



Appendix 10: Surface Water Management Plan



Plan

Surface Water Management Plan

Environment Operations

22 January 2025

IO-PL-EN-0005

Rev 0



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1 INTRODUCTION

Fortescue Ltd (Fortescue) is an integrated green technology, energy, and metals company. The mining assets in the Pilbara region of Western Australia comprises of mine, rail, and port operations (Figure 1).

1.1 Objective

The objective of this Plan is to minimise the direct and indirect impacts of Fortescue's operations on surface water within Fortescue controlled sites¹. More specifically, the aim of this Plan is to:

- Identify key environmental activities that have the potential to cause impacts to surface water across Fortescue's operations
- Identify potential impacts to surface water caused by contamination, excessive erosion and downstream sedimentation² resulting from Fortescue activities, and direct and indirect impacts on flora, fauna and vegetation during all stages of Fortescue's existing and proposed Pilbara operations.
- Provide guidance to facilitate robust and consistent use and design of drainage Infrastructure.
- Provide guidance for site specific monitoring and reporting of water quality, flow and drainage infrastructure.
- Describe management actions that when implemented, will minimise environmental impacts on surface water.

1.2 Legislative context

Fortescue employees and contractors are obliged to comply with all relevant environmental Commonwealth and State legislation. Environment legislation directly relevant to this Plan is provided in Appendix A.

1.3 Application

This Plan provides guidance on surface water management across all Fortescue controlled sites.

The Plan was originally developed to meet the requirements of Ministerial Statement 690 (MS 690) for the portion of the project area that lies outside of the Port Hedland Port Authority boundary (refer to Appendix B).

¹ Fortescue controlled sites means sites that are under the legislative control of Fortescue including exploration sites, sites under construction, operational sites (sites that are managed and operated by Fortescue and sites that are managed by Fortescue but operated by contractors) and the Perth offices.

² Sedimentation is the physical process of settling of suspended particulates under the force of gravity as defined in ANZECC & ARMCANZ 2000.



1.4 Exclusions

Exclusions to this Plan are:

- Eliwana Operations - surface water management addressed in *Eliwana Inland Waters Management Plan* (751EW-0000-PL-EN-0005).
- Iron Bridge Operations - surface water management addressed in *Iron Bridge Surface Water Management Plan* (NS-00000-PL-EN-0001).

2 ENVIRONMENT MANAGEMENT

2.1 Environmental management objective

A series of environmental management objectives have been developed to mitigate environmental impacts on surface water that could potentially be caused by Fortescue's activities (exploration, construction, operation and decommissioning). These are:

1. Maintain the integrity of flow paths and water quantities to protect surface water dependent ecological systems
2. Minimise excessive turbidity and downstream sedimentation caused by erosion from Fortescue activities
3. Prevent and minimise impacts to surface water quality from Fortescue activities
4. Minimise impact of storm surge and flooding
5. Monitor and report sufficiently to demonstrate compliance and enable management to make informed decisions that minimise environmental impacts to surface water dependent ecological systems.

For each objective, management actions have been developed to ensure the impacts from Fortescue's operations are managed, and that appropriate monitoring, reporting and corrective actions are implemented to support the successful implementation of the management actions.

The key elements of the environmental management process associated with each objective are described in Table 1. The key management actions are detailed in:

- Haul and access roads (Table 2).
- Railway infrastructure, including embankments, borrow pits and cut and fill activities (Table 3).
- Mines, including pits, borrow pits, dumps, flow diversions, ore stockpiles and dewatering activities (Table 4).
- Operational works (Table 5).



Table 1: Key elements of environmental management process to achieve identified objectives

Element	Definition/ description
Management Action	Tasks undertaken to enable the objective to be met
Evidence	Demonstrates that the Management Action has been applied and the outcome evaluated.
Timing	Period during which the Management Action should be undertaken.
Responsibility	Accountability for ensuring management action is completed. The responsible role is dependent on project timing. Refer to Appendix C.



Table 2: Key management actions for surface water management on haul and access roads

Reference	Project			Stage				Management action	Objective number	Performance indicator	Evidence	Timing	Responsibility
	Mine	Port	Rail	Exploration	Construction	Operation	Decommissioning						
1.1	Y	Y	Y	Y	Y	Y		Minimise clearing and vegetation disturbance so that flow regimes are minimally impacted. Conduct clearing in accordance with a permit issued under the <i>Land Use Certificate Acquisitions and Tenements Procedure</i> (100-PR-TA-0001) and/or the <i>Ground Disturbance and Topsoil Management Procedure</i> (IO-PR-EN-0010).	1,2,5	No significant impact on sheet flow dependent Mulga communities as a result of surface water flow changes Water quality of monitored creeks downstream of infrastructure remains similar to background levels. Ground disturbance permits obtained for all clearing. Clearing within specified GDP boundaries.	Incident reports Monitoring Program and report Monitoring Program and report Annual Environment Report Ground disturbance permits BMS record	Exploration/ Exploration Development/ Construction/ Operation	Group Manager Resource Geology / Project Manager/ Manager Mining (CC/ Solomon)/ Manager Technical (CB)/ Manager Infrastructure (Rail)/ Manager Port Operations
1.2	Y	Y	Y		Y	Y		Conduct a risk assessment to determine the likelihood of a change to the surface water regime, including in areas where sheet flow dependent Mulga communities have been identified, that may lead to unacceptable environmental impacts.	1, 3, 4	Risk assessment conducted	Risk assessment outcomes/ report	Design/ Construction/ Operation	Manager Environmental Approvals/ Manager Hydrogeology/ Project Manager/ HSES Manager
1.3	Y	Y	Y		Y	Y		Drainage infrastructure location, design, construction and operation to design specifications which reflect risk assessment outcomes in minimising interference and disruption of natural surface water flows and quality in accordance with the <i>Standard Engineering Specification for Drainage and Flood Protection (100-SP-CI-0004)</i> and the <i>Standard Engineering Specification for Road Design for Projects (100-SP-CI-0002)</i> .	1,2,3, 4	Drainage infrastructure to comply with design specifications. Water quality and flow of monitored creeks downstream of infrastructure remains similar to background levels.	Updated Basis of Design Monitoring Program and report	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Mining (CC)/Manager Technical (CB / Solomon)/ Manager Infrastructure (Rail)/ Manager Port Operations
1.4	Y		Y	Y	Y	Y		Where sheet flow dependent Mulga communities have been identified and significant impacts from changes to sheet flow regimes are likely incorporate appropriate drainage infrastructure into the project design in accordance with the <i>Standard Engineering Specification for Drainage and Flood Protection (100-SP-CI-0004)</i> .	1,2	No significant impact on sheet flow dependent Mulga communities. Drainage infrastructure to comply with design specifications.	Updated Basis of Design Internal audit or inspection reports Monitoring program and report	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Mining (CC)/ Manager Technical (CB/ Solomon)
1.5	Y		Y		Y	Y		When culverts are used in areas with sheet flow dependent Mulga communities to be protected, install sheet flow redistribution structures downstream and immediately upstream of the culverts where sheet flow shadowing is unacceptable.	1	Audit to check sheet flow redistribution structures have been installed downstream of culverts in and immediately upstream of areas of sheet flow dependent Mulga communities.	Updated Basis of Design Internal audit or inspection reports	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Mining/ Manager Rail Infrastructure (Rail)
1.6	Y		Y		Y	Y		Where possible, align haul/access roads with existing transport corridors or approved disturbance corridors so that surface water flow regimes are minimally impacted.	1,2, 3	Audit to check haul/access roads aligned with rail and have culverts placed at intersections with major drainage lines. Also check that water flowing parallel to the haul/access roads is controlled to prevent erosion.	Updated Basis of Design Internal audit or inspection reports	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Mining (CC)/ Manager Technical (CB/ Solomon)/ Manager Infrastructure (Rail)
1.7	Y		Y		Y	Y		Borrow pit location and construction to be designed to design specifications to minimise interference and disruption of natural surface water flows and quality, and impacts on turbidity.	1-3	Borrow pits to comply with design specifications (see <i>Borrow Pit Management Plan (45-PL-EN-0018)</i>). Water quality and flow of monitored creeks downstream of borrow pits remains similar to background levels.	Updated Basis of Design Monitoring program and report	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Mining/ Manager Technical (CB)/Manager Infrastructure (Rail)
1.8	Y		Y		Y	Y		Manage chemicals and hydrocarbons in accordance with the <i>Chemical and Hydrocarbon Management Plan (IO-PL-EN-0004)</i> .	3	Water quality and flow of monitored creeks downstream of haul roads remains similar to background levels.	Laboratory results	Exploration/ Exploration Development/ Construction/ Operation/ Decommissioning	Group Manager Resource Geology/ Project Manager/ HSES Manager



Reference	Project			Stage				Management action	Objective number	Performance indicator	Evidence	Timing	Responsibility
	Mine	Port	Rail	Exploration	Construction	Operation	Decommissioning						
1.9	Y		Y		Y	Y		Provide hydrocarbons and chemical spill control training and equipment to appropriate Fortescue staff and contractors.	3	Audit to ensure appropriate training has been provided to relevant staff and contractors.	Training records	Exploration/ Exploration Development/ Construction/ Operation	Group Manager Resource Geology/ Project Manager/ HSES Manager
1.10	Y		Y		Y	Y	Y	Develop and implement a surface water monitoring program, which includes the inspection of all drainage infrastructure, in accordance with the <i>Surface Water Monitoring Guidelines</i> (IO-PL-EN-0005).	1,2,3,5	Prepare and implement site-specific surface water monitoring program that follows the SWMG.	Monitoring program and report Annual Environmental Report	Construction/ Operation/ Decommissioning/ Closure	HSES Manager/ Manger Mining (Solomon)
										Site specific water quality reports and internal environmental reporting.	Water quality reports and internal environmental reporting Annual Environmental Report		
1.11	Y		Y				Protect natural drainage lines from construction impacts where possible to minimise impacts to water quality.	1,2,3	Audit to check natural drainage lines are buffered from disturbance footprint.	Internal audit or inspection reports	Construction	Project Manager	
									Water quality and flow of monitored creeks downstream of construction activities remains similar to background levels.	Monitoring program and report			
1.12	Y		Y				To ensure erosion, water quality and surface water flow regimes are minimally impacted conduct rehabilitation in accordance with applicable a Mine Closure Plan developed in accordance with the <i>Guidelines for Preparing Mine Closure Plans</i> .	1- 5	Vegetation in rehabilitated areas will have equivalent values as surrounding natural ecosystems	Monitoring program and report Annual environmental report	Decommissioning and Closure	Manager Mining/ HSES Manager	
									After road removal and rehabilitation, water quality of monitored creeks downstream of road infrastructure remains similar to background levels. No erosion is evident.	Monitoring program and report			
1.13	Y	Y	Y				Where appropriate, re-establish natural stream and drainage flows where practicable to resemble original drainage patterns, including rehabilitation of major drainage channels.	1,2,3	Audit rehabilitated areas to determine if previously disturbed areas resemble undisturbed natural contours immediately upstream.	Audit reports	Decommissioning and Closure	Manager Mining/ HSES Manager	
									No significant impact on sheet flow dependent Mulga communities as a result of surface flow changes.	Monitoring program and report Annual Environmental Report			
									Water quality and flow rates of creeks downstream of rehabilitated site remain similar to background levels.				



Table 3: Key management actions for surface water management on railway infrastructure, including embankments, borrow pits and cut and fill activities

Reference	Project			Stage				Management action	Objective number	Performance indicator	Evidence	Timing	Responsibility
	Mine	Port	Rail	Exploration	Construction	Operation	Decommissioning						
1.1	Y		Y	Y	Y	Y		Minimise clearing and vegetation disturbance so that flow regimes are minimally impacted. Conduct clearing in accordance with a permit issued under the <i>Land Use Certificate Acquisitions and Tenements Procedure</i> (100-PR-TA-0001) and the <i>Ground Disturbance and Topsoil Management Procedure</i> (IO-PR-EN-0010).	1,2,5	No significant impact on sheet flow dependent Mulga communities as a result of surface water flow changes.	Incident reports Monitoring Program and report	Exploration/ Exploration Development/ Construction/ Operation	Group Manager Resource Geology/ Project Manager/ Manager Infrastructure (Rail)
										Water quality of monitored creeks downstream of infrastructure remains similar to background levels.	Monitoring Program and report Annual Environment Report		
										Ground disturbance permits obtained for all clearing.	Ground disturbance permits		
										Clearing within specified GDP boundaries.	BMS record		
1.2	Y		Y		Y	Y		Conduct a risk assessment to determine the likelihood of a change to the surface water regime including in areas where sheet flow dependent Mulga communities have been identified, that may lead to unacceptable environmental impacts.	1, 3, 4	Risk assessment conducted	Risk assessment outcomes/ report	Design/ Construction/ Operation	Manager Environmental Approvals/ Manager Hydrogeology/ Project Manager/ HSES Manager
1.3	Y		Y		Y	Y		Drainage infrastructure location, design, construction and operation to design specifications which reflect risk assessment outcomes in minimising interference and disruption of natural surface water flows and quality in accordance with the <i>Standard Engineering Specification for Drainage and Flood Protection</i> (100-SP-CI-0004).	1,2,3,4	Drainage infrastructure to comply with design specifications.	Updated basis of Design	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Mining (CC)/ Manager Technical (CB/ Solomon)/ Manager Infrastructure (Rail)
										Water quality and flow of monitored creeks downstream of infrastructure remains similar to background levels.	Monitoring program and report		
1.4	Y		Y	Y	Y	Y		Where sheet flow dependent Mulga communities have been identified and significant impacts from changes to sheet flow regimes are likely incorporate appropriate drainage infrastructure into the project design in accordance with the <i>Standard Engineering Specification for Drainage and Flood Protection</i> (100-SP-CI-0004).	1,2	No significant impact on sheet flow dependent Mulga communities. Drainage infrastructure to comply with design specifications.	Updated Basis of Design Internal audit or inspection reports Monitoring program and report	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Mining (CC)/ Manager Technical (CB/ Solomon)/ Manager Infrastructure (Rail)
1.5	Y		Y		Y	Y		When culverts are used in areas with sheet flow dependent Mulga communities to be protected, install sheet flow redistribution structures downstream and immediately upstream of the culverts where sheet flow shadowing is unacceptable.	1	Audit to check sheet flow redistribution structures have been installed downstream of culverts in and immediately upstream of areas of sheet flow dependent Mulga communities.	Updated Basis of Design Internal audit or inspection reports	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Infrastructure (Rail)
1.6	Y		Y		Y	Y		Where possible, align railway infrastructure with existing transport corridor or approved disturbance corridors so that surface water flow regimes are minimally impacted.	1,2, 3	Audit to check railways aligned with existing transport corridors and have culverts placed at intersections with major drainage lines. Also check that water flowing parallel to the railways is controlled to prevent erosion.	Updated Basis of Design Internal audit or inspection reports	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Infrastructure (Rail)
1.7	Y		Y		Y	Y		Borrow pit location and construction to be designed to design specifications to minimise interference and disruption of natural surface water flows and quality, and impacts on turbidity.	1-3	Borrow pits to comply with design specifications (see <i>Borrow Pit Management Plan</i> (45-PL-EN-0018)).	Updated Basis of Design	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Infrastructure (Rail)
										Water quality and flow of monitored creeks downstream of borrow pits remains similar to background levels.	Monitoring program and report		
1.8	Y		Y		Y	Y		Locate drainage infrastructure to minimise impact on existing infrastructure.	1,2	Infrastructure to comply with design specifications and have minimal impact on existing infrastructure.	Updated Basis of Design	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Infrastructure (Rail)
1.9	Y		Y		Y	Y		Minimise stream flow interruption caused by cut and fill areas of railway corridor by placement of culverts at appropriate nexus between major drainage lines and rail lines.	1	No significant impact on stream flow dependent vegetation as a result of surface flow changes.	Updated Basis of Design	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Infrastructure (Rail)



