



Works approval number	W6356/2020/1
Works approval holder	Water Corporation
Registered business address	629 Newcastle Street LEEDERVILLE WA 6007
DWER file number	DER2019/000676
Duration	21/08/2020 to 20/08/2025
Date of issue	21 August 2020
Premises details	Mandurah No. 1 (Gordon Road) Wastewater Treatment Plant Lot 500 (500) Gordon Road and Lot 109 (2) Corsican Place, PARKLANDS WA 6180 Legal description - Lot 500 on Deposited Plan 44788 and Lot 109 on Deposited Plan 73737 As defined by the coordinates in Schedule 1 of the works approval

Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987</i>)	Assessed design capacity
Category 54: Sewage facility	15,500m ³ /day (15.5ML/day)

This works approval is granted to the works approval holder, subject to the attached conditions, on 21 August 2020, by:

**A/MANAGER – WASTE INDUSTRIES
REGULATORY SERVICES**

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

Interpretation

In this works approval:

- (a) the words 'including', 'includes' and 'include' in conditions mean "including but not limited to", and similar, as appropriate;
- (b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;
- (c) where tables are used in a condition, each row in a table constitutes a separate condition;
- (d) any reference to an Australian or other standard, guideline, or code of practice in this works approval:
 - (i) if dated, refers to that particular version; and
 - (ii) if not dated, refers to the latest version and therefore may be subject to change over time;
- (e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act; and
- (f) unless specified otherwise, all definitions are in accordance with the EP Act.

NOTE: This works approval requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this works approval.

Works approval conditions

Construction phase

Construction Environmental Management Plan (CEMP)

1. The works approval holder must submit a Construction Environmental Management Plan (CEMP) to the CEO a minimum 30 working days prior to construction activities commencing.
2. The CEMP specified in condition 1 should include as a minimum:
 - (a) details of the potential sources of:
 - (i) noise emissions;
 - (ii) odour emissions;
 - (iii) poor-quality treated wastewater discharge emissions; and
 - (iv) dust emissions;during the construction works; and
 - (b) provide mitigation and management measures to reduce and prevent the potential emissions listed under condition 2(a); and
 - (c) demonstrate how compliance with the *Environmental Protection (Noise) Regulations 1997* will be achieved.

Infrastructure and equipment

3. The works approval holder must install and undertake the works:
 - (a) for the infrastructure and equipment specified in Column 1; and
 - (b) to the design and construction requirements specified in Column 2; as set out in Table 1.

Table 1: Design and construction / installation requirements

	Column 1	Column 2
	Infrastructure and equipment	Design and construction / installation requirements
1.	Inlet works outlet chamber and piping	<ul style="list-style-type: none"> • Replacement of existing equipment to bioselector; and • Built to accommodate flow rate of 687L/s.
2.	Bioselector	<ul style="list-style-type: none"> • Replacement of existing bioselector with a larger, passively mixed model; • Constructed of concrete; and • Built to accommodate instantaneous flow rate of 1,073L/s.
3.	Oxidation Ditch 1.	<ul style="list-style-type: none"> • Upgrade aerators to replace aged assets; and • New infrastructure must maintain efficiency of at least 2.0kg O₂/kWhr.
4.	Oxidation Ditch 2.	<ul style="list-style-type: none"> • Upgrade aerators to replace aged assets; and • New infrastructure must maintain efficiency of at least 2.0kg O₂/kWhr.
5.	Waste Activated Sludge (WAS) Pump Station	<ul style="list-style-type: none"> • Replace existing WAS Pump Station and delivery pipework to the Dissolved Air Floatation Tanks (DAFTs); and • New infrastructure must be able to provide a minimum of 19L/s.
6.	Return Activated Sludge (RAS) Pump Station No 1.	<ul style="list-style-type: none"> • Replacement of aged elements and delivery pipework; and • New infrastructure must be able to provide a maximum of 206L/s.
7.	Return Activated Sludge (RAS) Pump Station No 2	<ul style="list-style-type: none"> • Replacement of aged elements and delivery pipework; and • New infrastructure must be able to provide a maximum of 206L/s.
8.	Reclaimed effluent pumps, accumulators and filtration system	<ul style="list-style-type: none"> • Replacement of aged assets; and • Reclaimed effluent pumps must be able to achieve a minimum of 15L/s at 500kPa at delivery points.
9.	Infiltration basins	Installation of Sensory control and data acquisition (SCADA) linked hydrostatic level measurement instruments.
10.	DAFT No 2.	<ul style="list-style-type: none"> • Installation of a new Dissolved Air Floatation Tank (DAFT) No 2; and • Sized to accommodate 24ML/day; and • Provide thickening of 182kg/hr.
11.	Potable Water Booster Pump	<ul style="list-style-type: none"> • Replacement of the pump package with a larger model; • Installation of the new booster skid for the polymer batching system, including a bypass around the system and a temporary booster pump to remove the need for shutdowns during infrastructure replacement; and • Must be capable of discharging at least 8L/s.
12.	Clarifiers No 1 and 2	Installation of new inlet feed-well and Stamford baffles

