

About Us

HNR Associates is a multidisciplinary engineering consultancy specializing in road design, drainage, bulk earthworks, and structural engineering. Our integrated expertise ensures safe, sustainable, and cost-effective solutions tailored to community and client needs

Our Team

Harjot Singh (CPEng – Civil & Structural) – Principal Engineer

Chartered Engineer with 17+ years' experience in Australia and India. Specialist in structural works, road design, and construction supervision.

Shova Ranjit (NER) – Drainage Engineer

10+ years of Experience, Expert in hydrology, drainage modelling, and integration of stormwater design with road, pavement, and subdivision systems.

Shiva Ranjit – Civil Engineer

7+ years of Experience, Expert in Asset ratings Skilled in geometric road design, bulk earthworks, pavement design, and construction hold-point inspections

Neha Kaur (CPA) – Company Accountant

10+ years of experience Certified Practicing Accountant ensuring compliance, cost control, and transparent financial management.

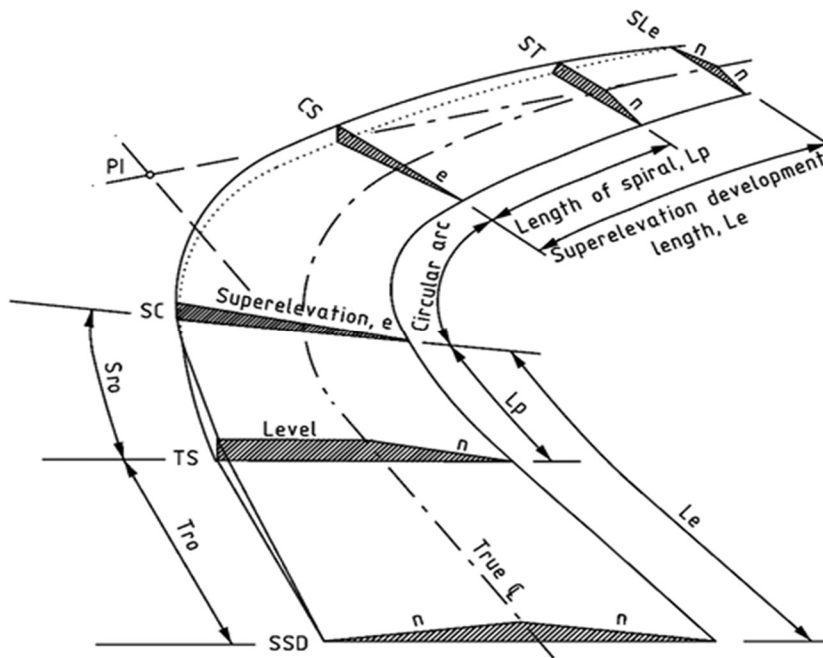
Our tools:

Civil 3D, 12D – Civil Design, ROBOT, ROBOT, SPACEGASS – Structural Design, InfoDrainage for Drainage design, GIS – Mapping & AutoCAD with Autoturn for Drafting and turning checks.