Reference	Project			Stage				Management action	Objective number	Performance indicator	Evidence	Timing	Responsibility
	Mine	Port	Rail	Exploration	Construction	Operation	Decommissioning						
1.10	Y		Y		Y	Y	Y	Minimise disruption of natural surface water flow by avoiding excessive ponding against structures and bunds.	1	No significant impact on sheet flow dependent Mulga communities as a result of surface flow changes	Updated Basis of Design Monitoring Program and report	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Infrastructure (Rail)
1.11	Y		Y		Y	Y		Manage chemicals and hydrocarbons in accordance with the <i>Chemical and Hydrocarbon Management Plan</i> (IO-PL-EN-0004).	3	Water quality and flow of monitored creeks downstream of haul roads remains similar to background levels.	Laboratory results	Exploration/ Exploration Development/ Construction/ Operation/ Decommissioning	Group Manager Resource Geology/ Project Manager/ HSES Manager
1.12	Y		Y		Y	Y		Provide hydrocarbons and chemical spill control training and equipment to appropriate Fortescue staff and contractors.	3	Audit to ensure appropriate training has been provided to relevant staff and contractors.	Training records	Exploration/ Exploration Development/ Construction/ Operation	Group Manager Resource Geology/ Project Manager/ HSES Manager
1.13	Y		Y		Y	Y	Y	Develop and implement a surface water quality monitoring program, which includes the inspections of all drainage infrastructure, in accordance with the <i>Surface Water Monitoring Guidelines</i> (IO-GU-EN-0005).	1,2,3,5	Prepare and implement site-specific surface water quality monitoring program that follows the SWMG.	Monitoring program and report Annual Environmental Report	Construction/ Operation/ Decommissioning/ Closure	HSES Manager
										Site specific water quality reports and internal environmental reporting.	Water quality reports and internal environmental reporting Annual Environmental Report		
1.14	Y		Y		Y			Protect natural drainage lines from construction impacts where possible so that water quality is minimally impacted.	1,2,3	Audit to check natural drainage lines are buffered from disturbance footprint.	Internal audit or inspection reports	Construction	Project Manager
										Water quality and flow of monitored creeks downstream of construction activities remains similar to background levels.	Monitoring program and report		
1.15	Y		Y			Y	Y	To ensure erosion, water quality and surface water flow regimes are minimally impacted conduct rehabilitation in accordance with applicable a Mine Closure Plan developed in accordance with the <i>Guidelines for Preparing Mine Closure Plans</i> .	1,2,3,4,5	Vegetation in rehabilitated areas will have equivalent values as surrounding natural ecosystems	Monitoring program and report	Decommissioning and Closure	Manager Mining/ HSES Manager
										After rehabilitation, water quality of monitored creeks downstream of infrastructure remains similar to background levels. No erosion is evident.	Monitoring program and report Annual Environmental Report		
1.16	Y		Y			Y	Y	Where appropriate, re-establish natural stream and drainage flows to resemble original drainage patterns, including rehabilitation of major drainage channels.	1,2,3	Audit rehabilitated areas to determine if previously disturbed areas resemble undisturbed natural contours immediately upstream.	Audit reports Annual Environmental Report	Decommissioning and Closure	Manager Mining/ HSES Manager
										No significant impact on sheet flow dependent Mulga communities as a result of surface flow changes			
										Water quality and flow rates of creeks downstream of rehabilitated site remain similar to background levels.			



Table 4: Key management actions for surface water management on mines, including pits, borrow pits, dumps, flow diversions, ore stockpiles and dewatering activities

Reference	Project			Stage				Management action	Objective number	Performance indicator	Evidence	Timing	Responsibility
	Mine	Port	Rail	Exploration	Construction	Operation	Decommissioning						
1.1	Y		Y	Y	Y	Y		Minimise clearing and vegetation disturbance so that flow regimes are minimally impacted. Conduct clearing in accordance with a permit issued under the <i>Land Use Certificate Acquisitions and Tenements Procedure</i> (100-PR-TA-0001) and the <i>Ground Disturbance and Topsoil Management Procedure</i> (IO-PR-EN-0010).	1,2,5	No significant impact on sheet flow dependent Mulga communities as a result of surface water flow changes	Incident reports Monitoring Program and report	Exploration/ Exploration Development/ Construction/ Operation	Group Manager Resource Geology/ Project Manager/ Manager Mining (CC/ Solomon)/ Manager Technical (CB)
										Water quality of monitored creeks downstream of infrastructure remains similar to background levels.	Monitoring Program and report Annual Environment Report		
										Ground disturbance permits obtained for all clearing.	Ground disturbance permits		
										Clearing within specified GDP boundaries.	BMS record		
1.2	Y		Y		Y	Y		Where a site is classified as a prescribed premise as defined under the <i>Environmental Protection Act 1986</i> , obtain a licence in accordance with Part V of the Act.	3, 5	Audit to confirm licence has been obtained.	Licence Annual Environmental Report	Design	Manager Environmental Approvals
1.3	Y		Y		Y	Y		Conduct a risk assessment to determine the likelihood of a change to the surface water regime, including in areas where sheet flow dependent Mulga communities have been identified, that may lead to unacceptable environmental impacts.	1, 3,4	Risk assessment conducted	Risk assessment outcomes/ report	Design/ Construction/ Operation	Manager Environmental Approvals/ Manager Hydrogeology/ Project Manager/ HSES Manager
1.4	Y		Y		Y	Y		Drainage infrastructure location, design, construction and operation to design specifications which reflect risk assessment outcomes in minimising interference and disruption of natural surface water flows and quality in accordance with the <i>Standard Engineering Specification for Drainage and Flood Protection (100-SP-CI-0004)</i> .	1,2,3,4	Drainage infrastructure to comply with design specifications.	Updated basis of Design	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Mining (CC)/ Manager Technical (CB/ Solomon)
										Water quality and flow of monitored creeks downstream of infrastructure remains similar to background levels.	Monitoring Program and report		
										No significant impact on sheet flow dependent Mulga communities as a result of surface flow changes			
1.5	Y		Y	Y	Y	Y		Where sheet flow dependent Mulga communities have been identified and significant impacts from changes to sheet flow regimes are likely incorporate appropriate drainage infrastructure into the project design in accordance with the <i>Standard Engineering Specification for Drainage and Flood Protection (100-SP-CI-0004)</i> .	1,2	No significant impact on sheet flow dependent Mulga communities. Drainage infrastructure to comply with design specifications.	Updated Basis of Design Internal audit or inspection reports Monitoring Program and report	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Mining (CC)/ Manager Technical (CB/ Solomon)
1.6	Y		Y		Y	Y		When culverts are used in areas with sheet flow dependent Mulga communities to be protected, install sheet flow redistribution structures downstream and immediately upstream of the culverts where sheet flow shadowing is unacceptable.	1	Audit to check sheet flow redistribution structures have been installed downstream of culverts in and immediately upstream of areas of sheet flow dependent Mulga communities.	Updated Basis of Design Internal audit or inspection reports	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Mining (CC)/ Manager Technical (CB/ Solomon)
1.7	Y		Y		Y	Y		Where possible, align haul/access roads with existing transport corridor or approved disturbance corridors so that surface water flow regimes are minimally impacted.	1,2,3	Audit to check haul/access roads aligned with rail and have culverts placed at intersections with major drainage lines. Also check that water flowing parallel to the haul/access roads is controlled to prevent erosion.	Updated Basis of Design Internal audit or inspection reports	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Mining (CC)/ Manager Technical (CB/ Solomon)
1.8	Y		Y		Y	Y		Borrow pit location and construction to be designed to design specifications to minimise interference and disruption of natural surface water flows and quality, and impacts on turbidity.	1-3	Borrow pits to comply with design specifications (see <i>Borrow Pit Management Plan</i> (45-PL-EN-0018)).	Updated Basis of Design	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Mining
										Water quality and flow of monitored creeks downstream of borrow pits remains similar to background levels.	Monitoring program and report		



Reference	Project			Stage				Management action	Objective number	Performance indicator	Evidence	Timing	Responsibility
	Mine	Port	Rail	Exploration	Construction	Operation	Decommissioning						
1.9	Y				Y	Y	Y	Design mine pits to be internally draining. Rainfall to be managed via sumps and potentially discharged directly to the environment. Where applicable, comply with the <i>Dewatering Discharge Contingency Procedure</i> (M-PR-EN-0001).	3, 4	Audit to check water in mine pits can be managed via sumps and potentially discharged directly to the environment.	Updated Basis of Design Internal audit or inspection reports	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Mining (CC/ Solomon)/ Manager Technical (CB)
1.10	Y		Y		Y	Y		Bunding of pits, dumps, and iron ore stockpiles to be designed to minimise impact to surface water flow volume, flow regimes and turbidity.	1, 2, 3, 4	Drainage infrastructure to comply with construction specifications.	Construction specifications	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Mining (CC/ Solomon)/ Manager Technical (CB)
										Audit site to ensure compliance to design specifications.	Internal audit or inspection reports		
										Water quality and flow rates of creeks downstream of all infrastructure remains similar to background levels.	Monitoring program and reports		
1.11	Y				Y	Y		Use erosion minimisation strategies, such as sediment basins, bunding and vegetated batters, to control surface water sediment and water quality from ore stockpiles.	1, 2, 3	Water quality and flow of monitored creeks downstream of iron ore stockpiles remain similar to background levels.	Monitoring program and reports	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Mining (CC/ Solomon)/ Manager Technical (CB)
										Perimeter bunding and internal drainage to comply with design specifications.	Updated Basis of Design Design Specifications		
1.12	Y		Y		Y	Y	Y	Minimise disruption of natural surface water flow by avoiding excessive ponding against structures and bunds.	1, 2, 4	Drainage infrastructure to comply with construction specifications.	Updated Basis of Design	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Mining (CC/ Solomon)/ Manager Technical (CB)
										Audit site to ensure compliance to design specifications.	Internal audit or inspection reports		
										No significant impact on sheet flow dependent Mulga communities as a result of surface flow changes	Monitoring Program and report		
1.13	Y		Y		Y	Y		Manage chemicals and hydrocarbons in accordance with the <i>Chemical and Hydrocarbon Management Plan</i> (IO-PL-EN-0004).	3	Water quality and flow of monitored creeks downstream of haul roads remains similar to background levels.	Laboratory results	Exploration/ Exploration Development/ Construction/ Operation/ Decommissioning	Group Manager Resource Geology/ Project Manager/ HSES Manager
1.14	Y		Y		Y	Y		Provide hydrocarbons and chemical spill control training and equipment to appropriate Fortescue staff and contractors.	3	Audit to ensure appropriate training has been provided to relevant staff and contractors.	Training records	Exploration/ Exploration Development/ Construction/ Operation	Group Manager Resource Geology/ Project Manager/ HSES Manager
1.15	Y		Y		Y	Y	Y	Develop and implement a surface water quality monitoring program, which includes the inspection of all drainage infrastructure, in accordance with the <i>Surface Water Monitoring Guidelines</i> (IO-GU-EN-0005).	1,2,3,5	Prepare and implement site-specific surface water quality monitoring program that follows the SWMG.	Monitoring program and report	Construction/ Operation/ Decommissioning/ Closure	HSES Manager/ Manager Mining (Solomon)
										Site specific water quality reports and internal environmental reporting.	Water quality reports and internal environmental reporting Annual Environmental report		
1.16	Y		Y		Y			Protect natural drainage lines from construction impacts where possible so that water quality is minimally impacted.	1,2,3	Audit to check natural drainage lines are buffered from disturbance footprint.	Internal audit or inspection reports	Construction	Project Manager
										Water quality and flow of monitored creeks downstream of construction activities remains similar to background levels.	Monitoring program and report		
1.17	Y		Y		Y	Y		Reuse run off from infrastructure /activity where possible to ensure turbid water is not discharged to the environment.	2,3	Audit to check run-off from infrastructure/activity reused as much as possible.	Dust management program Internal audit or inspection reports	Construction and Operation	Project Manager/ Manager Mining



Reference	Project			Stage				Management action	Objective number	Performance indicator	Evidence	Timing	Responsibility
	Mine	Port	Rail	Exploration	Construction	Operation	Decommissioning						
	Y		Y		Y	Y			Water quality and flow rates of creeks downstream of all infrastructure and activities remain similar to background levels.	Monitoring program and report			
1.18	Y				Y	Y		Keep clean and potentially contaminated stormwater ³ separate.	3	Audit to check stormwater from operational areas is kept separate from undisturbed areas.	Internal audit or inspection reports	Construction and Operation	Project Manager / Manager Mining
1.19	Y				Y	Y		Contain and appropriately manage contaminated stormwater prior to release to the environment.	3	Audit to check contaminated stormwater is captured and managed before release to the environment.	Internal audit or inspection reports	Construction and Operation	Project Manager / Manager Mining
										Results of monitoring are all within the natural variability expected and anthropogenic toxicants do not exceed guideline values.	Monitoring program and report		
1.20	Y		Y			Y	Y	To ensure erosion, water quality and surface water flow regimes are minimally impacted conduct rehabilitation in accordance with applicable a Mine Closure Plan developed in accordance with the <i>Guidelines for Preparing Mine Closure Plans</i> .	1,2,3,5	Vegetation in rehabilitated areas will have equivalent values as surrounding natural ecosystems	Monitoring program and report Annual Environmental Report	Decommissioning and Closure	Manager Mining/ HSES Manager
1.21	Y		Y			Y	Y	Where appropriate, re-establish natural stream and drainage flows to resemble original drainage patterns, including rehabilitation of major drainage channels.	1,2,3	Audit rehabilitated areas to determine if previously disturbed areas resemble undisturbed natural contours immediately upstream.	Audit reports	Decommissioning and Closure	Manager Mining/ HSES Manager
										No significant impact on sheet flow dependent Mulga communities as a result of surface flow changes	Monitoring program and report		
										Water quality and flow rates of creeks downstream of rehabilitated site remain similar to background levels.	Annual Environmental Report		

³ Stormwater is water flowing over ground surfaces and in natural streams and drains as a direct result of rainfall over a catchment (ARMCANZ and ANZECC, 2000).



Table 5: Key management actions for surface water management on operational works

Reference	Project			Stage				Management action	Objective number	Performance indicator	Evidence	Timing	Responsibility	Relevant section in the Drainage Infrastructure Design Guidelines	Relevant section in the Surface Water Monitoring Guidelines (IO-GU-EN-0005)
	Mine	Port	Rail	Exploration	Construction	Operation	Decommissioning								
1.1	Y	Y	Y	Y	Y	Y		Minimise clearing and vegetation disturbance so that flow regimes are minimally impacted. Conduct clearing in accordance with a permit issued under the <i>Land Use Certificate Acquisitions and Tenements Procedure</i> (100-PR-TA-0001) and the <i>Ground Disturbance and Topsoil Management Procedure</i> (IO-PR-EN-0010).	1,2,5	No significant impact on sheet flow dependent Mulga communities as a result of surface water flow changes	Incident reports Monitoring Program and report	Exploration/ Exploration Development/ Construction/ Operation	Group Manager Resource Geology/ Project Manager/ Manager Mining (CC/ Solomon)/Manager Technical (CB)/ Manager Infrastructure (Rail) / Manager Port Operations	N/A	N/A
	Water quality of monitored creeks downstream of infrastructure remains similar to background levels.	Monitoring Program and report Annual Environment Report	Section 4.2, 4.3, 4.4	Section 5											
	Ground disturbance permits obtained for all clearing.	Ground disturbance permits	N/A	N/A											
	Clearing within specified GDP boundaries.	BMS record	N/A	N/A											
1.2	Y		Y		Y	Y		Where the site is classified as a prescribed premise as defined under the <i>Environmental Protection Act 1986</i> , obtain a licence in accordance with Part V of the Act.	3, 5	Audit to confirm licence has been obtained.	Licence Annual Environmental Report Internal audit or inspection reports	Design	Manager, Environmental Approvals	N/A	N/A
1.3	Y		Y		Y	Y		Conduct a risk assessment to determine the likelihood of a change to the surface water regime, including areas where sheet flow dependent Mulga communities have been identified, that may lead to unacceptable environmental or safety impacts.	1,3,4	Risk assessment conducted	Risk assessment outcomes/ report	Design/ Construction/ Operation	Manager Environmental Approvals/ Manager Hydrogeology/ Project Manager/ HSES Manager	Section 4.2, 4.3	N/A
1.4	Y	Y	Y		Y	Y		Drainage infrastructure location, design, construction and operation to design specifications which reflect risk assessment outcomes in minimising interference and disruption of natural surface water flows and quality in accordance with the <i>Standard Engineering Specification for Drainage and Flood Protection</i> (100-SP-CI-0004).	1,2,3,4	Drainage infrastructure to comply with design specifications.	Updated basis of Design	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Mining (CC)/ Manager Technical (CB)/Manager Infrastructure (Rail) / Manager Port Operations	Section 4.1, 4.2, 4.3, 4.4, 3	Section 5 and 6
	Water quality and flow of monitored creeks downstream of infrastructure remains similar to background levels.	Monitoring Program and report													
	No significant impact on sheet flow dependent Mulga communities as a result of surface flow changes														
1.5	Y		Y	Y	Y	Y		Where sheet flow dependent Mulga communities have been identified and significant impacts from changes to sheet flow regimes are likely incorporate appropriate drainage infrastructure into the project design in accordance with the <i>Standard Engineering Specification for Drainage and Flood Protection</i> (100-SP-CI-0004).	1,2	No significant impact on sheet flow dependent Mulga communities. Drainage infrastructure to	Updated Basis of Design Internal audit or inspection reports Monitoring program and report	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Mining (CC)/ Manager Technical (CB/ Solomon)/ Manager Infrastructure (Rail)	Section 4.2, 4.3	N/A