4. The works approval holder must not depart from the requirements specified in Table 1, except :
 - (a) Where such departure is minor in nature and does not materially change or affect the infrastructure; or
 - (b) where such departure does not increase risks to public health, public amenity or the environment; and
 - (c) all other conditions in this works approval are still satisfied.

Compliance reporting

5. Within 60 calendar days of completing all construction and installation activity required by condition 3, the works approval holder must:
 - (a) undertake an audit of their compliance with the requirements of condition 3; and
 - (b) prepare and submit to the CEO an Environmental Compliance Report on that compliance.
6. The Environmental Compliance Report required by condition 5, must include as a minimum the following:
 - (a) certification by a suitably qualified, professional engineer that the items of infrastructure or component(s) thereof, as specified in condition 3, have been constructed in accordance with the relevant requirements specified in condition 3;
 - (b) as constructed plans and a detailed site plan for each item of infrastructure or component of infrastructure specified in condition 3;
 - (c) be signed by a person authorised to represent the works approval holder and contains the printed name and position of that person; and
 - (d) where a departure from the requirements in condition 3 occurs and is of a type allowed by condition 4, the works approval holder must provide a description of, and explanation for, the departure.

Environmental commissioning

7. The works approval holder may only commence environmental commissioning of all infrastructure and equipment listed in Table 1 once the Environmental Compliance Report has been submitted in accordance with condition 5 of this works approval.
8. The works approval holder must notify the CEO in writing at least one (1) week prior to the commencement of commissioning.
9. Any environmental commissioning activities undertaken for the works approval may only be conducted for infrastructure listed in Table 2:
 - (a) in accordance with the corresponding commissioning requirements; and
 - (b) for the corresponding authorised commissioning duration, as specified in Table 2.

Table 2: Environmental commissioning requirements

Infrastructure	Commissioning requirements	Authorised commissioning duration
Wastewater treatment plant	Only irrigate treated wastewater from the wastewater treatment plant to designated infiltration ponds, as specified in Schedule 1.	For a period not exceeding 180 calendar days in aggregate.

10. The works approval holder must operate and maintain all odour control and monitoring equipment on the premises, to the manufacturer's specification or any effective internal management system, during commissioning.

Monitoring during environmental commissioning

11. The works approval holder must monitor discharge to land emissions during environmental commissioning in accordance with Schedule 2 of this works approval.
12. The works approval holder must monitor ambient groundwater during environmental commissioning in accordance with Schedule 3 of this works approval.
13. The works approval holder must record the results of all monitoring activity required by conditions 11 and 12.
14. The works approval holder must adhere to the field quality assurance and quality control procedures specified in Schedule 4 for the monitoring required by conditions 11 and 12.
15. The works approval holder must ensure that for all samples obtained in accordance with condition 11 and 12, analysis is undertaken by a holder of a current accreditation from the National Association of Testing Authorities (NATA) for the methods of sampling and analysis relevant to the corresponding parameters, unless otherwise specified in the relevant schedule.

