



STRATEGIC WATER SUPPLY PLAN 2025

Shire of Victoria Plains

November 2025



Executive Summary

Project Background

The Shire of Victoria Plains, located in the Wheatbelt region of Western Australia, has faced recurrent water supply issues exacerbated by climate change. The Shire's Strategic Water Supply Plan aims to ensure reliable water supply for current and future needs, focusing on emergency water for firefighting, agricultural purposes, and community infrastructure.

Purpose of the Strategic Water Use Plan

The plan has three main objectives:

1. Survey and map existing Shire owned water supply assets.
2. Provide a demand model for emergency uses, primarily firefighting.
3. Identify deficiencies in the Shire's water infrastructure and propose solutions.

Existing Infrastructure Survey

The survey covers various towns within the Shire, detailing the location and condition of water supply assets, including bores, tanks, and standpipes. Key towns surveyed include Yerecoin, New Norcia, Bolgart, Calingiri, Gillingarra, Mogumber, and Piawaning.

Water Use Requirements

The plan outlines water requirements for:

- Firefighting: Minimum water volumes for different property sizes and high fire risk areas.
- Building supply: Compliance with AS2419 standards for hydrant supply.
- Shire firefighting: Details on volunteer brigades and their water capacities.
- Emergency farm water: Guidelines for water deficiency declarations and emergency supply needs.
- Public space irrigation: Use of non-potable water for irrigation to reduce reliance on potable supplies.
- Construction water: Access to emergency water supplies for small-scale projects.

Upgrade and Project Recommendations

The plan recommends upgrades and repairs to existing infrastructure, including legal arrangements for access to bores on private land and the construction of new community water infrastructure. Key recommendations include:

- Bolgart: Legal arrangements and capacity determination for the bore.
- Calingiri: Similar legal and capacity checks, with additional focus on sports oval supply.
- Gillingarra and Mogumber: Complete system fixes, including potential new bores and tank upgrades.
- New community water infrastructure: Proposals for new facilities in New Norcia, Yerecoin, and Old Plains to improve emergency water supply coverage.

Conclusion

The Strategic Water Supply Plan for the Shire of Victoria Plains addresses critical water supply issues, focusing on emergency preparedness and efficient use of available

resources. The proposed upgrades and new infrastructure aim to enhance the Shire's resilience to water shortages and support the community's needs.

Contents

Project Background	5
1 Purpose of the Strategic Water Use Plan	7
2 Existing Infrastructure Survey	8
Swipe card systems	8
Existing infrastructure	8
2.1 Yerecoin	9
2.2 New Norcia	9
2.3 Bolgart	9
2.4 Calingiri	11
2.5 Gillingarra	12
2.6 Mogumber	14
2.7 Piawaning	15
3 Water use requirements	16
3.1 Requirements for Fire Fighting	16
3.2 Building supply	16
3.3 Shire Fire Fighting	16
3.4 Requirements for emergency farm water	17
3.5 Requirements for public space irrigation	18
3.6 Requirements for construction water	18
4 Project Recommendations	19
4.1 Upgrade Remediation / repair / replacement of existing infrastructure	19
4.1.1 Bolgart	19
4.1.2 Calingiri	19
4.1.3 Gillingarra	19
4.1.4 Mogumber	19
4.2 New Community Water Infrastructure	20
4.2.1 New Norcia – Township	21
4.2.2 Yerecoin – Township	22
4.2.3 Old Plains	22
5 Strategic Water Plans	23
5.1 SWP – Yerecoin	23
5.2 SWP – New Norcia	25
5.3 SWP – Bolgart	27
5.4 SWP – Calingiri	29
5.5 SWP – Gillingarra	31
5.6 SWP – Mogumber	33
5.7 SWP – Piawaning	35

FIGURES INDEX

Figure 1: Location of the Shire of Victoria Plains	5
Figure 2: Shire of Victoria Plains	6
Figure 3: QGIS image locations	8
Figure 4: Yerecoin sewerage pond location	9

Figure 5: Bolgart water infrastructure	10
Figure 6: Parker Rd bore in Calingiri	11
Figure 7: Calingiri tanks	11
Figure 8: Calingiri sewerage ponds	12
Figure 9: Water assets located in Gillingarra	13
Figure 10: Water assets located in Mogumber	14
Figure 11: Water assets in Piawaning	15
Figure 12: Shire water supply infrastructure firefighting coverage	17
Figure 13: New Shire water supply infrastructure firefighting coverage	21

APPENDICES

Appendix 1	Implementation Action Plan	37
Appendix 2	Locations of existing infrastructure	40
Appendix 3	Images from Bolgart of existing infrastructure	42
Appendix 4	Images from Calingiri of existing infrastructure	48
Appendix 5	Images from Calingiri Sports Field of existing infrastructure	53
Appendix 6	Images from Gillingarra of existing infrastructure	57
Appendix 7	Images from Mogumber of existing infrastructure	61
Appendix 8	Images from Piawaning of existing infrastructure	67
Appendix 9	Images from Yerecoin of existing infrastructure	74

Project Background

The Shire of Victoria Plains (the Shire) is a local government area in the Wheatbelt region of Western Australia, about 160 kilometres north of the state capital, Perth. It covers an area of 2,569 square kilometres, and its seat of government is the town of Calingiri.



Figure 1: Location of the Shire of Victoria Plains

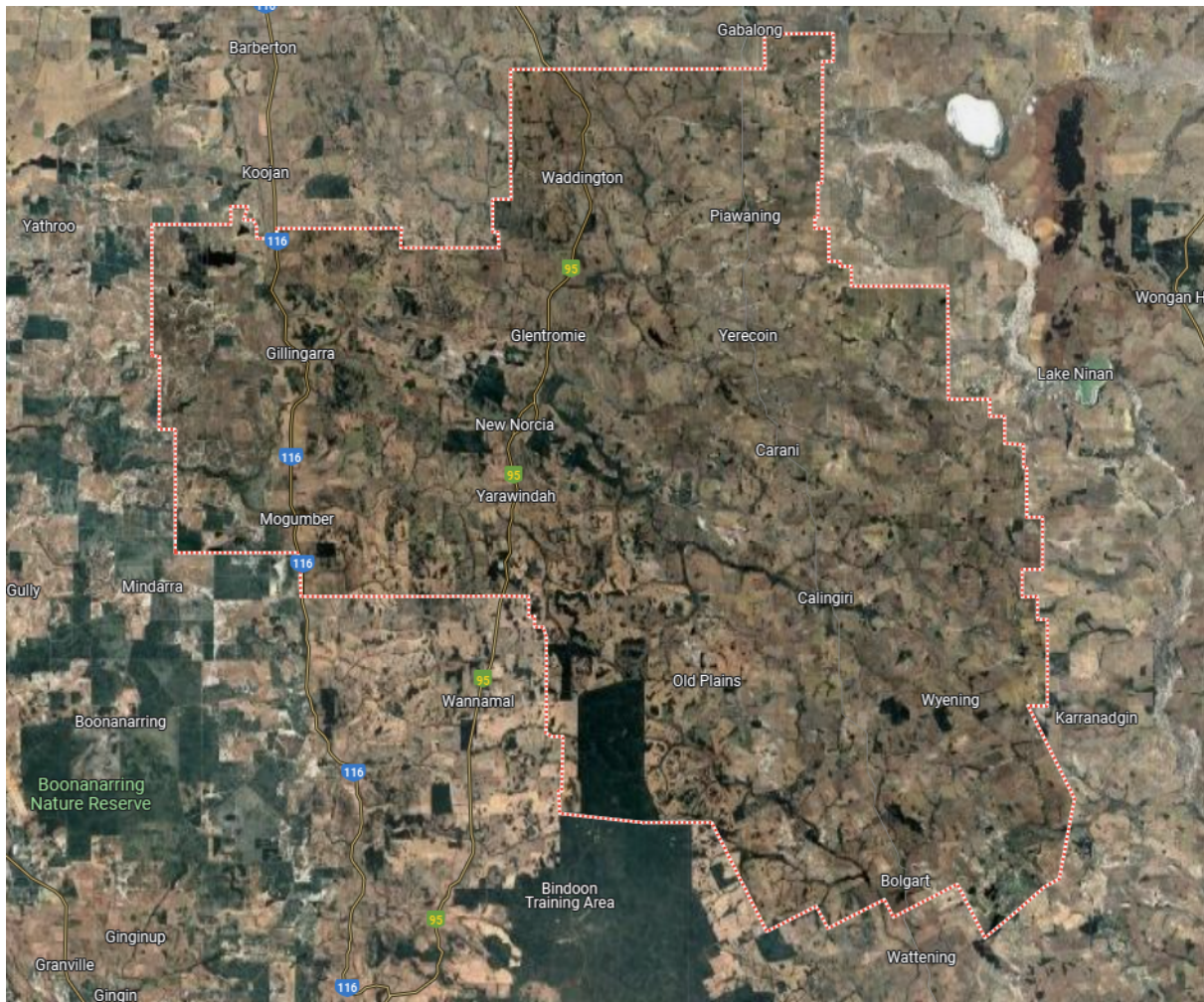


Figure 2: Shire of Victoria Plains

Recurrent water supply problems have affected the Shire over many years. Emerging climate change is likely to increase occurrences of low rainfall, water shortages and demand more efficient use of water.

The Shire recognises the importance of reliable water supply to meet both current needs and in preparing for future need. The Shire recognises the need to provide local community water infrastructure to support federal and state agencies, commercial and private interests throughout the region.

Emergency water and response is one of the key roles of this strategic water plan. It aims to ensure that sufficient water is available for the role of fire fighting in the protection of property, livestock, agriculture and native vegetation. Emergency water supplies are also made available to ensure that the commercial and lifestyle interests of the community are safeguarded wherever possible against serious water deficiencies.

The Shire recognises the importance of emergency off-farm water supplies to farming communities in the event of serious on-farm water shortages, particularly in respect to livestock needs.

While self-sufficiency must remain the primary responsibility of landholders, providing support for and preparing for those times when on-farm and township supplies fail due to sustained periods of low rainfall, is a key objective of the strategic water supply plan.

The use of non-potable water infrastructure for irrigation of public space including sports fields, public gardens, nature reserves and for non-potable uses such as public toilets will reduce reliance on potable water supplies and provide more efficient use of available water supplies.

