tue-5-Jul-16	9
Wed-6-Jul-16	20
Thu-7-Jul-16	12
Fri-8-Jul-16	9
Sat-9-Jul-16	4
Mon-11-Jul-16	15
Tue-12-Jul-16	21
Wed-13-Jul-16	26

## M Collins & Son - weigh-bridge Transactions

Transactions dated between 1/1/2016 and 31/12/2016

Product Codes	(Multiple Items)
Row Labels - Date	Count
Thu-14-Jul-16	34
Fri-15-Jul-16	18
Sat-16-Jul-16	6
Mon-18-Jul-16	21
Tue-19-Jul-16	12
Wed-20-Jul-16	11
Thu-21-Jul-16	13
Fri-22-Jul-16	14
Sat-23-Jul-16	6
Mon-25-Jul-16	24
Tue-26-Jul-16	21
Wed-27-Jul-16	27
Thu-28-Jul-16	29
Fri-29-Jul-16	23
Sat-30-Jul-16	6
Mon-1-Aug-16	23
Tue-2-Aug-16	15
Wed-3-Aug-16	12
Thu-4-Aug-16	8
Fri-5-Aug-16	9
Sat-6-Aug-16	3
Mon-8-Aug-16	16
Tue-9-Aug-16	19
Wed-10-Aug-16	17
Thu-11-Aug-16	25
Fri-12-Aug-16	18
Sat-13-Aug-16	7
Mon-15-Aug-16	10
Tue-16-Aug-16	25
Wed-17-Aug-16	28
Thu-18-Aug-16	25
Fri-19-Aug-16	18
Sat-20-Aug-16	11
Mon-22-Aug-16	23
Tue-23-Aug-16	24
Wed-24-Aug-16	8
Thu-25-Aug-16	10
Fri-26-Aug-16	14
Sat-27-Aug-16	4
Mon-29-Aug-16	35

## M Collins & Son - weigh-bridge Transactions

Transactions dated between 1/1/2016 and 31/12/2016

Product Codes <b>Row Labels - Date</b>	(Multiple Items) <b>Count</b>
Tue-30-Aug-16	20
Wed-31-Aug-16	29
Thu-1-Sep-16	37
Fri-2-Sep-16	20
Sat-3-Sep-16	9
Mon-5-Sep-16	36
Tue-6-Sep-16	31
Wed-7-Sep-16	39
Thu-8-Sep-16	22
Fri-9-Sep-16	18
Sat-10-Sep-16	6
Mon-12-Sep-16	33
Tue-13-Sep-16	29
Wed-14-Sep-16	37
Thu-15-Sep-16	33
Fri-16-Sep-16	24
Sat-17-Sep-16	6
Mon-19-Sep-16	25
Tue-20-Sep-16	28
Wed-21-Sep-16	29
Thu-22-Sep-16	24
Fri-23-Sep-16	17
Sat-24-Sep-16	5
Mon-26-Sep-16	35
Tue-27-Sep-16	27
Wed-28-Sep-16	50
Thu-29-Sep-16	31
Fri-30-Sep-16	21
Sat-1-Oct-16	12
Tue-4-Oct-16	42
Wed-5-Oct-16	49
Thu-6-Oct-16	41
Fri-7-Oct-16	37
Sat-8-Oct-16	6
Mon-10-Oct-16	32
Tue-11-Oct-16	31
Wed-12-Oct-16	30
Thu-13-Oct-16	24
Fri-14-Oct-16	33
Sat-15-Oct-16	8

## M Collins & Son - weigh-bridge Transactions

Transactions dated between 1/1/2016 and 31/12/2016

Product Codes	(Multiple Items)
Row Labels - Date	Count
Mon-17-Oct-16	26
Tue-18-Oct-16	47
Wed-19-Oct-16	38
Thu-20-Oct-16	41
Fri-21-Oct-16	37
Sat-22-Oct-16	4
Mon-24-Oct-16	43
Tue-25-Oct-16	41
Wed-26-Oct-16	34
Thu-27-Oct-16	51
Fri-28-Oct-16	46
Sat-29-Oct-16	19
Mon-31-Oct-16	40
Tue-1-Nov-16	40
Wed-2-Nov-16	39
Thu-3-Nov-16	49
Fri-4-Nov-16	41
Sat-5-Nov-16	13
Mon-7-Nov-16	32
Tue-8-Nov-16	48
Wed-9-Nov-16	35
Thu-10-Nov-16	48
Fri-11-Nov-16	87
Sat-12-Nov-16	13
Mon-14-Nov-16	64
Tue-15-Nov-16	68
Wed-16-Nov-16	72
Thu-17-Nov-16	35
Fri-18-Nov-16	48
Sat-19-Nov-16	17
Mon-21-Nov-16	46
Tue-22-Nov-16	58
Wed-23-Nov-16	53
Thu-24-Nov-16	69
Fri-25-Nov-16	66
Sat-26-Nov-16	21
Mon-28-Nov-16	47
Tue-29-Nov-16	60
Wed-30-Nov-16	47
Thu-1-Dec-16	64

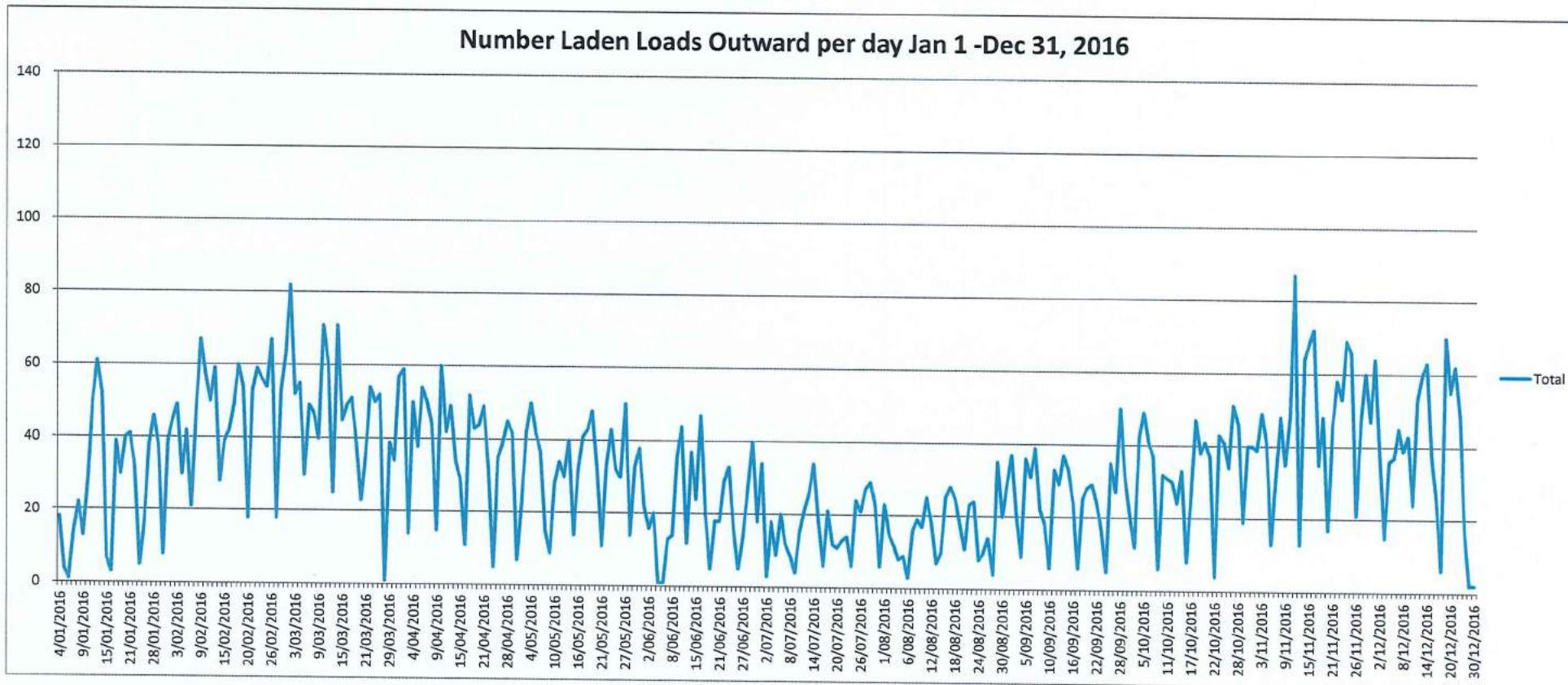
## M Collins & Son - weigh-bridge Transactions

Transactions dated between 1/1/2016 and 31/12/2016

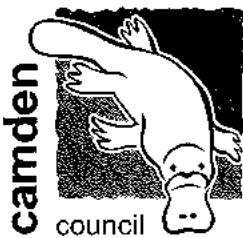
Product Codes <b>Row Labels - Date</b>	(Multiple Items) <b>Count</b>
Fri-2-Dec-16	37
Sat-3-Dec-16	15
Mon-5-Dec-16	36
Tue-6-Dec-16	37
Wed-7-Dec-16	45
Thu-8-Dec-16	39
Fri-9-Dec-16	43
Sat-10-Dec-16	24
Mon-12-Dec-16	53
Tue-13-Dec-16	60
Wed-14-Dec-16	63
Thu-15-Dec-16	37
Fri-16-Dec-16	25
Sat-17-Dec-16	6
Mon-19-Dec-16	70
Tue-20-Dec-16	55
Wed-21-Dec-16	62
Thu-22-Dec-16	49
Fri-23-Dec-16	17
Thu-29-Dec-16	2
Fri-30-Dec-16	2
<b>Grand Total</b>	<b>9688</b>
No of Weeks	52
No pf days per Week	6
Ave Loads per week	186
Ave Loads per day	31

## M Collins & Son - weigh-bridge Transactions

### Number Laden Loads Outward per day Jan 1 -Dec 31, 2016



**1.29. APPENDIX 4: CONTRIBUTIONS**



030940  
Camden Council  
37 John Street, Camden NSW 2570  
19 Queen Street, Narellan NSW 2567  
PO Box 183, Camden 2570 DX 25807  
Telephone: 02 4645 5130 Fax: 02 4654 7829  
Email: mail@camden.nsw.gov.au  
www.camden.nsw.gov.au ABN: 31 117 341 764

, REC 2015

Tax Invoice

ABN 31 117 341 764

M Collins & Sons Holdings Pty Ltd Account No: 1392.10  
PO Box 55 Page No: 01  
MILPERRA NSW 2214 Date: 26/11/2015  
TAX INVOICE

Date	Invoice	Description	Amount
26/11/2015	39416	186 Macarthur Road GST \$762.04 Road Levy as per conditions of consent Extraction Permit Extension Commencement Date 18/12/2008 Period 18/12/15 - 17/12/16 (Year 8/10) Invoice Total (including GST if applicable)	8382.40

R  
A/C CCM.  
ROAD MAINTENANCE LEVY  
\$7620.36 + GST  
M.

06W64099

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Total Value non-taxable supply(s) 0.00  
Total Value taxable supply(s) excluding GST 7620.36  
Total GST Payable 762.04

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Due Date: 26/12/2015 Amount Due: 8382.40

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Please detach and send with cheque payment.

M Collins & Sons Holdings Pt  
PO Box 55  
MILPERRA NSW 2214

Account No: INVOICE  
1392.10 39416



Biller Code: 717405  
Ref: 1392109

In Person

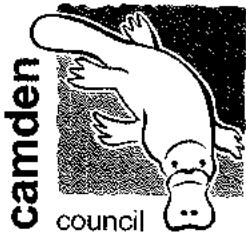
Payments can be made between 8.30am and 5.00pm  
Monday to Friday at the Camden Office, 37 John Street,  
Camden, or the Narellan Office, 19 Queen Street, Narellan.

By Mail

Send this tear off with your cheque or money order to:  
Camden Council, PO Box 183,  
Camden NSW 2570.

Telephone and Internet Banking - BPAY®

Contact your bank or financial institution to make this payment  
from your cheque, savings, debit or transaction account.  
For more information visit [www.bpay.com.au](http://www.bpay.com.au).



**Camden Council**  
70 Central Ave, Oran Park  
PO Box 183, Camden 2570 DX 25807  
Telephone: 02 4654 7777 Fax: 02 4654 7829  
Email: mail@camden.nsw.gov.au  
www.camden.nsw.gov.au ABN: 31 117 341 764

*RECEIVED*  
*15 MAR 2017*  
**Tax Invoice**

ABN 31 117 341 764

M Collins & Sons Holdings Pty Ltd Account No: 1392.10  
PO Box 378 Page No: 01  
NARELLAN NSW 2567 Date: 08/03/2017  
TAX INVOICE

Date	Invoice	Description	Amount
08/03/2017	44681	Road Levy as per conditions of consent GST \$774.99 as issued by Dept. of Planning Extraction Permit Extension 186 Macarthur Rd Commencement Date: 18/12/2008 Period 18/12/16 - 18/12/17 (Year 9/10) Invoice Total (including GST if applicable)	8524.90
<hr/>			
		Total Value non-taxable supply(s)	0.00
		Total Value taxable supply(s) excluding GST	7749.91
		Total GST Payable	774.99

**Due Date:** 07/04/2017

**Amount Due:** 8524.90

Please detach and send with cheque payment.

**Due Date:**

**Amount Due:**

07/04/2017

8524.90

M Collins & Sons Holdings Pt  
PO Box 378  
NARELLAN NSW 2567

**Account No:** INVOICE  
1392.10 44681



Biller Code: 717405

Ref: 1392109

In Person

Payments can be made between 8.30am and 5.00pm  
Monday to Friday at the Oran Park Office, 70 Central Ave,  
Oran Park, or Camden and Narellan Libraries.

By Mail

Send this tear off with your cheque or money order to: Contact your bank or financial institution to make this payment  
Camden Council, PO Box 183,  
Camden NSW 2570.  
Telephone and Internet Banking - BPAY®  
For more information visit [www.bpay.com.au](http://www.bpay.com.au).

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**1.30. APPENDIX 5: BOWANTZ ENVIRONMENTAL REPORTS**



Kurt Bowman  
Bowantz Landscaping & Environmental

# **COLLINS & SONS PTY LTD**

## **CAMDEN NSW**

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**River Extension Zone 1A**

**Friday, 29 January 2016**

**Prepared For Collins & Sons Pty Ltd**

**Identified 8 Issues**



## SECTION 1A

Assigned To Before Spray 1

Pictured here is the primary work area before herbicide broad-spraying.



## SECTION 1A

Assigned To After Spray 1

Shown in this picture is the primary works area after the herbicide has started to kill the invasive weeds that were targeted.



## SECTION 1A

Assigned To Before Spray 2

Pictured here is the primary work area before herbicide broad-spraying.



## SECTION 1A

Assigned To After Spray 2

Shown in this picture is the primary works area after the herbicide has started to kill the invasive weeds that were targeted.



## SECTION 1A

Assigned To Before Spray 3

Pictured here is the primary work area before herbicide broad-spraying.



## SECTION 1A

Assigned To After Spray 3

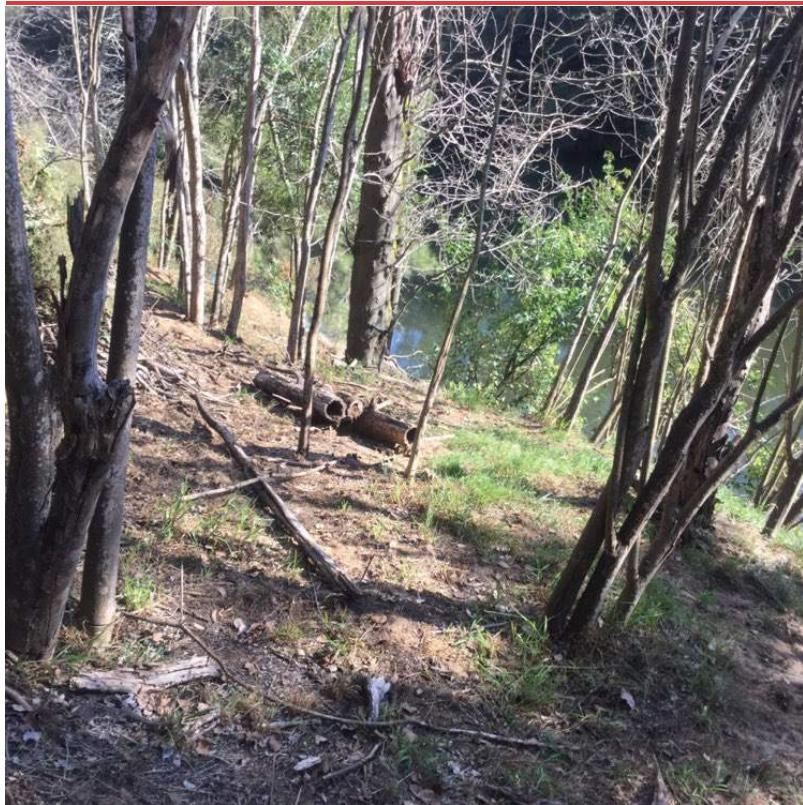
Shown in this picture is the primary works area after the herbicide has started to kill the invasive weeds that were targeted.



## SECTION 1A

Assigned To Before 4

Pictured here is the bank of the riparian zone after primary works had been completed. A large amount of invasive herbaceous weeds have germinated since the large woody weeds treated in this area defoliated.



## SECTION 1A

Assigned To After 4

As seen in this picture the invasive herbaceous weeds have been either hand pulled or cut and painted with Glyphosate Bi-Active. All weed bio-mass generated in this area were stock piled to consolidate any viable seeds present.