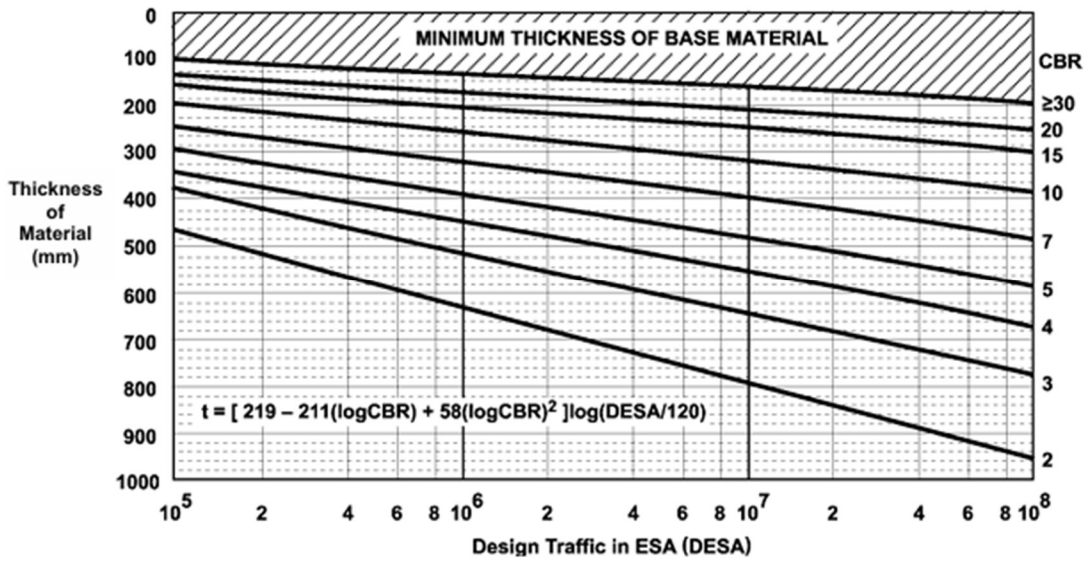
Our Services

Road & Drainage Design –

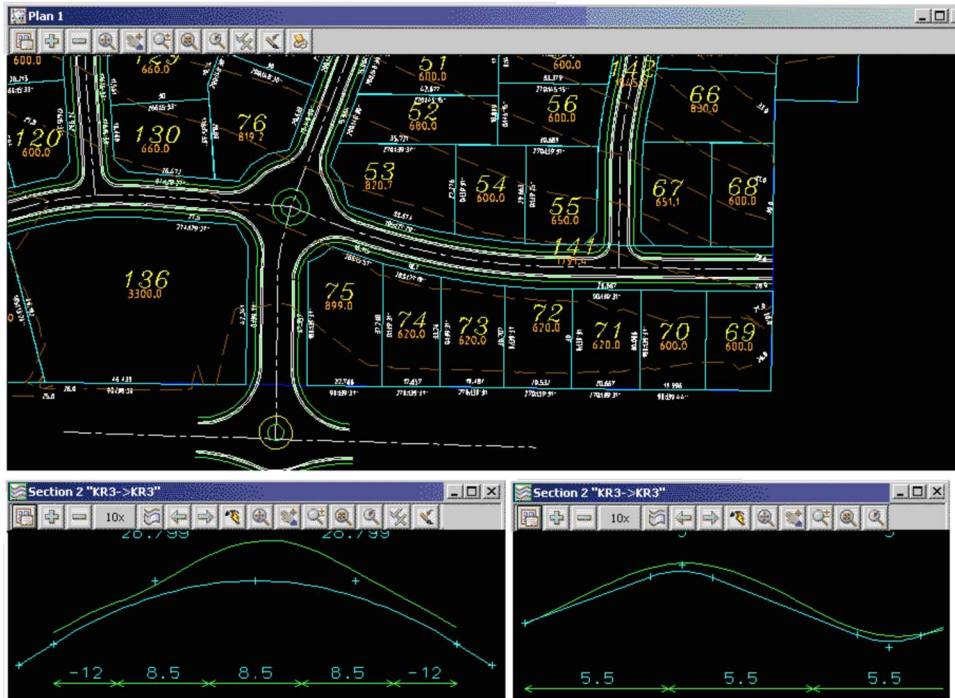
Road alignments – we can design roads based on project situation have developed spreadsheets for alignment design feeding into 12D software's.



