

Managing Flood Risk in the Port Augusta region



Why are parts of the Port Augusta region at risk of flooding?

Port Augusta’s stormwater behaviour is shaped by its undulating terrain, coastal setting, and steep rural catchments draining toward Spencer Gulf. During heavy rainfall, water can move quickly before the existing drainage network can convey it away.

Several factors contribute to localised flooding:

- Low-lying areas and shallow grades limit how quickly stormwater can drain.
- Older pipe networks were built for smaller rainfall events and are now undersized.
- Tidal conditions in Spencer Gulf can restrict outflow at some coastal drainage points.
- Intense arid-climate storms generate fast runoff and overwhelm the minor drainage system.
- Urban infill and increased hard surfaces generate more runoff than the original network was designed for.

The SMP includes detailed hydraulic modelling to identify where the greatest flood risks occur and where mitigation measures will be most effective.

How does the SMP propose to improve flood protection?

The Port Augusta SMP recommends a coordinated package of improvements to reduce flooding and increase the resilience of the stormwater network.

These include:

✓ Drainage System Upgrades

Improving capacity in existing underground pipes and constructing new trunk drains where flows currently exceed system limits.

✓ New and Expanded Detention Basins

Strategically placed basins reduce peak flows from major storms and improve performance of downstream drainage systems.

✓ Pump Station Upgrades

Enhancing capacity and reliability of pump stations in low-lying areas where gravity drainage is insufficient, especially near the foreshore.

✓ Naturalised Open Channels

Converting selected underground drains into open channels and swales to increase conveyance capacity and improve water quality through natural filtration.

✓ Gross Pollutant Traps (GPTs)

Installing or upgrading GPTs at key locations to remove litter, debris and sediment before stormwater enters Spencer Gulf.

