



Application for Works Approval Amendment

Part V Division 3 of the *Environmental Protection Act 1986*

| | |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Works Approval Number | W6407/2020/1 |
| Works Approval Holder | Silver Lake (Deflector) Pty Ltd |
| ACN | 101 224 999 |
| File Number | DER2020/000240~7 |
| Premises | <p>Gullewa Gold-Copper Operations Morawa – Yalgoo Road YALGOO WA 6635</p> <p>Legal description –</p> <p>M59/49, L59/49, L59/64, M59/68, M59/132, M59/294, M59/356, M59/391, M59/392, M59/335, M59/442, L59/35, M59/507, M59/336, M59/522, L59/71, L59/158, L59/159 and L59/160</p> <p>As defined by the Premises map attached to the Revised Works Approval</p> |
| Date of Report | 20/03/2024 |
| Decision | REVISED WORKS APPROVAL GRANTED |

A/SENIOR MANAGER, RESOURCE INDUSTRIES

an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

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1. Decision summary

Works Approval W6407/2020/1 is held by Silver Lake (Deflector) Pty Ltd (Works Approval Holder) for the Gullewa Gold-Copper Operations (the Premises), located at M59/49, L59/49, L59/64, M59/68, M59/132, M59/294, M59/356, M59/391, M59/392, M59/335, M59/442, L59/35, M59/507, M59/336, M59/522, L59/71, L59/158, L59/159 and L59/160 Morawa – Yalgoo Road, Yalgoo, Western Australia (WA) 6635.

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the construction and operation of the Premises. As a result of this assessment, Revised Works Approval W6407 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this Amendment Report, the department has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at <https://dwer.wa.gov.au/regulatory-documents>.

2.2 Application summary

On 9 November 2023, the Works Approval Holder submitted an application to the department to amend Works Approval W6407/2020/1 (W6407) under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act).

The Works Approval Holder proposes to modify the current wastewater treatment plant (WWTP) at the Premises by replacing an existing 30 m³/day containerised sewage treatment plant (STP) with a larger 50 m³/day STP.

The existing STP was recently constructed under W6407 however, sampling of the treated wastewater identified that it was not achieving the design specifications as stated by the manufacturer. The commissioning report submitted by the Works Approval Holder in September 2023 for the 30 m³/day STP showed the concentrations of TSS, TN and BOD were slightly above the infrastructure design targets.

The Works Approval Holder proposes to replace the existing STP with a larger capacity STP which is expected to see these parameters reduce to acceptable levels. The Works Approval Holder has stated there will be no changes to the volumes of wastewater being treated at the Premises, and the new STP will occupy the footprint of the current unit once it is removed.

The current WWTP is designed to treat a total of 90 m³/day of wastewater and consists of a 60 m³/day fixed plant, and the current 30 m³/day STP. Replacing the 30 m³/day STP with a 50 m³/day STP will increase the overall capacity of the WWTP to treat up to 110 m³ of wastewater per day.

With W6407 only authorising the construction and time limited operation (TLO) of a Category 85 sewage facility with a design capacity to treat up to 90 m³/day, W6407 will require amending by replacing Category 85 with a Category 54 to authorise more than 100 m³ of sewage to be treated per day at the Premises. EP Act licence L7798/1993/6 (L7798) for the Premises will also need amending by replacing Category 85 with a Category 54 to allow the continual operation of the WWTP following the completion of TLO's under W6407.

The new STP (like the current STP) will receive influent feed from the balance transfer pump of the existing fixed plant which will then be treated through use of the following components:

- Three 9 m³ Balance tanks.
- Poly Aluminum Chloride dosing pump.
- Sucrose dosing pump.
- Sequence Batch Reactor (SBR) tank.
- Two submersible Aerators/Mixers.
- Decant pump.
- Two 9 m³ Sludge Tanks and pump.
- Recirculation pump, and
- Sodium hypochlorite dosing pump.

The treated wastewater will then be stored within an Irrigation Tank prior to discharge to the existing 6.0 ha irrigation field. The works approval does not propose to increase the size of the irrigation area.