Kurt Bowman  
Bowantz Landscaping & Environmental

# **COLLINS & SONS PTY LTD**

## **CAMDEN NSW**

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**Monday, 29 February 2016**

**Prepared For Collins & Sons Pty Ltd**

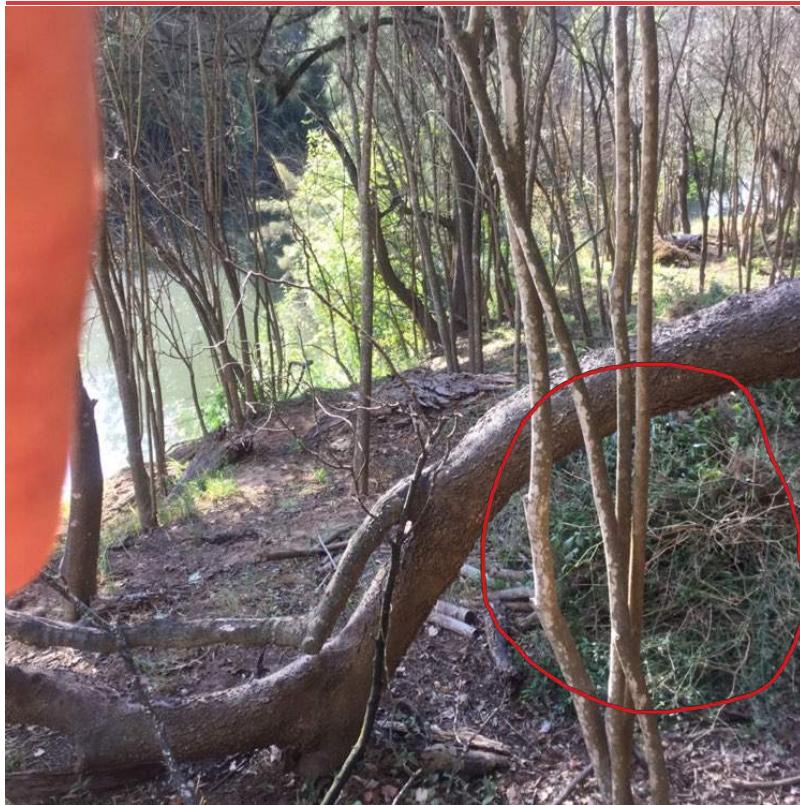
**Identified 5 Issues**



## SECTION 1A

### Assigned To Before 1

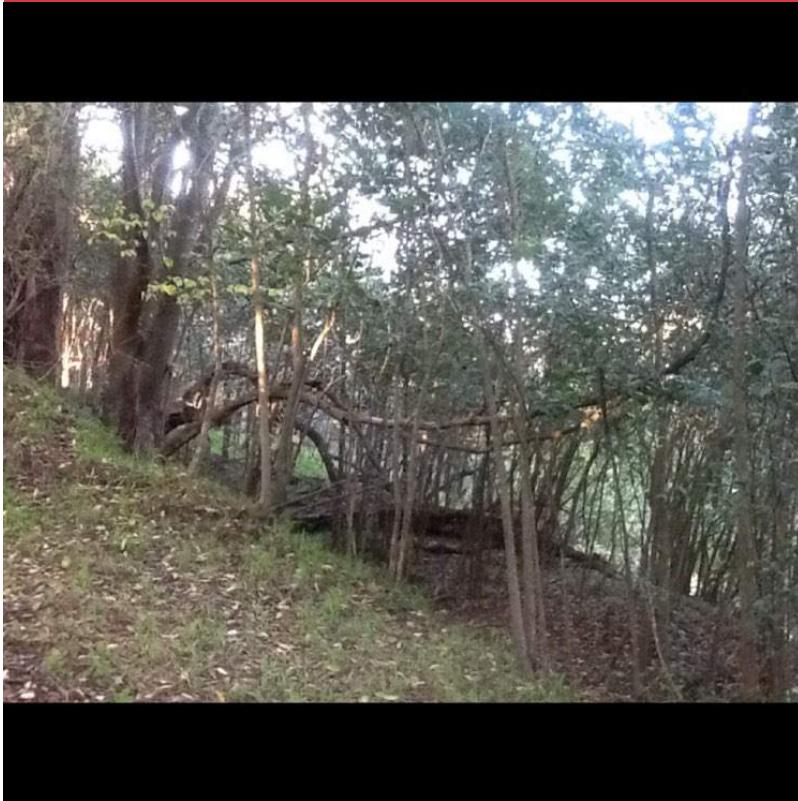
Pictured here is the bank of the Nepean River riparian zone. Seen in this picture is an area where primary work was completed several months ago. As a result of the large woody weeds defoliating and more light hitting the ground a large amount of invasive herbaceous weeds have germinated.



## SECTION 1A

### Assigned To After 1

As seen in this picture all of the identified weeds in this area have been either hand pulled or cut and painted with Glyphosate Bi-Active. Excess bio-mass generated during weed control was piled (circled in red) to consolidate any viable seed that may be present



## SECTION 1A

Assigned To Before 2

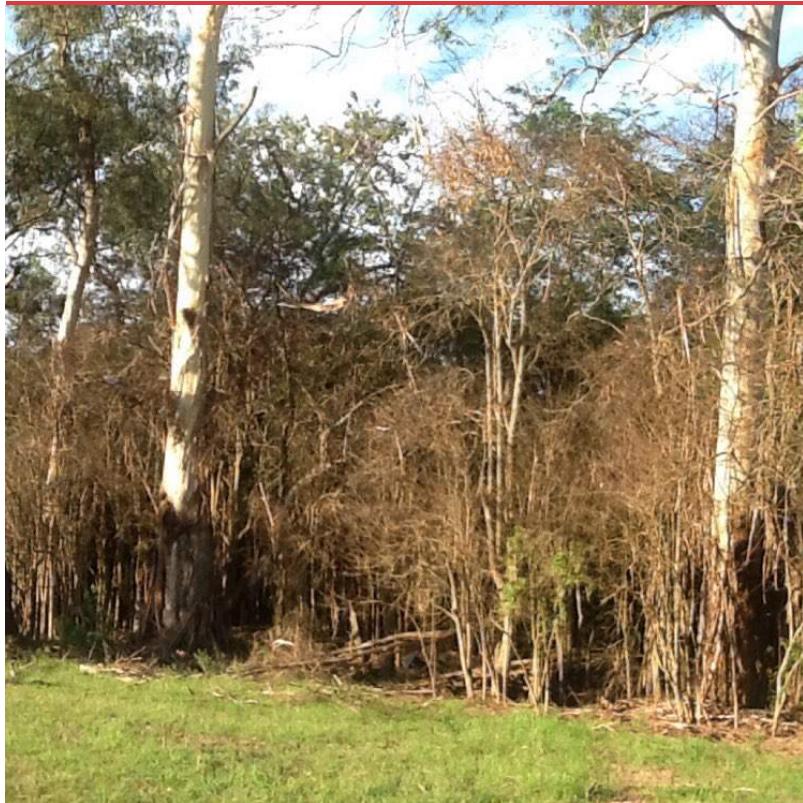
Pictured here is an example of the weed infestation in the riparian area prior to primary works commencing.



## SECTION 1A

Assigned To After 2

Large *Ligustrum* sp. in this area were frilled and injected with Glyphosate Bi-Active and left standing. Smaller woody weeds were controlled in this area using the cut and paint method, cut stumps were painted with glyphosate Bi-Active. The Biomass created during works were piled (circled in red) to consolidate any viable seed that may be present.



## SECTION 1A

### Assigned To Large Woody Weeds

Seen in this picture is the thick stand of *Ligustrum* sp. in the riparian zone that has had primary work completed. Larger specimens seen here still standing were drilled and injected with Glyphosate Bi-Active. Smaller specimens in this area were cut and painted with Glyphosate Bi-Active. Excess bio-mass generated during weed control was chopped down into habitat piles.



Kurt Bowman  
Bowantz Landscaping & Environmental

# **COLLINS & SONS PTY LTD**

## **CAMDEN NSW**

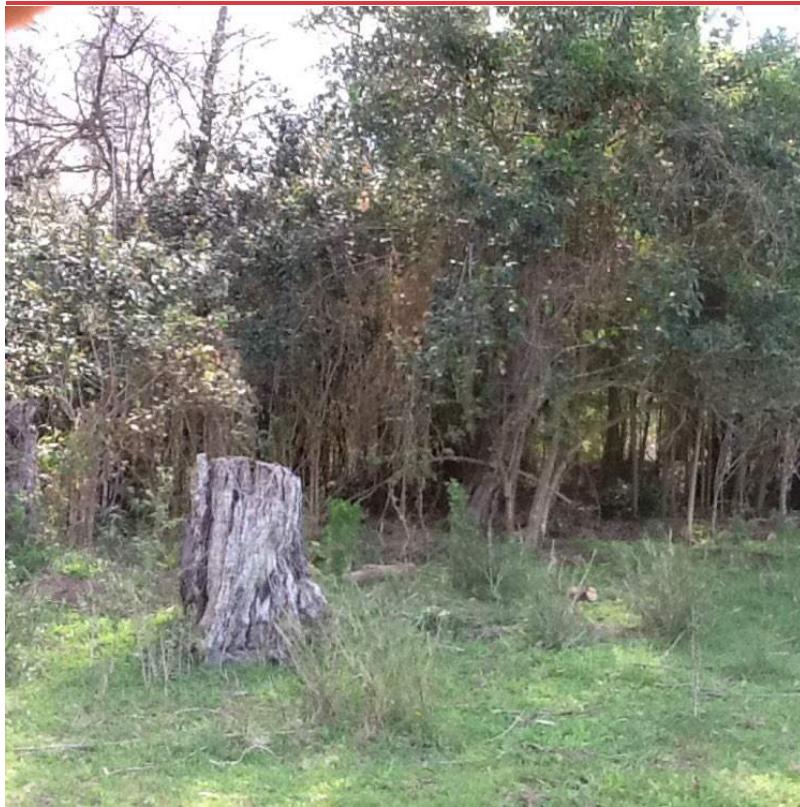
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**Extraction Extension Zone 1A**

**Thursday, 31 March 2016**

**Prepared For Collins & Sons Pty Ltd**

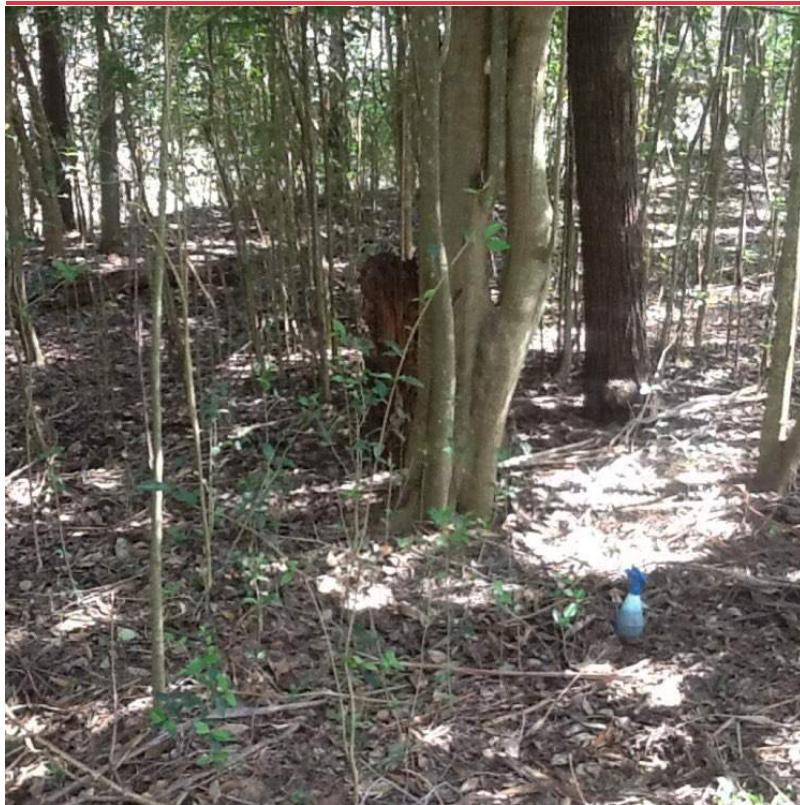
**Identified 3 Issues**



## SECTION 1A

Assigned To Before 1

Shown in this picture is a dense infestation of mature Privet sp. several remnant trees are providing shade in this area so all invasive weeds were targeted.



## SECTION 1A

Assigned To After 2

Seen in this picture is the work area from the previous picture. Herbicide was sprayed in this area several months ago and had a successful control on the juvenile Privet sp in this area.



## SECTION 1A

### Assigned To Works In Progress

Pictured here is an infestation of *Lonicera japonica* (Japanese honeysuckle) and mature *Ligustrum lucidum* (Large leaf Privet) whilst works were in progress. Several remnant natives circled in blue in this picture were in close proximity to this dense weed infestation. As a result the time was taken to control the invasive weeds in this area.

# **COLLINS & SONS PTY LTD CAMDEN NSW**

**Extraction Extension Zone 1A**

**Tuesday, 24 May 2016**

**Prepared For Collins & Sons Pty Ltd**

**Identified 10 Issues**

Kurt Bowman  
Bowantz Landscaping &  
Environmental





### Riparian Area 1A

Assigned To Before 1

Pictured here is the mapped area 1A riparian zone prior to works commencing.



### Riparian Area 1A

Assigned To After 1

Large *Ligustrum* sp. in this area were frilled and injected with Glyphosate Bi-Active and left standing. Smaller woody weeds were controlled in this area using the cut and paint method, cut stumps were painted with glyphosate Bi-Active. The Biomass created during works were piled to consolidate any viable seed that may be present and make it easier for follow up weed control.



### Riparian Area 1A

Assigned To Before 2

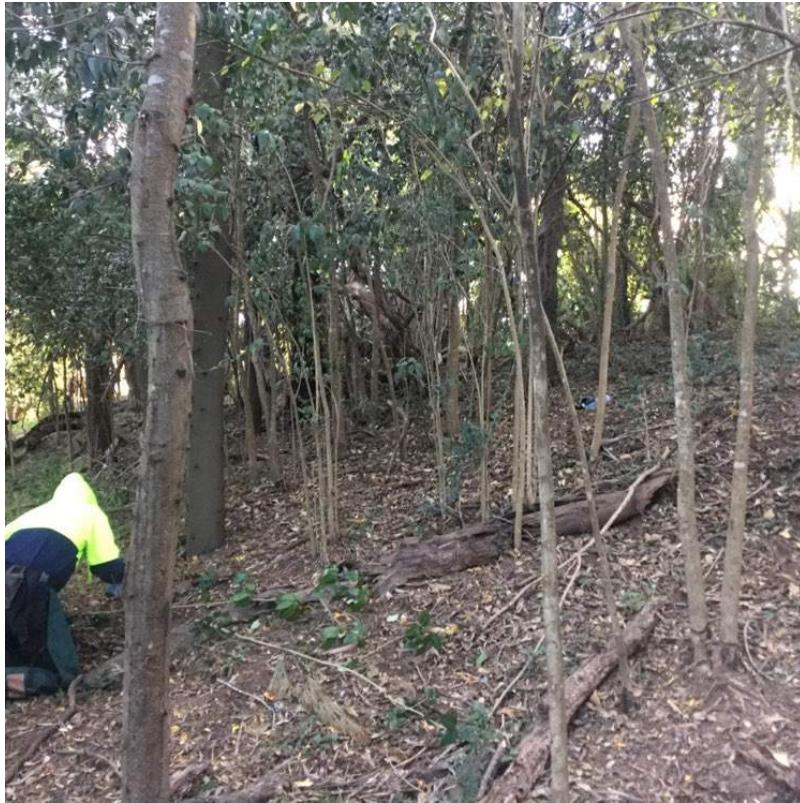
Pictured here is the mapped area 1A riparian zone prior to works commencing.



### Riparian Area 1A

Assigned To After 2

Large *Ligustrum* sp. in this area were frilled and injected with Glyphosate Bi-Active and left standing. Smaller woody weeds were controlled in this area using the cut and paint method, cut stumps were painted with glyphosate Bi-Active. The Biomass created during works were piled to consolidate any viable seed that may be present and make it easier for follow up weed control.



### Riparian Area 1A

Assigned To Before 3

Pictured here is the mapped area 1A riparian zone prior to works commencing.



### Riparian Area 1A

Assigned To After 3

Large *Ligustrum* sp. in this area were frilled and injected with Glyphosate Bi-Active and left standing. Smaller woody weeds were controlled in this area using the cut and paint method, cut stumps were painted with glyphosate Bi-Active. The Biomass created during works were piled to consolidate any viable seed that may be present and make it easier for follow up weed control.



### Riparian Area 1A

Assigned To Before 4

Pictured here is the mapped area 1A riparian zone prior to works commencing.



### Riparian Area 1A

Assigned To After 4

Large Ligustrum sp. in this area were frilled and injected with Glyphosate Bi-Active and left standing. Smaller woody weeds were controlled in this area using the cut and paint method, cut stumps were painted with glyphosate Bi-Active. The Biomass created during works were piled to consolidate any viable seed that may be present and make it easier for follow up weed control.



### Riparian Area 1A

Assigned To Habitat Piles

Shown in this picture is a habitat pile that was created with the excess biomass generated during weed control works. This practice ensures easier follow up weed control and reduces hazards on the site.



### Riparian Area 1A

Assigned To Follow Up Spot Spraying

Shown in this picture is some follow up spot spraying that was undertaken in the primary work zone. The main target for spraying was Balloon vine regrowing after the large Ligustrum sp. that were frilled defoliated and more light was present.

# **COLLINS & SONS PTY LTD CAMDEN NSW**

**Extraction Extension Zone 1A**

**Friday, 24 June 2016**

**Prepared For Collins & Sons Pty Ltd**

**Identified 8 Issues**

Kurt Bowman  
Bowantz Landscaping &  
Environmental





## Extraction Extension Mapped Area 1A

Assigned To Before 1

Shown in this picture is the weed control area prior to any works commencing.



## Extraction Extension Mapped Area 1A

Assigned To After 1

Large Ligustrum sp. in this area were frilled and injected with Glyphosate Bi-Active and left standing. Smaller woody weeds were controlled in this area using the cut and paint method, cut stumps were painted with glyphosate Bi-Active. The Biomass created during works were piled to consolidate any viable seed that may be present and make it easier for follow up weed control.



### **Extraction Extension Mapped Area 1A**

Assigned To Before 2

Shown in this picture is the weed control area prior to any works commencing.



### **Extraction Extension Mapped Area 1A**

Assigned To After 2

Large Ligustrum sp. in this area were frilled and injected with Glyphosate Bi-Active and left standing. Smaller woody weeds were controlled in this area using the cut and paint method, cut stumps were painted with glyphosate Bi-Active. The Biomass created during works were piled to consolidate any viable seed that may be present and make it easier for follow up weed control.



## Extraction Extension Mapped Area 1A

Assigned To Before 3

Shown in this picture is the weed control area prior to any works commencing.



## Extraction Extension Mapped Area 1A

Assigned To After 3

Large Ligustrum sp. in this area were frilled and injected with Glyphosate Bi-Active and left standing. Smaller woody weeds were controlled in this area using the cut and paint method, cut stumps were painted with glyphosate Bi-Active. The Biomass created during works were piled to consolidate any viable seed that may be present and make it easier for follow up weed control.



## Extraction Extension Mapped Area 1A

Assigned To Before 4

Shown in this picture is the weed control area prior to any works commencing.



## Extraction Extension Mapped Area 1A

Assigned To After 4

Large Ligustrum sp. in this area were frilled and injected with Glyphosate Bi-Active and left standing. Smaller woody weeds were controlled in this area using the cut and paint method, cut stumps were painted with glyphosate Bi-Active. The Biomass created during works were piled to consolidate any viable seed that may be present and make it easier for follow up weed control.



Kurt Bowman  
Bowantz Bushfire & Environmental Pty Ltd

# **COLLINS & SONS PTY LTD**

## **CAMDEN NSW**

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**Sunday, 31 July 2016**

**Prepared For Collins & Sons Pty Ltd**

**9 Image Pictorial Report**



## EXTRACTION EXTENSION AREA

### 1A, 2A, & 2B

#### Picture Nesting Box 1

Shown in this picture circled in green is a newly installed nesting box. The nesting box was located in an area with an obvious lack in habitat for the targeted species, in this case small finch birds such as Pardalotes. Nesting boxes were located in the most appropriate position for the target species. All trees with nesting boxes fixed to them were labelled with a H for habitat. This practice aids in not only relocation of the nesting box tree, but also maintenance of the boxes.