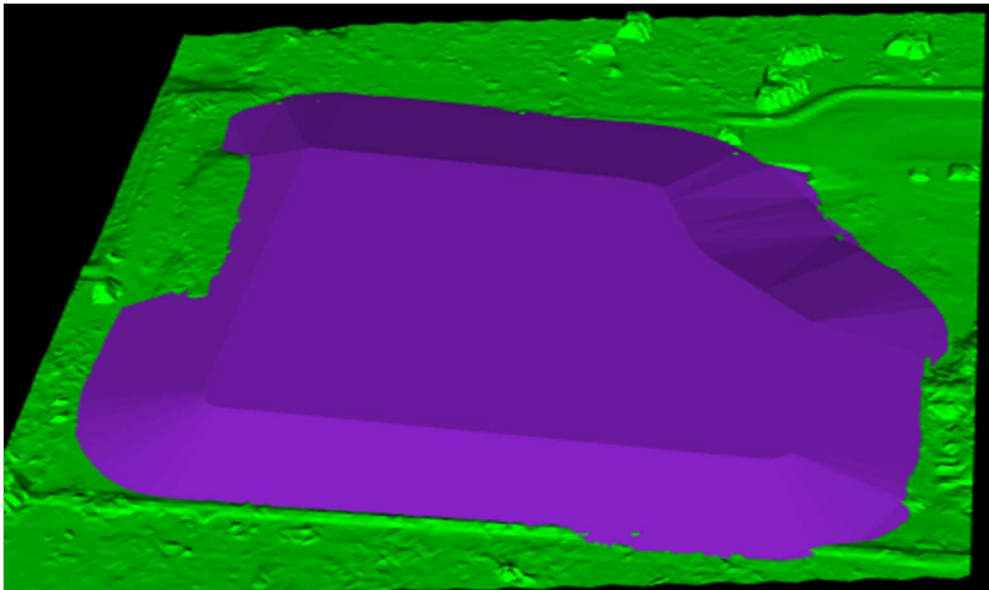
, integrated pavement profiles based on traffic and Soil CBR



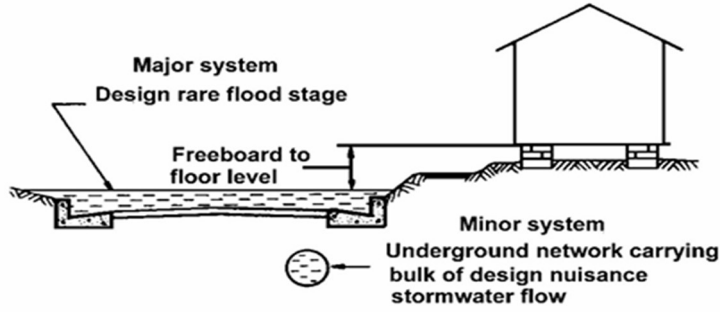
Subdivision Infrastructure Design (Roads, Utilities & Earthworks)



Landfill Cell Civil Design (Bulk Earthworks):



Rational Method water modelling to understand overland flow from kerb & Channel to underground network and participate in major event handling strategies.

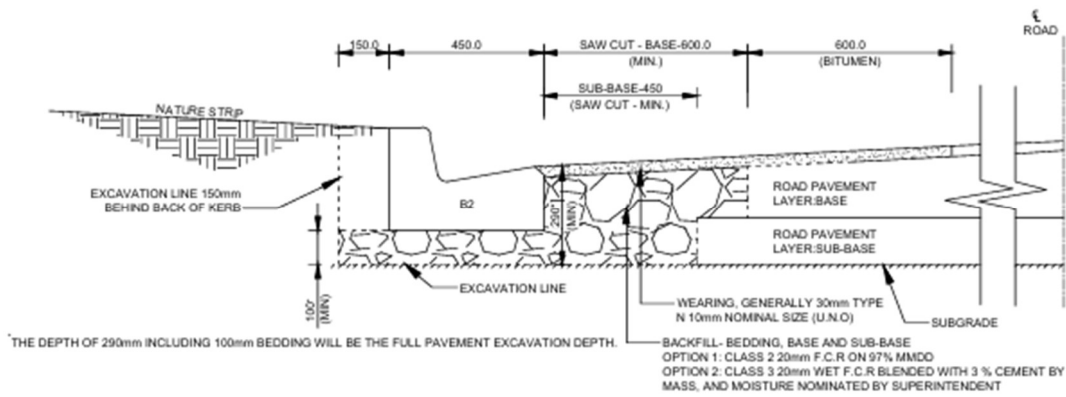


EXISTING KERB AND CHANNEL FEATURES
SURVEY AND UTILITIES PLAN
SCALE 1:500 (A3)