The works approval holder has stated in the application the quality of the treated effluent discharge is expected to meet the effluent discharge qualities as shown in Figure below.

| Parameter | Units | Influent | Effluent |
|--------------------------|-------------------|----------|-----------|
| Hydraulic Capacity (Avg) | m ³ /d | 50 | 50 |
| BOD | mg/L | 350 | <20 |
| TSS | mg/L | 350 | <30 |
| pH | pH units | 6.5-8.5 | 6.5 – 8.5 |
| E Coli | cfu/100mL | - | <1000 |
| Chlorine | mg/L | - | 0.2-2.0 |

Figure 1: Expected STP Influent/Effluent Specifications

The works approval holder expects the installation of the new STP will take about 10 days to complete followed by commissioning of the facility over a 12-week period. The works approval holder then proposes to operate the facility under time limited operation conditions included in W6407 to allow for an amendment to licence L7798 for the operation of the larger capacity WWTP.

This amendment is limited only to changes to the Category 85 activities from the existing Works Approval. No changes to the aspects of the existing works approval relating to Category 5 have been requested by the Works Approval Holder. Table 1 below outlines the proposed changes to the existing works approval.

Table 1: Proposed design or throughput capacity changes

| Category | Current design / throughput capacity | Proposed design / throughput capacity | Description of proposed amendment |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Category 5: Processing or beneficiation of metallic or non-metallic ore | 760,000 tonnes per annual period | No change proposed. | No change proposed. |
| Category 85: Sewage facility: premises – (a) on which sewage is treated (excluding septic tanks); or (b) from which treated sewage is discharged onto land or into waters Note: Category 85 to be replaced with a Category 54 | 90 m ³ /day (design capacity) | 110 m ³ /day (design capacity) | Replace the 30 m ³ /day containerised wastewater treatment plant with a new larger 50 m ³ /day container unit. This increase will allow a combined total of 110 m ³ of wastewater to be treated each day at the Premises, however the applicant has stated the throughput at the plant will remain unchanged at 75 m ³ /day. |

3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guideline: Risk assessments* (DWER 2020).

To establish a Risk Event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission. As the emission sources, receptors, pathways and controls have not changed from the previous assessment undertaken in the Decision Report dated 27 April 2023 (DWER record DWERDT773298), the risk profile has not changed. The Delegated Officer considers that no further risk assessment is required, and therefore this amendment is predominantly administrative in nature to reflect change in the STP.

4. Consultation

Table 2 provides a summary of the consultation undertaken by the department.

Table 2: Consultation

| Consultation method | Comments received | Department response |
|---------------------------------------------------------|-----------------------|---------------------|
| Shire of Yalgoo advised of proposal on 18 December 2023 | No response received. | No action taken. |

| Consultation method | Comments received | Department response |
|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Department of Health (DoH) advised of the proposal 18 December 2023</p> | <p>Response received on 22 January 2024.</p> <ul style="list-style-type: none"> The DoH has no objection to the proposal, subject to ensuring the wastewater treatment plant complies with the requirements of the <i>Health Treatment of Sewage and Disposal of Effluent and Liquid Wastes Regulations, 1974</i> and policy objectives, including the Government Sewerage Policy, 2019. The proposal should adhere to the DoH approval number 64.23 for the 75KL Wastewater Treatment Plant (WWTP) capacity. The proponent is required to submit a formal application for any future upgrade to the WWTP. The WWTP shall be adequately sized to accommodate the peak number of occupants based on the current health legislation. | <p>The Department of Health's response has been noted.</p> <p>The department also notes the applicant has stated the throughput at the plant will remain unchanged at 75 m³ (KL)/day to adhere to Department of Health requirements.</p> |
| <p>Works Approval Holder was provided with draft amendment on 15/03/2024</p> | <p>Comments received 20/03/2024 advising no changes required and requested comment period is waived.</p> | <p>Noted</p> |

5. Conclusion

Based on the assessment in this amendment report, the CEO has determined that a revised works approval will be granted, subject to conditions commensurate with the necessary administration and reporting requirements.

5.1 Summary of amendments

Table 3 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the revised works approval as part of the amendment process.