Community water supply infrastructure form part of a larger network of strategic township and off-farm emergency water supplies and supply water for community owned spaces.

1 Purpose of the Strategic Water Use Plan

The purpose of the Strategic Water Use Plan is threefold:

1. Set out in a survey and location GPS mapping of existing Shire owned water supply assets, either on Shire property or located on private property.
2. Provide a desktop demand model for the Shire for emergency (generally firefighting) uses.
3. Identify possible current and near future deficiencies / issues with the Shire's water infrastructure and possible solutions, funding pending.

2 Existing Infrastructure Survey

SWIPE CARD SYSTEMS

Some existing sites have a swipe card system for metered fill points that require a swipe card or fob to access the water supply. Appropriate water charges for third party users can then be invoiced by the shire.

During emergencies such as bushfires the shire can switch the swipe card system to allow access without a swipe card. Swipe card sites are turned to manual during the fire season. The emergency access contact is the Community Emergency Services Manager (CESM) on 0499516763. It is recommended that this system be extended for both existing supply points where it is not implemented and for new supply infrastructure.

EXISTING INFRASTRUCTURE

Existing infrastructure was surveyed in each town in the Shire. The latitude and longitude of each element was recorded and several pictures taken of each. A detailed list of GPS locations for each element is contained in Appendix A.

The compilation of the QGIS data (available to Council) is shown below, where each yellow dot represents a picture of existing infrastructure:

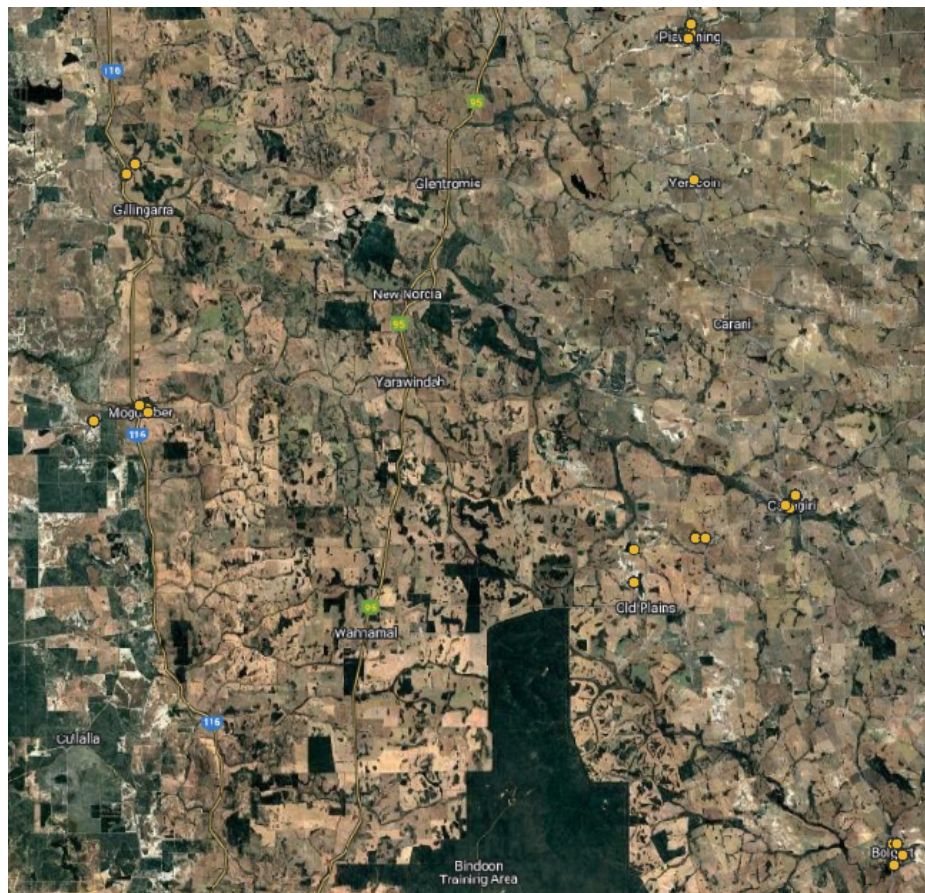


Figure 3: QGIS image locations

2.1 YERECOIN

There is no current water Council owned water systems within Yerecoin. The town water is supplied from WaterCorp.

There is one Sewerage Pond as per the location below:



Figure 4: Yerecoin sewerage pond location

2.2 NEW NORCIA

There is no current water Council owned water systems within New Norcia. The town water is supplied from WaterCorp.

2.3 BOLGART

Shire owned strategic community water supply for agricultural purposes, including emergency stock and firefighting water

The Shire "bore" (a submersible pump on a perennial waterhole) is located in Bolgart on private land (Shire owns the Bore) approximately 900m south of the township. The bore supply capacity is not recorded.

This bore pumps water up to a 150-kL tank (Bolgart tank No 1) and standpipe located just out of town on Bolgart East Rd, approximately 30m from Phillips Road at the Bolgart Sports Club. The site has an air compressor and air operated pump. It has heavy vehicle access including a turnaround area. The standpipe uses an overhead and dual camlock system.

The water is then gravity fed from this tank back into town to 150kL storage tank (Bolgart tank No 2) and standpipe 2, located on Lot 23 Smith Street with the standpipe on George Street. The site has heavy vehicle access and turn-around area. There is currently no operational pump at this site.

Figure 5 shows the general locations of the infrastructure.



Figure 5: Bolgart water infrastructure

WaterCorp own a pipe that comes near Bolgart but stops just on the outskirts of the town itself.

The water assets within Bolgart for the standpipes and tanks are owned by the Shire.

2.4 CALINGIRI

The purpose of the water infrastructure at Calingiri is to provide strategic community water supply for agricultural purposes, including emergency stock and firefighting water. It also supplies water to the sports fields and emergency water at standpipe. There is a bore located on Parker Road as per the map below, which has a pin drop and the coordinates of where this is located.



Figure 6: Parker Rd bore in Calingiri

This bore, located on Parker Road, is owned by the Shire, but is located on privately owned land. Supply capacity of the bore is not recorded. The bore pumps to a storage tank located on Goudge Road approximately 1 km west of Calingiri Road as per the attached map. A standpipe is located near the corner of Calingiri Road and Goudge Rd



Figure 7: Calingiri tanks

This bore water is pumped to the tank on Goudge Road and then pumped/gravity assisted to the standpipe and into town to the 2 x 225 kL tanks located at the Calingiri Sports Oval. A second overhead standpipe is provided at the oval.

The town itself is supplied with drinking water from WaterCorp.

There is a standpipe located within the Calingiri Hall townsite. Access to the standpipe is restricted, with the unit remaining locked at all times and accessible only by Shire staff or by members of the public who obtain a key from the Administration Office during business hours. The standpipe is connected to the Water Corporation scheme water supply; therefore, the water is potable. Members of the public are able to purchase water from the standpipe on a per-kilolitre basis.

There are two irrigated open space locations within the Shire, and both are located within Calingiri. They are:

- Calingiri Sports Ovals - Bore water from Parker Rd bore
- Anzac Memorial park- Scheme water

There are two open sewerage ponds in Calingiri which are located next to the CBH site, as shown below:



Figure 8: Calingiri sewerage ponds

2.5 GILLINGARRA

The purpose of the Shire owned water infrastructure at Gillingarra is to provide strategic community water supply for agricultural purposes, including emergency stock and firefighting water. It also provides water to the Gillingarra Hall, public toilets and emergency water at standpipe at same location.

Vesting of the infrastructure is currently in dispute and is under review by DPLH and DWER.

Gillingarra until recently had an operational system that is all now defunct. A bore located approximately 2.7km northwest of Gillingarra Road had a supply capacity of 60kL/ day. There are 2 x 150 kL storage tanks approximately 330m east from the bore also on private land that require the permission of the landowner to access. The two storage tanks that were located out at Gillingarra were feeding water to the standpipe, and the public hall/toilets have collapsed, so the Shire has placed a small tank near the public toilets for the interim.

The pump that is located out at Gillingarra is owned by the Shire and is an electric pump. This was originally bore pumped water to a private house and overhead standpipe that is next to the Gillingarra hall and then the water was pumped to the collapsed tanks. The water was gravity fed back down to the hall and toilets.

Shown below is map of Gillingarra and marked next to each asset a red cross and a number.

1. The location of the bore, located on private property.
2. The location where the standpipe is located and the water is pumped directly from the bore to a small storage tank of approximately 2000L on a stand, located on private property.
3. The location of the tanks that have just recently collapsed, were located on private property.
4. The location of Gillingarra Hall. Water gravity fed from the collapsed tanks down to the hall to supply water to the hall / toilets and standpipe.



Figure 9: Water assets located in Gillingarra

2.6 MOGUMBER

The purpose of the Shire owned water assets is to provide a strategic community water supply that supports Shire-owned buildings and facilities, emergency water supply for agricultural purposes, and firefighting operations.

The bore (which is like Bolgart and is more a solar powered pump within a soak/pond) is non-operational and has been that way for some time. The current arrangement is that the Shire water tanker fills the storage tank. The tank then gravity feeds back down to an overhead standpipe.

This storage tank used to also feed water into residential and commercial properties within the Mogumber townsite and even extending to properties just north of the river and east down Mogumber – Yarawindah Road. The former pipework network is now considered defunct, with water services within the townsite no longer reliant on, or connected to, the original water supply system. Future water supply arrangements and infrastructure planning do not include reinstatement or reconnection of the former network.



Figure 10: Water assets located in Mogumber

The bore (or soak), which has a supply capacity of 60kL per day, is located on private property off Mogumber West Road, approximately 2.7km west of Bindoon-Moora Road. The associated 135kL storage tank (labelled "1" in the attachment) is situated just off Mogumber-Yarawindah Road, east of the Mogumber townsite. While the bore itself is located on private land, all associated infrastructure assets are owned and maintained by the Shire.

Due to this system being broken, the Shire currently uses 30,000L trucks to cart water to fill the tank on the hill. The hill is quite steep, and water trucks can't get up it, therefore they must pump water up the pipeline from down where the standpipe is. It is a slow process to do this and takes one of the Council staff a whole day to do three truckloads of 30,000L.

