



Harvest Scientific Services
Environmental and Earth Science Consultants

**WATER MANAGEMENT
(Incl. GROUNDWATER ASSESSMENT)

AND

EROSION AND SEDIMENT CONTROL PLAN**

**Lot 32 DP 635271 and Lot 22 DP 833317
Macarthur Road, Elderslie**

Prepared for:

M Collins and Sons Holdings Pty Ltd

Job Reference 75/256/4

25th October 2021

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WATER MANAGEMENT (Incl. GROUNDWATER ASSESSMENT) AND EROSION AND SEDIMENT CONTROL PLAN

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Abbreviations

DA	Development Application
DPIE	Department of Planning, Industry and Environment
Development	The operation, closure and rehabilitation of the Spring Farm Quarry as described in the documents listed in Condition 2(a) of Schedule 2.
DPI (Agriculture NSW)	The Agriculture Branch of the Primary Industries Group within the Department
DPIE (Water)	Water Group within the Department
DPIW	Department of Primary Industries Water
ECP	Erosion Control Protocol
EECs	Endangered Ecological Communities
EMP	Environmental Management Plan
EMR	Environmental Management Representative
EP&BC Act	Environment Protection and Biodiversity Act 1999
EP&A Act	Environmental Planning and Assessment Act 1979
EPA	Environmental Protection Authority
ESCP	Erosion and Sediment Control Plan
HSS	Harvest Scientific Services Pty Ltd
Heritage NSW	Heritage NSW within the Department of Premier and Cabinet.
Incident	An Occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance
LGA	Local government area
LMP	Landscape Management Plan
MCS	M Collins and Sons (Holdings) Pty Ltd
MEG	Mining, Exploration and Geoscience within Regional NSW
Minister	NSW Minister for Planning and Public Spaces or delegate
MR (Mod 5)	Modification Report titled Proposed Modification No. 5 Spring farm Quarry consent (DA 75/256), Lot 22 (No. 186) DP 833317 and Part Lot 32 (No. 172) (DP635271) Macarthur Road Springfarm, Environmental Assessment prepared by Pascoe Planning Solutions, dated August 2020, and the associated response to submissions titled Attachment 'A' Springfarm Quarry (Modification 5)- Submissions Response dated 19 November 2020.
Non Compliance	An occurrence, set of circumstances or development that is a breach of this consent.
NRAR	Natural Resources Access Regulator
NES	National environmental significance
NorBE	Neutral or Beneficial Effect
OEH	Office of Environment and Heritage
PEO Act	Protection of the Environment Operations Act 2000
PET	Potential Evapo-transpiration
PIRMP	Pollution Incident Response Management Plan
PM ₁₀	Particulate Matter less than 10µm in size
PMF	Probable Maximum Flood
Quarrying Operations	The Extraction, Processing, stockpiling and transportation of extractive materials carried out on site and the associated removal of vegetation, topsoil and overburden.
Rehabilitation	The Restoration of land disturbed by development to a good condition, to ensure it is safe, stable and non polluting.
Secretary	Planning Secretary under the EP&A Act, or nominee
SEE	Statement of Environmental Effects
SQMR	Stormwater Quality Modelling Report
SREP 20	State Regional Environmental Plan 20 – Hawkesbury Nepean River

TN	Total Nitrogen
TP	Total Phosphorus
TSP	Total Suspended Particles
TSC Act	Threatened Species Conservation Act 1995
TSS	Total Suspended Solids
WA (1912)	Water Act (NSW) 1912
WA (2000)	Water Act (NSW) 2000
VB	Vegetated buffer
WM Act	Water Management Act 2000
WMP	Water Management Plan
WM & ESCP	Water Management and Erosion and Sediment Control Plan
WSPs	Water Sharing Plans
WSPGMRGS	WSP's for the Greater Metropolitan Region Groundwater Sources (WSPGMRGS)
WSPGMRURWS	WSP's for the Greater Metropolitan Region Unregulated River Water Sources

1. INTRODUCTION

M Collins and Sons Holdings Pty Ltd (MCS) owns and operates the Spring Farm Quarry located at Lot 22 DP833317 at Spring Farm, in the Camden Local Government Area (LGA). Development consent (DA 75/256) for the extraction and processing of sand and soil was originally granted by the Minister for Planning in 1988 and the consent was modified in 1998 to extend the quarry's life. The quarry is a major source of products for the Sydney region and comprises part of the regionally significant resource identified in the Sydney Regional Environmental Plan No 9 (Extractive Industry). A number of modifications have since been approved, including:

- 22 May 2009: MCS was granted a further Section 96(2) Modification for the Continuation of Operations by the Department of Planning for extraction within an 8 hectare portion of the subject site and for the continued processing of extracted materials onsite. That approval was to allow operations to continue for a further 10 year period until 2019.
- 25 October 2012: MCS was granted a further modification under Section 75W of the Environmental Planning and Assessment Act (1979) (NSW) to extend sand and soil extraction activities onto an adjacent portion of land within Lot 32 DP 635271.
- 2 August 2018: MCS was granted a further modification under Section 75W of the Environmental Planning and Assessment Act (1979) NSW to extend current approved activities under Quarry consent (DA 75/256) Lot 22 (No. 186) DP 833317 and Part Lot 32 (No. 172) DP 635271. This Approval enabled the extension of Quarry life from 30 June 2019 to 30 June 2021.
- 23 April, 2021: MCS granted modification (Modification 5) which enables extension of the Quarry Life until June 2023.

Harvest Scientific Services (HSS) has been engaged by MCS to review and update the Water Management and Erosion and Sediment Control Plan (WM & ESCP) as required and follows the detailed report prepared earlier by HSS (Harvest Scientific Services, 2018).

2. RELEVANT LEGISLATION

The two key pieces of legislation for the management of water in NSW are the *Water Management Act 2000* and the *Water Act 1912*. Both of these pieces of legislations are administered in NSW by the NSW Department of Industries (DPIW).

3. SITE CHARACTERISTICS AND CONSTRAINTS

3.1. Site location

MCS owns and operate the Spring Farm sand and soil quarry located at Lot 22 (DP833317) and Lot 32 (DP653271) at Spring Farm, in the Camden Local Government Area (LGA). These operations are accessed via Macarthur Road, Spring Farm (see Figures 1 and 2). The proposed final landform and extraction and rehabilitation staging are depicted on Figures 3 and 4 respectively.

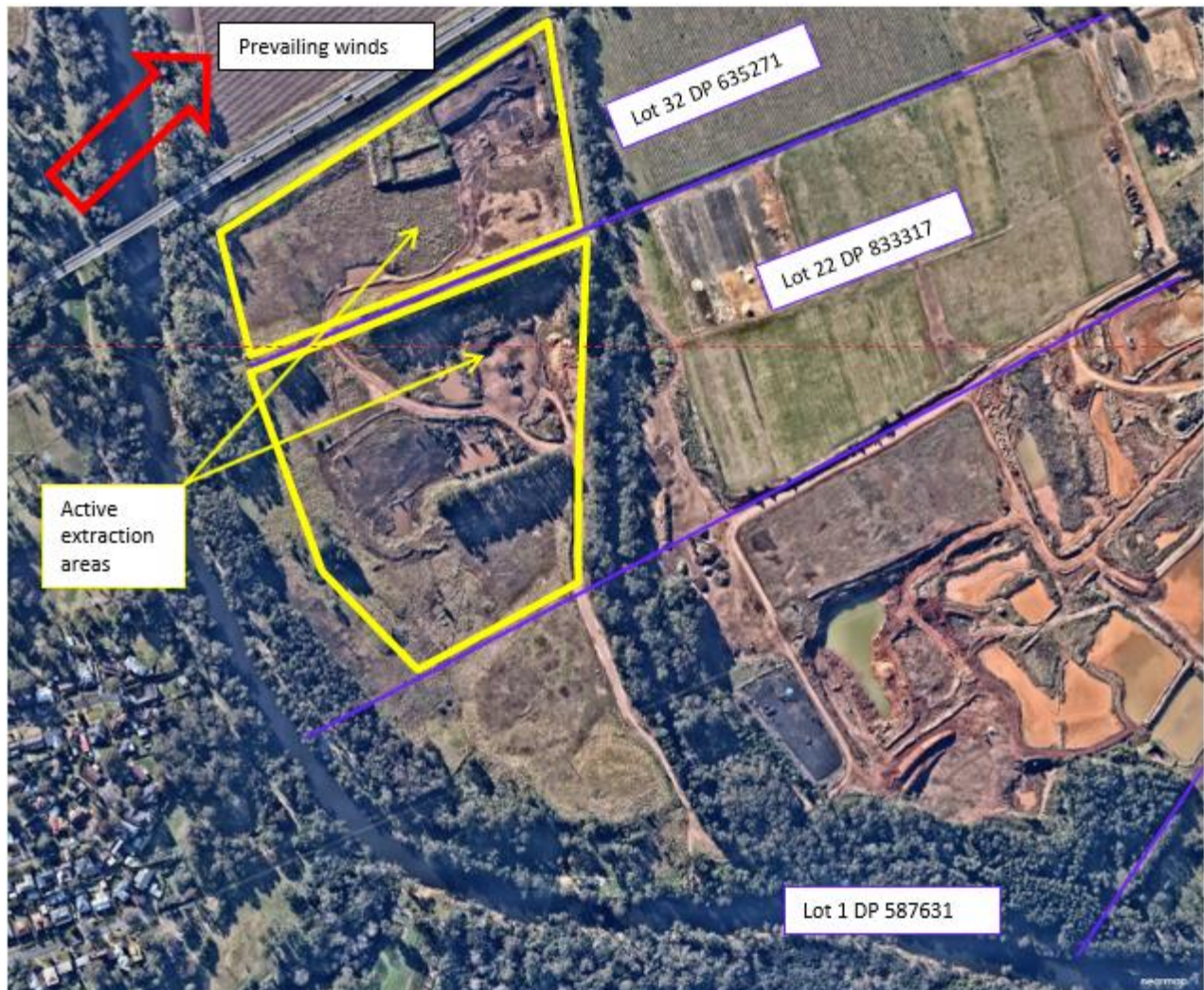


Figure 1. Location of Sand and Soil Extraction and Processing Operations - 2021

3.2. Drainage patterns

Surface water run-off within the extraction area predominantly drains to the west directly into the Nepean River. A minor portion of the subject land drains to the east toward a Dry River Anabranh, which in turn drains into the Nepean River.

3.3. Slope

The slope of the existing land surface within the major portion of the proposed extraction area is gently undulating and generally slopes within the range of 0 to 5 per cent.

Active extraction cells will have a slight slope on the quarry floor of approximately 1 to 2 per cent and working batters of approximately 30 per cent (i.e. 1V: 3H). Vegetation cover will vary subject to the stage of rehabilitation. Post extraction, the landform in all open paddock areas is to be relatively flat, with a gentle slope of 1 to 5 per cent draining generally toward the south-west.

Figure 2
Existing site layout

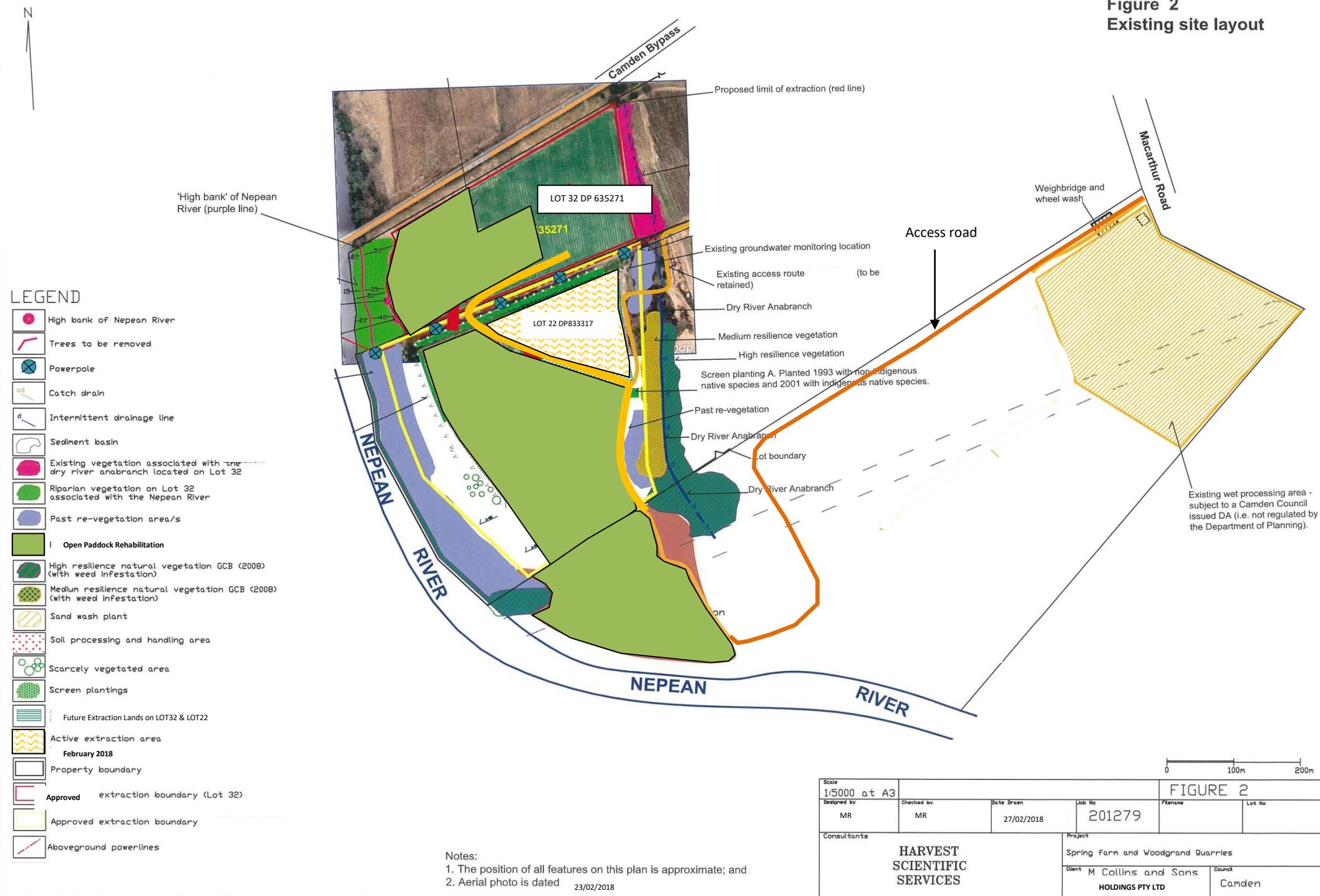


Figure 3
Final landform and
rehabilitation
management plan

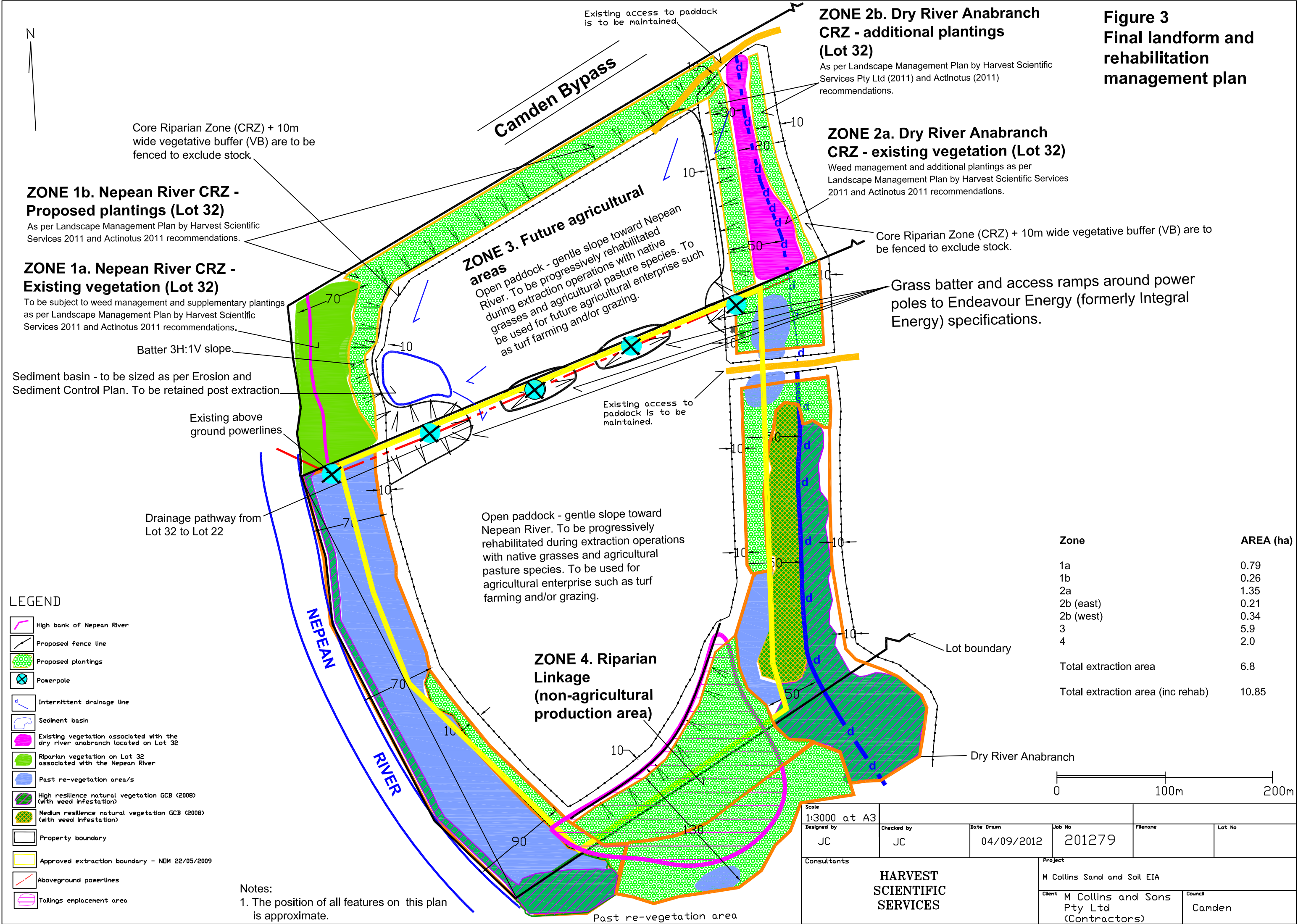


Figure 4: Extraction and Rehabilitation Staging Plan



3.4. Soil landscape group

Based on the 1:100,000 Soil Landscapes of the Wollongong to Port Hacking map sheet (Hazelton and Tille, 1990), the area where extraction is proposed belongs to the 'Theresa Park' Soil Landscape group.