## EXTRACTION EXTENSION AREA

### 1A, 2A, & 2B

#### Picture Nesting Box 2

Shown in this picture circled in green is a newly installed nesting box. The nesting box was located in an area with an obvious lack in habitat for the targeted species, in this case kookaburra and other large predatory birds. Nesting boxes were located in the most appropriate position for the target species.



## EXTRACTION EXTENSION AREA 1A, 2A, & 2B

### Picture Nesting Box 3

Shown in this picture circled in green is a newly installed nesting box. The nesting box was located in an area with an obvious lack in habitat for the targeted species, in this case small finch birds such as Pardalotes. Nesting boxes were located in the most appropriate position for the target species.

---

## **EXTRACTION EXTENSION AREA 1A, 2A, & 2B**

### **Picture Nesting Box 4**

Shown in this picture circled in green is a newly installed nesting box. The nesting box was located in an area with an obvious lack in habitat for the targeted species, in this case arboreal marsupials such as sugar gliders. Nesting boxes were located in the most appropriate position for the target species. All trees with nesting boxes fixed to them were labelled with a H for habitat. This practice aids in not only relocation of the nesting box tree, but also maintenance of the boxes. Arboreal marsupial nesting boxes were located in pairs to aid in the colonisation habits of this species. Several near by hollows were also in the locality of these nesting boxes.





## EXTRACTION EXTENSION AREA

### 1A, 2A, & 2B

#### Picture Nesting Box 5

Shown in this picture circled in green is a newly installed nesting box. The nesting box was located in an area with an obvious lack in habitat for the targeted species, in this case arboreal marsupials such as sugar gliders. Nesting boxes were located in the most appropriate position for the target species. All trees with nesting boxes fixed to them were labelled with a H for habitat. This practice aids in not only relocation of the nesting box tree, but also maintenance of the boxes. Arboreal marsupial nesting boxes were located in pairs to aid in the colonisation habits of this species. Several near by hollows were also in the locality of these nesting boxes.



## EXTRACTION EXTENSION AREA

### 1A, 2A, & 2B

#### Picture Nesting Box 6

Shown in this picture circled in green is a newly installed nesting box. The nesting box was located in an area with an obvious lack in habitat for the targeted species, in this case kookaburra and other large predatory birds. Nesting boxes were located in the most appropriate position for the target species.



## EXTRACTION EXTENSION AREA

### 1A, 2A, & 2B

#### Picture Nesting Box 7

Shown in this picture circled in green is a newly installed nesting box. The nesting box was located in an area with an obvious lack in habitat for the targeted species, in this case small finch birds such as Pardalotes. Nesting boxes were located in the most appropriate position for the target species. All trees with nesting boxes fixed to them were labelled with a H for habitat. This practice aids in not only relocation of the nesting box tree, but also maintenance of the boxes.



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## EXTRACTION EXTENSION AREA

### 1A, 2A, & 2B

#### Picture Nesting Box 8

Shown in this picture circled in green is a newly installed nesting box. The nesting box was located in an area with an obvious lack in habitat for the targeted species, in this case arboreal marsupials such as sugar gliders. Nesting boxes were located in the most appropriate position for the target species. All trees with nesting boxes fixed to them were labelled with a H for habitat. This practice aids in not only relocation of the nesting box tree, but also maintenance of the boxes. Arboreal marsupial nesting boxes were located in pairs to aid in the colonisation habits of this species. Several near by hollows were also in the locality of these nesting boxes.



## EXTRACTION EXTENSION AREA

### 1A, 2A

#### Picture Nesting Box 9 & 10

Shown in this picture circled in green is a newly installed nesting box. The nesting box was located in an area with an obvious lack in habitat for the targeted species, in this case arboreal marsupials such as sugar gliders. Nesting boxes were located in the most appropriate position for the target species. All trees with nesting boxes fixed to them were labelled with a H for habitat. This practice aids in not only relocation of the nesting box tree, but also maintenance of the boxes. Arboreal marsupial nesting boxes were located in pairs to aid in the colonisation habits of this species. Several near by hollows were also in the locality of these nesting boxes. All nesting boxes in 2016 were located in areas R1 Zone 1A, 2A, & 2B.

# **COLLINS & SONS PTY LTD CAMDEN NSW**

**Extraction Extension**

**Wednesday, 31 August 2016**

**Prepared For Collins & Sons Pty Ltd**

**Identified 16 Issues**

Kurt Bowman  
Bowantz Landscaping &  
Environmental





### **Extraction Extension Mapped Area 1A**

Assigned To Before 1

Shown in this picture is the weed infestation in Zone 1A at the Northern reach of the mapped work area prior to works commencing.



### **Extraction Extension Mapped Area 1A**

Assigned To After 1

Seen in this picture is the previously mentioned work area after primary weed control was completed. Larger specimens were frilled and injected with glyphosate bi-active. Smaller specimens were cut and painted with glyphosate bi-active. Any excess biomass that was created was chopped into habitat piles to aid in follow up work. Invasive vine species were scraped and painted with glyphosate bi-active.



### **Extraction Extension Mapped Area 1A**

Assigned To Before 2

Shown in this picture is the weed infestation in Zone 1A at the Northern reach of the mapped work area prior to works commencing.



### **Extraction Extension Mapped Area 1A**

Assigned To After 2

Seen in this picture is the previously mentioned work area after primary weed control was completed. Larger specimens were frilled and injected with glyphosate bi-active. Smaller specimens were cut and painted with glyphosate bi-active. Any excess biomass that was created was chopped into habitat piles to aid in follow up work. Invasive vine species were scraped and painted with glyphosate bi-active.



## Extraction Extension Mapped Area 1A

Assigned To Tree Down On Fence  
Before

Shown in this picture is a tree that had fallen and landed on the safety fencing around the mine extraction area in the recent storm.



## Extraction Extension Mapped Area 1A

Assigned To Tree Down On Fence  
After

Shown in this picture is the fallen tree that has been removed off the fencing.



### Extraction Extension Mapped Area 1A

Assigned To Before 3

Shown in this picture is the riparian area in Zone 1A before primary weed control commenced.



### Extraction Extension Mapped Area 1A

Assigned To After 3

Shown in this picture is the riparian zone 1A after primary weed control was completed. Due to the sparse amount of native diversity in this area flagged with blue tape are some small natives. This activity will ensure follow up spraying will be much faster and more accurate.



### Extraction Extension Mapped Area 1A

Assigned To Before 4

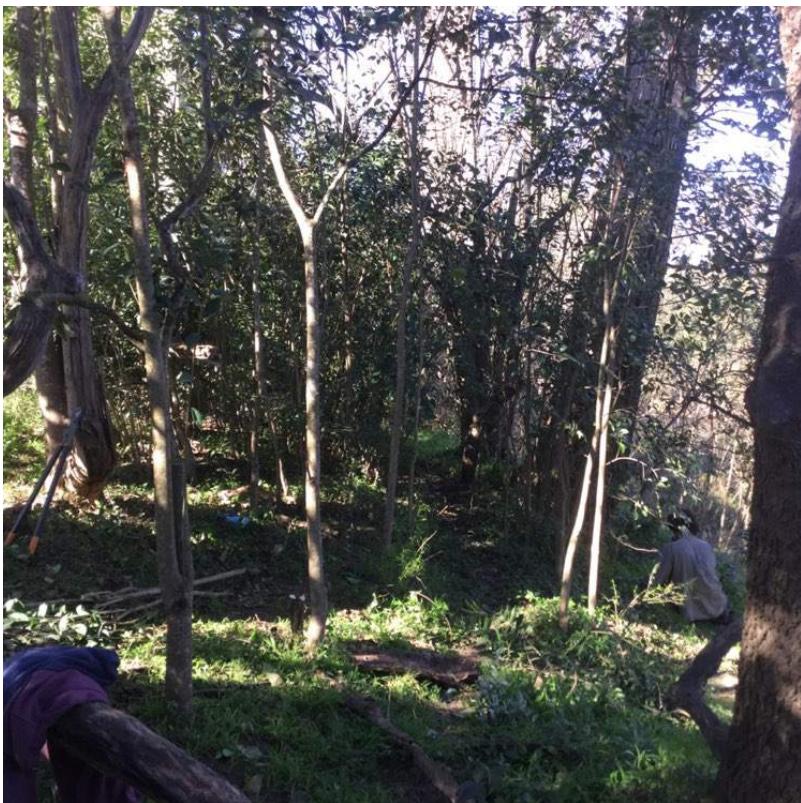
Shown in this picture is the riparian area in Zone 1A before primary weed control commenced.



### Extraction Extension Mapped Area 1A

Assigned To After 4

Shown in this picture is the riparian zone 1A after primary weed control was completed. Due to the sparse amount of native diversity in this area flagged with blue tape are some small natives. This activity will ensure follow up spraying will be much faster and more accurate.



### **Extraction Extension Mapped Area 1A**

Assigned To Before 5

Shown in this picture is the riparian area in Zone 1A before primary weed control commenced.



### **Extraction Extension Mapped Area 1A**

Assigned To After 5

Shown in this picture is the riparian zone 1A after primary weed control was completed. Due to the sparse amount of native diversity in this area flagged with blue tape are some small natives. This activity will ensure follow up spraying will be much faster and more accurate.



### Extraction Extension Mapped Area 1A

Assigned To Before 6

Shown in this picture is the riparian area in Zone 1A before primary weed control commenced.



### Extraction Extension Mapped Area 1A

Assigned To After 6

Shown in this picture is the riparian zone 1A after primary weed control was completed. Due to the sparse amount of native diversity in this area flagged with blue tape are some small natives. This activity will ensure follow up spraying will be much faster and more accurate.



### **Extraction Extension Mapped Area 1A**

Assigned To Before 7

Shown in this picture is the riparian area in Zone 1A before primary weed control commenced.



### **Extraction Extension Mapped Area 1A**

Assigned To After 7

Shown in this picture is the riparian zone 1A after primary weed control was completed. Due to the sparse amount of native diversity in this area flagged with blue tape are some small natives. This activity will ensure follow up spraying will be much faster and more accurate.



Kurt Bowman  
Bowantz Landscaping & Environmental

# **COLLINS & SONS PTY LTD**

## **CAMDEN NSW**

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**Extraction Extension**

**Friday, 30 September 2016**

**Prepared For Collins & Sons Pty Ltd**

**Identified 11 Issues**



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### **EXTRACTION EXTENSION AREA 1A**

Assigned To Before 1

Shown in this picture is the riparian area in Zone 1A before primary weed control commenced.



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### **EXTRACTION EXTENSION AREA 1A**

Assigned To After 1

Large Ligustrum sp. in this area were frilled and injected with Glyphosate Bi-Active and left standing. Smaller woody weeds were controlled in this area using the cut and paint method, cut stumps were painted with glyphosate Bi-Active. The Biomass created during works were piled to consolidate any viable seed that may be present and make it easier for follow up weed control.



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### **EXTRACTION EXTENSION AREA 1A**

Assigned To Before 2

Shown in this picture is the riparian area in Zone 1A before primary weed control commenced.



### **EXTRACTION EXTENSION AREA 1A**

Assigned To After 2

Large Ligustrum sp. in this area were frilled and injected with Glyphosate Bi-Active and left standing. Smaller woody weeds were controlled in this area using the cut and paint method, cut stumps were painted with glyphosate Bi-Active. The Biomass created during works were piled to consolidate any viable seed that may be present and make it easier for follow up weed control.



### **EXTRACTION EXTENSION AREA 1A**

Assigned To Before 3

Shown in this picture is the riparian area in Zone 1A before primary weed control commenced.



### **EXTRACTION EXTENSION AREA 1A**

Assigned To After 3

Large Ligustrum sp. in this area were frilled and injected with Glyphosate Bi-Active and left standing. Smaller woody weeds were controlled in this area using the cut and paint method, cut stumps were painted with glyphosate Bi-Active. The Biomass created during works were piled to consolidate any viable seed that may be present and make it easier for follow up weed control.



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### **EXTRACTION EXTENSION AREA 1A**

Assigned To Before 4

Shown in this picture is the riparian area in Zone 1A adjacent to the power lines before primary weed control commenced.



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### **EXTRACTION EXTENSION AREA 1A**

Assigned To After 4

Large Ligustrum sp. in this area were frilled and injected with Glyphosate Bi-Active and left standing. Smaller woody weeds were controlled in this area using the cut and paint method, cut stumps were painted with glyphosate Bi-Active. The Biomass created during works were piled to consolidate any viable seed that may be present and make it easier for follow up weed control.



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### **RE-VEGETATION PREPARATION**

Assigned To Before 1

Shown in this picture is the re-vegetation area on the Eastern boundary adjacent to the new housing development after herbicide application was done and prior to brush cutting of the weed biomass.



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### **RE-VEGETATION PREPARATION**

Assigned To After 1

Seen in this picture is the re-vegetation area after brush cutting was completed.



## **EXTRACTION EXTENSION AREA 1A**

Assigned To Flagging Natives

As seen in this picture during primary works native plants were tagged to aid in the reduction of off target kills during herbicide maintenance spraying.



Kurt Bowman  
Bowantz Bushfire & Environmental

# **COLLINS & SONS PTY LTD**

## **CAMDEN NSW**

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**Extraction Extension**

**Monday, 31 October 2016**

**Prepared For Collins & Sons Pty Ltd**

**Identified 8 Issues**

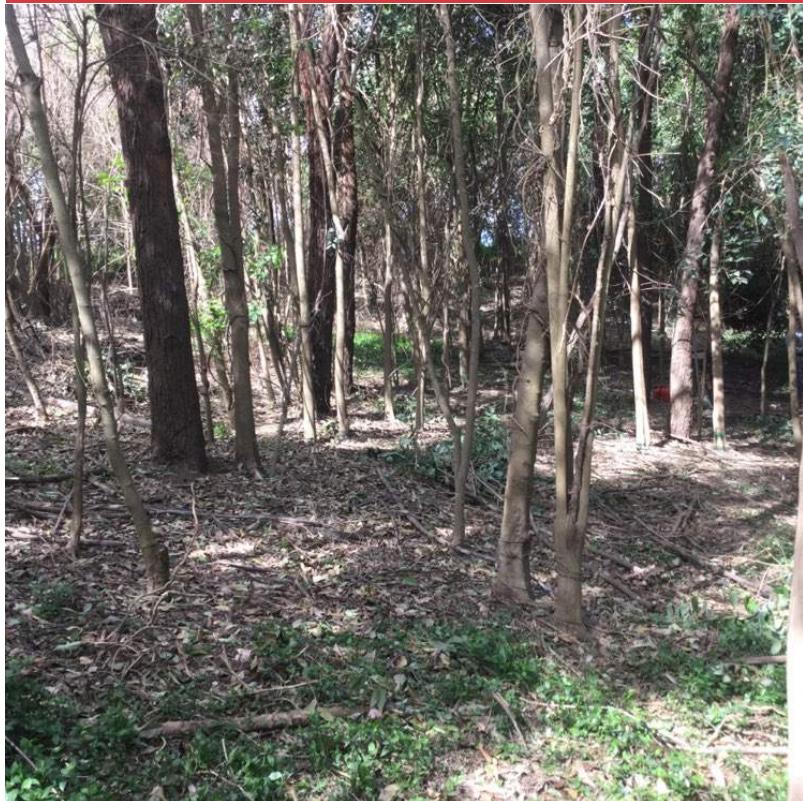


## EXTRACTION EXTENSION AREA

### 1A

Assigned To Before 1

Shown in this picture is the riparian area in Zone 1A before primary weed control commenced.

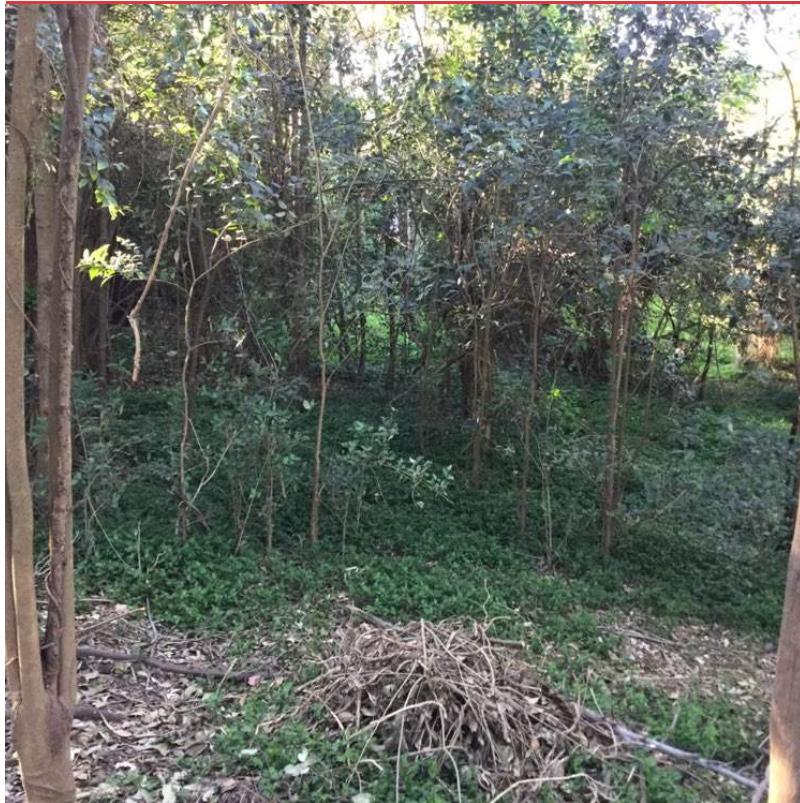


## EXTRACTION EXTENSION AREA

### 1A

Assigned To After 1

Large *Ligustrum* sp. in this area were frilled and injected with Glyphosate Bi-Active and left standing. Smaller woody weeds were controlled in this area using the cut and paint method, cut stumps were painted with glyphosate Bi-Active. The Biomass created during works were piled to consolidate any viable seed that may be present and make it easier for follow up weed control.



## **EXTRACTION EXTENSION AREA**

### **1A**

Assigned To Before 2

Shown in this picture is the riparian area in Zone 1A before primary weed control commenced.