SCHEDULE OF SERVICES	
A. POINT-TO-POINT ACCURACY WITHIN 100mm	<ul style="list-style-type: none"> COMBINATIONS DRAINAGE UG ELECTRICITY UG GAS POTABLE WATER SEWER
B. ELECTRONIC ACCURACY WITHIN 100mm	<ul style="list-style-type: none"> DRAINAGE UG ELECTRICITY UG GAS POTABLE WATER SEWER
C. SITE RECONNAISSANCE ACCURACY WITHIN 500mm	<ul style="list-style-type: none"> OVERHEAD ELECTRICITY HOUSE DRAIN HOUSE DRAIN
D. BVA INTERMEDIATE/ADDITION; NOT VISUAL OR EXIST ON SITE	



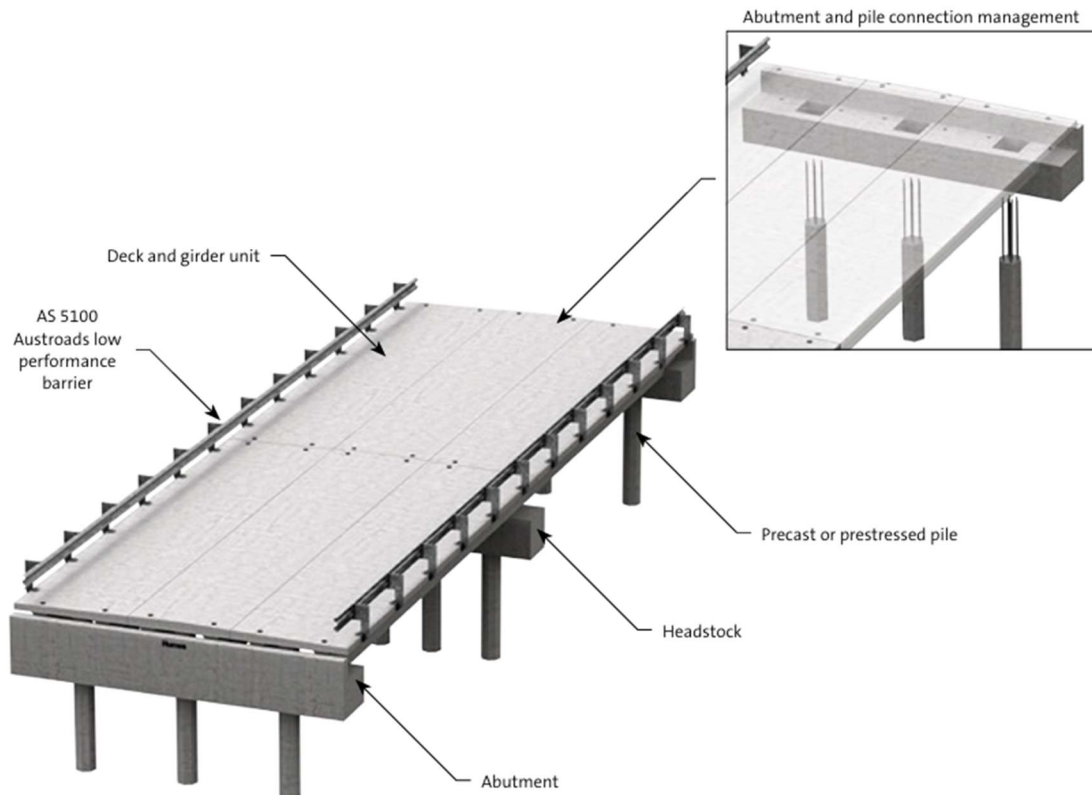
SURVEY LINES		SURVEY SYMBOLS	
PROPERTY FENCE LINE	PROPERTY FENCE LINE	▲ JUNCTION PIT	▲ JUNCTION PIT
CONTROL LINE OF ROAD	CONTROL LINE OF ROAD	□ SIDE ENTRY PIT	□ SIDE ENTRY PIT
LINE MARKING	LINE MARKING	○ ROAD SIGN	○ ROAD SIGN
BRICK WALL	BRICK WALL	○ STOP VALVE	○ STOP VALVE
		○ PARK FILL	○ PARK FILL
		○ TEMPORARY BENCH MARK	○ TEMPORARY BENCH MARK
		○ LIGHT POLE	○ LIGHT POLE
		○ ELECTRICITY POLE	○ ELECTRICITY POLE
		■ TULTRA PIT	■ TULTRA PIT
		○ TREE	○ TREE
		○ WATER METER	○ WATER METER



