Government of Western Australia
Department of Water and Environmental Regulation

Works Approval

Works approval number	W6315/2019/1
Works approval holder	IB Operations Pty Ltd
ACN	165 513 557
Registered business address	Level 2 Hyatt Centre 87 Adelaide Terrace EAST PERTH WA 6004
DWER file number	DER2019/000541
Duration	25/03/2020 to 31/12/2025
Date of issue	24/03/2020
Date of amendment	07/02/2025
Premises details	Iron Bridge Magnetite Project Mining Tenements M45/1226, M45/1244, L45/293, L45/294, L45/359, L45/360, L45/361, L45/364 and L45/367 MARBLE BAR WA 6760

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)	**Assessed design capacity**
Category 54: Sewage facility	520 m^3/day
Category 57: Used tyre storage	Up to 150 tyres
Category 62: Solid waste depot	4,000 tonnes per year
Category 73: Bulk storage of chemicals etc.	3,600 m^3 in aggregate
Category 89: Putrescible landfill site	4,000 tonnes per year

This works approval is granted to the works approval holder, subject to the attached conditions, on 07 February 2025, by:

Jarrod Abrahams
Digitally signed by Jarrod Abrahams
Date: 2025.02.07 14:48:07 +08'00'

MANAGER, RESOURCE INDUSTRIES
INDUSTRY REGULATION (STATE-WIDE DELIVERY)
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Works approval history

Date	Reference number	Summary of changes
25/03/2020	W6315/2019/1	Works approval granted.
30/07/2021	W6315/2019/1	Relocation of Category 89 landfill within mining tenement M45/1226.
9/03/2023	W6315/2019/1	Extension of expiry date.
07/02/2025	W6315/2019/1	Extension of expiry date.

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 means:

(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

The works approval holder must ensure that the following conditions are complied with:

Construction phase

Infrastructure and equipment

1. The works approval holder must:

(a) construct or install the infrastructure and equipment;

(b) in accordance with the corresponding design and construction / installation requirements; and

(c) at the corresponding infrastructure location.

as set out in Table 1.

Environmental compliance reporting

2. The works approval holder must, within 30 calendar days of an item of infrastructure or equipment required by condition 1 being constructed or installed:

(a) undertake an audit of their compliance with the requirements of condition 1; and

(b) prepare and submit to the CEO an Environmental Compliance Report on that compliance.

3. The Environmental Compliance Report required by condition 2 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 1, have, or have not been constructed in accordance with the relevant requirements specified in condition 1;

(b) as constructed plans and a detailed site plan for each item of infrastructure or component of infrastructure specified in condition 1;

(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 an item of infrastructure has been certified as not being constructed, or does not comply with the corresponding requirements, the works approval holder must correct the non-compliant or defective works, prior to re-certifying, or provide to the CEO a description of, and explanation for, any departures from the requirements specified in Table 1 that do not require rectification and do not constitute a material defect along with the Environmental Compliance Report.

Table 1: Design and construction/installation requirements

	Infrastructure / equipment	Design and construction / installation requirements	Infrastructure location
1.	WWTP	Designed and constructed to be able to treat up to 520 m^3/day of wastewater.	Figure 1 in Schedule 1
		Comprises of the following equipment: a) Influent screen. b) Balance Tank. c) Anoxic Tank. d) Aeration/Decant Tank. e) Effluent Tank. f) Disinfection dosing system. g) Sludge Tank. h) Brine Tank. i) Overflow pumps, above-ground pipes.	Figure 2 in Schedule 1
		Containers for chemicals used in the process, stored in a bunded impermeable area	Figure 2 in Schedule 1
		All wastewater storage components of the WWTP will be impermeable.	Figure 2 in Schedule 1
		All tanks to be installed on impermeable concrete pad.	Figure 2 in Schedule 1
		WWTP able to treat wastewater to the output quality as specified in Condition 15.	Not shown
		Incorporate an alarm system for: a) pump/s fails b) high tank levels c) tank/s overflows.	Figure 2 in Schedule 1
		Flowmeter to monitor discharge to irrigation field.	Figure 2 in Schedule 1
2.	Emergency overflow pond	The emergency overflow pond must be designed and constructed to meet the following specifications: a) Pond constructed using heavily compacted earth. b) Containment capacity of 1000 m^3. c) WWTP tank overtopping and spills to be directed to the emergency overflow pond. d) Any liquid in the emergency overflow pond is to be directed back to the WWTP balance tank.	Figure 3 in Schedule 1

	Infrastructure / equipment	Design and construction / installation requirements	Infrastructure location
3.	Irrigation field	The irrigation field must be designed and constructed so as to meet the following specifications: a) Not less than 16 ha in size. b) Fenced with a vehicle access gate. c) Warning signage fixed to all sides of the fence advising the area is used for the disposal of treated wastewater.	Figure 2 in Schedule 1
4.	Used tyre storage area	The used tyre storage area must be designed and constructed so as to meet the following specifications: a) Designed to store no more than 150 tyres. b) 0.1 ha earthen pad. c) Fire suppressants store available onsite.	Figure 1 and Figure 4 in Schedule 1
5.	Waste transfer station	The waste transfer system must be designed and constructed so as to meet the following specifications: a) 3 ha laydown area. b) Temporary storage of hazardous materials lined and bunded designed to contain minimum capacity of 110 per cent of the largest container stored within it, or 25 per cent of the volume of all containers, whichever is larger. c) Bunded areas designed to hold any rainfall ingress and allow water to evaporate. d) Stock-proof fence to be installed.	Figure 1 and Figure 7 in Schedule 1
6.	Bulk Fuel Storage Facility	The Bulk Fuel Storage Facility must be designed and constructed so as to meet the following specifications: a) 18 x 200 kL self-bunded diesel-only storage tanks. b) Tanks constructed and managed in accordance with the 'Australian Standard for Storage and Handling of Flammable and Combustible Liquids' (AS 1940-2018). c) Refueling and unloading areas to be constructed within concrete aprons that are self-draining. d) Pipework to be protected with bollards and/or earthen bunds.	Figure 8 in Schedule 1
7.	Landfill facility	The landfill facility must be designed and constructed so as to meet the following specifications: a) Not exceeding 5 ha landfill area with 1 x landfill trench. b) Trench constructed using compacted earth. c) Open tipping area ≤30 m in length and ≤2 m high. d) Perimeter drainage channel to be installed e) stock-proof fence to be installed	Figure 6 in Schedule 1