Table 3: Summary of works approval amendments

| Condition or Table no. | Proposed amendments |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>N/A</p> | <p>The prescribed premises category of the works approval has been updated from a category 85 to a category 54 because of an increase in the design capacity. The design capacity of the WWTP was 90 cubic metres per day however with an increase in size of the replacement STP the capacity is now 110 cubic meters per day. A sewage facility with a design capacity to treat greater than 100 cubic meters per day requires a category 54 licence.</p> |

| Condition or Table no. | Proposed amendments |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Previous condition 4 and Table 4 | This condition has been removed as the new groundwater monitoring wells have been installed and compliance provided to the department. DWER record A2071983 |
| Condition 1, Table 1 | <p>Condition updated by removing construction requirements for infrastructure that has now been completed for the:</p> <ul style="list-style-type: none"> • CIP Leach upgrade & Reagent Store - DWER record A2071947. • WWTP - DWER record DWERDT797239. • Monitoring bores - DWER record A2071983. • Surface water management - DWER record DWERDT483259. • TSF2 Cells A and B tailings decant and pipelines – DWERDT465221, A2082180, DWERDT535317, A2071937, A2082180 and A2071339 <p>Construction requirements that related to the 30 KLD containerised system that also relate to the proposed 50 KLD system have been retained with the capacity amended to 50 KLD and the inclusion of additional components.</p> |
| Condition 2, Table 2 | <p>Condition updated by removing the construction requirements for infrastructure that has now been completed for the:</p> <ul style="list-style-type: none"> • TSF2 Cell A (starter embankment, seepage controls and recovery systems) – DWER records DWERDT483259 and A2071978. • Process water pond – DWER record A2071981. • TSF2 Cell B - DWER record A2071976 • TSF2 Cell B raise 1(includes pipelines) - DWER record DWERDT465221 <p>Construction requirements that relate to future raises of Cell A and B have been retained.</p> |
| Condition 3, Table 3 | Conditions updated by removing the stage 1 crest heights for Cells A and B as these have now been completed. |
| Previous condition 9 | Condition removed. Construction report for the groundwater monitoring bores has been provided. DWER assessed as compliant. DWER record DWERDT427276 |
| Condition 12, Table 4 | <p>Commissioning requirements for the CIP Circuit have been removed. Commissioning completed. DWER assessed as compliant. DWER record A2083042.</p> <p>Table 4 also amended by updating the capacity figure of the STP and increasing the discharge figure to the irrigation field.</p> |
| Condition 11, Table 5 | <p>Table updated by removing commissioning requirements for the process water pond and CIP circuit as these have now been completed. DWER assessed as compliant. DWER record A20083042.</p> <p>Commissioning of the TSF2 has been updated by including embankment raises 1 and 2 as these are yet to be completed and commissioned.</p> |

| Condition or Table no. | Proposed amendments |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Previous condition 20 | This condition has been removed because time limited operations for CCI is no longer required. Operating the CCI is regulated through conditions of Licence L7798 which was amended on 20/04/2023. |
| Previous condition 24 | This condition has been removed because a site water balance is now regulated under conditions of Licence L7798. |
| Table 8 | Table amended by removing operational requirements for the CIP Circuit, Groundwater Monitoring Bores and TSF2 as these are now regulated through conditions of Licence L7798. |
| Previous conditions 25, 26 and 27, and Table 11 | These conditions have been removed. The requirement to undertake tailings characterisation studies during time limited operations has been completed and the results from the studies provided to the CEO. DWER records DWERDT624453 and A2118720. |
| Condition 22, Table 10 | The requirement to undertake inspections of tailings delivery and return pipelines, TSF2 decant pond and the TSF2 surface has been removed. These requirements are now regulated through conditions in Licence L7798. |
| Previous conditions 29 to 32 | These conditions have been removed as they relate to groundwater monitoring requirements at the TSF2 during time limited operations. Time limited operations at the TSF2 have ceased with operations now regulated through conditions of Licence L7798. |
| Condition 26 | Condition amended by removing time limited operation reporting requirements for infrastructure that has been completed (i.e. OPR and TSF2) and is now regulated under Licence L7798. Time limited operations reporting remains a requirement with the installation of the larger STP at the WWTP. |
| Previous conditions 37 to 40 | These conditions have been removed as they relate to the requirement for specified actions to be undertaken if an exceedance of groundwater levels at the TSF2 has been identified during time limited operations. Operations at the TSF2 are now regulated through conditions of Licence L7798 which includes monitoring requirements and specified actions when an exceedance occurs. |
| Definitions | Redundant definitions have been removed. |
| Previous Figures 2, 8 and 13 | <p>Map of CIP circuit removed. Infrastructure completed and regulated under Licence L7798.</p> <p>Map of TSF2 groundwater bore locations removed. Regulated under Licence L7798.</p> <p>Map of Process water pond removed. Infrastructure completed and regulated under Licence L7798.</p> |