Hazelton and Tille (1990) describe the Theresa Park Soil Landscape Group as a fluvial Soil Landscape Group occurring on floodplains with levees, meander scrolls and terraces with local relief up to 60m. Slopes are generally less than 5 per cent, except on edges of terraces where some slopes may exceed 10 per cent. Red earths and red podzolic soils occur on terraces and minimal prairie soils on current floodplain. Alluvial bedding is sometimes evident with alluvial soils. In drainage lines solodic soils occur. These soils are highly variable and include poorly structured orange to red silty loams, brown loams and sandy loams. Hazelton and Tille (1990) define the main limitations of the 'Theresa Park' Soil Landscape Group to include localised flooding, seasonal water-logging and very high soil erosion hazard for concentrated flows.

4. SITE WATER BALANCE

4.1. Water Sharing Plans

On 01 July 2011, the Water Sharing Plans (WSP's) for the Greater Metropolitan Region Groundwater Sources (WSPGMRGS) and the Greater Metropolitan Region Unregulated River Water Sources (WSPGMRURWS) commenced, giving effect to the licensing provisions of the Water Management Act 2000 (NSW) (Water Management Act NSW 2000) in the plan area.

The Spring Farm operations fall within Sydney Basin Central Groundwater Source, for the WSPGMRGS, and the Camden Weir Management Zone and Mid Nepean River Catchment Management Zone, for the WSPGMRURWS.

4.2. Maximum Harvestable Right Dam Capacity (MHRDC) and sedimentation terminal pond

Based on the Maximum Harvestable Right Dam Capacity (MHRDC) calculator located on the Department of Primary Industries Water website (NSW DPIW, 2011), the project site has a MHRDC of 0.075 ML/ha, which equates to 1.32 ML for the approximate 17.7 hectare lot size.

The terminal pond (Figure 3) is to be limited to the MHRDC size of 1.32 ML. As the terminal sedimentation pond is less than the MHRDC 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.

Water is to be pumped from the terminal sedimentation pond and used for dust suppression purposes during the life of the extraction proposal and irrigation purposes post-extraction.

4.3. Sources and security of water supply

An annual total of 390.3 ML will be available for site operations from sources including river water from the Nepean River, bore water and surface water from the proposed terminal sedimentation pond. A breakdown of the various water sources is outlined in **Table 1**.

Table 1: Summary of available water sources and volumes.

Source	WAL WMA 2000	WMA 2000 Approval	Available Volume (ML)	Notes
Nepean River	10AL117216	10WA117217	41	River pump
	10AL117214	10CA117215	230	River pump
Groundwater	10AL117186	10CA117187	20	Bore pump (Lot 22 DP 833317)
	10AL109570	10CA109571	98	Bore pump (Lot 1 DP 587631)
Onsite terminal sediment basin	Exempt.	Exempt.	1.3	Based on MHRDC
Total			390.3	

The total available volume of water from the Nepean River is 271 ML per annum which is to be sourced from two existing licences under the Water Act 2000 (NSW) (WA, 2000). The Water Access Licences (WAL's) are administered by the NSW Department of Primary Industries Water (DPIW) under the Water Management Act NSW 2000 (WMA).

The total available volume of water from groundwater sources is 118 ML per annum which is to be sourced from two existing licences under the Water Act 2000 (NSW) (WA, 2000). The Water Access Licences (WAL's) are administered by the NSW Department of Primary Industries Water (DPIW) under the WMA (2000).

Approximately 1.3ML of surface water from the proposed onsite terminal sedimentation pond will also be available to supplement site water needs. As this volume is less than the Maximum Harvestable Right (MHR) for the site, a Water Access Licence is not required to utilise this water.

4.4. Site water use

MCS Pty Ltd currently utilise an annual total of 271 ML and a breakdown of the various water uses is outlined in **Table 2**. Industrial extraction uses include the water required by the sand wash-plant and for dust suppression purposes. Environmental uses include water utilised for establishment of re-vegetated areas. Agricultural use water was formerly utilised by turf farming operations which has been discontinued and replaced by agricultural activities.

Table 2. Summary of 2019 water uses and volumes.

Aspect	Available Volume (ML/annum)
Industrial (extraction) usage	139
Environmental and rehabilitation usage	16
Agriculture	116
Total	271

The annual average usage is not anticipated to change as part of the extraction as the scale of the overall operation is not proposed to change. Water currently utilised on the existing MCS site for a specific purpose (such as rehabilitation establishment) will be diverted to the adjacent site when it is no longer needed (such as when rehabilitation works are complete).

Given that a total of 390.3 ML per annum of water is available (**Table 1**) and the annual requirement is 271 ML (**Table 2**), ample water sources are therefore available for the proposed operations.

4.5. Water management, storage and access

Water is pumped directly from the Nepean River with two centrifugal pumps directly to the relevant area for use. Water from groundwater bores will be pumped directly to the relevant area for use via a standard bore pump that is to be installed on each bore.

Water may also be pumped from sediment basins with a fire-fighter pump and recycled onsite site on an as needed basis, such as for dust suppression purposes. Typically water is transported in a water cart but may be pumped locally via sprinklers.

4.6. Offsite water transfers.

The offsite water transfers are by evaporation, groundwater seepage, water loss in silt, river discharges. Annual site water balance (including location and capacity of water storage on site, pumped water consumption from the Nepean River, rainfall and evaporation, water usage, surface water) using analytical and numerical calculations, is recorded and reported within the AEMR to reflect annual operational change and off site water transfers. Water May only be discharged in accordance with the EPL.

4.7. Reporting procedures.

Water use records for water pumped from the Nepean River and groundwater are maintained onsite and are made available to the NSW Department of Industries, as requested, as per the water licence conditions.

4.8. Measures to minimise water use by the development

Water use is to be minimised by the following measures:

- Avoid over-application of water;
- Monitoring of the application of water to minimise run-off;
- Minimise the area of exposed surfaces; and
- Apply water on an as-needed basis.

4.9. Conclusion

With regard to site water balance it is concluded that:

- Ample water is available the proposed operations
- Provision of the water for this facility is consistent with the objectives of the Water Management Act (2000).

5. GROUNDWATER ASSESSMENT AND MANAGEMENT

5.1. Literature review

5.1.1. Regional groundwater regime

Past studies identified two distinct groundwater settings in the local area, which may be described as follows:

- Groundwater within unconsolidated Quaternary deposits of the Nepean River flood plain; and
- Groundwater within Wianamatta Group shales.

Shales were identified to have a low intrinsic permeability and groundwater flow is likely to be dominated by fractured flow. Given that only quaternary sediments are proposed to be extracted as part of the extraction proposal, the deeper shale groundwater regime will not be impacted upon by the extraction proposal.

5.1.2. Nearby groundwater bores

Based on a review of records held by the NSW DPIW, the location of the nearby groundwater bores is presented on Figure 5. Details of each bore is summarised in Table 3.

Bores GW110586 and GW110587 are the closest bores to the extraction area and both are under the control of MCS. The standing water level in GW110587 is at 10.9 metres below ground level and will not be impacted upon by the extraction activities.

GW110586 is located in alluvial sediments approximately 1 kilometre away from the extraction area and is located sufficiently far away to not be impacted upon by the extraction proposal.

Table 3. Summary of nearby groundwater bores

Groundwater ID	Authorised purpose	Property	Standing water level (m)	Water bearing zones (m)
GW110586	Industrial – Sand and gravel, Irrigation	M Collins and Sons (Holdings) Pty Ltd	4.13	4.13 - 20.0
GW110587	Industrial – Sand and gravel, Irrigation	Spring Farm	10.90	10.90 - 24.0
GW026239	Irrigation	N/A	-	14.6 - 22.80
GW026523	Irrigation	N/A	-	17.3 - 21.20
GW108624	Domestic	Moushigian	22.0	120 - 120.25
GW026533	Irrigation / stock	N/A	-	17.3 - 21.20
GW100329	Domestic stock	Clinton	-	9.0 - 10.0 29.0 - 31.0
GW106446	Domestic	Neich	21	109 - 109.15 132 - 132.25

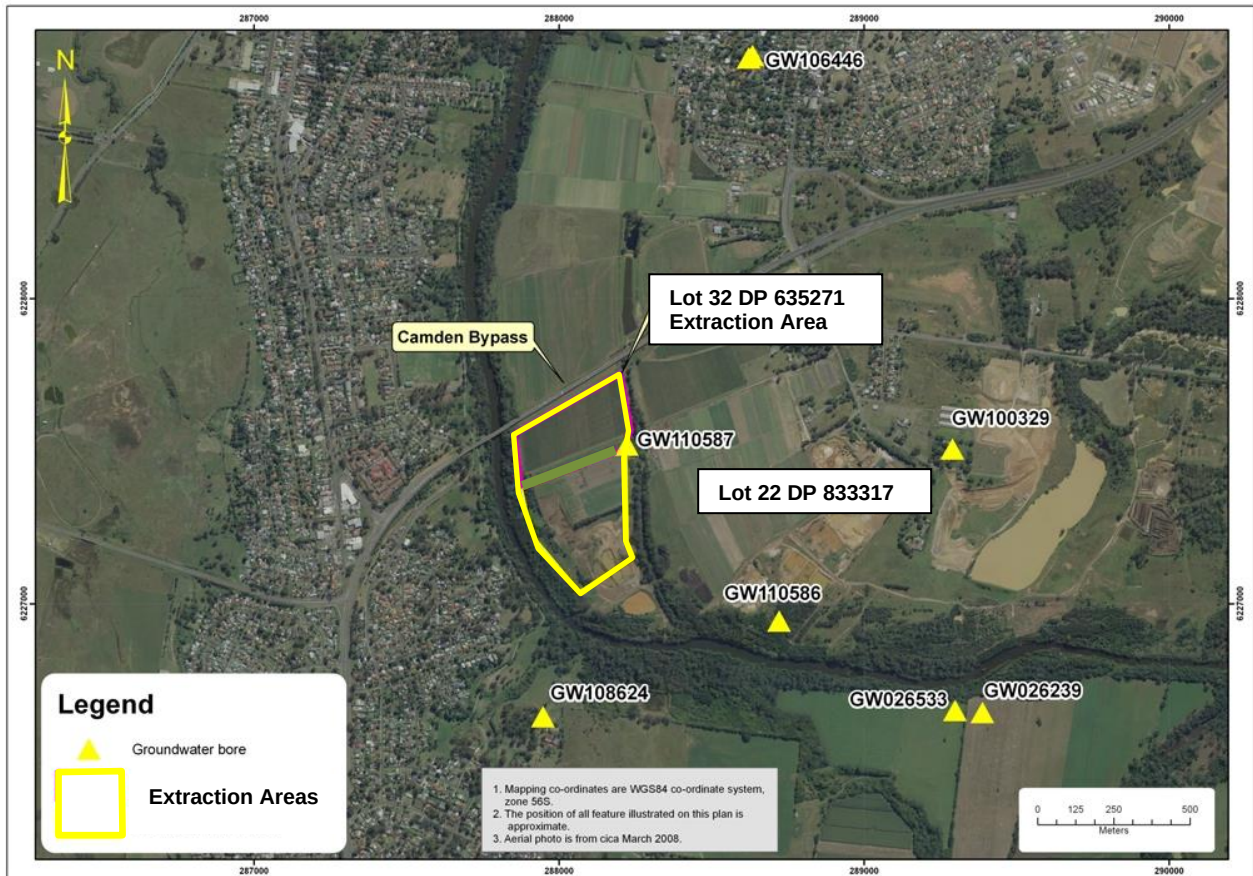


Figure 5. Nearby groundwater bores. (NSW DPIW - 2012)

5.1.3. Review of local groundwater regime and monitoring

Previous assessments of groundwater conditions of the site found the following:

- Boreholes within the proposed extraction pit but close to the Nepean River penetrated to a depth of up to 18 metres and at this depth fine to medium grained silty sand was present. These results suggest that close to the Nepean River, Quaternary deposits occur at a depth at least equal to the present river bed levels.
- Water is held in the Anabanch by low permeability underlying clays. As a result of the clays, shallow groundwater (~6 to 7 metres below ground level at the time of that assessment) occurs in the near vicinity to the Anabanch. Seepage losses through the clays associated with the Anabanch is likely to be very low, and it is probable that the major mechanism for water loss from the Anabanch is evaporation.
- The localised water table associated with the Anabanch falls away sharply to the west of the Anabanch (i.e. toward the Nepean River) and did not influence the area containing sands and silty clays where extraction was proposed and is now currently in progress.
- In the area where extraction was proposed (i.e. the sands and silty clays in the area between the Anabanch and the Nepean River), the watertable is likely to be a reflection of the river level. This is due to the likely connectivity of the Quaternary deposits with the present day river bed levels.

- In 2011, a further groundwater assessment was conducted by HSS and consisted of the following:
 - Testing pitting at 6 locations within the investigation area.
 - Installation of 3 paired piezometers (against those by SMEC 2011) to a total depth of 9.5 meters along the northern boundary of the proposed extraction area. These piezometers are depicted as Location 1 (BH1 and BH2), Location 2 (BH3 and BH4) and Location 3 (BH5 and BH6) on Figure 6.
 - A visual inspection of the existing operational quarry pit on Lot 22 DP 833317; and
 - Interpretation of the field observations in the context of the existing literature relevant to the local groundwater and geological regime.