	Infrastructure / equipment	Design and construction / installation requirements	Infrastructure location
8.	Stormwater infrastructure	The stormwater infrastructure must be designed and constructed so as to meet the following specifications: **WWTP:** a) Cutoff drains and/or bunds to be installed to direct stormwater away from the WWTP work areas. b) All wastewater storage and treatment tanks, vessels, transfer pipelines and conveyance infrastructure to be impermeable and free of leaks or defects. c) Design and construct the WWTP to ensure that stormwater does not enter the wastewater treatment or storage system. d) Chemicals stored separately within above ground vessels located on hardstand enclosed by bunds with holding capacity of 110 per cent of the vessel content. **Used tyre storage facility:** e) Stormwater designed to drain into the (existing) workshop drainage system. **Waste transfer facility:** f) Stormwater designed to drain to an unlined sediment pond designed to capture a 1 in 2 year rainfall event. **Bulk Fuel Storage Facility:** g) Refueling and unloading areas designed to drain any spills or contaminated runoff to a collection sump. h) Install an OWS designed to treat water to a Total Recoverable Hydrocarbon (TRH) concentration of 15 mg/L. **Landfill:** i) Designed with contour banks and drains directing the flow of uncontaminated stormwater away from the landfill trench. j) A perimeter drainage channel at the landfill, draining into a stormwater drainage pond designed to store a 1-in-20 year rainfall event.	Figures 1 – 8 of Schedule 1

Environmental commissioning phase

Environmental commissioning requirements for the WWTP and irrigation field

4. The works approval holder may only commence environmental commissioning of an item of infrastructure listed in condition 5 once the Environmental Compliance Report has been submitted for that item of infrastructure in accordance with condition 3 of this works approval.

5. Any environmental commissioning activities undertaken for an item of infrastructure specified in Table 2 may only be carried out:

(a) in accordance with the corresponding commissioning requirements; and

(b) for the corresponding authorised commissioning duration.

Table 2: Environmental commissioning requirements

Infrastructure	Commissioning requirements	Authorised commissioning duration
WWTP	All sewage storage and treatment tanks, vessels, transfer pipelines and conveyance infrastructure must be free of leaks or defects.	For a period not exceeding 180 calendar days in aggregate.
	All tanks (Balance, Anoxic, Aeration and Effluent) fitted with high-level alarms.	
	Have a sealed connection point for pumping-out tank sludge.	
	In all tanks, minimum 400 mm freeboard above TWL and overflows at 300 mm above TWL, draining to the emergency overflow pond.	
Irrigation field	Treated effluent discharged by above ground sprinklers spaced for even distribution to prevent pooling or ponding.	
	No treated effluent enters any surface water drainage line.	
	Irrigate up to 660 m^3/day of blended WWTP treated wastewater (520 m^3/day) and RO reject water (140 m^3/day).	
	Ensure no ponding or pooling of treated wastewater occurs.	
	Ensure irrigation only occurs to the irrigation field and is comprised of only blended wastewater, with RO reject water not discharged undiluted.	
	No stormwater to report to irrigation field.	

6. During environmental commissioning, the works approval holder must ensure that the emission specified in Table 3, are discharged only from the corresponding discharge point and only to the corresponding discharge point location.

Table 3: Authorised discharge points during commissioning

	Emission	Discharge point	Discharge point location
1.	Discharge of blended effluent and RO brine from WWTP final tank to irrigation field.	L1 – irrigation field	Existing irrigation field and the Stage 2 irrigation field as shown in Figure 2 of Schedule 1

Monitoring during environmental commissioning of WWTP and irrigation field

7. The works approval holder must monitor emissions during environmental commissioning in accordance with Table 4.

Table 4: Emissions and discharge monitoring during environmental commissioning

Discharge point	Monitoring location	Parameter	Frequency	Averaging Period	Unit
L1 – irrigation field	Flow meter to irrigation field	Cumulative volumetric flow rate	Daily or continuous online	N/A	m^3/day
	WWTP outlet (final effluent tank)	*E. coli*	monthly	Spot sample	cfu / 100mL
		Biochemical Oxygen Demand	monthly		cfu / 100mL
		Total Suspended Solids	monthly		mg/L
		Total Dissolved Solids	monthly		mg/L
		pH[1]	Daily or continuous online		N/A
		Total nitrogen	monthly		mg/L
		Total phosphorus	monthly		mg/L
		Residual chlorine[1]	Daily or continuous online	N/A	mg/L

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

8. For the monitoring activity required by condition 7 and 16, the works approval holder must:

(a) record the results;

(b) handle and preserve all water samples collected during the monitoring of the WWTP in accordance with *Australian Standard 5667.1:1998 Water Quality – Sampling*; and

(c) ensure that analysis of samples is conducted by a laboratory with current NATA accreditation for the parameters specified.

Environmental commissioning reporting

9. The works approval holder must submit to the CEO an Environmental Commissioning Report within 60 calendar days of the completion date of environmental commissioning for each item of infrastructure specified in Condition 5.

10. The works approval holder must ensure the Environmental Commissioning Report required by condition 9 of this works approval includes the following:

(a) a summary of the environmental commissioning activities undertaken, including timeframes and amount of wastewater processed;

(b) the point-source emissions monitoring results recorded in accordance with condition 7;

(c) a summary of the environmental performance of each item of infrastructure or equipment as constructed or installed, which at minimum includes records detailing:

(i) assessment of the irrigation field performance against operational requirements in condition 1;

(ii) the treated effluent monitoring results specified in condition 7 with a comparison against the discharge effluent quality treatment specification in Table 7, with a summary on the vegetation health within the irrigation area;

(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 of time limited operations

11. The works approval holder may only commence time limited operations for an item of infrastructure identified in condition 1:

(a) where the item of infrastructure is not authorised to undertake environmental commissioning, the Environmental Compliance Report as required by condition 2 has been submitted by the works approval holder for that item of infrastructure; and

(b) where the item of infrastructure is authorised to undertake environmental commissioning under condition 5, the Environmental Commissioning Report for that item of infrastructure as required by condition 9 has been submitted by the works approval holder.

12. The works approval holder may conduct time limited operations for an item of infrastructure specified in condition 13 (as applicable):

(a) for a period not exceeding 90 calendar days from the day the works approval holder meets the requirements of condition 11 for that item of infrastructure; or

(b) until such time as a licence for that item of infrastructure is granted in accordance with Part V of the EP Act.