Environmental Commissioning Report

16. The works approval holder must submit to the CEO an Environmental Commissioning Report within 60 calendar days of the completion date of the environmental commissioning referred to in condition 9.
17. The works approval holder must ensure the Environmental Commissioning Report required by condition 16 of this works approval includes the following:
 - (a) a summary of the environmental commissioning activities undertaken, including timeframes and amount of raw wastewater processed;
 - (b) the point-source emissions monitoring and ambient concentrations monitoring results recorded in accordance with conditions 11 and 12;
 - (c) a summary of the environmental performance of each item of infrastructure or equipment as constructed or installed in accordance with condition 3, which at minimum includes records detailing the:
 - (i) environmental commissioning of the system;
 - (ii) testing the system; and
 - (iii) commissioning of the process control system;

- (d) a review of the works approval holder's performance and compliance against the conditions of this works approval; and
- (e) where they have not been met, measures proposed to meet the manufacturer's design specifications and the conditions of this works approval, together with timeframes for implementing the proposed measures.

Time limited operations phase

Commencement and duration

18. The works approval holder may only commence time limited operations for the infrastructure and equipment identified in condition 3 where:
 - (a) the Environmental Compliance Report as required by condition 5 has been submitted by the works approval holder for each item of infrastructure and equipment listed under condition 3; and
 - (b) the Environmental Commissioning Report required by condition 16 has been submitted by the works approval holder for each item of infrastructure and equipment listed under condition 3.
19. The works approval holder may conduct time limited operations for an item of infrastructure specified in condition 3 (as applicable):
 - (a) for a period not exceeding 90 calendar days from the day the works approval holder meets the requirements of condition 18; or
 - (b) until such time as a licence for that item of infrastructure is granted in accordance with Part V of the *Environmental Protection Act 1986*, and only where this occurs prior to 90 calendar days from the day the works approval holder meets the requirements of condition 18 for that item of infrastructure.
20. The works approval holder must operate and maintain all odour control and monitoring equipment on the premises, to the manufacturer's specification or any relevant and effective internal management system, during time limited operations.

Monitoring during time limited operations

21. The works approval holder must monitor emissions to land during time limited operations in accordance with Schedule 2 of this works approval.
22. The works approval holder must monitor ambient groundwater during time limited operations in accordance with Schedule 3 of this works approval.
23. The works approval holder must record the results of all monitoring activity required by condition 21 and 22.
24. The works approval holder must adhere to the field quality assurance and quality control procedures specified in Schedule 4 for the monitoring required by conditions 21 and 22.
25. The works approval holder must ensure that for all samples obtained in accordance with condition 21 and 22, analysis is undertaken by a holder of a current accreditation from the National Association of Testing Authorities (NATA) for the methods of sampling and analysis relevant to the corresponding parameters, unless otherwise specified in Schedule 2 or 3.

Compliance reporting

26. The works approval holder must submit to the CEO, a report on the time limited operations within 60 calendar days of the completion date of time limited operations or 60 calendar days before the expiration date of the works approval, whichever is the sooner.
27. The works approval holder must ensure the report required by condition 26 includes the following:
 - (a) a summary of the time limited operations, including timeframes and amount of raw wastewater processed;
 - (b) a summary of discharge to land and groundwater monitoring results obtained during time limited operations under condition 21 and 22.
 - (c) a summary of the environmental performance of all infrastructure as constructed or installed under condition 3;
 - (d) a review of performance and compliance against the conditions of the works approval and the Environmental Commissioning Report; and
 - (e) where the manufacturer's design specifications and the conditions of this works approval have not been met, what measures will the works approval holder take to meet them, and what timeframes will be required to implement those measures.