TYPICAL SECTION KERB CROSS SECTION (MODIFIED SD 130)
SCALE 1:5

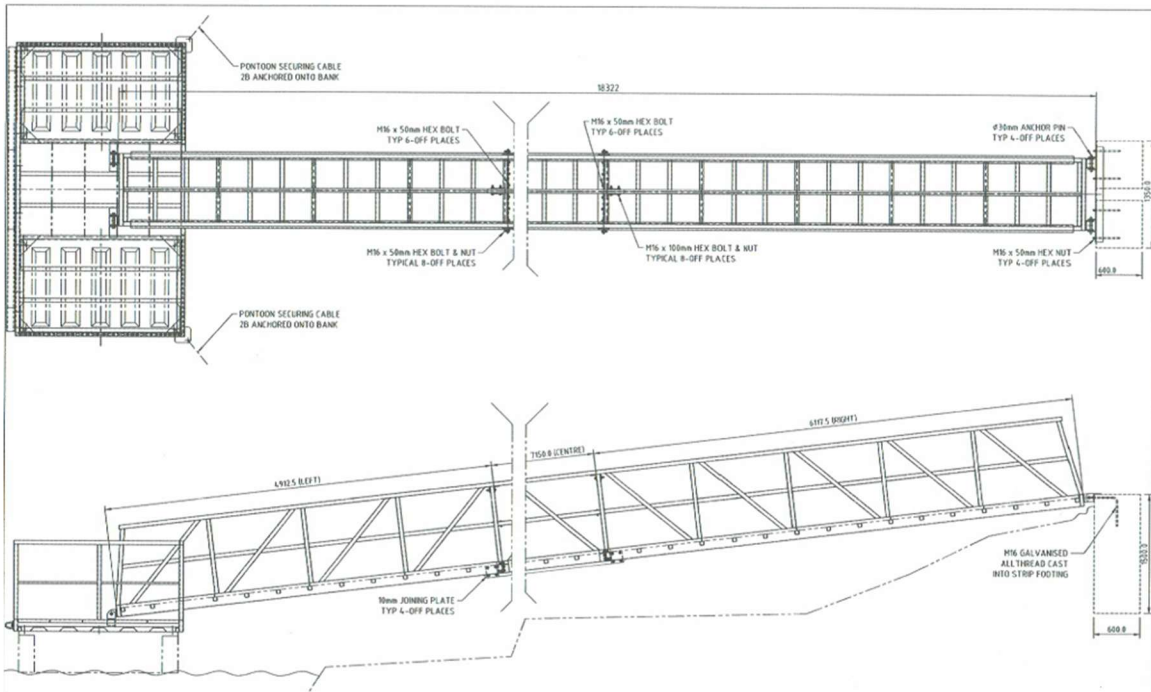
- **Structural Engineering –Design of Footing (Piled, Spread), Headstocks and all bridge components based on AS5100 which is not part of Hume deck system**