Once a new water supply is sourced from the general locality of the Mogumber Library Lot, this supply will be plumbed to the current reticulated system in place that feeds the

Mogumber Hall and ablutions. We will also maintain the current tank on the hill as a gravity feed line to the standpipe, Mogumber Library and Mogumber Hall and ablutions.

2.7 PIAWANING

The purpose of the Shire owned water infrastructure in Piawaning is to provide strategic community water supply for agricultural purposes, including emergency stock, firefighting and local government uses.

The original bore with RO plant for desalination was approximately 200m north of Waddington-Wongan Hills Road. The system has a supply capacity of 24 kL/day. It is unclear whether the existing bore and RO plant are still in use.

The Shire has recently installed a new bore at Bindi Bindi – Toodyay Road. The capacity of the new bore is not recorded.

As per the figure below, the green lines are roughly where the pipe runs, the red cross is where the 2 x 250,000L storage tanks and new RO Plant are all located, which is on the same reserve as the Piawaning Hall. The bore and solar powered pump are marked on the attached figure with a pin drop and is located on the side of the Bindi Bindi – Toodyay Road.

An overhead standpipe and separate dual camlock standpipe with heavy vehicle access and turn around track is located at 1094 (lot 55) Waddington-Wongan Hill Road.

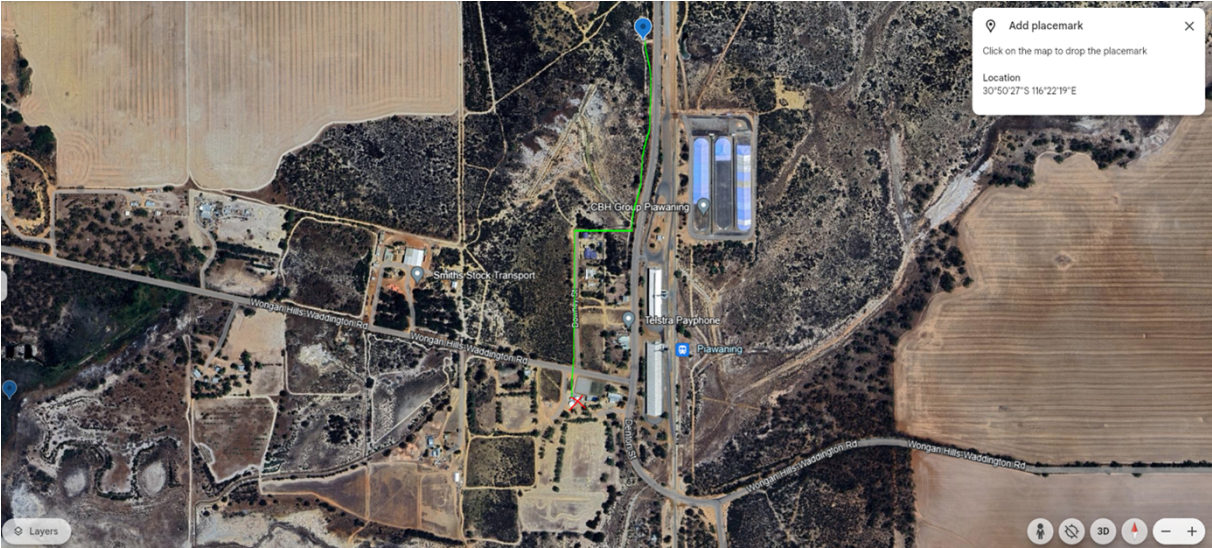


Figure 11: Water assets in Piawaning

3 Water use requirements

3.1 REQUIREMENTS FOR FIRE FIGHTING

Per Department of Fire and Emergency Services, Government of Western Australia

- For small properties (less than 500 square meters), a minimum of 2,500L is required.
- For rural properties exceeding 1 hectare in size, a minimum of 20,000L is required.
- In high fire risk areas, a minimum of 22,000L allocated for firefighting is recommended.
- Non-reticulated areas require water tanks with a minimum volume of 50,000L per tank and a minimum of 1 tank per 25 lots.
- Combination water tanks storing more than 20,000L are also acceptable for firefighting purposes.

3.2 BUILDING SUPPLY

In accordance with To AS2419, buildings 25,000 litres min require a 4 hour supply per hydrant at 10 L/s – 144,000L per hydrant. (say 150kL tanks) – Note large buildings, particularly private or non-community owned should have their own water supplies secured to meet AS2419, beyond scope of this report.

3.3 SHIRE FIRE FIGHTING

The Shire has five volunteer bush fire brigades with state government emergency services levy.

Vehicles are located in:

- Calingiri
- Bolgart
- Yerecoin / Piawaning
- New Norcia
- Mogumber / Gillingarra

The Shire has 101 registered emergency services volunteers as of November 2025. Collectively, these brigades house

- One 4.4 appliance (4,000L water capacity),
- Two 2.4 appliances (2 x 2,000L water capacity),
- Two 3.4 (2 x 3,000L water capacity).

Initial fire suppression is typically supported by local farmer response units. Private appliances range from 500L slip on water units to various sized water carts. The Shire has a 22,000L water tanker which is available during fire emergencies. Water supplies during fire emergencies may also be bolstered by private water carriers and neighbouring local government firefighting resources / tankers.

Figure 12 shows the shire emergency water infrastructure coverage available for firefighting. It does not include any WaterCorp infrastructure or private supplies. Coverage is based on a 20km radius from the supply point. Green circles represent infrastructure that is currently operational. Red circles represent infrastructure that requires repair or replacement.

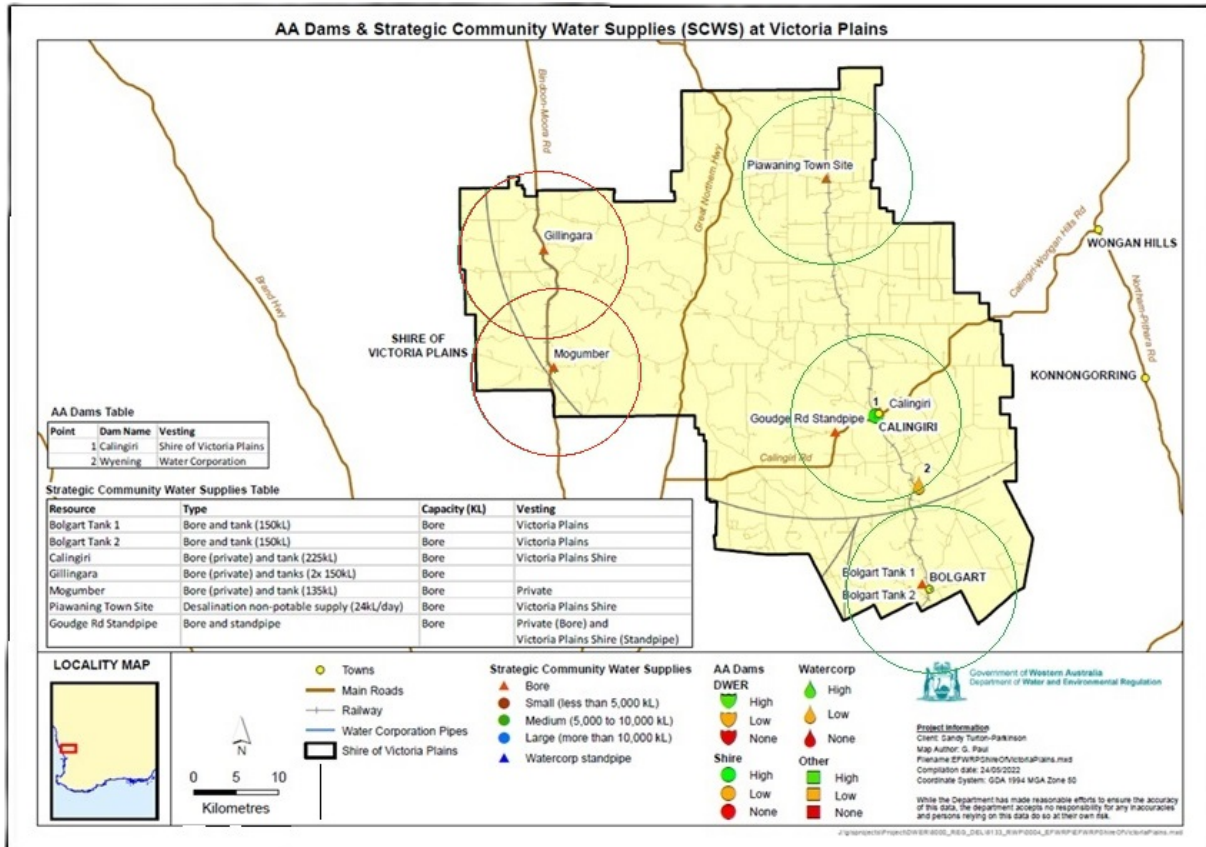


Figure 12: Shire water supply infrastructure firefighting coverage

3.4 REQUIREMENTS FOR EMERGENCY FARM WATER

From Emergency Farmland Response Plan 2010 Government of Western Australia No RWF-EP11:

If the nearest available water supply is more than 40 km one-way from the farm gate, a Water deficiency declaration may apply. Where significant demand for off-farm water exists, assistance should be sought from the shire council in respect to lodging an application for a Water deficiency declaration with the Department of Water. The district office of the Department of Agriculture and Food should be notified of the application.

Declaration of 'water deficiency' is a Government response to safeguard the commercial interests of those farmers who do not have reasonable access to permanent water carting points, such as standpipes served by a Water Corporation piped water scheme.

'Reasonable Access' is defined as being within a 40 km radius of a suitable water source. Water to be suitable for livestock, not for human consumption.

Water service is intended for short term emergency use only, not as a regular source of water to provide for the on-going needs of a farming business. Unrestricted drawdown from standpipes may compromise the rate of supply to landholders connected directly to the pipeline or townspeople. The Water Corporation aims to limit the daily flow from standpipes to 50kL. Tank storage is encouraged in order to provide reserve capacity. and limit drawdown directly from standpipes at peak time

Based on information available in Stocking rate guidelines for small rural holdings, western Australia ISSN 1326-4168, Feb 2000; for long term stocking rates 10 Dry Sheep Equivalent (DSE) for non-irrigation pasture. This can be as high as 25 for irrigated pasture. It is assumed irrigated pasture does not require emergency water for livestock.