Records and reporting (general)

28. The works approval holder must record the following information in relation to complaints received by the works approval holder (whether received directly from a complainant or forwarded to them by the Department or another party) about any alleged emissions from the premises:
 - (a) the name and contact details of the complainant, (if provided);
 - (b) the time and date of the complaint;
 - (c) the complete details of the complaint and any other concerns or other issues raised; and
 - (d) the complete details and dates of any action taken by the works approval holder to investigate or respond to any complaint.
29. The works approval holder must maintain accurate and auditable books including the following records, information, reports, and data required by this works approval:
 - (a) the works conducted in accordance with condition 3;
 - (b) any maintenance of infrastructure that is performed in the course of complying with condition 3;
 - (c) monitoring programmes undertaken in accordance with conditions 11, 12, 21 and 22; and
 - (d) complaints received under condition 28.
30. The books specified under condition 29 must:
 - (a) be legible;
 - (b) if amended, be amended in such a way that the original version(s) and any subsequent amendments remain legible and are capable of retrieval;
 - (c) be retained by the works approval holder for the duration of the works approval; and
 - (d) be available to be produced to an inspector or the CEO as required.

Definitions

In this works approval, the terms in Table 3 have the meanings defined.

Table 3: Definitions

Term	Definition
AS/NZS5667.1	means the Australian Standard <i>AS/NZS 5667.1 (R2016) Water quality – sampling – guidance of the design of sampling programs, sampling techniques and the preservation and handling of samples</i> , as amended from time to time
AS/NZS5667.10	means the Australian Standard <i>AS/NZS 5667.10 (R2016) Water quality – sampling – guidance on sampling of wastewaters</i> , as amended from time to time
AS/NZS5667.11	means the Australian Standard <i>AS/NZS 5667.11 (R2016) Water quality – sampling – guidance on sampling groundwater</i> , as amended from time to time
books	has the same meaning given to that term under the EP Act.
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department administering the <i>Environmental Protection Act 1986</i> Locked Bag 10 Joondalup DC WA 6919 info@dwer.wa.gov.au
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V Division 3 of the EP Act.
discharge	has the same meaning given to that term under the EP Act.
emission	has the same meaning given to that term under the EP Act.
environmental commissioning	means the sequence of activities to be undertaken to test equipment integrity and operation, or to determine the environmental performance, of equipment and infrastructure to establish or test a steady state operation and confirm design specifications.
Environmental Commissioning Report	means a report on any commissioning activities that have taken place and a demonstration that they have concluded, with focus on emissions and discharges, waste containment, and other environmental factors.
Environmental Compliance Report	means a report to satisfy the CEO that the conditioned infrastructure and/or equipment has been constructed and/or installed in accordance with the works approval.
EP Act	<i>Environmental Protection Act 1986 (WA)</i> .

Term	Definition
m(AHD)	means metres above Australian Height Datum
mBGL	means metres below ground level
monthly period	means a one-month period commencing from day 1 of a month until the last day of that month.
NATA	means the National Association of Testing Authorities
NATA accredited	means in relation to the analysis of a sample, that the laboratory is NATA accredited for the specified analysis at the time of the analysis.
premises	the premises to which this licence applies, as specified at the front of this licence and as shown on the premises map (Figure 1) in Schedule 1 to this works approval.
prescribed premises	has the same meaning given to that term under the EP Act.
quarterly	means the 4 inclusive periods from 1 July to 30 September, 1 October to 31 December, and in the following year 1 January to 31 March and 1 April to 30 June.
time limited operations	refers to the operation of the infrastructure and equipment identified under this works approval that is authorised for that purpose, subject to the relevant conditions.
works	refers to the works described in condition 2, at the premises shown in Schedule 1 of this works approval to be carried out on the premises, subject to the conditions.
works approval	refers to this document, which evidences the grant of the works approval by the CEO under section 54 of the EP Act, subject to the conditions.
works approval holder	refers to the occupier of the premises being the person to whom this works approval has been granted, as specified at the front of this works approval.

Schedule 1: Maps

Premises map

The boundary of the prescribed premises is shown in the map below (Figure 1).