Figure 1 –A complete HumeDeck® system assembly

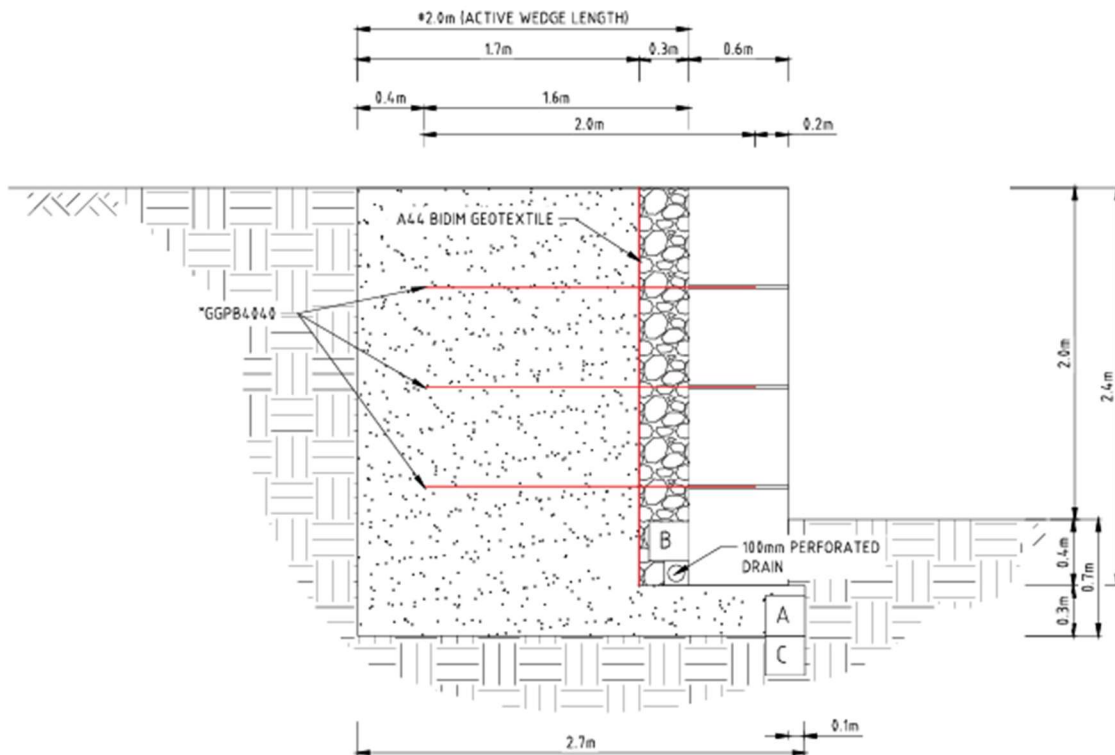


screw piles, culverts, frames, balconies, boardwalks, and minor bridges.

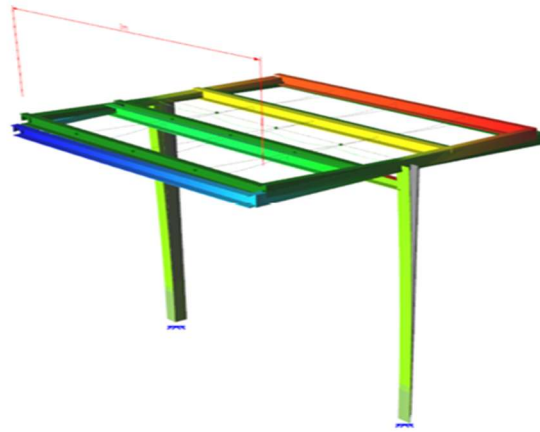
Pontoon & Gangway Design (Aluminum Structure + Hydrodynamics)



Reinforced Earth Wall Design (Better than Retaining walls in certain cases)



Loads vs Deflection Model – SPACEGASS



Certified Level 2 bridge inspections.