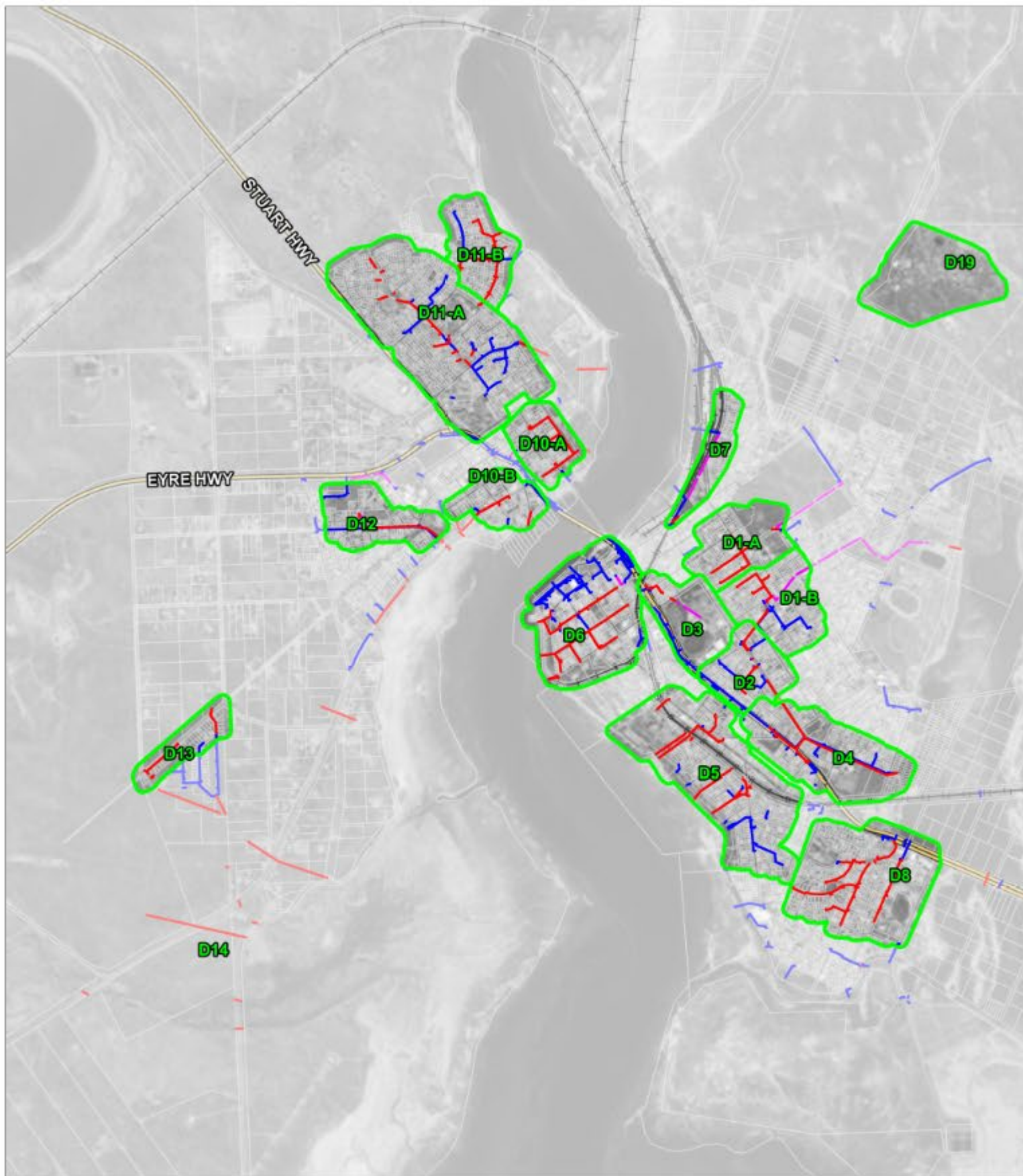
✓ WSUD and Non-Structural Measures

Applying Water Sensitive Urban Design principles, updating planning controls, improving community information, and exploring opportunities for stormwater treatment and reuse.

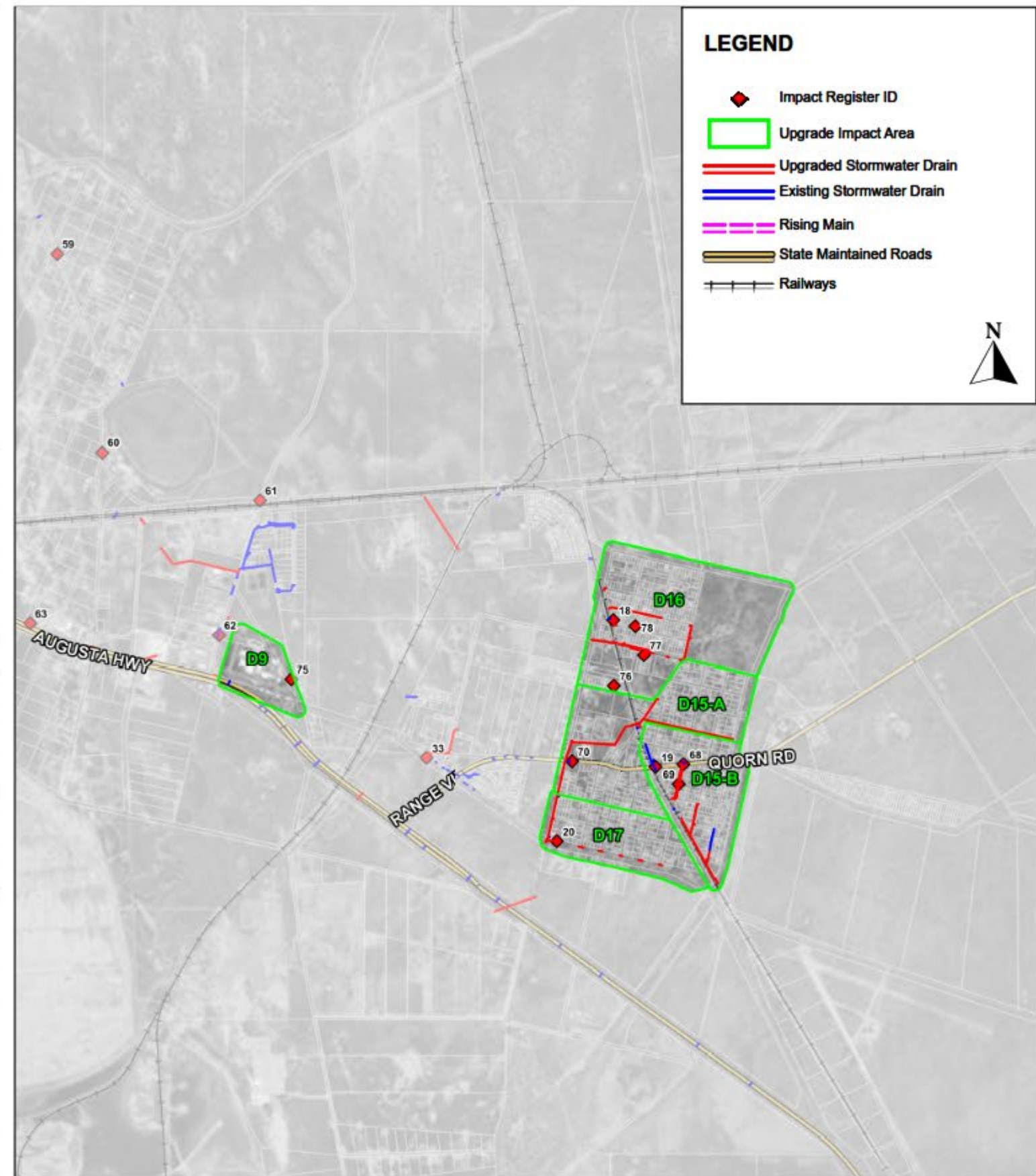
These measures work together to reduce flooding, enhance water quality, improve the performance of the stormwater network, and support a more resilient Port Augusta.

