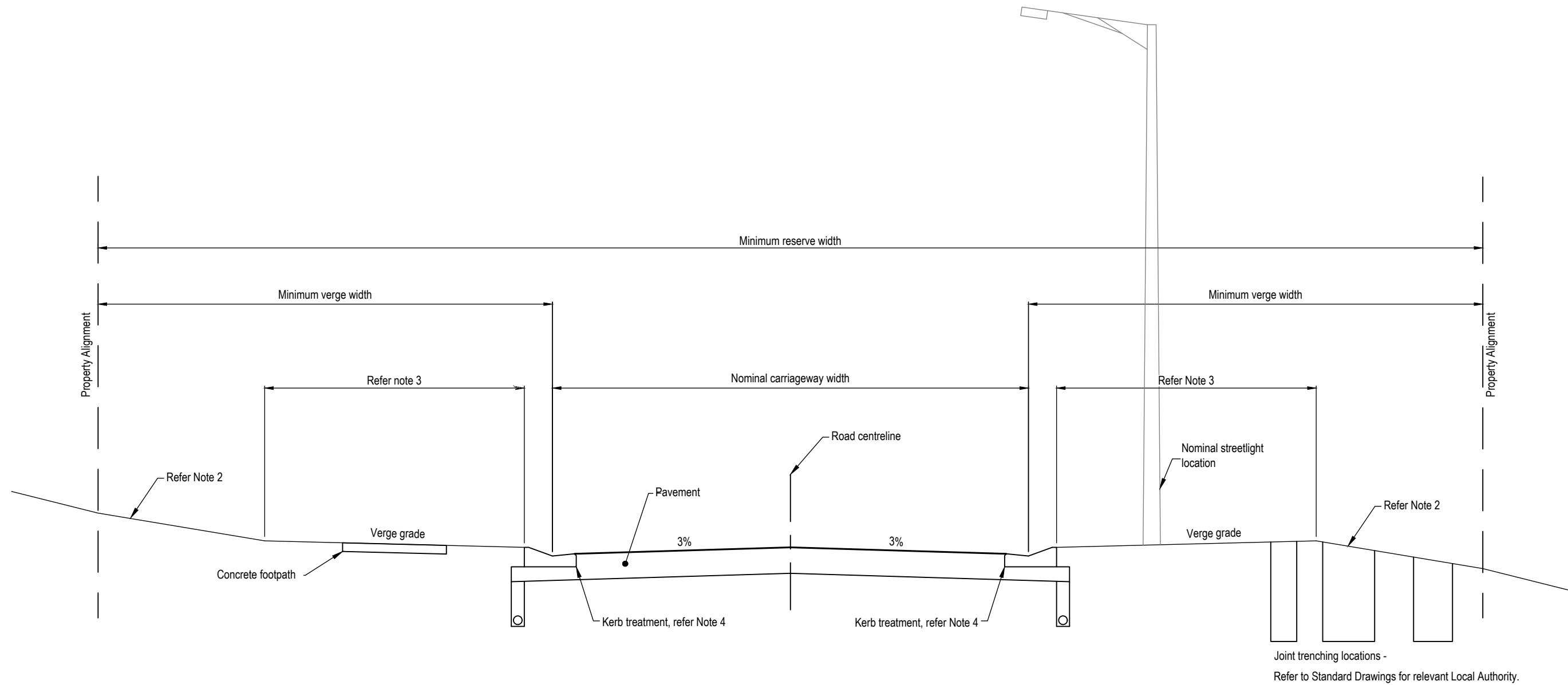
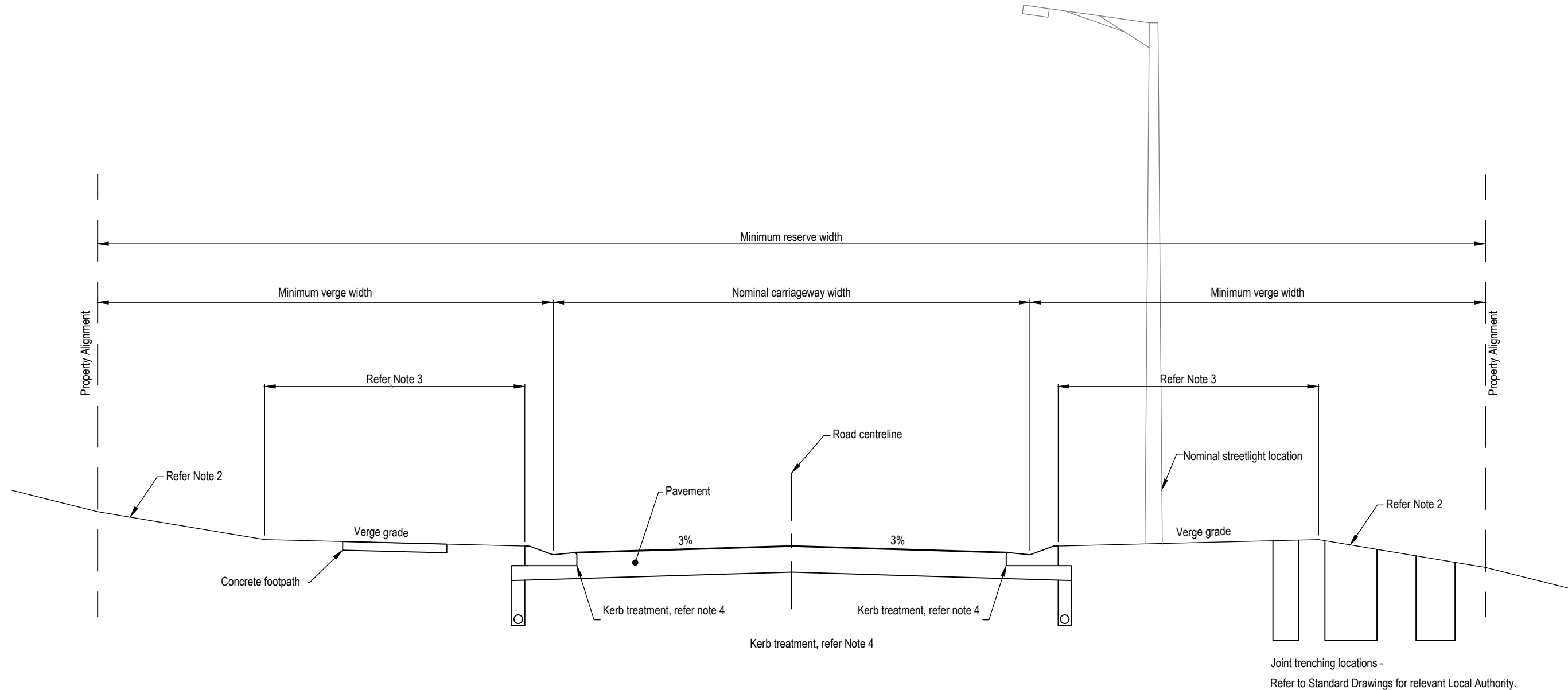




URBAN ACCESS PLACE / LOCAL ACCESS
SCALE 1:50

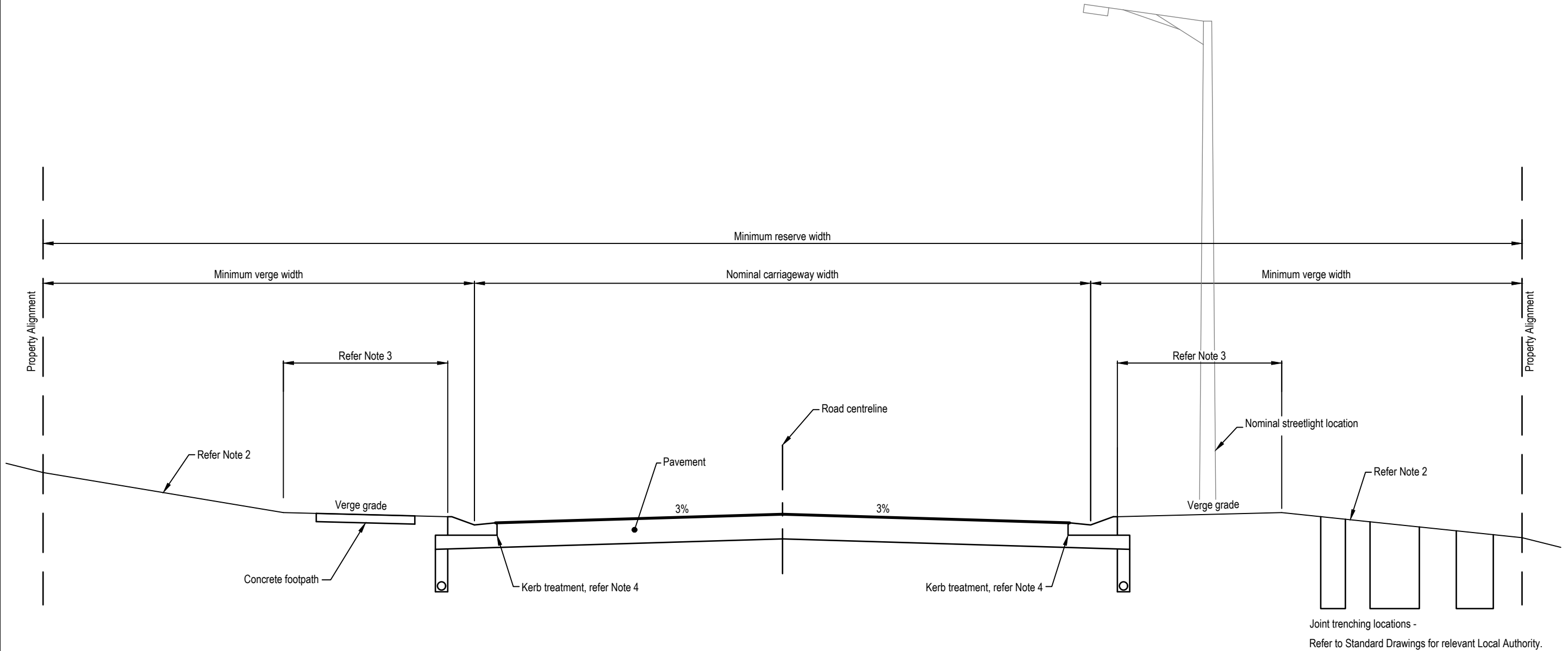
Note 1: For all dimensions and detailed information refer to D1 - Road Design.
Note 2: Steep verge grade may be considered on a case by case basis with special LGA approval. Absolute max 1 on 6.
Refer to D1 Urban Roads Table for specific LGA requirements.
Note 3: Equal to verge width unless noted otherwise in D1
Note 4: For kerb treatment refer to D1 Urban Road Tables.

REVISIONS		DATE	DISCLAIMER. The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.	Capricorn Municipal Development Guidelines Incorporating: Banana Shire Council (BSC) Central Highlands Regional Council (CHRC) Gladstone Regional Council (GRC) Livingstone Shire Council (LSC) Maranoa Regional Council (MRC) Rockhampton Regional Council (RRC) Isaac Regional Council (IRC)	TYPE CROSS SECTION URBAN ACCESS PLACE / LOCAL ACCESS	ROADS	
						STANDARD DRAWING	A3
C	REINTRODUCTION FOR D1 SPECIFICATION CHANGES	08/2022				CMDG-R-010	
B	Road Title Amended	26/11/03				REV. A B C	
A	NEW DRAWING	22/10/03					



Note 1: For all dimensions and detailed information refer to D1 - Road Design.
Note 2: Steep verge grade may be considered on a case by case basis with special LGA approval. Absolute max 1 on 6.
Refer to D1 Urban Roads Table for specific LGA requirements.
Note 3: Equal to verge width unless noted otherwise in D1
Note 4: For kerb treatment refer to D1 Urban Road Tables.

REVISIONS			DISCLAIMER. The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.	Capricorn Municipal Development Guidelines Incorporating: Banana Shire Council (BSC) Central Highlands Regional Council (CHRC) Gladstone Regional Council (GRC) Livingstone Shire Council (LSC) Maranoa Regional Council (MRC) Rockhampton Regional Council (RRC) Isaac Regional Council (IRC)		TYPE CROSS SECTION URBAN ACCESS STREET		ROADS		
								STANDARD DRAWING	A3	
C	REINTRODUCTION FOR D1 SPEC CHANGES	08/2022						CMDG-R-011		
B	Road Title Amended	26/11/03								
A	NEW DRAWING	22/10/03						REV.	A B C	

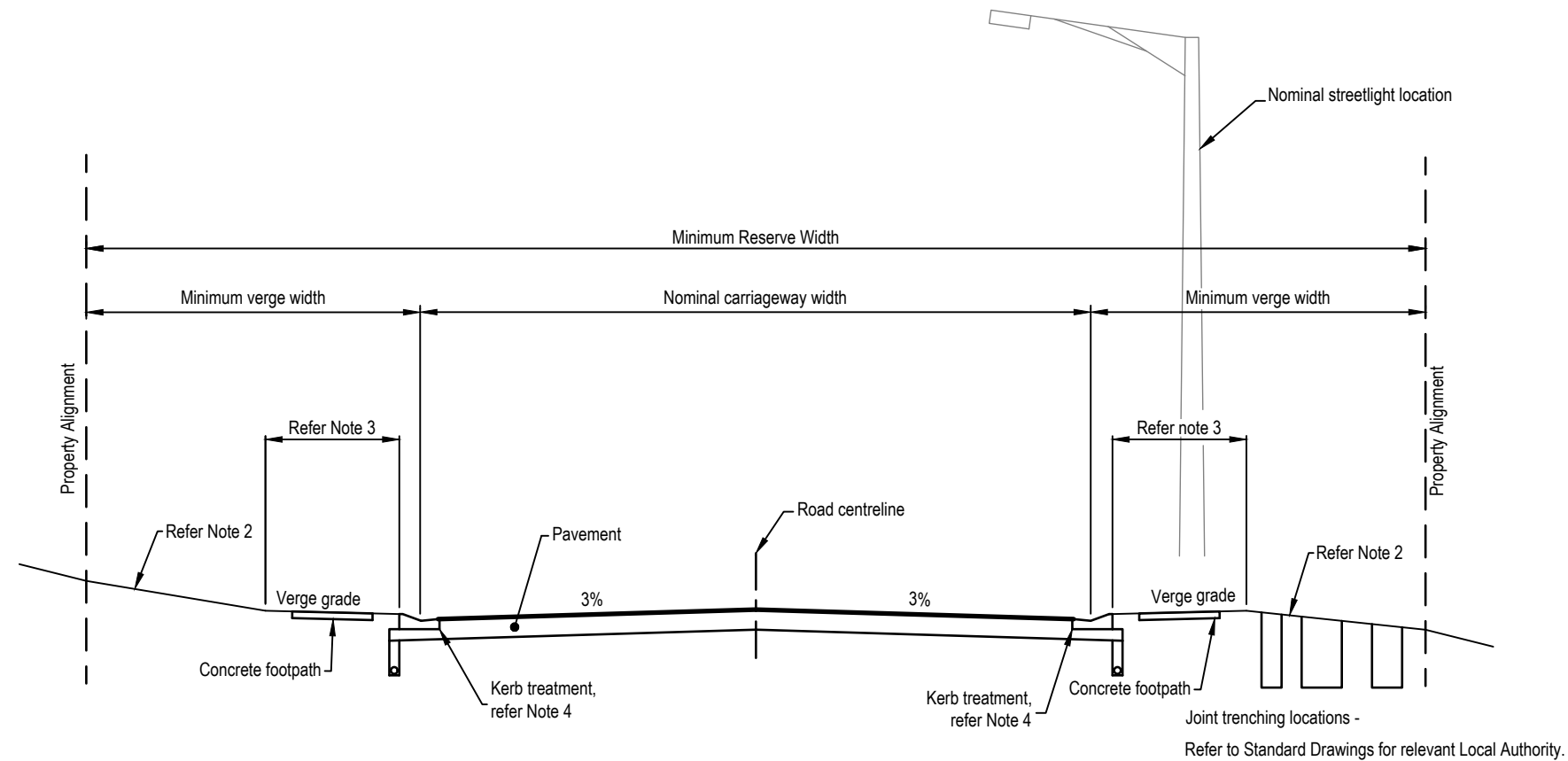


MINOR URBAN COLLECTOR

SCALE 1:50

- Note 1: For all dimensions and detailed information refer to D1 - Road Design.
Note 2: Steep verge grade may be considered on a case by case basis with special LGA approval. Absolute max 1 on 6.
Refer to D1 Urban Roads Table for specific LGA requirements.
Note 3: Equal to verge width unless noted otherwise in D1
Note 4: For kerb treatment refer to D1 Urban Road Tables.

REVISIONS		DATE	DISCLAIMER. The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.	Capricorn Municipal Development Guidelines		TYPE CROSS SECTION MINOR URBAN COLLECTOR		ROADS	
				Incorporating: Banana Shire Council (BSC) Central Highlands Regional Council (CHRC) Gladstone Regional Council (GRC) Livingstone Shire Council (LSC) Maranoa Regional Council (MRC) Rockhampton Regional Council (RRC) Isaac Regional Council (IRC)				STANDARD DRAWING	A3
								CMDG-R-012	
C	REINTRODUCTION FOR D1 SPEC CHANGES	08/2022							
B	Road Title Amended	26/11/03							
A	NEW DRAWING	22/10/03							
				REV. A B C					



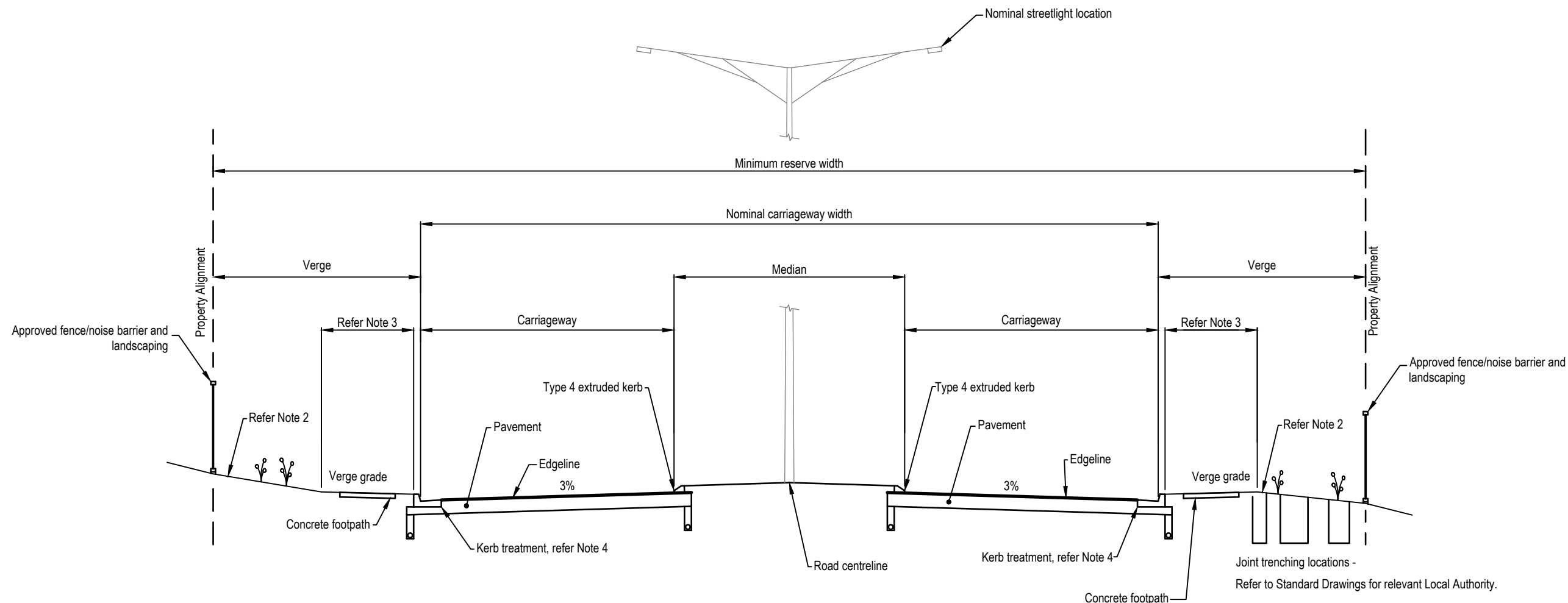
MAJOR URBAN COLLECTOR/DISTRIBUTOR - NO RESIDENTIAL ACCESS

SCALE 1:100

Refer to Clause D 1.06-6

- Note 1: For all dimensions and detailed information refer to D1 - Road Design.
Note 2: Steep verge grade may be considered on a case by case basis with special LGA approval. Absolute max 1 on 6.
Refer to D1 Urban Roads Table for specific LGA requirements.
Note 3: Equal to verge width unless noted otherwise in D1
Note 4: For kerb treatment refer to D1 Urban Road Tables.

REVISIONS		DATE	DISCLAIMER. The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.	Capricorn Municipal Development Guidelines		Incorporating: Banana Shire Council (BSC) Central Highlands Regional Council (CHRC) Gladstone Regional Council (GRC) Livingstone Shire Council (LSC) Maranoa Regional Council (MRC) Rockhampton Regional Council (RRC) Isaac Regional Council (IRC)	TYPE CROSS SECTION		ROADS	
				STANDARD DRAWING			A3			
				CMDG-R-013						
C	REINTRODUCTION FOR D1 SPEC CHANGES	08/2022		MAJOR URBAN COLLECTOR/DISTRIBUTOR						
B	Road Title Amended	26/11/03								
A	NEW DRAWING	22/10/03								
REV.		A	B	C						

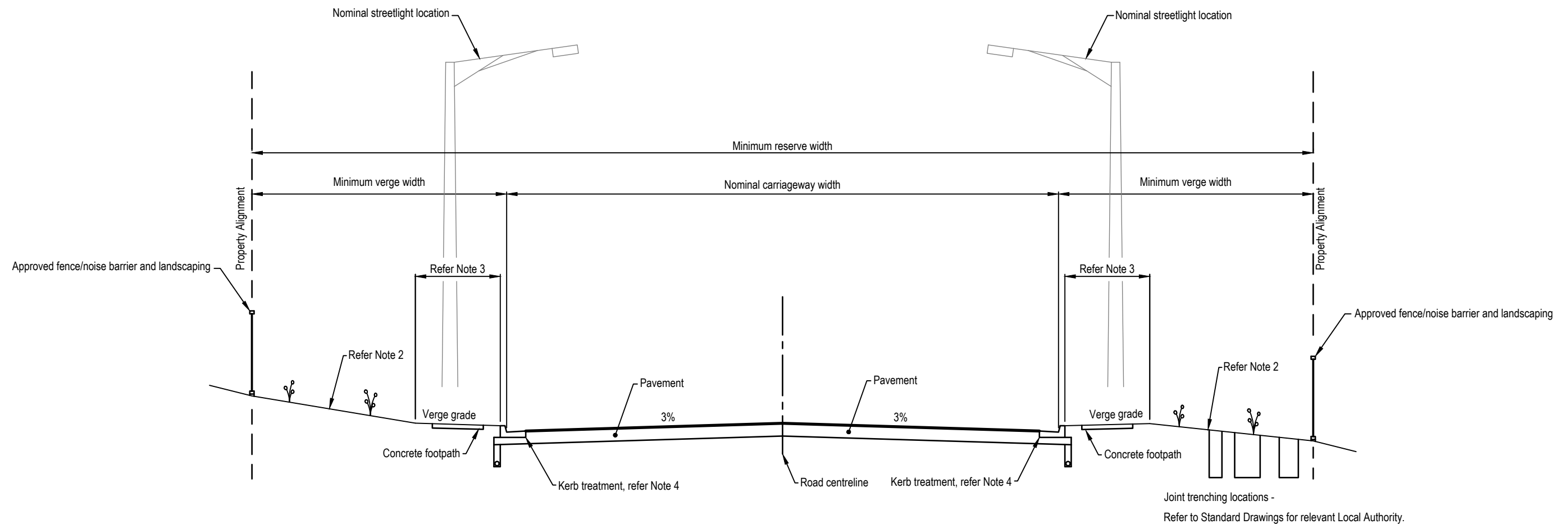


URBAN SUB-ARTERIAL/DISTRIBUTOR - NO ACCESS

SCALE 1:100

- Note 1: For all dimensions and detailed information refer to D1 - Road Design.
Note 2: Steep verge grade may be considered on a case by case basis with special LGA approval. Absolute max 1 on 6.
Refer to D1 Urban Roads Table for specific LGA requirements.
Note 3: Equal to verge width unless noted otherwise in D1
Note 4: For kerb treatment refer to D1 Urban Road Tables.

REVISIONS		DATE	DISCLAIMER. The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.	Capricorn Municipal Development Guidelines		TYPE CROSS SECTION URBAN SUB-ARTERIAL/DISTRIBUTOR		ROADS		
				Incorporating: Banana Shire Council (BSC) Central Highlands Regional Council (CHRC) Gladstone Regional Council (GRC) Livingstone Shire Council (LSC) Maranoa Regional Council (MRC) Rockhampton Regional Council (RRC) Isaac Regional Council (IRC)				STANDARD DRAWING	A3	
								CMDG-R-014		
C	REINTRODUCTION FOR D1 SPECIFICATION CHANGES	08/2022						REV.	A	B
B	Road Title Amended	26/11/03								
A	NEW DRAWING	22/10/03								

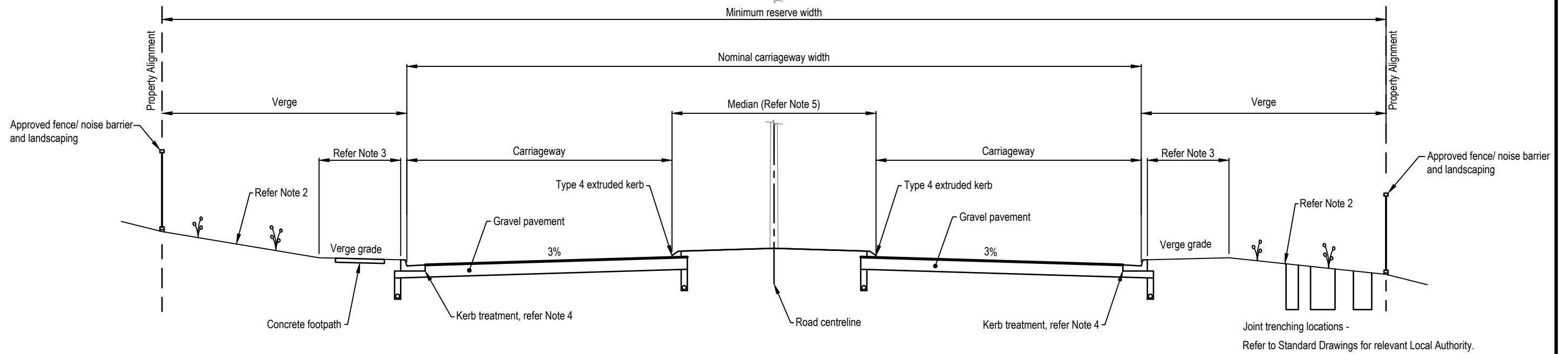
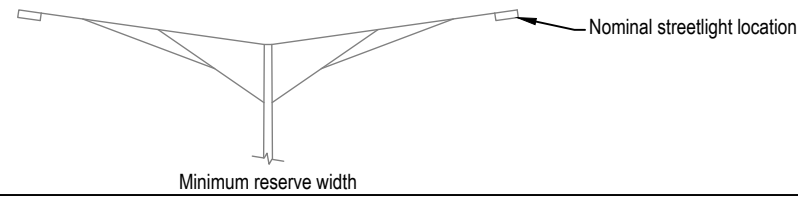


INDUSTRIAL ACCESS

SCALE 1:100

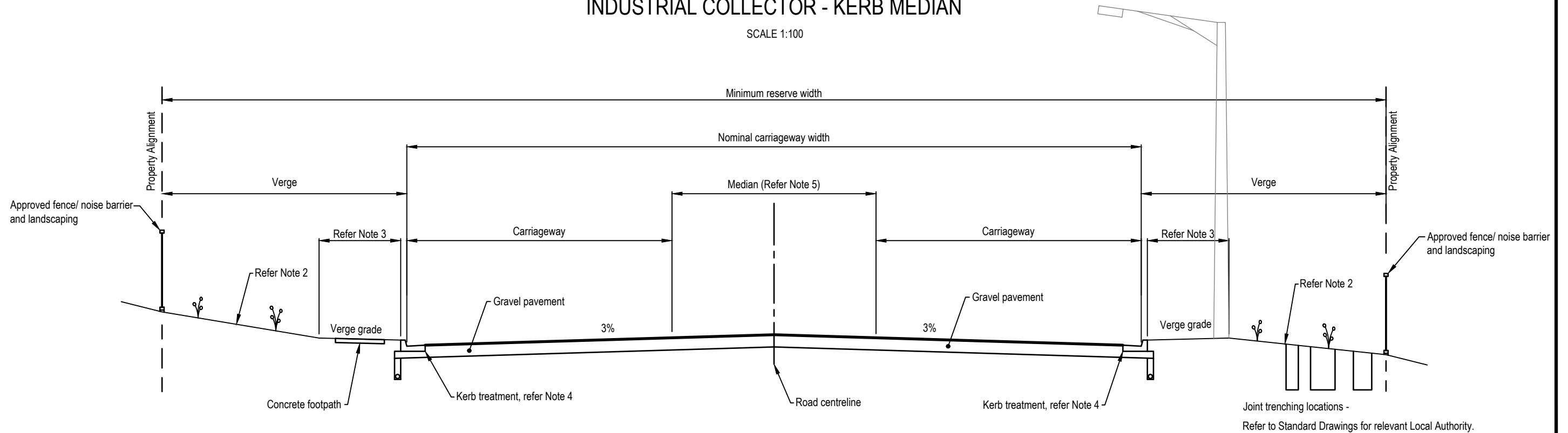
- Note 1: For all dimensions and detailed information refer to D1 - Road Design.
Note 2: Steep verge grade may be considered on a case by case basis with special LGA approval. Absolute max 1 on 6.
Refer to D1 Urban Roads Table for specific LGA requirements.
Note 3: Equal to verge width unless noted otherwise in D1
Note 4: For kerb treatment refer to D1 Urban Road Tables.

REVISIONS		DATE	DISCLAIMER. The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.	Capricorn Municipal Development Guidelines		Incorporating: Banana Shire Council (BSC) Central Highlands Regional Council (CHRC) Gladstone Regional Council (GRC) Livingstone Shire Council (LSC) Maranoa Regional Council (MRC) Rockhampton Regional Council (RRC) Isaac Regional Council (IRC)	TYPE CROSS SECTION INDUSTRIAL ACCESS		ROADS	
				STANDARD DRAWING	A3					
B	REINTRODUCTION OF SPECIFICATION CHANGES	08/2022								
A	NEW DRAWING	22/10/03								
REV.	A	B								



INDUSTRIAL COLLECTOR - KERB MEDIAN

SCALE 1:100



INDUSTRIAL COLLECTOR - PAVEMENT MARKING MEDIAN

SCALE 1:100

Note 1: For all dimensions and detailed information refer to D1 - Road Design.

Note 2: Steep verge grade may be considered on a case by case basis with special LGA approval. Absolute max 1 on 6.

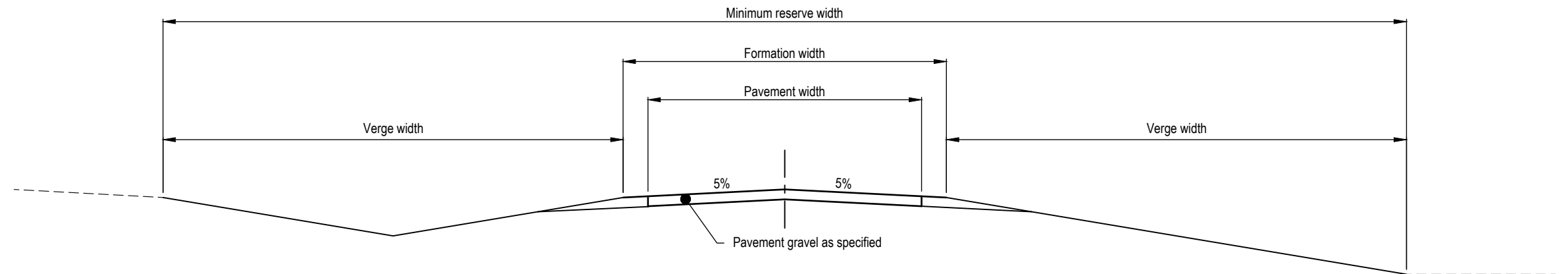
Refer to D1 Urban Roads Table for specific LGA requirements.

Note 3: Equal to verge width unless noted otherwise in D1

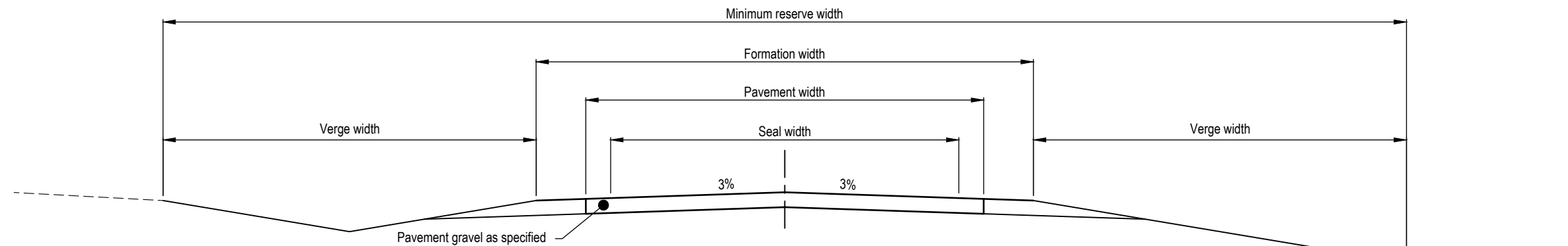
Note 4: For kerb treatment refer to D1 Urban Road Tables.

Note 5: Refer to design criteria tables in D1 for Local Government requirements.