Time limited operations requirements and emission limits

13. During time limited operations, the works approval holder must ensure that the premises infrastructure and equipment listed in Table 5 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 5.

Table 5: Infrastructure and equipment requirements during time limited operations

Site infrastructure and equipment	Operational requirement	Infrastructure location
WWTP	Volumetric flow meters to be operational at WWTP inlet and effluent tank outlet to irrigation field.	Figure 2 of Schedule 1
	Overflow must be directed to the emergency overflow pond.	
	Sludge collected in sludge tank must be disposed at the site landfill or removed offsite for disposal at an appropriately licensed facility.	
	Spills of wastewater or chemicals outside containment infrastructure must be cleaned up immediately.	
	All wastewater storage and treatment tanks, vessels, transfer pipelines and conveyance infrastructure must be impermeable and free of leaks or defects.	
Emergency overflow pond	WWTP tank overtopping and spills shall be directed to the emergency overflow pond.	Figure 3 of Schedule 1
	Any liquid in the emergency overflow pond must be directed back to the WWTP balance tank.	
Irrigation field	Treated effluent shall be discharged by above ground sprinklers spaced for even distribution to prevent pooling or ponding.	Figure 2 of Schedule 1
	No treated effluent may enter any surface water drainage line.	
	Undiluted RO reject water must not be discharged directly into the environment.	
	Irrigate only blended WWTP treated wastewater and RO reject water.	
	Stormwater must not report to irrigation field for disposal.	
Bulk Fuel Storage Facility	Fuel spilled during refueling must be treated within the oil-water separator	Figure 5 of Schedule 1
Waste transfer station	Stormwater collected within a sediment pond	Figure 7 of Schedule 1
Landfill	Stormwater collected within a stormwater drainage pond	Figure 6 of Schedule 1

14. During time limited operations, the works approval holder must ensure that each emission specified in Table 6, are discharged only from the corresponding discharge point and only at the corresponding discharge point location.

Table 6: Authorised discharge points

	Emission	Discharge point	Discharge point location
1.	Discharge from WWTP effluent tank to irrigation field	L1 – irrigation field	Existing irrigation field and the Stage 2 irrigation field as shown in Figure 2 of Schedule 1
2.	Treated water from the OWS	L2 – OWS	North of the used tyre storage area as shown in Figure 5 of Schedule 1.
3.	Stormwater from the waste transfer facility	L3 – sediment pond	Waste transfer station shown in Figure 7 of Schedule 1
4.	Stormwater from the landfill	L4 – stormwater discharge pond	To the south of the landfill as shown in Figure 6 of Schedule 1

15. During time limited operations, the works approval holder must ensure that the emissions from the discharge point listed in Table 7 are compared to the expected corresponding treatment specification when monitored in accordance with condition 16.

Table 7: Emission and discharge effluent quality treatment specification

	Discharge point	Parameter	Treatment Specification
1.	L1 – irrigation field	E. coli	<1000 cfu/100 mL
		Biochemical Oxygen Demand	<20 mg/L
		Total Suspended Solids	<30 mg/L
		pH	6.5-8.5
		Total Dissolved Solids	750 mg/L
		Residual chlorine	0.2–2.0 mg/L
		Total nitrogen	<30 mg/L
		Total phosphorus	<8 mg/L
2.	L2 – OWS	Total Reportable Hydrocarbons	<15 mg/L

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

Monitoring during time limited operations

16. The works approval holder must monitor emissions during time limited operations in accordance with Table 8.

Table 8: Emissions and discharge monitoring during time limited operations

Discharge point	Monitoring location	Parameter	Frequency	Averaging Period	Unit
L1 – irrigation field	Flow meter to irrigation field	Cumulative volumetric flow rate	Continuous	Weekly	m^3/day
	WWTP outlet	*E. coli*	monthly	Spot sample	cfu / 100 mL
		Biochemical Oxygen Demand	monthly		cfu / 100 mL
		Total Suspended Solids	monthly		mg/L
		Total Dissolved Solids	monthly		mg/L
		pH[1]	Daily or continuous online		N/A
		Total nitrogen	monthly		mg/L
		Total phosphorus	monthly		mg/L
		Residual chlorine[1] (if disinfection used)	Daily or continuous online	N/A	mg/L
L2 – OWS	OWS at the Bulk Fuel Storage Facility	Total Reportable Hydrocarbons	Monthly	Spot sample	mg/L
L3 – sediment pond	Sediment pond spillway	Total Suspended Solids	During discharge	Spot sample	mg/L
L4 – stormwater discharge pond	Stormwater discharge pond spillway	Total Suspended Solids	During discharge	Spot sample	mg/L

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

17. The works approval holder must record the results of all monitoring activity required by condition 16.

Compliance reporting during time limited operations

18. The works approval holder must submit to the CEO a report on the time limited operations within 30 calendar days of the completion date of time limited operations or 30 calendar days before the expiration date of the works approval, whichever is the sooner.

19. The works approval holder must ensure the report required by condition 18 includes the following:

(a) a summary of the time limited operations, including timeframes and amount of wastewater processed;

(b) a summary of monitoring results obtained during time limited operations under condition 16;

(c) copies of laboratory reports for monitoring results recorded in accordance with condition 16;

(d) a summary of the environmental performance of all infrastructure as constructed or installed (as applicable), which includes records detailing the:

(i) assessment of the irrigation field performance against operational requirements in condition 13;
(ii) a comparison of the treated effluent monitoring results against the treatment specifications specified in condition 15;

(e) a review of performance and compliance against the conditions of the works approval and the Environmental Commissioning Report; and

(f) 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

20. 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.

21. 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 1;

(b) any maintenance of infrastructure that is performed in the course of complying with condition 1;

(c) monitoring programmes undertaken in accordance with conditions 7 and 16; and

(d) complaints received under condition 20.

22. The books specified under condition 21 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 9 have the meanings defined.