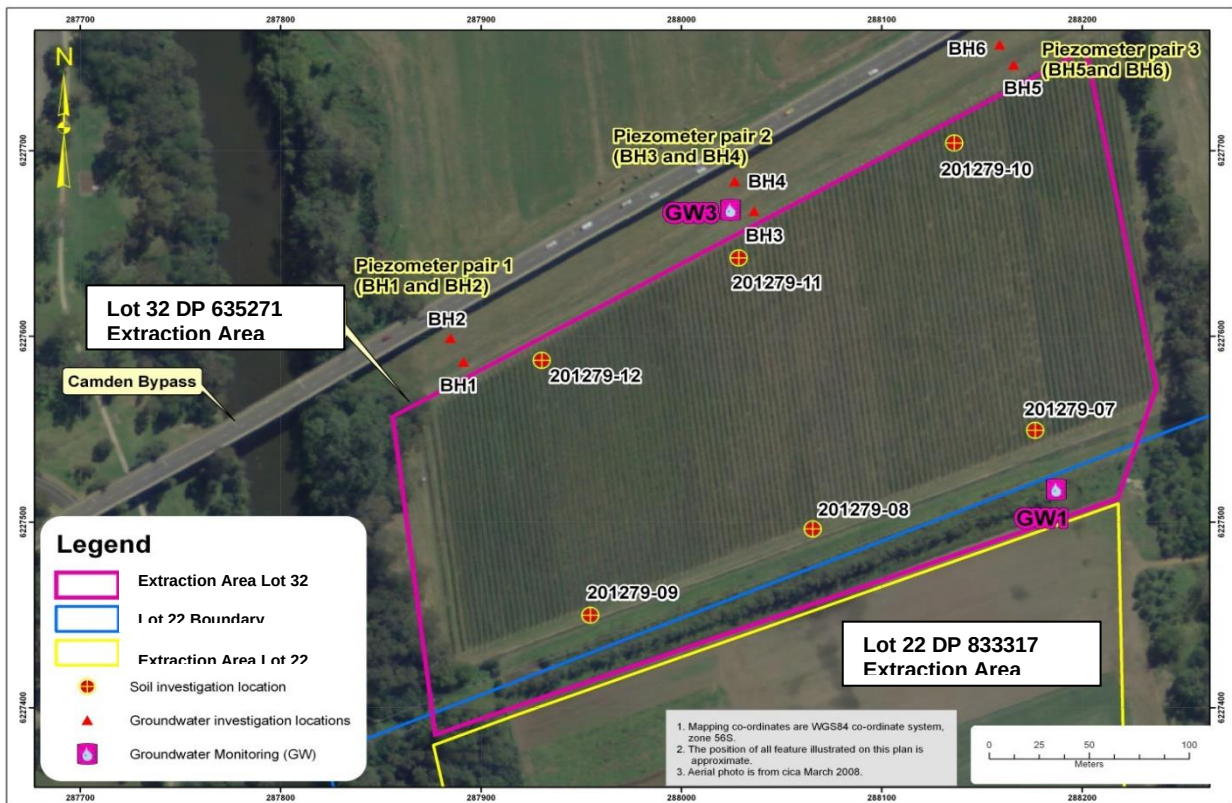


Figure 6. Groundwater investigation locations

5.1.4. Results

This assessment found the following:

- Groundwater was not identified within any of the 6 soil test-pits that were excavated to approximately 5.5 to 6 metres below ground level (See soil profiles in Appendix 1). Some moisture was noted at location 201279-10 but this moisture was not free flowing or seepage.
- Groundwater depth within the 3 paired piezometers is summarised in Table 4. Measurements recorded on 23 November 2011 were after an extended period of heavy rain and no irrigation in the adjacent Lucerne paddock. At location 1 (BH1, BH2) and BH6 groundwater was greater than 9.1 metres. At locations BH3 and BH4 groundwater was at approximately 9 metres below ground level during both measurements. Groundwater levels within BH5 were at 6.7metres on 18 November 2011 and had dropped to 6.9 metres on 23 November 2011, indicating that the groundwater was draining away. The second reading on the 23 November also followed an extended period of heavy rain. The observation of groundwater draining away is inconsistent with the typical process of groundwater recharge from rain. It is also inconsistent with the observed groundwater depth in the adjacent piezometer at location BH5 being greater than 9.1m below ground level. It is considered that the likely source of the groundwater in BH6 is a leaking pipe within the Lucerne paddock and the observed drop in groundwater levels is a direct result of the irrigation pump being turned off during the extended period of heavy rain and is not a result of a natural process.

Table 4: Summary of groundwater depth at locations BH1 to BH6.

Location	Piezometer	Depth to groundwater (m)	
		18/11/2011	23/11/2011
1	BH1	>9.1	>9.1
	BH2	>9.1	>9.1
2	BH3	>9.1	~8.9
	BH4	~8.9	~8.9
3	BH5	~6.7	~6.9
	BH6	>9.1	>9.1

Visual observations in the quarry pit

- No seepage was observed within the walls of the quarry pit.
- No significant seepage has been encountered within the walls of the adjacent quarry pit during extraction operations to-date.
- The quarry floor is firm and vehicles are able to move freely within the quarry floor.

5.1.5. Continuous groundwater monitoring

Groundwater has been monitored continuously at an existing groundwater monitoring bore (GW 1 - Figure 5) on a monthly basis by HSC since March 2009. The groundwater bore is located immediately to the west of the Anabran and on the southern border of the extraction area. Long term and short term groundwater monitoring results are summarised in Tables 5 and 6 respectively and illustrated graphically in Figures 7 and 8.

Table 5. Summary of Long Term (May 2009 – May 2021) groundwater monitoring data

Parameter	Depth to water table1 (m)	EC1 (uS/cm)	pH (4.0 – 6.5) Moderately Acidic	Salinity category#
Minimum	10.4	221	4.22	Medium salinity (280-800 uS/cm)
Maximum	11.90	952	7.48	
Average	11.33	503	5.15	

Table 6. Summary of Short Term (June 2020 – May 2021) groundwater monitoring data

Parameter	Depth to water table1 (m)	EC1 (uS/cm)	pH (4.0 – 6.5) Moderately Acidic	Salinity category###
Minimum	10.30	243	5.41	Low salinity (0 - 280 uS/cm)
Maximum	11.50	293	6.79	
Average	11.20	273	5.90	

Notes:

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).

Low-salinity water can be used with most crops on most soils and with all methods of water application with little likelihood that a salinity problem will develop. Some leaching is required, but this occurs under normal irrigation practices except in soils of extremely low permeability

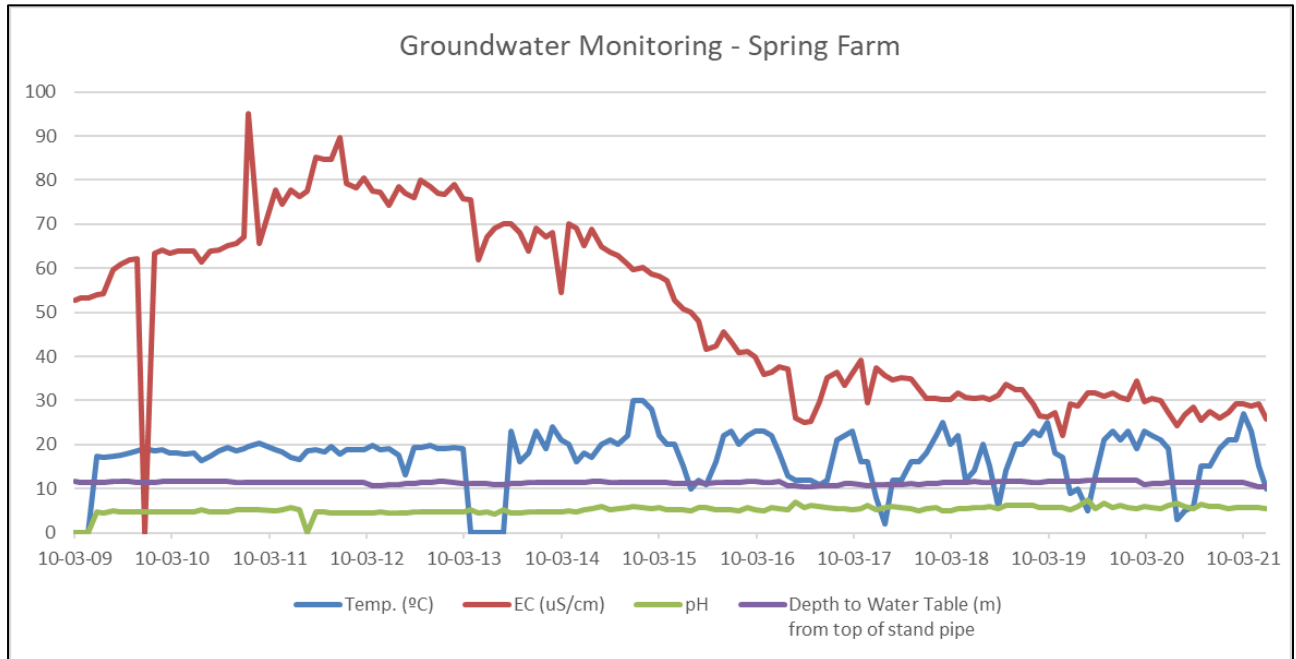


Figure 7: Graph of long term groundwater monitoring data

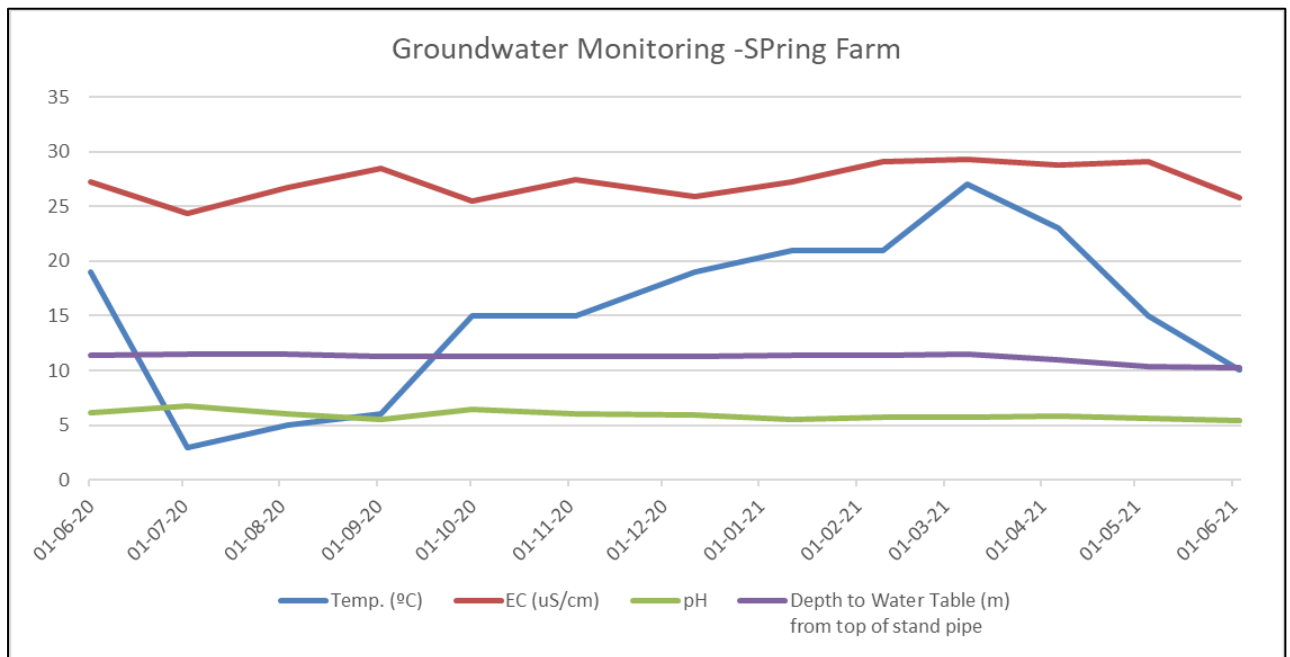


Figure 8: Graph of short term groundwater monitoring data

5.1.6. Summary of findings

Groundwater levels are found to be approximately 4 to 6 metres below the proposed final landform and are therefore not considered to pose a constraint to the extraction proposal. It is noted that during the reporting period, the depth to groundwater decreased marginally. Overall, the projected buffer distance to groundwater is considered to be adequate for the protection of ground water.

It is therefore considered that:

- The extraction proposal will not have an adverse impact on the local groundwater regime;
- Licensing/approval from the NSW Department of Planning, Industry and Environment (DPIE) is not required for the draining of groundwater as it is not anticipated that groundwater will be drained as part of the extraction proposal; and
- The extraction proposal is consistent with the objectives of the Water Management Act (2000).

In addition, it is noted that the groundwater during the reporting period indicated the following additional results:

- *Non-saline* and is well below the nominated target of < 800uS/cm;
- *Moderately acid* and falling broadly within the nominated pH range of 4 – 6.50;

5.1.7. Management Commitments

MCS has committed to the following actions with regard to groundwater controls. These are outlined as follows:

- **Maintenance of 1m vertical buffer distance.** During active extraction, a buffer distance of 1 metre is 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.
If, during active extraction, the permanent groundwater is inadvertently intercepted (as indicated by free flowing groundwater), the quarry floor is back-filled to provide a 1 metre buffer between the operational surface and groundwater.
In the unlikely event that the permanent groundwater is inadvertently intercepted or trigger levels are exceeded, the EMR will contact DPI Water and advise accordingly.
- **Monitoring.** Inspection of extraction holes in association with monthly site inspections are conducted to monitor and report for seepages/inflows within the quarry pit. Groundwater depth and salinity levels continue to be monitored as per the protocol outlined in Table 7 of this report.

Table 7: Summary of groundwater monitoring protocol.

Aspect (Location)	Parameters measured	Method	Frequency
Groundwater (GW 1 – Figure 6)	Electrical conductivity Groundwater level (cm) below ground level (bgl). pH range of acids	Laboratory assessment	Monthly
Quarry pit floor	Water Seepage / Inflow Volume, flow seepage rate, source	Visual inspection Investigate water inflow source and irrigation main lines Investigate water main lines on adjoining property	Daily Daily, Report Monthly

The existing Water Licence for location GW1 permits both environmental monitoring and pumping for irrigation and industrial purposes (Appendix 1). If in the event that GW1 (Figure 6) is to be utilised for irrigation purposes and industrial purposes and a bore pump is installed, groundwater monitoring should be transferred to a location as indicated by GW3. A permit issued by DPIW will be required for this purpose. Trigger values to be used for further investigation groundwater monitoring results are outlined in Table 7.

Table 8: Trigger values for further investigation

Location	EC (uS/cm)	pH	Depth to water table (m)
Groundwater bore	> 800 uS/cm	<4.0 – >6.5	Depth < 5.83 Depth > 15.93

Notes:

- Trigger values for EC represents a change in the salinity class from 'Medium Salinity' to 'High Salinity', as defined by the Australian Water Quality Guidelines for Fresh and Marine Waters;
- Trigger values for depth to groundwater represent a nominal 5m variation; and
- It is noted that if the trigger values are achieved, then causal factors will be investigated, it does not necessarily mean that the quarry operation has had a negative impact as the variation may be a natural occurrence or caused by other factors.
- Trigger values for pH represents a change from acidic to neutral to basic.
- Investigations will be implemented for all exceedance outside of the trigger ranges of potential adverse groundwater impacts including;
 - Review of existing results for possible factors or gradual changes,
 - Review of site practices and weather conditions for possible impact,
 - Request results from neighbouring local Nepean River bore and conduct tests from additional site bore GW3 (Figure 6) Bore Pump Lot 1 (GW 110586 –Figure 5),
 - Additional external monitoring frequency,
 - Ongoing monitoring as per management plan for pattern,
 - External consultants engaged if required,
 - Review of existing trigger values and management plan if required.

6. EROSION AND SEDIMENT CONTROL PLAN (ESCP)

6.1. Erosion and sediment control guidelines

This ESCP has also been prepared with reference to the following documents:

- Managing Urban Stormwater, Soils and Construction (the 'Blue Book'), 4th Edition. NSW Department of Housing 2004 (Landcom); and
- Managing Urban Stormwater, Soils and Construction, Volume 2E Mines and quarries. Department of Environment and Climate Change (DECC) 2008.

6.2. Objectives of this ESCP

The principle objectives of the ESCP are set out below.

- To minimise erosion and sedimentation from all active and rehabilitated areas, thereby minimising sediment ingress into surrounding surface waters;
- To ensure the segregation of 'dirty' water from 'clean' water, and maximise the retention time of 'dirty' water such that any discharge from the project site meets the relevant water-quality limits, including limits contained in relevant guidelines and any limits imposed by specific project approvals. 'Dirty' water is defined as surface runoff from disturbed catchments (e.g. active areas of disturbance, sand and soil stockpiles and rehabilitated areas (until stabilised)). 'Clean' water is defined as surface runoff from catchments that are undisturbed or relatively undisturbed by project-related activities and rehabilitated catchments;
- To minimise the volume of water discharged from the project site, however, should the discharge of water prove necessary, ensure sufficient settlement time is provided prior to discharge such that suspended sediment within the water meets the objectives of this ESCP;
- To ensure sustainable long-term surface water features are established following rehabilitation of the site, including implementation of an effective revegetation and maintenance program; and
- To monitor the effectiveness of surface water and sediment controls and to ensure all relevant surface-water quality criteria are met.

The principle design aspect of the project is the prevention of 'clean' water in surface water sheet flows entering the active disturbance area. This will be achieved through the use of perimeter bunding (earth mounds), as well as the containment of 'dirty' water in sediment control structures within the active areas of the project to minimise any uncontrolled runoff.

6.3. Potential sources of contaminated surface waters ('dirty water') during extraction

Sources of potentially contaminated water ('dirty water') are summarised in **Table 8** and the location of these features is depicted on **Figures 2, 3 and 4**. These potential contaminant sources are managed by the 'Erosion and Sediment Controls (ECPs) outlined in this ESCP.

Table 9: Summary of potential contaminant sources.

Source	Comments
1. Active extraction pit	Potential soil erosion and sediment losses during rain events. Assumed maximum exposed area = 5 hectare
2. Rehabilitation area/s	Potential soil erosion and sediment losses during rain events until rehabilitated.
3. Internal haul road/s	Potential sediment losses during rain events.
4. Tailings emplacement area.	Potential sediment losses during rain events until rehabilitated.
5. River bank	Potential Soil erosion during flooding and rain events.
6. Water Supply line breakage	Potential soil erosion and generation of sediment

6.4. Erosion and sediment controls – operational safeguards

The Erosion and Sediment Controls (ESCs) implemented onsite are summarised in the following sections of this report. The location of these ESC's are depicted on Figure 3.

6.4.1. ESC 1 - Perimeter bund – all extraction cells

A 'Perimeter Bund' is constructed around the active extraction cell and tailings emplacement areas, thus forming an enclosed internal catchment around these disturbed areas. These bunds are dual purpose in that they will divert clean surface run-off waters around the active extraction pits and act as a catch drain to prevent the loss of surface waters without treatment.