REVISIONS		DATE	DISCLAIMER. The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.	Capricorn Municipal Development Guidelines Incorporating: Banana Shire Council (BSC) Central Highlands Regional Council (CHRC) Gladstone Regional Council (GRC) Livingstone Shire Council (LSC) Maranoa Regional Council (MRC) Rockhampton Regional Council (RRC) Isaac Regional Council (IRC)	ROADS STANDARD DRAWING A3 CMDG-R-016 REV. A B C D E
B	REINTRODUCTION FOR D1 SPECIFICATION CHANGES	08/2022			
A	NEW DRAWING	22/10/03			



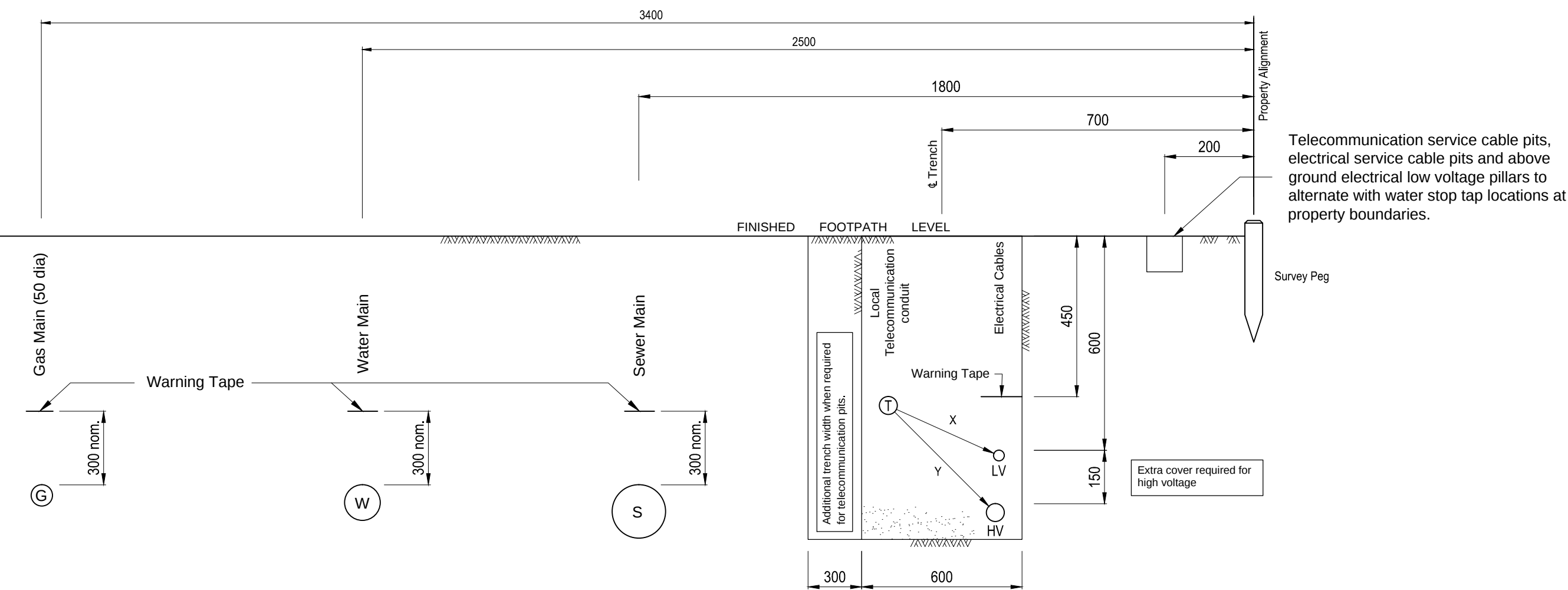
UNSEALED RURAL ROAD
SCALE 1:100



SEALED RURAL ROAD
SCALE 1:100

Note 1: For all dimensions and detailed information refer to D1 - Road Design.

REVISIONS		DATE	DISCLAIMER. The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.	Capricorn Municipal Development Guidelines Incorporating: Banana Shire Council (BSC) Central Highlands Regional Council (CHRC) Gladstone Regional Council (GRC) Livingstone Shire Council (LSC) Maranoa Regional Council (MRC) Rockhampton Regional Council (RRC) Isaac Regional Council (IRC)	TYPE CROSS SECTIONS RURAL ROADS	ROADS				
						STANDARD DRAWING		A3		
						CMDG-R-017				
B	REINTRODUCTION FOR D1 SPECIFICATION CHANGES	08/2022				REV.	A	B		
A	NEW DRAWING	22/10/03								



JOINT TRENCHING DETAILS

NOTES:

1. For electrical and telecommunication notes, refer to relevant Authority.
2. All warning tape to be placed at nominal 300mm above any conduit.
3. Low voltage cable to be provided in conduit if required by Ergon Energy.
4. Future excavation areas must be clear of all other services.
5. Dimensions in millimetres and indicate clean trench widths.
6. Depth of cover to services under roadways shall be increased 150mm and measured from the lip of design kerb and channel.
7. Minimum 75mm depth of sand bedding shall surround water main.
8. Alternative alignments to be negotiated with relevant authority and to provide adequate clearances to other services.

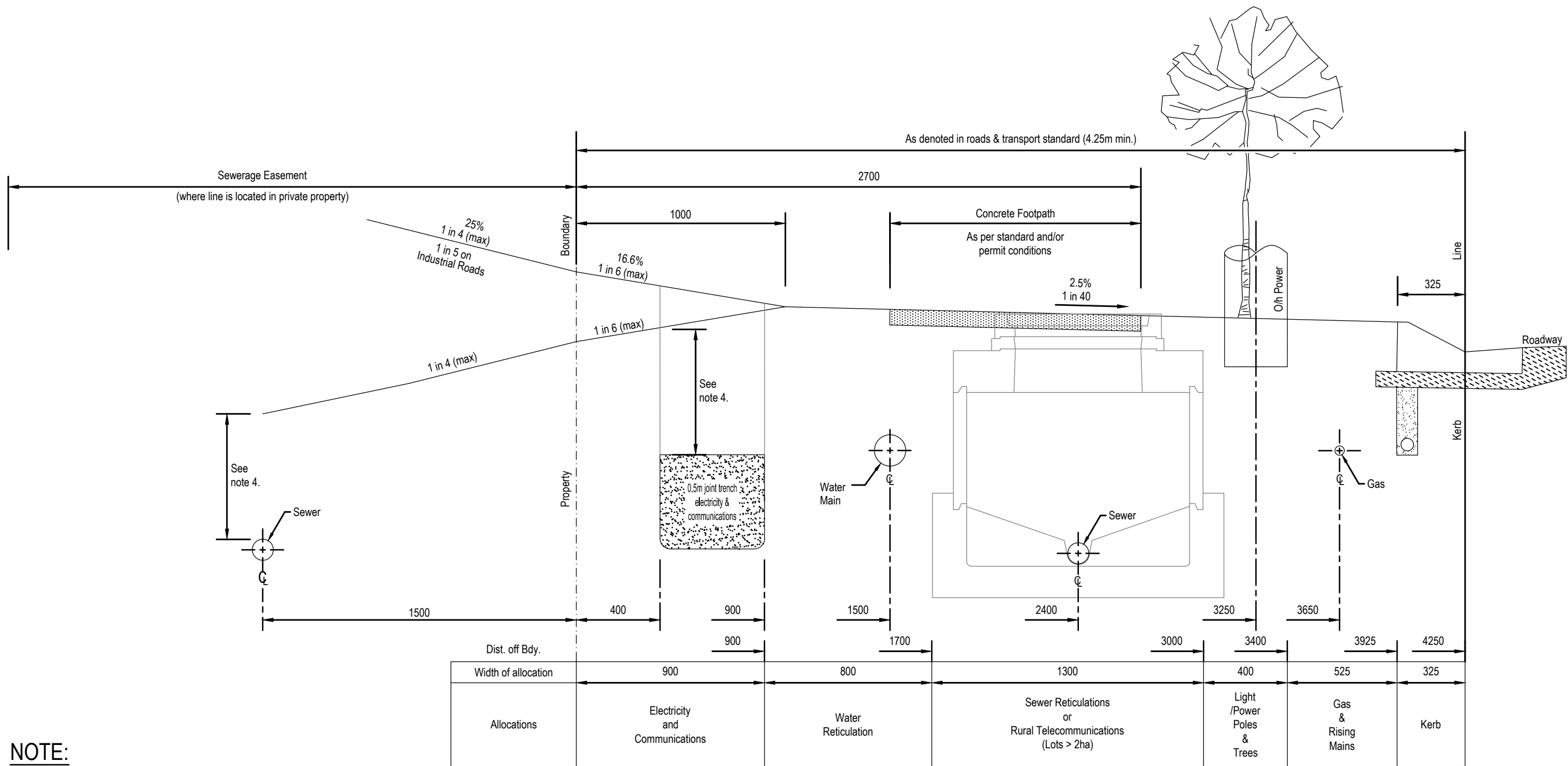
DETAILS ARE INDICATIVE ONLY. REFER TO THE RELEVANT UTILITY AUTHORITY FOR DESIGN AND CONSTRUCTION SPECIFICATIONS.

MINIMUM RADIAL CLEARANCE FOR POWER CABLES FROM TELECOM CABLE		
CABLE DIRECT BURIED	CABLE CONDUIT BURIED	DIMENSION
100	100	X (L.V.)
450	300	Y (H.V.)

SERVICE ALIGNMENTS	
SERVICES	ALIGNMENT (MEASURED FROM BOUNDARY) (mm)
ELECTRICAL	450
TELECOMMUNICATION	950
SEWERAGE	1800
WATER	2500
LIGHT POLES / STREET TREES	2950
GAS (PREFERRED)	3400

APPLICABILITY TABLE							
Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	Yes	No	Yes	Yes	Yes	Yes
Applicable DWG	CMDG-R-031A						

REVISIONS		DATE	DISCLAIMER. The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.	Capricorn Municipal Development Guidelines Incorporating: Banana Shire Council (BSC) Central Highlands Regional Council (CHRC) Gladstone Regional Council (GRC) Isaac Regional Council (IRC) Livingstone Shire Council (LSC) Maranoa Regional Council (MRC) Rockhampton Regional Council (RRC)	FOOTPATH ALLOCATION OF SERVICES JOINT TRENCHING DETAILS	ROADS	
E	IRC ADDED	12/2016				STANDARD DRAWING	
D	NOTE 8 ADDED	03/2015				CMDG-R-031	
C	GRC, LSC AND ALIGNMENT TABLE ADDED	09/2014					
B	MRC ADDED	04/2011					
A	POST AMALGAMATION REVIEW	02/2010					
						REV.	A B C D E



NOTE:

- Electricity, telephone and water mains to be located in the same footpath to allow suitable servicers to alternate block boundaries on the opposite side of the street.
- Electricity and telephone are to service the same boundary and water to service the other boundary of a block.
- All service conduits to be marked on the face of kerb with brass discs. PSMs also to be cast into top of kerb and channel.
- Maintain cover to services as required by service authority - generally 600mm min.

APPLICABILITY TABLE							
Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	No	No	Yes	No	No	No	No
Applicable DWG	CMDG-R-031						

REVISIONS		DATE	DISCLAIMER. The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.	Capricorn Municipal Development Guidelines Incorporating: Banana Shire Council (BSC) Central Highlands Regional Council (CHRC) Gladstone Regional Council (GRC) Livingstone Shire Council (LSC) Maranoa Regional Council (MRC) Rockhampton Regional Council (RRC) Isaac Regional Council (IRC)		FOOTPATH ALLOCATION OF SERVICES JOINT TRENCHING DETAILS		GENERAL			
		STANDARD DRAWING						A3			
		CMDG-R-031A									
C	CROSSFALL CHANGED	06/2022									
B	IRC ADDED	12/2016									
A	NEW DRAWING	02/2010									

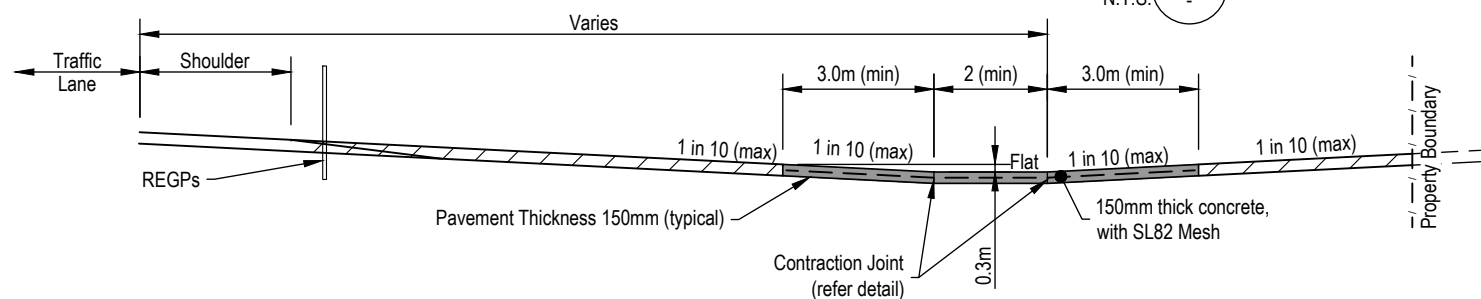
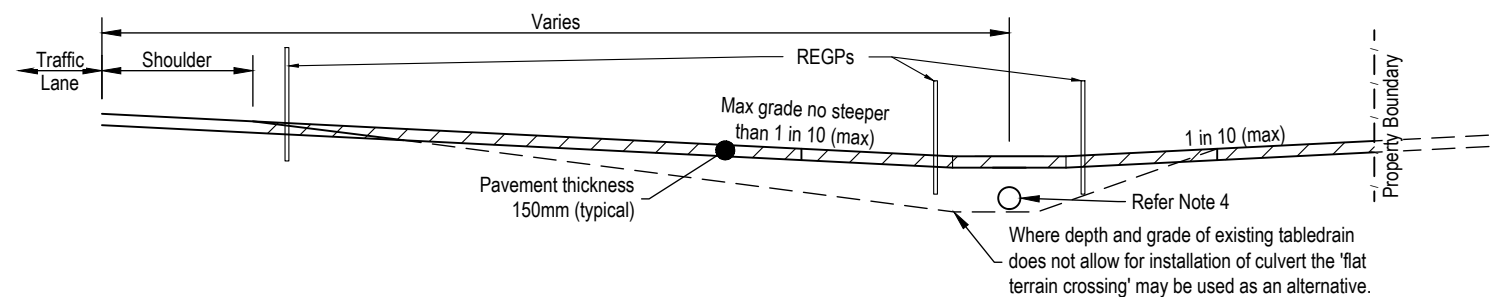
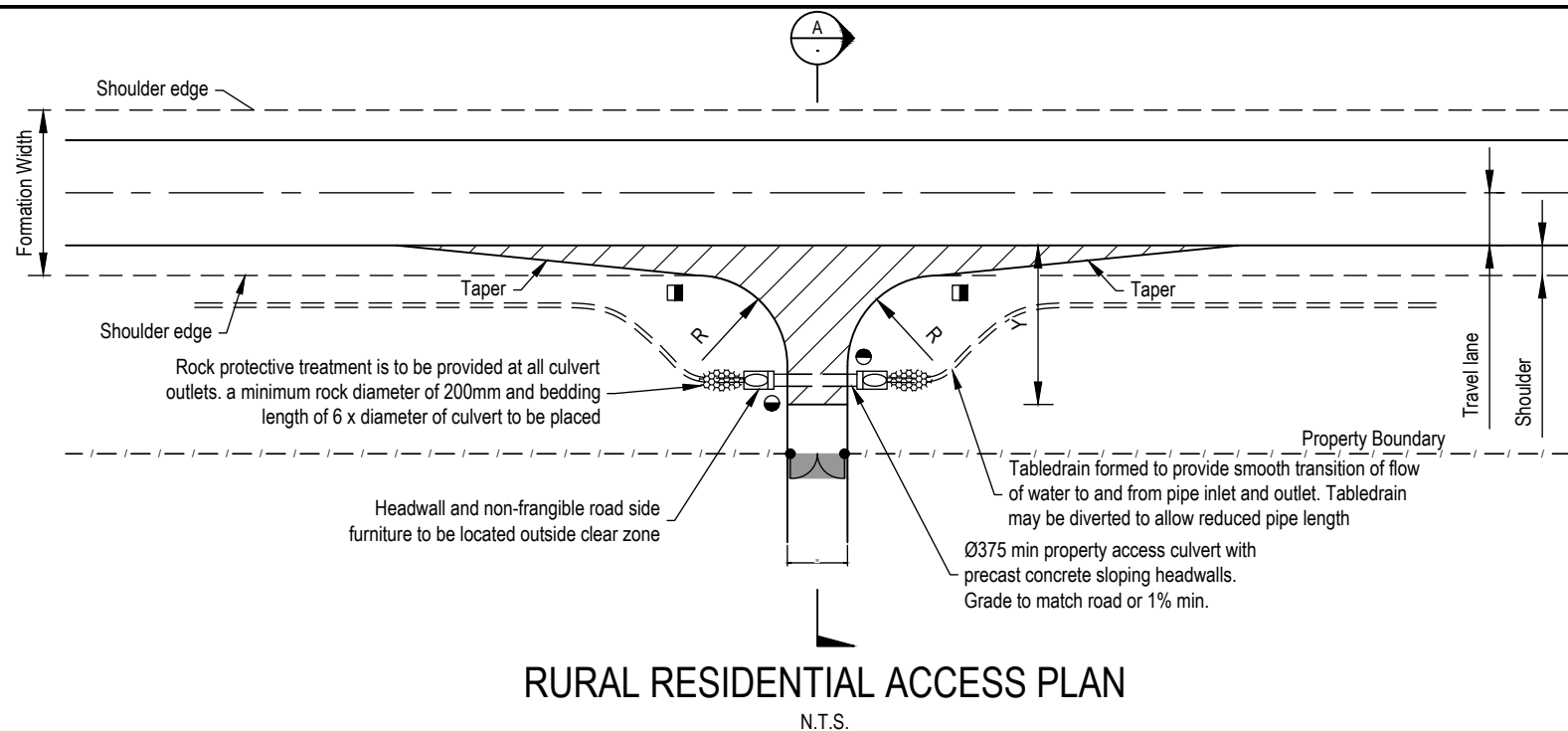


TABLE 1

Type of Access ¹	Road Posted Speed(Km/h) ²	AADT (Through Road) ²	Radius (m)	Taper	Width Of Access (W)	Length Of Seal (Y)
Gravel	N/A	N/A	6.0	1 In 5	3.0 - 6.0m	Not Required
Sealed	≤ 60	<300 VPD	3.0	Nil	3.0 - 6.0m	Min. 10m or to property boundary, whichever is shorter
Sealed	61 - 80	300-1000 VPD	6.0	1 In 5	3.0 - 6.0m	Min. 10m or to property boundary, whichever is shorter
Sealed	≥ 81	>1000 VPD	10.0	1 In 5	3.0 - 6.0m	Min. 10m or to property boundary, whichever is shorter

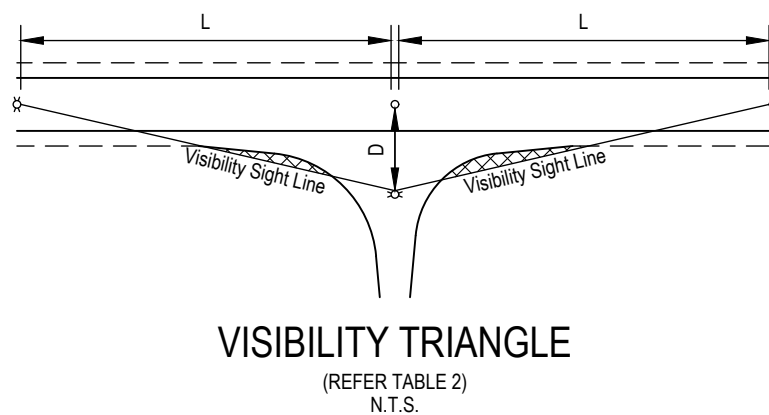
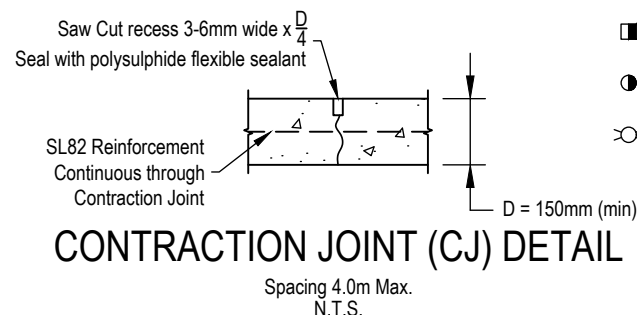
- Property access must be sealed where the road is sealed
- Posted speed & AADT shall be considered and the most conservative (highest) value of the two should be used to select the access parameters.

TABLE 2

Posted Speed (km/h)	Sight Distance L (m) Desirable min	Sight Distance L (m) Absolute min	D (m)
50	123	73	7
60	151	93	
70	181	114	
80	214	139	
90	248	165	
100	285	193	

LEGEND:

- Pavement**
- Seal (as applicable)
 - Type 2.5 gravel 150mm (typical)
 - Concrete pavement, 150mm N25
- Vegetation Clearing**
- Earthworks to be 600mm below visibility site line level
 - Trim area to be maintainable with a tractor and slasher
- Road edge guide post (REGP), TYP**
- Road Edge Guide Post (REGP), yellow type**
- Sight line 1.1m above roadway at three (3) locations**



RELEVANT STANDARDS:

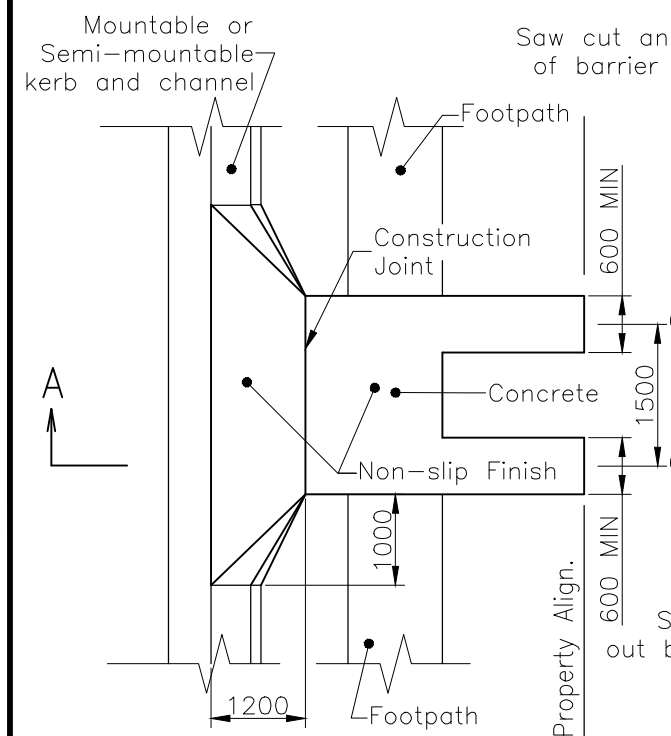
- AS 3600, concrete structures
- AS 1379, specifications and supply of concrete
- AS/NZS 4671, steel reinforcing materials.
- AS 3727, Guide to Residential Pavement
- Austrads Guide to Road Design

NOTES:

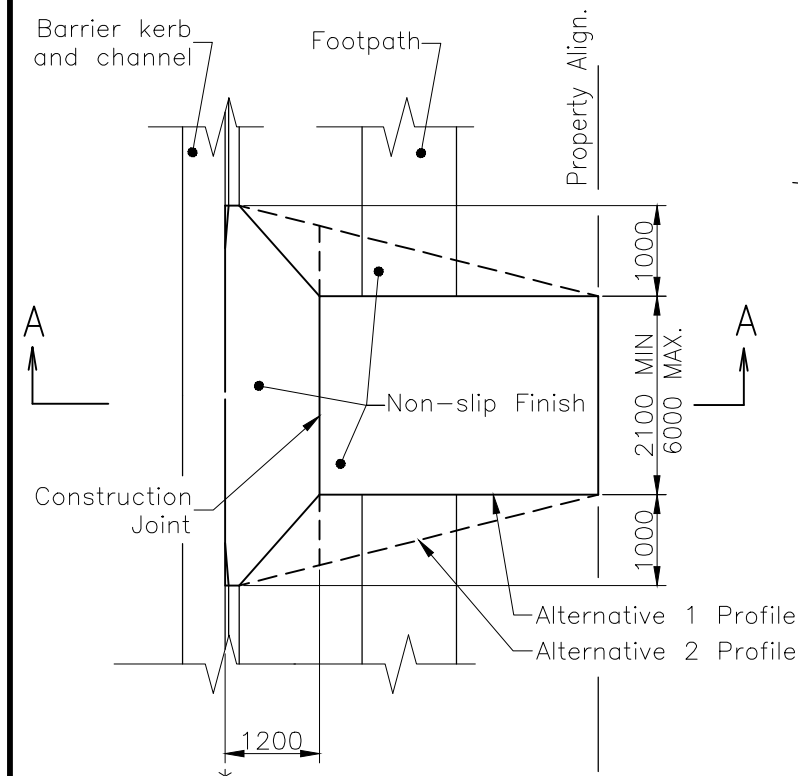
- Concrete to be N25 to AS 1379, AS 3600.
- Ensure min. cover to services in footpath and driveway is achieved to meet relevant authority standard. A Before You Dig Australia (BYDA) is to be undertaken prior to commencing work on site.
- All water valves, hydrants, sewer manhole, telecommunication pits and the like to be relocated clear of property access at the expense of the property owner. The relevant authority is to be contacted so that conflicting services can be relocated prior to cross over construction.
- All pipes to be installed in accordance with the manufacturers specifications and CMDG D5
- The LGA takes no responsibility for a vehicle scraping when using a footpath crossover or invert crossing. The property owner/applicant/contractor is to ensure adequate vehicle clearance is provided.
- Road Edge Guide Posts (REGP's) to be provided in accordance to the latest Department of Transport and Main Roads (DTMR), Manual of Uniform Traffic Control Devices (MUTCD).
- For seal and pavement requirements refer CMDG D2 - Pavement Design.
- Mandatory inspections by the LGA are required prior to construction including concrete slab set-up and reinforcement, and final inspection following completion of construction, including back filling to edges and ensuring the new driveway will not cause a tripping hazard.
- A permit or application to carry out works within the road reserve may be required. Contact the relevant LGA for further details.
- Where a culvert is required, precast sloping headwalls to be used on each end unless an alternate Registered Professional Engineer Queensland (RPEQ) designed headwall is approved.
- Department of Transport and Main Roads approval is required where access is required to a declared main road.
- For AADT > 300 (Through Traffic) an engineering assessment by an RPEQ is required and a BAR treatment may be needed.
- Concrete pavement to be generally in accordance with AS 3727 and formed on suitable and compacted material.
- For Rural Commercial and Industrial Access refer DTMR standard drawing 1807.

DRAWING APPLICABILITY TABLE							
Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	Yes	Yes	Yes	Yes	Yes	Yes

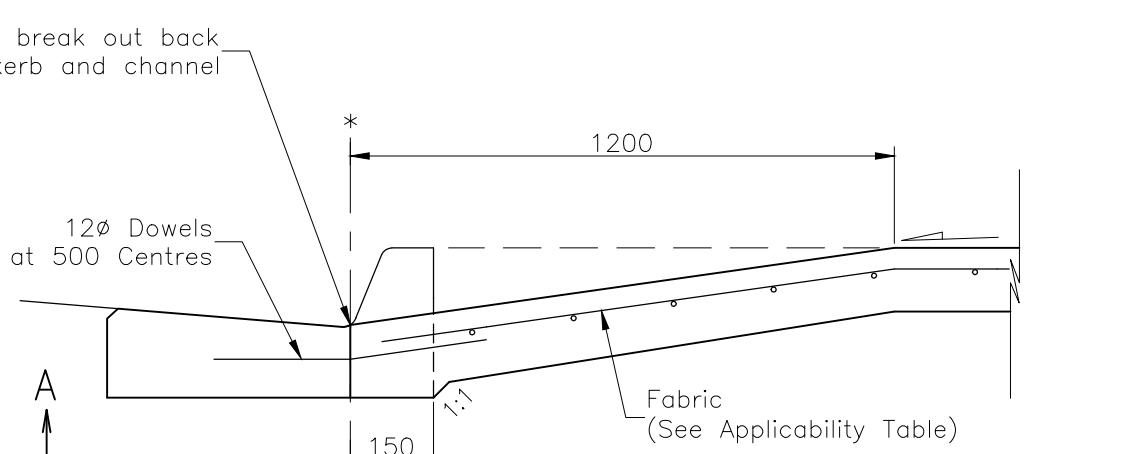
REVISIONS			DATE	DISCLAIMER. The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.	Capricorn Municipal Development Guidelines				RURAL PROPERTY ACCESS				ROADS	
G	INFORMATION FROM R-040A ADDED		09/2025		Incorporating:								STANDARD	A3
F	BITUMEN EXTENTS ON >1000 VPD ACCESS AMENDED		11/2022										DRAWING	
E	IRC ADDED		12/2016		Banana Shire Council (BSC) Central Highlands Regional Council (CHRC) Gladstone Regional Council (GRC) Livingstone Shire Council (LSC)				Maranoa Regional Council (MRC) Rockhampton Regional Council (RRC) Isaac Regional Council (IRC)				CMDG-R-040	
D	GRC AND LSC ADDED		09/2014											
C	BITUMEN SURFACING & NOTE 7. AMENDED		03/2012											
B	MRC ADDED		04/2011											



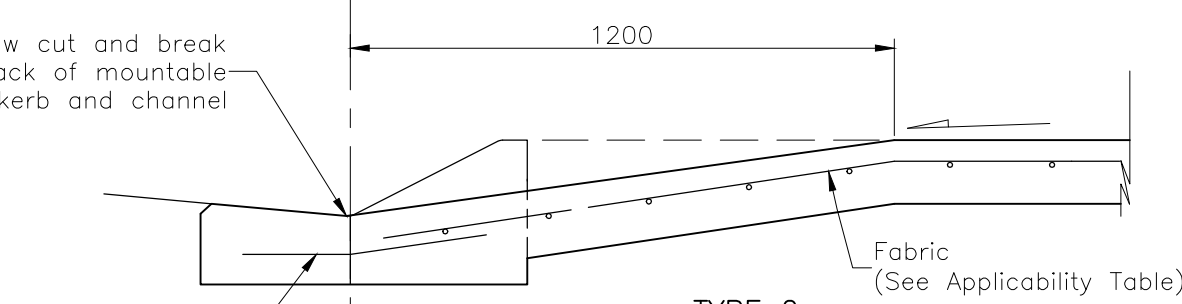
TRACKS ABUTTING MOUNTABLE & SEMI-MOUNTABLE KERB & CHANNEL



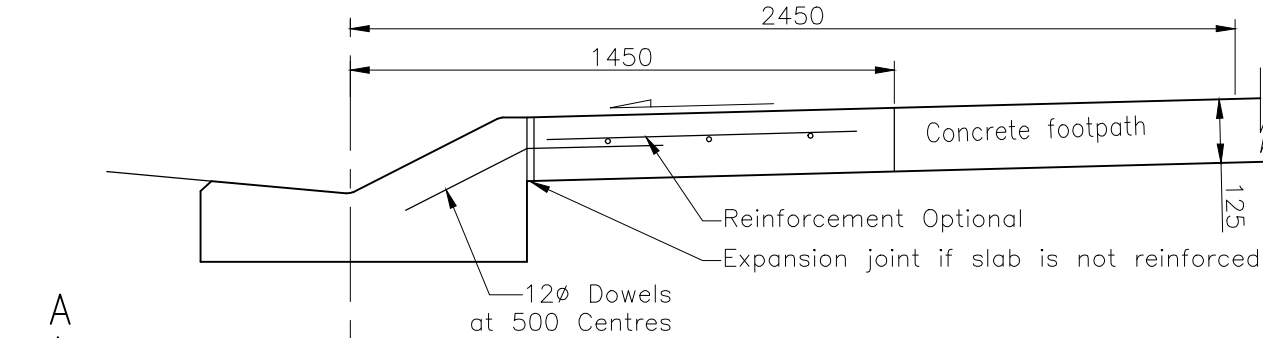
SLAB ABUTTING CHANNEL INVERT BARRIER KERB AND CHANNEL



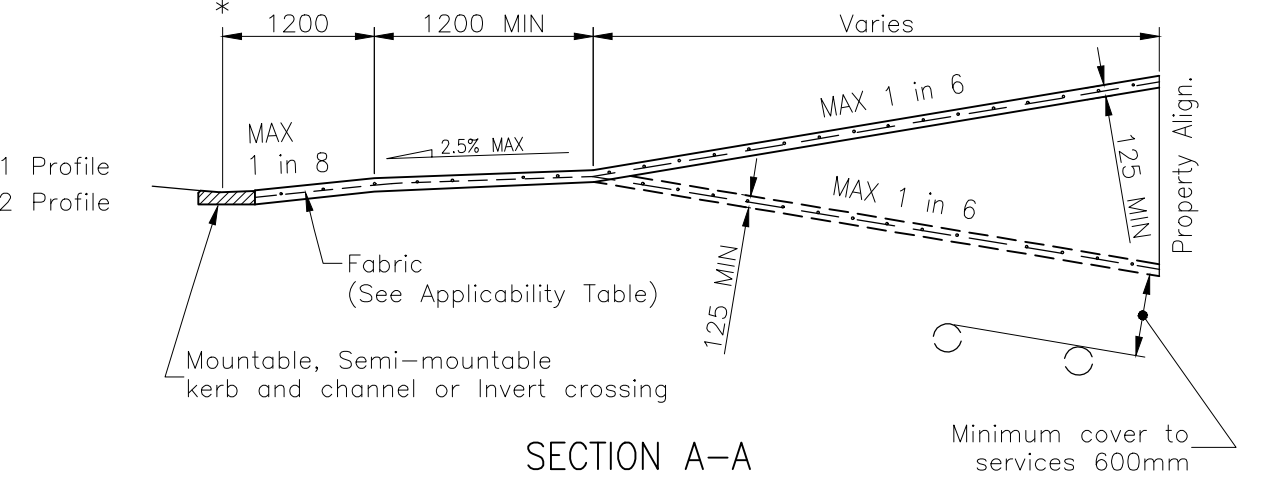
TYPE 1
BARRIER KERB & CHANNEL – BREAKOUT



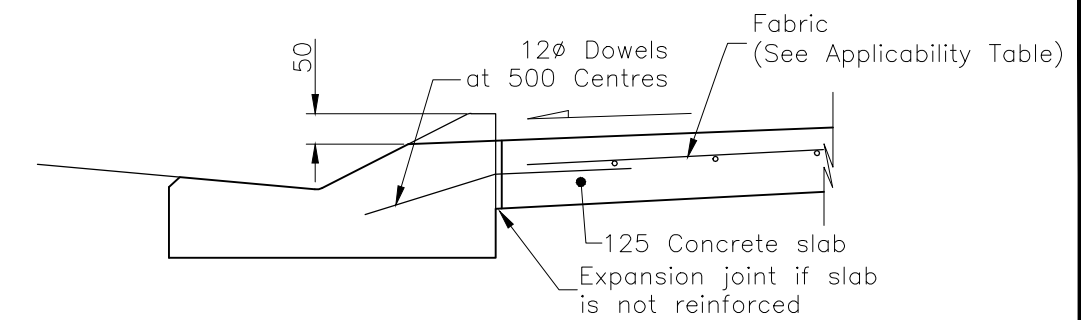
TYPE 2
MOUNTABLE KERB & CHANNEL – BREAKOUT



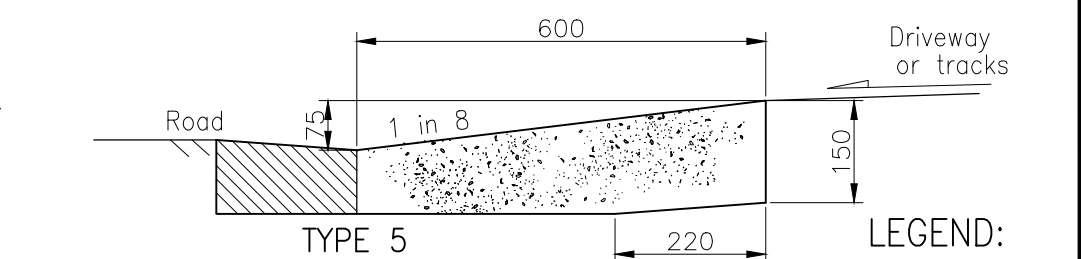
TYPE 3
MOUNTABLE KERB & CHANNEL



SECTION A-A



TYPE 4
MOUNTABLE KERB & CHANNEL – LOWER



TYPE 5
MINIMUM CHANNEL CROSSING

NOTES:

1. The owner of the premises is responsible for all maintenance costs of the driveway.
2. Council accepts no responsibility for the structural adequacy of the design.
3. Crossings are not designed for commercial vehicles.
4. Footpath section to vary where necessary to match concrete footpaths and verge profiles. Footpath earthworks adjoining concrete must be well compacted.
5. Concrete surface tolerance to be $\pm 5\text{mm}$ over 3 metre sections.
6. Concrete N32 in accordance with AS 1379 and AS 3600.
7. Reinforcement fabric to AS/NZS 4671:2001, 50 top and edge cover, lap fabric 250.
8. Driveways to be constructed from concrete only.
9. Expansion joints to be 10 thick, full depth closed cell cross linked polyethylene foam (85–150kg/m³).
10. Approval of location, feature finishes and levels must be obtained from Local Authority prior to excavation.
11. Engineering advice should be sought where it is proposed to modify the footpath profile by excavation or filling to ensure drainage problems do not result and existing services are not affected.
12. Where new concrete work abuts existing concrete work, 12dia dowels(500mm length) at 300mm centres (500mm allowable at invert of kerb and channel) to be installed to prevent differential movement.
13. All dimensions in millimetres.