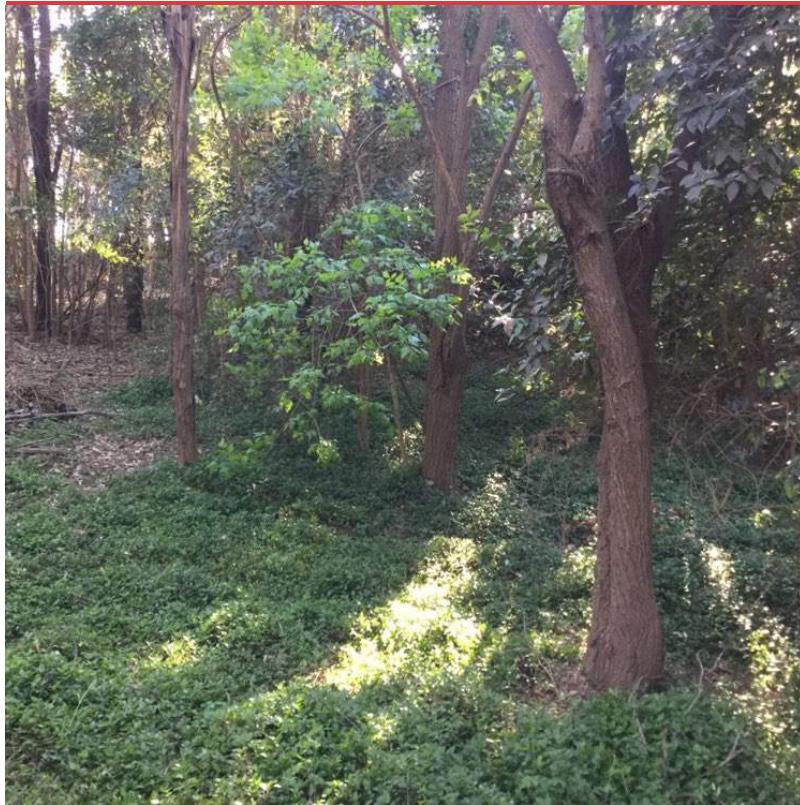


## **EXTRACTION EXTENSION AREA**

### **1A**

Assigned To After 2

Large *Ligustrum* sp. in this area were frilled and injected with Glyphosate Bi-Active and left standing. Smaller woody weeds were controlled in this area using the cut and paint method, cut stumps were painted with glyphosate Bi-Active. The Biomass created during works were piled to consolidate any viable seed that may be present and make it easier for follow up weed control.

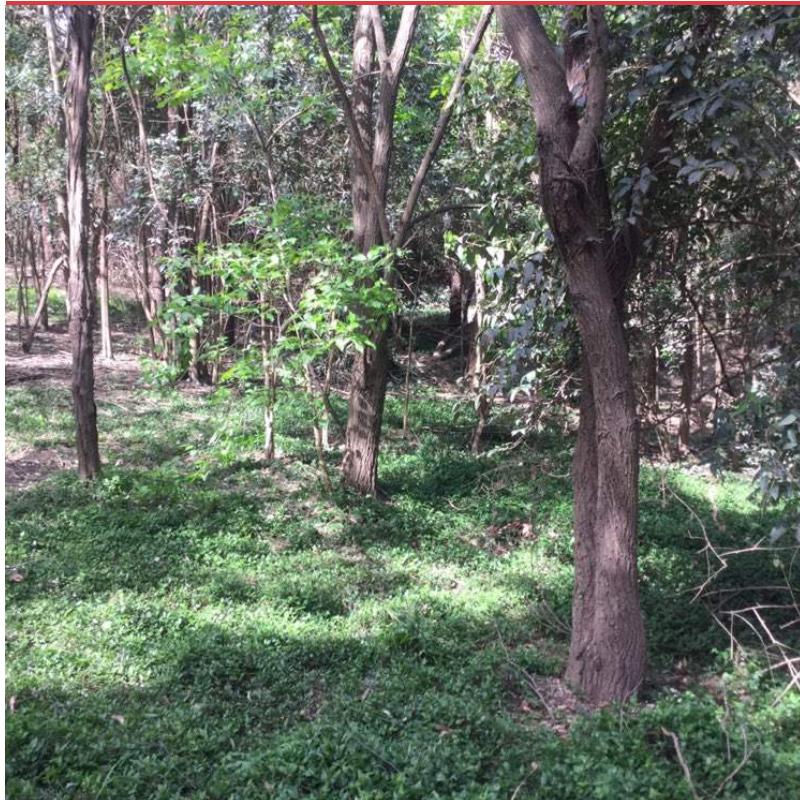


## EXTRACTION EXTENSION AREA

### 1A

Assigned To Before 3

Shown in this picture is the riparian area in Zone 1A before primary weed control commenced.

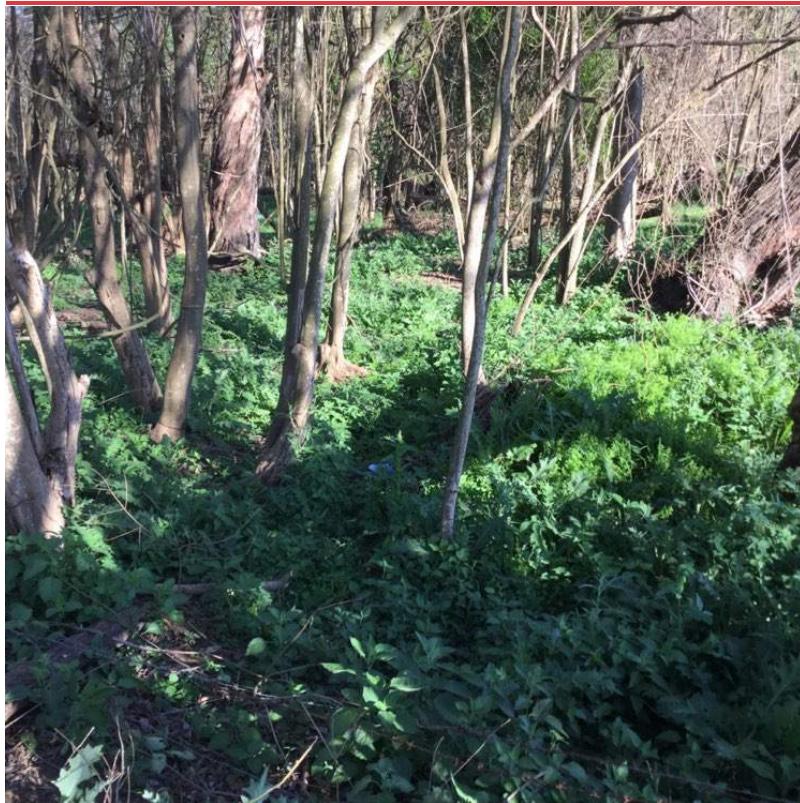


## EXTRACTION EXTENSION AREA

### 1A

Assigned To After 3

Large *Ligustrum* sp. in this area were frilled and injected with Glyphosate Bi-Active and left standing. Smaller woody weeds were controlled in this area using the cut and paint method, cut stumps were painted with glyphosate Bi-Active. The Biomass created during works were piled to consolidate any viable seed that may be present and make it easier for follow up weed control.

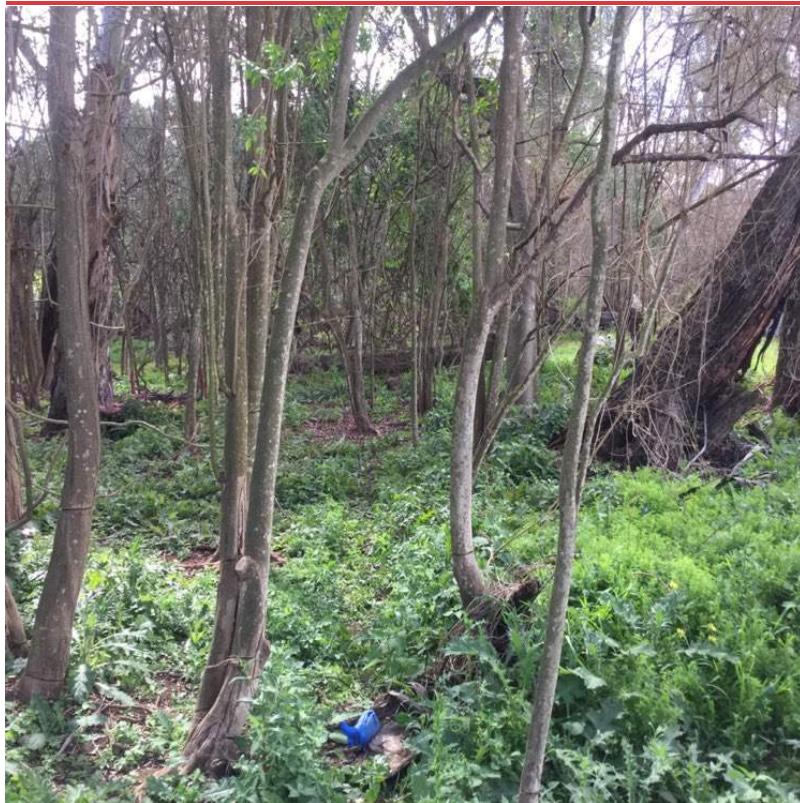


## EXTRACTION EXTENSION AREA

### 1A

Assigned To Before 4

Shown in this picture is the herbaceous weed influx in the primary treated area emerging due to the new influx of light. This picture was taken prior to herbicide broad spraying.



## EXTRACTION EXTENSION AREA

### 1A

Assigned To After 4

Seen in this picture is the primary treated area after herbicide broad spraying was completed.

48 man hours were completed on environmental restoration works in October 2016.

1,200L of Grazon Extra at the labelled rate was used for environmental restoration works.



Kurt Bowman  
Bowantz Bushfire & Environmental

# **COLLINS & SONS PTY LTD**

## **CAMDEN NSW**

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**Invasive Weed Control**

**Wednesday, 30 November 2016**

**Prepared For Collins & Sons Pty Ltd**

**9 Image Pictorial Report**



## INVASIVE WEED CONTROL

Picture Work In Progress

Bowantz team undertaking weed control on the edge of the anabranch.



## ANABRANCH AREA WEED CONTROL

Picture Before 1

Shown in this picture is the upper banks of the anabranch before weed control was undertaken.



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## ANABRANCH AREA WEED CONTROL

### Picture After 1

Seen in this picture is the upper banks of the anabranch after weed control was completed. Herbaceous fibrous rooted species were hand pulled and woody weeds were cut and painted with glyphosate bi-active. Excess bio-mass generated during weed control was placed into piles to consolidate any viable reproductive parts that may be present.



## ANABRANCH AREA WEED CONTROL

### Picture Before 2

Shown in this picture is the upper banks of the anabranch before weed control was undertaken.



## ANABRANCH AREA WEED CONTROL

### Picture After 2

Seen in this picture is the upper banks of the anabranch after weed control was completed. Herbaceous fibrous rooted species were hand pulled and woody weeds were cut and painted with glyphosate bi-active. Excess bio-mass generated during weed control was placed into piles to consolidate any viable reproductive parts that may be present.



## ANABRANCH AREA WEED CONTROL

### Picture Before 3

Shown in this picture is the upper banks of the anabranch before weed control was undertaken.



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## ANABRANCH AREA WEED CONTROL

### Picture After 3

Seen in this picture is the upper banks of the anabranch after weed control was completed. Herbaceous fibrous rooted species were hand pulled and woody weeds were cut and painted with glyphosate bi-active. Excess bio-mass generated during weed control was placed into piles to consolidate any viable reproductive parts that may be present.



## ANABRANCH AREA WEED CONTROL

### Picture Before 4

Shown in this picture is the upper banks of the anabranch before weed control was undertaken.



## **ANABRANCH AREA WEED CONTROL**

### **Picture After 4**

Seen in this picture is the upper banks of the anabranch after weed control was completed. Herbaceous fibrous rooted species were hand pulled and woody weeds were cut and painted with glyphosate bi-active. Excess bio-mass generated during weed control was placed into piles to consolidate any viable reproductive parts that may be present.



Kurt Bowman  
Bowantz Bushfire & Environmental Pty Ltd

# **COLLINS & SONS PTY LTD**

## **CAMDEN NSW**

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**Saturday, 31 December 2016**

**Prepared For Collins & Sons Pty Ltd**

**4 Image Pictorial Report**



## EXTRACTION EXTENSION AREA 1A

### Picture Before 1

Shown in this picture is a dense infestation of mature Privet sp. several remnant trees are providing shade in this area so all invasive weeds were targeted.



## EXTRACTION EXTENSION AREA 1A

### Picture After 1

Large Ligustrum sp. in this area were frilled and injected with Glyphosate Bi-Active and left standing. Smaller woody weeds were controlled in this area using the cut and paint method, cut stumps were painted with glyphosate Bi-Active. The Biomass created during works were piled to consolidate any viable seed that may be present and make it easier for follow up weed control. Creating these piles with the excess bio-mass generated during weed control works provides ideal habitat for a wide range of native fauna.



## ANABRANCH AREA

### Picture Before 2

Shown in this picture is the road verge on the western edge of the anabanch before weed control was completed.



## ANABRANCH AREA

### Picture After 2

Seen in this picture is the edge of the anabanch after invasive weed control was completed. Circled in blue are patches of *Austrostipa ramosissima* that have been hand weeds around for several years now. These colonising native grasses are becoming more abundant in this area as a result of ongoing bush regeneration.

**Collins & Sons Pty Ltd**  
**Landscape Management Plan Reporting**  
**Table**  
**Spring Farm Camden NSW**

Tasks	H Hand Removal C Cut & Paint Secatuer, Lopper T Cut & Paint Chainsaw I Stem Injection S Scrape & Paint Vines K Knapsack herbicide application V Vehicle Mounted herbicide app. R Re-Vegetation W Watering Re-Vegetation Area S Seed Collection P Pest Control Activities	Stage Of Works	P Primary S Secondary M Maintenance R Re-Vegetation	Herbicide	G Glyphosate Bi-Active 360 g/L M Metsulfuron methyl X Grazon Extra G6 Garlon 600 D Envirodyne Red W BS 1,000 Wetter
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Column10

Date	Work Location	Task	Weeds Targeted	Herbicide	Approx. Area square metres	Stage of Works	Comments	Man Hours Worked
1/6/2016	Zone 1A	C,S,T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle,Thistle sp.	G	400m	P	Primary weed control in riparian area.	16 Hours
1/7/2016	Zone 1A	C,S,T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle,Thistle sp.	G	450m	P	Primary weed control in riparian area.	16 Hours
1/18/2016	Zone 1A	C,S,T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle,Thistle sp.	G	500m	P	Primary weed control in riparian area.	16 Hours
1/19/2016	Zone 1A	C,S,T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle,Thistle sp.	G	500m	P	Primary weed control in riparian area.	16 Hours
1/28/2016	Zone 1A	C,S,T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle,Thistle sp.	G	800m	P	Primary weed control in riparian area.	24 Hours
1/29/2016	Zone 1A	C,S,T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle,Thistle sp.	G	900m	P	Primary weed control in riparian area.	24 Hours
2/1/2016	Zone 1A	C,S,T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle	G	900m	P	Primary weed control in riparian area.	32 Hours
2/23/2016	Anabanch zone	C,S,T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle,Thistle sp.	G	1,300m	M	Maintenance weed control in anabanch area.	24 Hours
2/23/2016	Quarry areas	V	All identified invasive weeds were broad sprayed using a 600L trailer mounted Quickspray unit.	G,M,D,W	5,000m	M	Various areas around the quarry were targeted to control weed infestations. A total of 1,200L of Trounce herbicide was sprayed out.	16 Hours

Date	Work Location	Task	Weeds Targeted	Herbicide	Approx. Area square metres	Stage of Works	Comments	Man Hours Worked
3/3/2016	Anabanch extension Zone	C,S,T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle,Thistle sp.	G	1,300m	S	Secondary weed control in anabanch area.	24 Hours
3/3/2016	Quarry areas	V	All identified invasive weeds were broad sprayed using a 600L trailer mounted Quickspray unit.	G,M,D,W	5,000m	M	Various areas around the quarry were targeted to control weed infestations. A total of 1,200L of Trounce & 600L of Brush off herbicide was sprayed out.	16 Hours
3/16/2016	Zone 1A	C,S,T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle	G	900m	P	Primary weed control in riparian area.	24 Hours
3/22/2016	Zone 1A	C,S,T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle	G	1,200m	P	Primary weed control in riparian area.	32 Hours
3/29/2016	Anabanch zone+B9	C,S,T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle,Thistle sp.	G	1,300m	M	Maintenance weed control in anabanch area.	32 Hours
4/7/2016	Quarry areas	V	All identified invasive weeds were broad sprayed using a 600L trailer mounted Quickspray unit.	G,M,D,W	5,000m	M	Various areas around the quarry were targeted to control weed infestations. A total of 2,400L of herbicide was sprayed out.	16 Hours
4/7/2016	Anabanch zone	C,S,T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle	G	720m	M	Maintenance weed control in anabanch area.	24 Hours
4/14/2016	Quarry areas	V	All identified invasive weeds were broad sprayed using a 600L trailer mounted Quickspray unit.	X,D,W	5,000m	M	Various areas around the quarry were targeted to control weed infestations. A total of 1,800L of herbicide was sprayed out.	16 Hours
4/14/2016	Zone 1A	C,S,T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle	G	600m	P	Primary weed control in riparian area.	24 Hours
4/29/2016	Quarry areas	V	All identified invasive weeds were broad sprayed using a 600L trailer mounted Quickspray unit.	G,M,D,W	5,000m	M	Various areas around the quarry were targeted to control weed infestations. A total of 2,400L of herbicide was sprayed out.	16 Hours
4/29/2016	Zone 1A	C,S,T	Privet sp.	G	900m	P	Primary weed control in riparian area.	16 Hours

Date	Work Location	Task	Weeds Targeted	Herbicide	Approx. Area square metres	Stage of Works	Comments	Man Hours Worked
5/6/2016	Zone 1A	C,S,T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle	G	720m	P	Primary weed control in riparian area.	24 Hours
5/20/2016	Zone 1A	C, S, K, T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle	G,(M,D,W)	1,200m	P	Primary weed control in riparian area.	24 Hours
5/24/2016	Zone 1A	C, S, K, T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle	G	800m	P	Primary weed control in riparian area.	32 Hours
6/23/2016	Zone 1A	C,S,T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle	G	620m	P	Primary weed control in riparian area.	27 Hours
6/30/2016	Zone 1A	C,S,T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle	G	850m	P	Primary weed control in riparian area.	32 Hours
7/27/2016	Zone 1A	C,S,T	Privet sp. Elm sp. Gleditsia sp. E	G	475m	P	Primary weed control in riparian area.	16 Hours
8/5/2016	Zone 1A	C,S,T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle	G	400m	P	Primary weed control in riparian area, thick weed infestation in this area under mature perch trees.	32 Hours
8/10/2016	Quarry areas	V	All identified invasive weeds were broad sprayed using a 600L trailer mounted Quickspray unit.	G,M,D,W,X	8,000m	M	Various areas around the quarry were targeted to control weed infestations. A total of 2,400L of herbicide was sprayed out.	16 Hours
8/10/2016	Anabanch zone	K	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle, mustard weed	X,D,W	5,000m	M	Knapsack herbicide application on re-emerging weed seedlings.	8 Hours
8/18/2016	Zone 1A	C,S,T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle	G	800m	P	Primary weed control in riparian area.	40 Hours