ID	Location	Project Components	Est. Cost
D1	Frome Street Basin Pump Upgrade	Basin expansion, pump station upgrades, gravity drainage upgrades, stormwater harvesting opportunity.	\$11,150,000
D2	Seaview Road Basin	Basin enlargement, outlet improvements, drainage capacity upgrades, water quality enhancements.	\$3,700,000
D3	Central Oval	Drainage network upgrade around oval, increased pit and pipe capacity to reduce local flooding.	\$550,000
D4	Victoria Parade	Major outfall drainage capacity upgrade, new or upgraded pipes and culverts.	\$6,800,000
D5	Railway Parade (Port Augusta)	Drainage system upgrades along rail corridor, pipe capacity increases, new culverts, water quality improvements.	\$5,900,000
D6	Port Augusta CBD	CBD drainage upgrades, increased pipe capacity, new pits, improved water quality.	\$4,400,000
D7	Daniel Terrace	Pipe and culvert upgrades, improved drainage connections to the gulf, water quality improvements.	\$6,200,000
D8	Augusta Highway	Highway drainage upgrades, increased capacity to reduce flooding, water quality improvements.	\$3,700,000
D9	Port Augusta Prison	Flood mitigation works, improved overflow management, reduced flood risk.	\$410,000
D10-A	Port Augusta West CBD (Burgoyne Street)	CBD drainage network upgrade, increased pipe capacity, improved system connections.	\$2,900,000
D10-B	Port Augusta West CBD (Caroona Road)	Drainage improvements, upgraded pits, pipes and culverts to reduce localised flooding.	\$3,300,000
D11-A	Richardson Crescent	Major drainage upgrade, increased pipe capacity, detention basins, ‘day-lighting’ pipes, improved flow paths to reduce flooding.	\$4,500,000
D11-B	Inglis Court	Local drainage improvements, pipe upgrades to address repeated flooding.	\$3,200,000
D12	Cleary Street/Cobbin Street	Drainage network upgrade, increased pipe and pit capacity to reduce flooding, optional pump upgrade	\$3,800,000
D13	Shirley Street	Local drainage upgrades, increased pipe capacity, water quality improvements in conjunction with new development	\$710,000
D14	Sandy Creek	Roadway crossing improvements	-
D15-A	Quorn Road (Brooke Street)	Drainage capacity upgrades, pipe and culvert improvements to reduce flooding.	\$2,200,000
D15-B	Quorn Road (Michael Avenue) outfall drain	Outfall drain upgrade, increased pipe capacity, improved discharge performance.	\$3,600,000
D16	Railway Corridor outfall drain	Major outfall drainage upgrade, increased pipe and culvert capacity, improved discharge to receiving environment.	\$3,600,000
D17	McConnal Road outfall drain	Outfall drain upgrade, increased system capacity, reduced nuisance flooding.	\$3,200,000
D19	Davenport	Local drainage improvements	\$380,000
D20	Shack Road	Local culvert and drainage upgrades at multiple low points, improved road flood immunity.	\$50-100k each
D21	Miranda	Local drainage upgrade, improved conveyance, reduced property and road flooding.	\$580,000