APPLICABILITY TABLE							
Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	Yes	No	Yes	Yes	Yes	Yes
Fabric	SL62	SL62		SL72	SL62	SL62	SL62
Applicable DWG	CMDG-R-041A						

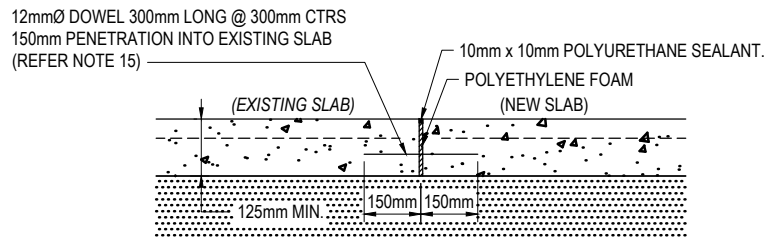
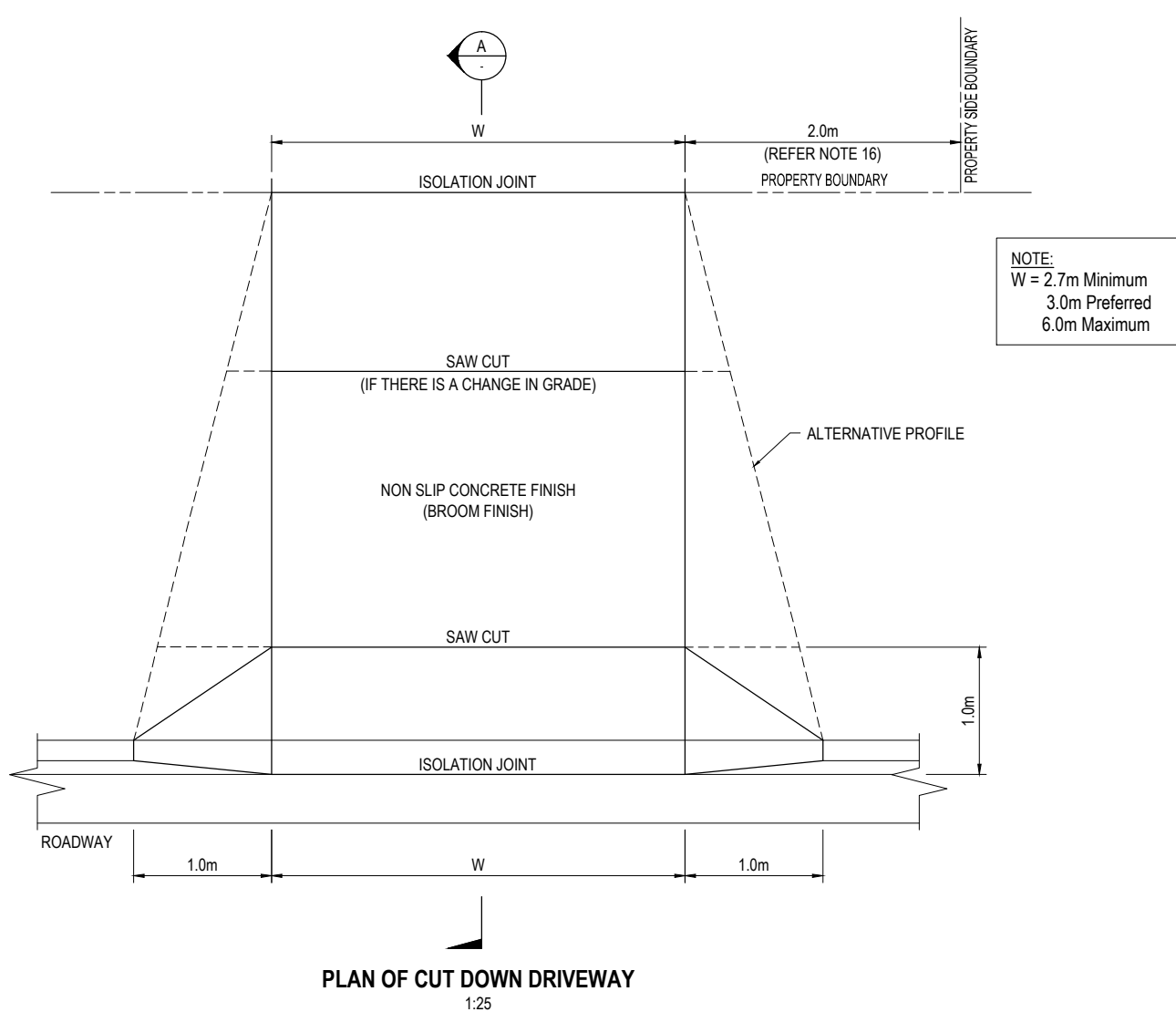
REVISIONS	DATE
D IRC ADDED	12/2016
C GRC AND LSC ADDED	11/2014
B MRC ADDED/AMENDMENT TO DRIVEWAY GRADE	07/2011
A POST AMALGAMATION REVIEW	01/2010

DISCLAIMER.
The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.

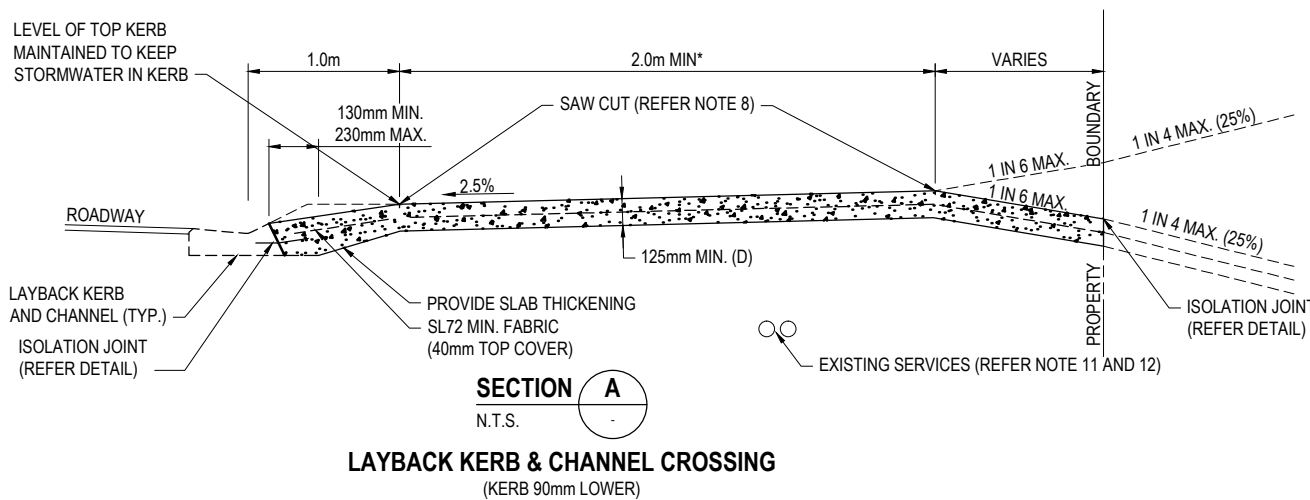
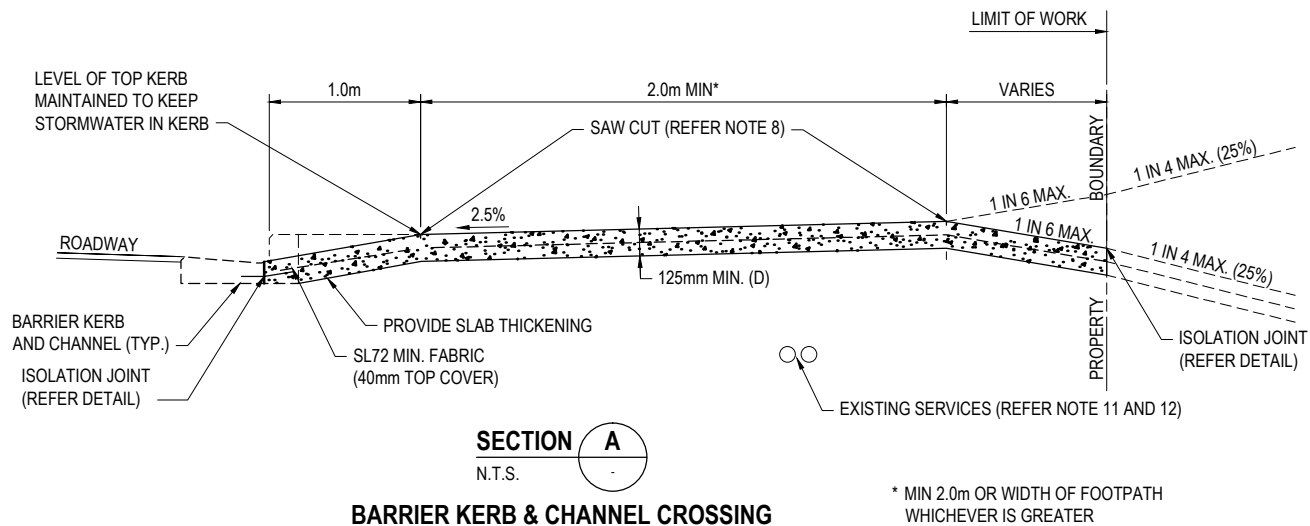
Capricorn Municipal Development Guidelines
Incorporating:
Banana Shire Council (BSC)
Central Highlands Regional Council (CHRC)
Gladstone Regional Council (GRC)
Isaac Regional Council (IRC)
Livingstone Shire Council (LSC)
Maranoa Regional Council (MRC)
Rockhampton Regional Council (RRC)

**RESIDENTIAL DRIVEWAY
SLAB AND TRACKS**

ROADS				
STANDARD DRAWING				
CMDG-R-041				
REV.	A	B	C	D



IF THIS STANDARD DRAWING CANNOT BE ACHIEVED THEN THE APPLICANT IS REQUIRED TO SUBMIT A REGISTERED PROFESSIONAL ENGINEER QUEENSLAND (RPEQ) CERTIFIED ALTERNATIVE PLAN FOR COUNCIL APPROVAL. THE DRIVEWAY DESIGN SHALL BE SUBMITTED FOR APPROVAL PRIOR TO THE ISSUE OF A PERMIT TO PROCEED WITH CONSTRUCTION.



RELEVANT STANDARDS:

1. AS3600, CONCRETE STRUCTURES
2. AS1379, SPECIFICATIONS AND SUPPLY OF CONCRETE
3. AS/NZS A4671, STEEL REINFORCING MATERIALS.

NOTES:

1. CONCRETE N25 TO AS 1379, AS 3600.
2. CROSSINGS ARE NOT DESIGNED FOR COMMERCIAL PROPERTIES. REFER TO COUNCIL STANDARDS FOR COMMERCIAL/INDUSTRIAL CROSSING (RT-0055.1).
3. NEW FOOTPATH PROFILE TO VARY WHERE NECESSARY TO MATCH WITH EXISTING CONCRETE FOOTPATHS AND VERGE PROFILES. BASE LAYER MUST BE WELL COMPACTED AND TRANSITION SMOOTHLY TO AND FROM DRIVEWAY. ADJOINING FOOTPATH SURFACES SHALL NOT HAVE A GRADE GREATER THAN 1:8 OR 12.5%.
4. NO TRACKS PERMITTED ACROSS FOOTPATH.
5. CONCRETE PATH SHALL BE CONTINUOUS ACROSS DRIVEWAYS AS PEDESTRIAN AND CYCLISTS SHOULD HAVE RIGHT OF WAY.
6. DRIVEWAY MAY BE USED BY THE PUBLIC TO THE PROPERTY BOUNDARY INCLUDING REFUSE OR DELIVERY VEHICLES.
7. BRASS DISKS EMBEDDED IN KERB AND CHANNEL SHALL NOT BE REMOVED WITHOUT THE PERMISSION OF COUNCIL.
8. SAW CUT TO BE 3-6mm WIDE x $\frac{D}{2}$, WHERE D = DEPTH OF CONCRETE. APPLY BEAD OF POLYSULPHIDE SEALANT TO BOND BREAKING TAPE
9. CONCRETE DRIVEWAY SURFACE IN ROAD RESERVE SHALL HAVE A NON SLIP FINISH (BROOM FINISH).
10. SURFACE TREATMENT MAY NOT BE MATCHED BY COUNCIL IF REPAIRS ARE NEEDED TO SERVICES UNDER DRIVEWAY.
11. ENSURE MIN. COVER TO SERVICES IN FOOTPATH AND DRIVEWAY IS ACHIEVED TO MEET RELEVANT AUTHORITY STANDARD. A DIAL BEFORE YOU DIG (DBYD) IS TO BE UNDERTAKEN PRIOR TO COMMENCING WORK ON SITE.

12. ALL WATER VALVES, HYDRANTS, SEWER MANHOLE, TELECOMMUNICATION PITS AND THE LIKE TO BE RELOCATED CLEAR OF PROPERTY ACCESS AT THE EXPENSE OF THE PROPERTY OWNER. THE RELEVANT AUTHORITY IS TO BE CONTACTED SO THAT CONFLICTING SERVICES CAN BE RELOCATED PRIOR TO CROSS OVER CONSTRUCTION
13. THE PROPERTY OWNER / APPLICANT / CONTRACTOR IS TO TAKE ALL NECESSARY MEASURES TO ENSURE PEDESTRIAN SAFETY INCLUDING BUT NOT LIMITED TO BARRICADES, SAFETY LIGHTING, WARNING DEVICES OR OTHER MEANS OF PROTECTING PUBLIC RISK IN ACCORDANCE WITH THE LATEST MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
14. VARIATION TO THE DESIGNS SHOWN ARE SUBJECT TO APPROVAL FROM THE MANAGER ROAD SERVICES OR THIS DELEGATE.
15. WHERE NEW CONCRETE WORKS ABUTS EXISTING CONCRETE WORK, 12Ø DOWELS, 300mm LENGTH (500mm LENGTH AT INVERT OF KERB AND CHANNEL) AT 300mm CENTRES TO BE INSTALLED TO PREVENT DIFFERENTIAL MOVEMENT. (REFER ISOLATION JOINT DETAIL)
16. DRIVEWAY SHOULD BE LOCATED WITH A MINIMUM SIDE BOUNDARY CLEARANCE OF TWO METERS.
17. MANDATORY COUNCIL INSPECTIONS ARE REQUIRED PRIOR TO CONSTRUCTION INCLUDING CONCRETE SLAB SET-UP AND REINFORCEMENT, AND FINAL INSPECTION FOLLOWING COMPLETION OF CONSTRUCTION, INCLUDING BACK FILLING TO EDGES AND ENSURING THE NEW DRIVEWAY WILL NOT CAUSE A TRIPPING HAZARD.
18. COUNCIL TAKES NO RESPONSIBILITY FOR A VEHICLE SCRAPING WHEN USING A FOOTPATH CROSSOVER OR INVERT CROSSING. THE PROPERTY OWNER/APPLICANT/CONTRACTOR IS TO ENSURE ADEQUATE VEHICLE CLEARANCE IS PROVIDED.
19. AN APPLICATION TO "CARRY OUT WORKS ON A COUNCIL ROAD" IS TO BE SUBMITTED BEFORE WORKS ARE UNDERTAKEN.

APPLICABILITY TABLE							
Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	No	No	Yes	No	No	No	No
Applicable DWG	CMDG-R-041						

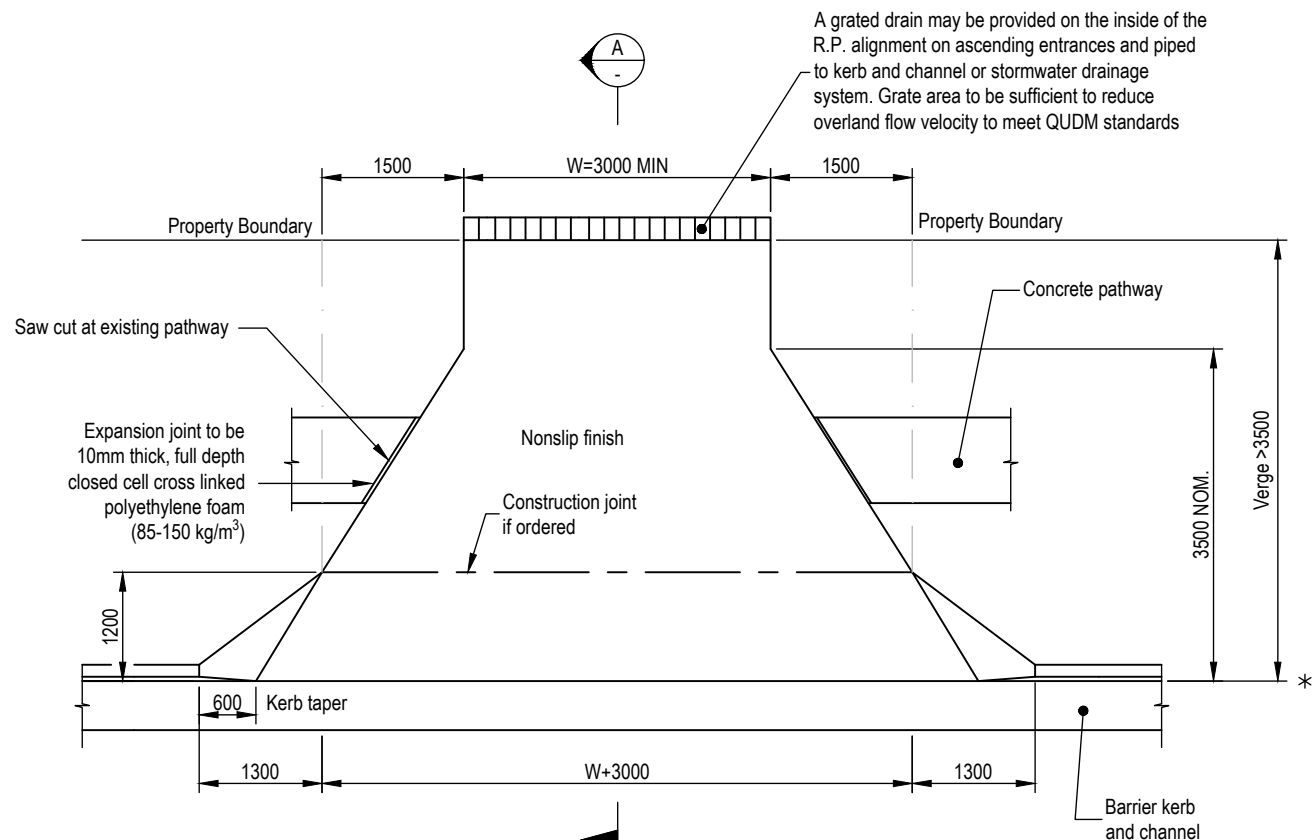
REVISIONS		DATE
C	IRC ADDED	12/2016
B	MULTIPLE DRAWING AMENDMENTS	04/2016
A	NEW DRAWING FOR GRC	11/2014

DISCLAIMER.	
The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.	

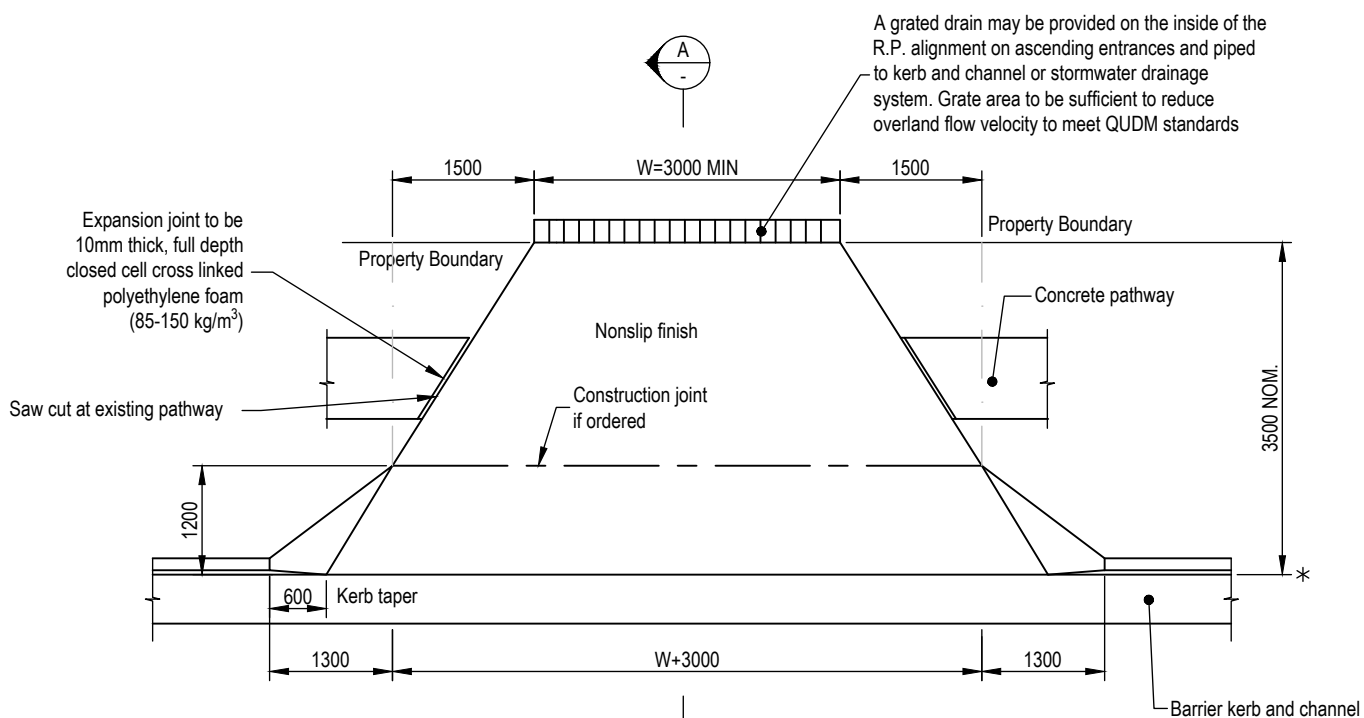
Capricorn Municipal Development Guidelines	
Incorporating:	
Banana Shire Council (BSC)	Livingstone Shire Council (LSC)
Central Highlands Regional Council (CHRC)	Maranoa Regional Council (MRC)
Gladstone Regional Council (GRC)	Rockhampton Regional Council (RRC)
Isaac Regional Council (IRC)	

URBAN RESIDENTIAL DRIVEWAY	
----------------------------	--

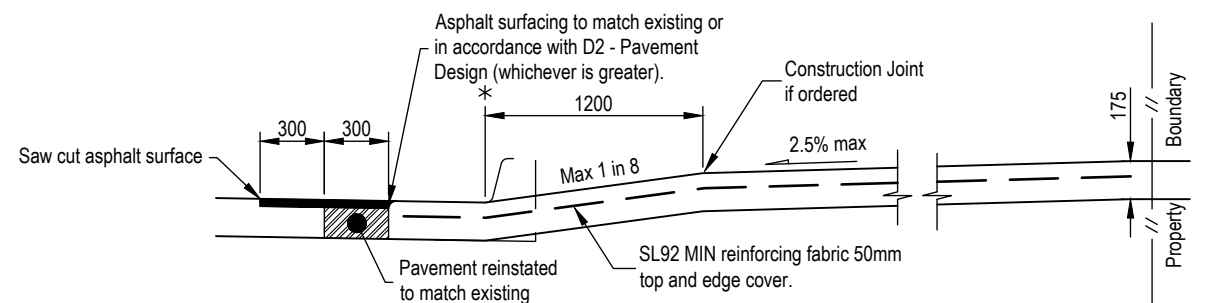
ROADS	
STANDARD DRAWING	
CMDG-R-041A	
REV.	A B C



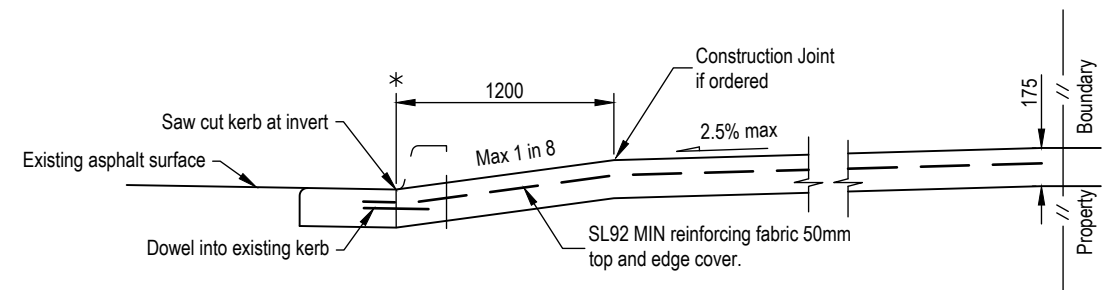
PLAN - WIDE VERGE



PLAN - 3.5m VERGE



SECTION - CHANNEL REMOVED A
N.T.S.



SECTION - CHANNEL RETAINED A
N.T.S.

LEGEND:

* NOM. kerb line.

NOTES:

- The owner of the property served by the driveway shall be responsible for all maintenance associated with the driveway.
- Concrete N32 in accordance with AS 1379 and AS 3600.
- Reinforcing fabric to AS 4671. Lap fabric 250mm.
- Depths of concrete and reinforcing steel shown are the minimum requirements for good foundation conditions, and average traffic loading. Where this does not apply, depths of concrete and reinforcing shall be increased to suit specific conditions. Council accepts no responsibility for the structural adequacy of the design and it is recommended that engineering advice be sought where higher commercial vehicle loadings are expected.
- Design of crossings may vary, refer project drawings.
- Reprofile adjacent verge to match driveway. Verge earthworks adjoining concrete must be well compacted.
- Verge grades to be in accordance with LGA requirements specified in D1.
- Existing verge profile to be maintained where possible.
- Compaction for subgrade 95% Standard to AS 1289.5.1.1.
- Where subgrade is less than CBR 5 excavate and provide imported material to satisfaction of independent Engineering authority.
- Driveways to be constructed from concrete only.
- Approval of location, feature finishes and levels must be obtained from Local Authority prior to excavation.
- Engineering advice should be sought where it is proposed to modify the verge profile by excavation or filling to ensure drainage problems do not result and existing services are not affected.
- Where new concrete work abuts existing concrete work dowels to be installed to prevent differential movement.
 - Trafficable (driveway) - 24dia dowels (500mm length at 300mm centres, 500mm centers allowable at invert of kerb and channel)
 - Non Trafficable (pathway) - 12dia dowels (500mm length at 300mm centres)
- All dimensions in millimetres.
- Maximum driveway grade to be 1 in 6 if approved by LGA.

APPLICABILITY TABLE

Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	Yes	No	Yes	Yes	Yes	Yes
Applicable DWG	CMDG-R-042A						

REVISIONS	DATE
G STYLE UPDATED & REINFORCEMENT CHANGED	01/2024
F IRC ADDED	12/2016
E APPLICABLE DRAWING ADDED	04/2016
D GRC AND LSC ADDED	09/2014
C MRC ADDED/AMENDMENT TO DRIVEWAY GRADE	07/2011
B NOTE ADDED REGARDING GRATED DRAIN GRATE AREA	12/2010

DISCLAIMER.
The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.