Reference	Project			Stage				Management action	Objective number	Performance indicator	Evidence	Timing	Responsibility	Relevant section in the Drainage Infrastructure Design Guidelines	Relevant section in the Surface Water Monitoring Guidelines (IO-GU-EN-0005)
	Mine	Port	Rail	Exploration	Construction	Operation	Decommissioning								
										comply with design specifications.					
1.6	Y		Y		Y	Y		When culverts are used in areas with sheet flow dependent Mulga communities to be protected, install sheet flow redistribution structures downstream and immediately upstream of the culverts where sheet flow shadowing is unacceptable.	1	Audit to check sheet flow redistribution structures have been installed downstream of culverts in and immediately upstream of areas of sheet flow dependent Mulga communities.	Updated Basis of Design Internal audit or inspection reports	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Mining/ Manager Infrastructure (Rail)	Section 4.2, 4.3	N/A
1.7	Y		Y		Y	Y		Where possible, align haul/access roads with existing transport corridor or approved disturbance corridors so that surface water flow regimes are minimally impacted.	1,2,3	Audit to check haul/access roads aligned with rail and have culverts placed at intersections with major drainage lines. Also check that water flowing parallel to the haul/access roads is controlled to prevent erosion.	Updated Basis of Design Internal audit or inspection reports	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Mining (CC)/ Manager Technical (CB/ Solomon)/ Manager Infrastructure (Rail)	Section 4.2, 4.3	Section 6
1.8	Y		Y		Y	Y		Borrow pit location and construction to be designed to design specifications to minimise interference and disruption of natural surface water flows and quality, and impacts on turbidity.	1-3	Borrow pits to comply with design specifications (see <i>Borrow Pit Management Plan</i> (45-PL-EN-0018)).	Updated Basis of Design	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Mining/ Manager Infrastructure (Rail)	N/A	Section 6
										Water quality and flow of monitored creeks downstream of borrow pits remains similar to background levels.	Monitoring program and report			N/A	Section 5
1.9	Y				Y	Y	Y	Design mine pits to be internally draining. Rainfall to be managed via sumps and potentially discharged directly to the environment. Where applicable, comply with the <i>Dewatering Discharge Contingency Procedure</i> (M-PR-EN-0001).	3,4	Audit to check water in mine pits can be managed via sumps and potentially discharged directly to the environment.	Updated Basis of Design Internal audit or inspection reports	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Mining (CC/ Solomon)/ Manager Technical (CB)	Section 4	N/A
1.10	Y	Y	Y		Y	Y	Y	Minimise disruption of natural surface water flow by avoiding excessive ponding against structures and bunds.	1,2,4	Drainage infrastructure to comply with construction specifications.	Updated Basis of Design	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Mining (CC/ Solomon)/ Manager Technical (CB)/Manager Infrastructure (Rail) / Manager Port Operations	N/A	N/A
										Audit site to ensure compliance to design specifications.	Internal audit or inspection reports			N/A	N/A
										No significant impact on sheet flow dependent Mulga communities as a result of surface flow changes	Monitoring Program and report			Section 4.2, 4.4, 3	N/A



Reference	Project			Stage				Management action	Objective number	Performance indicator	Evidence	Timing	Responsibility	Relevant section in the Drainage Infrastructure Design Guidelines	Relevant section in the Surface Water Monitoring Guidelines (IO-GU-EN-0005)
	Mine	Port	Rail	Exploration	Construction	Operation	Decommissioning								
1.11	Y		Y		Y	Y		Where possible, camps and other infrastructure with potential to release contaminants into surface waterways shall be located away from natural creeks and waterways.	3	Infrastructure to comply with design specifications.	Basis of design	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Mining (CC)/ Manager Technical (CB/ Solomon)/ Manager Infrastructure (Rail)	Section 4.4	N/A
1.12		Y			Y	Y		Where possible, locate facilities and port infrastructure on bare mud flats away from main intertidal zones to reduce disruption to surface water flow and quality.	1-4	Infrastructure to comply with design specifications.	Basis of design	Design/ Construction/ Operation	Operational Planning Manager/ Project Manager/ Manager Port Operations	N/A	N/A
1.13		Y	Y		Y	Y		Install Port infrastructure located in the intertidal zone on trestle type structures to reduce disruption to surface water movement.	1-5	Water quality and flow rates of creeks downstream of infrastructure areas remains similar to background levels.	Basis of design	Design/ Construction/ Operation	Operations Planning Manager/ Manager Port Operations	N/A	N/A
1.14	Y	Y	Y		Y	Y		Manage chemicals and hydrocarbons in accordance with the <i>Chemical and Hydrocarbon Management Plan</i> (IO-PL-EN-0004).	3	Water quality and flow of monitored creeks downstream of haul roads remains similar to background levels.	Laboratory results	Exploration/ Exploration/ Development/ Construction/ Operation/ Decommissioning	Group Manager Resource Geology/ Project Manager/ HSES Manager	N/A	Section 5
1.15	Y	Y	Y		Y	Y		Provide hydrocarbons and chemical spill control training and equipment to appropriate Fortescue staff and contractors.	3	Audit to ensure appropriate training has been provided to relevant staff and contractors.	Training records	Exploration/ Exploration/ Development/ Construction/ Operation	Group Manager Resource Geology/ Project Manager/ HSES Manager	N/A	N/A
1.16	Y		Y		Y	Y	Y	Develop and implement a surface water quality monitoring program, which includes the inspection of all drainage infrastructure, in accordance with the <i>Surface Water Monitoring Guidelines</i> (IO-GU-EN-0005).	1,2,3,5	Prepare and implement site-specific surface water quality monitoring program that follows the SWMG.	Monitoring program and report	Construction/ Operation/ Decommissioning/ Closure	HSES Manager/ Manager Mining (Solomon)	N/A	SWMG
										Site specific water quality reports and internal environmental reporting.	Water quality reports and internal environmental reporting Annual Environmental report			N/A	Section 9
1.17	Y		Y		Y			Protect natural drainage lines from construction impacts where possible so that water quality is minimally impacted.	1,2,3	Audit to check natural drainage lines are buffered from disturbance footprint.	Internal audit or inspection reports	Construction	Project Manager	N/A	Section 6
										Water quality and flow of monitored creeks downstream of construction activities remains similar to background levels.	Monitoring program and report			N/A	Section 5
1.18	Y		Y		Y	Y		Reuse run off from infrastructure /activity where possible to ensure turbid water is not discharged to the environment.	2,3	Audit to check run-off from infrastructure/activity	Dust management program	Construction and Operation	Project Manager/ Manager Mining/	N/A	N/A



Reference	Project			Stage				Management action	Objective number	Performance indicator	Evidence	Timing	Responsibility	Relevant section in the Drainage Infrastructure Design Guidelines	Relevant section in the Surface Water Monitoring Guidelines (IO-GU-EN-0005)
	Mine	Port	Rail	Exploration	Construction	Operation	Decommissioning								
	Y		Y		Y	Y			reused as much as possible.	Internal audit or inspection reports		Manager Infrastructure (Rail)			
	Y		Y		Y	Y			Water quality and flow rates of creeks downstream of all infrastructure and activities remain similar to background levels.	Monitoring program and report			N/A	Section 5	
1.19	Y	Y			Y	Y		Keep clean and potentially contaminated stormwater ⁴ separate.	3	Audit to check stormwater from operational areas is kept separate from undisturbed areas.	Internal audit or inspection reports	Construction and Operation	Project Manager / Manager Mining/ Manager Port Operations	Section 4.1, 4.2, 4.3, 4.4	N/A
	Y	Y			Y	Y			3	Audit to check contaminated stormwater is captured and managed before release to the environment.	Internal audit or inspection reports			Section 4.1	N/A
1.20	Y	Y			Y	Y		Contain and appropriately manage contaminated stormwater prior to release to the environment.	3	Results of monitoring are all within the natural variability expected and anthropogenic toxicants do not exceed guideline values.	Monitoring program and report	Construction and Operation	Project Manager / Manager Mining/ Manager Port Operations	N/A	Section 7
1.21		Y			Y	Y		Manage dredge spoil deposition areas as directed by the <i>Dredging and Reclamation and Monitoring Management Plan</i> (P-PL-EN-0004).	1-5	Adherence to the <i>Dredging and Reclamation and Monitoring Management Plan</i> (P-PL-EN-0004).	Internal audit or inspection reports	Construction and Operation	Project Manager/ Manager Port Operations	N/A	N/A
	Y		Y			Y	Y		1,2,3,5	Vegetation in rehabilitated areas will have equivalent values as surrounding natural ecosystems	Monitoring program and report			N/A	N/A
1.22	Y		Y			Y	Y	To ensure erosion, water quality and surface water flow regimes are minimally impacted conduct rehabilitation in accordance with applicable a Mine Closure Plan developed in accordance with the <i>Guidelines for Preparing Mine Closure Plans</i> .	1,2,3,5	After road removal and rehabilitation, water quality of monitored creeks downstream of road infrastructure remains similar to background levels. No erosion is evident.	Monitoring program and report Annual Environmental Report	Decommissioning and Closure	Manager Mining/ HSES Manager	N/A	Section 5

⁴ Stormwater is water flowing over ground surfaces and in natural streams and drains as a direct result of rainfall over a catchment (ARMCANZ and ANZECC, 2000).



Reference	Project			Stage				Management action	Objective number	Performance indicator	Evidence	Timing	Responsibility	Relevant section in the Drainage Infrastructure Design Guidelines	Relevant section in the Surface Water Monitoring Guidelines (IO-GU-EN-0005)
	Mine	Port	Rail	Exploration	Construction	Operation	Decommissioning								
1.23	Y	Y	Y			Y	Y	Where appropriate, re-establish natural stream and drainage flows to resemble original drainage patterns, including rehabilitation of major drainage channels.	1,2,3	<p>Audit rehabilitated areas to determine if previously disturbed areas resemble undisturbed natural contours immediately upstream.</p> <p>No significant impact on sheet flow dependent Mulga communities as a result of surface flow changes</p> <p>Water quality and flow rates of creeks downstream of rehabilitated site remain similar to background levels.</p>	<p>Audit reports</p> <p>Monitoring and reports</p> <p>Annual Environmental Report</p>	Decommissioning and Closure	Manager Mining/ HSES Manager	<p>Section 4</p> <p>Section 4</p> <p>N/A</p>	<p>N/A</p> <p>Section 5</p> <p>Section 5</p>



2.2 Environmental risk

2.2.1 Environmental impact

Many of the environmental activities associated with Fortescue’s construction, operation and decommissioning activities have the potential to impact on the environment. In order to manage environmental impacts, the activities which have the potential to cause the impact must be identified. Identifying the key activities will enable Fortescue’s staff and contractors to have an improved understanding of the risks involved in undertaking these activities.

The key activities and potential to impact on surface water flow regimes and water quality across Fortescue’s operations are detailed in Table 6.

Table 6: Activities and potential impact

Activities	Potential Impact	Details
<ul style="list-style-type: none"> Vegetation clearing Ground disturbance Construction and establishment of infrastructure and linear infrastructure 	Alteration of surface water volume and flow regimes	Alteration of surface water volume and flow regimes on disturbed or degraded lands. Alteration of surface water flows due to water pipelines and pipeline corridors. Changes to upstream vegetation health in the event of excessive ponding. Run-off water losses to the Fortescue Marshes. Changes to downstream vegetation health from disturbance to surface flows. Interruption of surface water drainage, with potential impacts on creeks, rivers, floodplains, sheet flow, marshes and springs.
<ul style="list-style-type: none"> Open pit mining Ore processing 	Reduction in water quality	Pollution of surface waters from spills and inappropriate disposal of wastes.
<ul style="list-style-type: none"> Open pit mining Ore processing 	Fauna and habitat loss	Reduction in water levels and a decline in water quality can impact on fauna and fauna habitats.
<ul style="list-style-type: none"> Stockpiling and waste rock dumps Waste disposal. 	Increased turbidity and downstream sedimentation caused by excessive erosion	Erosion and sedimentation from high rainfall events on disturbed or degraded lands. Increase in surface water sediment load from runoff from overburden stockpiles. Increased sediment load in surface waters entering the Fortescue Marshes and other surface water bodies. Excessive erosion, siltation, scouring and turbidity.
	Increased risk of storm surge and flooding.	Convergence of surface water drainage, with potential impacts on creeks, rivers, floodplains, sheet flow, marshes, wetlands and springs.

2.2.2 Risk reviews

Fortescue manages risk by undertaking annual Environmental Risk Reviews during construction and operations phase where all environmental risks are considered with a focus on high-risk impacts. The review considers the effectiveness of management actions that are currently in place for these impacts. The review also considers any relevant incidents that have occurred, if the actions from incident investigations have translated into new management actions, and generally considers the need for any new management actions to ensure lower risk targets can be achieved.



2.2.3 Compliance

Fortescue ensures compliance with its legal obligations through first party quality assurance by site and corporate environment teams with a focus on effective environmental management through the implementation of the Fortescue wide Environmental Management System. Fortescue has adopted a risk-based approach to monitor compliance with its legal obligations. Site environment teams will monitor their compliance with this Plan.

Any incidents involving surface water management, including non-conformances with this Plan they shall be reported and investigated in accordance with the *Incident Event Management Procedure* (45-PR-SA-0080).

Non-conformance issues and/or opportunities for improvement identified will be documented and tracked via Fortescue's business management system (BMS).



3 MONITORING GUIDELINES

Guidelines for monitoring surface water in Fortescue controlled sites can be found in the *Surface Water Monitoring Guidelines* (IO-GU-EN-0005) (Appendix D). This document provides guidance for the development and implementation of site specific Monitoring Programs. By adopting these guidelines, a consistent monitoring approach can be applied across Fortescue controlled sites.

The objectives of Fortescue's surface water monitoring programs are:

1. Determine whether the flow and water quality in significant streams and creeks potentially impacted by Fortescue operations are significantly different from background values.
2. Assess whether turbidity controlling devices are effective in maintaining the turbidity of water leaving the site at acceptable guideline values.
3. Determine if the flow and water quality of water being discharged via drainage infrastructure is significantly different from acceptable guideline values.

Outcomes of Fortescue's monitoring programs may lead to ongoing refinements to this Plan and its management strategies to ensure an adaptive management approach is undertaken during Fortescue activities.



4 CONTINGENCY ACTIONS

Contingency actions will be initiated during construction, operation and decommissioning activities when monitoring indicates that implemented management actions are not successfully mitigating impacts and management objectives are not being achieved. Specifically, contingency measures will be triggered when a trigger exceedance of a water quality parameter occurs, significant erosion is detected or a significant change in flow regimes is detected over four successive sampling events (Table 7).

Table 7: Contingency actions

Trigger	Contingency action
Water quality exceedance	<ul style="list-style-type: none">• Enter the exceedance in BMS and initiate an investigation.• Identify reason and if caused by construction, operation or decommissioning activities or drainage infrastructure failure, make appropriate infrastructure modifications to contain contaminants.• Increase monitoring of outlets and natural drainage lines in catchments where water quality has been compromised.
Significant erosion	<ul style="list-style-type: none">• Enter the exceedance in BMS and initiate an investigation.• Identify reason and if caused by construction, operation or decommissioning activities or drainage infrastructure failure, make appropriate infrastructure modifications or contain contaminant.• Increase monitoring of outlets and natural drainage lines in catchments where significant erosion has been detected.
Significant change to flow regime	<ul style="list-style-type: none">• Enter the exceedance in BMS and initiate an investigation.• Identify reason and if caused by construction, operation or decommissioning activities or drainage infrastructure failure, make appropriate infrastructure modifications or contain contaminant.• Increase monitoring of outlets and natural drainage lines in catchments where significant change to flow regimes has been detected.