Table 9: Definitions

Term	Definition
ACN	Australian Company Number
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 *Environmental Protection Act 1986* Locked Bag 10 Joondalup DC WA 6919 info@dwer.wa.gov.au
Category/ Categories/ Cat.	Categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
cfu	Colony forming unit
Department	means the department established under section 35 of the *Public Sector Management Act 1994* 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
DWER	Department of Water and Environmental Regulation As of 1 July 2017, the Department of Environment Regulation (DER), the Office of the Environmental Protection Authority (OEPA) and the Department of Water (DoW) amalgamated to form the Department of Water and Environmental Regulation (DWER). DWER was established under section 35 of the *Public Sector Management Act 1994* and is responsible for the administration of the *Environmental Protection Act 1986* along with other legislation
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

Term	Definition
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	*Environmental Protection Act 1986* (WA)
EP Regulations	*Environmental Protection Regulations 1987* (WA)
ha	hectares
kg/ha	kilograms per hectare (application rate)
kg/ha/day	kilograms per hectare per day (application rate)
m	metres
m^3/day	cubic metres per day
mg/L	milligrams per litre
mL	millilitre
ML	megalitre
mm	millimetre
NATA	National Association of Testing Authorities
OWS	Oil-water separator
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
suitably qualified professional engineer	means a person who: a) holds a Bachelor of Engineering recognised by the Institute of Engineers; and b) has a minimum of five years of experience working in a relevant supervisory area of civil engineering; and c) is employed by an independent third party external to the works approval holder's business, or is otherwise approved in writing by the CEO to act in this capacity

Term	Definition
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
TWL	Top Water Level
Waste	has the same meaning given to that term under the EP Act
WWTP	Wastewater Treatment Plant
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