Capricorn Municipal Development Guidelines

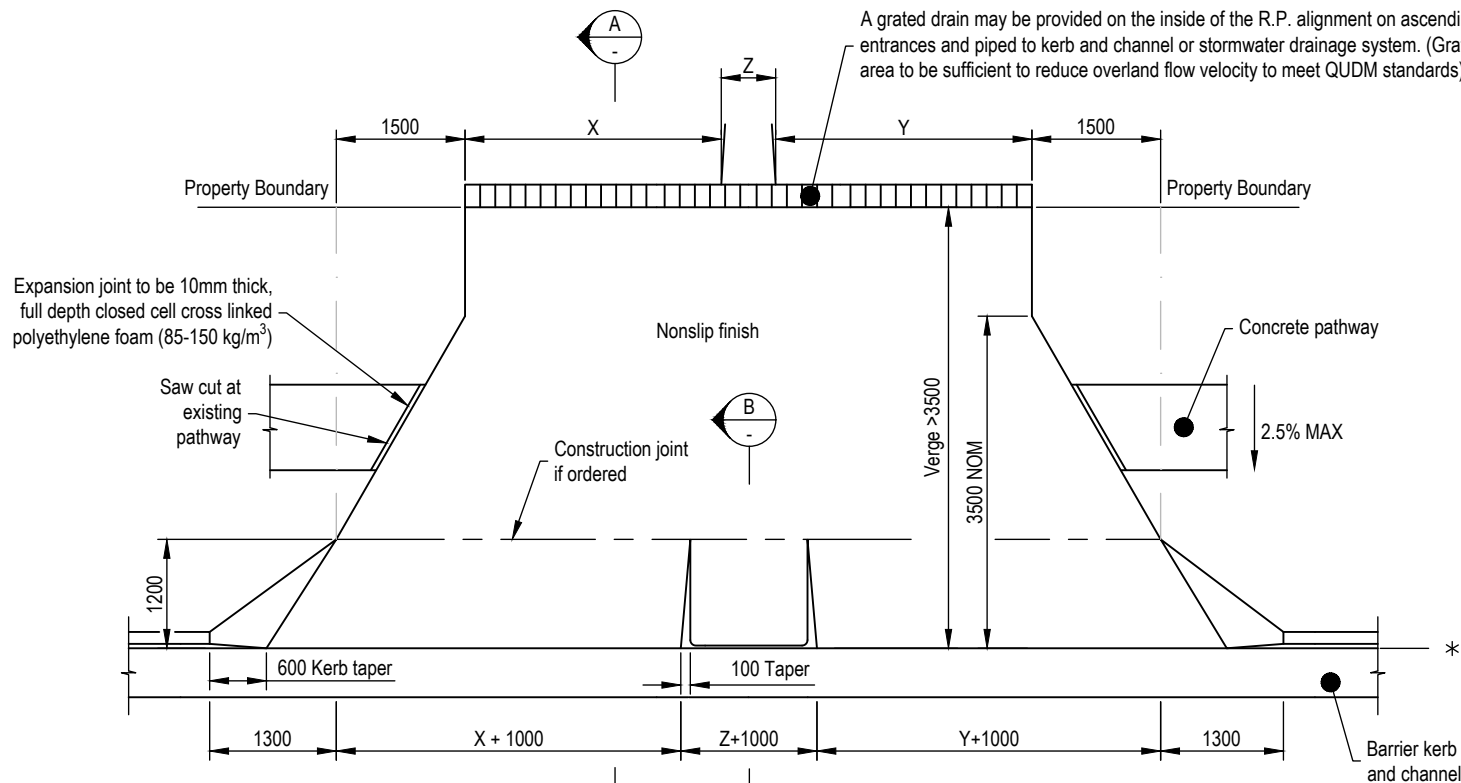
Incorporating:

Banana Shire Council (BSC)
Central Highlands Regional Council (CHRC)
Gladstone Regional Council (GRC)
Livingstone Shire Council (LSC)
Maranoa Regional Council (MRC)
Rockhampton Regional Council (RRC)
Isaac Regional Council (IRC)

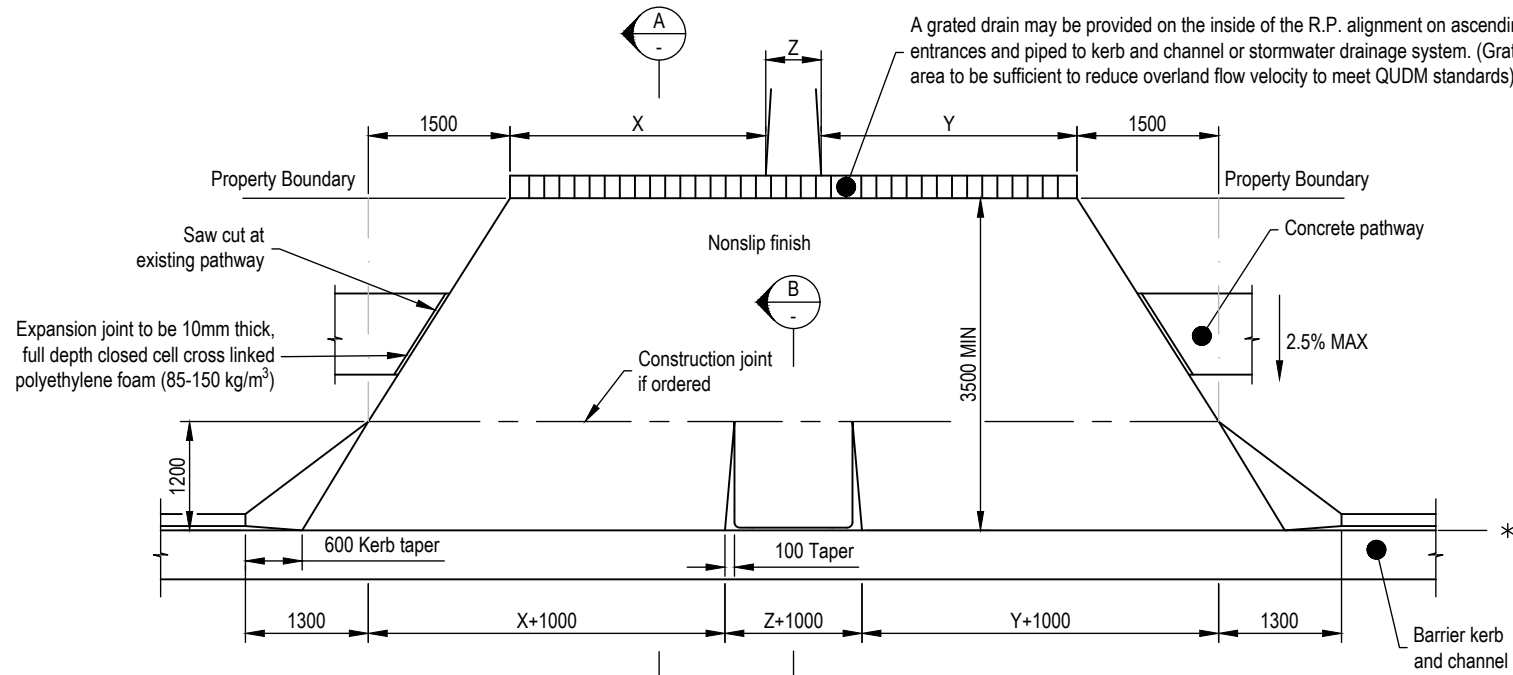
TYPE A - TWO WAY ACCESS COMMERCIAL DRIVEWAY SLAB

ROADS	
STANDARD DRAWING	A3
CMDG-R-042	
REV.	B C D E F G

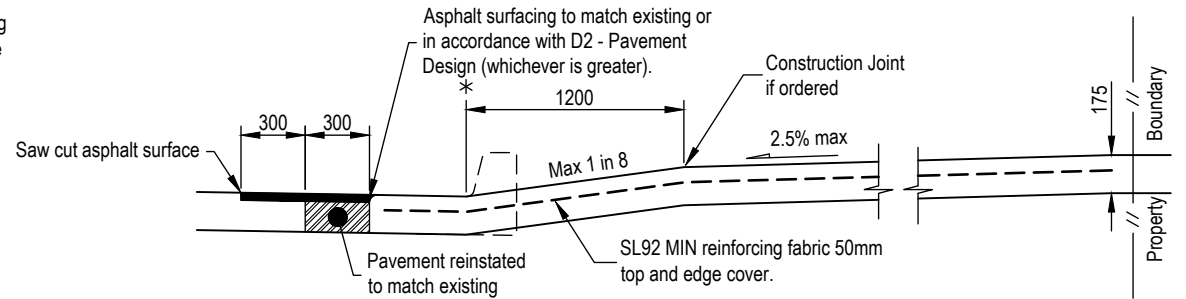
ROADS						
STANDARD DRAWING						
CMDG-R-042A						
REV.	A	B				



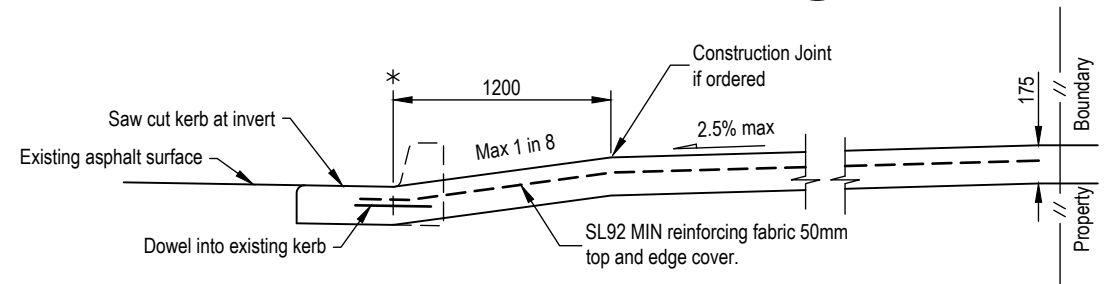
PLAN - WIDE VERGE
N.T.S.



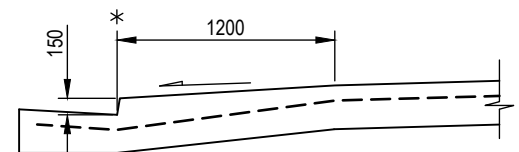
PLAN - 3.5m VERGE
N.T.S.



SECTION - CHANNEL REMOVED
N.T.S.



SECTION - CHANNEL RETAINED
N.T.S.



SECTION B
N.T.S.

LEGEND:

*NOM. kerb line.

NOTES:

- The owner of the property served by the driveway shall be responsible for all maintenance associated with the driveway.
- Concrete N32 in accordance with AS 1379 and AS 3600.
- Reinforcing fabric to AS 4671. Lap fabric 250mm.
- Depths of concrete and reinforcing steel shown are the minimum requirements for good foundation conditions and average traffic loading. Where this does not apply, depths of concrete and reinforcing shall be increased to suit specific conditions. Council accepts no responsibility for the structural adequacy of the design and it is recommended that engineering advice be sought where higher commercial vehicle loadings are expected.
- Design of crossings may vary, refer project drawings.
- Dimensions X, Y, & Z, refer specification or project drawings.
- Reprofile adjacent verge to match driveway. Verge earthworks adjoining concrete must be well compacted.
- Verge grades to be in accordance with LGA requirements specified in D1.
- Existing verge profile to be maintained where possible.
- Compaction for subgrade 95% Standard to AS 1289.5.1.1.
- Where subgrade is less than CBR 5 excavate and provide imported material to satisfaction of independent Engineering authority.
- Driveways to be constructed from concrete only.
- Approval of location, feature finishes and levels must be obtained from Local Authority prior to excavation.
- Engineering advice should be sought where it is proposed to modify the verge profile by excavation or filling to ensure drainage problems do not result and existing services are not affected.
- Where new concrete work abuts existing concrete work dowels to be installed to prevent differential movement.
 - Trafficable (driveway) - 24dia dowels (500mm length at 300mm centres, 500mm centers allowable at invert of kerb and channel)
 - Non Trafficable (pathway) - 12dia dowels (500mm length at 300mm centres)
- All dimensions in millimetres.
- Maximum driveway grade to be 1 in 6 if approved by LGA.

APPLICABILITY TABLE							
Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	Yes	No	Yes	Yes	Yes	Yes

REVISIONS	DATE
F STYLE UPDATED & REINFORCEMENT CHANGED	01/2024
E IRC ADDED	12/2016
D GRC AND LSC ADDED	09/2014
C MRC ADDED/AMENDMENT TO DRIVEWAY GRADE	07/2011
B NOTE ADDED REGARDING GRATED DRAIN GRATE AREA	12/2010
A POST AMALGAMATION REVIEW	01/2010

DISCLAIMER.
The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.

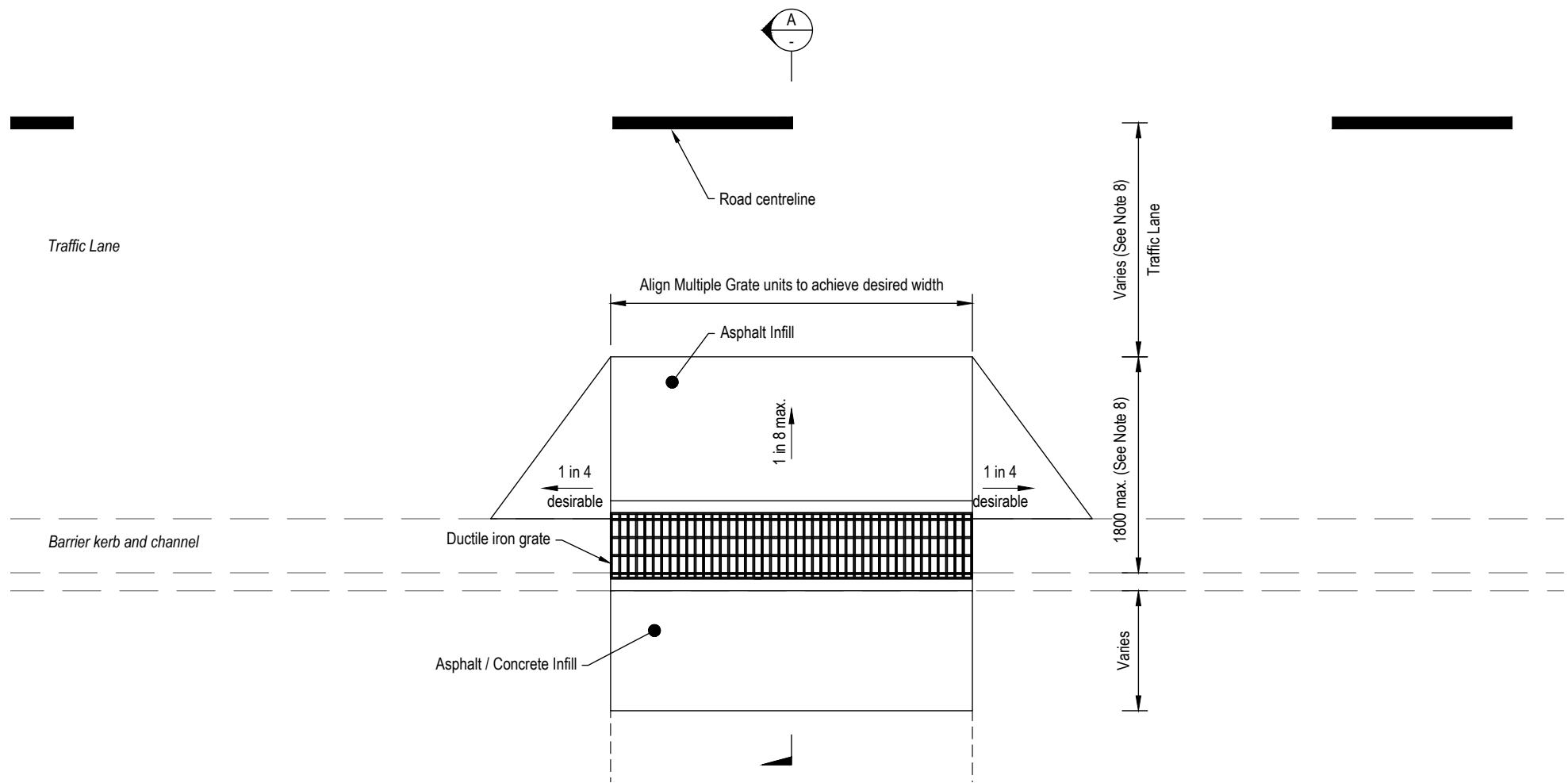
Capricorn Municipal Development Guidelines

Incorporating:
Banana Shire Council (BSC)
Central Highlands Regional Council (CHRC)
Gladstone Regional Council (GRC)
Livingstone Shire Council (LSC)
Maranoa Regional Council (MRC)
Rockhampton Regional Council (RRC)
Isaac Regional Council (IRC)

TYPE B - TWO LANE ACCESS COMMERCIAL DRIVEWAY SLAB

ROADS	
STANDARD DRAWING	A3
CMDG-R-043	
REV.	A B C D E F

The grated crossovers detailed on this drawing should only be used in specific situations with prior approval of the LGA where it can be justified that standard treatments will not function.

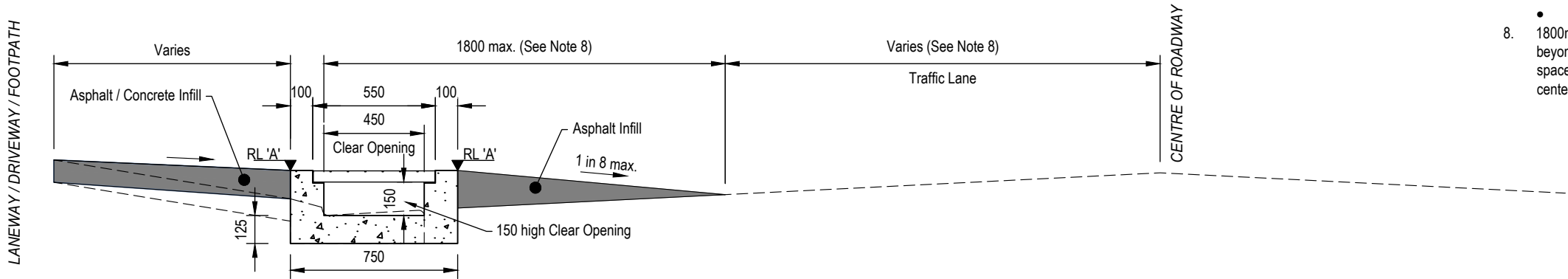


CROSSOVER PLAN
SCALE 1:50

TYPICAL GRATE LOAD RATING	
LOCATION	LOAD CLASS
COMMERCIAL DRIVEWAY	D
RESIDENTIAL DRIVEWAY	C
PUBLIC LANEWAY	D
PEDESTRIAN WALKWAY/ AREA	C

NOTES:

- Grates to be in accordance with AS 3996 with specific consideration to bicycle tyre resistance criteria in all locations and heel penetration in designated pedestrian areas.
- Slip resistance of grates to be in accordance with AS 4586.
- Grate and crossover to be in accordance with AS 1428.
- Minimum load rating of grates to be in accordance with grate load rating table.
- Stormwater flow in kerb to be considered to ensure no adverse impacts due to reductions of kerb flow capacity.
- Vertical clearance check of crossover to be completed in accordance with AS 2890.1
- Situations where use of grated crossovers will be considered include:
 - Private residential driveways where a standard driveway will not function
 - Commercial driveways where a standard driveway will not function
 - Pedestrian paths where a standard kerb ramp will not function
 - Public laneways where steep crossfalls and drainage are an issue
- 1800mm maximum ramp offset width is to ensure the asphalt ramp does not protrude beyond the parking lane. If a parking lane is not present, then there should be sufficient space available for two vehicles to pass safely (low speed/ lower order roads only). If centerline is marked then 3.5m clearance is required.



TYPICAL SECTION A-A
SCALE 1:25

APPLICABILITY TABLE							
Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Applicable DWG							

REVISIONS		DATE
A	ORIGINAL ISSUE	04/2023

DISCLAIMER.
The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.

Capricorn Municipal Development Guidelines

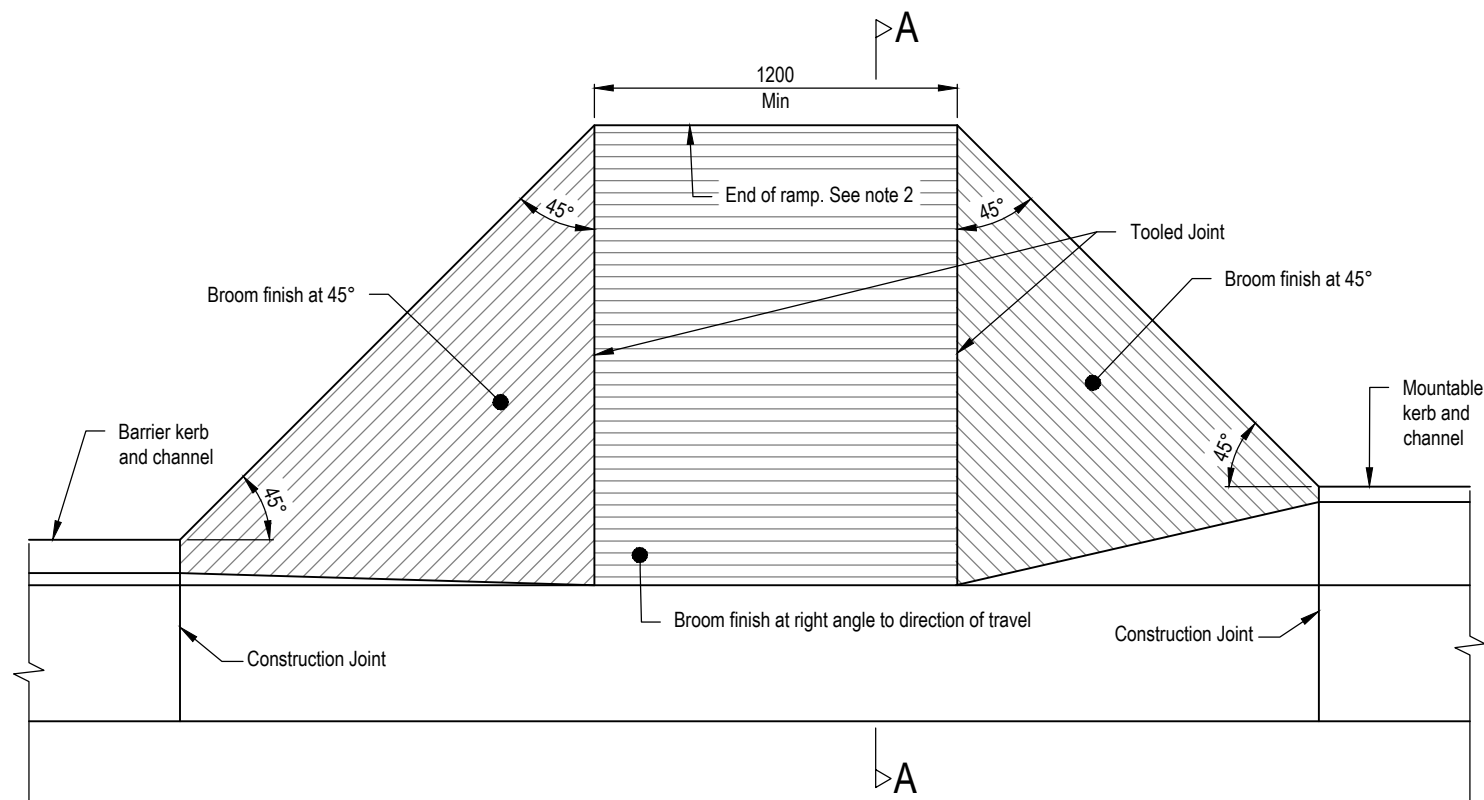
Incorporating:

Banana Shire Council (BSC)
Central Highlands Regional Council (CHRC)
Gladstone Regional Council (GRC)
Livingstone Shire Council (LSC)

Maranoa Regional Council (MRC)
Rockhampton Regional Council (RRC)
Isaac Regional Council (IRC)

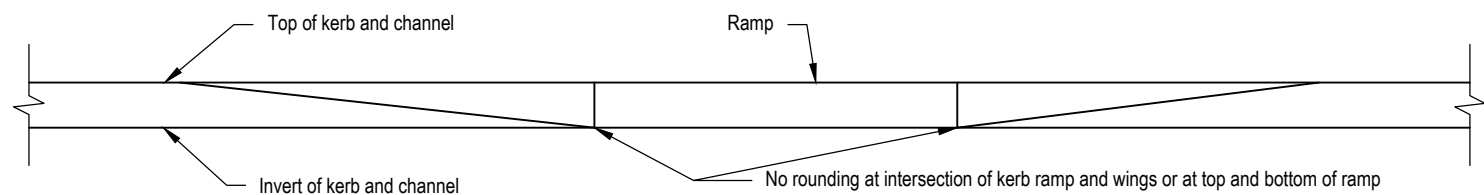
GRATED CROSSOVER DETAILS

ROADS	
STANDARD DRAWING	A3
CMDG-R-045	
REV.	A



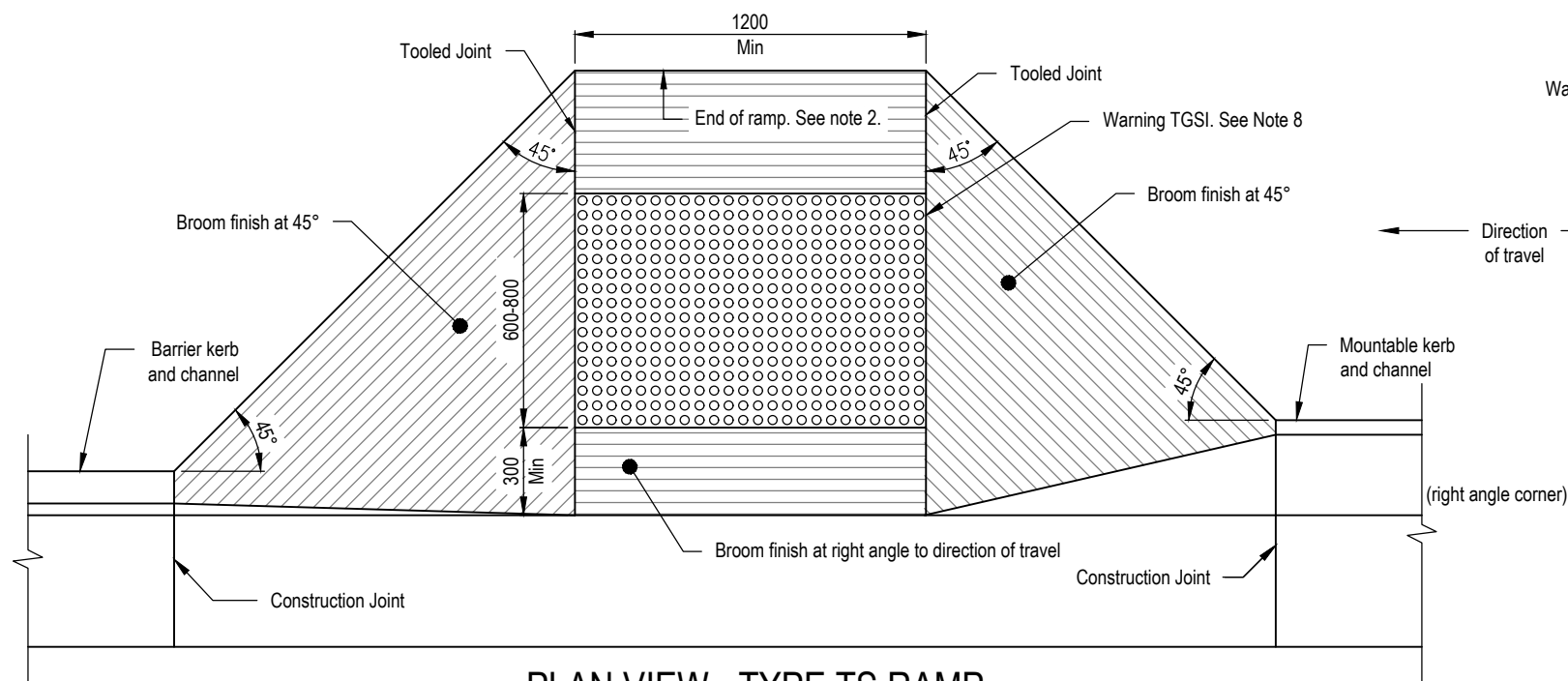
PLAN VIEW - TYPE GU RAMP

Scale 1:25



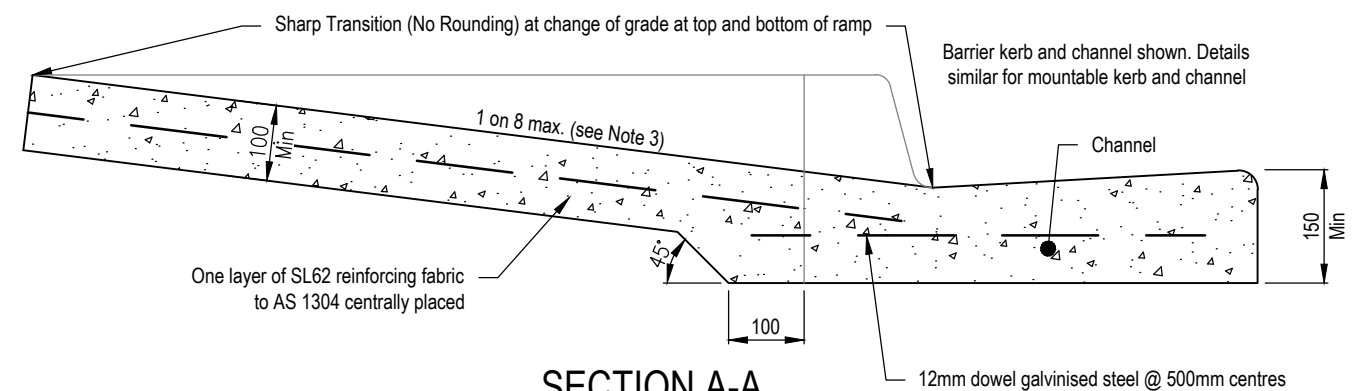
ELEVATION - RAMP

Scale 1:25



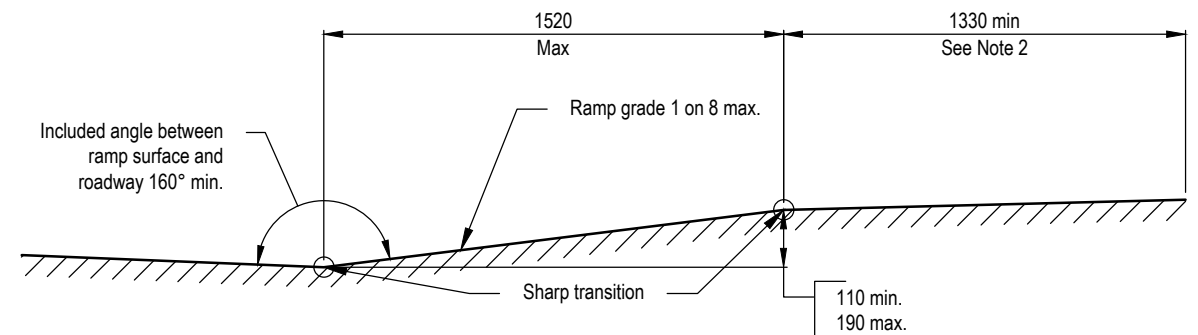
PLAN VIEW - TYPE TS RAMP

Scale 1:25 Section see Note 5



SECTION A-A

Scale 1:10



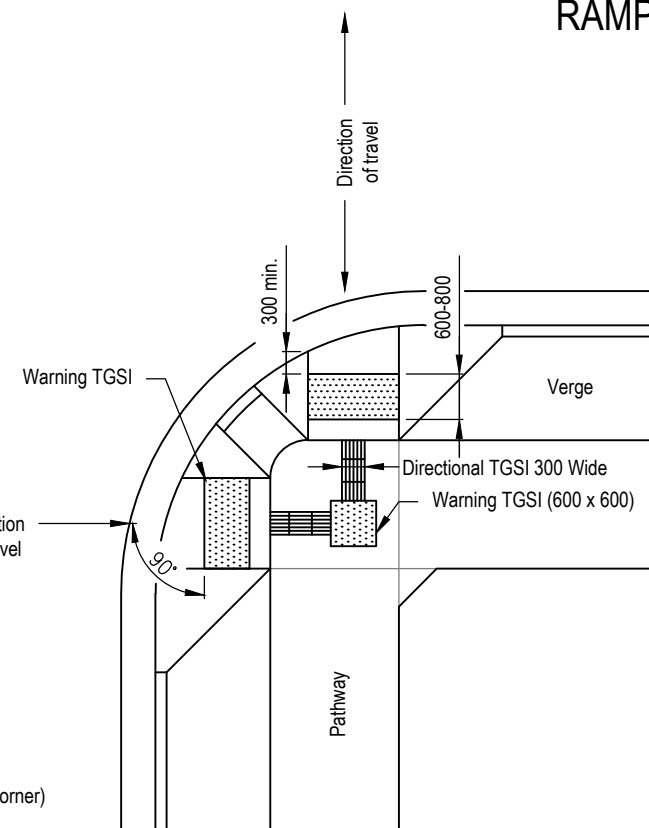
RAMP GRADING

Scale 1:10

NOTES:

RAMPED PEDESTRIAN CROSSING TYPES are to be used as follows:

1. Type GU - General usage. Type TS (Tactile Surface) - Where a need by vision impaired pedestrians has been identified.
2. RAMP END CLEARANCE - There shall be a minimum wheelchair turnaround distance of 1330mm beyond the end of the ramp and free of any obstruction.
3. RAMP SLOPE - Maximum ramp slope for wheelchair access shall be 1 on 8. The included angle between the ramp and the roadway shall not be less than 160° to provide ease of access for wheelchair users.
4. RAMP LOCATION - Kerb ramps should preferably be directed at 90° to the direction of the road to enable vision impaired pedestrians to walk directly across the road by the shortest route.
5. TYPE TS RAMP SECTION similar to section 1. Minimum 80mm depth of concrete to be provided below the tactile surfacing.
6. CONCRETE to be Class 32MPa/10. All concrete to be broom finished. Ramp to be cast monolithically with the channel.
7. SURFACE OF RAMP and sloping sides shall be slip resistant and of a colour that contrasts with the adjoining surfaces to meet the requirements of AS 1428.
8. TGSi (Tactile Ground Surface Indicators) shall be in accordance with AS/NZS 1428.4 Design for access and mobility Part 4: Tactile indicators. Tactile indicators shall be of a contrasting colour to adjoining surfaces to assist partially sighted pedestrians. Width of warning indicators shall be for the full width of the ramp. Tactile surfacing shall be installed perpendicular to direction of travel.
9. DIMENSIONS are in millimetres unless shown otherwise.



RAMP LOCATION

Scale 1:100

APPLICABILITY TABLE

Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	Yes	Yes	Yes	Yes	Yes	Yes

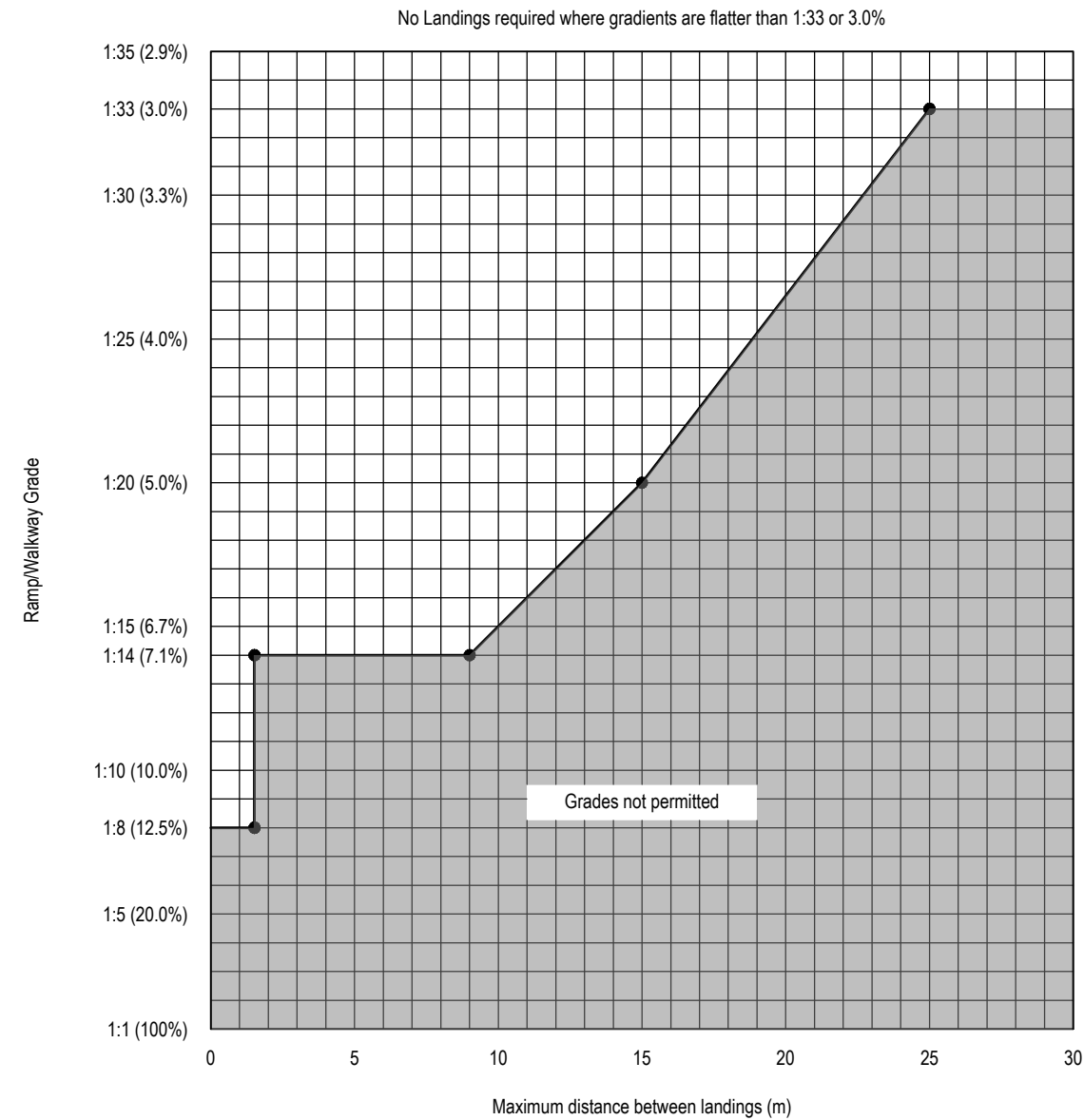
REVISIONS	DATE
F TOOLED JOINT NOTES ADDED	08/2022
E IRC ADDED	12/2016
D GRC AND LSC ADDED	09/2014
C MRC ADDED	04/2011
B AMENDED RAMP LOCATION AND TGSi	07/2010
A NEW DRAWING	01/2010

DISCLAIMER.
The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.