Summer demand for DSE is 12 litres/day This gives an emergency supply requirement of 120 litres per hectare of pastureland to be supplied. 50kL supply is deemed adequate for approximately 415 hectares of livestock pasture.

3.5 REQUIREMENTS FOR PUBLIC SPACE IRRIGATION

The use of community water drawn from stormwater or bore supply for public space irrigation and public toilet supply (non-drinking) is opportunistic to provide lower cost water than any available potable water supply.

Water quality issues for unrestricted irrigation may require additional treatment facilities including filtration and disinfection and is unlikely to be cost effective for small irrigation scheme. Feasibility for larger irrigation schemes needs to be undertaken on a project-by-project basis.

This report does not make any recommendations for the expansion or construction of any new public space irrigation schemes.

3.6 REQUIREMENTS FOR CONSTRUCTION WATER

In the absence of any particular large scale construction projects this report does not make any specific recommendation for construction water supply.

Access to the off-farm emergency water supplies can be made available for small scale construction projects on a case-by-case basis by application. Large scale project can make their own arrangements for temporary bores.

4 Project Recommendations

4.1 UPGRADE REMEDIATION / REPAIR / REPLACEMENT OF EXISTING INFRASTRUCTURE

4.1.1 Bolgart

Check legal, deed and vesting arrangements. Arrange for access easements and water deeds to the bore located on private land if not already in place. Determine bore supply capacity.

Estimated cost \$10k + GST.

4.1.2 Calingiri

Check legal, deed and vesting arrangements. Arrange for access easements and water deeds to the bore located on private land if not already in place. Determine bore supply capacity.

Confirm deed & access agreements with sports oval (is it private or council owned). Determine bore supply capacity.

Estimated cost \$10k + GST.

4.1.3 Gillingarra

Review entire System.

Legals for bore located on private land. Potentially abandon and sink new bore on council owned land. Abandon, sell to local farmer and build new tanks or relocate tanks to council land (permission to enter private land is cumbersome). Existing system seems to be a small facility with collapsed tanks.

Recommend upgrading to 250kL tank as part of fixing this system. Provide coverage to the Northwest areas of the Shire. Estimated cost \$700k + GST excluding land costs, power supply, site amenities, roadworks. (assumes existing bore is sound).

No allowance for backup power supply but a connection point for a portable generator can be considered in the event of extended power outage to refill the tank from the bore.

4.1.4 Mogumber

Review entire System.

Legals for bore located on private land. May abandon and sink new bore on council owned land. Abandon, sell to local farmer and build new tanks or relocate tanks to council land (permission to enter private land is cumbersome). – similar cost to the above.

4.2 NEW COMMUNITY WATER INFRASTRUCTURE

Where there is an existing water supply such as WaterCorp town supply A 50kL dedicated firefighting tankage fed by the existing supply would provide value for fast resupply of fire fighting vehicles and tankers. Such a facility would not be suitable for agricultural supply. These storages can be co located at existing fire depots where this is sufficient shire owned land adjoining.

It is our view, however, that there is insufficient value in providing community bores with stand-alone tanks for firefighting purposes only (as opposed to specific coverage for large buildings) for the cost outlay. The facility will mostly stand idle for the majority of its operational life and not return much value to the community for the investment. We consider a combined firefighting and emergency water storage facility to be better value where new bores are to be installed.

These storages could also be used to provide a service for general farm water (non-potable) for local farmers once the bore extraction rates and fill times are known to keep the water relatively fresh and turning over in the tanks. A bore may have a supply capacity of 60 kL /day so this would be the normal limit of supply for general farm water, preserving the remainder for emergencies. Water supplied in this fashion should be charged at the appropriate rates using the swipe card system

If used in this purpose an amount of water (50kL) would be needed to be “quarantined” at each site for firefighting purposes and not encroached upon for farm use or emergency stock watering. This can be achieved by designing the outlets for farm use at different levels in the tanks or controlled cutoffs at standpipes or other simple designs. Similar to other current facilities in the shire these tanks would be non-potable supplies fed by a local council owned bore to save treatment costs. Provision for flushing the facilities of sediments that would build up over time should be incorporated in the design.

Coverage of the shire has been mapped and the following “gaps” identified that will reduce travel times of fire fighting vehicles and tankers needing to draw on the supply. It also fills gaps for emergency farm water supply, reducing farmers travel costs and exhaust emissions (helping to reduce climate change impacts).

It is assumed that fire fighting vehicles have their own pump sets and can pump out from an appropriate connection point even with the loss of power at the site. It is recommended that the community tanker be similarly equipped if not already.

Figure 13 shows the recommended new community water infrastructure coverage for emergency water supply for firefighting. Blue circles indicate the new coverage area.

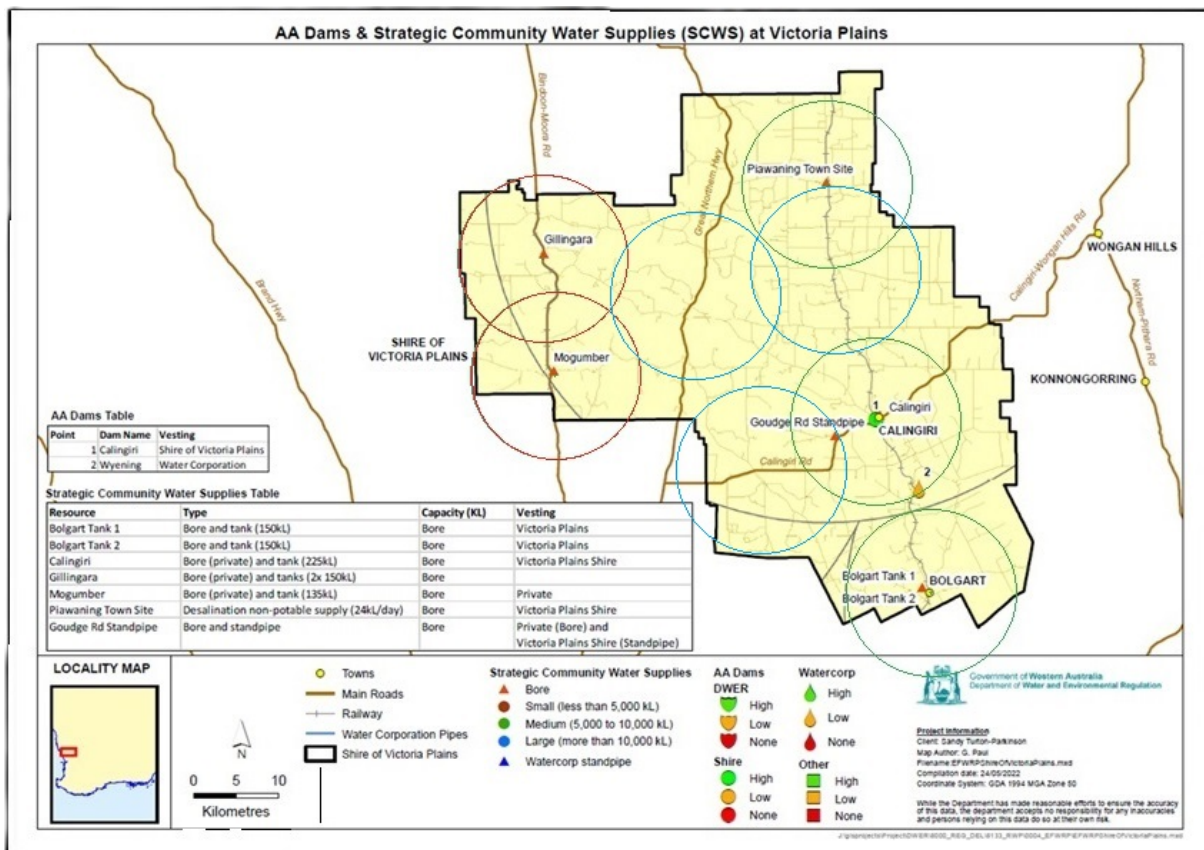


Figure 13: New Shire water supply infrastructure firefighting coverage

4.2.1 New Norcia – Township.

Provide central area coverage and fills a significant gap between Mogumber and Piawaning in an inhabited township. Local fire unit vehicle located in township which is likely to be supplied by current potable water supply but in the event of a significant catastrophic event where power supply and/or the existing treatment plant or reticulation system is lost it is likely that the water supply will also be significantly impacted.

Provide 250kL tank, bore, pumps, standpipe system for combined firefighting water & emergency farm water with swipe card system allowing general farm water supply. Quarantine min 50kL for firefighting.

No allowance for backup power supply but a connection point for a portable generator can be considered in the event of extended power outage to refill the tank from the bore.

Budget (\$30K design, \$30k preliminaries, \$140K bore & bore pump, \$70k civils, \$360k tank, \$60K pumps & pipes, \$15k standpipe \$50K power supply, control systems & metering, \$30K swipe card system & telecommunications, +30% remote area) ~\$1,025K + GST excluding land costs, legals & licensing costs, additional site amenities, fencing, roadworks.

Alternatively, the local firefighting unit could be provided with a 50kL dedicated firefighting water supply tank and supplied from the existing town water supply but no water for agricultural emergency use would be available. Estimated budget \$100k + GST.

4.2.2 Yerecoin – Township

Provide central east area coverage and fills a gap between Piawaning and Calingiri. Local fire unit vehicle may be located in township which is likely to be supplied by current potable water supply but in the event of a significant catastrophic event where power supply is lost it is likely that the water supply will also be significantly impacted.

Provide 250kL tank, bore, pumps, standpipe system for combining firefighting water & emergency farm water with swipe card system allowing general farm water supply. Quarantine min 50kL for firefighting.

No allowance for backup power supply but a connection point for a portable generator can be considered in the event of extended power outage to refill the tank from the bore.

Budget \$1,025K + GST excluding land costs, legals & licensing costs, additional site amenities, fencing, roadworks.

Alternatively, the local firefighting unit could be provided with a 50kL dedicated firefighting water supply tank and supplied from the existing town water supply but no water for agricultural emergency use would be available.