END OF CONDITIONS

Schedule 1: Maps

Premises map

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

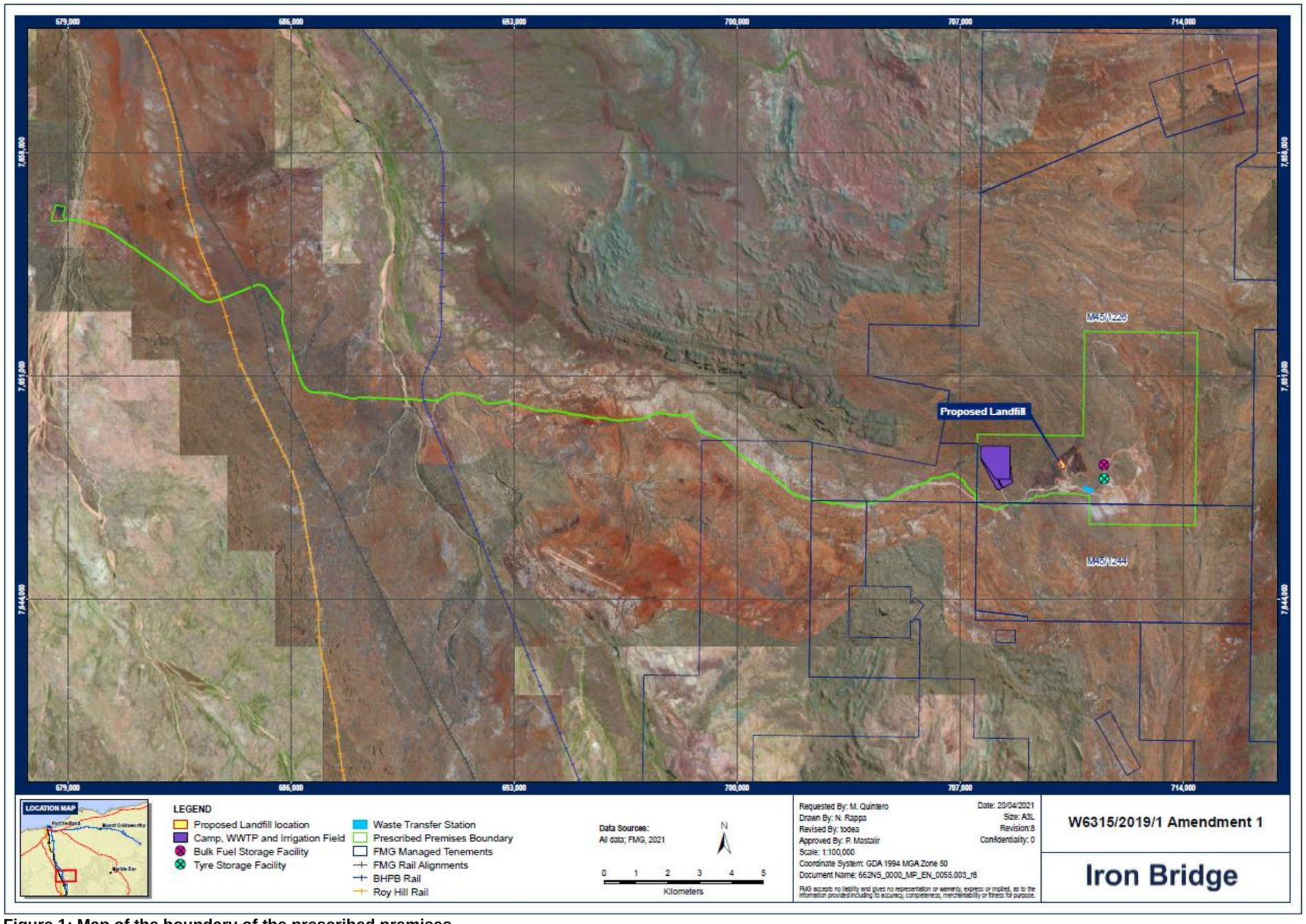

Figure 1: Map of the boundary of the prescribed premises