Construction of the perimeter bund is formed as the first activity to occur on the extraction cell and or tailings emplacement areas, and prior to any extraction or tailings emplacement taking place. The bund is constructed from topsoil stripped from the subject extraction cell.

The topsoil perimeter bund have a minimum height of 1m and base width of 4m with batter slope grades of 2H:1V. Stripped topsoil includes existing grass runners which will quickly stabilise the bund. Additional seeding with a mix of sterile grasses such as 'Wimmera Rye' and 'Japanese Millet' is to be undertaken if deemed necessary by the EMR.

6.4.2. ESC 2 - Sediment basins

Dirty surface waters from each active extraction cell and areas actively undergoing rehabilitation will be treated by a localised sediment basin. Each sediment basin is to have a volume of 588 cubic meters (500m³ sedimentation volume + 88 m³ storage volume – Table 9) for each hectare of up-slope surface water collected.

The basis for sizing sediment basins are based on the methodology outlined in Sections 14 & 15 of the guidelines entitled 'Managing Urban Stormwater, Soils and Construction' (the 'Blue Book'), 3rd Edition as produced by the NSW Department of Housing.

Table 10: Site soil constraints and values

Constraint and/or Characteristic	Value and/or rating for sediment basin calculations
Area disturbed	1ha
Rainfall erosivity value	2500
Soil erodibility factor	0.039
Slope gradient (%)	Maximum of 30
Calculated soil loss (tonnes/ha/yr)	674.31
Soil Texture Group	Type F
Soil Hydrologic Group	Group D
Runoff coefficient (Cv)	0.69 (as required by the NSW EPA)
Site Area (ha)	Per 1 hectare disturbed
R (90 th ile 5-day rainfall event (mm))	48.7

Based upon the above calculations the minimum required sediment basin size is **500m³** for each 1 ha of disturbed land. The sediment basin is to have a minimum sediment storage volume of **88m³** per hectare of disturbed land – see Table 10.

Table 11: Summary of sediment basin properties

Site component	Minimum sediment basin volume (m ³) per ha of disturbed land (inc. sediment storage).	Minimum sediment storage volume (m ³)	Comments
Active extraction area (1 ha)	500	88	To be constructed in accordance with Appendix 4 . Overflow from sediment basin is to be discharged to the ground surface via a level spreader.
Areas subject to rehabilitation.	500	88	To be constructed in accordance with Appendix 4 . Overflow from sediment basin is to be discharged to the ground surface via a level spreader.
Tailings emplacement area	500	88	Existing sediment basin is to be utilized. To be constructed in accordance with Appendix 4 . Overflow from sediment basin is to be discharged to the ground surface via a level spreader.

Sediment basins are to be managed subject to the following controls:

- Flocculants may be added if deemed necessary by the EMR and on an as-needed basis.
- Each basin is to be constructed as per the blue book.
- Basins are to be maintained so that the minimum required storage volume is achieved within 5 days of a storm event. This may be achieved by either over-sizing the basins and re-use of water onsite for irrigation and dust suppression measures.
- Sediment is to be removed as necessary to ensure that the minimum sediment storage volume is achieved at all times.

6.4.3. ESC 3 – Sedimentation terminal pond

All surface water from the development site is to be collected via a sedimentation terminal pond. The volume of the sedimentation pond is to be at least 1,300m³. The terminal pond is to be located at the location depicted on Figure 3 and is to be retained at the completion of works as a long-term water quality management structure. Water from the sedimentation terminal pond is to be discharged via a 5 metre wide grassed swale.

The sedimentation terminal pond is to be managed subject to the following controls:

- Flocculants may be added if deemed necessary by the EMR and on an as-needed basis.
- The terminal pond is to be constructed as per the blue book.
- The terminal pond to be maintained so that the minimum required storage volume is achieved within 5 days of a storm event. This may be achieved by either over-sizing the pond or re-use of water onsite for irrigation and dust suppression measures.
- Sediment is to be removed as necessary to ensure that the minimum sediment storage volume is achieved at all times.

6.4.4. ESC 4 – Grassed swales

All surface water from the development site is to be collected via a grass swale that drains direction into sedimentation terminal pond (**ESC 3**).

Discharge waters from **ESC 3** sedimentation terminal pond are to be discharged via a grass swale and directed around the embankment that is to host the existing electricity poles.

6.4.5. ESC 5 – Sequence of works

Extraction is to be subject to the following controls:

- Before any work commences ensure plans are on hand and all equipment and materials likely to be required are available for use;
- Install sediment fencing where there is a risk of soil loss;
- Construct **ESC 3 Sedimentation Terminal Pond** at the first stage of construction. As extraction progresses, divert all surface water from the entire extraction area to ESC 3 via constructed grassed swales (ESC 4).
- Construct sediment basins for the subject cell and perimeter bunds for the subject cell prior to extraction of the cell. Divert internal runoff to the sediment basin via construction of earth bunds;
- Ensure slopes of embankments (batters) are stable to prevent collapse of banks during operations; and
- Areas containing planted vegetation and grasses (such as bunds) are to be watered regularly and monitored until an effective cover has been properly established.

6.4.6. ESC 6 - Other specific measures to be adopted for the extraction operation

Details of the various controls required are outlined below.

- Design capacity of basins will not be compromised by storage of any operational water on Lot 22 and Lot 32
- Sediment fencing will be installed at locations down-slope of disturbed areas where there is a risk of sediment losses;
- Install straw bale filters in areas of concentrated flows (i.e. within grassed swales).
- Access for contractor vehicles and equipment during construction of basins and bunds is to be restricted to a defined path;
- Vehicles will exit the site via a wheel wash; and
- Grass Filter strips (preferably at least 5 metres wide) of retained vegetation are to be maintained where possible on the down-slope side sediment basins, bund construction activities and roads.

6.4.7. ESC 7 - Site monitoring and maintenance

The Environmental Management Representative (EMR) or nominated person is expected to inspect the site each work day, paying particular attention to:

- Ensuring that bunds and basins are operating effectively (i.e. no breaching), and carry out any necessary repairs;
- Removal of trapped sediment from sediment basins, sediment fences, bunds and other structures. Remove sediment from basins when their capacity is reduced by 30% and spread this sediment over rehabilitating areas (upslope of basin). Flocculant can be used on basins if required, apply gypsum evenly over water surface at a rate of 0.32kg/cubic metre of water; and
- Any remedial works carried out on sedimentation control structures and any diminished sediment retention basin capacity will be noted by the EMR in the site diary.

6.5. Erosion and sediment control conclusion

Providing that the recommendations outlined in this ESCP are implemented, it is concluded that potential surface water impacts associated with this extraction proposal are consistent with the objectives of the Water Management Act (2000) (NSW).

7. FLOOD EMERGENCY PROCEDURES PLAN

The subject site and stockpiling areas are subject to the procedures outlined in this section for a major flood event and will be implemented for floods above the 1% AEP flood event up to the Probable Maximum Flood (PMF). The trigger for a major flood event will either a flood warning for the local area published on the Bureau of Meteorology Webpage, a flood warning on the local radio or a flood warning issued by Camden Council or the local Emergency Services. A precautionary approach is adopted such as conducting Emergency drills and monitoring the Menangle river gauge and visually for river flow during predicted rain periods.

In the event of a flood warning the flood procedures will be as follows:

- Monitor Menangle river gauge;
- Continually monitor for river flow and levels visually;
- Cease all extraction and processing operations (both the site and adjacent stockpiling & blending site);
- Isolate all relevant electricity supply;
- Check bore cap is sealed to prevent water entry;
- Ensure all tools are available for equipment relocation (loaders, tow slings, etc);
- Be aware of time available to evacuate before flood waters cut off access areas;
- Relocate portable fuels, oils to eliminate pollution incident;
- Gather all loose items and conduct housekeeping;
- Disconnect pump suction and discharge lines to eliminate being washed away;
- Re-locate all portable machinery (including electric pumps, heavy and light equipment and machinery) to above the PMF level ;
- Providing that there is sufficient time to do so and it is safe, manually drain all oils and fuels from any non-mobile equipment remaining within portions of the site affected by flood; and
- Continually monitor flood levels and warnings for higher than expected levels of flooding.

In order to limit the potential scour and erosion during flood events, all topsoil stockpiles and earthen bunds, which are to be in place for any period longer than three (3) months, are orientated parallel to potential flood flows and are promptly and effectively spray seed hydromulched with an appropriate fast growth native grass mix.

After a flood event the following procedures will occur:

- Continue to monitor Menangle river gauge;
- Continue to monitor for river flow and levels visually;
- EMR is to check the integrity of all erosion and sediment control devices and ensure that any repairs are undertaken as soon as practical;
- EMR is to check the integrity of roadways, fences, bores and ensure repairs are undertaken as soon as practical;
- Conduct general housekeeping to ensure any debris or rubbish washed onto site is removed;
- As soon as practical drain water from any permanent equipment affected by flood waters and then service equipment, as appropriate;
- Ensure equipment affected by flood water is fit for purpose prior to reinstallation and use; and
- Before commencement of operations;
 - Wait for flood waters to seep away from the extraction pits and processing areas; and
 - Remove sediment from sediment basins to ensure that the minimum required storage capacity is available.
- Repair and reinstate all previous flood mitigation programs and procedures.

To ensure that the above protocols are adhered to, the Company has formalised its practices and actions by the detailing of specific Risk Assessments and Safe Work Method Statements. A flood Evacuation Response Plan together with the most recent PRIMP Training Attendance Record is attached as Appendix 2. Safe Work Method Statements for a range of activities are attached as Appendix 3.

8. REPORTING AND AUDITING

In Accordance with Consent conditions and compliance with MCS Post Approval Reporting and Auditable Items Table 9 (Appendix 4) MCS and its EMR holds responsibility for reporting on incidents and non-compliances to the Department and all relevant agencies. Recent agency correspondence is attached as Appendix 5.

MCS will ensure that every three years, and before 31st March 2022 an Independent Environment Audit is undertaken by an approval auditor in accordance with Consent requirements.

MCS and its EMRs review the MP every year to ensure its relevance and reporting requirements are met.

9. LIMITATIONS TO THIS REPORT

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

- 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 an impact on the site. The client agrees that such events are possible but nevertheless accepts the risk that they pose;
- 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;
- In preparing this report, Harvest Scientific Services has relied upon certain verbal information and documentation provided by the client and/or third parties. Harvest Scientific Services 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 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; and
- This report is not to be relied upon for any purpose other than that defined in it.

Prepared by:



Mart Rampe BSc (Applied Geology)
Principal Consultant
25th October 2021

10. REFERENCES

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Appendix 1: Groundwater Licence Allocation

Application to Assign Groundwater Allocation

Application for Minister's consent under sections 71T and 71V of the *Water Management Act 2000*

Details of fees payable and lodgement procedures are provided overleaf, further details can also be found at www.waternsw.com.au. Applicant(s) should refer to these notes prior to submitting an application. All parties acknowledge that the application will be managed in accordance with these procedures.

WARNING PENALTIES APPLY FOR FALSE DECLARATIONS

Part 1 Trade Information (Volume / Sale Price)																		
Volume / AWD (one decimal point only)		0	0	0	1	0	.	0	ML	\$	0	3	5	0	.	0	0	Sale price (per ML - mandatory)

Part 2 Seller(s) Information													
Seller(s) licence number	2	4	3	3	6						eg 50AL503000	Seller(s) reference	10AL109570

I/we confirm that the information provided for the purpose of this application is true and accurate and that there is sufficient water available in this licence's water allocation account to proceed with the application.

- ☐ I am/we are holder(s) of this Water Access Licence; or
- ☐ I am/we are authorised to make this application on behalf of the holder(s) of this licence; or
- ☒ I am/we are authorised to make this application on behalf of the Corporation holding this licence; or
- ☐ All holders of this licence have consented to this dealing (to include additional signatures attach Annexure 1).

Print name(s) of the holder(s) of the Access Licence and the name(s) of the person(s) signing and insert date below:

Applicants Name	Licence Holder(s) Name (if different)	Signature of Applicant(s)	Date
MATTHEW COLLINS	M COLLINS & SONS HOLDINGS PTY LTD		28/10/2019
Contact Phone Number	Contact Fax Number	Contact Email Address	
0412 265 107		MATT@MCOLLINS.COM.AU	

Part 3 Seller(s) Agent, if applicable		
Name	Email Address	Phone Number

Part 4 Buyer(s) Information													
Buyer(s) licence number											eg 50AL503000	Buyer(s) reference	

I / we confirm that the information provided for the purpose of this application is true and accurate.

- ☒ I am/we are holder(s) of this Water Access Licence; or
- ☐ I am/we are authorised to make this application on behalf of the holder(s) of this licence.

Print name(s) of the holder(s) of the Access Licence and the name(s) of the person(s) signing and insert date below:

Applicants Name	Licence Holder(s) Name (if different)	Signature	Date
PRADEEP KUMAR, PROJECT MANAGER	SYDNEY WATER		28/10/2019
Contact Phone Number	Contact Fax Number	Contact Email Address	
0407 088 598		PRADEEP.KUMAR@SYDNEYWATER.COM.AU	

Part 5 Buyer(s) Agent, if applicable		
Name	Email Address	Phone Number

Office Use Only			
Received	Receipt No.	Entered	Approved / Refused
Notes:			

Part 6 Payment Options

Applications including the appropriate application fee may be paid by credit card, cheque or money order (made payable to WaterNSW).

To pay your application fee by credit card please go to www.payway.com.au and make your payment using biller code 228627.

For any issues, please call our customer helpdesk on 1300 662 077 and choose option 2 for Temporary Water Allocations. A Customer Service Officer will assist you.

Part 7 Seller(s) Meter Reading (optional – refer to notes below)

Seller(s) Combined / Works Approval or Licence Number

1 0 C A 1 0 9 5 7 1

WMA 2000 eg 50**WA**503000 or 40**CA**403000 (not 50AL503000)

Date of Meter Reading

2 9 / 1 0 / 2 0 1 9

Extraction Site Number	Pump Description	Meter Reading
	GRUNDFOS SP46	261.12

INFORMATION FOR PARTIES TO DEALINGS

Applicant(s) should note the following information when submitting an 'Application to Assign Groundwater Allocation':

1. Rules and Regulations

The assignment of water allocation is considered in accordance with the rules and regulations set out in the *Water Management Act 2000* and any relevant Water Sharing Plan(s) in force at the time of the application.

Applicants should note that it is the responsibility of the persons selling (disposing of) water allocation to notify the approval authority in writing of the agreed price, either at, or before, the time the approval is sought (refer Section 12.48 of the MDBA Water Trading Guidelines).

2. Fees

An application fee of **\$371.85** (GST Free) applies for each application received via facsimile, post or person. An application fee of **\$337.36** (GST Free) applies for each application received via email. This fee has been set in accordance with the relevant IPART pricing determination.

Application fee(s) will not be refunded if an allocation assignment has been processed and does not proceed through no fault on the part of WaterNSW Corporation or the Minister administering the Water Management Act, 2000.

3. Execution of the application

Section 72A of the Water Management Act requires that where a licence is co-held, a dealing with that licence must be consented to by all co-holders. If this application concerns a co-held licence, WaterNSW may require evidence of consent of all co-holders. **Caution - It is an offence under Clause 344 of the Water Management Act 2000 to provide false or misleading information with any application.**

4. Lodgement

Applications should be emailed, faxed or mailed to the address below.

WaterNSW

8-20 Edwardes St

Phone 1300 662 077

PO Box 453

Fax (03) 8668 1154

DENILQUIN NSW 2710

Email water.trade@waternsw.com.au

5. Processing times for groundwater applications

An application to assign water allocation may take up to 10 working days to be finalised providing that all necessary information is supplied with the application. Incomplete or incorrect applications may result in delays or rejection of the application.

6. Incomplete applications

WaterNSW will return all applications deemed to be incomplete. Where a broker has been nominated to act on behalf of the applicants, the broker will be notified.

Applications will be deemed incomplete and the application returned if the buyer and seller sections are not completed on the same form.

7. Supplementary Groundwater Applications

Dealings for supplementary water access licences are prohibited under the rules of the Water Sharing Plans.

8. Extraction Limits

Not all water traded to some licences is available for use. In some cases extraction limits apply that limit usage within a water year. For more information please contact WaterNSW on 1300 662 077.

9. Multiple licences

A separate application form must be completed for each assignment of water allocation between multiple licences. Applications combining more than one licence will be returned.

10. Meter Readings

Sellers are encouraged to submit current meter readings (Part 7) with each Application to Assign Surface Water Allocation.

Applications submitted without supplying a current meter readings will be processed according to the information available to WaterNSW. An application to approve an assignment which exceeds the account will be returned.

11. Returned applications

In some cases (subject to WaterNSW's discretion), incorrect or incomplete applications will be returned to the applicant. Where a broker has been nominated to act on behalf of the applicant(s), the application will be returned to the broker.

Applicant(s) will be given a period of 10 working days to return the corrected application. Corrected applications received after this time will not be accepted and the application will be considered refused and the fee forfeited.

12. Amendments to an application

Amendments to an application will not be accepted once an application is registered in WaterNSW's Water Accounting System. Applicants wishing to make an amendment to an application must withdraw the application and lodge a replacement application and fee.