4.2.3 Old Plains

No specific township but the area is serviced by a sealed road, Calingiri Rd. The area has several nature reserves that are vulnerable to fire. A suitable land area adjacent to the main road would need to be identified. A facility in this area would provide improved coverage for south area. Some overlap with Calingiri but provides coverage to the Southwest and is close to the Bindoon Training area (military use) which has a potential for starting fires.

Provide 250kL tank, bore, pumps, standpipe system for combining Firefighting Water & emergency farm water with swipe card system allowing general farm water supply. Quarantine min 50kL for firefighting.

No allowance for backup power supply but a connection point for a portable generator can be considered in the event of extended power outage to refill the tank from the bore.

Budget \$1,075K + GST excluding land costs, legals & licensing costs, additional site amenities, fencing, additional power supply augmentation, roadworks.

5 Strategic Water Plans

5.1 SWP – YERECOIN

Prepared for: Shire of Victoria Plains
Region: Yerecoin, WA
Horizon: 2025–2045 (20-year outlook)

1. Executive Summary

Yerecoin is a small township in the Shire of Victoria Plains that currently has no Shire-owned water supply infrastructure. All residential and community needs are met by the Water Corporation scheme, with the only Shire asset being a sewerage pond. This creates a vulnerability in the event of power loss, scheme disruption, or drought.

This plan sets out the requirements for securing local emergency water for firefighting and agricultural purposes, identifies future demand, and recommends staged actions to improve resilience over the next 20 years.

2. Objectives

- Provide reliable access to emergency firefighting and stock water
 - Reduce reliance on a single scheme supply by diversifying sources
 - Support agricultural and community resilience in drought or emergency situations
 - Establish a framework for ongoing monitoring, engagement, and funding
-

3. Current Water Sources and Use

- **Scheme water (Water Corporation):** sole provider of drinking and community supply
 - **Sewerage pond:** located near town, not used for emergency supply
 - **No Shire-owned bores, tanks, or standpipes** are currently available
-

4. Challenges and Risks

- High reliance on scheme water creates a single point of failure in emergencies
 - No dedicated firefighting storage, leaving local brigades dependent on private sources or neighbouring towns
 - Agricultural vulnerability, as off-farm emergency water would need to be carted from further afield
 - Modest population size may limit the economic return of major capital works, though strategic storage can still provide value
-

5. Future Water Needs to 2045

- **Population:** The town is expected to grow only modestly, with an increase from around 70 people today to approximately 80–90 by 2045.
 - **Firefighting:** A dedicated 50–250 kL firefighting storage would bring Yerecoin in line with Department of Fire and Emergency Services (DFES) standards.
 - **Agriculture:** Local farms would benefit from a Shire-managed standpipe or bore to reduce carting distances, particularly in drought years.
 - **Emergency resilience:** A minimum of 50 kL of quarantined water should be always maintained for firefighting.
-

6. Strategic Actions

Short term (1–3 years)

- Formalise arrangements with local fire brigades for emergency access to private supplies

- Identify potential bore locations on Shire or cooperative private land
- Review contingency protocols with DFES and Water Corporation for scheme outages

Medium term (3–10 years)

- Construct a 50kL firefighting tank in town supplied from scheme water
- Investigate and test potential bore sites for long-term supply
- Trial a swipe-card standpipe system for emergency carting

Long term (10–20 years)

- Develop a combined firefighting and agricultural emergency water facility (bore, 250 kL tank, pumps, standpipe, swipe card access)
- Incorporate solar or backup power supply for resilience during outages
- Integrate facility into the broader Shire water security network

7. Community and Stakeholder Engagement

- Partner with the Yerecoin volunteer fire unit to define access requirements
- Consult with the local Progress Association and Community Groups
- Consult local farmers on co-investment or hosting of infrastructure sites
- Provide community updates through Shire newsletters and annual water forums

8. Monitoring and Reporting

- Annual inspection of firefighting readiness and emergency protocols
- Groundwater monitoring if a bore is developed, including yield and salinity testing
- Five-year review of the Yerecoin plan as part of the Shire-wide strategy

9. Funding Opportunities

- State: Department of Water and Environmental Regulation (Community Water Supply Program), WA Emergency Services Levy
- Federal: Future Drought Fund and National Water Grid Fund (small town water resilience projects)
- Local: Shire budget allocations, cost-sharing with landholders for bore development

10. Conclusion

Yerecoin currently has no dedicated emergency water supply and is vulnerable to outages in scheme water. Establishing a small-scale firefighting tank in the short term, followed by a bore and combined emergency storage facility in the longer term, will provide reliable local capacity for both firefighting and agriculture. This staged approach balances cost with community resilience, ensuring Yerecoin is better prepared for drought and emergency events through to 2045.

5.2 SWP – NEW NORCIA

Prepared for: Shire of Victoria Plains

Region: New Norcia, WA

Horizon: 2025–2045 (20-year outlook)

1. Executive Summary

New Norcia is a unique township within the Shire of Victoria Plains, known for its heritage and monastic community. The town has no Shire-owned water supply assets and relies entirely on Water Corporation scheme water. This reliance exposes the community to risks during emergencies, particularly large fire events where scheme water supply or power may be disrupted.

This plan sets out options to strengthen New Norcia’s resilience by introducing emergency firefighting and agricultural water infrastructure, while ensuring heritage values and township amenity are respected.

2. Objectives

- Ensure local access to emergency firefighting water to protect community assets and heritage buildings
 - Provide contingency supply for agricultural and emergency farm water needs
 - Reduce sole reliance on scheme water during power loss or catastrophic events
 - Establish staged, cost-effective investment aligned with community and heritage values
-

3. Current Water Sources and Use

- Scheme water (Water Corporation) is the sole supply for residents and community use
 - No Shire-owned bores, tanks, or standpipes exist in New Norcia
 - The town has a local fire unit vehicle, which currently relies on scheme water and private sources for emergency supply
-

4. Challenges and Risks

- Reliance on scheme water with no backup creates a vulnerability during power outages or infrastructure failure
 - Heritage assets are at high risk in the event of a major fire
 - No dedicated firefighting or farm emergency supply increases carting distances and delays in emergency response
 - The monastic community and visitors may be impacted by limited local resilience
-

5. Future Water Needs to 2045

- **Population:** The town’s permanent population is stable, with minor changes expected, but visitor numbers create a need for reliable emergency water
 - **Firefighting:** A minimum of 50 kL dedicated firefighting storage is needed, but 250 kL would provide stronger coverage for heritage and community assets
 - **Agriculture:** Surrounding farmland would benefit from access to off-farm emergency water to reduce carting distances
 - **Emergency resilience:** Storage must be designed to protect at-risk heritage buildings and provide rapid fill capacity for firefighting vehicles
-

6. Strategic Actions

Short term (1–3 years)

- Establish agreements with Water Corporation and DFES for contingency supply arrangements

- Identify suitable Shire-owned or community land for emergency water infrastructure, ideally near the fire depot

Medium term (3–10 years)

- Construct a 50kL firefighting tank supplied from scheme water to provide rapid refill capacity for local brigades
- Investigate bore siting and licensing options for a combined firefighting and farm water facility

Long term (10–20 years)

- Develop a bore-fed facility with 250 kL storage, standpipe, swipe card system, and pumps
- Quarantine a minimum of 50 kL for firefighting, with the remainder available for emergency farm supply
- Incorporate solar or backup generator to ensure operability during outages

7. Community and Stakeholder Engagement

- Work with the New Norcia monastic community to ensure water infrastructure respects cultural and heritage values
- Partner with local fire brigades to design fit-for-purpose emergency facilities
- Consult with the local Progress Association and Community Groups
- Consult with farmers in surrounding districts on co-investment and access needs

8. Monitoring and Reporting

- Annual review of firefighting readiness, including tank levels, pumps, and access
- Groundwater monitoring if a bore is developed to ensure quality and yield
- Five-year review of New Norcia’s water plan as part of the broader Shire strategy

9. Funding Opportunities

- State: DWER Community Water Supply Program, WA Heritage Council funding (heritage protection projects that overlap with fire resilience)
- Federal: Future Drought Fund, National Water Grid Fund (regional water resilience)
- Local: Shire allocations, with potential community co-investment through heritage partnerships

10. Conclusion

New Norcia is fully reliant on scheme water and has no Shire-owned emergency water infrastructure. Given the town’s unique heritage assets and fire risk profile, there is a strong case for investment in local storage. A staged approach, beginning with a 50kL firefighting tank and moving toward a 250kL combined facility, will provide reliable capacity for both firefighting and agricultural resilience, reducing risks to community safety and heritage assets through to 2045.

5.3 SWP – BOLGART

Prepared for: Shire of Victoria Plains

Region: Bolgart, WA

Horizon: 2025–2045 (20-year outlook)

1. Executive Summary

Bolgart has a functioning Shire-owned community water supply, including a bore, tanks, and standpipes. However, the system is partly located on private land and capacity records are incomplete. While the infrastructure provides strategic water for agricultural use and firefighting, legal arrangements, asset condition, and long-term resilience need to be addressed.

This plan sets out a pathway to formalise land access, upgrade and expand capacity, and provide Bolgart with reliable emergency water supply for both firefighting and agricultural purposes.