Date	Work Location	Task	Weeds Targeted	Herbicide	Approx. Area square metres	Stage of Works	Comments	Man Hours Worked
8/26/2016	Zone 1A	C,S,T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle	G	800m	P	Primary weed control in riparian area.	24 Hours
8/26/2016	Quarry areas	V	All identified invasive weeds were broad sprayed using a 600L trailer mounted Quickspray unit.	G,M,D,W	8,000m	M	Various areas around the quarry were targeted to control weed infestations. A total of 2,400L of herbicide was sprayed out.	16 Hours
9/1/2016	Zone 1A	C,S,T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle	G	900m	P	Primary weed control in riparian area.	24 Hours
9/5/2016	Zone 1A	C,S,T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle	G	1,200m	P	Primary weed control in riparian area.	24 Hours
9/14/2016	Zone 1A	C,S,T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle	G	750m	P	Primary weed control in riparian area.	24 Hours
9/14/2016	Southern boundary adjacent to housing development	R	Brush-cut dead weeds in proposed re-vegetation area		18,000m	R	Brush-cutting of previously herbicide controlled weeds in this proposed re-vegetation area	18 Hours
9/22/2016	Zone 1A	C,S,T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle	G	600m	P	Primary weed control in riparian area.	16 Hours
9/22/2016	Quarry areas	V	All identified invasive weeds were broad sprayed using a 600L trailer mounted Quickspray unit.	G,M,D,W,X	8,000m	M	Various areas around the quarry were targeted to control weed infestations. A total of 1,800L of herbicide was sprayed out.	16 Hours
10/13/2016	Zone 1A	C,S,T,V	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle	G,M,D,W,X	6,000m	P, M	Primary weed control in riparian area. Vehicle mounted spraying for weed maintenance - 1,200L of Grazon X-tra	56 Hours
11/3/2016	Zone 1A	C,S,T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle	G	900m	P	Primary weed control in riparian area.	32 Hours
11/16/2016	Anabanch	C,S,T	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle	G	900m	P	Primary weed control in riparian area.	43 Hours

Date	Work Location	Task	Weeds Targeted	Herbicide	Approx. Area square metres	Stage of Works	Comments	Man Hours Worked
11/18/2016	Zone 1A	C,S,T,V	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle	G	1,000m	P, M	Primary weed control in riparian area	24 Hours
11/22/2016	Zone 1A	C,S,T,V	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle	G	1,000m	P, M	Primary weed control in riparian area	24 Hours
12/21/2016	Zone 1A	C,S,T,V	Privet sp. Elm sp. Gleditsia sp. Balloon vine, Japanese honeysuckle	G	1,000m	P, M	Primary weed control in riparian area. Maintenance weed control of previously treated areas	56 Hours
12/21/2016	Quarry areas	V	All identified invasive weeds were broad sprayed using a 600L trailer mounted Quickspray unit.	G,M,D,W,X	5,000m	M	Various areas around the quarry were targeted to control weed infestations. A total of 1,000L of herbicide was sprayed out.	8 Hours

## Bowantz 2017 Landscape Management Plan Monitoring Field Schedule and Observations

Project: \_\_\_\_\_ Date: \_\_\_\_\_

Quadrat: \_\_\_\_\_ Recorder: \_\_\_\_\_

Measure	Observation				Comments/Actions Required	Responsibility	Completion Date
<b>Plant Growth (cm):</b>							
Trees	0-5	5-20	20-50	50+			
Understorey	0-5	5-10	10-30	30+			
Ground cover	0-5	5-10	10-20	20+			
<b>Percentage Cover (%):</b>							
Trees	0-10	10-50	50-85	85+			
Understorey	0-10	10-50	50-85	85+			
Ground cover	0-10	10-50	50-85	85+			
<b>Survival Rates (%):</b>							
Trees (Minimum 85%)	0-10	10-50	50-85	85+			
Understorey (Minimum 85%)	0-10	10-50	50-85	85+			
Ground cover (below 85%)	0-10	10-50	50-85	85+			
<b>Plant replacement required/Ha</b>							
Trees	0-5	5-20	20-50	50+			
Understorey	0-5	5-20	20-50	50+			
Ground cover	0-5	5-50	50-100	100+			
<b>Weed regrowth (% cover below 50%)</b>	0-10	10-50	50-85	85+			
<b>Condition of Tree Guards</b>	Poor	Ok	Good				
<b>Watering required</b>	Yes	Some	No				
<b>Stream bank erosion</b>	Stable	Slight	Mod.	Severe			
<b>Photographs:</b>							
Number							
Location							
Direction							

Comments:

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#### **2017 Site Schedule (KPI's)**

- General on-going maintenance;
- Rubbish removal (whole site);
- Continue monitoring, repairs, weeding regime as per Landscape Management Plan and previous actions;
- Monitor species composition;
- 40,000 m<sup>3</sup> of maintenance area along the length of the Nepean (Lot 22 and Lot 32)
- 50,000 m<sup>2</sup> of maintenance along the Anabranch (Lot 22 and Lot 32);
- Installation of an additional 10 nesting boxes as per Landscape Management Plan, Section 5.10.1.1 and Table 2;
- Planting 1/3 of required plants and species within R1 Zones 1 and 2, approximately 24,500 m<sup>2</sup> as per LMP Section 5.8 Table 1 and Section 5.11 Tables 4 and 5;
- Installation of drip irrigation within R1 for new plantings;
  
- Reporting;
- Continue with monthly progress reporting and photo evidence;
- Reporting of all vegetation planting - species, plant types, survival rates as per Table 1 and Figure 3 within LMP;
- Reporting of completed planting, weed re-growth, plant survival and required replacement after primary rehabilitation;
- Review Environmental Key Performance Indicators annually and rehabilitation progress.

**1.31. APPENDIX 6: COMPLAINTS**

## 1.32. APPENDIX 7: COMPLIANCE STATUS OF EACH CONDITION OF APPROVAL

Condition	Relevant details	Compliance	Comments
<b>Schedule 2: Administrative</b>			
	<b>Minimise Harm to the Environment</b>		
S2.1	The Applicant shall implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the establishment, operation, or rehabilitation of the development.	Compliant	
	<b>Limits on Approval</b>		
S2.5	Extraction and processing operations may take place until 30 June 2019.	Compliant	
	<b>Operation of plant equipment</b>		
S2.6	The Applicant shall ensure that all plant and equipment used at the site is: <ul style="list-style-type: none"> <li>(a) Maintained in a proper and efficient condition;</li> <li>(b) Operated in a proper and efficient condition.</li> </ul>	Compliant	Pre-Start, Preventative Maintenance, Maintenance and Service Management in place.
	<b>Contributions</b>		
S2.7	The Applicant shall pay an annual contribution of \$6.500 (adjusted annually by reference to the Consumer Price Index) to Council for the maintenance of Macarthur Road, between the main site entrance and the intersection with Springs Road.	Compliant	\$8,382.40 was paid to Camden Council on the 1 <sup>st</sup> December 2015 (Appendix 4).
	<b>Inspection of site</b>		
S2.8	The Applicant shall permit access to the site to Council officers or any other public authority at reasonable times for the purposes of inspecting site operations and environmental monitoring.	Compliant	The site is freely accessible once the onsite induction training has been undertaken. Public Authority access and inspections permitted.

<b>Condition</b>	<b>Relevant details</b>	<b>Compliance</b>	<b>Comments</b>
<b>Schedule 3: Environmental Performance</b>			
	<b>Operating Conditions</b>		
S3.1	The Applicant shall not excavate outside the extraction areas or the limits of extraction	Compliant	
S3.2	The Applicant shall not open, excavate or work an area exceeding 2 hectares at any one time without the written consent of Council.	Compliant	Permission was granted by Camden Council (10/09/2010) to work an area up to 5 hectares.  At no point within the DA 75/256 Mod 3 area was this exceeded.
S3.3	The Applicant shall not:  (a) Stockpile extractive material on the site, with the exception of topsoil stockpiles and proposed noise and/or visual mitigation bunds; or  (b) Process any extractive material on the site, with the exception of mobile screening.	Compliant  Compliant	Noted.
S3.4	The Applicant shall not import fill to the site for any purpose without written approval from Council.	Compliant	Permission was granted by Camden Council (10/09/2010) to import Excavated Natural Material for rehabilitation works.
	<b>Noise</b>		
S3.5	The Applicant shall ensure that site operations, including processing and transportation, are conducted in such a way as to minimise noise emissions from the site.	Compliant	Nil noise related complaint received during the 2016 AEMR period.
S3.6	The Applicant shall ensure that noise generated by the development does not exceed the noise impact assessment criteria as specified in the EPL.	Compliant	Noise from the premises must not exceed an LA10 (15 minute) noise emission criterion of 55 dB (A).
	<b>Operating hours</b>		
S3.7	The Applicant shall only operate the development:  (a) Between the hours of 7:00am and 5:00pm Monday to Friday;  (b) Between 8:00am and 1:00 pm Saturday; and  (c) At no time on Sundays or Public Holidays	Compliant  Compliant  Compliant	
	<b>Air quality</b>		
S3.8	The Applicant shall ensure that dust generated by the development does not cause exceedances of the criteria listed in Tables 1, 2 and 3 at any	Compliant	Refer to Section 10: Air Quality and Section 13.3.1.

<b>Condition</b>	<b>Relevant details</b>	<b>Compliance</b>	<b>Comments</b>
	residence or on more than 25 percent of any privately owned land.		
S3.9	The Applicant shall ensure that any visible air pollution generated by the development is assessed regularly, and that quarrying operations are relocated, modified and/or stopped as required minimizing air quality impacts on privately-owned land.	Compliant	As per Air Quality Monitoring Program.
S3.10	<p>The Applicant shall prepare and implement an Air Quality Monitoring Program for the development to the satisfaction of the Director-General. This program must:</p> <p>(a) Be submitted to the Director-General for approval within 3 months of the date of this approval;</p> <p>(b) Be prepared in consultation with the EPA; and</p> <p>(c) Include details of how the air quality performance of the development would be monitored, and include a protocol for evaluating compliance with the relevant air quality criteria in this approval.</p>	<p>Compliant</p> <p>Compliant</p> <p>Compliant</p>	Refer to Section 10: Air Quality and Section 13.3.1.
	<b>Water</b>		
S3.11	The Applicant shall not discharge any water from the quarry or its associated operations except in accordance with an EPL.	Compliant	
S3.12	<p>The Applicant shall prepare and implement a Water Management Plan for the development to the satisfaction of the Director-General. This plan must:</p> <p>(a) Be submitted to the Director-General within 3 months of the date of this approval;</p> <p>(b) Be prepared in consultation with Council, the EPA and NOW; and</p> <p>(c) Include a:</p> <ul style="list-style-type: none"> <li>➤ Site Water Balance;</li> <li>➤ Erosion and Sediment Control Plan;</li> <li>➤ Groundwater Monitoring Program; and</li> <li>➤ Flood Emergency</li> </ul>	<p>Compliant</p> <p>Compliant</p> <p>Compliant</p>	<p>Included in current Water Management (including groundwater) and Erosion and Sediment Control Plan under review.</p> <p>All Site Management Plans in approval process with DPE and awaiting response from DPI Water.</p> <p>Within Section 1.18-1.19 2017 AEMR.</p>

<b>Condition</b>	<b>Relevant details</b>	<b>Compliance</b>	<b>Comments</b>
	Procedures Plan.		
S3.13	<p>The Site Water Balance must:</p> <p>(a) Include details of:</p> <ul style="list-style-type: none"> <li>➤ Sources and security of water supply;</li> <li>➤ Water use on site;</li> <li>➤ Water management on site, including the location and capacity of water storages on site and the means of access;</li> <li>➤ Any off-site water transfers; and</li> <li>➤ Reporting procedures; and</li> </ul> <p>(b) Investigate and describe measures to minimise water use by the development.</p>	Compliant	<p>Included in current Water Management (including groundwater) and Erosion and Sediment Control Plan.</p> <p>All Site Management Plans currently in approval process. WM&amp;SCP awaiting response from DPI Water.</p> <p>Within Section 1.18-1.19 2017 AEMR.</p>
S3.14	<p>The Erosion and Sediment Control Plan must:</p> <p>(a) be consistent with the requirements of <i>Managing Urban Stormwater: Soils and Construction</i>, Volume 1, 4<sup>th</sup> Edition, 2004 (Landcom);</p> <p>(b) Identify activities that could cause soil erosion and generate sediment;</p> <p>(c) Describe measures to minimise soil erosion and the potential for the transport of sediment to downstream waters, including during flood events;</p> <p>(d) Describe the location, function, and capacity of erosion and sediment control structures;</p> <p>(e) Demonstrate that the design capacity of basins will not be compromised by storage of operational water; and</p> <p>(f) Describe what measures would be implemented to maintain (and if necessary decommission) the structures over time.</p>	Compliant	<p>Included in current Water Management (including groundwater) and Erosion and Sediment Control Plan.</p> <p>All Site Management Plans submitted for approval with DPE. Awaiting response from DPI Water.</p> <p>Within Section 1.18-1.19 2017 AEMR.</p>
S3.15	<p>The Groundwater Monitoring Program must include:</p> <p>(a) Baseline data on groundwater levels, flows and quality in the</p>	Compliant	<p>Included in current Water Management (including groundwater) and Erosion and Sediment Control Plan.</p> <p>All Site Management Plans currently in approval process with DPE and awaiting</p>

<b>Condition</b>	<b>Relevant details</b>	<b>Compliance</b>	<b>Comments</b>
	<p>vicinity;</p> <p>(b) Groundwater assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts; and</p> <p>(c) A program to monitor any observed groundwater inflows to the quarry pit.</p>		response from DPI Water.
S3.16	<p>The Flood Emergency Procedures Plan must:</p> <p>(a) Address both the site and the adjacent stockpiling and blending site;</p> <p>(b) Include procedures to be carried out in advance of a major flood event to minimise damage to plant equipment, operating staff and the environment; and</p> <p>(c) Include procedures to be followed after a major flood event to repair any damage and return the site to productive operations, including reinstatement of all pollution control devices and rehabilitation.</p>	Compliant	<p>Included in current Water Management (including groundwater) and Erosion and Sediment Control Plan.</p> <p>All Site Management Plans currently in approval process with DPE and awaiting response from DPI Water.</p>
	<b>Landscape Management</b>		
S3.17	<p>The Applicant shall prepare and implement a detailed Landscape Management Plan for the development to the satisfaction of the Director-General. This Plan must:</p> <p>(a) Be prepared in consultation with Council and DPI (Agriculture NSW) and DRE by suitably qualified expert's whose appointments have been approved by the Director-General;</p> <p>(b) Be submitted to the Director-General for approval within 6 months of the date of this approval; and</p> <p>(c) Include a Rehabilitation Management Plan.</p>	Compliant	<p>Included in current Landscape Management Plan.</p> <p>All Site Management Plans currently in approval process with DPE.</p> <p>DRE email response from Steven Palmer dated 28<sup>th</sup> March 2017 confirmed consultation records on the Spring Farm Quarry LMP. Steven also confirmed that the DRE assessed the LMP as adequate.</p>

<b>Condition</b>	<b>Relevant details</b>	<b>Compliance</b>	<b>Comments</b>
S3.16A	The Applicant shall ensure that, in order to limit potential scour and erosion during flood events, all topsoil stockpiles and earthen bunds which are to be in place for any period longer than 3 months are oriented parallel to potential flood flows and are promptly and effectively spray-seed hydro-mulched with an appropriate fast-growing native grass mix, to the satisfaction of the Director-General.	Compliant	Completed
	<b>Rehabilitation Management Plan</b>		
S3.18	<p>The Applicant shall prepare and implement a Rehabilitation Plan for the development. This plan must include:</p> <ul style="list-style-type: none"> <li>(a) The rehabilitation objectives for the site;</li> <li>(b) A description of the short, medium, and long term measures that would be implemented to rehabilitate the site, including re-establishing high order agricultural land suitability and land use establishing healthy native vegetation and habitat for native fauna or other future land use acceptable to Council and proposed rehabilitation timeframes and timelines;</li> <li>(c) Performance and completion criteria for the rehabilitation of the site, including appropriate high order agricultural land suitability objectives with reference to the NSW Agricultural Land Suitability Classification system;</li> <li>(d) A detailed description of the measures that would be implemented including the procedures for: <ul style="list-style-type: none"> <li>➤ Progressively rehabilitating disturbed areas;</li> <li>➤ Protecting areas outside the disturbance areas;</li> <li>➤ Protecting the Nepean River and drainage lines on the site to ensure no net loss of water</li> <li>➤ Quality and aquatic habitat;</li> </ul> </li> </ul>	Compliant	<p>Included in current Landscape Management Plan.</p> <p>All Site Management Plans currently in approval process with DPE.</p> <p>Monthly Works Summaries and Annual Progress Report are prepared by the project rehabilitation team and stored in the site office. These work summaries include photographic monitoring. These summaries are to be available for regulators and environmental auditors.</p>

<b>Condition</b>	<b>Relevant details</b>	<b>Compliance</b>	<b>Comments</b>
	<ul style="list-style-type: none"> <li>➤ Managing impacts on fauna;</li> <li>➤ Landscaping the site to minimise visual impacts;</li> <li>➤ Conserving and reusing topsoil;</li> <li>➤ Achieving a free draining final landform;</li> <li>➤ Ensuring compatibility of the final land form with surrounding land uses;</li> <li>➤ Erosion and sediment control;</li> <li>➤ Identifying any proposed types and methods of agriculture;</li> <li>➤ Collecting and propagating seed for rehabilitation works;</li> <li>➤ Salvaging and reusing material from the site for habitat enhancement;</li> <li>➤ Controlling weeds and feral pests;</li> <li>➤ Controlling access; and</li> <li>➤ Bushfire management;</li> </ul> <p>(e) A program to monitor the effectiveness of these measures, and progress against the performance and completion criteria (see (c) above);</p> <p>(f) A description of the potential risks to successful rehabilitation and/or revegetation, and a description of the contingency measures that would be implemented to mitigate these risks; and</p> <p>(g) Details of who would be responsible for monitoring, reviewing, and implementing the plan.</p>		
	<b>Heritage</b>		
S3.19	Should the Applicant discover material suspected of being Aboriginal relics or skeletal remains, work in that area shall cease and the Applicant shall advise the EPA and proceed in accordance with EPA instructions.	Compliant	<p>Included in EMP for facility.</p> <p>All Site Management Plans currently in approval process with DPE.</p>

<b>Condition</b>	<b>Relevant details</b>	<b>Compliance</b>	<b>Comments</b>
	<b>Visual</b>		
S3.20	The Applicant shall establish and maintain perimeter plantings in order to minimise the visual impacts of the development, to the satisfaction of Council.	Compliant	Included in current Landscape Management Plan.
	<b>Waste Management</b>		
S3.21	The Applicant shall minimise the amount of waste generated by the development to the satisfaction of Council.	Compliant	Included in EMP for facility.
S3.22	The Applicant shall store and manage waste and by-products generated by the development to the satisfaction of Council.	Compliant	Included in EMP for facility.
S3.22A	<p>The Applicant shall prepare and implement a Waste Management Plan for the project in consultation with Council and to the satisfaction of the Director-General. The plan must:</p> <p>(a) Be prepared by a suitably qualified person/s with expertise in asbestos risk management;</p> <p>(b) Be submitted to the Director-General for approval prior to commencing earthworks on Lot 32; and</p> <p>(c) Include a:</p> <ul style="list-style-type: none"> <li>➤ Description of the measures and controls that would be implemented to manage asbestos within site;</li> <li>➤ Validation protocol to be implemented to ensure that remaining soils and extractive materials products are asbestos free;</li> <li>➤ Unexpected findings protocol in the event of encountering asbestos contaminated soils not previously identified in the EA (Mod 3); and</li> <li>➤ Incident protocols in the event of exposure to asbestos.</li> </ul>	Compliant	Completed and approved by Department of Planning and Environment 14 January 2015.
	<b>Emergency And Hazards</b>		

<b>Condition</b>	<b>Relevant details</b>	<b>Compliance</b>	<b>Comments</b>
	<b>Management</b>		
S3.23	The Applicant shall ensure that the storage, handling, and transport of dangerous goods are conducted in accordance with the relevant Australian Standards, particularly AS1940 and AS1596, and the <i>Dangerous Goods Code</i> .	Compliant	Completed
S3.24	The Applicant shall secure the development to ensure public safety to the satisfaction of Council	Compliant	The development is fenced with no public access and deep excavations are bunded. Strict controls are in place to gain site access, including a thorough site induction process and requirements for appropriate personal safety equipment.
S3.25	The Applicant shall:  (a) Ensure that the development is suitably equipped to respond to any fires on-site; and  (b) Assist the Fire Service and emergency services as much as possible if there is a fire on site.	Compliant	As per Site SMP Emergency Response Planning.
	<b>Production Data</b>		
S3.26	The Applicant shall:  (a) Provide annual production data to the DPI using the standard form for that purpose; and  (b) Include a copy of this data in the AEMR.	Compliant	Refer to Section 4 of this AEMR.