These qualitative trigger values should be reviewed after the first and subsequent monitoring events and replaced with qualitative values where possible for a robust and effective monitoring program.

Expert opinion will be sought if and when required to guide contingency measures which will include further survey work to better understand influences causing those changes in the environment. By understanding why certain management strategies or monitoring does not work, specialist advice can be used to modify these and develop new mitigation strategies.

Monitoring programs will be consistent in approach and effort to maintain scientific rigour under the analysis of results. Record keeping will be maintained to enable immediate identification of trigger exceedances for contingency measures to be effective.



5 ADAPTIVE MANAGEMENT AND REVIEW

Outcomes of Fortescue's inspections, audits and monitoring programs may lead to ongoing refinements to this Plan and its management strategies to ensure an adaptive management approach is undertaken to improve environmental performance.

Review of this Plan will be undertaken every five years, or when significant additional information comes to hand.



6 STAKEHOLDER CONSULTATION

Prior to the original project approvals, Fortescue undertook an extensive stakeholder consultation program whereby landowners, regulators and other relevant parties were consulted with regard to investigation and design of Cloudbreak, Christmas Creek and Solomon mine sites and associated rail and port infrastructure (see Section 7 in Environ 2005a, and Section 6 in Environ 2005b; Section 6 in Fortescue Metals Group, 2010).

This Plan was submitted to the DWER to satisfy the requirements of condition 8-1 of MS 690 and was approved in November 2014 (UID-42787). In accordance with condition 8-1 of MS 690 advice was sought on behalf of DWER from the Department of Water and the Department of Parks and Wildlife



7 REFERENCES

This Plan and all internal supporting documents will be managed as per Fortescue Document Governance Standards. These may be read in conjunction with this Plan.

- [1] Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) and Australian and New Zealand Environment and Conservation Council (ANZECC) 2000. Australian guidelines for water quality monitoring and reporting. National Water Quality Management Strategy paper No 7, Australian and New Zealand Environment and Conservation Council & Agriculture and Resource Management Council of Australia and New Zealand, Canberra.
- [2] Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) and Australian and New Zealand Environment and Conservation Council (ANZECC) 2000, National Water Quality Management Strategy: Australian Guidelines for Urban Stormwater Management.
- [3] Aquaterra Consulting (2004) Stage A Port and Railway Surface Hydrology Report. Prepared for Fortescue Metals Group Limited.
- [4] Aquaterra Consulting (2005) Stage B Mines and Port and E-W Railway Surface Hydrology Report. Prepared for Fortescue Metals Group Limited.
- [5] Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ, 2000)
- [6] Australian Standard 1940-2004 (The storage and handling of flammable and combustible liquids)
- [7] *Borrow Pit Management Plan* (45-PL-EN-0018)
- [8] *Chemical and Hydrocarbon Management Plan* (IO-PL-EN-0004)
- [9] Department of Environment 2005. A guide to clearing permits under the Environmental Protection Act 1986
<http://www.dec.wa.gov.au/content/view/2917/2081/>
- [10] Department of Water (2013) Western Australian Water in Mining Guideline.
- [11] *Dredging and Reclamation and Monitoring Management Plan* (P-PL-EN-0004)
- [12] Environ Australia Pty Ltd (2004). Pilbara Iron Ore and Infrastructure Project: Stage A Port and North-South Railway - Public Environmental Review. Prepared for Fortescue Metals Group Limited.
- [13] Environ Australia Pty Ltd (2005). Cloud Break Iron Ore Mine Project - Environmental Referral and Scoping Document. Prepared for Fortescue Metals Limited.
- [14] Fortescue Metals Group Limited (2009b). Pilbara Iron Ore and Infrastructure Project.
- [15] Fortescue Metals Group Limited (2010). Pilbara Iron Ore and Infrastructure Project: Solomon Project Public Environmental Review.



- [16] *Ground Disturbance and Topsoil Management Procedure* (IO-PR-EN-0010)
- [17] International Erosion Control Association of Australasia (2008). Best Practice Erosion and Sediment Control.
- [18] *Land Use Certificate Acquisitions and Tenements Procedure* (100-PR-TA-0001)
- [19] *Standard Engineering Specification for Drainage and Flood Protection* (100-SP-CI-0004)
- [20] *Standard Engineering Specification for Road Design of Projects* (100-SP-CI-0002)
- [21] Standards Australia (2004) AS/NZS 4360:2004 Risk Management.
- [22] Standards Australia (2006) HB203:2006 Environmental risk management – principles and processes.
- [23] Standards Australia (2009) AS/NZS ISO 31000:2009 Risk Management – principles and guidelines.
- [24] Department of Water and Environment Regulation (2023). Stormwater Management Manual for Western Australia.

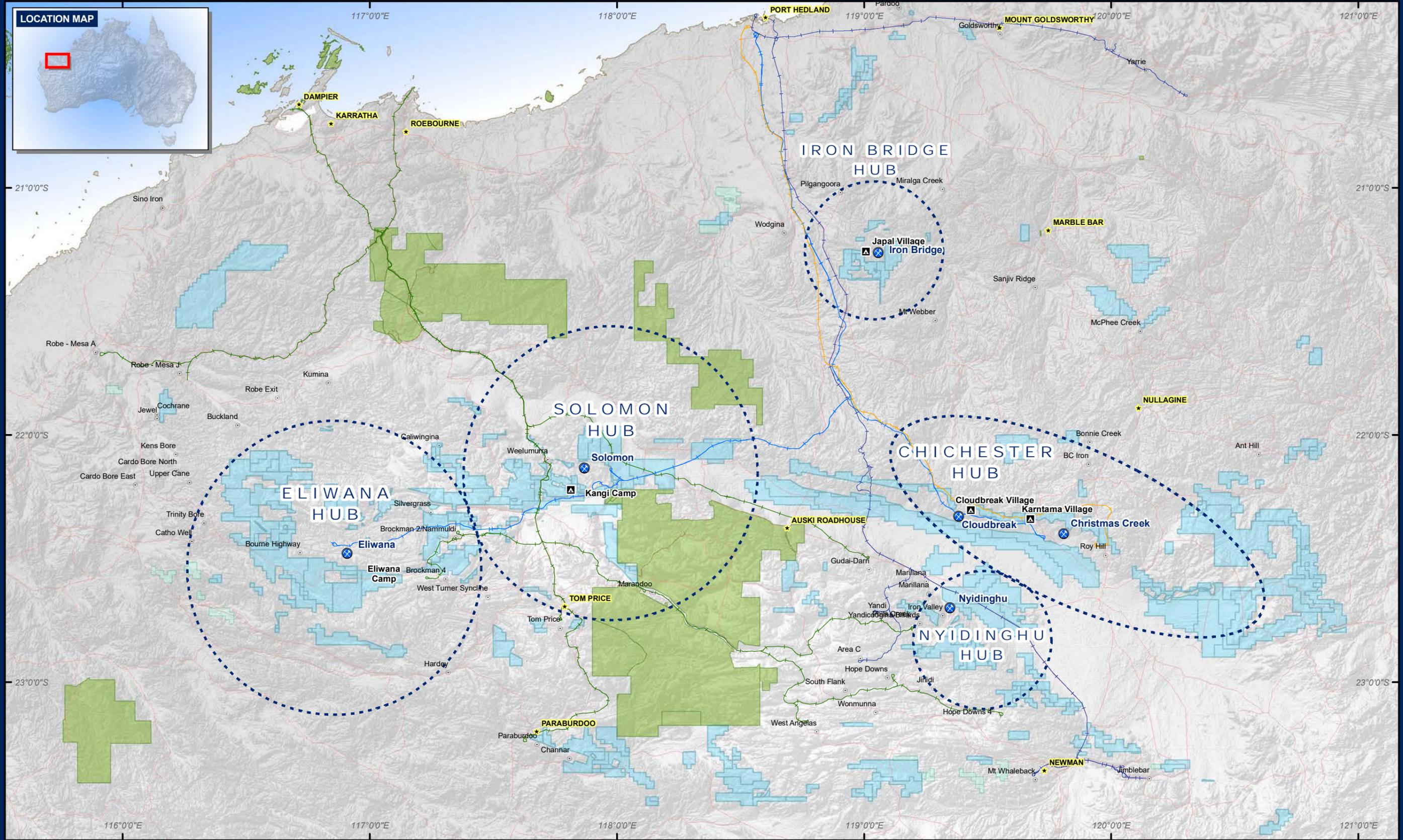


DOCUMENT CONTROL

Surface Water Management Plan		
Status	IFU - Issued for Use	22-Jan-25
Summary of Changes	No material changes to the management or monitoring aspects of this Plan. Plan updated to current template. Plan supersedes 100-PL-EN-1015	
Author	Jane Humphrey	_____ Signature
Checked or Squad Review# (if applicable)		_____ Signature
Approved	Scott Poole	_____ Signature
Next Review Date (if applicable)	22-Jan-30	



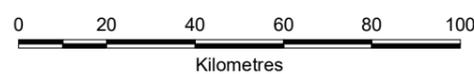
FIGURE 1 FORTESCUE TENEMENTS AND PROJECT AREAS



LEGEND

- ★ Towns
- ⊗ Project Area
- ▲ FMG Camp
- Other Mines & Prospects
- Roads
- FMG Rail Alignments
- BHP
- Rio Tinto
- Roy Hill
- FMG Non-managed Exploration Tenements
- FMG Managed Exploration Tenements
- Reserves

Data Sources:
 Tenements, sourced from DMIRS, 2024.
 Roads, Towns, Reserves, Landgate.
 3rd Rail, RTIO, BHPB, RHIO.
 DEM, GA.



Requested By: J. Humphrey
 Drawn By: S. Costello
 Revised By: scostello
 Approved By: N/A
 Scale: 1:1,600,000
 Coordinate System: GCS GDA 1994
 Document Name: 100_MP_OP_0058.010_r7

Date: 16/08/2024
 Size: A3L
 Revision: 7
 Confidentiality: 0

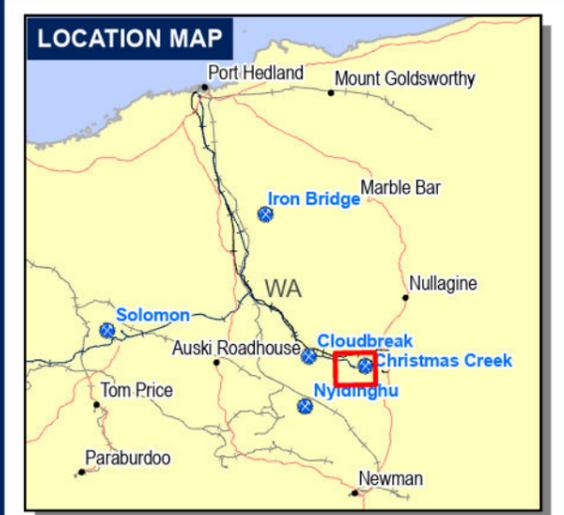
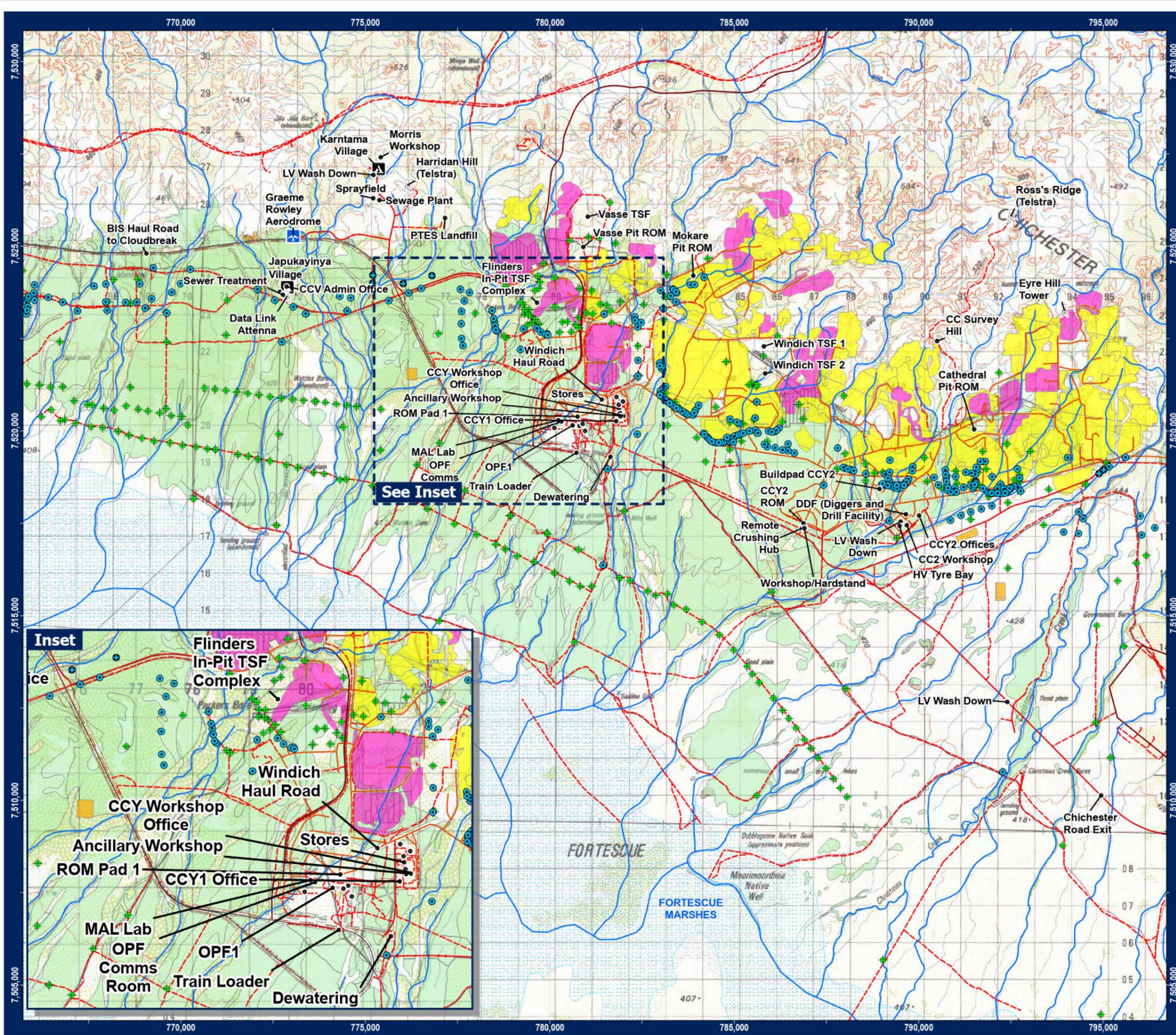
FMG Exploration Tenements and Project Areas
 August 2024