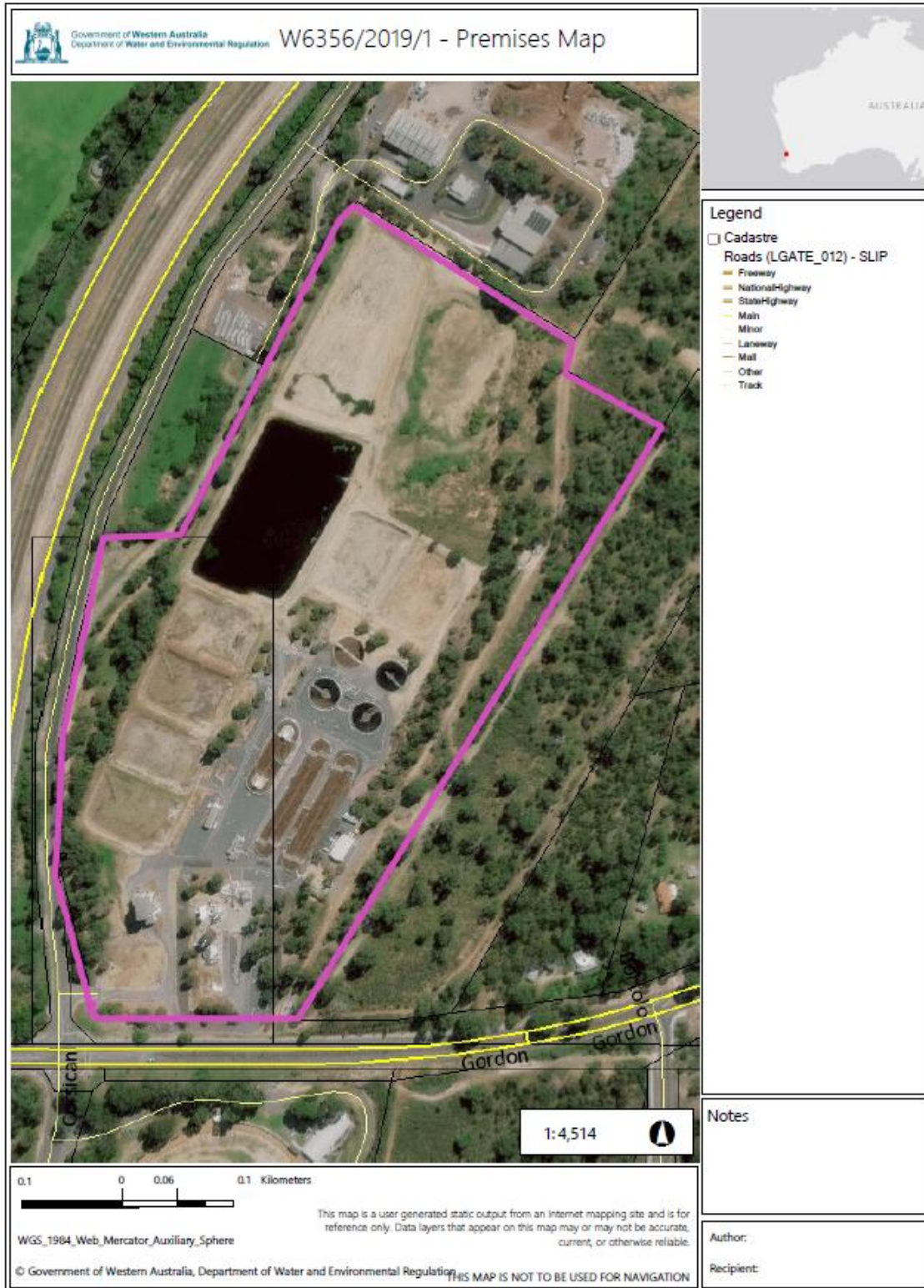


Figure 1: Map of the boundary of the prescribed premises

Map of the premises current infrastructure



Figure 2: Location of existing premises infrastructure (Source: Water Corporation, 2019).