There is no scope to amend an application once the application has been finalised by WaterNSW.

13. Withdrawal of an application

Applicant(s) wishing to withdraw an application must notify WaterNSW in writing. The consent of both seller and buyer (or agent) must be provided before WaterNSW will withdraw an application.

14. Notification of application finalisation

Applicant(s) will be notified in writing upon finalisation of the application. Where an agent(s) has lodged the application, the agent(s) will be notified.

Agents should note that if an agent email address is not provided, WaterNSW will not provide notification on status/finalisation of the application to the agent.

15. Disputes

An application can only proceed if made by/on behalf of both buyer and seller. WaterNSW will not finalise an application if either a buyer or seller advises of a withdrawal from the application. In such cases, WaterNSW will cease to process the application for a period of time which will be specified. This will allow both parties a reasonable period of time in which to resolve any dispute. If there is no resolution within the specified time, WaterNSW will regard the application as withdrawn.

During periods of dispute, the volume of water associated with the application will be unavailable for use by both buyer and seller until the application is either finalised or withdrawn.

16. Finances

It is the responsibility of the applicants to arrange financial settlement for the water assigned.

17. Penalty provision

It is an offence under Clause 344 of the *Water Management Act 2000* to provide false or misleading information with any application.

18. Privacy note

The personal information you provide in this form will be treated in accordance with the Privacy and Personal Information Protection Act 1998, under which you have rights of access and correction. Your personal information will be used for assessing and processing your application and may be disclosed to public authorities and other authorised parties as required.

The Water Management Act 2000 requires that, should your application be granted, details of the water access licence will also appear in a public water access licence register.

Appendix 2: Flood Evacuation Response Plan

RISK ASSESSMENT - 001

COMPANY NAME: Collins Construction Materials Pty Ltd		This RA/SWMS has been authorised by:			
ABN: 61 156 660 525		Name	Michael Holz	Position:	Manager
Address: 214 Macarthur Road, Elderslie 2567		Signature:		Date of assessment:	27/5/20
Risk Assessment / SWMS No: 049		Phone:	0418 423 032	Next review date:	
Site/Location:				Supervisor of job/task:	
Description of job/task:	Flood Evacuation Response				

To Complete a Risk Assessment

1. Complete the table below, including a photo to assist identifying the area, task, plant or equipment (if relevant).
Note: Ensure all employees, contractors and specialists involved in the assessment are recorded.
2. Determine if a hazard is present or not. If not present leave the line blank.
3. Using the *Collins Risk Matrix*, complete the risk assessment process for all identified hazards.
Note: For all identified hazards, ensure that you record corrective actions and add comment; this may include existing control measure effectiveness.
4. Input all hazards and corrective actions into register
5. Upon completion of the risk assessment including agreed corrective actions, responsibilities and timeframes for completion, a relevant Site/ Operations Manager shall sign the risk assessment as completed.
6. A review date shall be identified after corrective actions have been implemented to ensure the corrective actions are effective and appropriate.

Risk Assessment Team			
Name	Position	Signature	Date
Michael Holz	Manager		
James Sheil	Leading Hand		
Hilton	Operator		
Mick Berrell	Operator		

INSERT PHOTO OF AREA/PLANT/
TASK HERE

General Information	
Workplace conditions <i>(describe layout and physical conditions):</i>	In preparation for a flood event, pump and diesel should be removed early in order to avoid potential risks to workers and equipment. Should this not be possible then the following must be carried out. Sand and Soil quarry, High Rainfall, inundation of flood waters, HME requirements to relocate P&E
Time of operations or task:	Time varies due to rainfall volume, can be completed day or night
List systems of work for the operation or task:	Relocate P&E
Is there past experience with the operation or task that may assist in the assessment?	Yes, Flooding has occurred over the 30years of operation RA 31 Ground or Strata failure, RA 32 Inundation of SF, RA 35 Soft Edges. Proc 77Impending flood procedure

Training Requirements: • Specific Site Induction training • VOC Competencies • Emergency Response training • Traffic Management Plan • Electricity Safety Training • MP24 Working near powerlines SWP •	Personal Protective Equipment: • Long Sleeve Shirt and long pants • Steel Capped Boots • Hi Vis Shirt/Vest clothing • Hard hat • Gloves • Eye Protection	Equipment Required: • Vehicle • Machine •	Relevant Legislation: • Work Health & Safety Act 2011 • Work Health & Safety Regulations 2011 • NSW Work Health & Safety (Mines & Petroleum Act) • Working Near Overhead Power Lines, NSW Code of Practice 2006 •
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Step No.	Hazards	Hazard Present	Initial Risk			Controls Required / Comments	Who	When	Action	Final Risk			
			L	C	R					L	C	R	
1.													
1.	- Rising Flood Water - Flood inundation - visibility of rising flood water - speed/timeframe of rising flood water	Y	A	1	H	- Quarry Manager and Quarry Supervisor to monitor rainfall on site and at the local Camden Airport Bureau of Meteorology station (www.bom.gov.au) Reference River Height data for Nepean R at Menangle Bridge - Contact with SES Ph 132 500. - Conduct a Take 5 to establish if flood response is required based on river height data and time frame	Manager / Supervisor				A	4	M
2.	Flood inundation cutting off of internal Roadways and fences	Y	A	1	H	- Conduct a Take 5 for any changes to environment such as access roads; - Employees to be trained and competent in the SWMS - Light Vehicles and HME are NOT try and enter access roads that have been inundated with flood water - Make sure all drop offs greater than 1m are bunded to at least ½ the wheel height of the largest equipment on site using fine material of less than 100mm in size. - Establish safe High Ground or view point	Manager / Supervisor /Employee				D	1	M

Step No.	Hazards	Hazard Present	Initial Risk			Controls Required / Comments	Who	When	Action	Final Risk		
			L	C	R					L	C	R
						- Reference - R:\Collins General\DOCUMENT CONTROL\Risk Management\PDF'S\RA 030 SF High walls & faces 6.3.18.pdf - Reference - R:\Collins General\DOCUMENT CONTROL\Risk Management\PDF'S\RA 031 SF Ground or strata failure V4 4.7.19.pdf - Reference - R:\Collins General\DOCUMENT CONTROL\Risk Management\PDF'S\RA 032 Inundation of SF & Cobbitty V2 4.7.19.pdf - Reference - R:\Collins General\DOCUMENT CONTROL\Risk Management\PDF'S\RA 033 SF Deep excavations 6.3.18.pdf - Reference - R:\Collins General\DOCUMENT CONTROL\Risk Management\PDF'S\RA 034 SF Steep edges 6.3.18.pdf - Reference - R:\Collins General\DOCUMENT CONTROL\Risk Management\PDF'S\RA 035 SF Soft edges and mud silt and water dams.pdf - Continually monitor rainfall and impending river level on site and at the local Camden						

Step No.	Hazards	Hazard Present	Initial Risk			Controls Required / Comments	Who	When	Action	Final Risk		
			L	C	R					L	C	R
						Airport Bureau of Meteorology station (www.bom.gov.au)						
3.	- HME & PE relocation - Tyre puncture/damage - Track Damage - Floor condition - Environmental conditions such as Fuel/Oil Spills - Uneven & Slippery ground conditions - Rollover - Flood inundation	Y	B	3	M	- Correct PPE for the task, - Conduct a Take 5 for any changes to environment such as access roads; - Pre-Starts - Reference ..\5. SWMS - SWMS\SWMS 96 Relocate T2 Trommel.docx - Reference – ..\5. SWMS - SWMS\SWMS 98 Relocate Mobile Screen.docx - Reference ..\5. SWMS - SWMS\SWMS 97 Relocate Stacker (Anaconda).docx - Reference ..\5. SWMS - SWMS\SWMS 95 Relocate R25 Pump.docx	Manager / Supervisor /Employee		N	D	3	L
4.	- Slumping - Slips / faults / geotech stability - Extraction pit, - Silt ponds, - tailing dams, - water dams, - anabran Area.		C	1	H	- Conduct a Take 5 undertaken for any changes to environment such as slump or washout; - Light Vehicles and HME are NOT try and enter access roads that have been inundated with flood water - Make sure all drop offs greater than 1m are bunded to at least ½ the wheel height of the largest equipment on site using fine material of less than 100mm in size.	Manager / Supervisor /Employee			D	1	M

Step No.	Hazards	Hazard Present	Initial Risk			Controls Required / Comments	Who	When	Action	Final Risk		
			L	C	R					L	C	R
						- Reference - R:\Collins General\DOCUMENT CONTROL\Risk Management\PDF'S\RA 030 SF High walls & faces 6.3.18.pdf - Reference - R:\Collins General\DOCUMENT CONTROL\Risk Management\PDF'S\RA 031 SF Ground or strata failure V4 4.7.19.pdf - Reference - R:\Collins General\DOCUMENT CONTROL\Risk Management\PDF'S\RA 032 Inundation of SF & Cobbitty V2 4.7.19.pdf - Reference - R:\Collins General\DOCUMENT CONTROL\Risk Management\PDF'S\RA 033 SF Deep excavations 6.3.18.pdf - Reference - R:\Collins General\DOCUMENT CONTROL\Risk Management\PDF'S\RA 034 SF Steep edges 6.3.18.pdf						
5.	Drowning		D	1	M	- Correct PPE for the task, - Life Buoys - Working with 5 metre of the water, inflatable life vest - First aid kit in vehicles	MHolz	30/6/20	Install LB where required	E	1	M

Step No.	Hazards	Hazard Present	Initial Risk			Controls Required / Comments	Who	When	Action	Final Risk		
			L	C	R					L	C	R
						Emergency Response Plan R:\Collins General\DOCUMENT CONTROL\Procedures\Draft_Collins Emergency Response Plan 12.9.19.doc						
6.	- Electrocution - Inundation of flood waters into electrical motors - Electric Shock	Y	C	1	H	- Correct PPE for the task - Conduct a Take 5 undertaken for any changes to environment - Isolate Motor Control Centre (MCC) - All work on electrical items is to be carried out by an approved licensed electrician or other competent person - There are high voltage power lines upon entry to or on the site and can be located on the site map. Restrictions of height is located on site with a set 3 metre clearance in place unless accreditation is provided and or approval by the network operator. - Electrical boards are not to be touched unless you are a qualified electrician & have authorisation by the Site Supervisor - Never work on a "live" board. Make sure you always isolate all electrical equipment	Manager / Supervisor /Employee			E	1	M

Step No.	Hazards	Hazard Present	Initial Risk			Controls Required / Comments	Who	When	Action	Final Risk		
			L	C	R					L	C	R
						before you complete your job task. If unsure consult the Site Supervisor - Emergency Response Plan - R:\Collins General\DOCUMENT CONTROL\Procedures\Draft_Collins Emergency Response Plan 12.9.19.doc R:\Collins General\DOCUMENT CONTROL\Management Procedures\Management Procedures Updated 9.7.19\Management Procedures Updated 9.7.19\MP42 Electrical Safety Procedure V4 23.7.19.pdf R:\Collins General\DOCUMENT CONTROL\Management Procedures\Management Procedures Updated 9.7.19\Management Procedures Updated 9.7.19\MP24 Working Near Overhead Powerlines Procedure V5 13.8.19.pdf R:\Collins General\DOCUMENT CONTROL\Management Procedures\Management Procedures Updated 9.7.19\Management Procedures Updated 9.7.19\MP51 Electrical Installation and Maintenance Procedure V2 23.7.19.pdf R:\Collins General\DOCUMENT CONTROL\Management Procedures\Management Procedures						

Step No.	Hazards	Hazard Present	Initial Risk			Controls Required / Comments	Who	When	Action	Final Risk		
			L	C	R					L	C	R
						Updated 9.7.19\Management Procedures Updated 9.7.19\MP33 Electric Shock Protocol V3 23.7.2019.pdf R:\Collins General\DOCUMENT CONTROL\Management Plans\MP61 SFQ Electrical Engineering Control Plan v2 18.7.19.pdf						
7.	- Vehicle Collision - Vehicle to Vehicle - Vehicle to Pedestrian	Y	D	2	M	- Correct PPE for the task, - Site Specific Induction - Traffic Management plan - Specific Site Induction training - VOC Competencies - Emergency Response training R:\Collins General\DOCUMENT CONTROL\SWMS\PDF SWMS\SWMS 03 SF Front End Loader Pre Start and Operation SWMS.pdf R:\Collins General\DOCUMENT CONTROL\SWMS\PDF SWMS\SWMS 02 SF Excavator Operations.pdf	Manager / Supervisor /Employee			E	2	L
8.	Vehicle Rollover	Y	D	2	M	- Correct PPE for the task, - Site Specific Induction - Traffic Management plan - Specific Site Induction training - VOC Competencies - Emergency Response training R:\Collins General\DOCUMENT CONTROL\SWMS\PDF SWMS\SWMS 03 SF Front End Loader Pre Start and Operation SWMS.pdf	Manager / Supervisor /Employee			E	2	L

Step No.	Hazards	Hazard Present	Initial Risk			Controls Required / Comments	Who	When	Action	Final Risk		
			L	C	R					L	C	R
						R:\Collins General\DOCUMENT CONTROL\SWMS\PDF SWMS\SWMS 02 SF Excavator Operations.pdf						
9.	- Fuel/Oil Spillage - Ground Contamination - Water Contamination - Blown Pipe	Y	C	3	M	- Correct PPE for the task, - Site Specific Induction - Traffic Management plan - Specific Site Induction training - VOC Competencies - Emergency Response training - Spill Kit - PRMP Reference - R:\Collins General\DOCUMENT CONTROL\Management Procedures\Management Procedures Updated 9.7.19\MP Revised KR 17.4.18\MP22 SF PIRMP Pollution Incident Response Management Plan SF V5 KR 17.4.18.docx	Manager / Supervisor /Employee			E	3	L
10.	Slip/Trip and Falls	Y	C	3	M	- Correct PPE for the task, - Specific Site Induction training - Emergency Response training	Manager / Supervisor /Employee			D	3	L

Step No.	Hazards	Hazard Present	Initial Risk			Controls Required / Comments	Who	When	Action	Final Risk		
			L	C	R					L	C	R
11.	• Machine Maintenance	Y	C	3	M	- Maintenance Plan - Pre-starts	Manager / Supervisor /Employee			D	3	L

L=Likelihood A = Almost Certain: Expected to occur B = Likely: Will probably occur C = Moderate: Should occur at sometime D = Unlikely: Could occur at sometime E = Rare: Exceptional circumstances only	C = Consequence 1 = Catastrophic: Disaster – major impact on MCS 2 = Major: Critical Event – Major Impact on project 3 = Severe: Significant Event – Considerable inconvenience 4 = Minor: Minimal Effect – Some inconvenience 5 = Insignificant: Day to day issue – no inconvenience	Risk ranking score	High		Medium		Low	
			L=Likelihood					
C =			A	B	C	D	E	
			1	2	4	7	11	
1			1	2	4	7	11	
2			3	5	8	12	16	
3			6	9	13	17	20	
4			10	14	18	21	23	
5			15	19	22	24	25	

- I have read and understand how I am to carry out the activities listed in this SWMS if safe to do so.

[illegible]

Training Attendance Record Form 27 -1



Training Details

Complete in CAPITAL letters

P2RMP

Training Course Name:

~~P2RMP~~ DRILL - FLOOD EVACUATION

Date:

28/15/20

Start Time:

am/pm

End Time:

am/pm

Location:

SPRINGBARN

(Division / Business Unit / Site)

Name of Facilitator:

MICHAEL HOWE

Training Course Outcomes:

☐ Competency Check

☐ Record of Attendance

Please tick the appropriate box

Trainee Attendance Record

The columns below are completed by the persons completing the course.

Facilitator Use Only

Your Name (Please print clearly)	Your Position	Signature	Employee No.	Competency C / NYC
Mick Bennett	Operator			C
James Sheil	LEADING HAND			C
HILTON SCHWEBA	Operator			C
David Eckford	transport Supervisor			C

Please return this completed Training Attendance Sheet to the Facilitator. Thank you.

Facilitator's Signature

SNITCO

Complete in CAPITAL letters

Training Course Name:

Emergency Procedure File
Flood Evacuation Response Vehicle Station 1225 + Pump 1 T2 Trammell / Mobile

Date:

1913 121

Start Time: 8:00 am/pm

End Time: 2:00 am/pm

Location:

Sping Farm Quarry

(Division / Business Unit / Site)

Name of Facilitator:

David Eckli-1

Training Course Outcomes:

☒ Competency Check	☒ Record of Attendance
--	--

Please tick the appropriate box.

Trainee Attendance Record

The columns below are completed by the persons completing the course

Trainee Attendance Record					
The columns below are completed by the persons completing the course.					
Your Name (Please print clearly)	Your Position	Signature	Employee No.	Competency C / NYC	Precourse Use Only
Kim Berrier	Operator			C	
Peter Pearson	Operator			C	
Mike Carroll	Operator			C	
Will Seward	Operator			C	

Please return this completed Training Attendance Sheet to the Facilitator. Thank you.