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**FIGURE 2 CHRISTMAS CREEK MINE SITE
INFRASTRUCTURE**

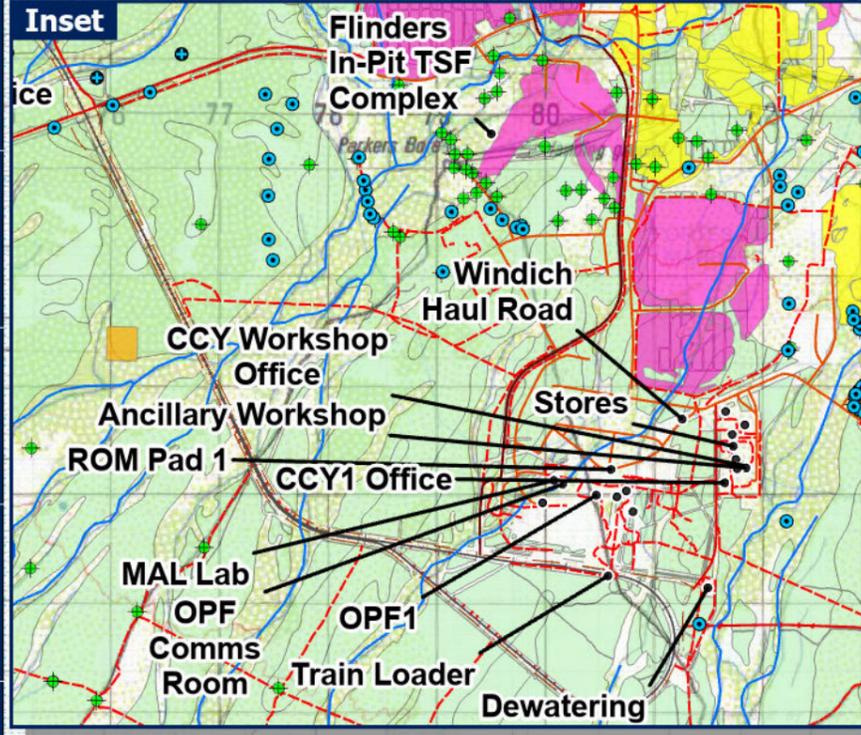


- LEGEND**
- Camp
 - Airstrip
 - Comms Tower
 - Infrastructure
 - Monitoring Bore
 - Abstraction Bore
 - Abstraction Bore (WHPZ)
 - GOV 250K Drainage
 - GOV Fortescue Marsh
 - Road
 - Rail Maintenance Track
 - Haul Road
 - Major Track
 - Minor Track
 - FMG Rail Alignments
 - FMG Rail Culverts
 - Sheet Flow Mulga
 - Borrow Pit
 - Pits
 - Waste Dump (Class 1)

Data Source(s):
 Gov 250K Drainage, Geoscience Australia, 2024
 Fortescue Marsh, DIWA, 2024
 Topo 100K Pilbara, Landgate, 2024
 All other datasets, Fortescue, 2024

N

0 1 2 3 4 5
Kilometres



**16 Year Mine Plan
Christmas Creek**

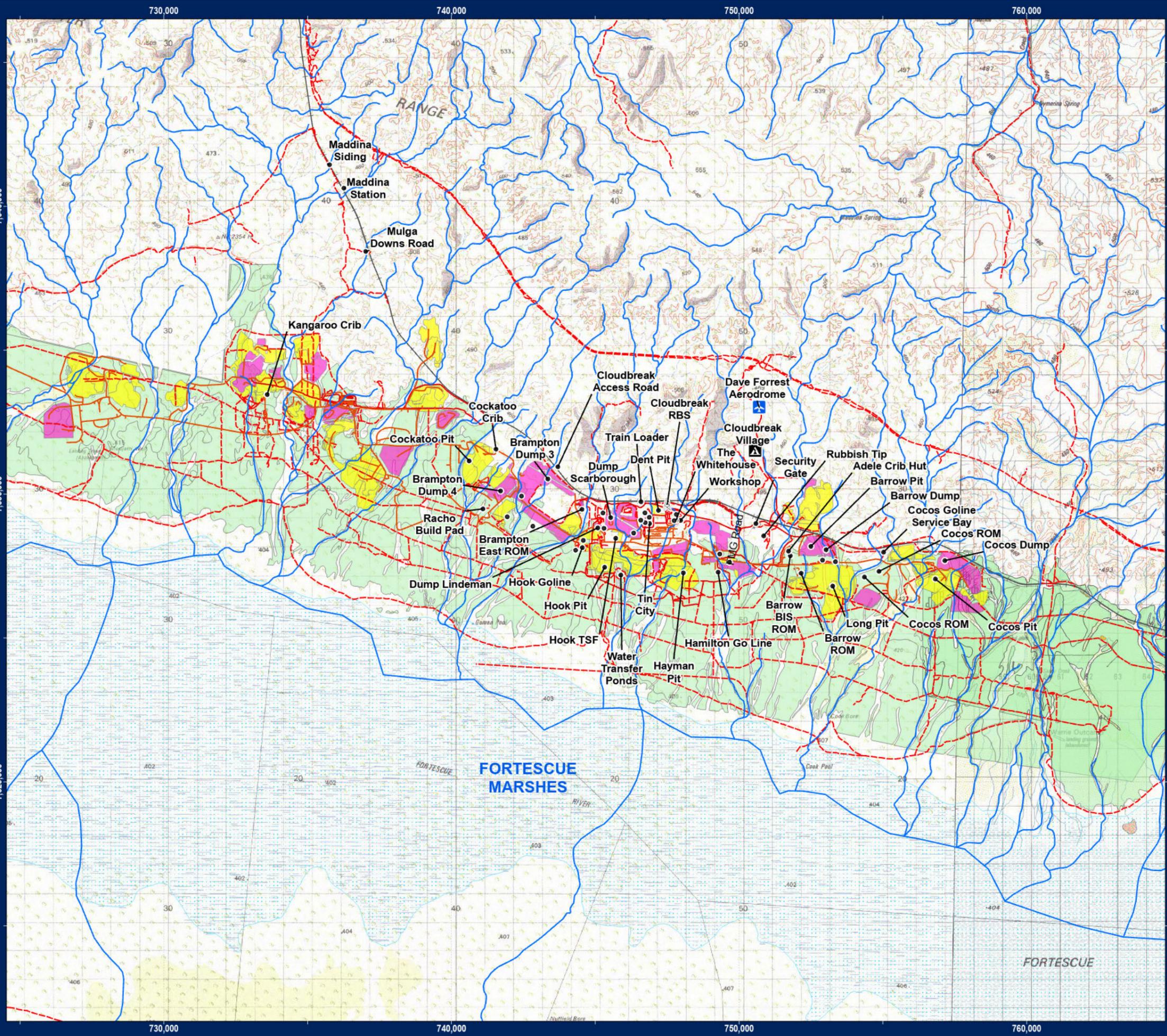
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Document Name: 100_MP_OP_0222_001_r0	

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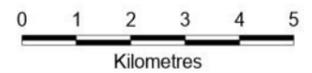
FIGURE 3 CLOUDBREAK MINE SITE INFRASTRUCTURE



LEGEND

- Camp
- Airstrip
- Comms Tower
- Infrastructure
- GOV 250K Drainage
- GOV Fortescue Marsh
- Haul Road
- Major Track
- Minor Track
- FMG Rail Alignments
- Borrow Pit
- Pits
- Waste Dump (Class 1)
- Sheet Flow Mulga

Data Source(s):
 Gov 250K Drainage, Geoscience Australia, 2024
 Fortescue Marsh, DIWA, 2024
 Topo 100K Pilbara, Landgate, 2024
 All other datasets, Fortescue, 2024



**16 Year Mine Plan
Cloudbreak**

Requested By: Jane Humphrey	Date: 9/12/2024
Drawn By: A. Chia	Size: A3L
Revised By: achia	Revision: 0
Approved By:	Confidentiality: 0
Scale: 1:130,000	
Coordinate System: GDA 1994 MGA Zone 50	
Document Name: 100_MP_OP_0222_002_r0	

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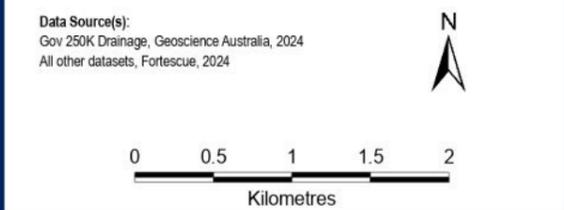




FIGURE 4 SOLOMON MINE SITE INFRASTRUCTURE



- LEGEND**
- Comms Tower
 - Fuel
 - Infrastructure
 - GOV 250K Drainage
 - FMG Rail Alignments
 - FMG Solomon Infrastructure**
 - Existing
 - Proposed
 - Preliminary
 - FMG Tracks and Roads**
 - Road
 - Rail Maintenance Track
 - Haul Road
 - Major Track
 - Minor Track

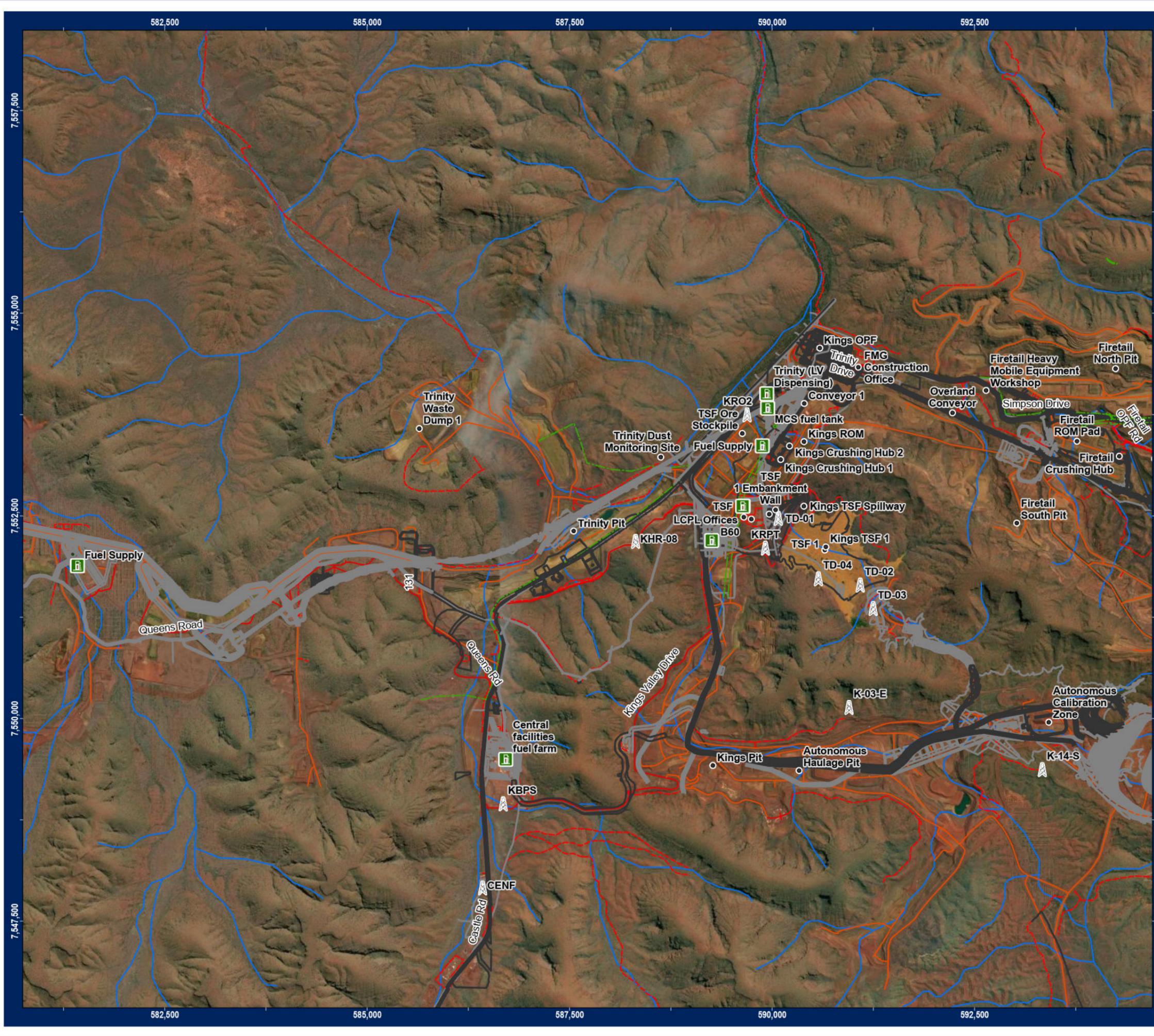


Infrastructure
Solomon
 Map 1 of 5

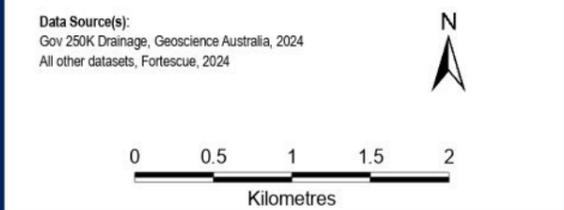
Requested By: Jane Humphrey Date: 10/12/2024
 Drawn By: A. Chia Size: A3L
 Revised By: achia Revision: 0
 Approved By: Confidentiality: 0
 Scale: 1:45,000
 Coordinate System: GDA 1994 MGA Zone 50
 Document Name: 100_MP_OP_0222_003_r0

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- LEGEND**
- Comms Tower
 - Fuel
 - Infrastructure
 - GOV 250K Drainage
- FMG Solomon Infrastructure**
- Existing
 - Proposed
 - Preliminary
 - Haul Road
 - Major Track
 - Minor Track

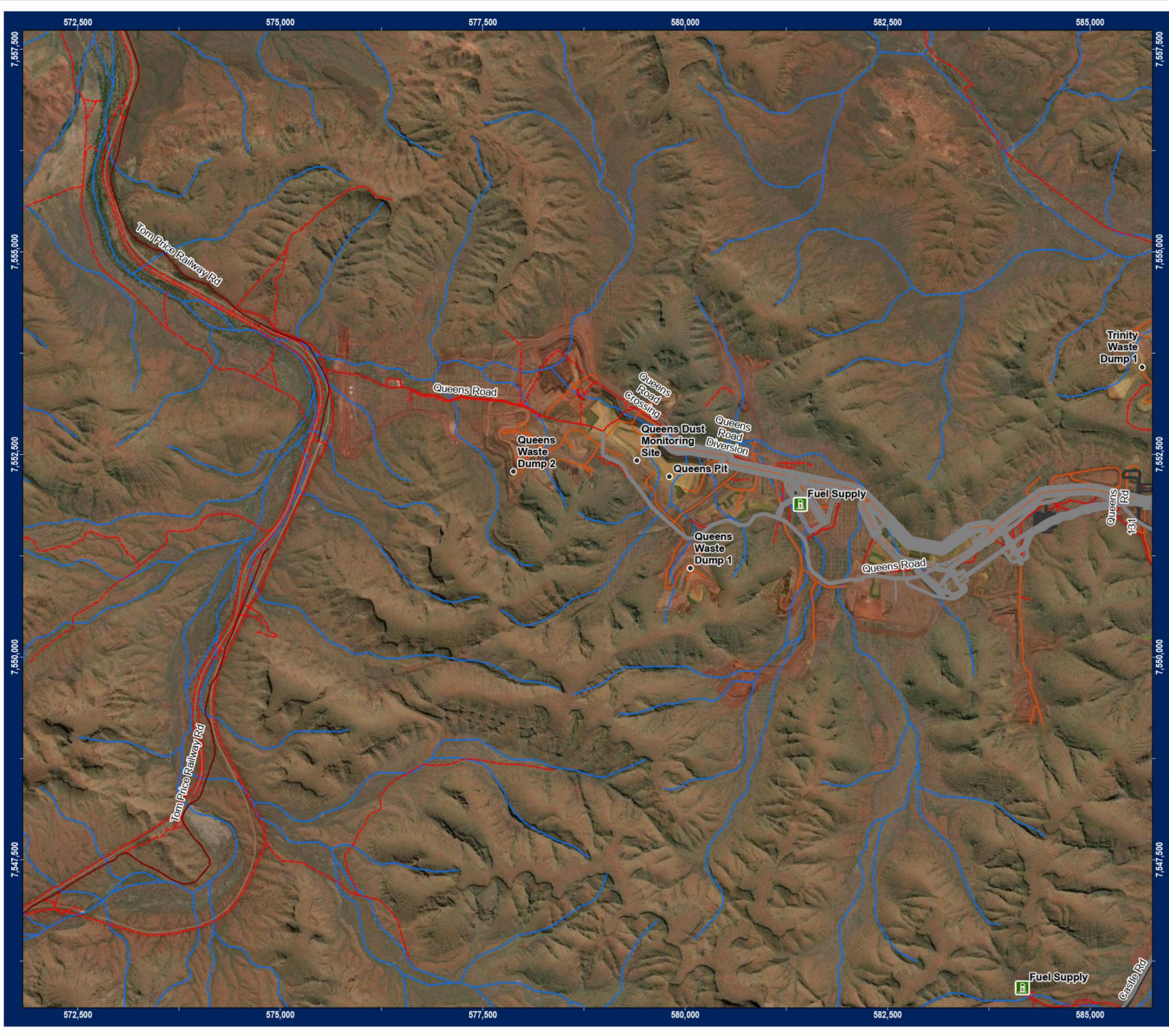


Infrastructure
Solomon
 Map 2 of 5

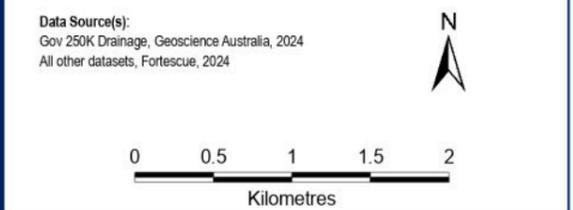
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Approved By:	Confidentiality: 0
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Coordinate System: GDA 1994 MGA Zone 50	
Document Name: 100_MP_OP_0222_003_r0	