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PORT AUGUSTA AND PORT AUGUSTA WEST



STIRLING NORTH

Long Term Benefits for Port Augusta



Protecting Homes and Reducing Flood Risk

The SMP uses detailed modelling to identify where flooding occurs now and in the future. By upgrading drainage systems, improving overland flow paths, building new detention basins and enhancing pump stations, the plan:

- Reduces flooding for hundreds of residential and commercial properties
- Improves safety of key roads and access routes during storms
- Decreases the frequency and depth of nuisance flooding
- Builds resilience against more intense rainfall events expected with climate change

These improvements help safeguard homes, businesses, and essential infrastructure.

Improving Water Quality in Spencer Gulf

Stormwater from urban areas carries litter, sediment and pollutants into the Gulf.

The SMP proposes a range of measures to improve water quality, including:

- New and upgraded Gross Pollutant Traps (GPTs)
- Naturalised open channels that filter water through vegetation
- Detention basins that slow flows and allow sediment to settle
- WSUD treatments that clean stormwater before it reaches the environment

Together, these actions help protect the Gulf’s marine ecology, improve clarity and cleanliness of receiving waters, and reduce long-term environmental impacts.

Enhancing Public Spaces and Urban Amenity

Stormwater improvements can deliver more than just drainage benefits. Under the SMP:

- Detention basins are designed as attractive multi-use reserves
- Naturalised drainage corridors create green, shaded spaces
- New vegetation helps reduce heat island effects
- Greener streets and reserves improve liveability and biodiversity
- Harvesting stormwater for use on Council reserves and open spaces

These enhancements support recreation, cooling, and community well-being.

Supporting Future Growth and Development

The SMP creates a stormwater system that can support Port Augusta’s future by:

- Providing infrastructure readiness for new development
- Ensuring growth areas do not increase flood risk for existing properties
- Bringing drainage standards up to modern engineering expectations
- Providing a clear implementation plan for staged improvements

A reliable stormwater network gives confidence to residents, businesses and developers.

Delivering Long-Term Value

Investing in stormwater upgrades provides significant long-term savings by:

- Reducing damage to roads, buildings and infrastructure
- Lowering maintenance costs through better-designed systems
- Avoiding expensive emergency response and repair work
- Supporting more efficient natural drainage systems that last longer

The SMP provides a costed, prioritised plan to deliver the greatest community benefit for every dollar spent.

What implementation of the SMP Will Achieve

- Hundreds of properties protected from above-floor or significant flooding
- Major roads less likely to close during heavy rain
- Substantial reductions in pollution entering Spencer Gulf
- Upgraded pump stations capable of handling future conditions
- Several new or expanded detention basins managing peak flows
- More green infrastructure across the city

Working Together for a More Resilient Port Augusta

The SMP provides a long-term vision for a safer, cleaner and more liveable city—protecting our homes, environment and community for decades to come.