Facilitator's Signature _____

Appendix 3: Safe Work Method Statements

SAFE WORK METHOD STATEMENT - 001

COMPANY NAME: Collins Construction Materials Pty Ltd		This RA/SWMS has been authorised by:			
ABN: 61 156 660 525		Name	Michael Holz	Position:	Manager
Address: 214 Macarthur Road, Elderslie 2567		Phone:	0418 423032	Date of assessment:	New ☐
RA/SWMS No: 95		Signature:		Next review date:	Revised ☐
Site/Location:	Area 5	Reviewed date:		Supervisor of job/task:	
Description of job/task:	Relocate R25 River Pump and Fuel tank				
Training Requirements: - Specific Site Induction training - VOC Competencies - Emergency Response Training		Personal Protective Equipment: - Long Sleeve Shirt and long pants - Steel Capped Boots - Hi Vis Shirt/Vest clothing - Hard hat - Gloves - Eye Protection		Equipment Required: - Vehicle - Excavator - Towing Equipment	
Relevant Legislation: - Work Health & Safety Act 2011 - Work Health & Safety Regulations 2011 - NSW Work Health & Safety (Mines & Petroleum Act) - Working Near Overhead Power Lines, NSW Code of Practice 2006					

Job/Task Steps List the steps required to complete the activity	Hazards/risks What can cause harm?	Risk Score			Risk Control Measures	Reviewed risk score		
		L	C	Rating		L	C	Rating
1. Travel to R25 River Pump location and complete Site Inspections to determine the safety of working conditions	- Specific Location Hazards - Rising Flood Water - Not inducted - Miscommunication - Slips / faults / geotech stability - Slumping of	B	2	5 H	- Employees to be trained and competent in the SWMS hich have been developed - Conduct a Take 5 undertaken for any changes to location & environment such as access roads conditions; - Employees & Contractors to undertake site specific induction	E	2	16 L

Job/Task Steps List the steps required to complete the activity	Hazards/risks What can cause harm?	Risk Score			Risk Control Measures	Reviewed risk score		
		L	C	Rating		L	C	Rating
	Extraction pit, Silt ponds, tailing dams, water dams, anabranch Area. • Uneven & Slippery ground conditions • Vehicle Rollover • Vehicle to vehicle Collision • Vehicle to Person collision				• Toolbox - Consultation & Communication Procedure – Reference - R:\Collins General\DOCUMENT CONTROL\Procedures\PDF Procedures\Proc 2 Giving a Tool Box Talk Guide V2 KR 3.1.18.pdf • (VOC) Verification of Competency • Adhere to Traffic Management Plan • Correct PPE for the task, as listed in this SWMS • Positive Communication - Channel 26 UHF • Do not enter or travel through rising flood water			
2. Complete Pre-start checklist Tow Vehicle	• Incorrect PPE • Uneven & Slippery ground conditions • Mobile screen moving without warning	C	3	13 M	• Complete a Take 5 to determine tow vehicle required • Correct PPE for the task, as listed in this SWMS • Maintain 3 Points of Contact • Isolation Procedure • R:\Collins General\DOCUMENT CONTROL\SWMS\PDF SWMS\SWMS 79 SF Excavator Pre Start Check.pdf	E	3	25 L
3. Disconnect R25 fuel lines Turn lock off valves on diesel hoses before disconnecting fuel lines and Stow fuel lines out of the way and tie up onto pump.	• Incorrect PPE • Uneven & Slippery ground conditions • Tyre puncture/damage • Floor conditions • Plant & Equipment – submerged or damaged • Fuel leakage • Subsidence of slopes	B	2	5 H	• ..\..\..\Collins General\DOCUMENT CONTROL\SWMS\PDF SWMS\SWMS 23 R25 River Pump Operation.pdf • Conduct a Take 5 undertaken for any changes to location & environment such as access roads conditions; • Correct PPE for the task, as listed in this SWMS • 3 Points of Contact • Isolation Procedure • Refer to manual handling • Spill Kit • Quick release fluid coupling	D	2	12 M

Job/Task Steps List the steps required to complete the activity	Hazards/risks What can cause harm?	Risk Score			Risk Control Measures	Reviewed risk score		
		L	C	Rating		L	C	Rating
	Lighting							
4. Turn off Back flow valve – located in anabranch	- Incorrect PPE - Uneven & Slippery ground conditions - Plant & Equipment – submerged or damage	A	3	6 M	- Correct PPE for the task, as listed in this SWMS 3 Points of Contact - Isolation Procedure - Refer to manual handling - Spill kit	E	3	20 L
5. Disconnect R25 pump suction and discharge lines Secure suction line to a tree to avoid washing away	- Incorrect PPE - Uneven & Slippery ground conditions - Plant & Equipment – submerged or damage	B	3	9 M	- Correct PPE for the task, as listed in this SWMS - Correct coupling hose fittings 3 Points of Contact - Isolation Procedure - Refer to manual handling R:\Collins General\DOCUMENT CONTROL\Procedures\PDF Procedures\Proc 42 Manual Handling Procedure V4 KR 24.10.17.pdf - Spill kit	E	3	20 L
6. Access & Remove obstructions surrounding wheel area and ensure ground is level before moving	- Incorrect PPE - Uneven & Slippery ground conditions - Tyre puncture/damage - Floor conditions - Plant & Equipment – submerged or damaged - Fuel leakage	B	3	9 M	- Correct PPE for the task, as listed in this SWMS 3 Points of Contact - Pre-start - Conduct a Take 5 for any changes to location & environment - Clear any material or debris away from Tyres - Maintenance Inspection	D	3	17 L

Last Modified/Reviewed: 27/5/2020		Version: 1	SWMS No 95	SWMS Name: Relocate R25 River Pump and Fuel tank
Approved by: General Manager			Page 3 of 7	
Effective Date 24 th October 2011		PRINTED COPY UNCONTROLLED		
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© Copyright Collins Sports Turf Pty Limited ABN 63 156 660 598		© Copyright Collins Construction Materials Pty Limited ABN 61 156 660 525		
		© Copyright M Collins & Sons (Contractors) Pty Limited ABN 89 156 660 267		
		© Copyright MATCOLL Pty Limited ABN 23 079 486 454		

Job/Task Steps List the steps required to complete the activity	Hazards/risks What can cause harm?	Risk Score			Risk Control Measures	Reviewed risk score		
		L	C	Rating		L	C	Rating
	- Subsidence of roads - Lighting				Refer to manual handling R:\Collins General\DOCUMENT CONTROL\Procedures\PDF Procedures\Proc 42 Manual Handling Procedure V4 KR 24.10.17.pdf			
7. Connect trailer to tow vehicle	- Incorrect PPE - Uneven & Slippery ground conditions - Hazardous chemical contact 0 (Hyd Oil) - Hand, foot and eye injury - Vehicle to vehicle Collision - Vehicle to Person collision	C	2	8 M	- Correct PPE for the task, as listed in this SWMS - Maintain safe distance from Towing equipment - TMP Controls- Vehicle Safety Lights, Reversing Beeper - Positive Communication - Channel 26 UHF - Light vehicles to communicate when entering operations area - Spotter to be used to assist Excavator Operator - TMP Communication between Spotter and HME - Clear all personal that are not required for the task - When travelling backwards, ensure tow point is low as possible to the ground - Supervisor area inspection (informal) - Chain Testing & Register - Spill Kit R:\Collins General\DOCUMENT CONTROL\Procedures\PDF Procedures\Proc 71 Towing of Vehicles with Loader SWP V4 KR 16.4.18.pdf	E	2	16 L
8. Using low gear slowly reverse until the slack of the tow rope is taken up when the tension is applied slowly move in a Reverse/forward motion to	- Uneven & Slippery ground conditions - Plant & Equipment – submerged or damaged	B	2	5 H	- Maintain safe distance from slewing machine - TMP Controls- Vehicle Safety Lights, Reversing Beeper - Positive Communication - Channel 26 UHF - Light vehicles to communicate when entering operations area - Spotter to be used to assist Excavator Operator - TMP Communication between Spotter and HME	E	5	L 24

Job/Task Steps List the steps required to complete the activity	Hazards/risks What can cause harm?	Risk Score			Risk Control Measures	Reviewed risk score		
		L	C	Rating		L	C	Rating
pull/rotate mobile stacker around into desired location/position	- Fuel/Oil spillage - Subsidence of roadways - Incorrect operation of excavator - Environmental conditions i.e. Sun, glare, rain, fog				- Clear all personal that are not required for the task - When travelling backwards, ensure tow point is low as possible to the ground - Supervisor area inspection (informal) - Chain Testing & Register - Spill Kit			
9. Move to safe new location or storage area	- Uneven & Slippery ground conditions - Plant & Equipment – submerged or damaged - Fuel/Oil spillage - Subsidence of roadways - Incorrect operation of excavator - Environmental conditions i.e. Sun, glare, rain, fog	B	2	5 H	- Maintain safe distance from slewing machine - TMP Controls- Vehicle Safety Lights, Reversing Beeper - Positive Communication - Channel 26 UHF - Light vehicles to communicate when entering operations area - Spotter to be used to assist Excavator Operator - TMP - Communication between Spotter and HME - Clear all personal that are not required for the task - When travelling backwards, ensure tow point is low as possible to the ground - Supervisor area inspection (informal) - Chain Testing & Register - Spill Kit	E	5	L 24

L=Likelihood A = Almost Certain: Expected to occur B = Likely: Will probably occur	C = Consequence 1 = Catastrophic: Disaster – major impact on MCS 2 = Major: Critical Event – Major Impact on project		Risk ranking score	High		Medium		Low	
				L=Likelihood					
			C =	A	B	C	D	E	

Last Modified/Reviewed: 27/5/2020		Version: 1	SWMS No 95	SWMS Name: Relocate R25 River Pump and Fuel tank
Approved by: General Manager			Page 5 of 7	
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© Copyright Collins Sports Turf Pty Limited ABN 63 156 660 598		© Copyright Collins Construction Materials Pty Limited ABN 61 156 660 525		
		© Copyright M Collins & Sons (Contractors) Pty Limited ABN 89 156 660 267		
		© Copyright MATCOLL Pty Limited ABN 23 079 486 454		

C = Moderate: Should occur at sometime D = Unlikely: Could occur at sometime E = Rare: Exceptional circumstances only	3 = Severe: Significant Event – Considerable inconvenience 4 = Minor: Minimal Effect – Some inconvenience 5 = Insignificant: Day to day issue – no inconvenience	1	1	2	4	7	11
		2	3	5	8	12	16
		3	6	9	13	17	20
		4	10	14	18	21	23
		5	15	19	22	24	25

Declaration by contractors and workers

- I have read and understand how I am to carry out the activities listed in this SWMS if safe to do so.

Date	Print name	Signature	Role	Site Manager's signature
Date	Print name	Signature	Role	Site Managers signature

[illegible]

SAFE WORK METHOD STATEMENT - 001

COMPANY NAME: Collins Construction Materials Pty Ltd		This RA/SWMS has been authorised by:			
ABN: 61 156 660 525		Name	Michael Holz	Position:	Manager
Address: 214 Macarthur Road, Elderslie 2567		Phone:	0418 423 032	Date of assessment:	27/5/2020
RA/SWMS No: 96		Signature:		Next review date:	
Site/Location:		Reviewed date:		Supervisor of job/task:	
Description of job/task:		Relocate T2 Trommel (Track Machine)			
Training Requirements: - Specific Site Induction training - VOC Competencies - Emergency Response Training		Personal Protective Equipment: - Long Sleeve Shirt and long pants - Steel Capped Boots - Hi Vis Shirt/Vest clothing - Hard hat - Gloves - Eye Protection		Equipment Required: - Vehicle - Remote Control	
				Relevant Legislation: - Work Health & Safety Act 2011 - Work Health & Safety Regulations 2011 - NSW Work Health & Safety (Mines & Petroleum Act) - Working Near Overhead Power Lines, NSW Code of Practice 2006	

Job/Task Steps List the steps required to complete the activity	Hazards/risks What can cause harm?	Risk Score			Risk Control Measures	Reviewed risk score		
		L	C	Rating		L	C	Rating
1. Travel to Trommel Screen location and complete Site Inspections to determine the safety of working conditions	- Specific Location Hazards - Not inducted - Miscommunication - Slips / faults / geotech stability - Slumping of Extraction pit, Silt	B	2	5 H	- Employees to be trained and competent in the SWMS and the SOP which have been developed - Conduct a Take 5 undertaken for any changes to location & environment such as access roads conditions; - Employees & Contractors to undertake site specific induction - Toolbox - Consultation & Communication Procedure – Reference - R:\Collins General\DOCUMENT	E	2	16 L

Job/Task Steps List the steps required to complete the activity	Hazards/risks What can cause harm?	Risk Score			Risk Control Measures	Reviewed risk score		
		L	C	Rating		L	C	Rating
	ponds, tailing dams, water dams, anabranch Area. • Uneven & Slippery ground conditions • Vehicle Rollover • Vehicle to vehicle Collision • Vehicle to Person collision				CONTROL\Procedures\PDF Procedures\Proc 2 Giving a Tool Box Talk Guide V2 KR 3.1.18.pdf • (VOC) Verification of Competency • Adhere to Traffic Management Plan • Correct PPE for the task, as listed in this SWMS • Positive Communication - Channel 26 UHF • Do not enter or travel through rising flood water			
2. Complete Pre-start checklist on Trommel screen	• Incorrect PPE • Uneven & Slippery ground conditions • Mobile screen moving without warning	C	3	13 M	• Correct PPE for the task, as listed in this SWMS • Maintain 3 Points of Contact • Isolation Procedure • Reference - ..\..\..\Collins General\DOCUMENT CONTROL\SWMS\PDF SWMS\SWMS 17 Mobile Screen Pre Start and Operation SWMS.pdf	E	3	25 L
3. Access & Remove obstructions surrounding wheel area and ensure ground is level before moving	• Incorrect PPE • Uneven & Slippery ground conditions • Tyre puncture/damage • Floor conditions • Plant & Equipment – submerged or damaged • Fuel leakage • Subsidence of roads • Lighting	B	3	9 M	• Correct PPE for the task, as listed in this SWMS • 3 Points of Contact • Pre-start • Conduct a Take 5 for any changes to location & environment • Clear any material or debris away from Tyres • Refer to manual handling R:\Collins General\DOCUMENT CONTROL\Procedures\PDF Procedures\Proc 42 Manual Handling Procedure V4 KR 24.10.17.pdf	D	3	17 L

Job/Task Steps List the steps required to complete the activity	Hazards/risks What can cause harm?	Risk Score			Risk Control Measures	Reviewed risk score		
		L	C	Rating		L	C	Rating
4. Fold Final product conveyor in ready for transport	- Incorrect PPE - Uneven & Slippery ground conditions - Hazardous chemical contact 0 (Hyd Oil) - Hand, foot and eye injury - Fuel/Oil spillage	B	2	5 H	- Correct PPE for the task, as listed in this SWMS 3 Points of Contact - Isolation Procedure - Refer to manual handling - Spill kit	D	2	12 M
5. Use remote control to track trommel to desired location	- Uneven & Slippery ground conditions - Plant & Equipment – submerged or damaged - Fuel/Oil spillage - Subsidence of roadways - Incorrect operation of excavator - Environmental conditions i.e. Sun, glare, rain, fog - HME to person collision	B	2	5 H	- Maintain safe distance from tracking machine - TMP Controls- Vehicle Safety Lights, Reversing Beeper - Positive Communication - Channel 26 UHF - Light vehicles to communicate when entering operations area - Spotter to be used to assist Excavator Operator - TMP - Communication between Spotter and HME - Clear all personal that are not required for the task - When travelling backwards, ensure tow point is low as possible to the ground - Supervisor area inspection (informal) - Chain Testing & Register - Spill Kit - Remote to be used from the safety of the vehicle or HME	D	2	12 M

Job/Task Steps List the steps required to complete the activity	Hazards/risks What can cause harm?	Risk Score			Risk Control Measures	Reviewed risk score		
		L	C	Rating		L	C	Rating
6. Fold Final product conveyor back into position in ready for production	- Incorrect PPE - Uneven & Slippery ground conditions - Hazardous chemical contact 0 (Hyd Oil) - Hand, foot and eye injury - Fuel/Oil spillage	B	2	5 H	- Correct PPE for the task, as listed in this SWMS 3 Points of Contact - Isolation Procedure - Refer to manual handling - Spill kit	D	2	12 M

L=Likelihood A = Almost Certain: Expected to occur B = Likely: Will probably occur C = Moderate: Should occur at sometime D = Unlikely: Could occur at sometime E = Rare: Exceptional circumstances only	C = Consequence 1 = Catastrophic: Disaster – major impact on MCS 2 = Major: Critical Event – Major Impact on project 3 = Severe: Significant Event – Considerable inconvenience 4 = Minor: Minimal Effect – Some inconvenience 5 = Insignificant: Day to day issue – no inconvenience	Risk ranking score	High		Medium		Low	
		C =	L=Likelihood					
			A	B	C	D	E	
		1	1	2	4	7	11	
		2	3	5	8	12	16	
		3	6	9	13	17	20	
		4	10	14	18	21	23	
		5	15	19	22	24	25	

Declaration by contractors and workers

- I have read and understand how I am to carry out the activities listed in this SWMS if safe to do so.