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- LEGEND**
- Fuel
 - Infrastructure
 - GOV 250K Drainage
 - FMG Solomon Infrastructure**
 - Existing
 - Proposed
 - Preliminary
 - FMG Tracks and Roads**
 - Road
 - Haul Road
 - Major Track
 - Minor Track



Infrastructure
Solomon
 Map 3 of 5

Requested By: Jane Humphrey	Date: 10/12/2024
Drawn By: A. Chia	Size: A3L
Revised By: achia	Revision: 0
Approved By:	Confidentiality: 0
Scale: 1:45,000	
Coordinate System: GDA 1994 MGA Zone 50	
Document Name: 100_MP_OP_0222_003_r0	

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LEGEND

- Camp
- Airstrip
- Helipad
- Fuel
- Infrastructure
- GOV 250K Drainage
- FMG Rail Alignments
- FMG Solomon Infrastructure**
 - Existing
 - Proposed
 - Preliminary
- FMG Tracks and Roads**
 - Road
 - Haul Road
 - Major Track
 - Minor Track

Data Source(s):
 Gov 250K Drainage, Geoscience Australia, 2024
 All other datasets, Fortescue, 2024

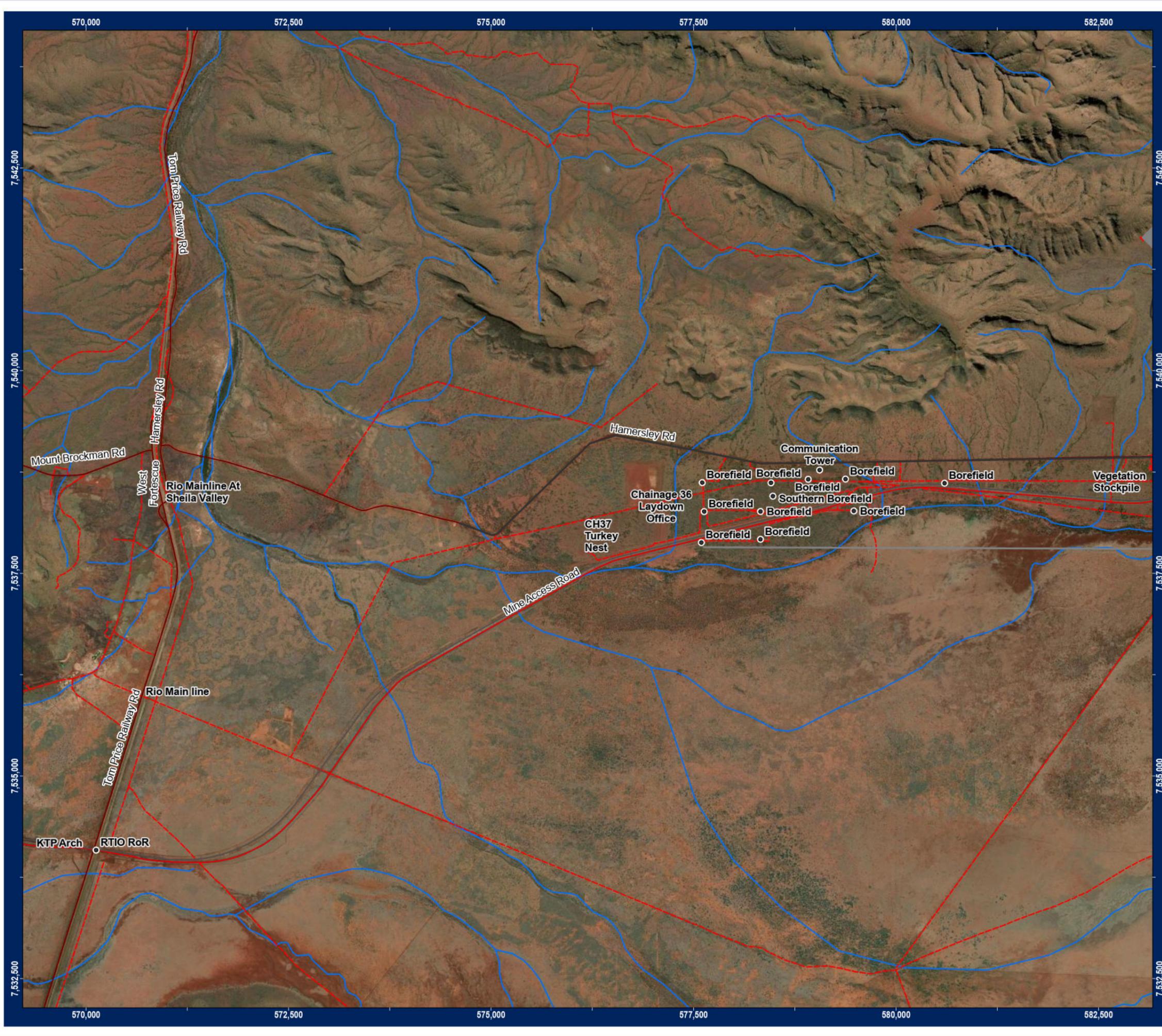


**Infrastructure
 Solomon
 Map 4 of 5**

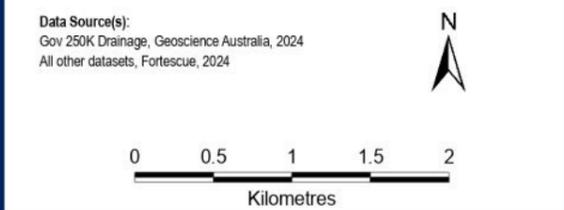
Requested By: Jane Humphrey	Date: 10/12/2024
Drawn By: A.Chia	Size: A3L
Revised By: achia	Revision: 0
Approved By:	Confidentiality: 0
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Document Name: 100_MP_OP_0222_003_r0	

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- LEGEND**
- Infrastructure
 - GOV 250K Drainage
 - FMG Rail Alignments
 - FMG Solomon Infrastructure
 - Existing
 - - - Proposed
 - FMG Tracks and Roads
 - Road
 - Major Track
 - - - Minor Track



**Infrastructure
 Solomon
 Map 5 of 5**

Requested By: Jane Humphrey	Date: 10/12/2024
Drawn By: A.Chia	Size: A3L
Revised By: achia	Revision: 0
Approved By:	Confidentiality: 0
Scale: 1:45,000	
Coordinate System: GDA 1994 MGA Zone 50	
Document Name: 100_MP_OP_0222_003_r0	

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FIGURE 5 PORT INFRASTRUCTURE MAP



Legend

- Comms Tower
- Infrastructure
- FMG Port Infrastructure
- FMG Rail Alignments
- Discharge & Monitoring Points
- Port Dredging - MS859
- Fortescue Port Lease Area (TPI)

Data Source(s):
All datasets, Fortescue, 2025

0 0.5 1 1.5 2
Kilometres

N

**Port Infrastructure
Port Hedland**

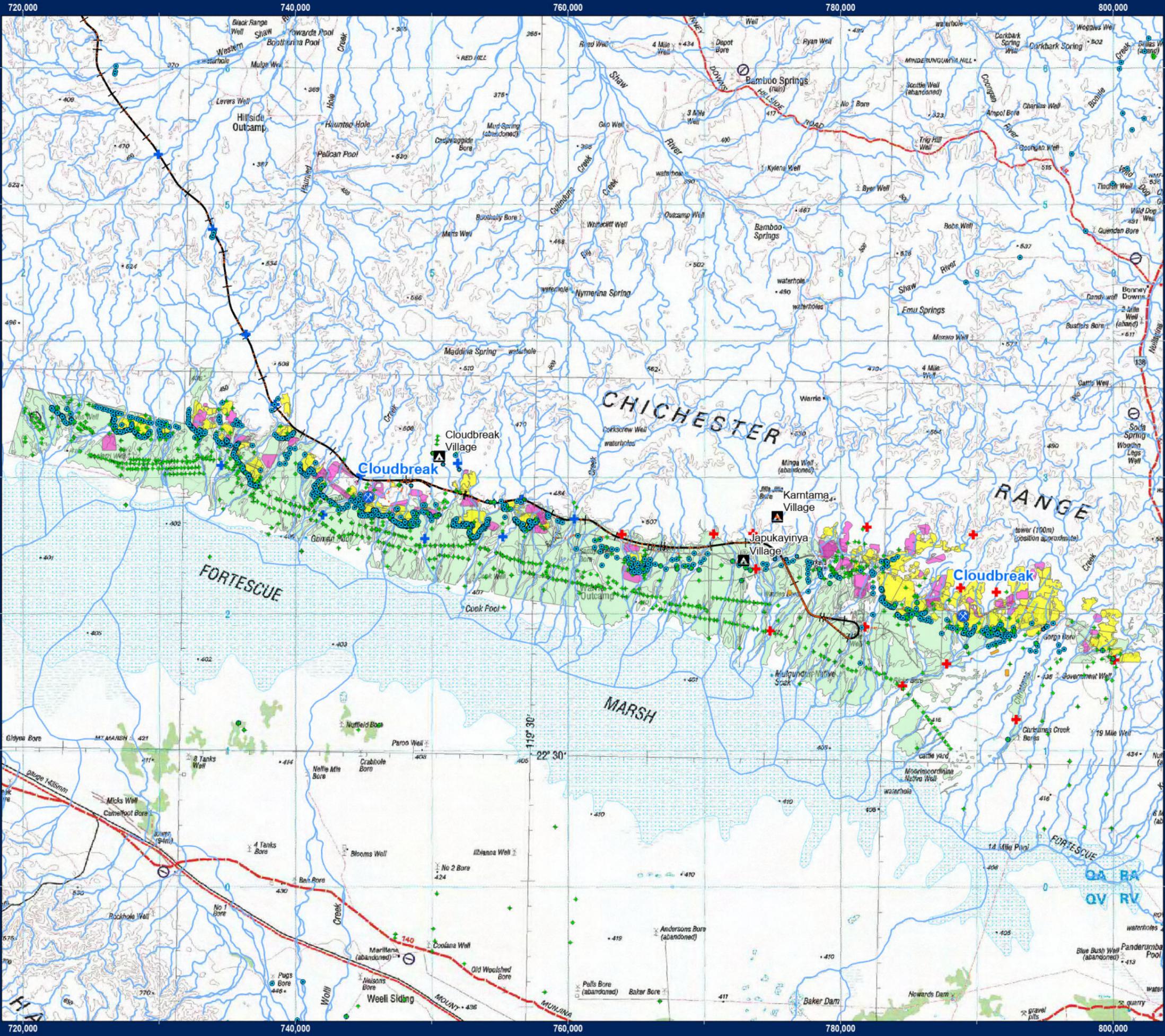
Requested By: Jane Humphrey Date: 15/01/2025
 Drawn By: A. Chia Size: A3P
 Revised By: achia Revision: 0
 Approved By: Confidentiality: No
 Scale: 1:24,000
 Coordinate System: GDA 1994 MGA Zone 50
 Document Name: 100_MP_OP_0222_004_r0

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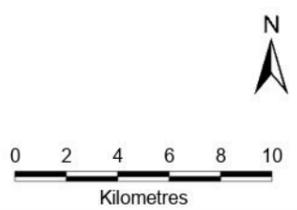


FIGURE 6 RAIL INFRASTRUCTURE MAP



- LEGEND**
- FMG Mines
 - FMG Camps
 - FMG Rail Alignments
 - FMG Rail Culverts
 - Monitoring Bore
 - Abstraction Bore
 - Abstraction Bore (WHPZ)
 - Creek Water Level
 - Water Level Logger
 - GOV 250K Drainage
 - GOV Fortescue Marsh
 - Sheet Flow Mulga
 - Borrow Pit
 - Pits
 - Waste Dump (Class 1)

Data Source(s):
 Gov Fortescue Marsh, DIWA, 2024
 Gov 250K Drainage, Geoscience Australia, 2024
 250K Topo, Geoscience Australia, 2024
 All other datasets, Fortescue, 2024

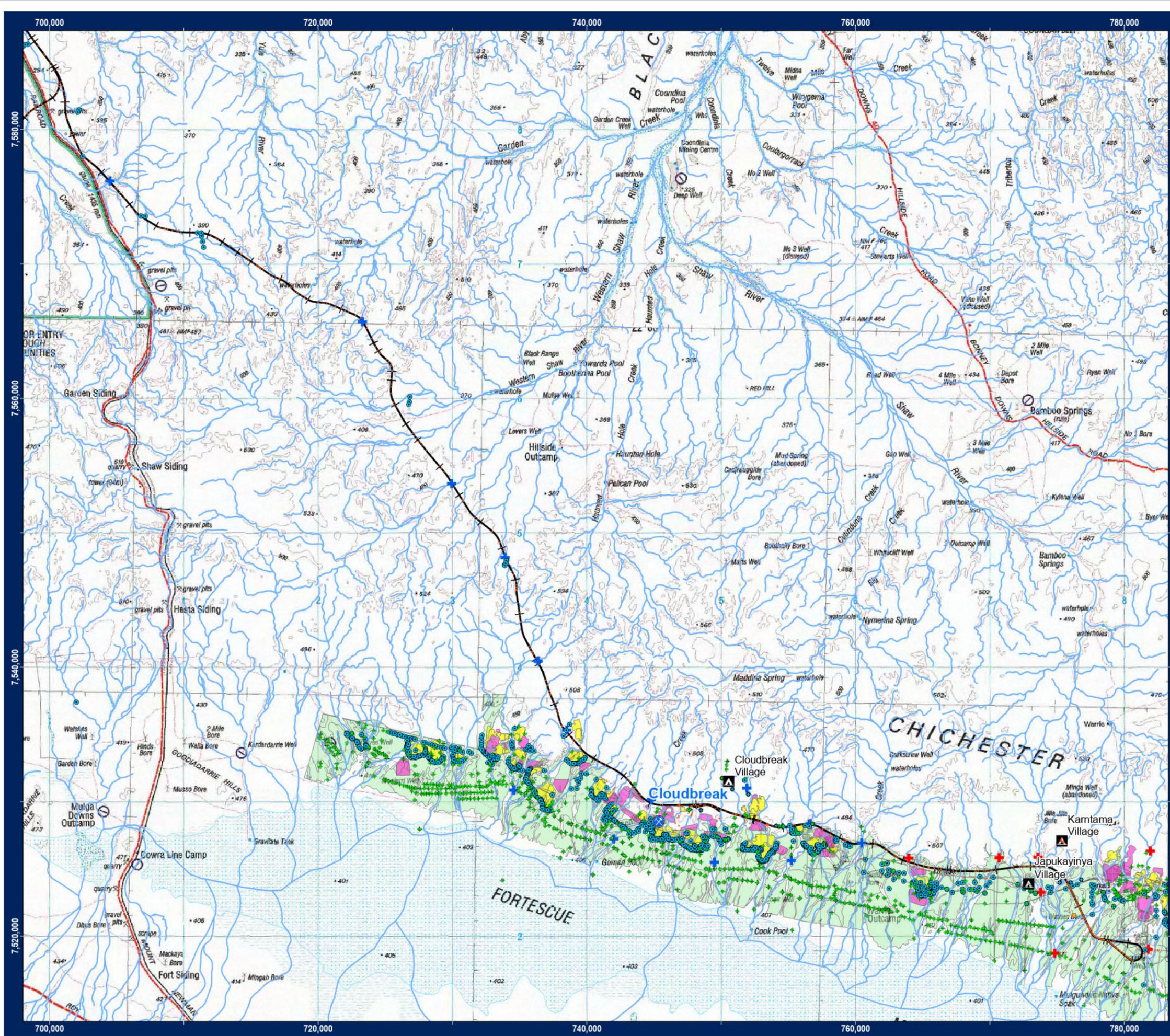


Infrastructure
Rail
 Map 1 of 10

Requested By: Jane Humphrey Date: 15/01/2025
 Drawn By: A. Chia Size: A3L
 Revised By: achia Revision: 0
 Approved By: Confidentiality: 0
 Scale: 1:275,000
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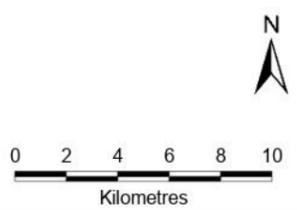
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- LEGEND**
- FMG Mines
 - FMG Camps
 - FMG Rail Alignments
 - FMG Rail Culverts
 - Monitoring Bore
 - Abstraction Bore
 - Abstraction Bore (WHPZ)
 - Creek Water Level
 - Water Level Logger
 - GOV 250K Drainage
 - GOV Fortescue Marsh
 - Sheet Flow Mulga
 - Borrow Pit
 - Pits
 - Waste Dump (Class 1)