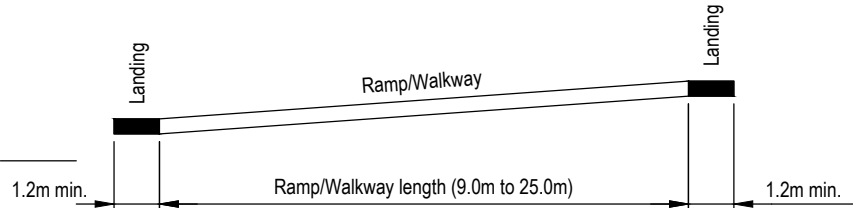
Capricorn Municipal Development Guidelines	
Incorporating:	
Banana Shire Council (BSC)	Maranoa Regional Council (MRC)
Central Highlands Regional Council (CHRC)	Rockhampton Regional Council (RRC)
Gladstone Regional Council (GRC)	Isaac Regional Council (IRC)
Livingstone Shire Council (LSC)	

KERB RAMP DETAILS

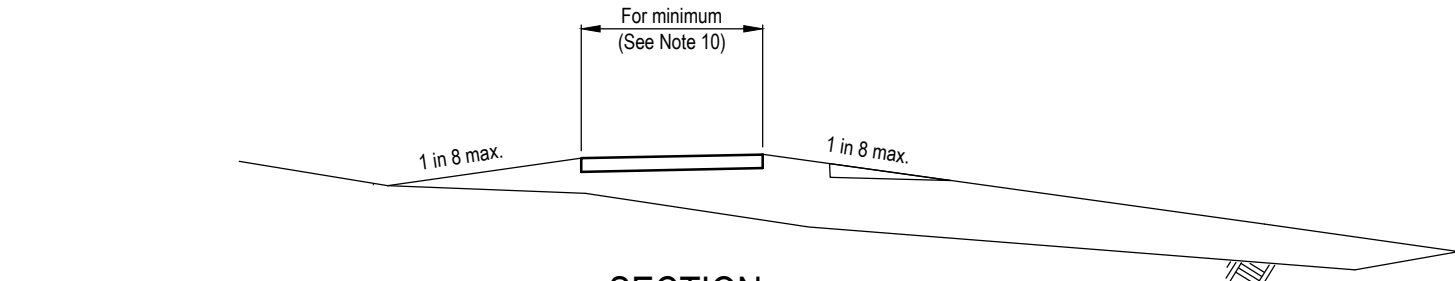
ROADS	STANDARD DRAWING	A3
	CMDG-R-050	
REV.	A	B C D E F



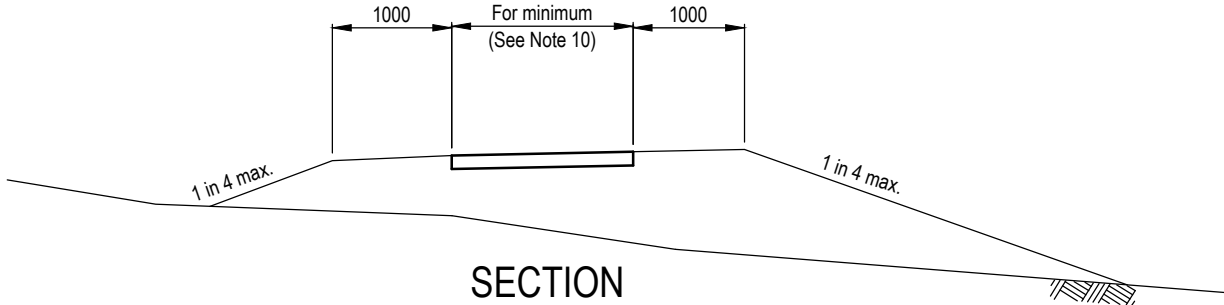
GEOMETRIC STANDARDS
Scale NTS



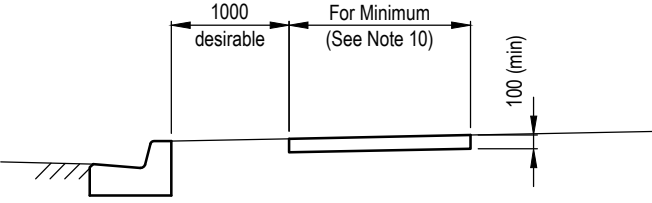
LONGITUDINAL GRADES OF PATHS
Scale NTS



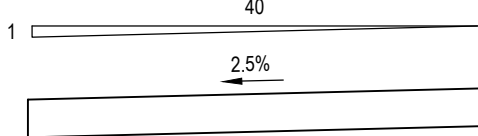
SECTION
(Where no kerb & channel exists)
Scale NTS



SECTION
(Where no kerb & channel exists)
Scale NTS



SECTION
(Where kerb & channel exists)
Scale NTS



MAXIMUM CROSSFALL OF PATHS
Scale NTS

NOTES:

1. Path grades and landings to be in accordance with AS 1428.1. In instances where it is not practical, landings may be omitted with the approval of the LGA.
2. Tactile indicators to be provided in accordance with AS 1428.4.
3. The gradient of walkways and ramps between landings shall be constant. Ramps shall have landings at changes in direction.
4. Where the length of ramp exceeds 1.52m it shall be installed at a maximum grade of 1:14.
5. Refer to CMDG-R-058 for surface finish, joint/ reinforcement details and material specifications.
6. Thickness to be increased at vehicular crossings in accordance with driveway standard drawings. Provide a joint at both ends of thickened section.
7. Concrete footpaths joining existing driveways to be transitioned over a minimum 5.0m length.
8. All dimensions in millimetres unless shown otherwise.
9. Kerb Ramps are to be provided in accordance with AS1428.1
10. Refer to CMDG Design Specification D1 for pathway widths.

APPLICABILITY TABLE							
Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	Yes	Yes	Yes	Yes	Yes	Yes

REVISIONS		DATE
G	NOTE 1 REVISED	08/2022
F	ADDITIONAL NOTES & NEW SECTION	05/2022
E	IRC ADDED	12/2016
D	GRC AND LSC ADDED	09/2014
C	MRC ADDED	04/2011
B	GRADE AMEND TO 1:4 MAX & FIBRE CONCRETE	07/2010

DISCLAIMER.

The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.

Capricorn Municipal Development Guidelines

Incorporating:

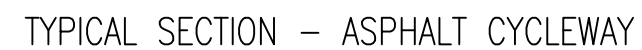
Banana Shire Council (BSC)
Central Highlands Regional Council (CHRC)
Gladstone Regional Council (GRC)
Livingstone Shire Council (LSC)

Maranoa Regional Council (MRC)
Rockhampton Regional Council (RRC)
Isaac Regional Council (IRC)

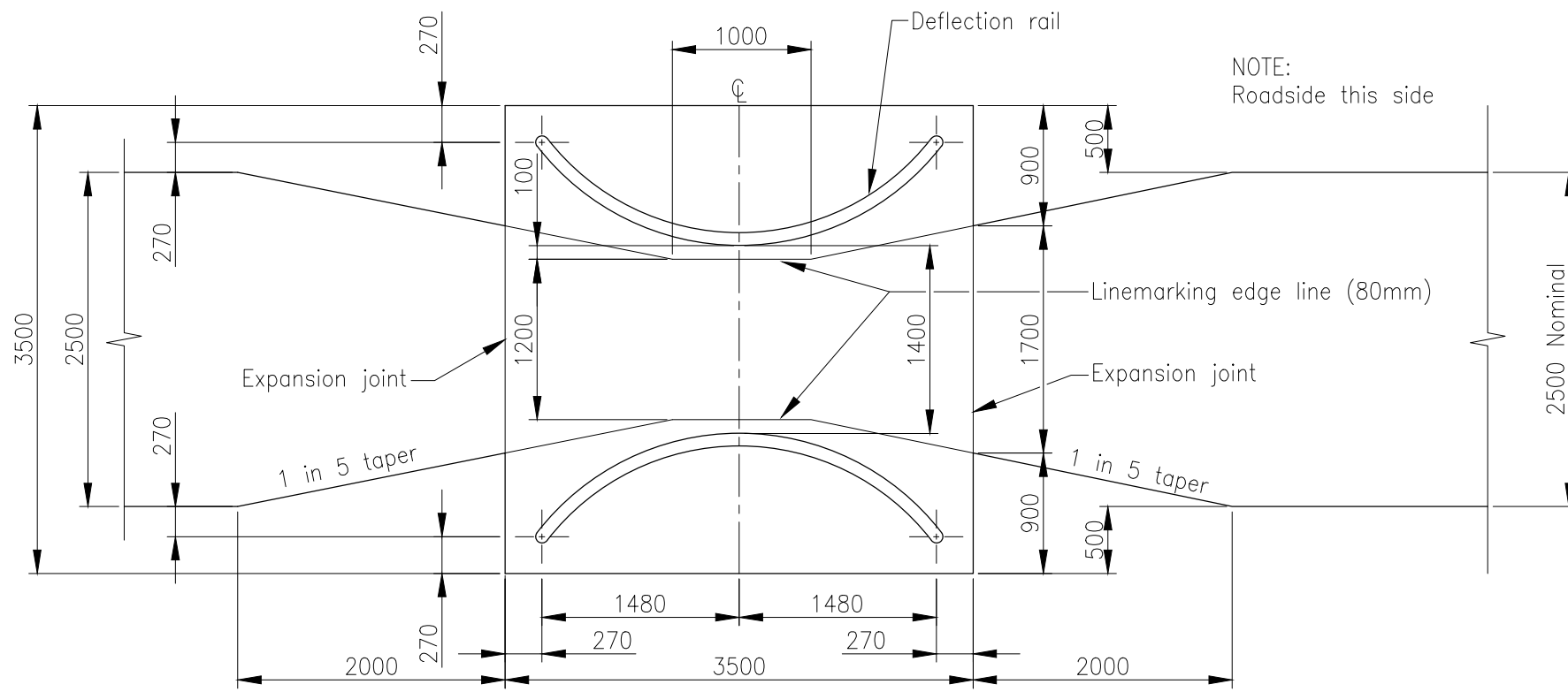
CONCRETE PATHWAY/CYCLEWAY
DETAILS

ROADS	
STANDARD DRAWING	A3
CMDG-R-051	
REV.	B C D E F G

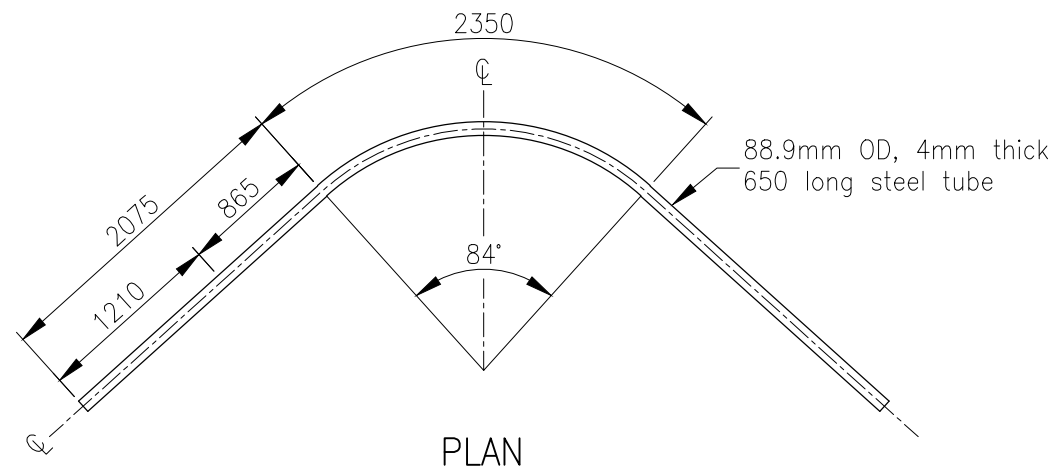
1. Refer AUSTROADS – PART 14 (BICYCLES) for horizontal and vertical geometry requirements.
2. Asphalt cycleways applicable off road only, in open spaces, parklands and along waterways.
3. Provide adequate drainage under cycleway where required to prevent ponding.



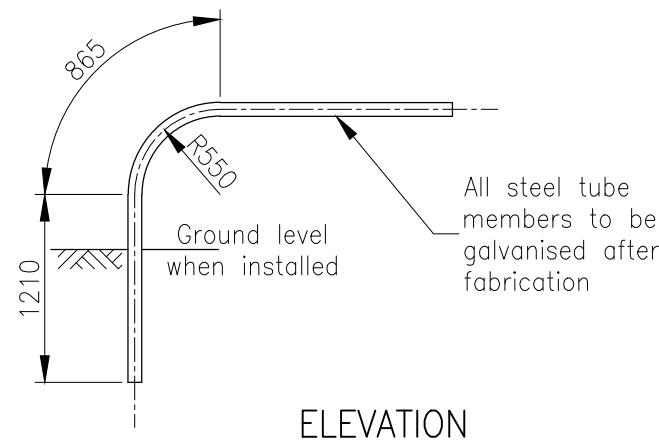
REVISIONS		DATE	DISCLAIMER. The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.	Capricorn Municipal Development Guidelines Incorporating: <table><tr><td>Banana Shire Council (BSC)</td><td>Livingstone Shire Council (LSC)</td></tr><tr><td>Central Highlands Regional Council (CHRC)</td><td>Maranoa Regional Council (MRC)</td></tr><tr><td>Gladstone Regional Council (GRC)</td><td>Rockhampton Regional Council (RRC)</td></tr><tr><td>Isaac Regional Council (IRC)</td><td></td></tr></table>		Banana Shire Council (BSC)	Livingstone Shire Council (LSC)	Central Highlands Regional Council (CHRC)	Maranoa Regional Council (MRC)	Gladstone Regional Council (GRC)	Rockhampton Regional Council (RRC)	Isaac Regional Council (IRC)		ROADS					
Banana Shire Council (BSC)	Livingstone Shire Council (LSC)																		
Central Highlands Regional Council (CHRC)	Maranoa Regional Council (MRC)																		
Gladstone Regional Council (GRC)	Rockhampton Regional Council (RRC)																		
Isaac Regional Council (IRC)																			
						STANDARD DRAWING													
						CMDG-R-052													



PLAN
ENTRANCE DETAIL



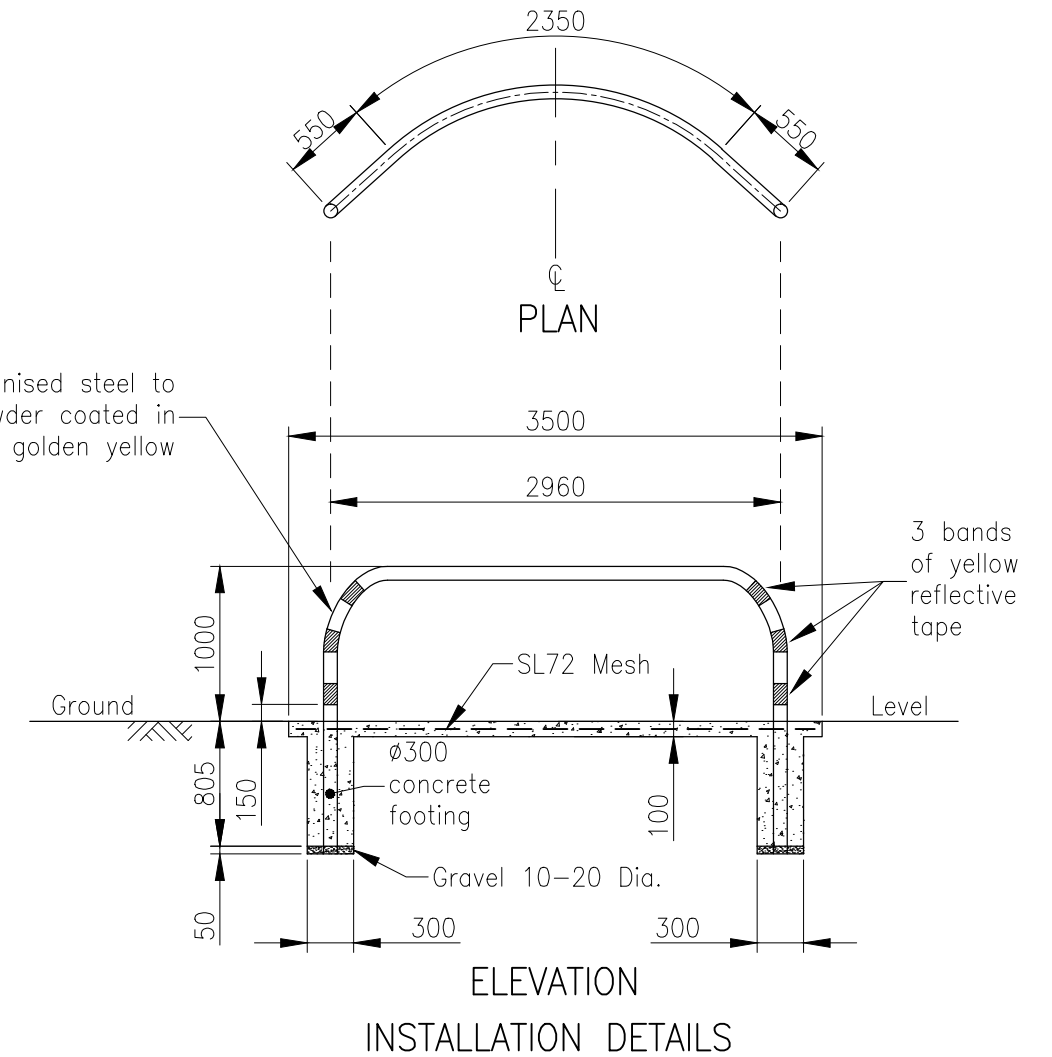
BENDING DETAIL



ELEVATION

NOTES:

1. Concrete N32 in accordance with AS 1379 and AS 3600.
2. Galvanized steel tube to be in accordance with AS 1163.
3. Each unit to be made from a one piece 6.5m long tube by roll forming only.
4. Retroreflective tape to AS/NZS 1906.1. Apply in accordance with manufacturer's recommendations.
5. All dimensions in millimetres.



APPLICABILITY TABLE

Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	Yes	Yes	Yes	Yes	Yes	Yes

REVISIONS	DATE
D IRC ADDED	12/2016
C GRC AND LSC ADDED	09/2014
B MRC ADDED	04/2011
A POST AMALGAMATION REVIEW	01/2010

DISCLAIMER.
The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.

Capricorn Municipal Development Guidelines

Incorporating:

Banana Shire Council (BSC)
Central Highlands Regional Council (CHRC)
Gladstone Regional Council (GRC)
Isaac Regional Council (IRC)
Livingstone Shire Council (LSC)
Maranoa Regional Council (MRC)
Rockhampton Regional Council (RRC)

**BIKEPATH
ENTRANCE TO ROAD RESERVE**

ROADS

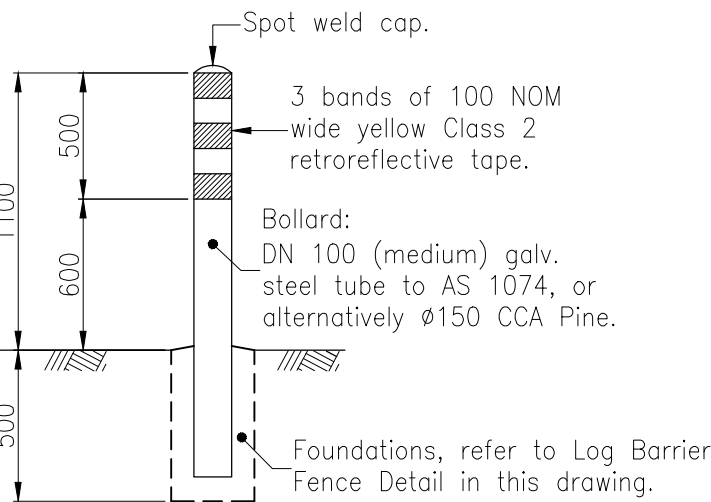
STANDARD
DRAWING

CMDG-R-053

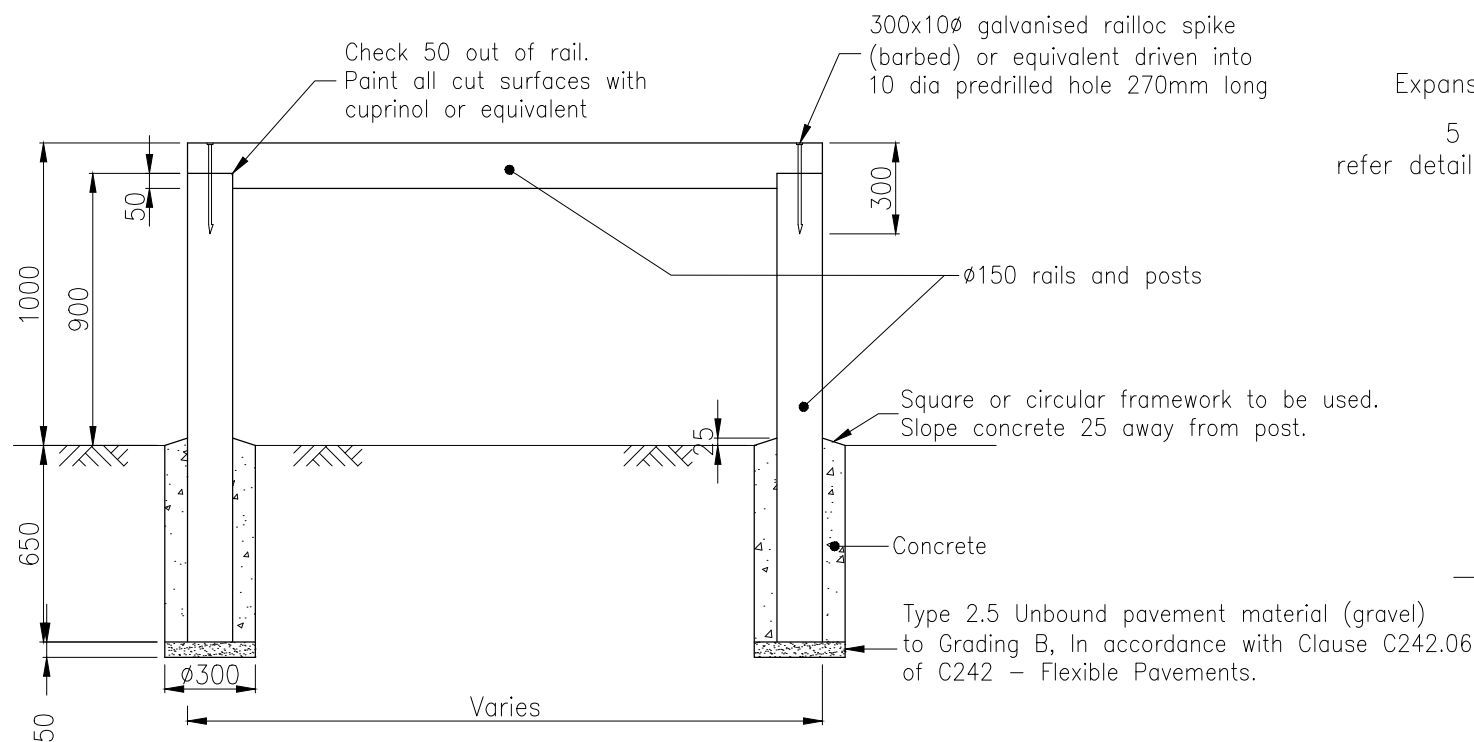
REV. A B C D

NOTES:

- 1. Concrete SL32 in accordance with AS 1379 and AS 3600.
- 2. Concrete slab to be 100mm thick.
- 3. C.C.A. log barrier to be 150mm in diameter, Grade A Superlogs or equivalent.
- 4. The nominal 2500 bikepath width may need to be increased.
- 5. Retroreflective tape to AS/NZS 1906.1. Apply in accordance with manufacturer's recommendations.
- 6. All dimensions in millimetres.



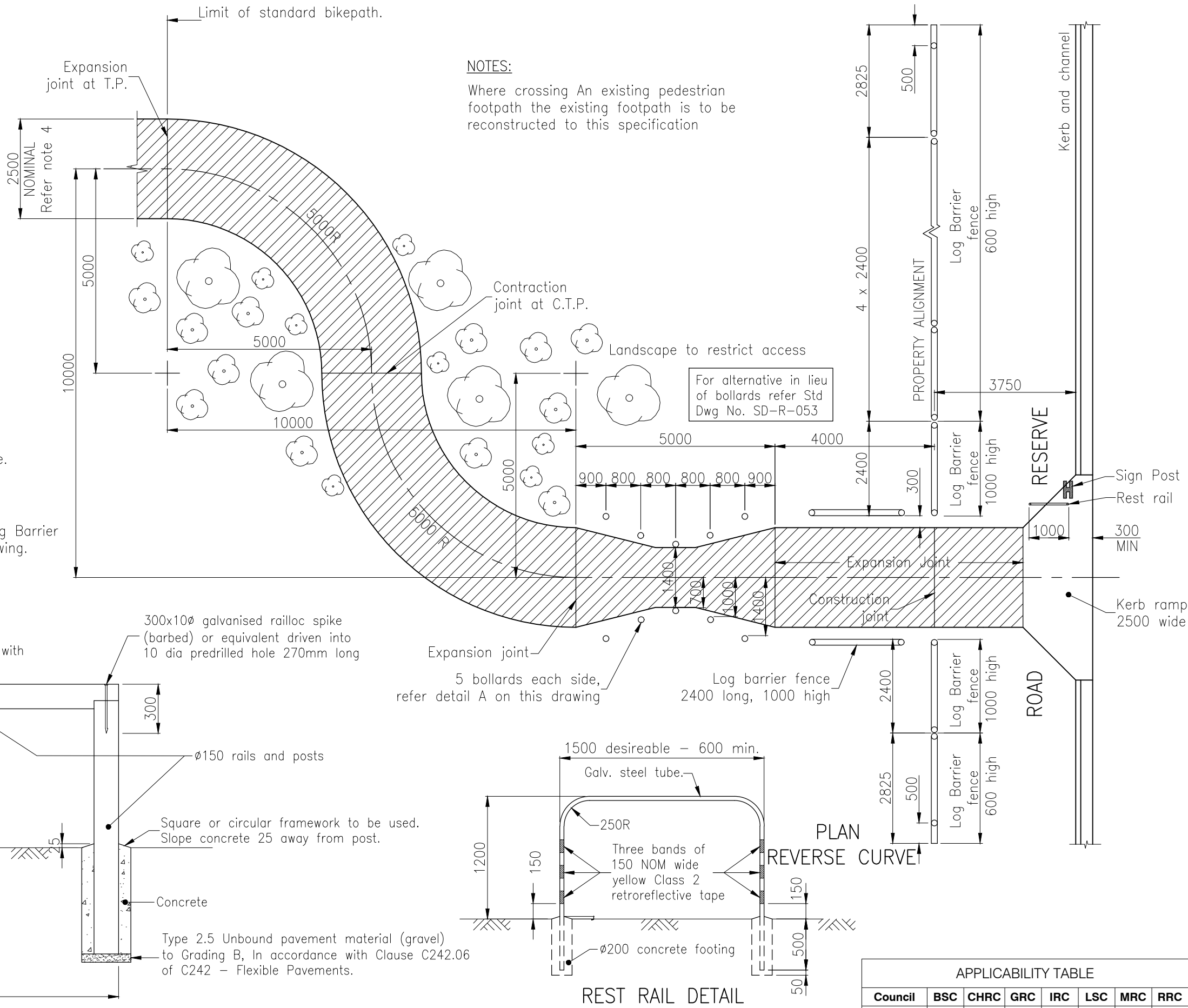
DETAIL A



LOG BARRIER FENCE DETAIL

NOTES:

Where crossing An existing pedestrian footpath the existing footpath is to be reconstructed to this specification



REST RAIL DETAIL

Refer project drawing for specification

APPLICABILITY TABLE							
Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	Yes	Yes	Yes	Yes	Yes	Yes

REVISIONS		DATE
E	IRC ADDED	12/2016
D	GRC AND LSC ADDED	09/2014
C	MRC ADDED	04/2011
B	NOTE ADDED RE EXISTING FOOTPATH RECONSTRUCTION	07/2010
A	POST AMALGAMATION REVIEW	01/2010

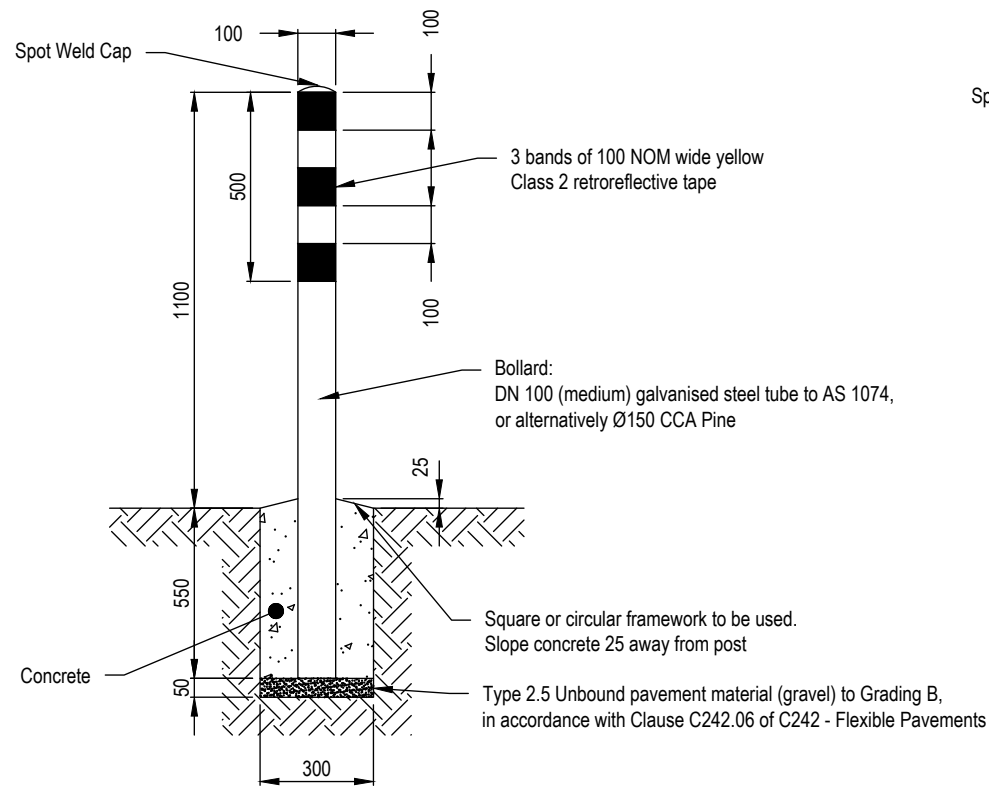
DISCLAIMER.
The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.