2. Objectives

- Secure legal and operational control of existing water assets
 - Improve the reliability and recorded capacity of the bore and tank system
 - Ensure sufficient firefighting storage to meet DFES requirements
 - Provide an efficient system for emergency farm water supply
 - Reduce reliance on carting water from other towns during drought or fire emergencies
-

3. Current Water Sources and Use

- Bore located 900 metres south of Bolgart on private land, owned by the Shire
 - Water pumped to a 150kL tank and standpipe at the Bolgart Sports Club (Tank 1)
 - Supply gravity-fed to a second 150kL tank and standpipe on Smith Street (Tank 2)
 - Infrastructure supports agricultural supply, firefighting, and emergency water carting
 - Water Corporation has a nearby pipeline but does not supply the town directly
-

4. Challenges and Risks

- Bore located on private land with no formalised deed or easement
 - Bore capacity not recorded, limiting planning and assurance of supply
 - No operational pump at Tank 2 site, reducing redundancy
 - Current firefighting capacity may be insufficient in catastrophic fire scenarios
 - Reliance on an ageing system with limited recorded performance data
-

5. Future Water Needs to 2045

- **Population:** Expected to remain relatively stable, with modest growth
 - **Firefighting:** Requirement for at least 50kL quarantined firefighting storage, ideally increased to 250kL for township protection
 - **Agriculture:** Local farms require reliable emergency carting points within 20km of properties; Bolgart is strategically located to provide coverage
 - **Resilience:** Bore yield and tank capacity must be verified and expanded to provide for fire events and drought years
-

6. Strategic Actions

Short term (1–3 years)

- Confirm legal access to the bore and secure easements and deeds
- Determine bore capacity and establish ongoing monitoring program
- Repair and reinstate operational pump at Tank 2 site

Medium term (3–10 years)

- Upgrade tanks to increase capacity from 150 kL to 250 kL
- Install smart metering and swipe card system to manage farm water access
- Improve heavy vehicle access and turnaround areas for firefighting and carting trucks

Long term (10–20 years)

- Construct an additional bore and 250 kL storage tank on Shire land to reduce reliance on private land access
- Incorporate backup power options (solar or generator-ready connections) to ensure system operability during outages
- Integrate Bolgart system into a broader Shire-wide strategic water network

7. Community and Stakeholder Engagement

- Engage private landholders hosting the bore to formalise access arrangements
- Consult with the local Progress Association and Community Groups
- Consult local farmers on the use of swipe card access and fair pricing models
- Work with Bolgart fire brigade to design fit-for-purpose firefighting facilities
- Provide updates through Shire community meetings and water forums

8. Monitoring and Reporting

- Annual reporting of bore yield, tank levels, and system reliability
- Ongoing water quality testing for salinity and potability
- Five-year review of Bolgart water plan as part of Shire-wide strategic review

9. Funding Opportunities

- State: DWER Community Water Supply Program, Emergency Services Levy (for firefighting assets)
- Federal: National Water Grid Fund, Future Drought Fund
- Local: Shire capital works budget, cost-sharing arrangements with agricultural users

10. Conclusion

Bolgart already has a functioning community water system, but gaps in legal security, asset condition, and firefighting storage must be addressed. Incremental investment in securing the bore, upgrading tanks, and improving reliability will provide long-term resilience. A staged approach, with a potential second bore and expanded storage in the long term, will ensure Bolgart continues to support firefighting, emergency farm supply, and community resilience through to 2045.

5.4 SWP – CALINGIRI

Prepared for: Shire of Victoria Plains
Region: Calingiri, WA
Horizon: 2025–2045 (20-year outlook)

1. Executive Summary

Calingiri is the administrative centre of the Shire of Victoria Plains and the most significant township in terms of population, services, and community facilities. The town has Shire-owned water infrastructure including a bore, tanks, and standpipes that supply water for agricultural, firefighting, and irrigation purposes. Potable water for the town itself is provided by Water Corporation.

The infrastructure at Calingiri is critical to the Shire’s strategic water supply network, but challenges remain with legal arrangements, capacity records, and long-term resilience. This plan identifies actions to secure and expand Calingiri’s role as a central hub for firefighting and emergency farm water supply.

2. Objectives

- Provide reliable emergency water for firefighting and agricultural purposes
 - Ensure legal security and access rights for existing bore and tanks
 - Increase capacity to meet projected firefighting and agricultural demand
 - Support community amenity through irrigation of sports and public spaces
 - Strengthen Calingiri’s role as a Shire-wide water hub
-

3. Current Water Sources and Use

- **Bore on Parker Road:** Shire-owned, located on private land; capacity not recorded
 - **Tank on Goudge Road:** Receives bore water, then supplies standpipe and town distribution
 - **Two 225 kL tanks at Calingiri Sports Oval:** Provide irrigation and emergency supply
 - **Standpipes:** Located at Goudge Road and at the sports oval
 - **Irrigation:** Sports oval uses bore water; Anzac Memorial Park uses scheme water
 - **Sewerage ponds:** Two open ponds located near CBH site
 - **Town supply:** Provided by Water Corporation scheme water
-

4. Challenges and Risks

- Bore located on private land without formalised deed or easement
 - Bore capacity and sustainable yield not recorded
 - Dependence on bore water for sports oval irrigation may reduce availability for firefighting in dry years
 - Sports oval land tenure and access arrangements need to be confirmed
 - System resilience is limited by lack of backup power in the event of outage
 - Projected climate change impacts will increase demand for irrigation and firefighting capacity
-

5. Future Water Needs to 2045

- **Population:** Expected to grow modestly from about 250 to 300 residents by 2045
- **Firefighting:** Storage of at least 250 kL is required to provide adequate coverage for the township and surrounding rural properties
- **Agriculture:** Increasing demand for off-farm emergency water will require reliable standpipe capacity
- **Community facilities:** Continued irrigation of sports and public spaces is important for community wellbeing

- **Resilience:** Additional storage and a verified bore supply will be needed to meet Shire-wide emergency coverage requirements
-

6. Strategic Actions

Short term (1–3 years)

- Confirm and formalise legal access to Parker Road bore and sports oval facilities
- Undertake bore capacity and water quality testing
- Review allocation between irrigation and emergency water supply
- Install smart meters to improve monitoring and reporting

Medium term (3–10 years)

- Upgrade tank capacity at Goudge Road and sports oval to 250 kL each
- Install swipe card system at standpipes to manage access and track usage
- Improve irrigation efficiency at sports oval to reduce pressure on bore water supply
- Consider constructing a second bore on Shire land to diversify supply

Long term (10–20 years)

- Establish Calingiri as a Shire-wide emergency hub with 500 kL of firefighting and farm water storage
 - Provide backup power supply (solar with generator connection) for bore and pumps
 - Integrate Calingiri system into a wider Shire emergency water network with coverage mapping
-

7. Community and Stakeholder Engagement

- Work with local sporting clubs to balance irrigation use with emergency needs
 - Consult with farmers on pricing and access to standpipe water
 - Collaborate with DFES and local brigades on firefighting readiness and infrastructure design
 - Consult with the local Progress Association and Community Groups
 - Provide regular updates through Shire forums and community newsletters
-

8. Monitoring and Reporting

- Annual reporting of bore yield, tank levels, and irrigation usage
 - Groundwater salinity and yield monitoring to ensure sustainable supply
 - Five-year strategic review of Calingiri's role as a Shire water hub
-

9. Funding Opportunities

- State: DWER Community Water Supply Program, Emergency Services Levy (firefighting capacity)
 - Federal: Future Drought Fund, National Water Grid Fund (regional infrastructure)
 - Local: Shire budget, partnerships with sporting clubs and agricultural users
-

10. Conclusion

Calingiri has the most significant Shire-owned water infrastructure and plays a critical role in the strategic water supply network. With modest investment in legal security, capacity upgrades, and resilience measures, the town can become a reliable hub for firefighting, agricultural, and community water needs. Establishing Calingiri as a long-term water security centre will benefit the township and the broader Shire through to 2045.

5.5 SWP – GILLINGARRA

Prepared for: Shire of Victoria Plains
Region: Gillingarra, WA
Horizon: 2025–2045 (20-year outlook)

1. Executive Summary

Gillingarra previously had an operational Shire-owned water system supplying agricultural, firefighting, and community needs. The system is now defunct, with collapsed storage tanks and unresolved land tenure issues. The Shire currently relies on a small temporary tank near the public toilets, which is inadequate for firefighting and emergency farm supply.

This plan identifies actions to restore Gillingarra’s role in the Shire water network, beginning with resolving land access, then investing in new bore and tank infrastructure on secure sites.

2. Objectives

- Re-establish reliable emergency water infrastructure for firefighting and stock use
 - Resolve land tenure and ownership issues for bore and tanks
 - Provide adequate storage capacity to support local community facilities
 - Ensure long-term sustainability with secure access, reliable yield, and modern infrastructure
-

3. Current Water Sources and Use

- **Bore** located 2.7 km northwest of Gillingarra Road on private land; capacity recorded as 60 kL/day
 - **Two 150 kL storage tanks** (collapsed) located on private land
 - **Standpipe and pump system** previously linked bore to hall, toilets, and standpipe; system is now non-operational
 - **Current arrangement:** A small 2000 L temporary tank near the hall and toilets provides minimal supply
 - **Town supply:** No Water Corporation reticulated supply in Gillingarra
-

4. Challenges and Risks

- Land tenure unresolved; bore and tanks on private land require permissions for access
 - Collapsed tanks leave no strategic firefighting or farm water storage in place
 - Temporary 2000 L tank is wholly inadequate for fire or agricultural resilience
 - Reinstating infrastructure on private land may create long-term legal and operational risk
 - Surrounding agricultural properties remain vulnerable to water shortages during drought and emergencies
-

5. Future Water Needs to 2045

- **Population:** Gillingarra’s population is small and expected to remain stable
 - **Firefighting:** Storage of at least 250 kL is required to restore adequate coverage for township and rural properties
 - **Agriculture:** Local farmers require a reliable standpipe for emergency carting to reduce long-distance haulage
 - **Resilience:** Secure bore on Shire-owned land with modern tankage will provide long-term sustainability and operational control
-

6. Strategic Actions

Short term (1–3 years)

- Resolve land tenure and access agreements for current bore site
- Investigate feasibility of sinking new bore on Shire-owned land
- Provide a larger interim tank (minimum 50 kL) to increase immediate firefighting capacity

Medium term (3–10 years)

- Construct a new 250 kL tank on Shire-owned land, supplied by bore or carting until bore is commissioned
- Install swipe card standpipe system to regulate access and recover operating costs
- Ensure heavy vehicle access and turnaround areas are upgraded for fire and carting trucks

Long term (10–20 years)

- Establish a bore and 250 kL tank system on secure Shire land as the permanent facility
- Provide generator connection or solar backup to ensure operability during power loss
- Integrate Gillingarra’s facility into the Shire’s broader water network, with mapped coverage and monitoring

7. Community and Stakeholder Engagement

- Engage with landowners hosting current bore and tanks to resolve immediate access issues
- Consult with local farmers on siting, design, and cost-sharing for new infrastructure
- Consult with the local Progress Association and Community Groups
- Work with DFES and the Gillingarra fire brigade to design facilities fit for firefighting needs
- Provide regular updates through Shire newsletters and forums

8. Monitoring and Reporting

- Annual inspections of interim and permanent infrastructure
- Bore yield and salinity testing once new supply is commissioned
- Five-year review of Gillingarra water plan as part of Shire-wide strategic review

9. Funding Opportunities

- State: DWER Community Water Supply Program (for new bore and tanks), Emergency Services Levy
- Federal: National Water Grid Fund, Future Drought Fund (regional resilience infrastructure)
- Local: Shire capital works allocation, possible co-investment with landholders and farming groups

10. Conclusion

Gillingarra’s water infrastructure is currently non-operational, leaving the town and surrounding farms vulnerable. A staged approach is required: first to resolve tenure issues and provide larger interim storage, then to construct a secure 250 kL bore-fed facility on Shire-owned land. Investment in reliable and legally secure infrastructure will restore Gillingarra’s resilience and strengthen the Shire-wide emergency water network through to 2045.