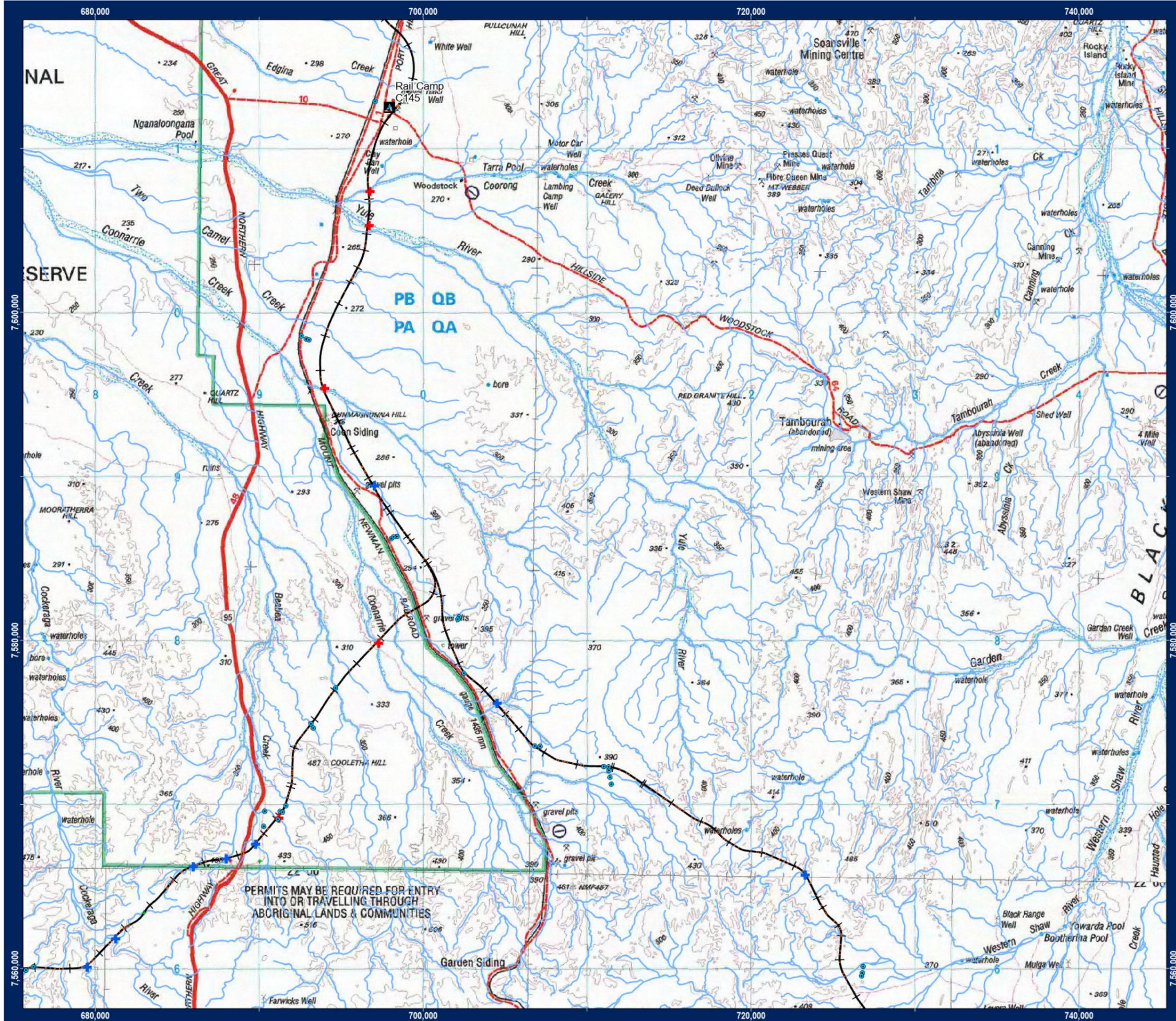
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 Gov 250K Drainage, Geoscience Australia, 2024
 250K Topo, Geoscience Australia, 2024
 All other datasets, Fortescue, 2024



Infrastructure
Rail
 Map 2 of 10

Requested By: Jane Humphrey Date: 15/01/2025
 Drawn By: A. Chia Size: A3L
 Revised By: achia Revision: 0
 Approved By: Confidentiality: 0
 Scale: 1:275,000
 Coordinate System: GDA 1994 MGA Zone 50
 Document Name: 100_MP_OP_0222_005_r0
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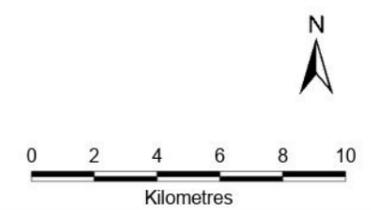




LEGEND

- FMG Camps
- FMG Rail Alignments
- FMG Rail Culverts
- Monitoring Bore
- Abstraction Bore
- Abstraction Bore (WHPZ)
- Creek Water Level
- Water Level Logger
- GOV 250K Drainage
- GOV Fortescue Marsh
- Sheet Flow Mulga
- Borrow Pit
- Pits
- Waste Dump (Class 1)

Data Source(s):
 Gov Fortescue Marsh, DIWA, 2024
 Gov 250K Drainage, Geoscience Australia, 2024
 250K Topo, Geoscience Australia, 2024
 All other datasets, Fortescue, 2024

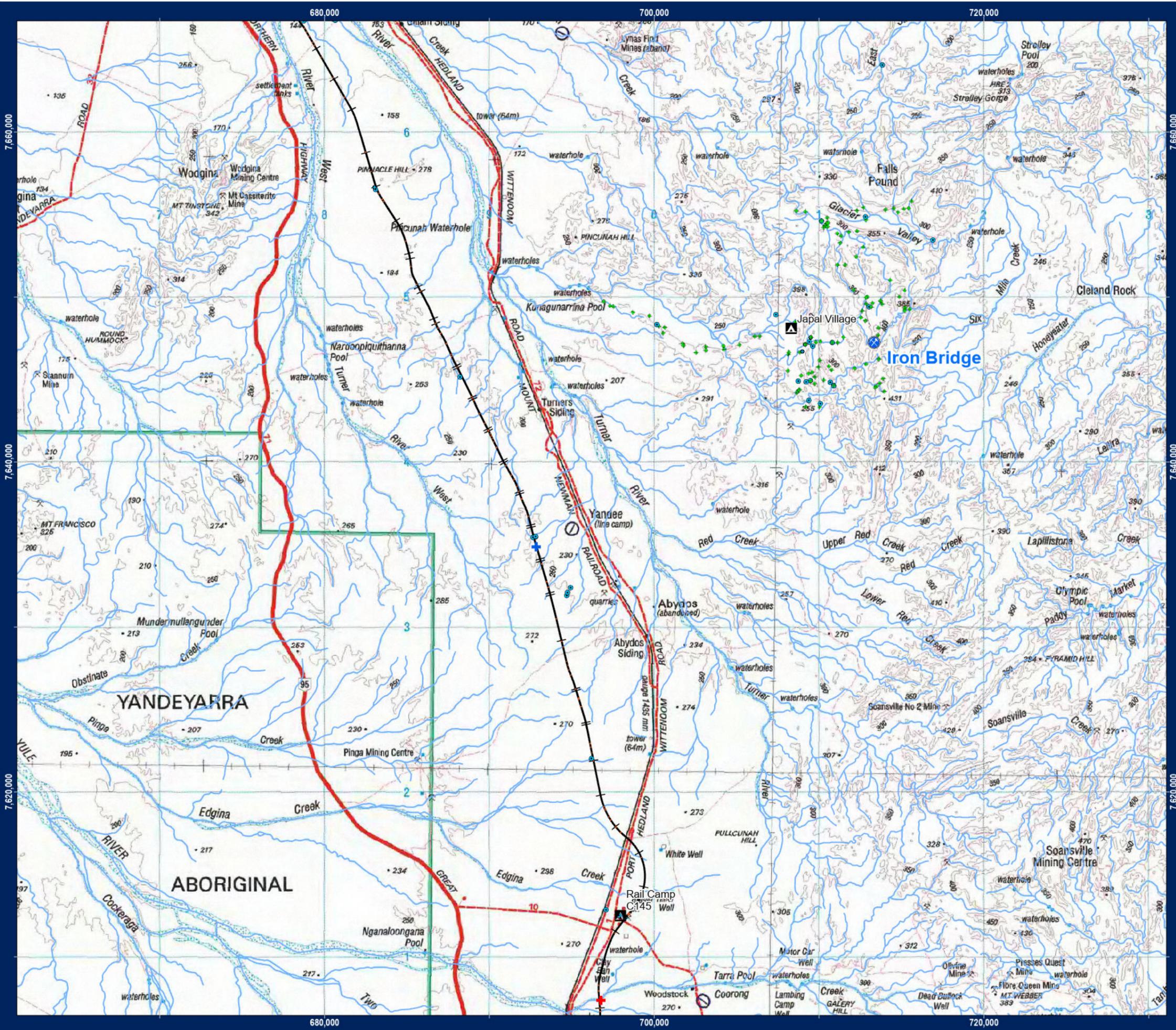


Infrastructure
Rail
 Map 3 of 10

Requested By: Jane Humphrey Date: 15/01/2025
 Drawn By: A. Chia Size: A3L
 Revised By: achia Revision: 0
 Approved By: Confidentiality: 0
 Scale: 1:225,000

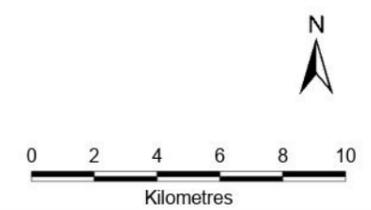
Coordinate System: GDA 1994 MGA Zone 50
 Document Name: 100_MP_OP_0222_005_r0
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- LEGEND**
- FMG Mines
 - FMG Camps
 - FMG Rail Alignments
 - FMG Rail Culverts
 - Monitoring Bore
 - Abstraction Bore
 - Abstraction Bore (WHPZ)
 - Creek Water Level
 - Water Level Logger
 - GOV 250K Drainage
 - GOV Fortescue Marsh
 - Sheet Flow Mulga
 - Borrow Pit
 - Pits
 - Waste Dump (Class 1)

Data Source(s):
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 Gov 250K Drainage, Geoscience Australia, 2024
 250K Topo, Geoscience Australia, 2024
 All other datasets, Fortescue, 2024

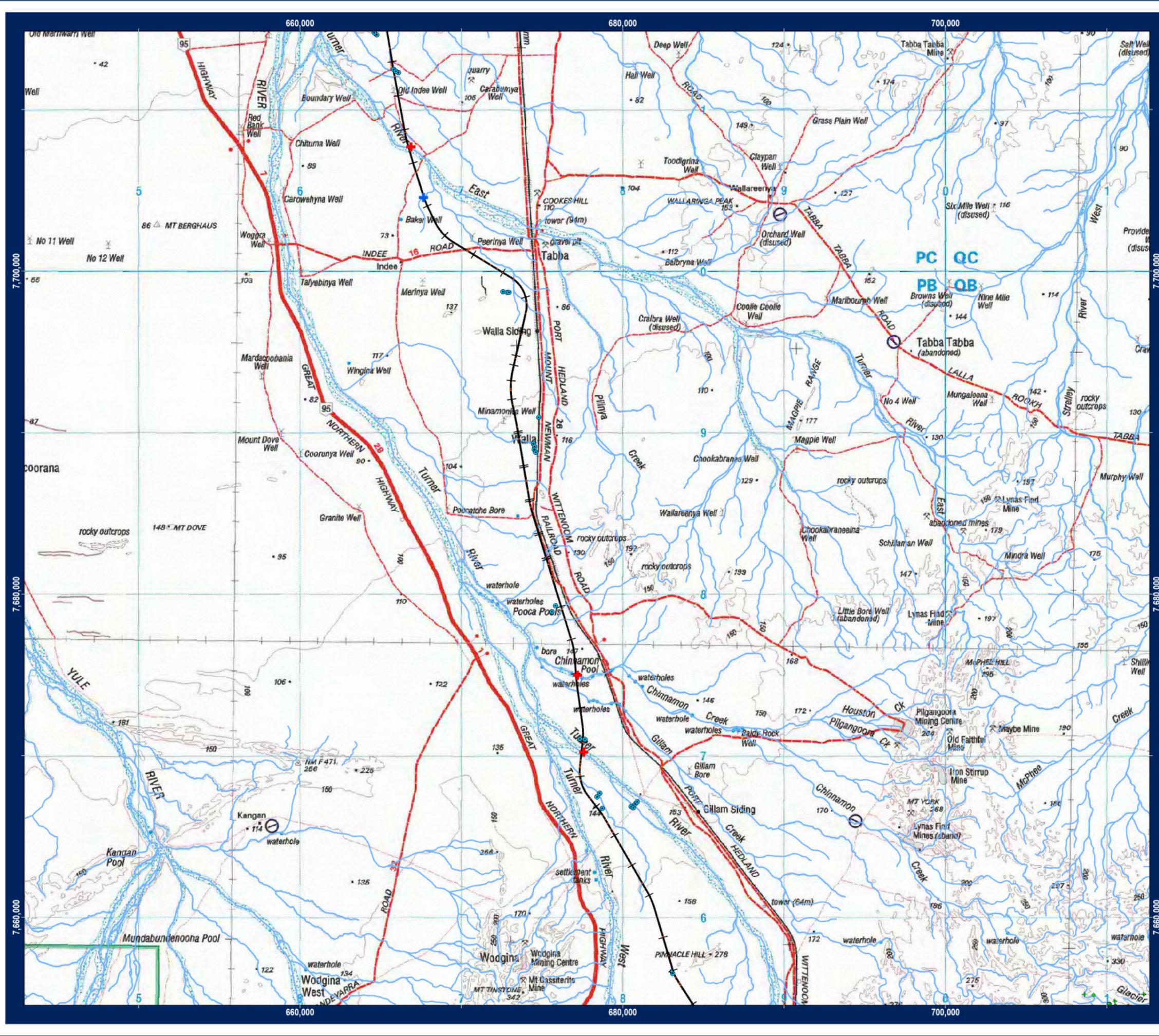


Infrastructure
Rail
 Map 4 of 10

Requested By: Jane Humphrey Date: 15/01/2025
 Drawn By: A. Chia Size: A3L
 Revised By: achia Revision: 0
 Approved By: Confidentiality: 0
 Scale: 1:225,000
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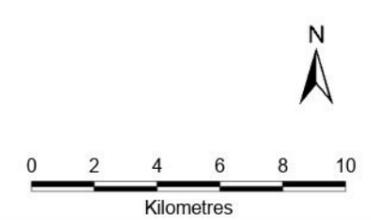
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- LEGEND**
- FMG Rail Alignments
 - FMG Rail Culverts
 - Monitoring Bore
 - Abstraction Bore
 - Abstraction Bore (WHPZ)
 - Creek Water Level
 - Water Level Logger
 - GOV 250K Drainage
 - GOV Fortescue Marsh
 - Sheet Flow Mulga
 - Borrow Pit
 - Pits
 - Waste Dump (Class 1)