Capricorn Municipal Development Guidelines

Incorporating:
Banana Shire Council (BSC)
Central Highlands Regional Council (CHRC)
Gladstone Regional Council (GRC)
Isaac Regional Council (IRC)
Livingstone Shire Council (LSC)
Maranoa Regional Council (MRC)
Rockhampton Regional Council (RRC)

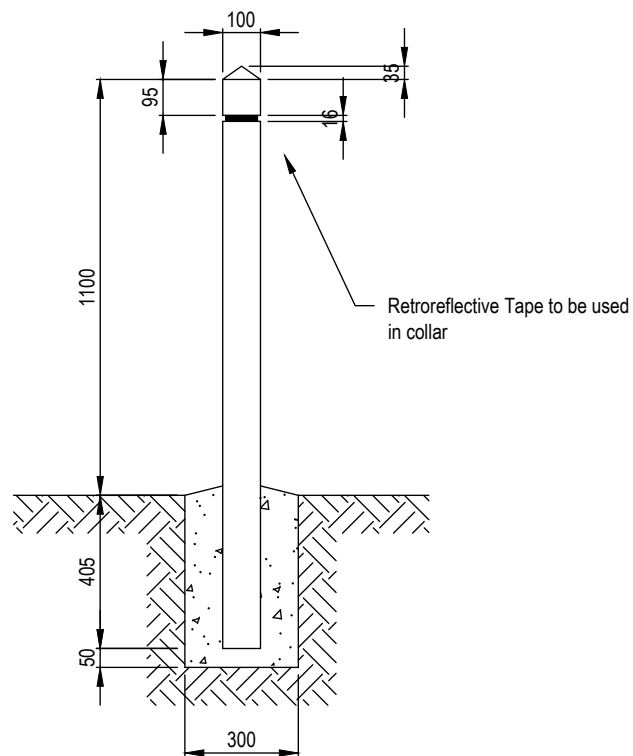
**BIKEPATH SLOWDOWN CONTROL
REVERSE CURVE**

ROADS							
STANDARD DRAWING							
CMDG-R-054							
REV.	A	B	C	D	E		



1100 STEEL TUBE BOLLARD

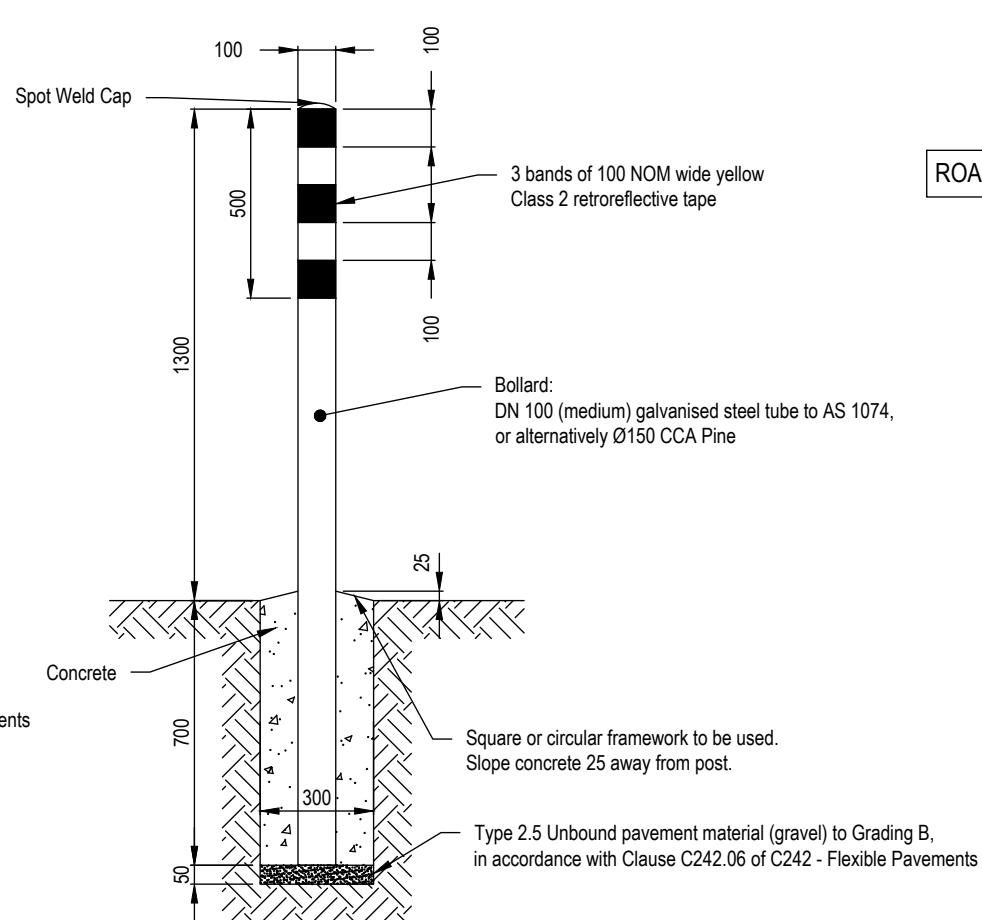
Scale 1:20



PLASTIC BOLLARD

(WHERE APPROVED BY LOCAL GOVERNMENT)

Scale 1:20

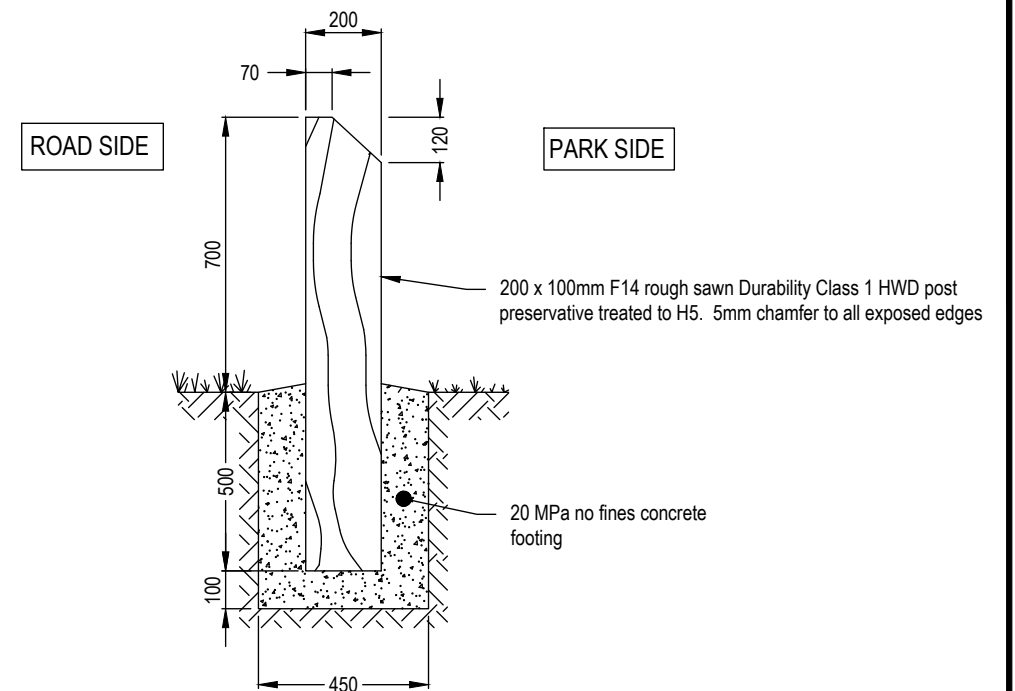


1300 STEEL TUBE BOLLARD

Scale 1:20

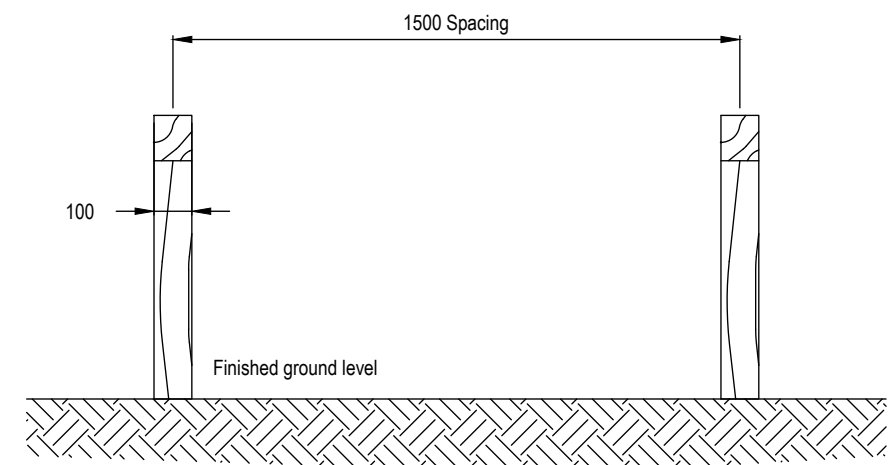
NOTES:

- Concrete N32 in accordance with AS 1379 and AS 3600 unless noted otherwise
- Retroreflective tape to AS/NZS 1906.1. Apply in accordance with manufacturer's recommendations.
- All dimensions in millimetres.
- Paint all cut surfaces on timber bollard with industrial clear water repellant to lock in chemicals used on CCA, in accordance with AS 1607.
- This drawing is intended for ground level bollards only. The designer must specify bollard requirements in accordance with AS/NZS 2890 in all other instances.
- Plastic Bollards must be made from recycled material.



SIDE SECTION

Scale 1:20



FRONT ELEVATION HARDWOOD
TIMBER BOLLARD

Scale 1:20

APPLICABILITY TABLE							
Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Plastic bollards approved	Yes	No	Yes	Yes	No	Yes	No
Applicable DWG	CMDG-R-055						

REVISIONS	DATE
G	ADDITIONAL BOLLARDS INCL. PLASTIC ADDED
F	IRC ADDED
E	GRC AND LSC ADDED
D	APPLICABILITY TABLE AMENDED
C	APPLICABILITY TABLE AMENDED

DISCLAIMER.
The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.

Capricorn Municipal Development Guidelines

Incorporating:

Banana Shire Council (BSC)
Central Highlands Regional Council (CHRC)
Gladstone Regional Council (GRC)
Livingstone Shire Council (LSC)

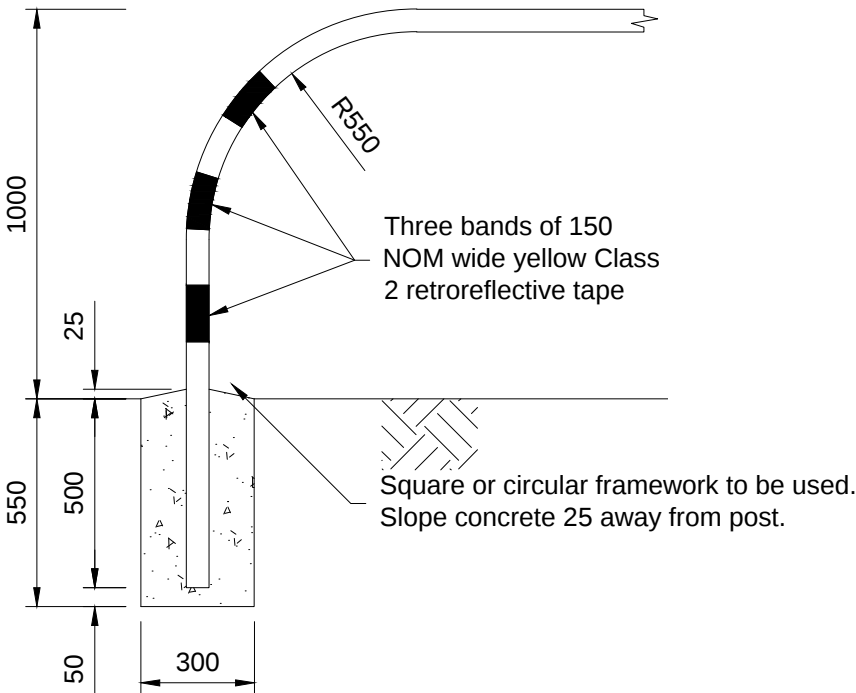
Maranoa Regional Council (MRC)
Rockhampton Regional Council (RRC)
Isaac Regional Council (IRC)

COUNCIL APPROVED FIXED BOLLARDS

ROADS	
STANDARD DRAWING	A3
CMDG-R-055	
REV.	C D E F G

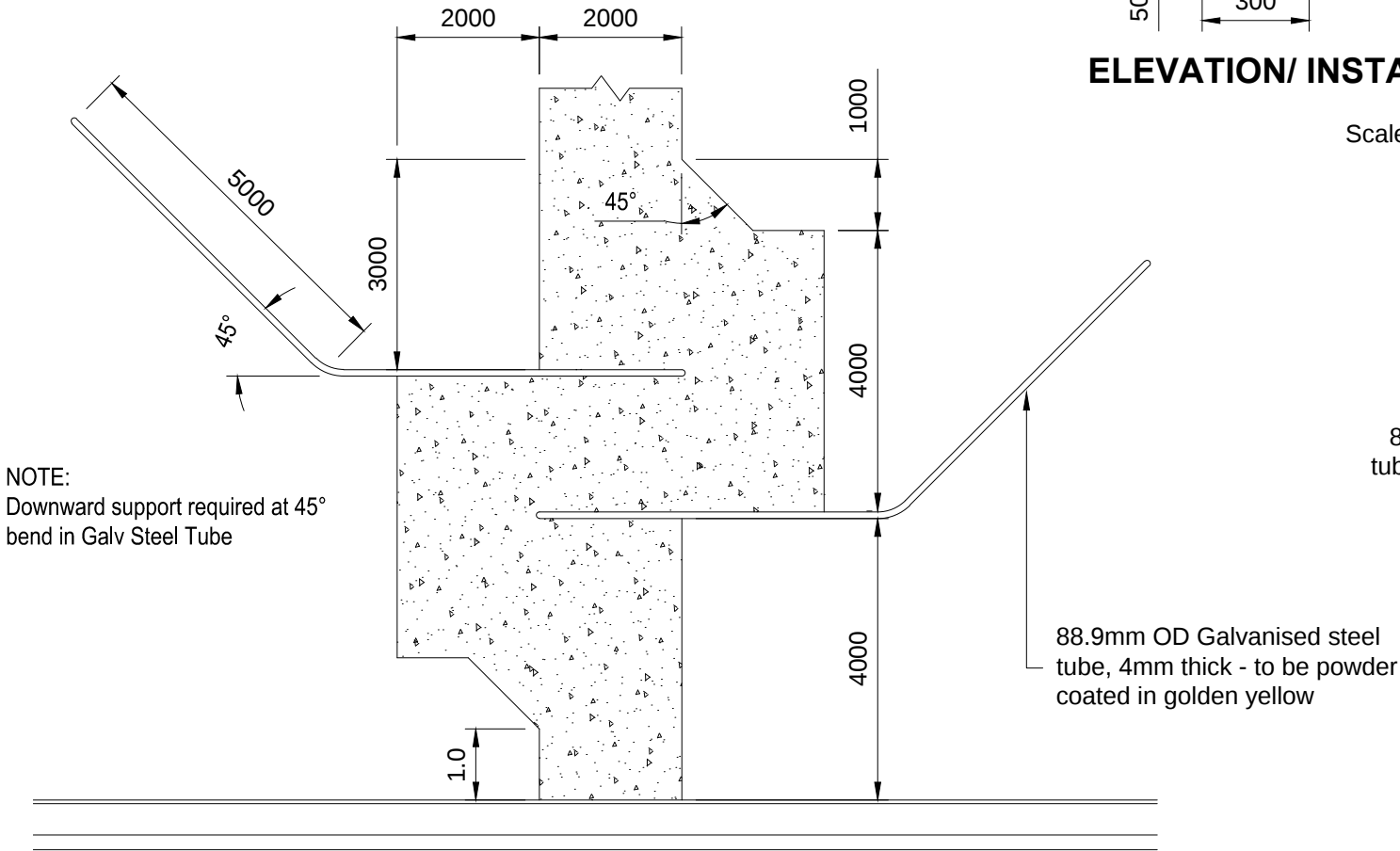
NOTES:

- 1. Concrete N32 in accordance with AS 1379 and AS 3600
- 2. Concrete footpaths to be 100mm thick
- 3. Retroreflective tape to AS/NZS 1906.1. Apply in accordance with manufacturer's recommendations
- 4. All dimensions in millimetres



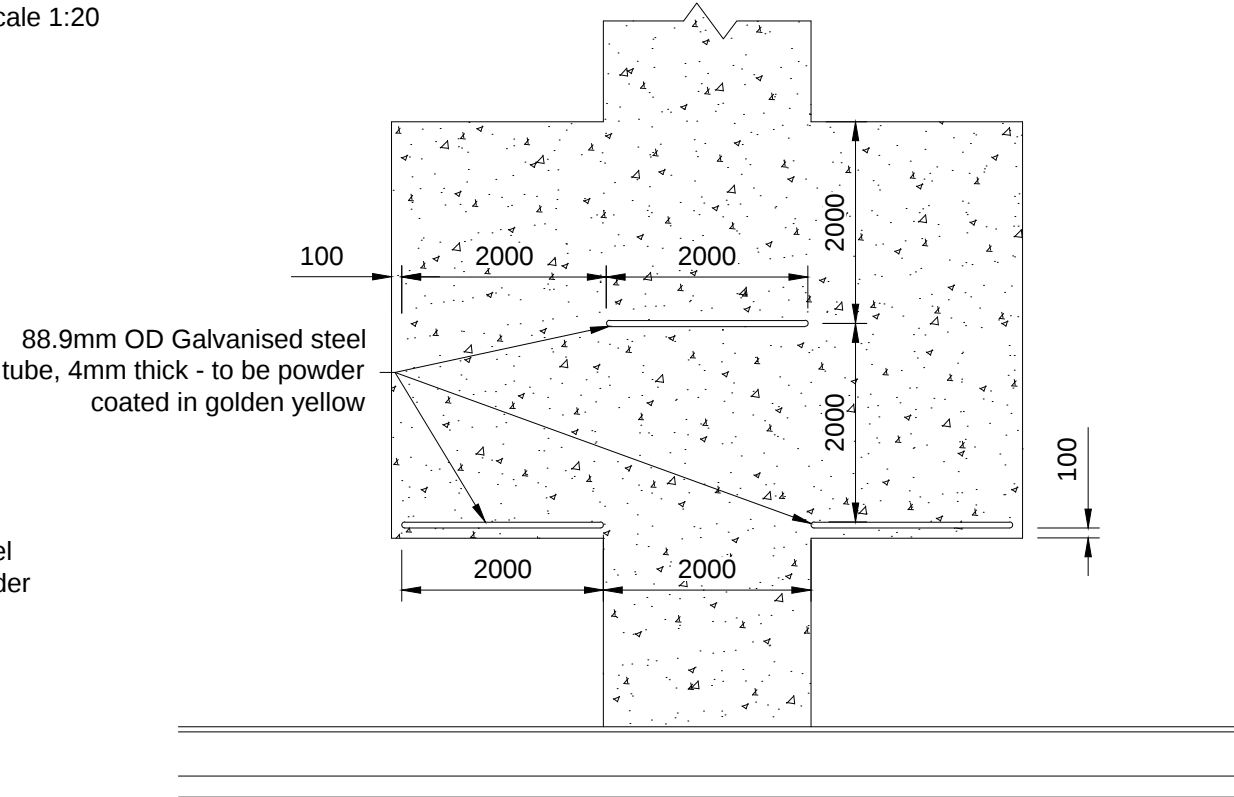
ELEVATION/ INSTALLATION DETAILS

Scale 1:20



PEDESTRIAN MAZE 1

Scale 1:100



PEDESTRIAN MAZE 2

Scale 1:75

APPLICABILITY TABLE							
Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	No	Yes	Yes	Yes	Yes	Yes
Applicable DWG							

REVISIONS		DATE
E	IRC ADDED	12/2016
D	GRC AND LSC ADDED	09/2014
C	RRC APPLICABILITY YES	07/2012
B	MRC ADDED	04/2011
A	POST AMALGAMATION REVIEW	06/2010

DISCLAIMER.	
The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.	

Capricorn Municipal Development Guidelines	
Incorporating:	
Banana Shire Council (BSC)	Livingstone Shire Council (LSC)
Central Highlands Regional Council (CHRC)	Maranoa Regional Council (MRC)
Gladstone Regional Council (GRC)	Rockhampton Regional Council (RRC)
Isaac Regional Council (IRC)	

PEDESTRIAN MAZE	
-----------------	--

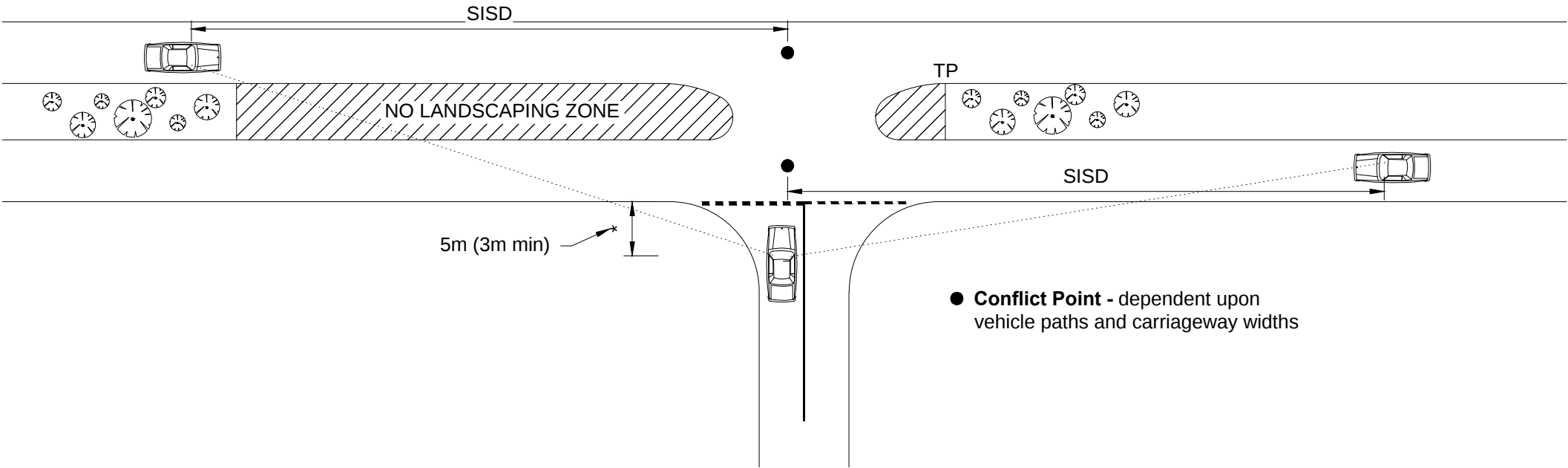
ROADS	
STANDARD DRAWING	
CMDG-R-056	
REV.	A B C D E

NOTES:

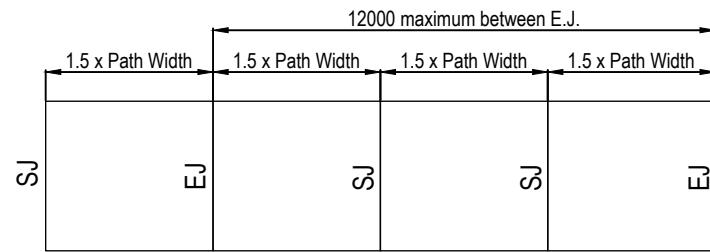
- 1. Model based on Department of Transport and Main Roads - Road Planning and Design Manual
- 2. All values used in equation for SISD can be found in the manual
- 3. No Landscaping Zone means no standing shrubs or trees - ground landscaping (ie) low laying gardens are subject to approval.
- 4. Sight distance models must be approved by Council
- 5. All landscaping are to be in accordance with approved species list
- 6. For distances regarding landscaping around power poles and street lights refer to CMDG-G-016 Street Planting
- 7. Subsurface drainage is required where landscaping is approved in centre median
- 8. Any trees planted in centre median should be set back a minimum of 600mm behind back of kerb

$$SISD = \frac{D_r \times V}{3.6} + \frac{V^2}{254 \times (d+0.01xa)}$$

SISD - Safe Intersection Sight Distance
D_r - decision time (s)
V - operating (85th percentile) speed (km/h)
d - coefficient of deceleration
a - longitudinal grade in %

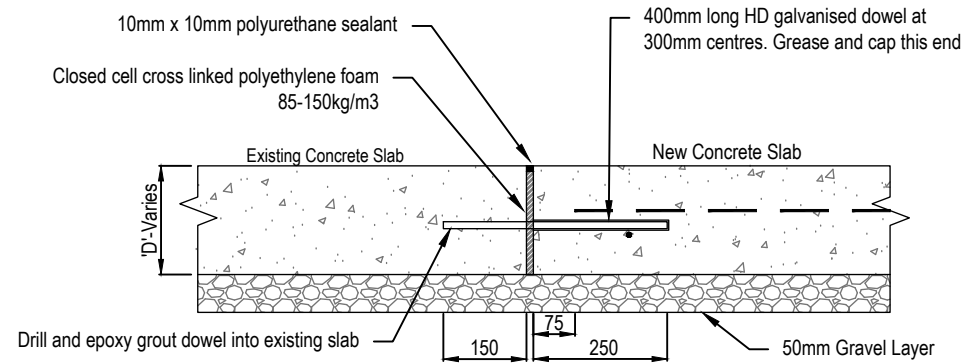


APPLICABILITY TABLE							
Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	No	Yes	Yes	Yes	Yes	Yes
Applicable DWG							



SPACING OF SAWN AND EXPANSION JOINTS

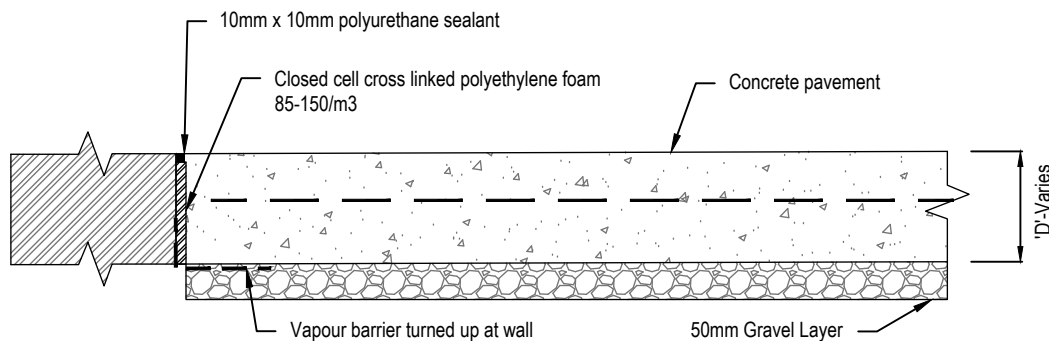
Scale NTS



DOWEL JOINT TO EXISTING SLAB

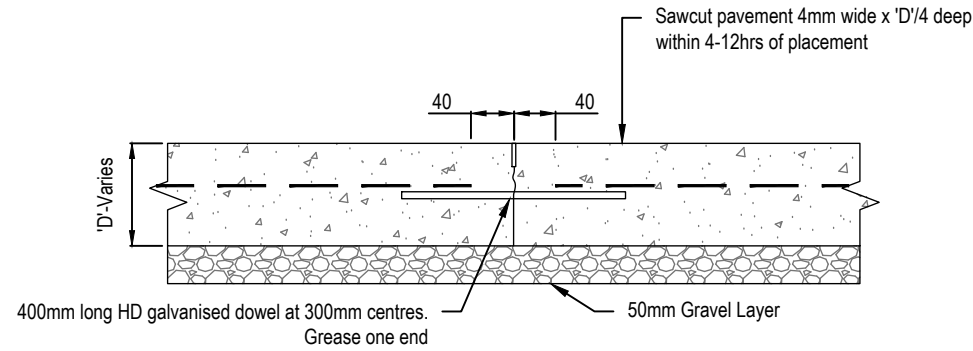
(USE WHERE DIRECTED)

Scale NTS



ISOLATION JOINT (IJ)

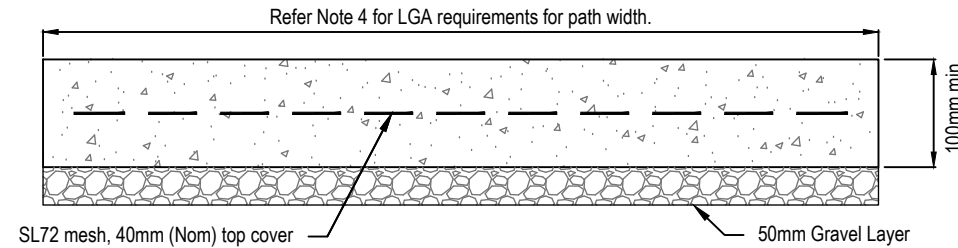
(USE WHERE DIRECTED)



SAWN JOINT (SJ)

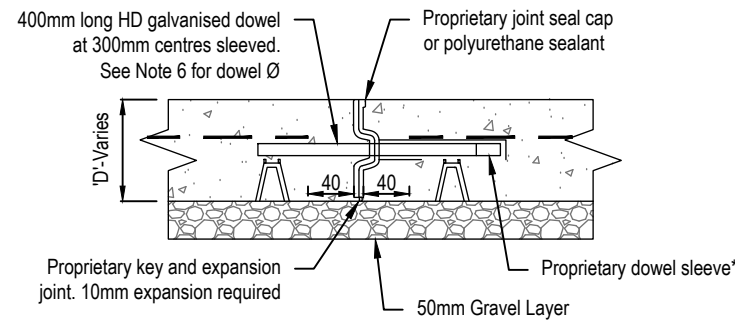
SPACING 1.5 TIMES PATH WIDTH (MAX)

Scale NTS



CONCRETE PATHWAY CROSS SECTION

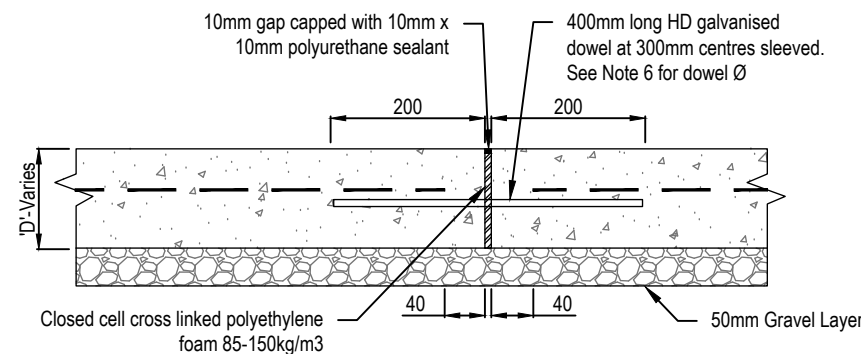
Scale NTS



EXPANSION JOINT (EJ) WITH DOWEL

SPACING 12m MAX

Scale NTS

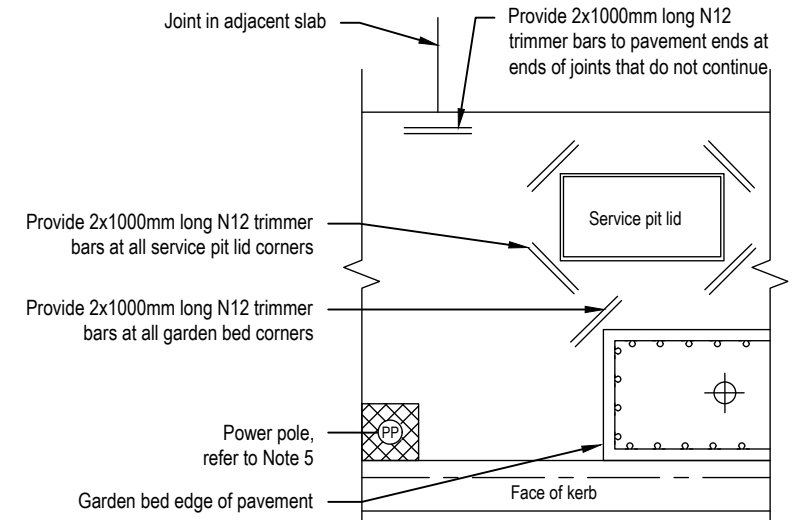


ALTERNATIVE EXPANSION JOINT (EJ)

(USE WHERE DIRECTED) SPACING 12m MAX

Scale NTS

NOTE: There is no need to provide expansion or contraction joints to pit lids or corners of garden beds unless shown on surface treatment plans. Provide trimmer bars opposite all ends of joints that do not continue across adjoining pavement.



TRIMMER BAR LOCATIONS AND POWER POLE TREATMENT

Scale NTS

NOTES:

- Expansion joints to be metal key joints unless approved otherwise. Non keyed plastic/metal alternatives are acceptable.
- All dimensions in millimeters unless shown otherwise.
- Proprietary crack inducer products may be used in place of saw-cutting on sawn joints if approved.
- Refer to CMDG design specification D1 for pathway widths.
- 400mm asphalt is to be left around power poles in accordance with electricity authority requirements. Asphalt to be 20mm (min) thick DG7 (or approved alternative) and must be flush with surrounding concrete with no trip hazard.
- Dowels Ø12 in slab thickness 100 or less.
Dowels Ø16 in slab thickness 125 or less.
Dowels Ø20 in slab thickness 175 or less.
- Plastic dowels are acceptable if used as part of a proprietary joint system.
- Fibre reinforced concrete is approved with class 2 macro structural synthetic polymer fibres in accordance with MRTS 273.
- Where concrete path is to be constructed adjacent to existing trees, an articulated joint system may be used to minimise potential damage from tree roots. Contact Local Government Authority (LGA) for specific guidance and approval.
- Subgrade to achieve 95% standard relative compaction with a soaked CBR greater than 5.
- 50mm (minimum) gravel layer beneath concrete to compacted to achieve a minimum dry density ratio of 100%.
- All concrete to be grade N32
- Reinforcement mesh to be SL72 with 40mm nominal top and side cover.
- All concrete surfaces to be broom finished or as otherwise approved by the LGA in Design Specification D9 cycleway and pathway design.
- All surfaces to meet either AS 4586 - Slip resistance classification of new pedestrian surface materials or AS 4663 - Slip resistance measurement of existing pedestrian surfaces as appropriate.
- Where a new pathway adjoins an existing driveway the existing driveway must
 - have the same surface finish
 - have compliant grades (crossfall and longitudinal) relative to the pathway
 - be in good conditionIf these parameters cannot be met then the appropriate section of the driveway must be reconstructed to suit the pathway (driveway thickness and reinforcement apply). Impacts to vehicle vertical clearance must be considered.

DRAWING APPLICABILITY TABLE

Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	Yes	Yes	Yes	Yes	Yes	Yes

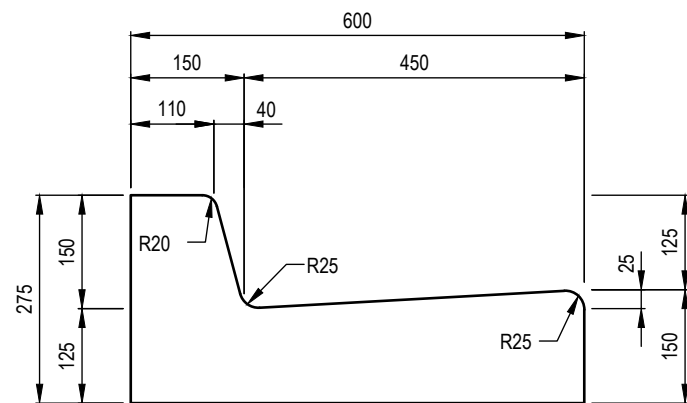
REVISIONS	DATE
C	MINOR AMENDMENTS TO NOTES
B	NOTES AMENDED, DETAILS AMENDED
A	NEW DRAWING

DISCLAIMER.
The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.