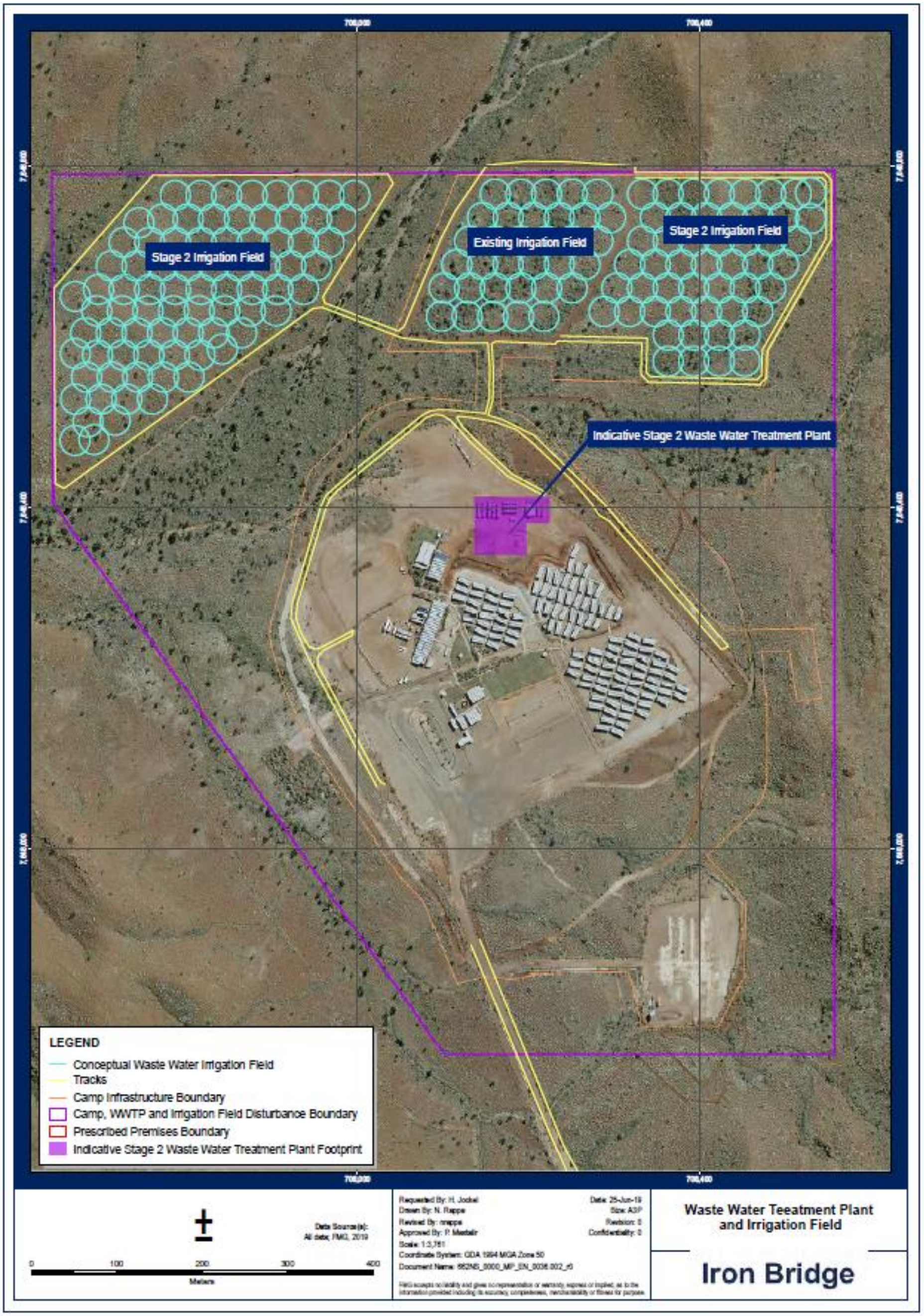

Figure 2: Map of the WWTP and the irrigation field

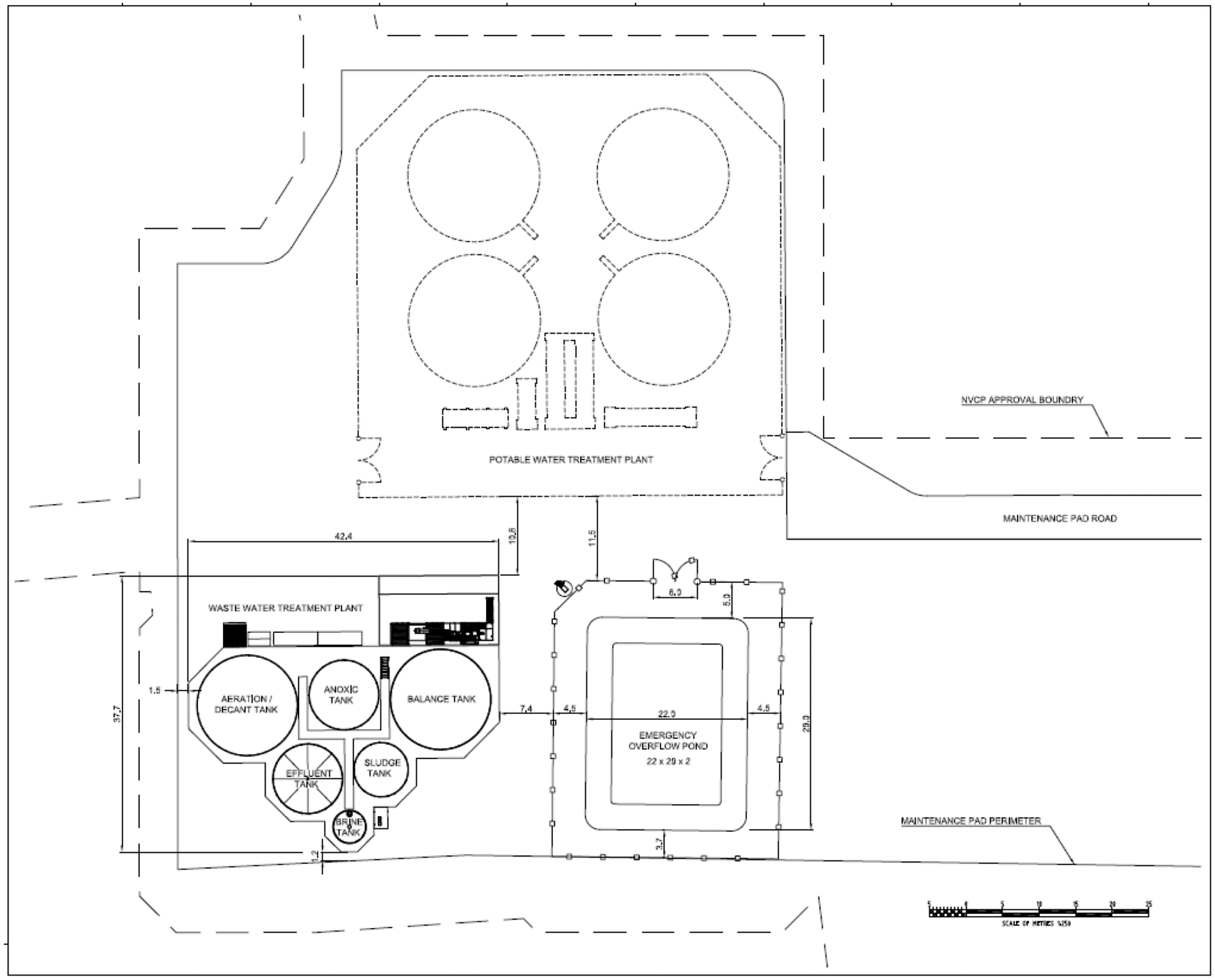

Figure 3: Map of the WWTP layout

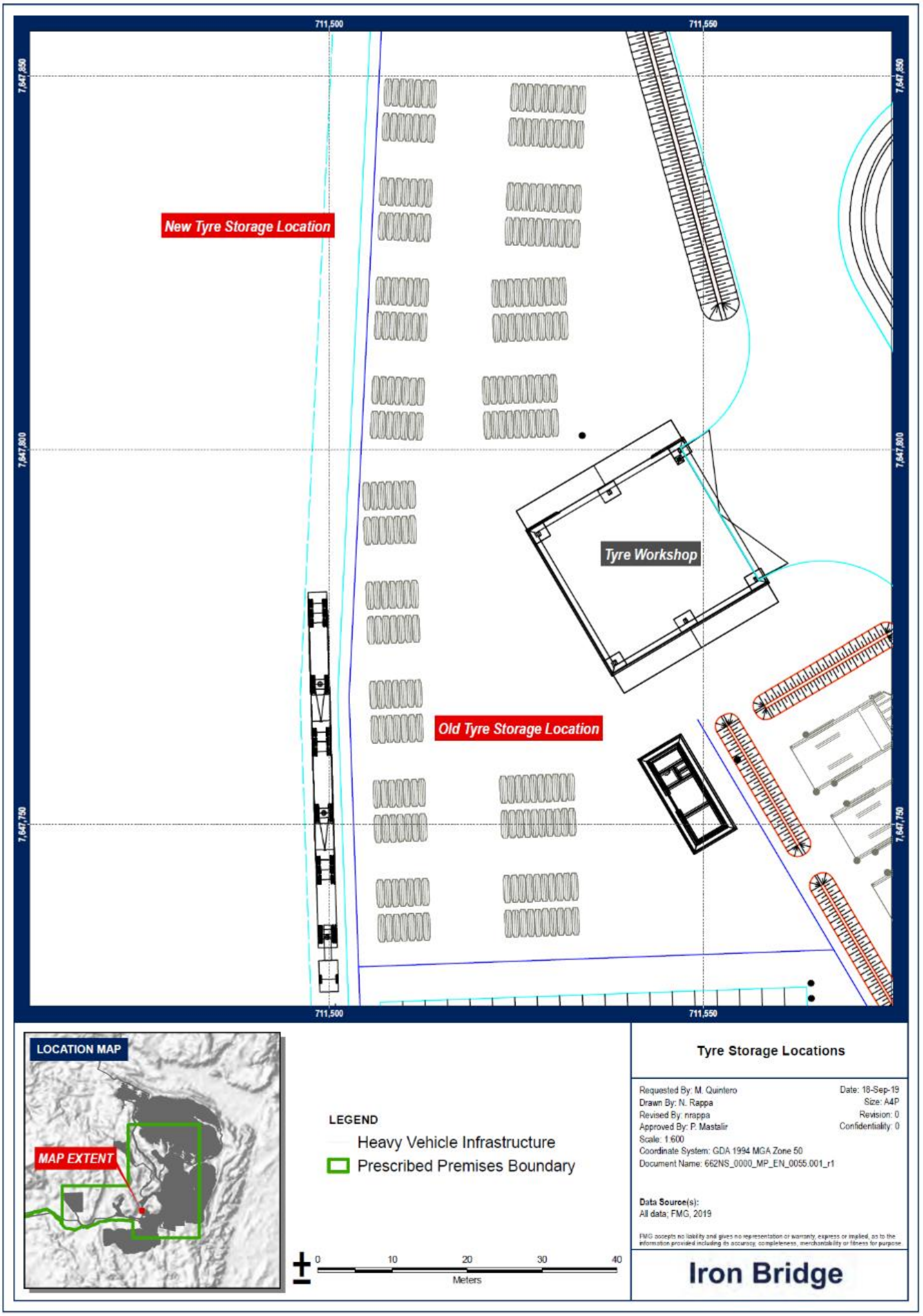