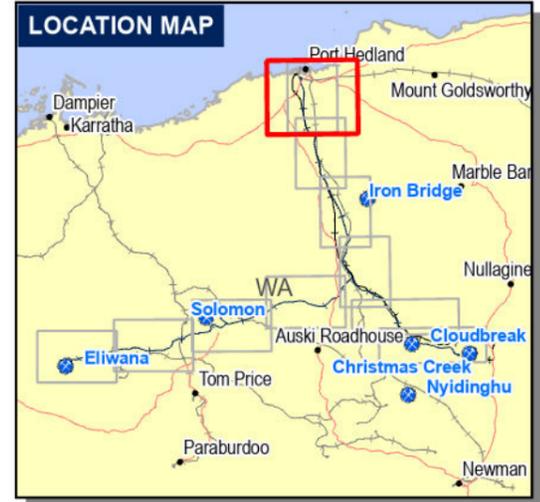
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 250K Topo, Geoscience Australia, 2024
 All other datasets, Fortescue, 2024



Infrastructure Rail
 Map 5 of 10

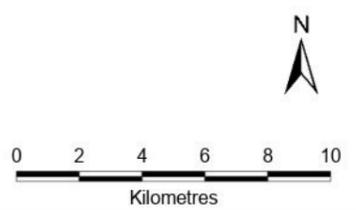
Requested By: Jane Humphrey Date: 15/01/2025
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 Document Name: 100_MP_OP_0222_005_r0
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- LEGEND**
- FMG Rail Alignments
 - FMG Rail Culverts
 - Monitoring Bore
 - Abstraction Bore
 - Abstraction Bore (WHPZ)
 - Creek Water Level
 - Water Level Logger
 - GOV 250K Drainage
 - GOV Fortescue Marsh
 - Sheet Flow Mulga
 - Borrow Pit
 - Pits
 - Waste Dump (Class 1)

Data Source(s):
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 Gov 250K Drainage, Geoscience Australia, 2024
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 All other datasets, Fortescue, 2024



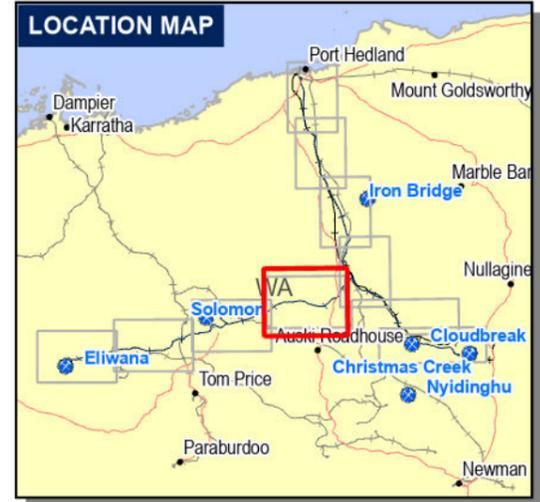
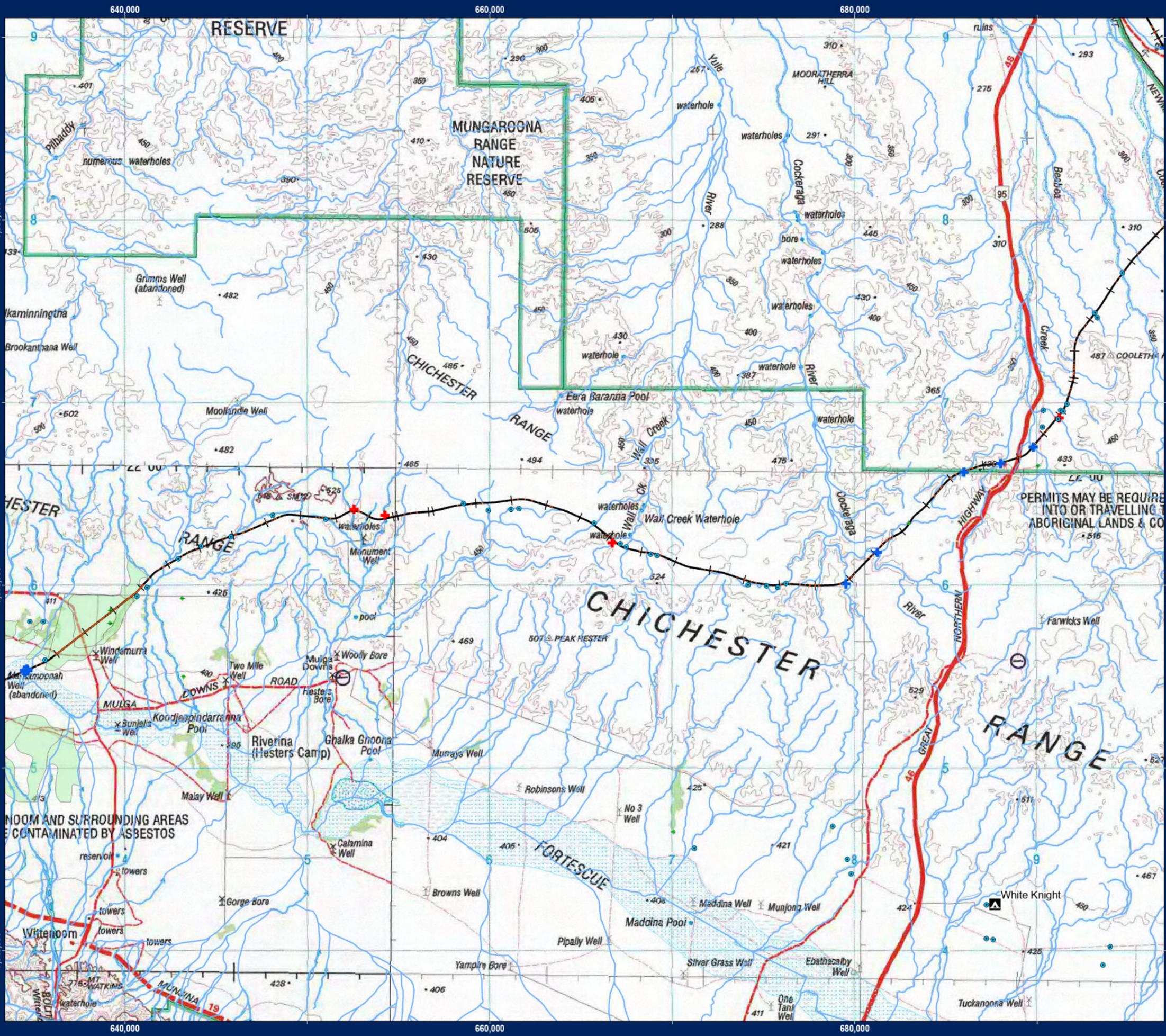
Infrastructure
Rail
 Map 6 of 10

Requested By: Jane Humphrey Date: 15/01/2025
 Drawn By: A. Chia Size: A3L
 Revised By: achia Revision: 0
 Approved By: Confidentiality: 0
 Scale: 1:225,000
 Coordinate System: GDA 1994 MGA Zone 50
 Document Name: 100_MP_OP_0222_005_r0

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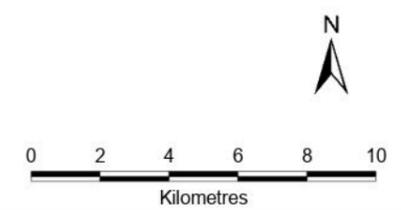
PC QC



LEGEND

- FMG Camps
- FMG Rail Alignments
- FMG Rail Culverts
- Monitoring Bore
- Abstraction Bore
- Creek Water Level
- Water Level Logger
- GOV 250K Drainage
- GOV Fortescue Marsh
- Sheet Flow Mulga
- Borrow Pit
- Pits
- Waste Dump (Class 1)

Data Source(s):
 Gov Fortescue Marsh, DIWA, 2024
 Gov 250K Drainage, Geoscience Australia, 2024
 250K Topo, Geoscience Australia, 2024
 All other datasets, Fortescue, 2024



Infrastructure
Rail
 Map 7 of 10

Requested By: Jane Humphrey Date: 15/01/2025
 Drawn By: A. Chia Size: A3L
 Revised By: achia Revision: 0
 Approved By: Confidentiality: 0
 Scale: 1:205,000
 Coordinate System: GDA 1994 MGA Zone 50
 Document Name: 100_MP_OP_0222_005_r0
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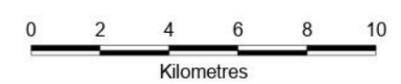




LEGEND

- FMG Mines
- FMG Camps
- FMG Rail Alignments
- FMG Rail Culverts
- Monitoring Bore
- Abstraction Bore
- Abstraction Bore (WHPZ)
- Creek Water Level
- Water Level Logger
- GOV 250K Drainage
- GOV Fortescue Marsh
- Sheet Flow Mulga
- Borrow Pit
- Pits
- Waste Dump (Class 1)

Data Source(s):
 Gov Fortescue Marsh, DIWA, 2024
 Gov 250K Drainage, Geoscience Australia, 2024
 250K Topo, Geoscience Australia, 2024
 All other datasets, Fortescue, 2024



Infrastructure

Rail

Map 8 of 10

Requested By: Jane Humphrey Date: 15/01/2025
 Drawn By: A. Chia Size: A3L
 Revised By: achia Revision: 0
 Approved By: Confidentiality: 0
 Scale: 1:205,000

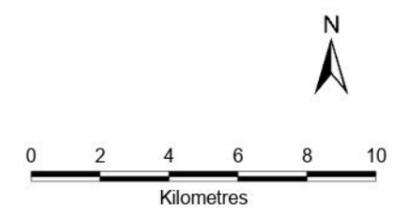
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- LEGEND**
- FMG Camps
 - FMG Rail Alignments
 - FMG Rail Culverts
 - Monitoring Bore
 - Abstraction Bore
 - Abstraction Bore (WHPZ)
 - Creek Water Level
 - GOV 250K Drainage
 - GOV Fortescue Marsh
 - Sheet Flow Mulga
 - Borrow Pit
 - Pits
 - Waste Dump (Class 1)

Data Source(s):
 Gov Fortescue Marsh, DIWA, 2024
 Gov 250K Drainage, Geoscience Australia, 2024
 250K Topo, Geoscience Australia, 2024
 All other datasets, Fortescue, 2024



Infrastructure
Rail
 Map 9 of 10

Requested By: Jane Humphrey Date: 15/01/2025
 Drawn By: A Chia Size: A3L
 Revised By: achia Revision: 0
 Approved By: Confidentiality: 0
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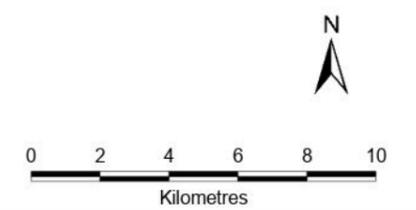
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- LEGEND**
- FMG Mines
 - FMG Camps
 - FMG Rail Alignments
 - FMG Rail Culverts
 - Monitoring Bore
 - Abstraction Bore
 - Abstraction Bore (WHPZ)
 - Creek Water Level
 - GOV 250K Drainage
 - GOV Fortescue Marsh
 - Sheet Flow Mulga
 - Borrow Pit
 - Pits
 - Waste Dump (Class 1)

Data Source(s):
 Gov Fortescue Marsh, DIWA, 2024
 Gov 250K Drainage, Geoscience Australia, 2024
 250K Topo, Geoscience Australia, 2024
 All other datasets, Fortescue, 2024



Infrastructure
Rail
 Map 10 of 10

Requested By: Jane Humphrey Date: 15/01/2025
 Drawn By: A. Chia Size: A3L
 Revised By: achia Revision: 0
 Approved By: Confidentiality: 0
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 Document Name: 100_MP_OP_0222_005_r0
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APPENDIX A LEGISLATIVE CONTEXT

Legislation	Application
<i>Biodiversity Conservation Act 2016 (WA)</i>	Conservation and protection of biodiversity and biodiversity components.
<i>Environment Protection and Biodiversity Conservation Act 1986 (Cth)</i>	Protects environmental matters of national significance.
<i>Environmental Protection Act 1986 (WA)</i>	Prevention, control and abatement of pollution, conservation protection and enhancement of the environment. Fortescue is required to obtain a licence under Part V to discharge to the environment at sites defined as prescribed premises under the Act.
Environmental Protection (Unauthorised Discharges) Regulations 2004 (WA)	Prevention of direct discharge of pollutants to the surrounding environment.
<i>Soil and Land Conservation Act 1954 (WA)</i>	Addresses the conservation of soil and land resources and the mitigation of the effects of erosion.



APPENDIX B PROPOSAL DETAILS

The Port and North-South railway (Stage A) was approved under MS 690 in 2005. The project consisted of a two-berth iron ore export facility at Port Hedland and a north-south railway from the central Pilbara to Port Hedland. Port facility upgrades to a five-berth iron ore export facility were made following development in the following stages:

- Third berth approved under Ministerial Statement 771 in August 2008.
- Fourth berth Not Assessed under MS 690 – Public Advice Given in 2010.
- Fifth berth approved under section 45C of *Environmental Protection Act* 1986 in February 2014.

Various other amendments have been made and approved under section 45 and section 46 of the *Environmental Protection Act* 1986. The conditioned requirements under MS 690 are outlined in the table below.

Condition	Requirement	Location in Plan
Condition 8-1	<p>For the portion of the project area which lies outside the Port Hedland Port Authority Boundary, the proponent shall not interfere with surface water flow other than in accordance with a Surface Water Management Plan prepared to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority prior to commencement of construction. Note: In preparation of advice to the Minister for the Environment, the Environmental Protection Authority expects that advice of the following agencies will be obtained:</p> <ul style="list-style-type: none">• Department of Conservation and Land Management; and• Water and Rivers Commission. <p>The Surface Water Management Plan shall:</p>	
Condition 8-1 (1)	Establish existing surface flow regimes	Appendix D: Section 1
Condition 8-1 (2)	Identify significant surface water dependent ecological systems which may be impacted by changes to surface water regimes	Appendix D: Section 2 Figure 6
Condition 8-1 (3)	Set out measures for controlling excessive turbidity caused by erosion directly related to railway infrastructure	Table 2, Table 3, Table 5
Condition 8-1 (4)	Set out measures for minimising the potential for contaminants to enter waterways	Table 2, Table 3, Table 5
Condition 8-1 (5)	Set out measures for maintaining the integrity of flow paths and water quantities to protect surface water dependent ecological systems	Table 2, Table 3, Table 5
Condition 8-1 (6)	Set out measures for monitoring and reporting of any changes in surface water flow regimes caused by implementation of the proposal, and impacts on surface water dependent ecological systems.	Section 2.2
Condition 8-3	The proponent shall make the Surface Water Management Plan required by condition 8-1 publicly available	In accordance with PAG4 (EPA, 2012).
Condition 8-4	In the event that adverse impacts on surface water dependent ecosystems are identified, the proponent shall develop and implement appropriate contingencies.	Section 2



APPENDIX C ROLES AND RESPONSIBILITIES

All Fortescue employees and contractors are required to comply with the requirements of this Plan.

Accountability for fulfilling the requirements of this Plan is dependent on the stage of project development (exploration, construction, operations, decommissioning) and the project type (port, rail or mine).

During exploration, the Group Manager Exploration will be accountable for ensuring the requirements of the Plan are met.

During construction stages, whether activities are undertaken by an external service provider or internal Fortescue personnel, the Project Director (Port, Rail or Mine) will be accountable for ensuring the requirements of this Plan are met.

During operational, decommissioning and closure stages, the General Manager (Port, Rail or Mine) will be accountable for ensuring the requirements of this Plan are met.

Where responsibilities are delegated, this must be clearly recorded and communicated.

When site specific Implementation Programs are developed to support this Plan, the RASCI framework should be utilised to delegate roles, responsibilities, and review and approval levels.

RASCI is used to denote:

R-Responsible	Those who do the work to achieve the task.
A-Accountable	Those who are ultimately accountable for the completion of the deliverable or task and the one to whom the Responsible person is accountable.
S-Supportive	Resources allocated to the Responsible person and who will also assist in completing the task.
C-Consulted	Those whose opinions are sought, two-way communication.
I-Informed	Those whom are kept informed, one-way communication.



APPENDIX D SURFACE WATER MONITORING GUIDELINES (IO-PL-EN-0005)