<b>Condition</b>	<b>Relevant details</b>	<b>Compliance</b>	<b>Comments</b>
<b>Schedule 4: Additional Procedures</b>			
	<b>Notification to landowners</b>		
S4.1	If the results of monitoring required in Schedule 3 identify that impacts generated by the development are greater than the relevant impact assessment criteria, then the Applicant shall notify the Director General and the affected landowners and tenants accordingly, and provide quarterly monitoring results to each of these parties until the results show that the development is complying with the relevant criteria.	Compliant	All Monitoring data is available on the Collins and Sons website – <a href="http://www.mcollins.com.au/environmental/environmental-monitoring/">http://www.mcollins.com.au/environmental/environmental-monitoring/</a>
	<b>Independent review</b>		
S4.2	<p>If a landowner of privately owned land considers that the operations of the quarry are exceeding the impact assessment criteria in Schedule 3, then he/she may ask the Applicant in writing for an independent <i>review</i> of the impacts of the development on his/her land.</p> <p>If the Director-General is satisfied that an independent review is warranted, the Applicant shall within 3 months of the Director-General advising that an independent <i>review</i> is warranted:</p> <ul style="list-style-type: none"> <li>(a) Consult with the landowner to determine his/her concerns;</li> <li>(b) Commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to conduct monitoring on the land, to determine whether the development is complying with the relevant criteria in Schedule 3, and identify the source(s) and scale of any impact on the land, and the development's contribution to this impact; and</li> <li>(c) Give the Director-General and landowner a copy of the independent <i>review</i>.</li> </ul>	Compliance requirement not actioned	There has been no need to implement this condition to-date.
S4.3	If the independent review determines that the quarrying operations are complying with the	Compliance requirement not	There has been no need to implement this condition to-date.

<b>Condition</b>	<b>Relevant details</b>	<b>Compliance</b>	<b>Comments</b>
	relevant criteria in Schedule 3, then the Applicant may discontinue the independent review with the approval of the Director-General.	auctioned	
S4.4	<p>If the independent review determines that the quarrying operations are not complying with the relevant criteria in Schedule 3, and that the quarry is primarily responsible for this non-compliance, then the Applicant shall:</p> <p>(a) Implement all reasonable and feasible measures, in consultation with the landowner, to ensure that the development complies with the relevant criteria; and</p> <p>(b) Conduct further monitoring to determine whether these measures ensure compliance; or</p> <p>(c) Secure a written agreement with the landowner to allow exceedances of the relevant criteria in Schedule 3, to the satisfaction of the Director-General.</p> <p>If the additional monitoring referred to above subsequently determines that the quarrying operations are complying with the relevant criteria in Schedule 3, then the Applicant may discontinue the independent review with the approval of the Director-General.</p> <p>If the Applicant is unable to finalize an agreement with the landowner, then the Applicant or landowner may refer the matter to the Director-General for resolution.</p> <p>If the matter cannot be <i>resolved</i> within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process.</p>	Compliance requirement not auctioned	There has been no need to implement this condition to-date.
S4.5	<p>If the landowner disputes the results of the independent review, either the Applicant or the landowner may refer the matter to the Director-General for resolution.</p> <p>If the matter cannot be resolved within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process.</p>	Compliance requirement not auctioned	There has been no need to implement this condition to-date.

**Schedule 5: Environmental Management Plan**

<b>Condition</b>	<b>Relevant details</b>	<b>Compliance</b>	<b>Comments</b>
S5.1	<p>The Applicant shall prepare and implement an updated Environmental Management Plan for the development to the satisfaction of the Director-General. This plan shall be submitted to the Director General for approval 3 months after the date of this consent and:</p> <ul style="list-style-type: none"> <li>(a) Provide the overall environmental management approach for the development;</li> <li>(b) Identify the statutory requirements that apply to the development;</li> <li>(c) Describe in general how the environmental performance of the development would be monitored and managed;</li> <li>(d) Describe the procedures that would be implemented to: <ul style="list-style-type: none"> <li>➤ keep the local community and relevant agencies informed about the construction,</li> <li>➤ operation and environmental performance of the development;</li> <li>➤ receive, handle, respond to, and record complaints;</li> <li>➤ resolve any disputes that may arise during the life of the development;</li> <li>➤ respond to any non-compliance;</li> <li>➤ manage cumulative impacts;</li> <li>➤ respond to emergencies, including flood-related emergencies; and</li> </ul> </li> <li>(e) Describe the role, responsibility, authority, and accountability of the key personnel involved in the environmental management of the development.</li> </ul>	Compliant	<p>The active Environmental Management Plan is entitled '<i>Environmental Management Plan for Spring Farm Sand and Soil Extraction and Processing Operation</i>' dated 1 November 2013 by Harvest Scientific Services is currently in approval process with DPE.</p> <p>Annual Environmental Management Reports are also prepared for the NSW Department of Planning and Environment and Camden Council.</p>
	<b>Environmental Monitoring Program</b>		
S5.2	The Applicant shall prepare an Environmental Monitoring Program for the development to the satisfaction of the Director-General. This program shall be	Compliant	Dust and Groundwater Monitoring Reports and Rehabilitation Progress Reports are prepared monthly by Harvest Scientific Services and Bowantz Bushfire and Environmental Pty Ltd respectively.

<b>Condition</b>	<b>Relevant details</b>	<b>Compliance</b>	<b>Comments</b>
	submitted to the Director-General concurrently with the submission of the various monitoring programs and consolidate the various monitoring requirements in Schedule 3 of this approval into a single document		Annual Environmental Management Reports are also prepared for the NSW Department of Planning and Environment and Camden Council.
	<b>Incident Reporting</b>		
S5.3	<p>Within 7 days of detecting an exceedance of the goals/limits/performance criteria in this approval or an incident causing (or threatening to cause) material harm to the environment, the Applicant shall report the exceedance/incident to the Department and any relevant agencies. This report shall:</p> <ul style="list-style-type: none"> <li>(a) Describe the date, time, and nature of the exceedance/incident;</li> <li>(b) Identify the cause (or likely cause) of the exceedance/incident;</li> <li>(c) Describe what action has been taken to date; and</li> <li>(d) Describe the proposed measures to address the exceedance/incident.</li> </ul>	Compliance requirement not actioned	<p>No major exceedances or incidents causing (or threatening to cause) material harm to the environment have been recorded.</p> <p>Minor exceedances in dust and groundwater compliance targets are recorded in monthly reports and presented in Annual Environmental Management Reports</p>
	<b>Annual Review</b>		
S5.4	<p>By the end of March each year, the Applicant shall review the environmental performance of the project to the satisfaction of the Director-General. This review must:</p> <ul style="list-style-type: none"> <li>(a) Describe the development (including rehabilitation) that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year;</li> <li>(b) Include a comprehensive review of the monitoring results and complaints records of the project over the previous calendar year, which includes a comparison of these results against: <ul style="list-style-type: none"> <li>➤ The relevant statutory requirements, limits or performance measures/criteria;</li> <li>➤ The monitoring results of previous years; and</li> <li>➤ The relevant predictions in the EIS, SEE (Mod 2)</li> </ul> </li> </ul>	Compliant	<p>Annual Environmental Management Reports are prepared and submitted every March to the NSW Department of Planning and Environment and Camden Council and made publicly available on the Collins website.</p> <p><a href="http://www.mcollins.com.au/environmental/environmental-monitoring/">http://www.mcollins.com.au/environmental/environmental-monitoring/</a></p>

<b>Condition</b>	<b>Relevant details</b>	<b>Compliance</b>	<b>Comments</b>
	<p>and EA (Mod 3);</p> <p>(c) Identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;</p> <p>(d) Identify any trends in the monitoring data over the life of the project;</p> <p>(e) Identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and</p> <p>(f) Describe what measures will be implemented over the current calendar year to improve the environmental performance of the project.</p>		
	<b>Independent Environmental Audit</b>		
S5.5	<p>Within 12 months of the date of the consent, and every 3 years thereafter, unless the Director-General directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit shall:</p> <p>(a) Be conducted by a suitably qualified, experienced, and independent person(s) whose appointment has been approved by the Director-General;</p> <p>(b) Include consultation with the relevant agencies;</p> <p>(c) Assess the environmental performance of the development, and its effects on the surrounding environment;</p> <p>(d) Assess whether the development is complying with the relevant standards, performance measures and statutory requirements; and</p> <p>(e) Review the adequacy of any strategy/plan/program required under this approval, and, if necessary, recommends measures or actions to improve the environmental performance of the development, and/or any strategy/plan/program required under this approval.</p>	Compliant	<p>IEA completed on site 5<sup>th</sup> May 2016. Final report submitted to Collins on 28<sup>th</sup> June 2016.</p> <p><a href="http://www.mcollins.com.au/environmental/environmental-monitoring/">http://www.mcollins.com.au/environmental/environmental-monitoring/</a></p> <p>An email and letter was sent to Margaret Kirton DPE 8<sup>th</sup> April 2016 requesting approval of Peter Marshman of J2M Systems to conduct the IEA. Howard Reid approved the IEA auditor request 11<sup>th</sup> April 2016.</p> <p>Consultation with relevant agencies within the IEA conducted. See IEA 28<sup>th</sup> June 2016.</p> <p>An email request was sent to Tertius Greyling on 28<sup>th</sup> September 2016 to clarify the frequency of the next IEA. Tertius passed this request onto the assessment team on 29<sup>th</sup> September 2016. Howard Reed from DPE responded in a letter dated 30<sup>th</sup> September 2016 approving the next IEA be submitted no later than June 2019 and every three years thereafter.</p>
S5.6	Within 6 weeks of completion of each Independent Environmental Audit, the Applicant shall submit a	Compliant	Submitted 14 <sup>th</sup> July 2016 to DPE on a USB stick with updated Spring Farm Management Plans (Chase Dingle,

<b>Condition</b>	<b>Relevant details</b>	<b>Compliance</b>	<b>Comments</b>
	copy of the audit report to the Director-General, with a response to any of the recommendations in the audit report.		Tertius Greyling) at a meeting with Jason Lewis, Matt Collins and Nicole Pearce.
S5.7	Within three months of:  (a) The submission of an incident report under Condition 3 above;  (b) The submission of an Annual Review under Condition 4 above;  (c) The submission of an audit report under Condition 5 above, or  (d) Any modification of the conditions of this approval (unless the conditions require otherwise),  the Applicant shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Director-General.	Compliant  Compliant  Compliant  Compliant	Submitted IEA to DPE 14 <sup>th</sup> July 2016.
	<b>Access to Information</b>		
S5.8	Within 1 month of the approval of any plan/strategy/program required under this approval (or any subsequent revision of these plans/strategies/programs), or the completion of the audits or AEMR required under this approval, the Applicant shall:  (a) Provide a copy of the relevant document's to the relevant agencies and to members of the general public upon request; and  (b) Ensure that a copy of the relevant documents is made publicly available on its website.	Compliant	Annual Environmental Management Reports are prepared and submitted every March to the NSW Department of Planning and Environment and Camden Council.  <a href="http://www.mcollins.com.au/environmental/environmental-monitoring/">http://www.mcollins.com.au/environmental/environmental-monitoring/</a>
S5.9	During the development, the Applicant shall:  (a) Make a summary of monitoring results required under this approval publicly available on its website; and  (b) Update these results on a regular basis (at least every 3 months).	Compliant	Noted.  All Monitoring data is available on the Collins and Sons website – <a href="http://www.mcollins.com.au/environmental/environmental-monitoring/">http://www.mcollins.com.au/environmental/environmental-monitoring/</a>

**1.33. APPENDIX 8: IEA REPORT**



# **INDEPENDENT ENVIRONMENTAL AUDIT REPORT**

**Spring Farm Quarry**

Lot 22 DP 833317 and Lot 32 DP 635271

**Contractor: M Collins and Sons Holdings Pty Ltd**

**28 June 2016**

### Document Revision Record

Issue No.	Date	Details of Revision
Draft	09/05/2016	Draft for comment
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## Independent Environmental Audit – Spring Farm Quarry

### 1. Introduction:

J2M Systems Pty Ltd was engaged by M.Collins and Sons Holdings Pty Ltd (Collins) to undertake an independent environmental audit (IEA) at the Collins Spring Farm Quarry (SFQ) in accordance with Schedule 5, Condition 5 of NSW Department of Planning and Infrastructure, Development Consent Notice of Modification 3 (DA 75/256 Mod 3).

Development Consent DA 75/256 for SFQ was granted by the NSW Minister for Planning on 13 October 1988 including the latest modification (Mod 3) approved 25 October 2012. The approval (DA 75/256 Mod 3), which is the scope of this audit, includes conditions covering the extraction of sand from approximately 7 hectares of agricultural land located at Lot 32 DP635271 as well as existing extraction of sand from Lot 22 DP833317. The approval also includes conditions related to rehabilitation and/or revegetation of the extraction areas as well as the riparian corridors along the Nepean River and the dry Anabranch of the Nepean River, which form the western and eastern boundaries of the extraction areas respectively.

#### 1.1. Scope of Work

In accordance with Schedule 5, Condition 5 of NSW Department of Planning and Infrastructure, Development Consent Notice of Modification 3 (DA 75/256 Mod 3) the objectives of this IEA were to:

- assess the environmental performance of the development and its effects on the surrounding environment;
- assess the environmental performance of the development, and its effects on the surrounding environment;
- assess whether the development is complying with the relevant standards, performance measures and statutory requirements; and
- review the adequacy of any strategy/plan/program required under this approval, and, if necessary, recommend measures or actions to improve the environmental performance of the development, and/or any strategy/plan/program required under this approval.

The audit period is defined as the period between the previous IEA (Feb 2011) to the end of the 2015 calendar year. Current activities, i.e. from end 2015 to date of the audit site inspection, are also included in the assessment of compliance.

The scope of the audit included the requirements of:

- NSW Department of Planning and Infrastructure, Development Consent (DA 75/256) Notice of Modification;
- Statement of Commitments (within above stated DA);
- NSW Environmental Protection Authority, Environmental Protection Licence (4093); and
- Water licensing requirements under the Water Management Act 2000/Water Act 1912.

Additional to the above, the audit site inspection also included areas of the operational quarry which are critical to the operation of the quarry, but do not relate directly to the DA 75/256 Mod 3 Development Consent as they are covered under Council (DA252/93). These areas include the access to the premises via the main entrance, the weighbridge, the wheel wash, site offices, workshops, resource processing and blending area and water supply pump from the Nepean River.

## 1.2. Audit Methodology

The processes for this IEA involved a review of documentation (plans/programs/statutory requirements), as well as a site inspection and audit interviews with Collins employees to determine the level of environmental performance and compliance with requirements.

### Document review

The following documents were reviewed and considered during this audit:

- Environmental management Plan (November, 2013),
- Water Management and Erosion Sediment Control Plan (April, 2013),
- Landscape Management Plan (April 2014),
- Air Quality Monitoring Program (2013),
- Independent Environmental Audit Spring Farm Quarry (2011), and
- Collins Spring Farm Quarry, Compliance3 Audit as part of State Sand Quarries Campaign (May – August 2015).

### Site inspection and Interviews

An opening meeting was held on Thursday 5 May 2016 to introduce the auditor to the SFQ management team and to outline the audit process and confirm audit arrangements. Immediately following this opening meeting, the auditor conducted a site inspection guided by the SFQ Manager (Jason Lewis) and Collins Compliance Officer (Nicole Pearce). The aim of this inspection was to assess the effectiveness of environmental management measures on site. The main focus of the audit site inspection were the areas identified and approved under DA 75/256 Mod 3, including:

- the current extraction area within Lot 22;
- rehabilitation areas within lot 22;
- the future extraction areas in Lot 32; and
- current monitoring locations for dust and groundwater.

In addition, whilst not within the scope of the audit, the following area and facilities were also inspected during the audit to further assess overall environmental performance:

- the wet processing area, sediment dams and haul roads;
- the water pump on the bank of the Nepean River; and
- the weighbridge, wheelwash, site offices and main site entrance.

The audit was conducted with the following personnel in attendance (Table 2).

**Table 1: Audit attendance**

Name	Title / Role	Opening Meeting Attendance	Closing Meeting Attendance
Peter Marshman	Lead Auditor	Yes	Yes
Nicole Pearce	Systems Manager	Yes	Yes
Jason Lewis	Quarry Manager	Yes	Yes
Billy Lewis	Assistant Quarry Manager	Yes	Yes

## 2. Site Description and Operation

### 2.1. Site Location

The Collins SFQ is located at Elderslie, approximately 65 kilometres (km) southwest of Sydney. Collins own and operate the SFQ located at Lot 22 (DP833317) and Lot 32 (DP653271) at Spring Farm, in the Camden Local Government Area (LGA). Figure 1 below is sourced from the Collins SFQ EMP and identifies the two Lots, as well as the general locality.