Figure 4: Map of the used tyre storage facility

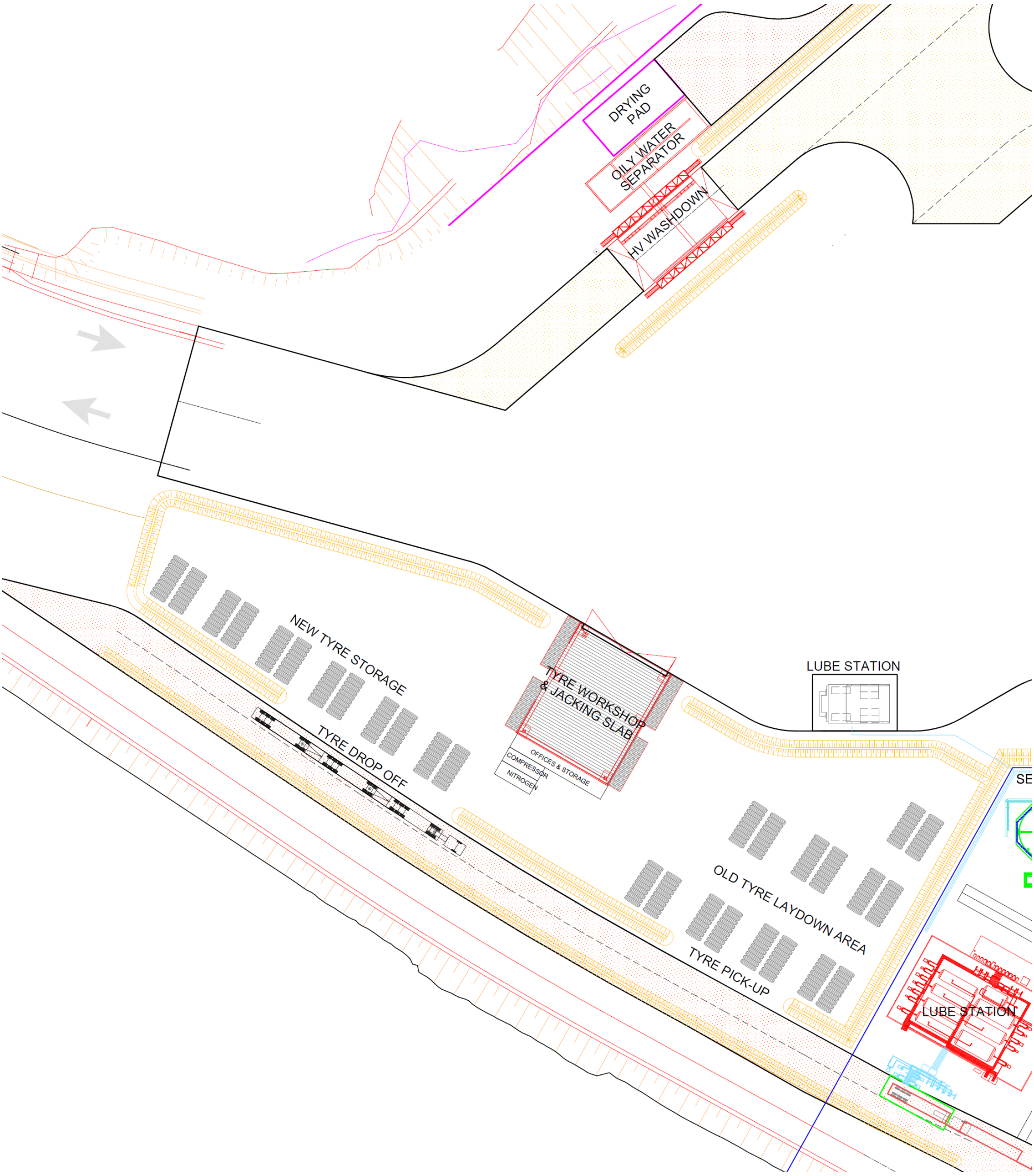

Figure 5: Map of the OWS

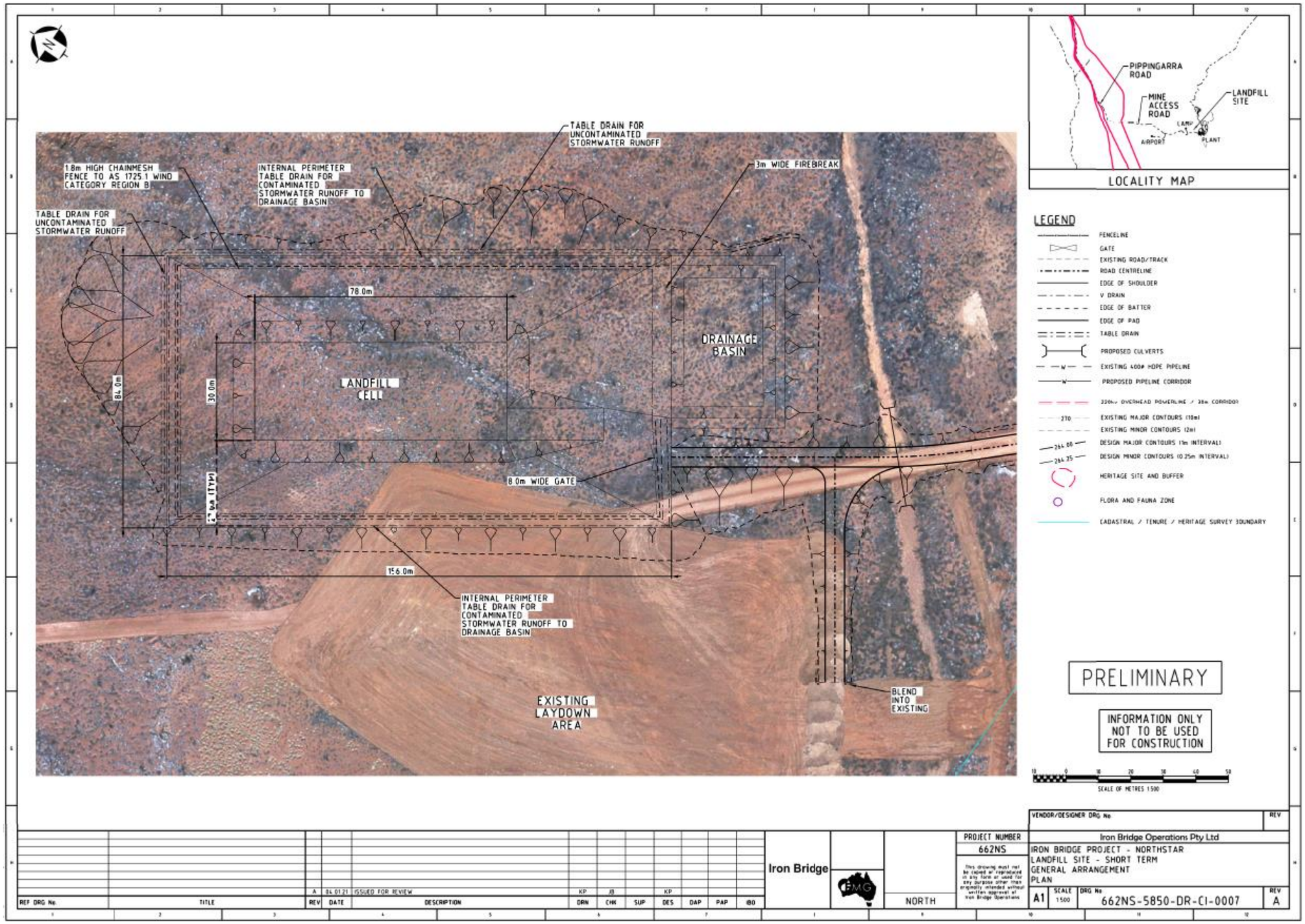

Figure 6: Map of the landfill layout