Date	Print name	Signature	Role	Site Manager's signature

Last Modified/Reviewed: 27/5/20	Version: 1	SWMS No 96	SWMS Name: Relocate T2 Trommel (Track Machine)
Approved by:	Effective Date 27 th May 2020 PRINTED COPY UNCONTROLLED		
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Last Modified/Reviewed: 27/5/20		Version: 1	SWMS No 96	SWMS Name: Relocate T2 Trommel (Track Machine)
Approved by:		Page 5 of 6		
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© Copyright Collins Sports Turf Pty Limited ABN 63 156 660 598		© Copyright Collins Construction Materials Pty Limited ABN 61 156 660 525		© Copyright MATCOLL Pty Limited ABN 23 079 486 454

SAFE WORK METHOD STATEMENT - 001

COMPANY NAME: Collins Construction Materials Pty Ltd		This RA/SWMS has been authorised by:			
ABN: 61 156 660 525		Name	Michael Holz	Position:	Manager
Address: 214 Macarthur Road, Elderslie 2567		Phone:	0418 423 032	Date of assessment:	27/5/2020
RA/SWMS No: 97		Signature:		Next review date:	
				New	☐
				Revised	☐
Site/Location:	Spring Farm	Reviewed date:	Supervisor of job/task:		
Description of job/task:	Relocate Stacker (Anaconda)				

Training Requirements: - Specific Site Induction training - VOC Competencies - Emergency Response training	Personal Protective Equipment: - Long Sleeve Shirt and long pants - Steel Capped Boots - Hi Vis Shirt/Vest clothing - Hard hat - Gloves - Eye Protection	Equipment Required: - Vehicle - Excavator	Relevant Legislation: - Work Health & Safety Act 2011 - Work Health & Safety Regulations 2011 - NSW Work Health & Safety (Mines & Petroleum Act) - Working Near Overhead Power Lines, NSW Code of Practice 2006
---	--	---	---

Job/Task Steps List the steps required to complete the activity	Hazards/risks What can cause harm?	Risk Score			Risk Control Measures	Reviewed risk score		
		L	C	Rating		L	C	Rating
1. Travel to Stacker location and complete Site Inspections to determine the safety of working conditions	- Specific Location Hazards - Not inducted - Miscommunication - Slips / faults / geotech stability - Slumping of Extraction pit, Silt ponds, tailing dams,	B	2	5 H	- Employees to be trained and competent in the SWMS and the SOP which have been developed - Conduct a Take 5 undertaken for any changes to location & environment such as access roads conditions; - Employees & Contractors to undertake site specific induction - Toolbox - Consultation & Communication Procedure – Reference - R:\Collins General\DOCUMENT	E	2	16 L

Job/Task Steps List the steps required to complete the activity	Hazards/risks What can cause harm?	Risk Score			Risk Control Measures	Reviewed risk score		
		L	C	Rating		L	C	Rating
	water dams, anabranch Area. • Uneven & Slippery ground conditions • Vehicle Rollover • Vehicle to vehicle Collision • Vehicle to Person collision				CONTROL\Procedures\PDF Procedures\Proc 2 Giving a Tool Box Talk Guide V2 KR 3.1.18.pdf • (VOC) Verification of Competency • Adhere to Traffic Management Plan • Correct PPE for the task, as listed in this SWMS • Positive Communication - Channel 26 UHF • Do not enter or travel through rising flood water			
2. Complete Pre-start checklist on Anaconda stacker	• Incorrect PPE • Uneven & Slippery ground conditions • Mobile screen moving without warning	C	3	13 M	• Correct PPE for the task, as listed in this SWMS • Maintain 3 Points of Contact • Isolation Procedure • Pre-start Reference - ..\..\..\Collins General\DOCUMENT CONTROL\SWMS\PDF SWMS\SWMS 17 Mobile Screen Pre Start and Operation SWMS.pdf	E	3	25 L
3. Access & Remove obstructions surrounding wheel area and ensure ground is level before moving	• Incorrect PPE • Uneven & Slippery ground conditions • Tyre puncture/damage • Floor conditions • Plant & Equipment – submerged or damaged • Fuel leakage • Subsidence of roads • Lighting	B	3	9 M	• Correct PPE for the task, as listed in this SWMS • 3 Points of Contact • Pre-start • Conduct a Take 5 for any changes to location & environment • Clear any material or debris away from Tyres • Refer to manual handling R:\Collins General\DOCUMENT CONTROL\Procedures\PDF Procedures\Proc 42 Manual Handling Procedure V4 KR 24.10.17.pdf	D	3	17 L

Job/Task Steps List the steps required to complete the activity	Hazards/risks What can cause harm?	Risk Score			Risk Control Measures	Reviewed risk score		
		L	C	Rating		L	C	Rating
4. Turn the wheels in a forward direction by using the hyd jack to lift pressure off the wheels	- Incorrect PPE - Uneven & Slippery ground conditions - Hazardous chemical contact 0 (Hyd Oil) - Hand, foot and eye injury - Fuel/Oil spillage	B	3	9 M	- Correct PPE for the task, as listed in this SWMS 3 Points of Contact - Isolation Procedure - Refer to manual handling - Spill Kit - OEM manual	E	3	20 L
5. Lower main frame of Anaconda by taking the 2 pins out to lower the main frame with the hydraulic controls	- Incorrect PPE - Rollover - Uneven & Slippery ground conditions - Hazardous chemical contact 0 (Hyd Oil) - Hand, foot and eye injury	B	3	9 M	- Correct PPE for the task, as listed in this SWMS 3 Points of Contact - Do not travel with Main frame in raised position - Once lowered put the pins back into place - Ensure enough clearance from the chute to the ground - Spill Kit	D	3	17 L
6. Attach the tow rope that is located on the mobile stacker to the Excavator towing point	- Incorrect PPE - Uneven & Slippery ground conditions - Plant & Equipment – submerged or damaged - Fuel/Oil spillage	C	2	8 M	- Correct PPE for the task, as listed in this SWMS 3 Points of Contact - Positive Communication - Channel 26 UHF - Spotter to be used to assist Excavator Operator - TMP - Communication between Spotter and HME - Clear all personal that are not required for the task - Chain Testing & Register - Spill Kit R:\Collins General\DOCUMENT CONTROL\Procedures\PDF Procedures\Proc 71 Towing of Vehicles with Loader SWP V4 KR 16.4.18.pdf	E	2	16 L

Job/Task Steps List the steps required to complete the activity	Hazards/risks What can cause harm?	Risk Score			Risk Control Measures	Reviewed risk score		
		L	C	Rating		L	C	Rating
7. Using low gear slowly reverse until the slack of the tow rope is taken up when the tension is applied slowly move in a Reverse/forward motion to pull/rotate mobile stacker around into desired position	- Uneven & Slippery ground conditions - Plant & Equipment – submerged or damaged - Fuel/Oil spillage - Subsidence of roadways - Incorrect operation of excavator - Environmental conditions i.e. Sun, glare, rain, fog	B	2	5 H	- Maintain safe distance from slewing machine - TMP Controls- Vehicle Safety Lights, Reversing Beeper - Positive Communication - Channel 26 UHF - Light vehicles to communicate when entering operations area - Spotter to be used to assist Excavator Operator - TMP - Communication between Spotter and HME - Clear all personal that are not required for the task - When travelling backwards, ensure tow point is low as possible to the ground - Supervisor area inspection (informal)	E	5	L 24
8. Move to desired location or safe Storage area	- Uneven & Slippery ground conditions - Plant & Equipment – submerged or damaged - Fuel/Oil spillage - Subsidence of roadways - Incorrect operation of excavator - Environmental conditions i.e. Sun, glare, rain, fog	B	2	5 H	- Maintain safe distance from slewing machine - TMP Controls- Vehicle Safety Lights, Reversing Beeper - Positive Communication - Channel 26 UHF - Light vehicles to communicate when entering operations area - Spotter to be used to assist Excavator Operator - TMP - Communication between Spotter and HME - Clear all personal that are not required for the task - When travelling backwards, ensure tow point is low as possible to the ground - Supervisor area inspection (informal)	E	5	L 24

L=Likelihood A = Almost Certain: Expected to occur B = Likely: Will probably occur C = Moderate: Should occur at sometime D = Unlikely: Could occur at sometime E = Rare: Exceptional circumstances only	C = Consequence 1 = Catastrophic: Disaster – major impact on MCS 2 = Major: Critical Event – Major Impact on project 3 = Severe: Significant Event – Considerable inconvenience 4 = Minor: Minimal Effect – Some inconvenience 5 = Insignificant: Day to day issue – no inconvenience	Risk ranking score	High		Medium		Low	
		C =	L=Likelihood					
			A	B	C	D	E	
		1	1	2	4	7	11	
		2	3	5	8	12	16	
		3	6	9	13	17	20	
		4	10	14	18	21	23	
		5	15	19	22	24	25	

Declaration by contractors and workers

- I have read and understand how I am to carry out the activities listed in this SWMS if safe to do so.

Date	Print name	Signature	Role	Site Manager's signature

[illegible]

SAFE WORK METHOD STATEMENT - 001

COMPANY NAME: Collins Construction Materials Pty Ltd		This RA/SWMS has been authorised by:			
ABN: 61 156 660 525		Name	Michael Holz	Position:	Manager
Address: 214 Macarthur Road, Elderslie 2567		Phone:	0418 423 032	Date of assessment:	27/5/20
RA/SWMS No: 98		Signature:		Next review date:	
Site/Location:		Reviewed date:		Supervisor of job/task:	
Description of job/task:		Relocate Mobile Screens			
Training Requirements: - Specific Site Induction training - VOC Competencies - Emergency Response training		Personal Protective Equipment: - Long Sleeve Shirt and long pants - Steel Capped Boots - Hi Vis Shirt/Vest clothing - Hard hat - Gloves - Eye Protection		Equipment Required: - Light Vehicle - Excavator - Towing Equipment	
Relevant Legislation: - Work Health & Safety Act 2011 - Work Health & Safety Regulations 2011 - NSW Work Health & Safety (Mines & Petroleum Act) - Working Near Overhead Power Lines, NSW Code of Practice 2006					

Job/Task Steps List the steps required to complete the activity	Hazards/risks What can cause harm?	Risk Score			Risk Control Measures	Reviewed risk score		
		L	C	Rating		L	C	Rating
1. Travel to Screen location and complete Site Inspections to determine the safety of working conditions	- Specific Location Hazards - Not inducted - Miscommunication - Slips, Trips and Falls - Slips / faults / geotech stability - Slumping of	B	2	5 H	- Employees to be trained and competent in the SWMS and the SOP which have been developed - Conduct a Take 5 for any changes to location & environment such as access roads conditions; - Employees & Contractors to undertake site specific induction	E	2	16 L

Job/Task Steps List the steps required to complete the activity	Hazards/risks What can cause harm?	Risk Score			Risk Control Measures	Reviewed risk score		
		L	C	Rating		L	C	Rating
	Extraction pit, Silt ponds, tailing dams, water dams, anabranch Area. • Uneven & Slippery ground conditions • Vehicle Rollover • Vehicle to vehicle Collision • Vehicle to Person collision				• Toolbox - Consultation & Communication Procedure – Reference - R:\Collins General\DOCUMENT CONTROL\Procedures\PDF Procedures\Proc 2 Giving a Tool Box Talk Guide V2 KR 3.1.18.pdf • (VOC) Verification of Competency • Adhere to Traffic Management Plan • LV – Flag and Flashing Light • Correct PPE for the task, as listed in this SWMS • Positive Communication - Channel 26 UHF			
2. Complete Pre-start checklist on power screen	• Incorrect PPE • Uneven & Slippery ground conditions • Mobile screen Starting moving without warning	C	3	13 M	• Correct PPE for the task, as listed in this SWMS • Maintain 3 Points of Contact • Isolation Procedure – Remove key from ignition • Reference - ..\..\..\Collins General\DOCUMENT CONTROL\SWMS\PDF SWMS\SWMS 17 Mobile Screen Pre Start and Operation SWMS.pdf	E	3	25 L
3. Access & Remove obstructions surrounding wheel area and ensure ground is level before moving	• Incorrect PPE • Uneven & Slippery ground conditions • Tyre puncture/damage • Floor conditions • Plant & Equipment – submerged or damaged • Fuel leakage • Subsidence of roads	B	3	9 M	• Correct PPE for the task, as listed in this SWMS • 3 Points of Contact • Pre-start • Clear any material or debris away from Tyres • Conduct a Take 5 for any changes to location & environment • Refer to manual handling R:\Collins General\DOCUMENT CONTROL\Procedures\PDF Procedures\Proc 42 Manual Handling Procedure V4 KR 24.10.17.pdf	D	3	17 L

Job/Task Steps List the steps required to complete the activity	Hazards/risks What can cause harm?	Risk Score			Risk Control Measures	Reviewed risk score		
		L	C	Rating		L	C	Rating
	Lighting							
4. Disconnect hydraulic lines to the stacker	- Incorrect PPE - Uneven & Slippery ground conditions - Hazardous chemical contact 0 (Hyd Oil) - Hand, foot and eye injury	B	3	9 M	- Correct PPE for the task, as listed in this SWMS 3 Points of Contact - Isolation Procedure - Refer to manual handling R:\Collins General\DOCUMENT CONTROL\Procedures\PDF Procedures\Proc 42 Manual Handling Procedure V4 KR 24.10.17.pdf - Spill kit	D	3	17 L
5. Pivot mobile screen from tow point to allow the main frame to be lowered without hitting the stacker	- Incorrect PPE - Uneven & Slippery ground conditions - Hazardous chemical contact 0 (Hyd Oil) - Rollover - HME to P&E collision	B	3	9 M	- Correct PPE for the task, as listed in this SWMS 3 Points of Contact - Isolation Procedure - UHF 26 Communication (VOC) Verification of Competency - Refer to manual handling R:\Collins General\DOCUMENT CONTROL\Procedures\PDF Procedures\Proc 42 Manual Handling Procedure V4 KR 24.10.17.pdf - Spill Kit	D	3	17 L
6. Lower main frame of screen by taking the 2 pins out, lower the main frame with the hydraulic controls within the motor compartment	- Incorrect PPE - Rollover - Uneven & Slippery ground conditions - Hazardous chemical contact 0 (Hyd Oil) - Hand, foot and eye injury	B	3	9 M	- Correct PPE for the task, as listed in this SWMS 3 Points of Contact - Do not travel with Main frame in raised position - Once lowered put the pins back into place - Ensure enough clearance from the chute to the ground - Spill Kit	D	3	17 L

Job/Task Steps List the steps required to complete the activity	Hazards/risks What can cause harm?	Risk Score			Risk Control Measures	Reviewed risk score		
		L	C	Rating		L	C	Rating
7. Attach the tow rope that is located on the mobile stacker/power screen to the Excavator towing point	- Incorrect PPE - Uneven & Slippery ground conditions - Plant & Equipment – submerged or damaged - Fuel/Oil spillage	C	2	8 M	- Correct PPE for the task, as listed in this SWMS 3 Points of Contact - Positive Communication - Channel 26 UHF - Spotter to be used to assist Excavator Operator - TMP - Communication between Spotter and HME - Clear all personal that are not required for the task - Chain Testing & Register - Spill Kit R:\Collins General\DOCUMENT CONTROL\Procedures\PDF Procedures\Proc 71 Towing of Vehicles with Loader SWP V4 KR 16.4.18.pdf	E	2	16 L
8. Using low gear slowly reverse until the slack of the tow rope is taken up when the tension is applied slowly move in a Reverse/forward motion to pull/rotate mobile stacker around into desired position	- Uneven & Slippery ground conditions - Plant & Equipment – submerged or damaged - Fuel/Oil spillage - Subsidence of roadways - Incorrect operation of excavator - Environmental conditions i.e. Sun, glare, rain, fog	B	2	5 H	- Personal to maintain safe distance from slewing machine - TMP Controls- Vehicle Safety Lights, Reversing Beeper - Positive Communication - Channel 26 UHF - Light vehicles to communicate when entering operations area - Spotter to be used to assist Excavator Operator - TMP - Communication between Spotter and HME - Clear all personal that are not required for the task - When travelling backwards, ensure tow point is low as possible to the ground - Supervisor area inspection (informal) (VOC) Verification of Competency - Adhere to Traffic Management Plan - Spill Kit	E	5	L 24

Job/Task Steps List the steps required to complete the activity	Hazards/risks What can cause harm?	Risk Score			Risk Control Measures	Reviewed risk score		
		L	C	Rating		L	C	Rating
9. Move to desired location or safe Storage area	- Uneven & Slippery ground conditions - Plant & Equipment – submerged or damaged - Fuel/Oil spillage - Subsidence of roadways - Incorrect operation of excavator - Environmental conditions i.e. Sun, glare, rain, fog	B	2	5 H	- Maintain safe distance from slewing machine - TMP Controls- Vehicle Safety Lights, Reversing Beeper - Positive Communication - Channel 26 UHF - Light vehicles to communicate when entering operations area - Spotter to be used to assist Excavator Operator - TMP - Communication between Spotter and HME - Clear all personal that are not required for the task - When travelling backwards, ensure tow point is low as possible to the ground - Supervisor area inspection (informal) (VOC) Verification of Competency - Adhere to Traffic Management Plan - Spill Kit	E	5	L 24

L=Likelihood A = Almost Certain: Expected to occur B = Likely: Will probably occur C = Moderate: Should occur at sometime D = Unlikely: Could occur at sometime E = Rare: Exceptional circumstances only	C = Consequence 1 = Catastrophic: Disaster – major impact on MCS 2 = Major: Critical Event – Major Impact on project 3 = Severe: Significant Event – Considerable inconvenience 4 = Minor: Minimal Effect – Some inconvenience 5 = Insignificant: Day to day issue – no inconvenience	Risk ranking score	High		Medium		Low	
			L=Likelihood					
		C =	A	B	C	D	E	
		1	1	2	4	7	11	
		2	3	5	8	12	16	
		3	6	9	13	17	20	
		4	10	14	18	21	23	
		5	15	19	22	24	25	

Declaration by contractors and workers

- I have read and understand how I am to carry out the activities listed in this SWMS if safe to do so.