References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
4. Silver Lake (Deflector) Pty Ltd, Deflector Gold Copper Mine, *Department of Water and Environmental Regulation Works Approval W6407/2020/1 Amendment Application, Attachment 8 - Additional information WWTP Upgrade 2*, 9 November 2023

Appendix 1: Application validation summary

| SECTION 1: APPLICATION SUMMARY | | | |
|-------------------------------------------------------------------|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Application type | | | |
| Amendment to works approval | <input checked="" type="checkbox"/> | Current works approval number: | W6407/2020/1 |
| Date application received | | 9 November 2023 | |
| Applicant and Premises details | | | |
| Applicant name/s (full legal name/s) | | Silver Lake (Deflector) Pty Ltd | |
| Premises name | | Gullewa Gold-Copper Operations | |
| Premises location | | M59/49, L59/49, L59/64, M59/68, M59/132, M59/294, M59/356, M59/391, M59/392, M59/335, M59/442, L59/35, M59/507, M59/336, M59/522, L59/71, L59/158, L59/159 and L59/160 Morawa | |
| Local Government Authority | | Shire of Yalgoo | |
| Application documents | | | |
| HPCM file reference number: | | DWERDT866822 | |
| Key application documents (additional to application form): | | Silver Lake (Deflector) Pty Ltd, Deflector Gold Copper Mine, <i>Department of Water and Environmental Regulation Works Approval W6407/2020/1 Amendment Application – Attachment 8 – Additional Information WWTP Upgrade 2</i> , 9 November 2023 | |
| Scope of application/assessment | | | |
| Summary of proposed activities or changes to existing operations. | | <p>Construction/installation of additional WWTP infrastructure.</p> <p>A 30 m³/day containerised wastewater treatment plant constructed under W6407/2020/1 (W6407) is located adjacent to the main wastewater treatment plant. The Works Approval Holder has identified that the containerised plant has not been meeting the design discharge targets and is therefore proposing to replace the 30 m³/day container unit with a 50 m³/day container unit. This increase will allow a combined total of 110 m³ of wastewater to be treated each day. The 240 person accommodation camp currently only produces 75 m³/day which is expected to remain unchanged.</p> <p>The proposed 50 m³/day container unit will utilise the footprint of the replaced 30 m³/day unit.</p> <p>The irrigation area of 6.0 ha will remain the same.</p> | |

Category number/s (activities that cause the premises to become prescribed premises)

Table 1: Prescribed premises categories

| Prescribed premises category and description | Assessed production or design capacity | Proposed changes to the production or design capacity |
|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Category 5: Processing or beneficiation of metallic or non-metallic ore | No change | No change |
| Category 85: Sewage facility | 90 m ³ /day (60 m ³ /day plant + 30 m ³ /day container unit) | 110 m ³ /day (60 m ³ /day plant + 50 m ³ /day container unit) |

Legislative context and other approvals

| | | |
|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | N/A |
| Does the applicant hold any existing Part IV Ministerial Statements relevant to the application? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | N/A |
| Has the proposal been referred and/or assessed under the EPBC Act? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | N/A |
| Has the applicant demonstrated occupancy (proof of occupier status)? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | Only M59/356 relates to the works approval amendment. M59/356 expires on 05/12/2036 and is held by Gullewa Gold Project Pty Ltd (verified in Minedex). |
| Has the applicant obtained all relevant planning approvals? | Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> | Mining is an approved land use for this area. |
| Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | No clearing is proposed under this amendment. CPS No: 5128/4. This is an existing permit that allows <1 ha of native vegetation to be cleared. |
| Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | Application reference No: N/A Licence/permit No: CPS 5128/4 No clearing is proposed. |
| Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | Application reference No: N/A Licence/permit No: GWL 18757(6) is existing however does not apply to this proposal. |
| Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | N/A |

| | | |
|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------|
| Is the Premises situated in a Public Drinking Water Source Area (PDWSA)? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | N/A |
| Is the Premises subject to any other Acts or subsidiary regulations | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | <i>Mining Act 1978</i> <i>Health (Miscellaneous Provisions) Act 1911</i> |
| Is the Premises within an Environmental Protection Policy (EPP) Area? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | N/A |
| Is the Premises subject to any EPP requirements? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | N/A |
| Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i> ? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | N/A |