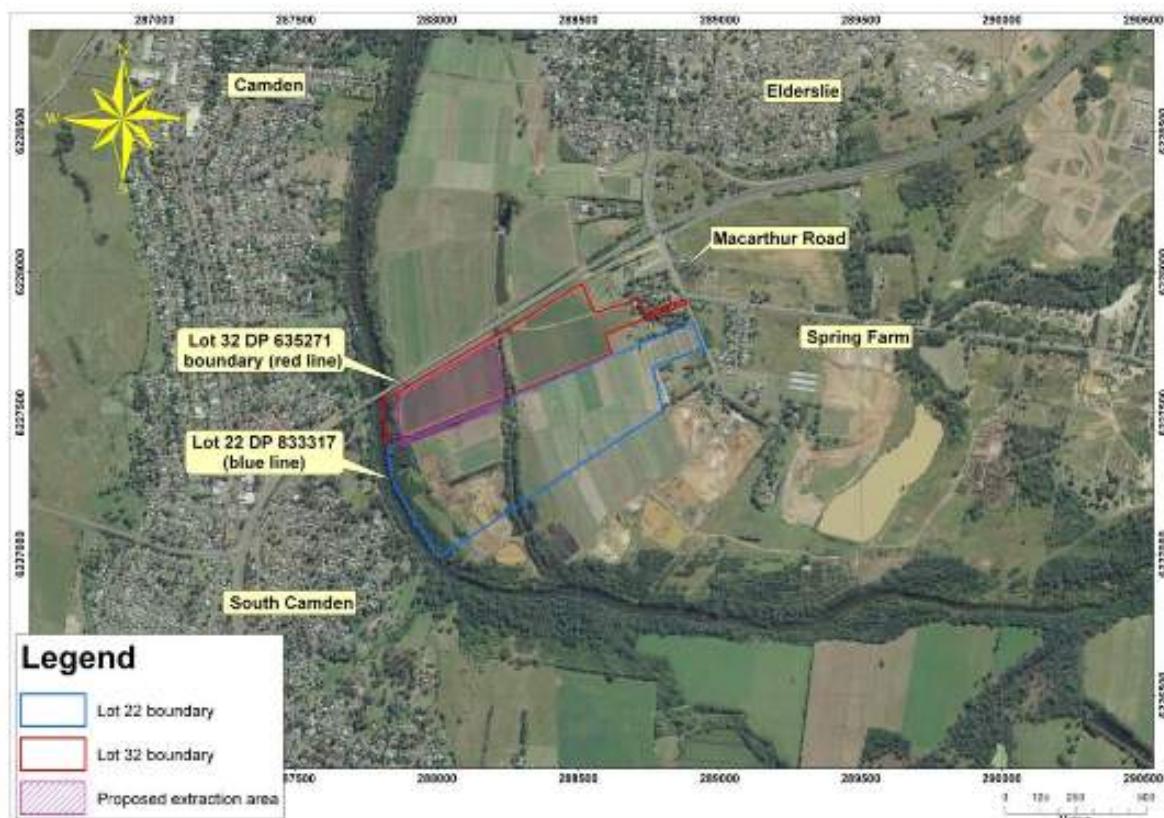


Figure 1: Site Location (Source: M.Collins Environmental Management Plan, 2013) showing Lot 22 (blue line) and Lot 32 (red line).

### 3. Consultation with relevant agencies

As part of the audit process, J2M Systems consulted with the following key government agencies to gain an understanding of their interests in the Spring Farm Quarry and its environmental performance. This section provides a summary of this consultation.

#### 3.1. NSW Department of Planning and Environment (NSW DPE)

The NSW DPE was contacted and Megan Dawson, Planning Officer provided an email response (dated 26/04/2016), which indicated that 'as the approval agency, NSW DPE does not typically provide comments for the IEA'. Attention was drawn to the compliance audit conducted by NSW DPE in 2015, which was reviewed prior to and during this audit.

#### 3.2. NSW Department of Primary Industries (NSW DPI)

NSW DPI were contacted via phone on 26 April 2016 and Mitchell Isaacs, Director Planning Policy and Assessment Advice provided an email response (dated 28/04/2016) which outlined the following questions to be considered during the audit. Whilst the auditor is not a specialist water management expert, a general assessment of compliance against the questions was completed during the audit and an audit response is provided.

- Do the relevant management plans adequately describe the water licensing requirements under the *Water Management Act 2000/Water Act 1912*, and compliance with these requirements?

**Audit response:** Yes, Collins Water Management and Erosion and Sediment Control Plan describes relevant water licensing requirements, water sharing plans and maximum harvestable right dam capacity details for the SFQ operations.

- Are adequate records kept to enable determination of the volume and source of surface and groundwater taken?

**Audit response:** No groundwater or surface water is currently taken from the extraction areas under the scope of this audit and there is no requirement for records.

- Is the operation capturing and/or harvesting any clean water?

**Audit response:** The SFQ Manager reported that no water is captured by the operations under the scope of this audit. Surface waters that collect within the current extraction areas are left to natural seep or evaporation into the environment. When required, i.e. after prolonged rainfall, clean surface water is pumped to onsite-rehabilitated areas in order to allow for extraction activities to continue. The site was dry at the time of inspection.

- Has the proponent calculated its maximum harvestable right under the Water Management Act 2000?

**Audit response:** Yes, section 4.2 of the Collins Water Management and Erosion and Sediment Control Plan outlines details for determining the maximum harvestable right. The proposed sedimentation terminal pond to which this relates was not established as at the time of this audit.

- Is the capture of water in excess of the harvestable right?

**Audit response:** At the time of this audit there was no process for the capture of waters in excess of the determined harvestable right.

- Do any exemptions under the Water Management (General) Regulation 2011 or Harvestable Rights Order (gazetted 31 March 2006) apply to the capture of water?

**Audit response:** Collins has determined (Section 4.2 of the Collins Water Management and Erosion and Sediment Control Plan) that the terminal sedimentation pond is less than the MHRDC

and as such a Water Access Licence (WAL) is not required for this structure. This feature is proposed to be retained post extraction as a sediment trap for the post-extraction agricultural production areas, however has not been constructed as at the time of this audit.

- If necessary, does the proponent hold water access licenses in the correct water sources under the relevant water sharing plan (for the take of surface water or alluvial groundwater), or licences under part 5 of the Water Act 1912 (for the take of groundwater from non-alluvial aquifers), and do they hold sufficient quantity of entitlement under these licenses?

**Audit response:** The SFQ Manager reported that no water is taken by the operations under the scope of this audit, therefore there is no requirement to hold water access licences.

### **3.3. NSW Environmental Protection Authority (NSW EPA)**

NSW EPA was contacted via phone on 26 April 2016 and Chris Kelly, Regional Operations Officer provided an email response (dated 03/05/2016) which stated that 'in undertaking the audit J2M may wish to consider any Annual Environmental Management Reports (AEMRs) required to be prepared for Department of Industry and Investment (Resources and Energy)'.

**Audit response:** There is inconsistency with the preparation and submission of AEMRs and SFQ is considered non-compliant with the conditions of the development consent (Schedule 5, Conditions 4(a) – (f)). Whilst the most recent annual environmental management report was prepared and submitted for the calendar year 2015 (report dated 31 March 2016), the AEMRs for 2014 and 2013 were prepared and issued as one report (report dated 20 November 2015). The Development Consent requires AEMR to be issued to the Director-General by March each year.

Additionally, NSW DPE found that the 2013-2014 AEMR was non-compliant, as a number of requirements of the Development Consent were not addressed (letter dated 24/02/2016). Section 13.2 of the 2015 AEMR provides a response to the matters raised in the above stated letter. The auditor was not aware if this AEMR was approved (no response from NSW DPE provided), however the auditor considers that the 2015 AEMR does not adequately provide a breakdown of the size of disturbed areas, which was matter identified by the NSW DPE (refer to above stated letter).

### **3.4. Camden Council**

Camden Council was contacted by phone and email on 26 April 2016. William Jones, Town Planner responded by email (dated 26/04/2016) and indicated that the request for consultation was 'passed onto the Team Leader for the East Team and someone will be in touch shortly'.

**Audit response:** No further correspondence was received or sought from Camden Council.

### **3.5. NSW Department of Industry, Resources and Energy (NSW DRE)**

The auditor contacted NSW DRE by phone on 26 April 2016 however there was no answer after 30 minutes on hold and the auditor did not seek further correspondence with NSW DRE.

**Audit response:** No further correspondence was received or sought from NSW DRE.

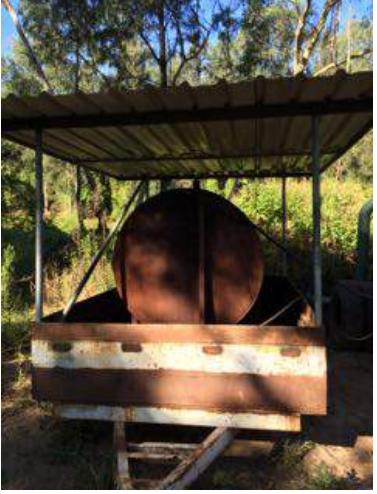
## 4. Site Inspection

### 4.1. Site Inspection Observations

A site inspection was carried out as part of this audit and no environmental performance issues were observed. Table 3 below presents commentary of photos taken during the audit site.

**Table 2: Site Photos and Observations**

Photo No.	Photo	Description / Observation
01		Current wet processing area (area not within scope of this audit).
02		Dust monitoring #3 adjacent to main entrance and wet processing area.
03		Collins water cart in operation to minimise vehicle dust generation on haul road.

04		Clean and maintained oil storage area with the workshop areas (area not within scope of this audit).
05		Oil water bund underneath the water pump (located on the bank of the Nepean River). Bund was clean and no evidence of leaks observed (no visible soil contamination). Area was reportedly cleaned post DPE compliance audit. This area is not within scope of this audit.
06		New roofing installed over water pump (located on the bank of the Nepean River).
07		Revegetation landform in previous Lot 22 extraction area (Cells R3 – R7)

08		Sand processing within Lot 22 extraction areas.
09		Sand extraction activities within the current Lot 22 extraction area.
10		Sand extraction activities within the current Lot 22 extraction area.
11		Sand extraction activities within the current Lot 22 extraction area.

12		<p>Dust monitoring point adjacent to the sand extraction activities within the current Lot 22 extraction area. Landscape rehabilitation and maintenance also occurring on the bank of the Nepean River (to the back of this photograph).</p>
13		<p>Evidence of ongoing revegetation and land management within the anabranch of the Nepean River.</p>
14		<p>Wheel wash facilities in operation during the audit site inspection.</p>

## 5. ENVIRONMENTAL PERFORMANCE

This audit is considered to address the requirement of the scope of works to '*assess the environmental performance of the project*'. Section 9 of this report lists the conditions considered to be non-compliant, whilst Appendix A presents the status of environmental performance in respect of each condition of the Development Consent, Statement of Commitments and EPL.

The section of the report provides an overview of results reported in the recent 2015 AEMR (March 2016) as well as discusses complaints and incidents reported as further measures of environmental performance.

### 5.1. Summary of Environmental Management Measures

Environmental management of the SFQ is primarily focused on progressive rehabilitation of former extraction cells once final levels (RL66) and trimming is achieved, as well as on going landscape rehabilitation and maintenance of the Nepean River Bank and associated dry Anabranch.

An area of recent rehabilitation within the former extraction cells (south-western area of Lot 22 DP 833317) was inspected during the audit (Refer to Photo 07, Section 4.1 of this report) and was observed as well established with pasture grass.

SFQ has engaged Bowantz Landscaping and Environmental Pty Ltd to carry out landscape rehabilitation and maintenance work within areas covered under the Development Consent. Areas of current rehabilitation along the banks of the Nepean River and the associated dry Anabranch were inspected during the audit and observed to be well managed (refer to Photo 12 and 13, Section 4.1 of this report). Bowantz Landscaping and Environmental Pty Ltd provide monthly rehabilitation progress reports, which are included in the 2015 AEMR (March 2016).

### 5.2. Summary of Environmental Monitoring

SFQ has engaged Harvest Scientific Service Pty Ltd to undertake dust deposition ( $\text{g}/\text{m}^2/\text{month}$ ) and groundwater (pH and electrical conductivity) monitoring in accordance with the monitoring plan detailed in the SFQ EMP. Monitoring records are maintained (sighted during audit) and are reported in the AEMS.

SFQ maintains three (3) dust monitoring stations (MS1, MS2 and MS3) for the quarry operations and it is noted that two of these (MS1 and MS2) are located within areas approved by the Development Consent (refer to figure 2 below) and as such are within the scope of this audit. Monitoring stations MS1 and MS3 consist of a dust deposition sampler, whilst monitoring station MS2 consists of a dust deposition sampler and groundwater monitoring bore. The following section provide a summary of monitoring results within the audit period.



**Figure 2: Monitoring locations on Spring Farm Quarry (Source: Collins 2015 AEMR, Harvest Scientific Services Pty Ltd).**

#### Dust monitoring results:

Analysis presented in the 2013-2014 AEMR (November 2015) and the 2015 AEMR (March, 2016) indicates that all monitoring results for depositional dust samples recorded at MS1 and MS2 were below the EMP target of  $4 \text{ g/m}^2/\text{month}$ , with the exception of two (2) recorded exceedances at MS1 ( $6 \text{ g/m}^2/\text{month}$  in April 2015 and  $4.2 \text{ g/m}^2/\text{month}$  in August 2015).

The SFQ Manager reported that these exceedances were attributed to the expansion of the quarry extraction areas into Lot 32 and within 10 m of MS1. Subsequently, and with informal consultation with NSW EPA, MS1 was relocated to its current position approximately 10 m west of the quarry extraction area (moved closer to property boundary).

No further exceedances were reported.

#### Groundwater monitoring results:

Analysis presented in the 2013-2014 AEMR (November 2015) and the 2015 AEMR (March, 2016) indicates that all monitoring results for groundwater samples collected at MS2 were below the electrical conductivity target ( $<800 \mu\text{S/cm}$ ) and the nominated pH range (4.00 – 5.50 pH, nominated within EMP, 2012), with the exception of four (4) recorded pH exceedances in July, August, November and December 2014 (5.54, 5.94, 5.74 and 5.84).

The 2013-2014 AEMR states “these marginal pH exceedances are not considered problematic and it is recommended the EMP upper pH limit be increased to 6.5 pH units”. Subsequently, SFQ has updated the SFQ EMP and nominated the pH limits as 4.00 – 6.50 pH, citing historical data and the Australian and New Zealand Guidelines for Fresh and Marine Water Quality, October 2000 (ANZECC Guidelines, 2000).

As a result of this update to the EMP, four (4) 'exceedances' against the original nominated values in January, March, August and September 2015 (5.68, 5.79, 5.58 and 5.75 respectively) were not highlighted in the 2015 AEMR.

The ANZECC Guidelines, 2000 report that '*generally these Guidelines should apply to the quality both of surface water and of groundwater since the environmental values which they protect relate to above-ground uses (e.g. irrigation, drinking water, farm animal or fish production and maintenance of aquatic ecosystems)*' ... '*An important exception is for the protection of underground aquatic ecosystems and their novel fauna. Little is known of the lifecycles and environmental requirements of these quite recently-discovered communities, and given their high conservation value, the groundwater upon which they depend should be given the highest level of protection*'.

The auditor is not a groundwater expert and thus will not comment on the change to the nominate pH value within the EMP, other than that it is a nominated value and not a regulatory condition.

The auditor recommends SFQ continue to present pH data as a trend line within the AEMRs, so that deviations are may be identified, reported and discussed.

### **5.3. Summary of Environmental Incidents**

The SFQ Manager and Collins Compliance Officer reported that whilst no major exceedances or incidents were reported within the audit period, one incident occurred that triggered external notification (including EPA, Camden Council).

The incident involved a hydraulic oil leak from an excavator and was reported to DPI on 17/09/2013, using the DPI Mine Notification of Incident Form. SFQ reported that no actual or threat of material harm to the environment was reported, however damage to plant exceeded \$10,000 and thus notification requirements were triggered. An Internal incident report and investigation was completed and the report includes record of the EPA notification (No. C14592-2013) and indicates that Camden Council was notified verbally. SFQ has investigated the incident, implemented identified corrective actions and considers in incident closed.

### **5.4. Summary of Environmental Complaints**

The Quarry Manager maintains a register of environmental complaints, which identifies five (5) complaints in the audit period. Of the complaints, two (2) related to dust management, two (2) related to noise management, and one (1) related to water management. The Quarry Manager reported no complaint has been received since 22/01/2015. Details of complaints received to date are summarised in the AEMRs. The Quarry Manager reported that all complaints were immediately resolved and records (environmental complaints forms) are maintained.

## 6. Compliance with Relevant Requirements

In accordance with Clause 5 (d) of the Consent, this section provides an assessment of the project's compliance with current standards, performance measures and statutory requirements in its Project Approval and EPL. A summary of approvals and licences is provided in Table 3.

**Table 3: Summary of Approvals and Licences**

Authority	Requirement Type	Date Granted / Last variation	Expiry / Review date
NSW Department of Planning and Infrastructure	Development Consent (DA 75/256) Notice of Modification	13 October 1988/ 25 October 2012	30 June 2019
NSW Environmental Protection Authority	Environmental Protection Licence (4093)	18 June 2014	18 April 2021
NSW Department of Primary Industries – Water	Controlled Activity Approval (10 ERM2013/0830)	8 October 2013	8 October 2018

It is noted that not all Approvals were considered in the audit. The audit assessed compliance with the following approvals:

- Development Consent (DA 75/256) Notice of Modification;
- Statement of Commitments; and
- Environmental Protection Licence (4093).

Section 9 of this report lists the conditions considered to be non-compliant, whilst Appendix A presents the status of environmental performance in respect of each condition of the Development Consent, Statement of Commitments and EPL.

## 7. Review of Adequacy of Project Management Plans

### 7.1. Environmental Management Plan

An Environmental management plan was prepared in February 2010 and subsequently revised in November 2010 following submission to NSW DP&E (formerly Department of Planning) in accordance with the requirements of the DA 75/256 Mod 3. No further correspondence is available to support the EMP being re-submitted and/or approved by NSW DP&E. The EMP was revised November 2013 for a series of changes as identified within the revisions register of the EMP.

The EMP incorporates the following elements:

- Project overview;
- Environmental policy;
- Waste management policy;
- Environmental risk and planning;
- Development program and approvals;
- Structure and responsibilities;
- Implementation and operation;
- Measurement, evaluation (targets) and review;
- Emergency preparedness and response; and
- Complaints.

On the basis that the EMP document and describe the SFQ's land management arrangements, it is considered to be generally adequate.

### Recommendations

The auditor identified the following recommendations for improvement in the EMP:

1. The current EMP be submitted to NSW DP&E.
2. Section 8.3 Training, awareness and competence does not identify the training and competency requirements in relation to environmental monitoring (i.e. for dust monitoring as required by the EPL and DA 75/256 Mod 3).
3. Section 9.1 (Overview) provides a narrative on SFQ's commitment to achieving environmental management objectives, however the EMP does not further define what these objectives are, the timeframe from achieving them, the resources required or the personnel responsible for the management of them. Additionally, whilst Section 10.1 (Environmental Targets) of the EMP outlines environmental targets for the facility, these targets are all lag indicators. It is recommended that environmental objectives be defined in the EMP, and that these objectives and targets also consider and set lead (positive) indicators to ensure continual improvement.
4. Section 11 (Emergency Preparedness and Response) does not include provisions or planning for the conduct of drills on emergency scenarios.