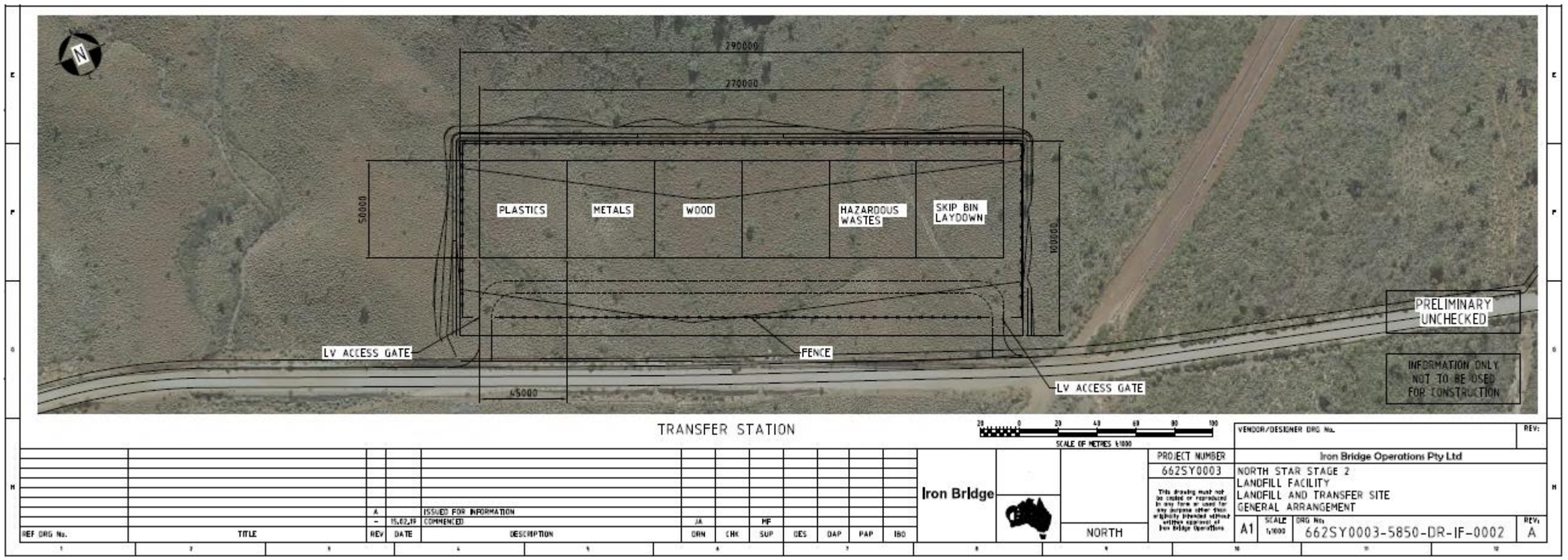

Figure 7: Map of the waste transfer facility layout

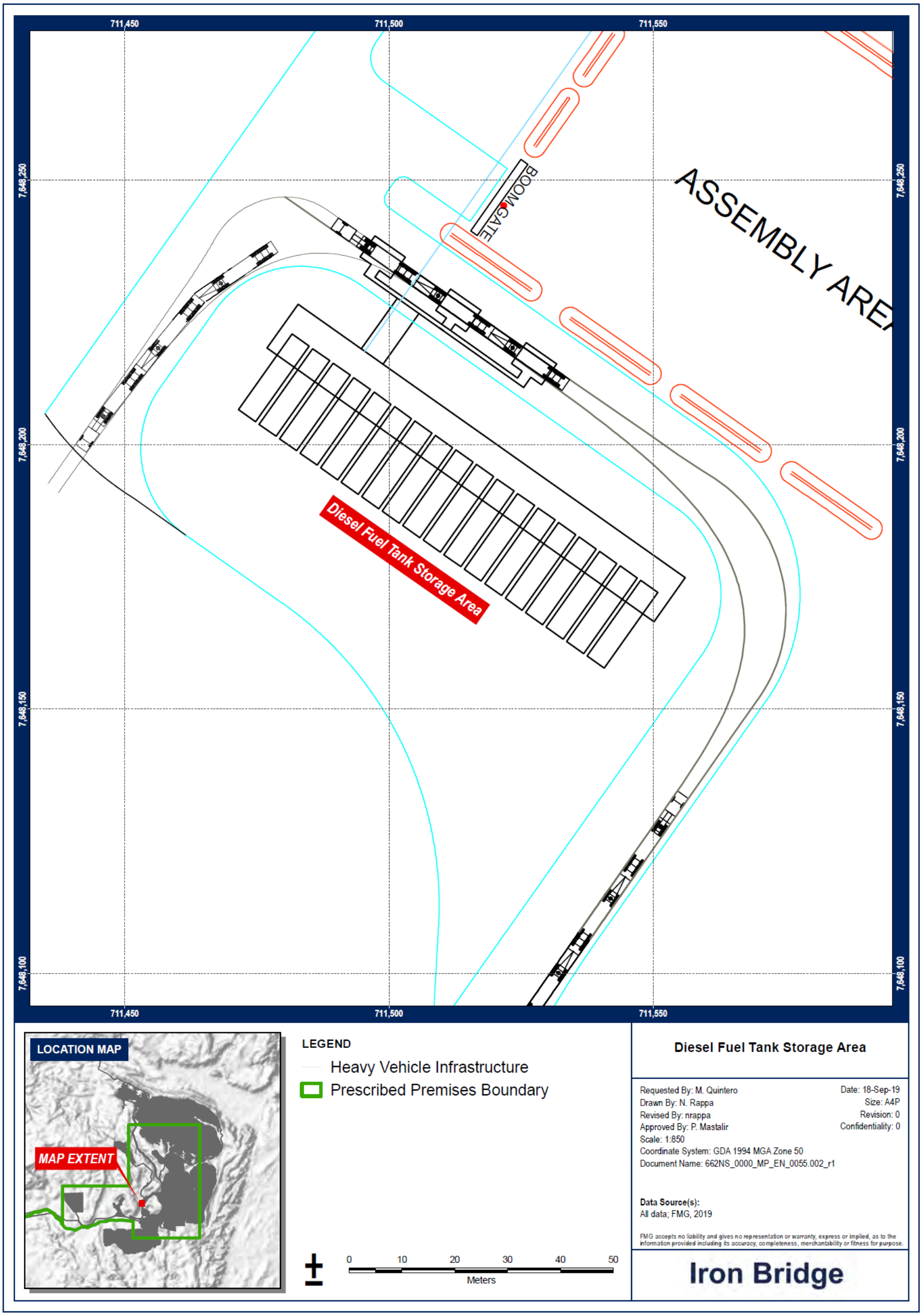

Figure 8: Map of the Bulk Fuel Storage Facility layout