5.6 SWP – MOGUMBER

Prepared for: Shire of Victoria Plains
Region: Mogumber, WA
Horizon: 2025–2045 (20-year outlook)

1. Executive Summary

Mogumber once had a Shire-owned community water system designed to support agricultural supply and firefighting. The bore and solar pump are now non-operational, leaving the Shire reliant on water carting with trucks to fill a storage tank. This process is labour-intensive, costly, and unreliable during emergencies.

This plan sets out a pathway to restore Mogumber’s strategic water supply capacity through new bore development, tank upgrades, and long-term investment in resilient infrastructure.

2. Objectives

- Re-establish reliable emergency water storage for firefighting and stock watering
 - Reduce reliance on truck carting by restoring a permanent bore-fed system
 - Improve operational efficiency and resilience of Shire emergency water supply
 - Ensure Mogumber provides regional coverage within the Shire’s broader water network
-

3. Current Water Sources and Use

- **Former bore system:** Located west of Mogumber off Mogumber West Road; capacity previously 60 kL/day
 - **Solar-powered pump:** No longer operational
 - **135 kL storage tank:** Located on elevated land, supplies overhead standpipe by gravity
 - **Current arrangement:** Water is carted by Shire trucks (30,000 L loads), pumped up the hill to the storage tank. Staff report this process is slow and resource-intensive, taking a full day to cart and pump three truckloads
 - **Town supply:** No Water Corporation scheme water reticulation for Mogumber
-

4. Challenges and Risks

- Bore is non-operational, leaving no sustainable water source in place
 - Truck carting is slow, costly, and not viable during large fire events
 - Elevation of the storage site makes pumping water challenging, increasing inefficiency
 - No backup power or alternate supply available during emergencies
 - Local fire coverage is currently limited, leaving Mogumber and nearby farms exposed
-

5. Future Water Needs to 2045

- **Population:** Stable, small community; future demand from town residents is limited
 - **Firefighting:** At least 250 kL of dedicated firefighting storage is needed to provide local resilience
 - **Agriculture:** Farms in the surrounding district require access to a reliable standpipe to reduce carting distances
 - **Resilience:** A permanent bore-fed system, with backup power and automated pumping, is required to ensure coverage during catastrophic fire conditions
-

6. Strategic Actions

Short term (1–3 years)

- Repair or replace the existing bore and assess yield and quality
- Provide a larger interim tank to reduce reliance on small carted volumes
- Improve pumping arrangement to the elevated storage tank to increase operational efficiency

Medium term (3–10 years)

- Construct a new 250 kL tank at a more accessible site, with standpipe and heavy vehicle access
- Replace or upgrade the solar pump, incorporating hybrid or grid-connected power
- Install a swipe card system to manage farm water use and cost recovery

Long term (10–20 years)

- Establish a secure bore and 250–500 kL storage system with backup generator or solar-battery hybrid
- Integrate Mogumber into the broader Shire network, filling a strategic coverage gap for firefighting and farm water supply
- Consider decommissioning the elevated tank if ongoing operational inefficiencies cannot be resolved

7. Community and Stakeholder Engagement

- Consult local farmers on siting of new infrastructure and cost-sharing arrangements
- Work with the Mogumber fire unit and DFES to design fit-for-purpose firefighting facilities
- Consult with the local Progress Association and Community Groups
- Engage landholders near bore sites to formalise access and long-term control
- Provide updates through Shire newsletters and annual water forums

8. Monitoring and Reporting

- Annual review of bore yield, salinity, and system performance
- Regular checks of pumping equipment and power reliability
- Five-year review of Mogumber plan within the Shire-wide strategic water strategy

9. Funding Opportunities

- State: DWER Community Water Supply Program (for bore rehabilitation or new bore), Emergency Services Levy (firefighting storage and pumps)
- Federal: Future Drought Fund, National Water Grid Fund (regional resilience projects)
- Local: Shire capital works budget, cooperative contributions from local farming groups

10. Conclusion

Mogumber's current reliance on truck carting is unsustainable and leaves the town highly vulnerable during emergencies. Restoring a permanent bore-fed system, supported by upgraded storage and reliable power supply, will improve resilience, reduce operational costs, and provide reliable coverage for firefighting and agriculture through to 2045.

5.7 SWP – PIAWANING

Prepared for: Shire of Victoria Plains
Region: Piawaning, WA
Horizon: 2025–2045 (20-year outlook)

1. Executive Summary

Piawaning has a functioning Shire-owned water system that includes a new bore, storage tanks, and a reverse osmosis (RO) plant for desalination. The system provides both firefighting and emergency agricultural supply via a standpipe with heavy vehicle access.

While this infrastructure places Piawaning in a stronger position than many other towns, challenges remain around water quality, system reliability, and long-term resilience. This plan sets out a framework to secure and enhance Piawaning’s strategic role, ensuring the infrastructure continues to support firefighting, agriculture, and community water needs through to 2045.

2. Objectives

- Provide reliable emergency water for firefighting and farm supply
 - Secure long-term functionality of bore and RO plant to maintain water quality
 - Improve operational resilience with backup power and system redundancy
 - Ensure Piawaning remains a key node in the Shire-wide strategic water network
-

3. Current Water Sources and Use

- **Original bore and RO plant:** Located 200 m north of Waddington–Wongan Hills Road; capacity ~24 kL/day, current operational status unclear
 - **New bore:** Located on Bindi Bindi–Toodyay Road with solar-powered pump
 - **Two 250 kL storage tanks:** Located on the same reserve as the Piawaning Hall
 - **Reverse osmosis plant:** Installed adjacent to new tanks for salinity management
 - **Standpipes:** Overhead and dual camlock standpipes located on Waddington–Wongan Hills Road with heavy vehicle access and turnaround track
 - **Town supply:** Drinking water is supplied by Water Corporation
-

4. Challenges and Risks

- Uncertainty over operational status of original bore and RO system
 - Long-term performance of new bore and RO plant yet to be confirmed
 - No backup power in place; reliance on solar leaves system vulnerable in prolonged low-sun or high-demand conditions
 - Maintenance and operational costs of desalination require sustainable funding
 - Agricultural demand may increase pressure on system during drought years
-

5. Future Water Needs to 2045

- **Population:** Piawaning is a small community with stable population outlook
 - **Firefighting:** Current 500 kL combined storage is adequate, but minimum 50 kL should always be quarantined for firefighting
 - **Agriculture:** Ongoing need for reliable emergency farm supply; usage expected to increase during dry years
 - **Resilience:** Diversified power sources and system redundancy will be needed to ensure continuous operation
-

6. Strategic Actions

Short term (1–3 years)

- Confirm operational status of original bore and RO plant; decide on decommissioning or retention as backup

- Establish routine monitoring of new bore yield and water quality
- Formalise firefighting water quarantine within storage tanks

Medium term (3–10 years)

- Upgrade RO plant capacity if water quality monitoring shows increased salinity
- Install backup power option (generator or hybrid solar-battery) for pumps and treatment plant
- Introduce smart metering and swipe card system to regulate agricultural supply and recover operating costs

Long term (10–20 years)

- Expand storage to 750 kL if agricultural demand increases
- Develop a second bore or alternative supply to provide redundancy in case of failure of the primary system
- Integrate Piawaning’s system into broader Shire-wide water coverage planning

7. Community and Stakeholder Engagement

- Work with Piawaning volunteer brigades to confirm firefighting access requirements
- Consult local farmers on pricing and access through swipe card system
- Consult with the local Progress Association and Community Groups
- Engage community on water quality expectations and communication of RO plant operation
- Provide updates through Shire newsletters and water forums

8. Monitoring and Reporting

- Annual bore yield and salinity monitoring
- Annual inspection of tanks, standpipes, and RO plant
- Five-year review of Piawaning plan in line with Shire-wide strategic review

9. Funding Opportunities

- State: DWER Community Water Supply Program (desalination and bore upgrades), Emergency Services Levy (firefighting capacity)
- Federal: Future Drought Fund, National Water Grid Fund (regional resilience projects)
- Local: Shire budget allocation, cost-sharing with local landholders for agricultural access

10. Conclusion

Piawaning is relatively well-positioned with a bore, large storage tanks, and an RO plant, but resilience is limited by power dependency and uncertainty over the older infrastructure. By securing redundancy, expanding capacity as needed, and implementing modern monitoring and access systems, Piawaning can remain a cornerstone of the Shire’s emergency water supply network through to 2045.

Appendix 1 Implementation Action Plan

PURPOSE

This Proposed Action Plan provides a structured pathway for implementing the Strategic Water Supply Plan following formal adoption by Council.

It outlines completed works, projects currently underway, and future priorities to improve emergency and community water resilience across the Shire of Victoria Plains.

This Action Plan is intended as a guiding framework only and does not commit Council to specific projects or expenditure without further consideration, funding availability, and formal approvals.

The Action Plan will be reviewed two (2) months prior to reviewing the Strategic Community Plan to reflect completed works, emerging risks, funding opportunities and community needs. This will be undertaken in conjunction with other community needs as identified and updated in the Strategic Community Plan.