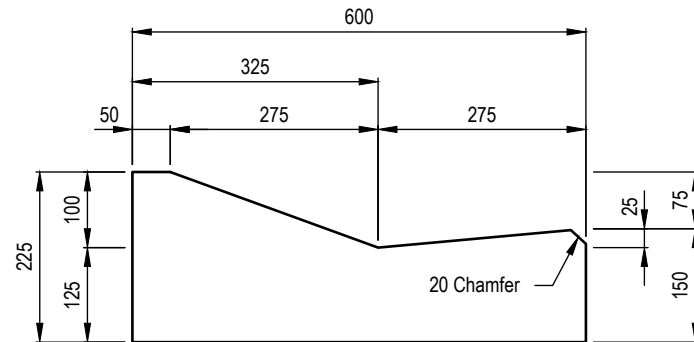
Capricorn Municipal Development Guidelines
Incorporating:
Banana Shire Council (BSC)
Central Highlands Regional Council (CHRC)
Gladstone Regional Council (GRC)
Livingstone Shire Council (LSC)
Maranoa Regional Council (MRC)
Rockhampton Regional Council (RRC)
Isaac Regional Council (IRC)

CONCRETE PATHWAY CROSS SECTION & JOINT DETAILS
--

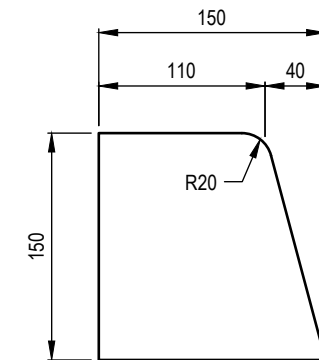
ROADS
STANDARD DRAWING
A3
CMDG-R-058
REV. A B C



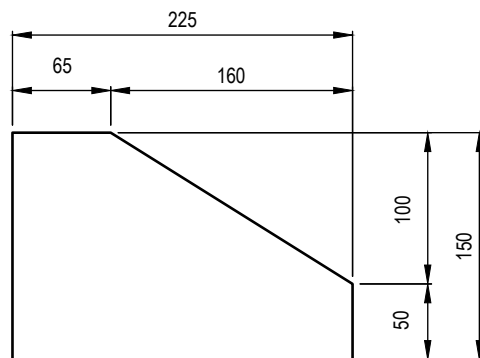
TYPE 1 - BARRIER KERB AND CHANNEL
Scale 1:10



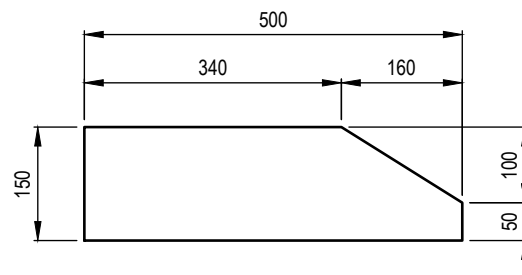
TYPE 2 - MOUNTABLE KERB AND CHANNEL
Scale 1:10



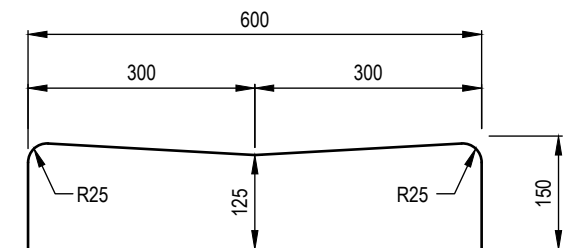
TYPE 3 - BARRIER KERB
Scale 1:5



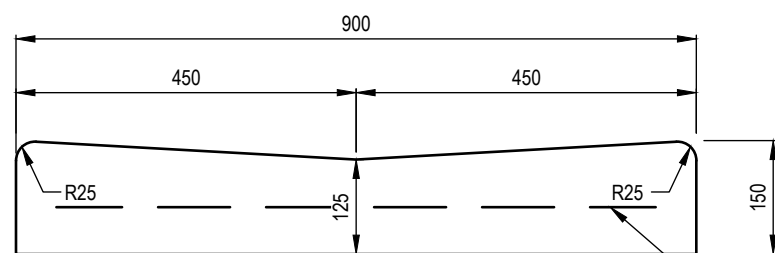
TYPE 4 - SEMI-MOUNTABLE KERB
Scale 1:5



TYPE 5 - SEMI-MOUNTABLE KERB
Scale 1:10

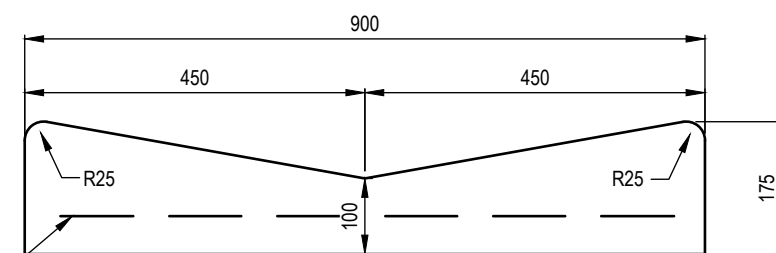


TYPE 6 - CONCRETE INVERT (600 WIDE)
Scale 1:10

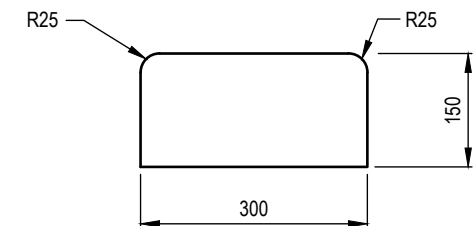


TYPE 7 - CONCRETE INVERT (900 WIDE)
Scale 1:10

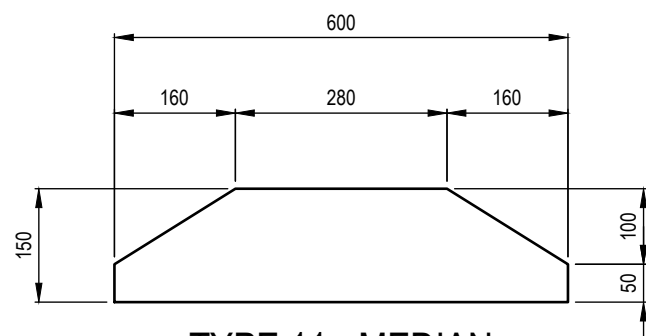
SL62 Centrally placed,
concrete strength 32 MPa



TYPE 8 - CONCRETE CHANNEL (900 WIDE)
Scale 1:10



TYPE 10 - FLUSH KERB
Scale 1:10



TYPE 11 - MEDIAN
Scale 1:10

NOTES:

- All dimensions in millimeters.

APPLICABILITY TABLE

Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	Yes	Yes	Yes	Yes	Yes	Yes

REVISIONS	DATE
H TYPE 9 REMOVED, TYPE 11 ADDED	04/2023
G BSC APPLICABILITY AMENDED	10/2022
F IRC ADDED	12/2016
E FLUSH KERB ADDED	07/2015
D GRC AND LSC ADDED	09/2014
C MRC ADDED/ROLLOVER KERB & CHANNEL AMENDED	07/2011

DISCLAIMER.
The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.

Capricorn Municipal Development Guidelines

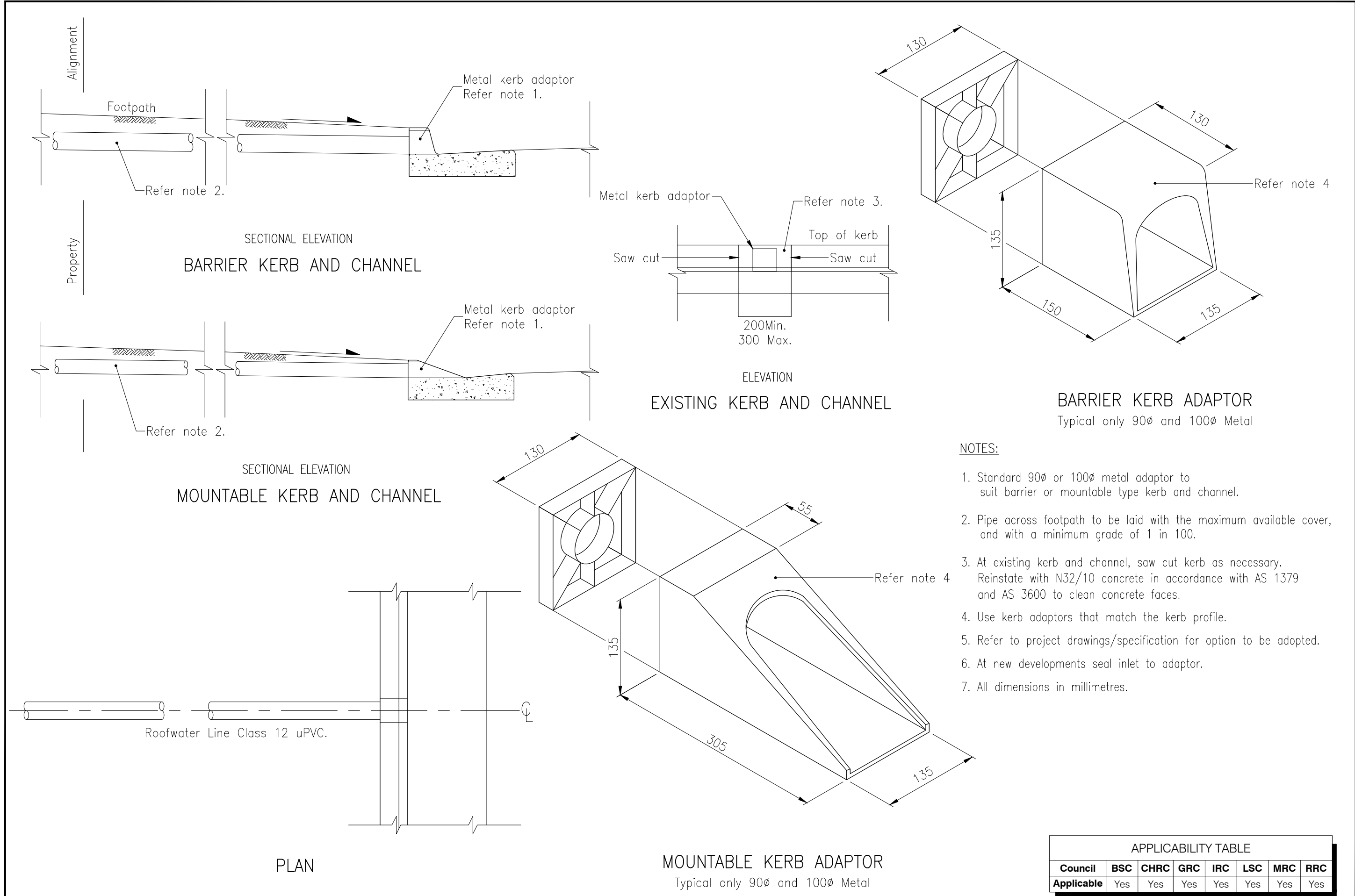
Banana Shire Council (BSC)
Central Highlands Regional Council (CHRC)
Gladstone Regional Council (GRC)
Livingstone Shire Council (LSC)

Incorporating:

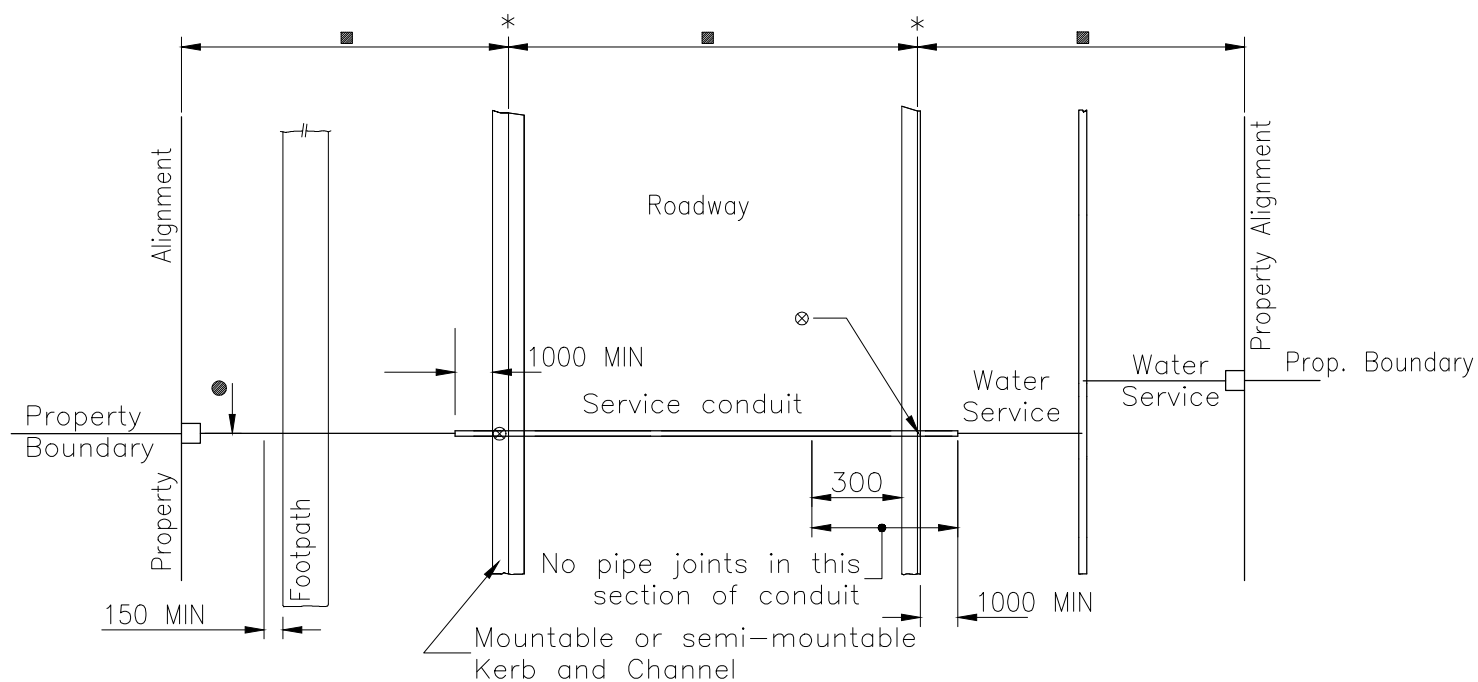
Maranoa Regional Council (MRC)
Rockhampton Regional Council (RRC)
Isaac Regional Council (IRC)

STANDARD KERB AND CHANNEL PROFILES

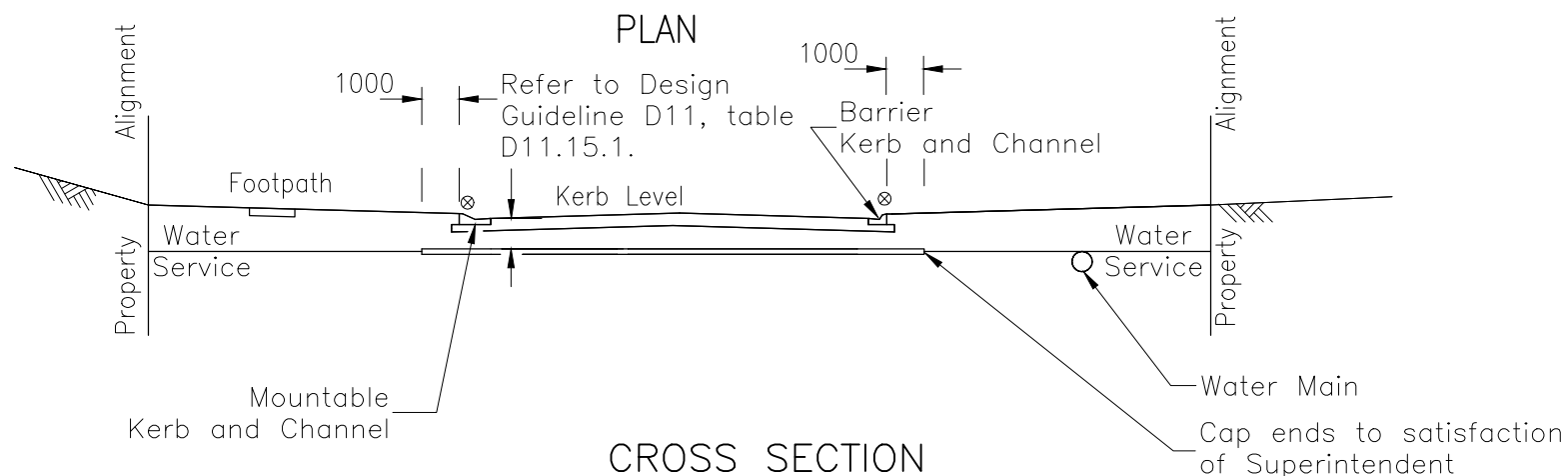
ROADS	
STANDARD DRAWING	A3
CMDG-R-060	
REV.	C D E F G H



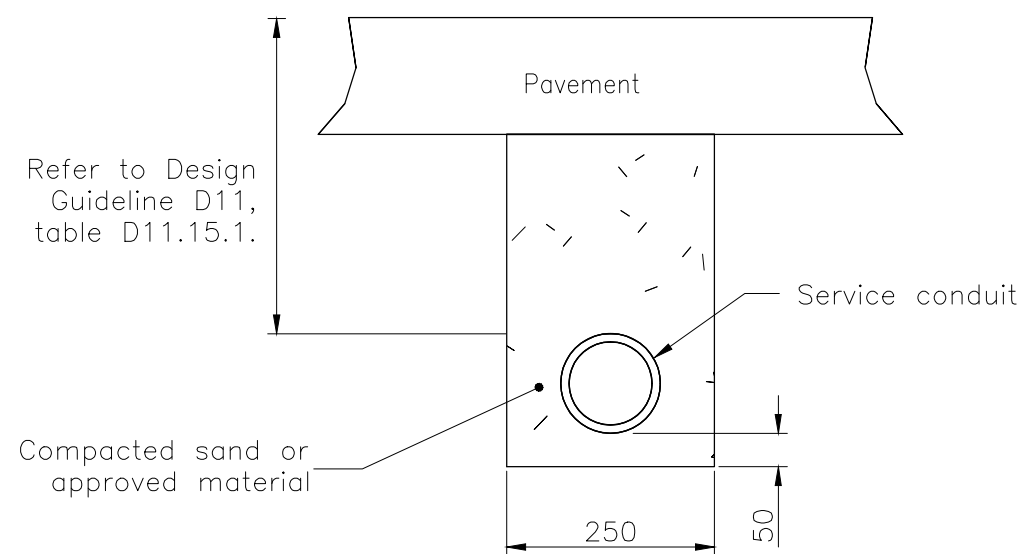
REVISIONS			DATE	DISCLAIMER.				Capricorn Municipal Development Guidelines				ROADS			
				The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.				Incorporating:				STANDARD DRAWING			
D	IRC ADDED		12/2016	Banana Shire Council (BSC)				Livingstone Shire Council (LSC)				CMDG-R-061			
C	GRC AND LSC ADDED		09/2014	Central Highlands Regional Council (CHRC)				Maranoa Regional Council (MRC)				REV. A B C D			
B	MRC ADDED		04/2011	Gladstone Regional Council (GRC)				Rockhampton Regional Council (RRC)							
A	POST AMALGAMATION REVIEW		01/2010	Isaac Regional Council (IRC)											



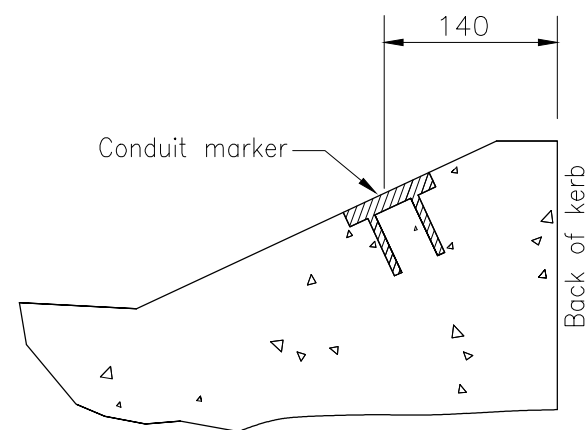
PLAN



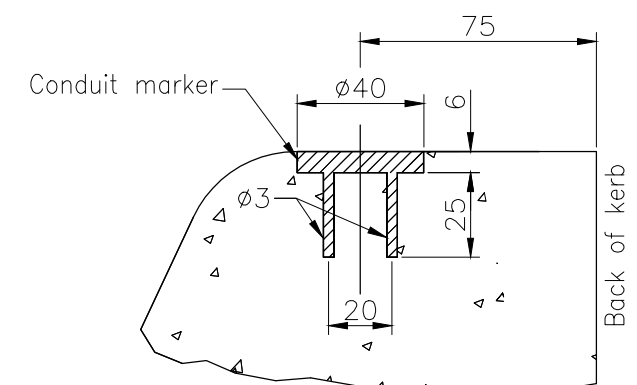
CROSS SECTION



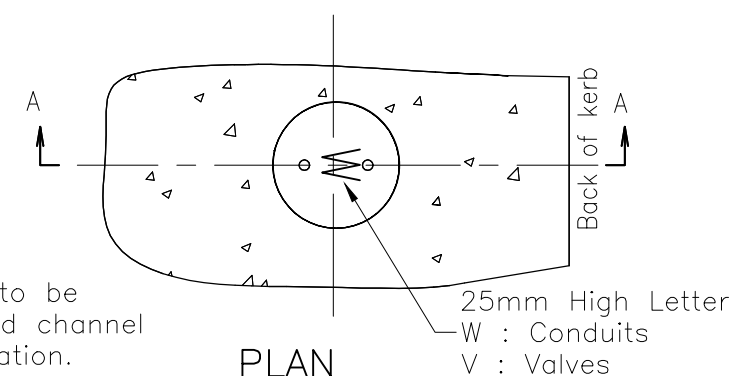
TYPICAL SECTION – SERVICE CONDUIT



SECTION A-A MOUNTABLE OR SEMI-MOUNTABLE KERB



SECTION A-A BARRIER KERB



PLAN

SERVICE CONDUIT MARKER

Markers for valves to be installed in kerb and channel at 90° to valve location.

NOTES:

1. Trimming and compaction of the subgrade to be completed and approved before excavation for service conduits is commenced. Excavated material shall be thrown on the footpath and not on the subgrade.
2. Service conduits alternatives: 100 DIA concrete/FR pipes (S.F.) Class C or S (R.R.J.)
100 DIA uPVC, Class 12.
3. Positions of the service conduits shown are typical only. Conduits to be located as shown on project drawings.
4. Service conduit markers are to be fabricated from either brass or stainless steel and shall be installed for all conduits and valves.
5. Marker details may be varied if approved.
6. All dimensions in millimetres.

LEGEND:

- * NOM kerb line
- ⊗ Service conduit marker
- Refer project drawings.
- Service conduit to be square to pavement and on alignment with side boundary
- SC — Service conduits (on project drawings).

APPLICABILITY TABLE

Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	Yes	Yes	Yes	Yes	Yes	Yes

REVISIONS	DATE
D IRC ADDED	12/2016
C GRC AND LSC ADDED	09/2014
B MRC ADDED	04/2011
A POST AMALGAMATION REVIEW	01/2010

DISCLAIMER.
The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.

Capricorn Municipal Development Guidelines

Incorporating:

Banana Shire Council (BSC)
Central Highlands Regional Council (CHRC)
Gladstone Regional Council (GRC)
Isaac Regional Council (IRC)
Livingstone Shire Council (LSC)
Maranoa Regional Council (MRC)
Rockhampton Regional Council (RRC)

WATER SERVICE CONDUITS

ROADS

STANDARD
DRAWING

CMDG-R-070

REV. A B C D

Ø10 CAD bolts & nut, centre pop end of bolt.

Downey or equivalent cap

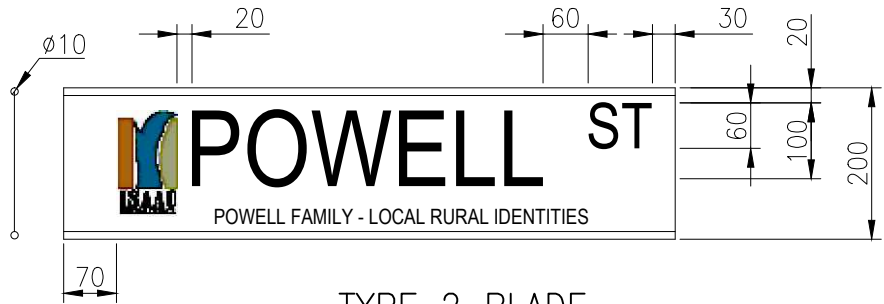
SANDY DR
38-68

Post size DN50
Gal Pipe (Medium)

Table Of Abbreviations

Avenue	AVE
Court	CT
Crescent	CR
Drive	DR
Esplanade	ESP
Lane	LA
Parade	PDE
Road	RD
Street	ST
Terrace	TCE

2200 (approximately)



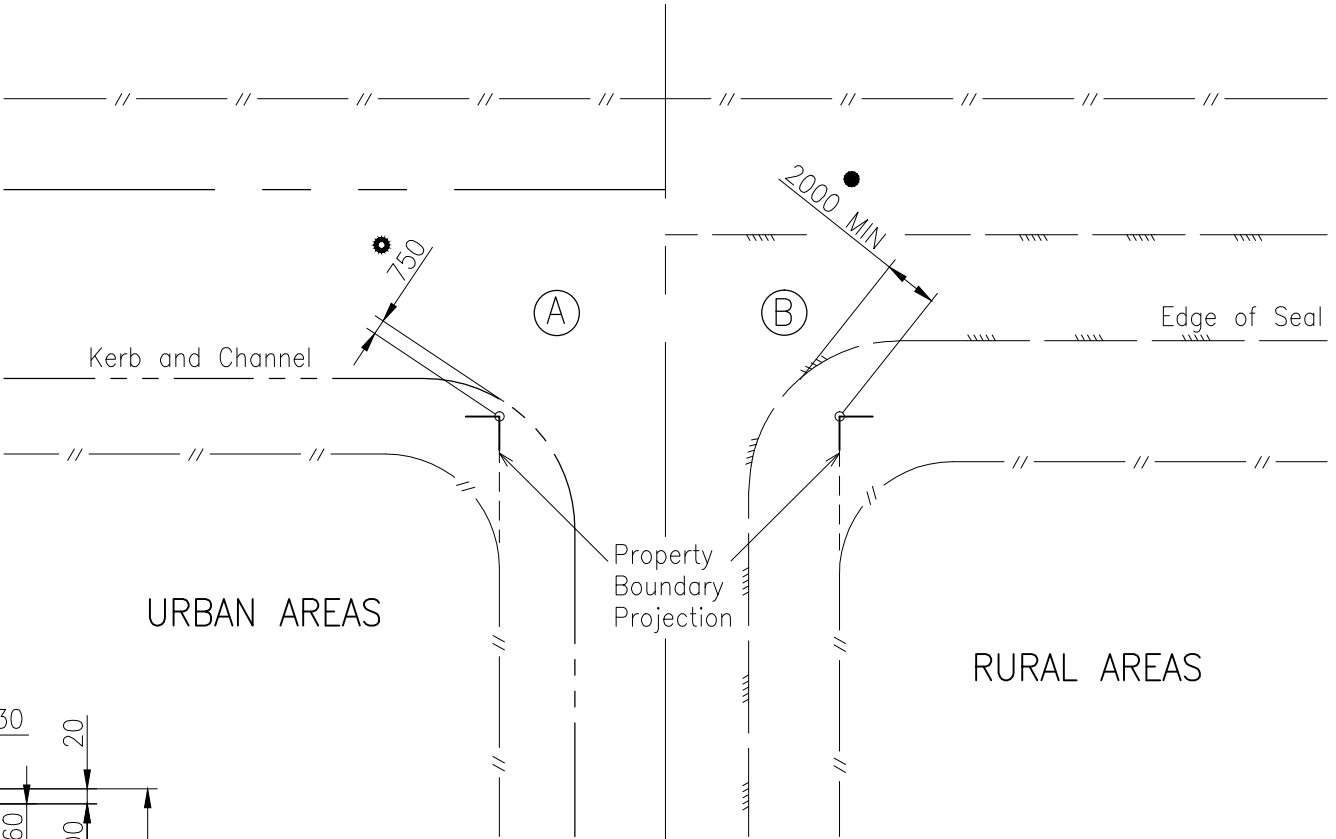
TYPE 2 BLADE



TYPE 1 BLADE

LEGEND

- Sign post is to be located 750mm behind nominal kerb line
- Sign post is to be located 2000mm Min. – 4000mm MAX. from edge of seal, or as directed by the Superintendent



URBAN AREAS

RURAL AREAS

SIGN LOCATIONS

NOTES:

- Street names must be approved by Council.
- Name plates: 650mm long x 150mm wide x 3mm thick extruded aluminium or polypropylene section on urban streets. 200mm wide on rural roads. Local Governments need to be contacted to ensure the correct sign size is selected as there are specific requirements and the above dimensions shall be used as a last resort.
- Bracket: Standard 150mm wide and 3mm thick aluminium extruded bracket (including 2 x 6Ø CAD bolts & nuts). CAD bolts and nuts to AS 1897.
- Letters & Numbers: Black Vinyl on Class 1 white reflectorised background (both sides) to AS 1743.
Letters: 100mm high street name for urban roads with 30mm high numbers; 150mm high road name for rural roads. Series B, medium spacing (spacing may be varied to suit length of street name when approved by Superintendent). All text to AS 1744.
- All signs are to be approved by the Superintendent prior to erection.
- Signs to be positioned on the side of street/road that provides best visibility.
- Concrete N25 in accordance with AS 1379 and ISO 3600.
- Bars 10Ø, grade 250 to AS 1302.
- Supply and installation to be in accordance with each Local Government's Approval Conditions.
- Sleeve to be provided as directed by Council.

APPLICABILITY TABLE

Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Blade Type	Type 1	Type 1	Type 1	Type 2	Type 1	Type 1	Type 1

REVISIONS	DATE
E IRC ADDED	12/2016
D GRC AND LSC ADDED	09/2014
C MRC ADDED	04/2011
B NOTE 10 ADDED, NOTE 4 AMENDED 100mm LETTER HEIGHT	07/2010
A POST AMALGAMATION REVIEW	01/2010

DISCLAIMER.
The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.

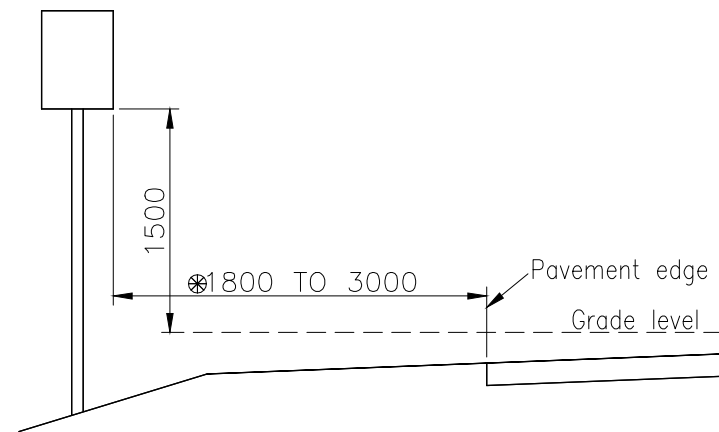
Capricorn Municipal Development Guidelines

Incorporating:

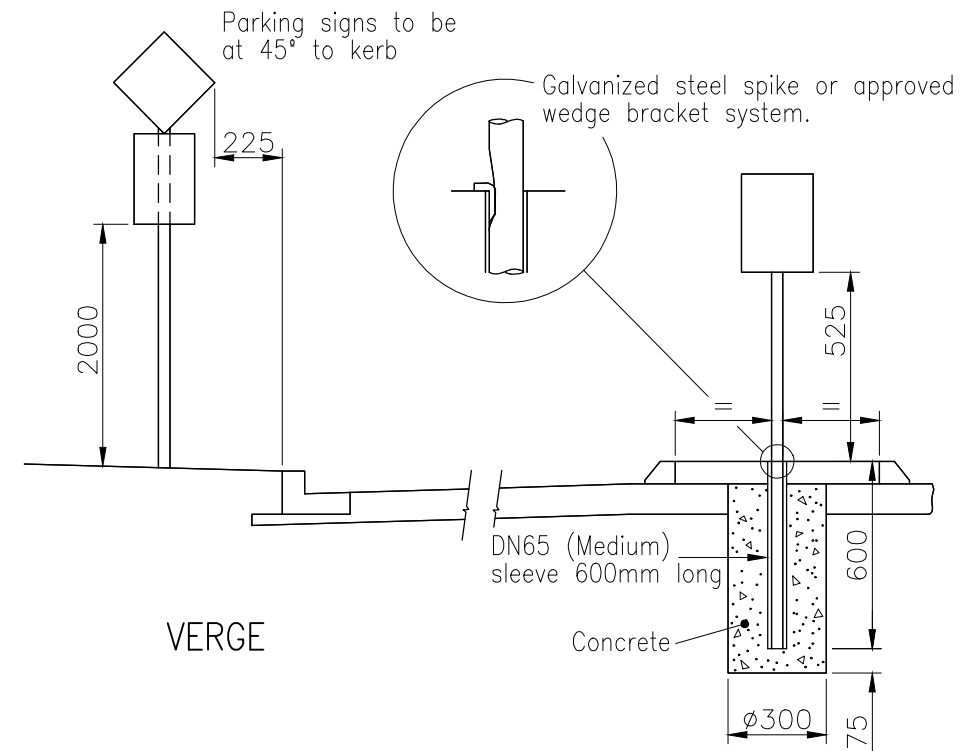
Banana Shire Council (BSC)
Central Highlands Regional Council (CHRC)
Gladstone Regional Council (GRC)
Isaac Regional Council (IRC)
Livingstone Shire Council (LSC)
Maranoa Regional Council (MRC)
Rockhampton Regional Council (RRC)

STREET NAME SIGN

ROADS
STANDARD DRAWING CMDG-R-080
REV. A B C D E



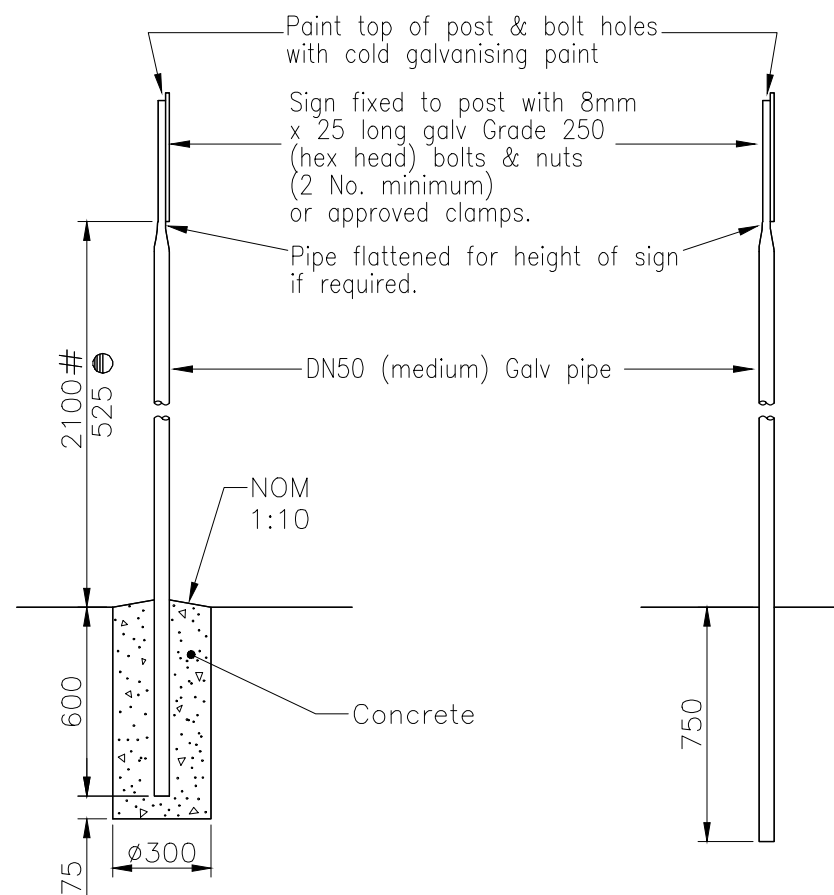
LOCATION OF SIGNS – RURAL ROADS



VERGE

MEDIAN

LOCATION OF SIGNS – STREETS



STREETS

RURAL ROADS

NOTES:

1. All signs to be reflectorised Class 1 to AS1743 unless noted otherwise.
2. Size & sign type has been included in the schedule and/or in the project drawings. Special standards are to be provided at large signs when indicated in the project drawings.
3. All signs are to be approved by the Superintendent prior to erection.
4. Where signs are to be erected in streets where footpaths are not constructed to permanent levels the Rural Roads type base shall be adopted.
5. Signs shall be out of aluminium or aluminium alloy not less than 2mm thick to AS 2848.
6. The DN65 sleeve and spike shall only be used on medians.
7. All pipes to be galvanised. Steel pipe to AS 1074. Galvanising to AS/NZS 4680.
8. Concrete N25 in accordance with AS 1379 and AS 3600.
9. Hexagonal head bolts to AS 1111.
Nuts to AS 1112.
Washers to AS 1237.
Galvanizing to AS 1214.
10. All dimensions in millimetres.
11. Sleeve to be provided as directed by Council

LEGEND

on footpaths

⊗ As directed by the Superintendent

⊙ on medians

APPLICABILITY TABLE

Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	Yes	Yes	Yes	Yes	Yes	Yes

REVISIONS	DATE
E IRC ADDED	12/2016
D GRC AND LSC ADDED	09/2014
C MRC ADDED	04/2011
B NOTE 11 ADDED	07/2010
A POST AMALGAMATION REVIEW	01/2010

DISCLAIMER.
The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.