LEGEND

- Groundwater Bores
- Site Boundary



1:9,000 at A4
 0 90 180 270
 Metres

Coordinate System: GDA 1994 MGA Zone 50
 Vertical Datum: AHD

AUTHOR: LEEEL DATE: 18/09/2015
 BRANCH: AROONA O&M

The information contained herein is the exclusive property of the Water Corporation and the respective copyright owners. It is subject to ongoing review and should be viewed in conjunction with the associated materials. No part of this production should be copied, modified, reproduced or published in any form other than that intended by the author.



**GORDON ROAD WWTP
 GROUNDWATER
 MONITORING BORES**

**Figure 3: Groundwater monitoring bores
 (Source: Water Corporation).**

Schedule 2: Discharge to land monitoring

The works approval holder must monitor discharge to land emissions in accordance with Table 4 of this works approval.

Table 4: Discharge to land monitoring program

Discharge point	Parameter	Unit	Frequency	Averaging Period	Method
Discharge to infiltration ponds (Infiltration Pond 3 and/or 4, as shown in Figure 2 of Schedule 1)	pH ¹	pH units	Monthly ³	Spot sample	Spot sample in accordance with AS/NZS5667.1 and AS/NZS56687.10
	<i>E.coli</i>	Colony forming units per 100mL			
	Total suspended solids	mg/L or kg/day ²			
	Total dissolved solids				
	Biochemical Oxygen Demand				
	Total Phosphorus				
	Total Nitrogen				
	Nitrate + Nitrite-Nitrogen				
	Ammonium-nitrogen				

Note 1: In field non-NATA accredited analysis permitted.

Note 2: Inflow data is permitted to be used in the calculation of loading data.

Note 3: Monthly monitoring is to be undertaken such that there are at least 15 days in between the days on which samples are taken in successive months.

Schedule 3: Ambient groundwater monitoring

The works approval holder must monitor ambient groundwater in accordance with Table 5 of this works approval.

Table 5: Ambient groundwater monitoring program

Monitoring location	Parameter	Unit	Frequency	Averaging period	Method
Groundwater monitoring bores 1/88, 3/88, 4/88, 1/97, 2/97, 3/97, 4/97, 1/98, 2/98, 3/98, 1/01 and the Production Bore as shown on the Map of the monitoring bores	Standing water level	m(AHD) or m(BGL)	Quarterly ²	Spot sample	Spot sample in accordance with AS/NZS5667.1 and AS/NZS5667.11
	pH ¹	pH units			
	E.coli	Colony forming units per 100mL			
	Total dissolved solids	mg/L			
	Total phosphorus				
	Total nitrogen				
	Nitrate + Nitrite- Nitrogen				
	Ammonium nitrogen				

Note 1: In field non-NATA accredited analysis permitted.

Note 2: Quarterly monitoring is to be undertaken such that there are at least 45 days in between the days on which samples are taken in successive quarters.

Schedule 4: Quality assurance and quality control

The works approval holder must adhere to the following field quality assurance and quality control procedures, as specified in Schedule B2 of the Assessment of Site Contamination NEPM, and must include as a minimum:

- (a) decontamination procedures for the cleaning of tools and sampling equipment before sampling and between samples;
- (b) field instrument calibration for instruments used on site;
- (c) blind replicate samples and rinsate blanks must be collected in the field and sent to the primary laboratory to determine the precision of the field sampling and laboratory analytical program;
- (d) completed field monitoring sheets / sampling logs for each sample collected, showing:
 - (i) time of collection;
 - (ii) location of collection;
 - (iii) initials of sampler;
 - (iv) sampling method;
 - (v) field analysis results;
 - (vi) duplicate type / location (if relevant); and
 - (vii) site observations and weather conditions, and
- (e) chain-of-custody documentation must be completed which details the following information:
 - (i) site identification;
 - (ii) the sampler;
 - (iii) nature of the sample;
 - (iv) collection time and date;
 - (v) analyses to be performed;
 - (vi) sample preservation method;
 - (vii) departure time from site;
 - (viii) dispatch courier(s); and
 - (ix) arrival time at the laboratory.