PROJECTS COMPLETED AFTER DEVELOPMENT OF STRATEGIC WATER PLAN (2025)

Funded by the DWER Community Water Supplies Grant Program

Piawaning – Desalination (RO) Plant Upgrades

- Improved water quality reliability and long-term supply capacity

Shire-Wide – Mobile Water Tank Design

- Provides deployable emergency storage for fire events and outages

Calingiri – Community Water Infrastructure Upgrades

- Strengthened Shire's primary emergency water hub

Calingiri – Parker Road Bore Redevelopment

- Improved reliability of agricultural, irrigation, and firefighting supply

PROJECTS CURRENTLY UNDERWAY

Funded by the DWER Community Water Supplies Grant Program

Gillingarra

- Community Hall Water Supply Project
- Emergency Water Infrastructure Project
- Truck Fill Facility

These projects aim to restore essential water capability in an area identified as having significant infrastructure deficiencies.

PROPOSED PRIORITY ACTIONS FOLLOWING ADOPTION

The below short, medium and long term actions are all subject to funding availability and Council approval

Short Term (0–2 Years Post-Adoption)

Focus: Address critical risks and complete existing commitments.

Infrastructure Security

- Complete commissioning of Gillingarra projects
- Secure funding to work towards improving and upgrading the community water infrastructure within Mogumber
- Confirm legal access to bores on private land
- Undertake bore capacity testing
- Address non-operational systems

Emergency Preparedness

- Review firefighting water storage capacity across towns
- Expand swipe-card access systems where appropriate
- Update emergency water coverage mapping

Planning & Asset Management

- Establish a comprehensive water asset register
- Implement inspection and maintenance programs

Medium Term (2–6 Years)

Focus: Strengthening resilience and addressing coverage gaps.

- Investigate new community water infrastructure in identified gap areas:
 - Mogumber
 - New Norcia
 - Yerecoin
 - Old Plains
- Upgrade storage capacity to recommended standards
- Improve access for firefighting and water carting vehicles
- Investigate backup power solutions for critical infrastructure

Long Term (6–20 Years)

Focus: Establish a coordinated Shire-wide emergency water network.

- Develop additional bores on Shire-owned land
- Expand storage capacity where demand increases
- Integrate infrastructure into a connected emergency water system
- Incorporate climate resilience measures

ONGOING ACTIONS

Governance

- Review Action Plan two (2) months prior to review of the Strategic Community Plan
- Update priorities based on risk, performance, and funding
- Provide updates to Council through briefing reports

FUNDING STRATEGY

Continue to pursue external funding opportunities to support implementation, including but not limited to:

- DWER Community Water Supplies Grant Program
- Emergency Services Levy
- Future Drought Fund
- National Water Grid Fund

Council contributions will be considered through the annual budget process where required.

INTENDED OUTCOME

Following adoption, the Strategic Water Supply Plan and this Implementation Action Plan will guide the development of a resilient emergency water network that:

- Supports firefighting capability
- Protects agricultural productivity
- Reduces drought vulnerability
- Strengthens community resilience
- Provides a sustainable resource whilst maintaining services to the Shire of Victoria Plains

Appendix 2 Locations of Existing Infrastructure

Name	Easting	Northing	Elevation	Description	Longitude	Latitude
Water Tank	407991.78	6579757.9	160.514		116.03713	-30.91196
Kelly's Bore	408586.08	6580454.4	154.626		116.04341	-30.905722
Rod Williams Bore	406074.15	6565247.3	142.359		116.01572	-31.042722
Tank	409182.24	6565983.9	155.373		116.04835	-31.036321
Stand Pipe	409253.33	6566014	153.813		116.0491	-31.036055
Stand Pipe	409196.3	6565988.8	154.193		116.0485	-31.036278
Tank	409299.09	6565703.9	171.314		116.04955	-31.038856
Tank	408782.4	6566190.2	145.592	at hall	116.04418	-31.034429
Toilets	408766.67	6566212.4	145.245	at hall	116.04402	-31.034227
Gouge Rd Tank	441619.23	6558362.3	257.474		116.38779	-31.107147
Parker Road Bore	437966.51	6555726.2	241.198		116.34932	-31.130743
Gouge Rd Stand Pipe	442231.82	6558320.9	234.595		116.39421	-31.107551
Stand Pipe	441168.06	6587880.4	224.028	dn 63	116.38477	-30.84079
Stand Pipe	441177.53	6587880.4	224.807	dn 63	116.38486	-30.840791
Smart Control Box	441180.82	6587876.4	225.346		116.3849	-30.840827
Poly Tank	441179.28	6587867.7	225.902	tanks west - 3 ring	116.38488	-30.840905
Poly Tank	441187.44	6587872.5	226.042	tanks west - 14,000ltr	116.38497	-30.840862
Pioneer Steel Tank 1	441189.4	6587869.2	226.611	250,000ltr	116.38499	-30.840892
Pioneer Steel Tank 2	441185.07	6587860.7	226.047	250,000ltr	116.38494	-30.840969
Desal Plant	441203.95	6587861.6	225.582		116.38514	-30.840961
Tank	441215.42	6587857.6	227.822	4500ltr - appears to supply the kiosk - could be redundant	116.38526	-30.840998
Kiosk	441215.1	6587862.4	227.98		116.38526	-30.840955
Hall	441258.25	6587869.2	227.936		116.38571	-30.840895
Solar Bore	441338.52	6588645.3	237.043		116.38659	-30.833897
Sewerage Pond	441522.01	6579507.9	232.844	water level roughly 1m lower than this	116.38799	-30.916352
Steel Tank	447483.39	6560802.1	243.794	Approx. 250,000ltr	116.4494	-31.08541

Name	Easting	Northing	Elevation	Description	Longitude	Latitude
Steel Tank	447486.04	6560802.8	243.777	Approx. 250,000ltr	116.44943	-31.085404
Pump Shed	447484.96	6560797.9	244.147	slab	116.44942	-31.085449
Concrete Tank	447493.89	6560796.7	244.801	appears to not be in use	116.44951	-31.08546
Standpipe	453257.73	6540311.7	205.198		116.50899	-31.270532
Standpipe	453257.32	6540308.8	205.311		116.50898	-31.270559
Standpipe	453253.95	6540278.5	207.076		116.50895	-31.270832
Tank	453516.08	6540308.3	219		116.5117	-31.270574
Standpipe	453846.5	6539594.2	233.44		116.51514	-31.277029
Steel Tank	453854.05	6539589.5	234.741	250,000ltr	116.51522	-31.277072
Bore	453335.59	6539010.6	202.016		116.50975	-31.282274

Appendix 3 Images from Bolgart of existing infrastructure







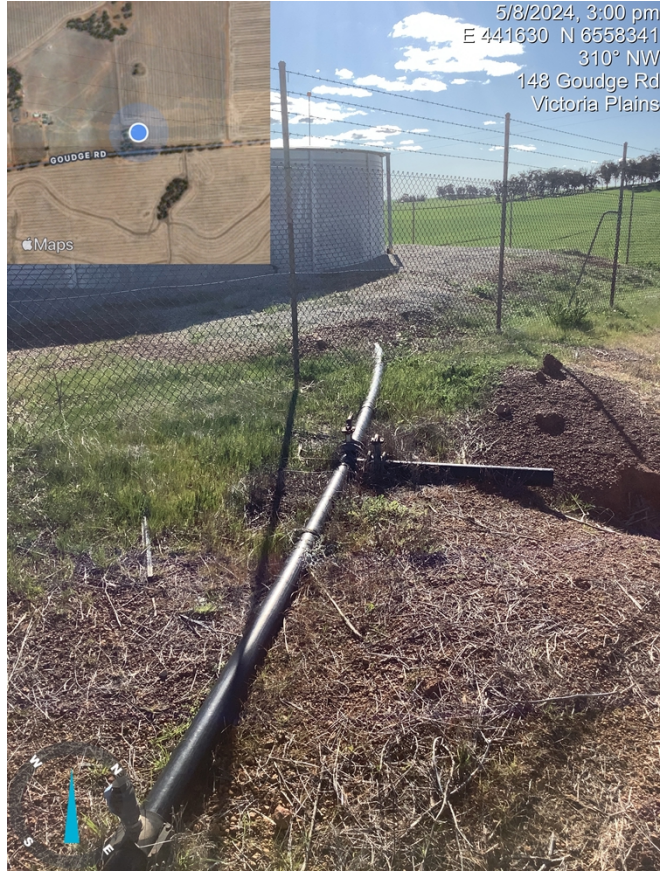






Appendix 4 Images from Calingiri of existing infrastructure











Appendix 5 Images from Calingiri Sports Field of existing infrastructure









Appendix 6 Images from Gillingarra of existing infrastructure









Appendix 7 Images from Mogumber of existing infrastructure













5/8/2024, 2:09 pm
E 408792 N 6566187
257° W
Bindoon-Moorra Rd
Victoria Plains



5/8/2024, 2:14 pm
E 408782 N 6566191
240° SW



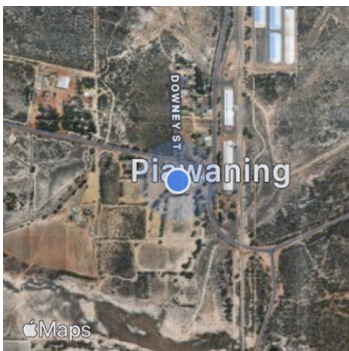
Appendix 8 Images from Piawaning of existing infrastructure







6/8/2024, 11:27 am
E 441206 N 6587870
191° S
19 Denton St
Victoria Plains



6/8/2024, 11:27 am
E 441200 N 6587861
9° N
19 Denton St
Victoria Plains





6/8/2024, 11:29 am
E 441203 N 6587829
335° NW
19 Denton St
Victoria Plains



6/8/2024, 11:30 am
E 441160 N 6587860
31° NE
1094-1098 Waddington-Wongan Hills Rd
Victoria Plains





6/8/2024, 11:30 am
E 441160 N 6587860
89° E
1094-1098 Waddington-Wongan Hills Rd
Victoria Plains



6/8/2024, 11:31 am
E 441165 N 6587882
82° E
Lot 55 Waddington-Wongan Hills Rd
Victoria Plains







6/8/2024, 11:43 am
E 441178 N 6587861
68° E
1094-1098 Waddington-Wongan Hills Rd
Victoria Plains



Appendix 9 Images from Yerecoin of existing infrastructure