Date	Print name	Signature	Role	Site Manager's signature
Date	Print name	Signature	Role	Site Managers signature

Appendix 4: Compliance Reporting Post Approval and Auditable Items

Compliance Reporting Post Approval and Auditable Items				
Item Reference	Compliance Requirement	Phase of the Development	Monitoring Methodology	Evidence & Comments
Notice of Modification 5	Update to Air Quality Monitoring Condition 8 schedule 3	Operation	Air Quality Management Plan Long Term Criteria Pm10 table updated to 25ug/m3	External Monthly Air Monitoring by Harvest Scientific Voluntary PM10, TSP Testing twice annually
Notice of Modification 4	Compliance with EIS SEE (MOD 1) EA (MOD 3) EA (MOD 4) Statement of commitments	Operation		
Notice of Modification 4	Implement Air Quality Monitoring Program	Operation	Air Quality Management Plan	External Monthly Air Monitoring by Harvest Scientific Voluntary PM10, TSP Testing twice annually
Notice of Modification 4	Implement Water Management Plan	Operation	• Water Management Plan • Site Water Balance; • Erosion and Sediment Control Plan; • Groundwater Monitoring Program; and, • Flood Emergency Procedures Plan	Daily Visual Inspection by EMR Monthly operational report Form 30 Collins IBMS
Notice of Modification 4	Implement Landscape Management Plan	Operation	Landscape Management Plan (including rehabilitation plan)	Bowanz Annual Bush Regeneration and Ecological Restoration Report Monthly operational report Form 30 Collins EMS
Notice of Modification 4	Implement Rehabilitation Management Plan	Operation	Landscape Management Plan (including rehabilitation plan)	Bowanz Annual Bush Regeneration and Ecological Restoration Report Monthly Visual inspection Daily & Monthly by EMR Monthly Operations Report

				Form 30 Collins EMS
Notice of Modification 4	Implement Waste Management Plan	Operation		Visual daily and monthly inspection by EMR Monthly Operations Report Form 30 Collins EMS
Notice of Modification 4	Implement Environmental Management Strategy	Operation	Environmental Management Plan	Collins EMS operational controls including ECPS and FOPS Collins IBMS and EMS EMP 2018 Approved plan including controls noted above.
Modification 3 16a	Stockpiles - Hydramulch stockpiles where retained for a period greater than 3 months	Operation	Environmental Management Plan including Water Management Plan (Erosion and sedimentation control) and Landscape Management Plan	Visual Inspection Daily and monthly EMR Monthly Operations Report Form 30 Collins EMS
Modification 2	Extraction Area - Not open, extract or excavate greater than 2ha at once	Operation	Environmental Management Plan	Monthly Operations Report Form 30 Collins EMS
	Eastern Bund Wall - 7 meter height earthen bund wall to west of working extraction area	Operation	Environmental Management Plan	Monthly Operations Report Form 30 Collins EMS
	Noise - Not exceed noise assessment criteria	Operation	Environmental Management Plan	Koikis Acoustic Study 2017 Daily Visual Inspection by EMR Incident Report or Complaint form or register
	Air Quality - TSP Annual not exceed 90ug/m3 and PM10 Matter not exceed 25ug/m3 annually	Operation	Air Quality Management Plan AM15 and AS2724.3-1984	External Monthly Air Monitoring by Harvest Scientific

			AM18 and AS3580.9.6-1990 Investigate following legitimate Dust Compliant	
	Air Quality - PM10 not exceed 50ug/m3 24 hour period	Operation	Air Quality Management Plan AM18 and AS3580.9.6-1990 Investigate following legitimate Dust Compliant Investigate following legitimate Dust Compliant	Voluntary PM10, TSP Testing twice annually
	Air Quality – Deposited Dust not exceed a maximum deposited increase 2 g/m2 per month or maximum total deposited dust level 4 g/m2 month	Operation	Air Quality Management Plan AM18 and AS3580.9.6-1990 Investigate following legitimate Dust Compliant	External Monthly Air Monitoring by Harvest Scientific
	Discharge - No discharge from Site	Operation	Environmental Management Plan including Water Management Plan Emergency preparedness plans	Visual inspection Daily by EMR Monthly Operational Report Form 30 Collins EMS Emergency preparedness plans – accident, incident form and register
	Visual - Establish & maintain perimeter visual plantings to minimise visual impact		Landscape Management Plan	Bowanz Annual Bush Regeneration and Ecological Restoration Report
	Incident Reporting- Reporting within 7 days to the Department and agencies of any exceedance	Operation	Environmental Management Plan	Collins EMS Management Procedure MP37

				Accident Incident Reporting, Form and Register
	Annual Reporting - Submit AEMR annually BY 31 ST March	Operation	Environmental Management Plan	Collins Environmental Planner
	Independent Environmental Audit – every 3 years	Operation	Environmental Management Plan	Collins Environmental Planner
	Access to Information – Ensure approved management plans, AEMR and monitoring results are on the website	Operation	Collins EMS	Collins Environmental Planner
Original Consent 1	Open extraction area must not exceeding 2Ha at any one time	Operation	Environmental Management Plan	Monthly Operations Report Form 30 Collins EMS
	Dust - Regular watering, Automatic sprinklers on stockpiles, grass stockpiles where such are to be retained for a long period of time	Operation	Environmental Management Plan	Daily and Monthly Visual Inspection by EMR Monthly Operations Report Form 30 Collins EMS Monthly Air Monitoring Reports Harvest Scientific
	Noise - Not exceed LA (10) 15 minute interval noise emission criteria of 55dB (A) at the nearest dwelling	Operation	Environmental Management Plan	Daily and Monthly Visual Inspection by EMR Monthly Operations Report Form 30 Collins EMS Incident Report or Complaint form or register
	Buffer Zone - No excavation 30 meters from any public road or public reserve boundary. 12 meters from any other boundary, Buffer Zone - No building work, parking, plant or stockpile 15 meters from any public boundary. 6 metres from any other boundary.	Operation	Environmental Management Plan	Monthly Operations Report Form 30 Collins EMS
	Imported Fill - Imported fill must be pre approved by Camden council	Operation	Environmental Management Plan	Facility Operating Procedure – Importation of Material

	Tailings - dispersed according to council requirements	Operation	Environmental Management Plan	Collins EMS ECPs and FOPS
	Access Roads - All access roads kept watered to minimise dust	Operation	Environmental Management Plan Traffic Management Plan	Daily and Monthly Visual Inspection by EMR Monthly Operations Report Form 30 Collins EMS Monthly Air Monitoring Reports Harvest Scientific Driver and Contractor Site Induction
	Operation Hours M-F 7am-5pm, Saturday 8-1pm	Operation	Environmental Management Plan	Management by EMR and Quarry Manager
	Annual contribution to Camden Council for the maintenance of Macarthur road	Operation	Collins Statement of Commitments	Annual Environmental Planner
Statement of Commitments	Traffic - Laden Truck Movements not exceed 36 per day average or maximum of 80 any day	Operation	Collins Statement of Commitments	Collins EMS Weekly Truck Movement Report
	Traffic - Limit impact of trucks on public roads	Operation	Collins Statement of Commitments	Collins Daily Allocations Manager Navman Satellite Tracking
	Dust – Voluntary Air Monitoring PM10 & TSP Twice annually	Operation	Air Quality Management Plan	Voluntary PM10, TSP Testing twice annually
EPL 4093	Dust - 3 dust monitoring locations for monthly testing . MS1, MS2, MS3. Monitoring and recording of Dust at MS1, MS2,MS3 Grams per sqm per month	Operation	Air Quality Management Plan	External Monthly Air Monitoring by Harvest Scientific Voluntary PM10, TSP Testing twice annually
	Waste - waste that meets 'recovery exemption' clause 51A of Protection of the Environmental (Waste) Act 2005 onlky allowable imported material for processing	Operation	Waste Management Plan	Visual daily and monthly inspection by EMR Monthly Operations Report Form 30 Collins EMS
	Noise - LA (10) 15 minute interval noise emission criteria of	Operation	Environmental Management Plan	Daily and Monthly Visual Inspection by EMR

	55dB (A) Measured within one meter from boundary			Monthly Operations Report Form 30 Collins EMS Incident Report or Complaint form or register
	Hours of Operation - Lot 1 7am-5PM m-f and 7am-1pm Saturday Lot 22, 32 7am and 5pm m-f and 8am-1pm Saturday	Operation	Environmental Management Plan	Management by EMR and Quarry Manager
	Annual Return Submission due October annually	Operation	Environmental Management Plan	Annual Environmental Planner
	Dust – Voluntary Monitoring of PM10 and TSP TWICE Annually - April - May period and Sept-Oct period	Operation	Air Quality Management Plan	Voluntary PM10, TSP Testing twice annually
WAL Licences	Aquifer 20UNITS Complete and maintain logbook	Operation	Environmental Management Plan Water Management Plan	Monthly Operations Report Form 30 Collins EMS
	98 units Complete and maintain logbook	Operation	Water Management Plan	Monthly Operations Report Form 30 Collins EMS
	Surface Water 230 UNITS complete and maintain logbook	Operation	Water Management Plan	Monthly Operations Report Form 30 Collins EMS
	Surface Water 41 UNITS complete and maintain logbook	Operation	Water Management Plan	Monthly Operations Report Form 30 Collins EMS
	Groundwater Complete & maintain groundwater extraction log book.	Operation	Water Management Plan	Monthly Groundwater Monitoring by Harvest Scientific pH, EC, depth to groundwater (m). Field pH and EC meters, water sampling device, tape measure

Appendix 5: Agency Correspondence

Hi Samuel,

Thank you for the discussion and your feedback on our Management Plans.

I am pleased that you are happy with the detail of our Management plans and that they also meet Councils expectations. As discussed, we would be happy to have you attend site in the near future covid permitting.

Thanks again for the phone call.

Regards,

Emma Collins



COLLINS GROUP

*1/49 Smeaton Grange Road,
Smeaton Grange NSW 2567*

Mobile: 0409 869 094

Email: ecollins@mcollins.com.au

Landline: (02) 9774 1544

Web: www.mcollins.com.au

From: Samuel Barnard <Samuel.Barnard@camden.nsw.gov.au>

Sent: Thursday, 5 August 2021 2:39 PM

To: Emma Collins <ecollins@mcollins.com.au>

Cc: Ryan Pritchard <Ryan.Pritchard@camden.nsw.gov.au>

Subject: RE: Collins Spring farm Quarry - Environmental Management Plan & Water Management Plan

Hi Emma,

As discuss this is my email address.

Thankyou for your time to discuss my feedback.

Kind regards

Samuel Barnard

Specialist Support Environmental Health Officer



 70 Central Avenue, Oran Park, 2570

 (02) 4654 7828

 www.camden.nsw.gov.au

 PO Box 183, Camden NSW 2570

 Samuel.Barnard@camden.nsw.gov.au



INNOVATION



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COMMITMENT



SAFETY

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From: Ryan Pritchard <Ryan.Pritchard@camden.nsw.gov.au>

Sent: Thursday, 5 August 2021 1:49 PM

To: Samuel Barnard <Samuel.Barnard@camden.nsw.gov.au>

Subject: FW: Collins Spring farm Quarry - Environmental Management Plan & Water Management Plan

Hi Sam,

On Tuesday I sent an e-mail to the Spring Farm quarry operator that incorporated your feedback (see below).

The operator wants to have a chat about the feedback. Can you please contact her about this as I wouldn't be able to fluently converse about such issues.

Thanks,

Ryan Pritchard

Coordinator Statutory Planning Services



70 Central Avenue, Oran Park, 2570

02 4654 7715

www.camden.nsw.gov.au

PO Box 183, Camden NSW 2570

Ryan.Pritchard@camden.nsw.gov.au



As we continue to make some changes to our services in response to the COVID-19 situation, one thing remains the same – and that's our dedication to serving you.

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information for the recipient), please contact the sender by reply e-mail and delete all copies of this message. Any views or opinions presented are solely those of the author.

From: Emma Collins <ecollins@mcollins.com.au>

Sent: Thursday, 5 August 2021 12:17 PM

To: Ryan Pritchard <Ryan.Pritchard@camden.nsw.gov.au>

Subject: Re: Collins Spring farm Quarry - Environmental Management Plan & Water Management Plan

Hi Ryan,

Many thanks for your email.

I just tried to call you to discuss the suggestion and provide some further background to the existing monitoring locations.

Could you let me know a suitable time to give you a call to discuss, or if you would prefer to call me when it's convenient my mobile number is below.

Many thanks
Emma

Regards,
Emma Collins

COLLINS GROUP

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[Smeaton Grange NSW 2567](#)

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Email: ecollins@mcollins.com.au

Landline: [\(02\) 9774 1544](tel:(02)97741544)

Web: www.mcollins.com.au

On 3 Aug 2021, at 4:14 pm, Ryan Pritchard <Ryan.Pritchard@camden.nsw.gov.au> wrote:

Hi Emma,

Thank you for the opportunity to comment on these documents.

As you advised me when we spoke on the telephone, Council understands that the updating of the documents is a requirement of your State Significant development consent for the quarry. We also understand that the documents will be submitted to the Department of Planning, Industry and Environment for formal approval.

Council has reviewed the documents and recommends that the environmental monitoring locations identified in Figure 3 of the EMP be updated to include additional monitoring to the south east of the site where residential dwellings have been recently constructed (circled in blue below).

<image015.png>

I also note that the element of the quarry approved by the Council development consent must be carried out in accordance with the Council development consent.

Regards,

Ryan Pritchard
Coordinator Statutory Planning Services

<image018.jpg> <image019.jpg> 70 Central Avenue, Oran Park, 2570 <image020.jpg> PO Box 183, Camden NSW 2570
<image021.jpg> 02 4654 7715 <image022.jpg> Ryan.Pritchard@camden.nsw.gov.au
<image023.jpg> www.camden.nsw.gov.au <image024.jpg>

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<image027.jpg>

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From: Emma Collins <ecollins@mcollins.com.au>

Sent: Thursday, 22 July 2021 1:42 PM

To: Nicole Magurren <Nicole.Magurren@camden.nsw.gov.au>

Cc: Matt Collins <matt@mcollins.com.au>

Subject: Collins Spring farm Quarry - Environmental Management Plan & Water Management Plan

Good Afternoon Nicole,

M.Collins & Sons Holdings Pty Ltd is in the process of revising the Springfarm Quarry Management Plans. As part of this process we would like to extend an opportunity to Camden Council to review these and provide feedback if necessary.

Attached is our EMP and Water Management Plan for your perusal.

Please feel free to contact either Matt Collins or myself if you wish to discuss or organise a time to come to site.

Many Thanks,

Regards,
Emma Collins
<image030.jpg>
COLLINS GROUP

1/49 Smeaton Grange Road,

Smeaton Grange NSW 2567

Mobile: 0409 869 094

Email: ecollins@mcollins.com.au

Landline: (02) 9774 1544

Web: www.mcollins.com.au

Sat 24/07/2021 2:18 PM

Good Afternoon Mohammed,

M.Collins & Sons Holdings Pty Ltd has revised the Springfarm Quarry Water Management Plan. We would like to extend the opportunity for you to review and provide feedback if necessary.

Attached is Water Management Plan for your perusal.

Please feel free to contact either Matt Collins or myself if you wish to discuss.

Many Thanks,

Regards,

Emma Collins



COLLINS GROUP

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Smeaton Grange NSW 2567*

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Web: www.mcollins.com.au

Thursday 22nd July 2021

Collins Spring Farm Quarry Air Quality Management Plan revision 2021

To Chris Kelly

Good Afternoon Chris,

M.Collins & Sons Holdings Pty Ltd is in the process of revising the Springfarm Quarry Management Plans. As part of this process we would like to extend the opportunity for you to review and provide feedback if necessary.

Attached is Air Quality Monitoring Plan for your perusal.

Please feel free to contact either Matt Collins or myself if you wish to discuss or organise a time to come to site.

Many Thanks,