### 7.2. Water Management and Erosion and Sediment Control Plan

A Water Management (Incl. Groundwater Assessment) and Erosion and Sediment Control Plan (WQ and SECP) was established in July, 2011 and submitted to and approved by NSW Office of Water (NOW) as part of the Controlled Activity Approval (October 2013).

No further correspondence is available to support the WQ and ESCP being re-submitted and/or approved by NSW DP&E in accordance with the DA 75/256 Mod 3. The WQ and ESCP was most recently revised in April 2013.

The Water Management (Incl. Groundwater Assessment) and Erosion and Sediment Control Plan (WQ and SECP) incorporates the following elements:

- Relevant legislation;
- Site characteristics and constraints;
- Site water balance;
- Groundwater assessment and management;
- Erosion and sediment control plan; and
- Flood emergency procedures plan.

It is noted that a water quality and sediment erosion expert was not included with the audit team and as such a full assessment of the adequacy of this plan has not been completed. On the basis that the WQ and SECP document and describe the SFQ's land management arrangements, it is considered to be generally adequate.

#### **Recommendations**

The following recommendations have been identified in regard to this plan:

1. The groundwater-monitoring plan does not provide adequate detail on what measures/investigations/actions will be taken in response to an identified exceedance(s) of groundwater salinity levels. It is recommended that the plan be updated to define actions to be implemented and the roles and responsibilities for completing them.

#### **7.3. Landscape Management Plan**

A Landscape Management Plan (LMP), including Quarry Closure, Rehabilitation and Post Extractive Land-use was established July, 2011 and revised November 2011 following NSW DPI comments (email dated 06/10/2011). No further correspondence is available to support the LMP being re-submitted and/or approved by NSW DP&E in accordance with the DA 75/256 Mod 3. The LMP was most recently revised in April 2013.

The LMP incorporates the following elements:

- Site opportunities and constraints;
- Site description;
- Restoration program; and
- Post extraction land-use and agricultural classification.

It is noted that a landscape management and rehabilitation expert was not included with the audit team and as such a full assessment of the adequacy of this plan has not been completed. On the basis that the LMP document and describe the SFQ's land management arrangements, it is considered to be generally adequate.

#### **Recommendations**

The auditor did not identify any recommendations for improvement to the Landscape Management Plan during this review.

## 8. Summary of Non Compliances and Recommendations

Overall, the audit generally found a **satisfactory level of compliance**. However the following three (3) non-compliances and six (6) improvement opportunities were identified against the requirements (listed in order as identified in checklist – Appendix A).

**Table 4: Summary of Audit Non-compliances and Recommendations**

Consolidated Consent – DA 75/256 – Notice of Modification (NoM)																												
Title	Condition No.	Condition	Evidence / Comment	Compliance Status	Recommendations																							
DA 75/256 NoM	S3.8	<p><b>AIR QUALITY</b></p> <p><b>Impact Assessment Criteria</b></p> <p>The Applicant shall ensure that dust generated by the development does not cause exceedances of the criteria listed in Tables 1, 2 and 3 at any residence or on more than 25 percent of any privately owned land.</p> <p><i>Table 1: Long Term Impact Assessment Criteria for Particulate Matter</i></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th>Criterion</th> </tr> </thead> <tbody> <tr> <td>Total suspended particulate (TSP) matter</td> <td>Annual</td> <td>90 µg/m³</td> </tr> <tr> <td>Particulate matter &lt; 10 µm (PM<sub>10</sub>)</td> <td>Annual</td> <td>30 µg/m³</td> </tr> </tbody> </table> <p><i>Table 2: Short Term Impact Assessment Criteria for Particulate Matter</i></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th>Criterion</th> </tr> </thead> <tbody> <tr> <td>Particulate matter &lt; 10 µm (PM<sub>10</sub>)</td> <td>24 hour</td> <td>50 µg/m³</td> </tr> </tbody> </table> <p><i>Table 3: Long Term Impact Assessment Criteria for Deposited Dust</i></p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th>Maximum increase in deposited dust level</th> <th>Maximum total deposited dust level</th> </tr> </thead> <tbody> <tr> <td>Deposited dust</td> <td>Annual</td> <td>2 g/m²/month</td> <td>4 g/m²/month</td> </tr> </tbody> </table> <p><i>Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia, 1991, AS 3580.10.1- 1991: Methods for Sampling and Analysis of Ambient Air - Determination of Particulates - Deposited Matter - Gravimetric Method.</i></p>	Pollutant	Averaging period	Criterion	Total suspended particulate (TSP) matter	Annual	90 µg/m³	Particulate matter < 10 µm (PM <sub>10</sub> )	Annual	30 µg/m³	Pollutant	Averaging period	Criterion	Particulate matter < 10 µm (PM <sub>10</sub> )	24 hour	50 µg/m³	Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level	Deposited dust	Annual	2 g/m²/month	4 g/m²/month	Whilst not specifically required by this clause, SFQ have recently (March 2016) recommenced TSP and PM10 monitoring on site, however the EMP has not been updated to reflect this.  Generally SFQ is considered to comply with this requirement based on the implementation of the EMP (which identifies depositional dust monitoring only), however it is noted that the Director-General has not approved the EMP.  TSP and PM10 testing has recently been conducted. Sighted test report (Work Order No. EN1601354, dated 15/04/2016), with the following results:  TSP = 70.8ug/m <sup>3</sup>  PM10 = 32.1ug/m <sup>3</sup>  Sighted Licence Variation No. 4093, which includes background and details into the air monitoring pollution reduction program such as results and removal of the requirement for further monitoring.  <b>Dust complaints:</b>  15/10/2013 Dust complaint regarding the processing area. Collins report provided to the EPA identified that the source of dust was not	OFI	It is recommended the SFQ qualify the requirements to conduct TSP and PM10 monitoring as there appears to be inconsistencies between the expectations of the NSW DP&E auditor (refer to findings of NSW DP&E Compliance Audit on Collins Spring Farm Quarry as part of State Sands Quarries Campaign (May – August 2015), NSW EPA and SFQ management.
Pollutant	Averaging period	Criterion																										
Total suspended particulate (TSP) matter	Annual	90 µg/m³																										
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Consolidated Consent – DA 75/256 – Notice of Modification (NoM)					
Title	Condition No.	Condition	Evidence / Comment	Compliance Status	Recommendations
			<p>their site. No further correspondence was received on this matter.</p> <p>29/10/2013: Dust complaint from neighbour on 24/10/2013 regarding dust from processing area. Collins noted in their compliant report that operations were stopped during that day due to high winds. The complaint report also notes that water cart and sprinklers were in operation that day. No further correspondence was received on this matter.</p>		
DA 75/256 NoM	S3.15	<p>The Groundwater Monitoring Program must include:</p> <ul style="list-style-type: none"> <li>(a) baseline data on groundwater levels, flows and quality in the vicinity;</li> <li>(b) groundwater assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts; and</li> <li>(c) a program to monitor any observed groundwater inflows to the quarry pit.</li> </ul>	<p>SFQ maintains monthly ground water monitoring records. Sighted records for January, February and March 2016, and monthly records for 2011-2015</p> <p>Triggers are <math>&gt;800\mu\text{S}/\text{cm}</math> and Depth <math>&lt;5.83</math> and/or <math>&gt;15.93</math></p> <p>Records indicate that monthly groundwater results for <math>\mu\text{S}/\text{cm}</math> exceeded the trigger value during months Dec, 2010, Sept, Oct, Nov and Dec 2011.</p> <p>*** There is no evidence of further investigation of any potentially adverse groundwater impacts. OFI to update the WM &amp; ESCP to include details of 'tests' to be completed if triggers exceeded.</p>	OFI	<p>There is no evidence of further investigation(s) being carried out in response to the historical trigger value exceedances.</p> <p>It is recommended that SFQ update the WM &amp; ESCP to include details of what will be investigated and, if applicable, how it will be conducted.</p>
DA 75/256 NoM	S5.5	<p><b>INDEPENDENT ENVIRONMENTAL AUDIT</b></p> <p>Within 12 months of the date of the consent, and every 3 years thereafter, unless the Director-General directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit</p>	<p>In April 2016, J2M Systems was contacted and subsequently engaged by Collins to conduct this Independent Environmental Audit. As such the requirements of this condition have not been met. The last independent environmental audit was completed in February 2011.</p>	Non-compliant	<p>Recommend that Collins clarifies with NSW DP&amp;E to confirm when the next audit will fall due and then make plans to engage a suitably qualified auditor.</p>

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		<p>shall:</p> <ul style="list-style-type: none"> <li>(a) be conducted by a suitably qualified, experienced, and independent person(s) whose appointment has been approved by the Director-General;</li> <li>(b) include consultation with the relevant agencies;</li> <li>(c) assess the environmental performance of the development, and its effects on the surrounding environment;</li> <li>(d) assess whether the development is complying with the relevant standards, performance measures and statutory requirements; and</li> </ul> <p>review the adequacy of any strategy/plan/program required under this approval, and, if necessary, recommend measures or actions to improve the environmental performance of the development, and/or any strategy/plan/program required under this approval.</p>		Orange	
DA 75/256 NoM	S5.7	<p>Revision of Strategies, Plans &amp; Programs</p> <p>Within three months of:</p> <ul style="list-style-type: none"> <li>(a) the submission of an incident report under Condition 3 above;</li> <li>(b) the submission of an Annual Review under Condition 4 above;</li> <li>(c) the submission of an audit report under Condition 5 above, or</li> <li>(d) any modification of the conditions of this approval (unless the conditions require otherwise),</li> </ul>	<p>SFQ Manager reported that plans are continually reviewed for improvements, however this process is not recorded. The revisions registers within the plans only capture details of when a change to the documentation is made as a result of a review.</p> <p>There is evidence that management plans are updated following identification of improvements.</p>	Non-compliant	<p>In accordance with this clause, SFQ is required to review, revise if necessary, the strategies, plans, and programs required under this approval to the satisfaction of the Director-General.</p> <p>It is recommended that SFQ submit the current suite of strategies, plans, and programs to NSW</p>

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		<p>the Applicant shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Director-General.</p> <p><i>Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the project.</i></p>		DP&E.	
DA 75/256 NoM	S5.8	<p><b>ACCESS TO INFORMATION</b></p> <p>Within 1 month of the approval of any plan/strategy/program required under this approval (or any subsequent revision of these plans/strategies/programs), or the completion of the audits or AEMR required under this approval, the Applicant shall:</p> <p>(a) provide a copy of the relevant document/s to the relevant agencies and to members of the general public upon request; and</p> <p>ensure that a copy of the relevant document/s is made publicly available on its website</p>	<p>Not yet available online.</p> <p>This is an open non-conformance from the NSW DP&amp;E Compliance audit (July 2015).</p>	Non-compliant	<p>SFQ to provide relevant agencies with the current suite of management plans.</p> <p>SFQ to make documents publicly available on the website, as required by this condition.</p>
SoC	-	<p><b>TRAFFIC AND TRANSPORTATION</b></p> <p><b>Limit the impact of development-related traffic</b></p> <p>1. Laden truck movements from the Spring Farm Quarry to public roads will not exceed 36 per day (when averaged over any working week) or 80 on any working day.</p> <p>The total annual dispatches of extractive material products from the Spring Farm Quarry will not</p>	<p>Annual environmental audit period:</p> <ul style="list-style-type: none"> <li>- 01/07/2011 – 30/06/2012: 15.6 trucks per day and 77 maximum loads on any given day.</li> <li>- 01/01/2012 – 30/12/2012: 11.6 trucks per day and 61 maximum loads on any given day (dates in AMER state 01/07/2011 – 30/06/2012).</li> <li>- 01/01/2013 – 31/12/2013: 34 trucks per</li> </ul>	Unable to determine - OFI	<p>It is recommended that SFQ determine a method to identify split loading of truck and trailer combinations (i.e. a truck and trailer combination with split loading (two different materials)), in order to accurately report compliance against this</p>

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		exceed 300,000 tonnes per annum.	<p>day and 121 maximum loads on any given day.</p> <p>*** In total there was 12 exceedances of the 80 maximum loads on any given day, with all 12 of these occurring in the month of December 2013.</p> <ul style="list-style-type: none"> <li>- 21/10/2013 90 load</li> <li>- 28/10/2013 – 92 loads</li> <li>- 02/12 – 86 loads</li> <li>- 04/12 - 86 loads</li> <li>- 12/12 - 86 loads</li> <li>- 13/12 91 loads</li> <li>- 14/12 85 loads</li> <li>- 16/12 95 loads</li> <li>- 17/12 – 108 loads</li> <li>- 19/12 – 114 loads</li> <li>- 20/12 - 121 loads</li> </ul> <p>- 01/01/2014 – 31/12/2014 37 trucks per day and 95 maximum loads on any given day.</p> <p>*** Exceedance of the average trucks per day</p> <p>*** Exceedance of number of trucks on any given day (10 in total).</p> <ul style="list-style-type: none"> <li>- 13/01 – 95 loads</li> <li>- 13/02 – 85 loads</li> <li>- 14/02 – 83 loads</li> <li>- 26/02 – 92 loads</li> <li>- 27/02 – 89 loads</li> <li>- 04/03- 90 loads</li> <li>- 13/10 – 90 loads</li> <li>- 27/10 – 82 loads</li> </ul>	condition.	

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			<ul style="list-style-type: none"> <li>- 28/10 – 95 loads</li> <li>- 20/11 – 90 loads</li> </ul> <p>01/01/2015 – 31/12/2015</p> <ul style="list-style-type: none"> <li>- 33 trucks per day and 118 maximum loads on any given day.</li> </ul> <p>*** 6 exceedances of max loads</p> <ul style="list-style-type: none"> <li>- 09/11 – 91 loads</li> <li>- 10/11 – 118 loads</li> <li>- 11/11 – 95 loads</li> <li>- 26/11 – 96 loads</li> <li>- 30/11 – 96 loads</li> <li>- 01/12 – 84 load</li> </ul> <p>2015 tonnes generated 285, 974</p> <ul style="list-style-type: none"> <li>• Note: the numbers reflected above refer to the laden loads removed from site and these don't take into account split loading of truck and trailer combinations (i.e. a truck and trailer combination with split loading (two different materials) is recorded in the above figures as two separate truck movement, however it is actually only one laden truck movement from the Quarry).</li> </ul>		
SoC	-	<b>SALINITY AND GROUNDWATER</b> <b>Implement appropriate management measures</b> 19. Salinity Management Plan and Groundwater Management Protocols prepared by Harvest	Sighted Water Management Plan and ground water monitoring data – monthly. Refer to findings under DA 75/256 NoM S3.15.	OFI	It is recommended that SFQ update the WM & ESCP to include details of what will be investigated and, if applicable, how it

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		<p>Scientific Services will be complied with.</p> <p>20. The current Water Management Plan, including the Groundwater Monitoring Program, will be updated to include the impact mitigation measures proposed in EA (Mod 3).</p>			<p>will be conducted.</p> <p>Refer to findings under DA 75/256 NoM S3.15.</p>
SoC	-	<p><b>DUST MONITORING</b></p> <p><b>Undertake dust monitoring</b></p>	Refer to finding under DA 75/256 NoM S3.8	OFI	<p>It is recommended the SFQ qualify the requirements to conduct TSP and PM10 monitoring as there appears to be inconsistencies between the expectations of the NSW DP&amp;E auditor (refer to findings of NSW DP&amp;E Compliance Audit on Collins Spring Farm Quarry as part of State Sands Quarries Campaign (May – August 2015), NSW EPA and SFQ management.</p> <p>Finding raised under DA 75/256 NoM S3.8.</p>
DA 75/256 NoM	S5.5 (e)	<p><b>INDEPENDENT ENVIRONMENTAL AUDIT</b></p> <p>Within 12 months of the date of the consent, and every 3 years thereafter, unless the Director-General directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit shall:</p> <p>(a) be conducted by a suitably qualified, experienced, and independent person(s)</p>	<p>The auditor identified the following recommendations for improvement in the EMP:</p> <ul style="list-style-type: none"> <li>• The current EMP be submitted to NSW DP&amp;E.</li> <li>• Section 8.3 Training, awareness and competence does not identify the training and competency requirements in relation to environmental monitoring (i.e. for dust monitoring as required by</li> </ul>	OFI	

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		<p>whose appointment has been approved by the Director-General;</p> <p>(b) include consultation with the relevant agencies;</p> <p>(c) assess the environmental performance of the development, and its effects on the surrounding environment;</p> <p>(d) assess whether the development is complying with the relevant standards, performance measures and statutory requirements; and</p> <p>(e) review the adequacy of any strategy/plan/program required under this approval, and, if necessary, recommend measures or actions to improve the environmental performance of the development, and/or any strategy/plan/program required under this approval.</p>	<ul style="list-style-type: none"> <li>• the EPL and DA 75/256 Mod 3).</li> <li>• Section 9.1 (Overview) provides a narrative on SFQ's commitment to achieving environmental management objectives, however the EMP does not further define what these objectives are, the timeframe from achieving them, the resources required or the personnel responsible for the management of them. Additionally, whilst Section 10.1 (Environmental Targets) of the EMP outlines environmental targets for the facility, these targets are all lag indicators. It is recommended that environmental objectives be defined in the EMP, and that these objectives and targets also consider and set lead (positive) indicators to ensure continual improvement.</li> <li>• Section 11 (Emergency Preparedness and Response) does not include provisions or planning for the conduct of drills on emergency scenarios.</li> </ul> <p>The auditor identified the following recommendations for improvement in the Water Management Plan:</p> <ul style="list-style-type: none"> <li>• The groundwater-monitoring plan does not provide adequate detail on what measures/investigations/actions will be taken in response to an identified exceedance(s) of groundwater salinity levels. It is recommended that the plan</li> </ul>		

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			be updated to define actions to be implemented and the roles and responsibilities for completing them.		

**Disclaimer:**

- This report does not and should not be seen as advice. Please consult a qualified advisor or consultant for advice.
- The findings of the compliance audit are based upon visual observations of the site and its vicinity, interviews with site personnel and interpretation of documentation provided by SFQ.
- Due to the sampling nature of this audit, the time available and samples size, some issues, non-compliances or improvements might not have been identified in the present report. This does not imply that these issues do not exist, or are in compliance. Employees, management and other stakeholders of the organization need to be and are responsible for, continuously identifying and taking necessary action to ensure continued compliance with the project requirements, and legislation.
- Opinions presented herein apply to the site as it existed at the time of the audit and are derived from information provided by SFQ's representatives and government agencies. Any changes to this information or any additional information which has not been brought to the attention of the auditors at the time of the audit is not considered in this report.
- Readers of this report should make judgment taking the above into account.