Horshore lagoon bridge inspection pictures

Inspections – Construction hold-point inspections



safety-in-design reviews,

S. No	¹ Risk Description	² Category	³ Inherent Consequence	⁴ Inherent Likelihood	⁵ Risk Rating	⁶ Risk Mitigation Strategy (Avoid, Reduce, Transfer, Accept)	⁷ Residual Consequence	⁸ Residual Likelihood	Residual Risk	Responsible Person	
<i>Design / Site</i>											
1	Overlay longer than kerb	Compliance	Minor	2 Possible	3 6	Reduce	Clear Indication in drawings	Minor	2 Unlikely	2 4	Design
2	Gravel Driveway not 100 % match in triangulated model	Compliance	Minor	2 Possible	3 6	Transfer	Contractor can handle on site	Minor	2 Unlikely	2 4	Design
3	Steep Road Cross fall	Compliance	Minor	2 Possible	3 6	Reduce	Raised to adjust steepness but still require some site management	Minor	2 Unlikely	2 4	Design
4	Major Event	Compliance	Minor	2 Unlikely	2 4	Accept	System can capable of handling discharge from the catchment, intensity gap for major stormwater is 65mm/h (100 year - 5 year) events	Minor	2 Unlikely	2 4	Design
<i>Contractor Management</i>											
4	Hold Points - Hold Points do not address site issues	Safety	Major	4 Unlikely	2 8	Transfer	Contractor agree to take photo of critical drilling and bolting process, SR will be on site to monitor workmanship	Major	4 Unlikely	2 8	Design

Asset & Risk Management – Condition assessments

Asset Inventory & Classification

- Asset type (road, bridge, culvert, retaining wall, drainage system, etc.)
- Location and extent (GIS coordinates, chainage, map reference)
- Key attributes (age, material, design standard, installation date, last renewal)

Condition Assessment

- **Physical condition:** cracks, deformation, corrosion, settlement, spalling, potholes
- **Service condition:** functionality, compliance with standards (e.g., DDA, Austroads)
- **Performance grading:** assign condition ratings (1–5 or Good–Poor scale)
- **Defects log:** photographs, sketches, drone imagery, survey notes

Risk Factors

- **Safety risks:** trip hazards, structural instability, flood risk
- **Operational risks:** failure likelihood, reduced capacity, accessibility issues
- **Financial risks:** high maintenance costs, premature renewals
- **Environmental risks:** erosion, seepage, contamination, habitat disturbance
- **Compliance risks:** deviation from regulations (EPA, WHS)

Criticality & Prioritisation

- Importance to the network/community (e.g., school access road, hospital drainage)
- Redundancy (are there alternative routes/assets?)
- Consequence of failure (low, medium, high impact)
- Residual risk after current mitigation measures

Risk & Condition Matrix

- Combine **likelihood of failure** with **consequence of failure**
- Plot in a risk matrix (green, amber-red zones)
- Prioritise interventions based on risk ratings

Recommendations

- **Short-term actions:** urgent repairs, signage, temporary barriers
- **Medium-term actions:** programmed maintenance, overlays, strengthening
- **Long-term actions:** asset renewal, replacement, redesign
- Suggested timeframe and budget estimate

Monitoring & Reporting


- Inspection frequency (annual, biennial, after major weather events)
- Data management (stored in AMS or Council's asset register)
- Key performance indicators (downtime, condition improvement after works)

Why Choose Us

- Integrated capability: road, drainage, and structural expertise under one roof.
- Certified professionals: CPEng, NER, CPA, and Level 2 inspectors.
- Sustainable, cost-effective, and regulation-compliant designs.

Contact Us

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