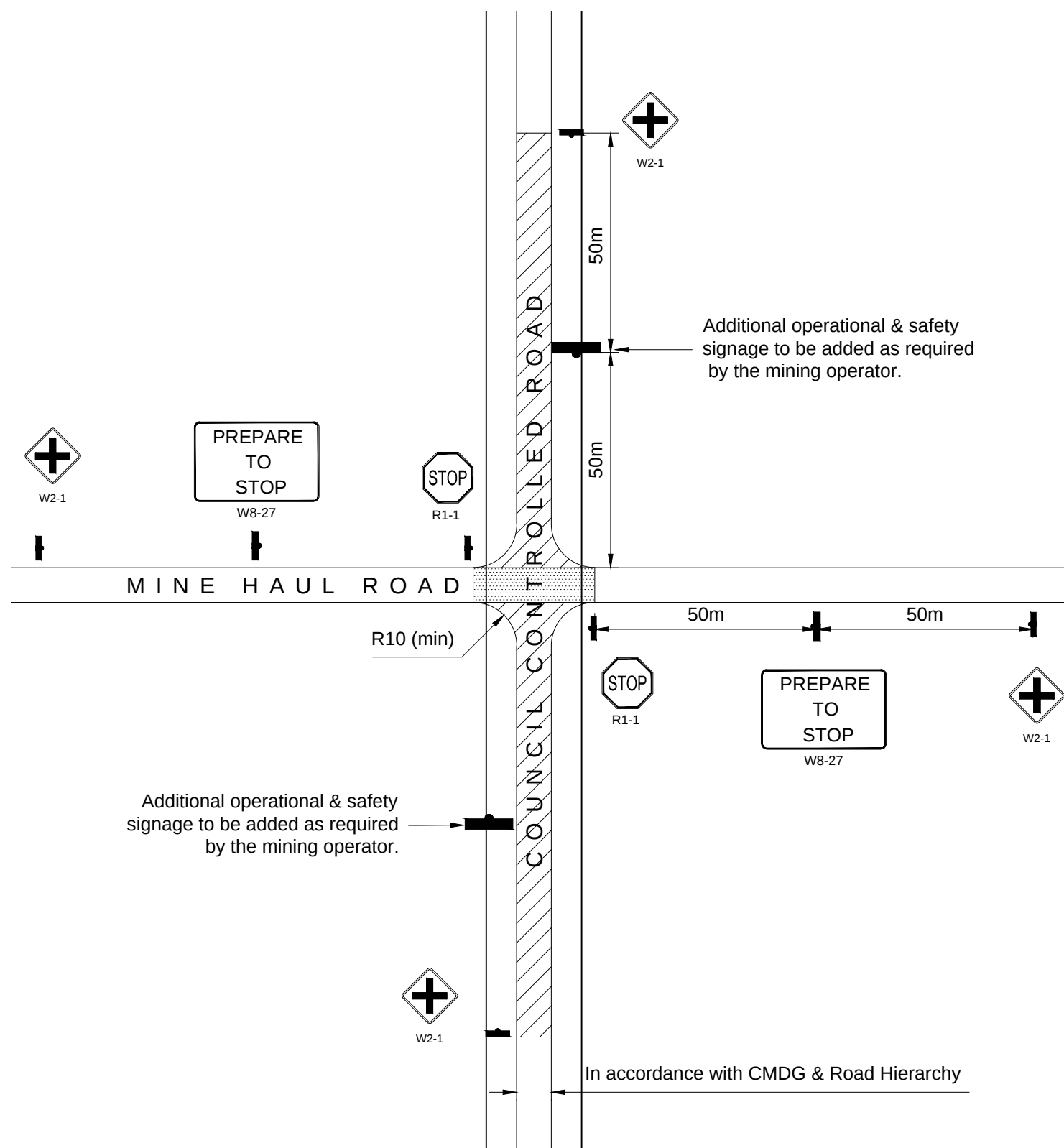
Capricorn Municipal Development Guidelines

Incorporating:

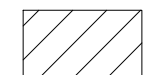
Banana Shire Council (BSC)
Central Highlands Regional Council (CHRC)
Gladstone Regional Council (GRC)
Isaac Regional Council (IRC)
Livingstone Shire Council (LSC)
Maranoa Regional Council (MRC)
Rockhampton Regional Council (RRC)

SIGN LOCATION AND INSTALLATION DETAILS

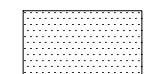
ROADS
STANDARD DRAWING
CMDG-R-081
REV. A B C D E



LEGEND:



2 Coat Seal (6.0m min)



8.0 x 30.0m Reinforced Concrete if existing Council Controlled Road is sealed

Notes:

1. Establishment of the extent and location of existing services within or adjacent to the works area. All services shall be protected against accidental damage during construction of the works.
2. Start and end Road Edge Guide Post's to be confirmed on site by Council.
3. Additional operational & safety signage in the form of Heavy (Mine) Equipment Crossing
4. Where work abuts existing, all work shall be neat, smooth, workmanlike and to the Council's satisfaction. Where work abuts existing bitumen, existing bitumen to be saw-cut.
5. All signage and linemarking is to be placed in accordance with MUTCD.
6. All batters are to be 1 on 4 max U.N.O.
7. If existing road network is sealed line marking in accordance with MUTCD

APPLICABILITY TABLE

Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	No	No	No	No	No	No
Applicable DWG							

PLAN VIEW

REVISIONS		DATE
D	IRC ADDED	12/2016
C	GRC AND LSC ADDED	09/2014
B	MRC ADDED	04/2011
A	POST AMALGAMATION REVIEW	06/2010

DISCLAIMER.	
The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.	

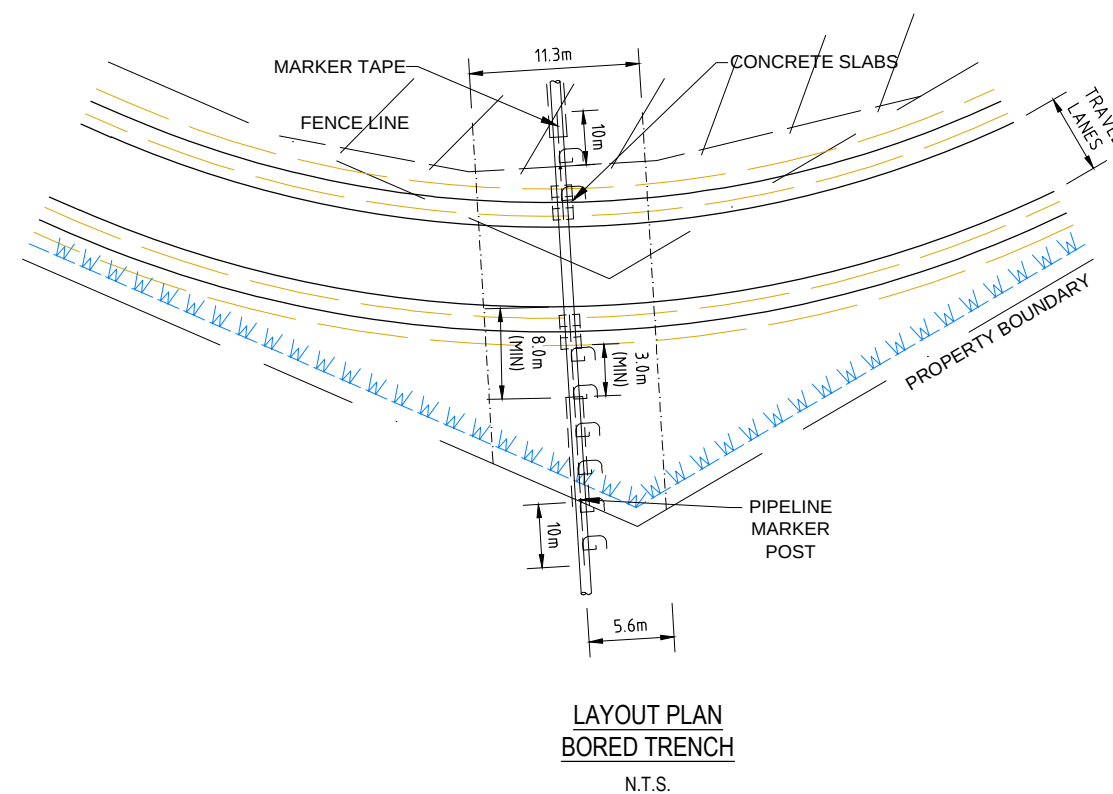
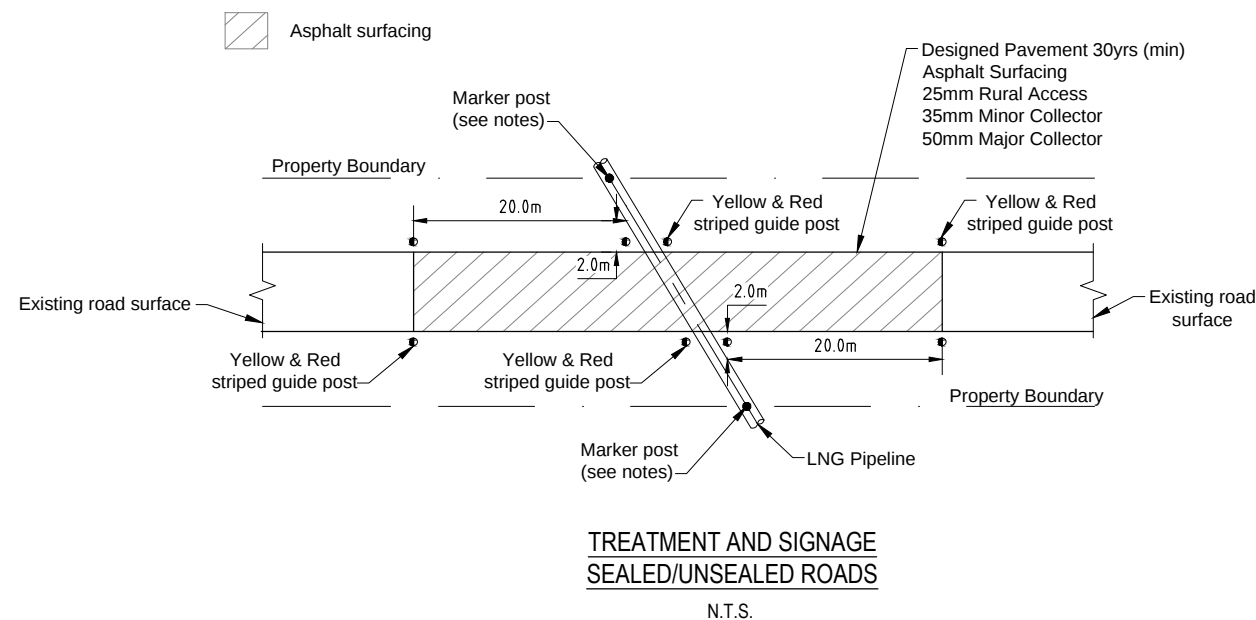
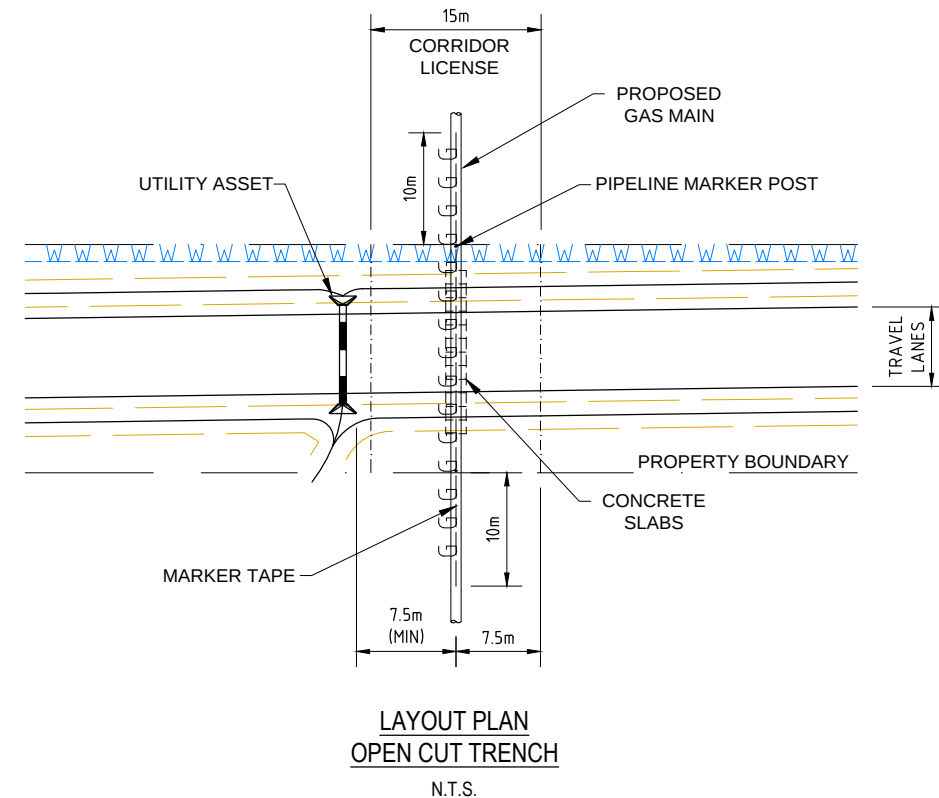
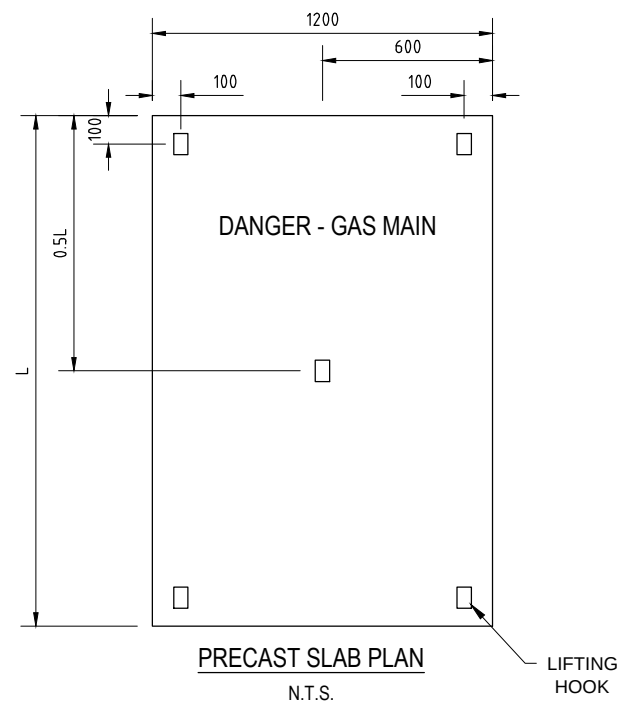
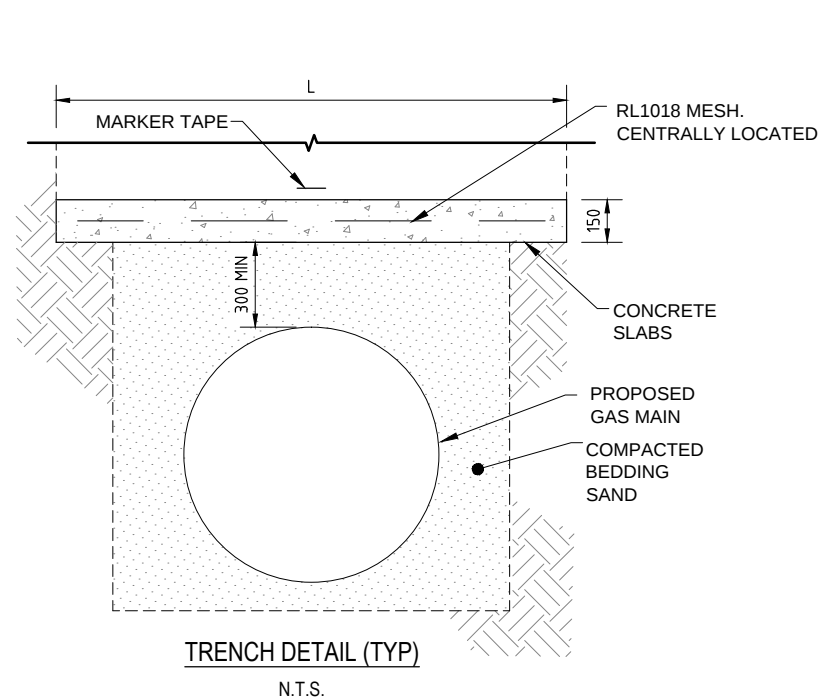
Capricorn Municipal Development Guidelines

Incorporating:

Banana Shire Council (BSC)	Livingstone Shire Council (LSC)
Central Highlands Regional Council (CHRC)	Maranoa Regional Council (MRC)
Gladstone Regional Council (GRC)	Rockhampton Regional Council (RRC)
Isaac Regional Council (IRC)	

MINE HAUL ROAD LEVEL CROSSING

ROADS				
STANDARD DRAWING				
CMDG-R-091				
REV.	A	B	C	D



- NOTES
1. Road design standard in accordance with CMDG & Council Road Hierarchy
 2. Where road reserve width is > 30m marker post to be place 15m left and right from centre of road pavement

APPLICABILITY TABLE							
Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Applicable DWG							

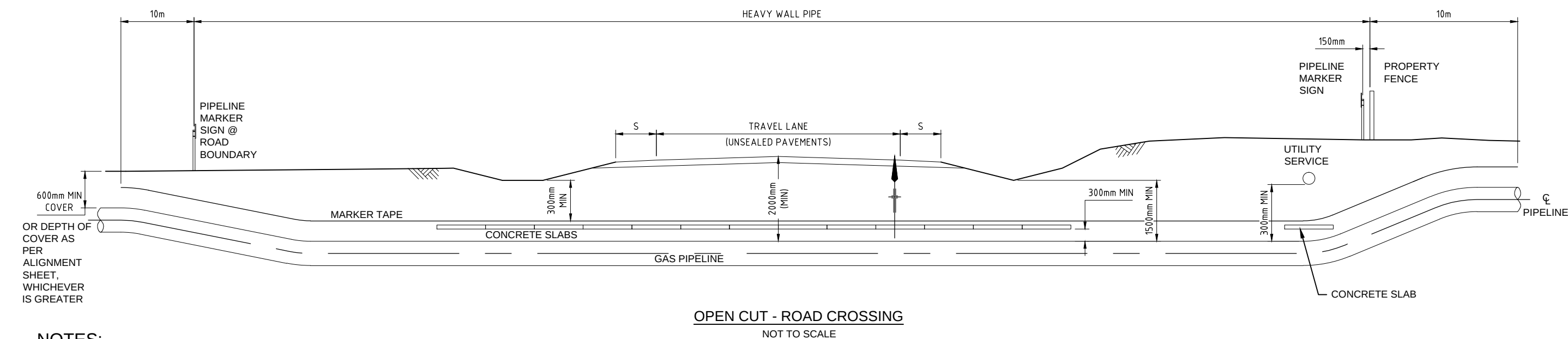
REVISIONS	DATE
D IRC ADDED	12/2016
C GRC AND LSC ADDED	01/2015
B ADDED 'DANGER GAS MAIN' LABEL	09/2013
A POST AMALGAMATION REVIEW	06/2013

DISCLAIMER.
The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.

Capricorn Municipal Development Guidelines
Incorporating:
Banana Shire Council (BSC) Livingstone Shire Council (LSC)
Central Highlands Regional Council (CHRC) Maranoa Regional Council (MRC)
Gladstone Regional Council (GRC) Rockhampton Regional Council (RRC)
Isaac Regional Council (IRC)

GAS PIPELINE CROSS OVER
TYPICAL LAYOUT, SIGNAGE
AND DETAILS

ROADS			
STANDARD DRAWING			
CMDG-R-092			
REV.	A	B	C



1. ROAD CROSSING SHALL BE BORED (UNCASED) FOR ALL SEALED ROADS. CASING PIPE TO BE INSTALLED WHERE GROUND CONDITIONS WILL NOT PERMIT AN UNCASED BORE.
2. ANY EXISTING BURIED PIPE OR UTILITY WITHIN CLOSE PROXIMITY OF THE PIPELINE PATH OR EXCAVATION AREA SHALL BE HAND DUG TO ESTABLISH ITS EXACT LOCATION AND ELEVATION PRIOR TO MACHINE EXCAVATION.
3. HEAVY WALL PIPE TO BE INSTALLED WITHIN ROAD RESERVE.
4. STANDARD MAINLINE PIPE COATING TO BE EMPLOYED FOR BORED SECTION.
5. MINIMUM DEPTH OF 1500mm COVER AT THE TABLE DRAIN SHALL BE MAINTAINED.
6. CONCRETE SLABS TO BE INSTALLED UNDER TABLE DRAINS WHEN BORED. CONCRETE SLABS TO BE INSTALLED TOTAL LENGTH FROM TABLE DRAIN TO TABLE DRAIN WHEN OPEN CUT.
7. PIPE SHALL BE INSTALLED STRAIGHT ACROSS WIDTH OF ROAD RESERVE UNLESS OTHERWISE APPROVED.
8. DRAWING IS APPLICABLE FOR BOTH BITUMEN SEALED AND GRAVEL ROAD TYPES.
9. LOCATION OF ALL SERVICES SHALL BE CONFIRMED PRIOR TO GAS PIPELINE INSTALLATION, MINIMUM HORIZONTAL SEPARATION BETWEEN PIPE AND SERVICES TO BE 7.5m.
10. THE WORK AREA AND SURFACE DRAINAGE SHALL BE REINSTATED TO THE SATISFACTION OF THE COUNCIL.

- | 11. | MARKER TAPE SHALL BE INSTALLED AT A NOMINAL 300mm ABOVE PIPE AND EXTENDED 10m BEYOND THE FULL WIDTH OF ROAD RESERVE OR FURTHERMOST PROPERTY FENCE WHEN ROAD IS LOCATED OUTSIDE ROAD RESERVE. | <table border="1"> <tr> <th colspan="6">APPLICABILITY TABLE</th> </tr> <tr> <th>Council</th> <th>BSC</th> <th>CHRC</th> <th>GRC</th> <th>IRC</th> <th>U</th> </tr> </table> | APPLICABILITY TABLE | | | | | | Council | BSC | CHRC | GRC | IRC | U |
|---------------------|---|---|---------------------|-----|-----|---|--|--|---------|-----|------|-----|-----|---|
| APPLICABILITY TABLE | | | | | | | | | | | | | | |
| Council | BSC | | CHRC | GRC | IRC | U | | | | | | | | |
| 12. | PIPELINE WARNING SIGN SHALL BE INSTALLED AT FURTHERMOST POSITION FROM ROAD EITHER AT FENCE LINE OR ROAD BOUNDARY. BOTH SIGNS TO BE CLEARLY VISIBLE FROM THE ROAD. SIGNS MUST BE NO GREATER THAN 15m FROM THE ROAD PAVEMENT CENTRELINE | | | | | | | | | | | | | |
| 13. | PIPE TO BE SUPPORTED AT 2m CENTRES WITH SAND BAGS/FOAM PILLOWS OR EQUIVALENT USING 2M CENTRES WHEN CONSTRUCTED USING THE BORED METHOD. | | | | | | | | | | | | | |
| 14. | ALL DIMENSION ARE IN MILLIMETRES UNLESS NOTED OTHERWISE. | | | | | | | | | | | | | |
| 15. | CONCRETE SLAB WILL BE REQUIRED TO PROTECT UTILITY SERVICES. | | | | | | | | | | | | | |
| 16. | SLAB DETAIL - REFER DWG CMDG-R-092 | | | | | | | | | | | | | |
| 17. | TRENCH AND BACKFILL DETAILS - REFER TO DWG CMDG-D-010 | | | | | | | | | | | | | |

APPLICABILITY TABLE							
Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Applicable DWG							

REVISIONS		DATE
D	IRC ADDED	12/2016
C	GRC AND LSC ADDED	01/2015
B	NOTE 12 AMENDED NOTE 16, 17 ADDED	09/2013
A	POST AMALGAMATION REVIEW	09/2013

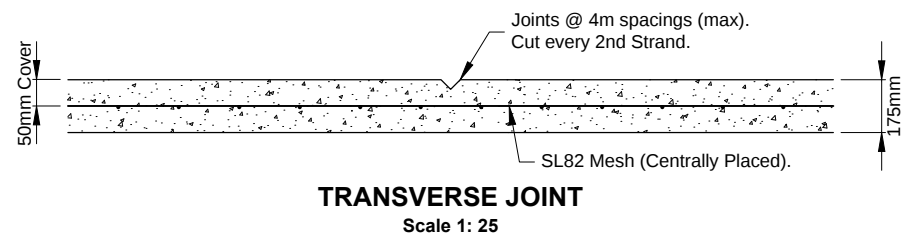
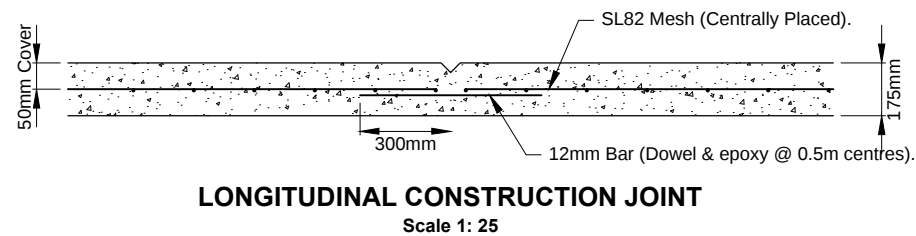
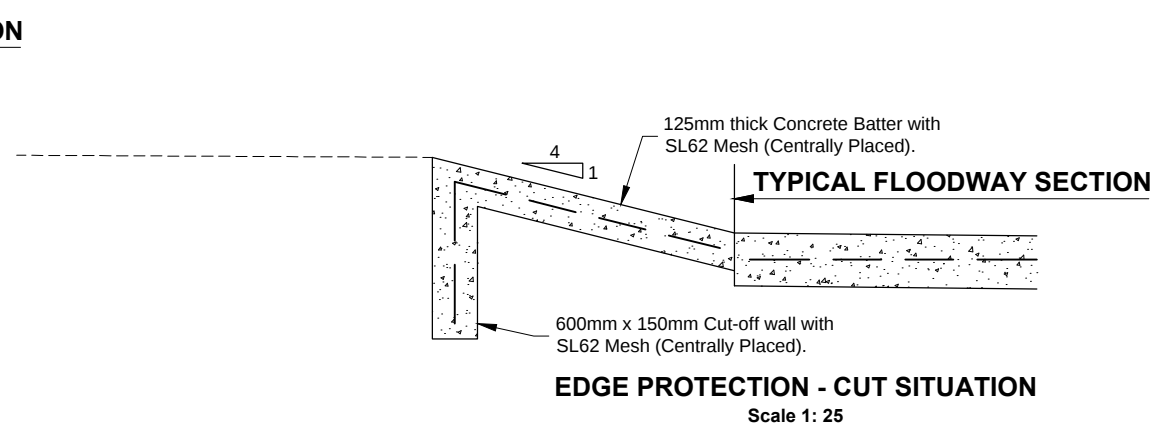
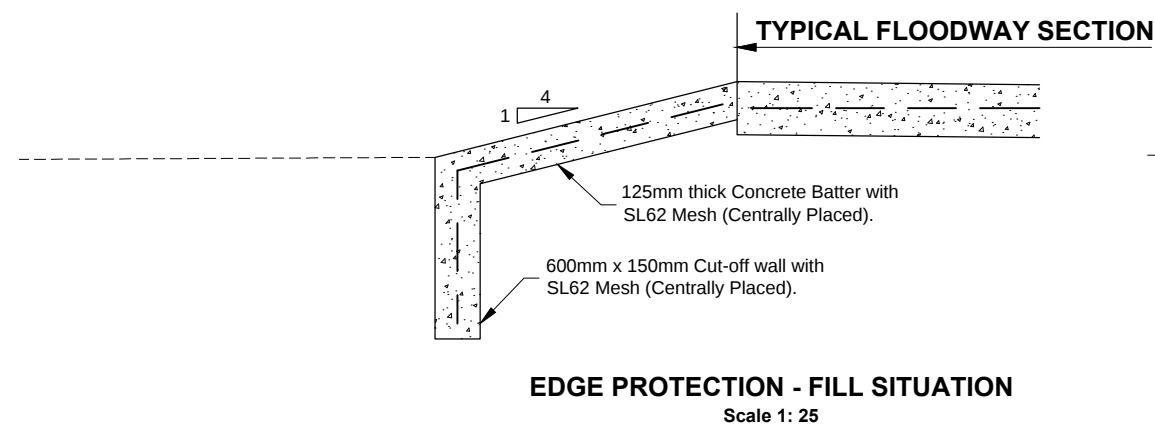
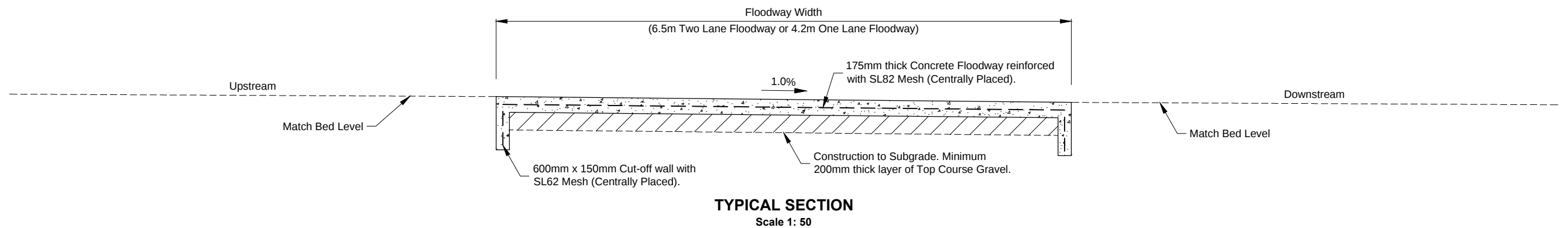
DISCLAIMER.

The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.

Incorporating:

Banana Shire Council (BSC)	Livingstone Shire Council (LSC)
Central Highlands Regional Council (CHRC)	Maranoa Regional Council (MRC)
Gladstone Regional Council (GRC)	Rockhampton Regional Council (RRC)
Isaac Regional Council (IRC)	

ROADS					
STANDARD DRAWING CMDG-R-093					
REV.	A	B	C	D	



- NOTES:**
1. Provide Transverse joints at 4.0m spacings.
 2. Provide longitudinal joints at centreline for two-lane floodway.
 3. Provide longitudinal joints at shoulder where edge-protection is required.
 4. Concrete strength to be 32 MPa.
 5. Lap Reinforcement fabric 250mm.
 6. Floodway signage to be installed in accordance with MUTCD (Part 2, Figure 4.27).
 7. Delineation to be installed on floodway shoulder at maximum 5m centres and spaced evenly to suit floodway length. Delineation to be installed at centreline of two-lane floodway.
 8. Floodway depth markers to be installed at lowest point on floodway aligned to downstream side.

- WATERWAY BARRIER WORKS - COMPLIANCE NOTES:**
1. Floodway site to be checked on Queensland Government Spatial Data Layer "Queensland Waterways for Waterway Barrier Works" to determine if assessable or self-assessable codes apply.
 2. The lowest level of the floodway must be installed at the level of lowest point of the natural stream bed (Within the footprint of the crossing.)
 3. There must be a height difference of at least 100mm from the lowest point of the crossing to the edges of the low flow section of the crossing.
 4. The level of the remainder of the crossing must be no higher than the lowest point of the natural stream bed outside of the low flow channel.
 5. Refer to *Code for self-assessable development, Minor waterway barrier works, Part 4: Bed level crossings* for more information and alternative treatments.

APPLICABILITY TABLE							
Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	Yes	Yes	No	Yes	Yes	Yes
Applicable DWG	CMDG-R-094A						

REVISIONS		DATE
B	IRC ADDED	12/2016
A	ORIGINAL ISSUE	04/2016

DISCLAIMER.

The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.

Capricorn Municipal Development Guidelines

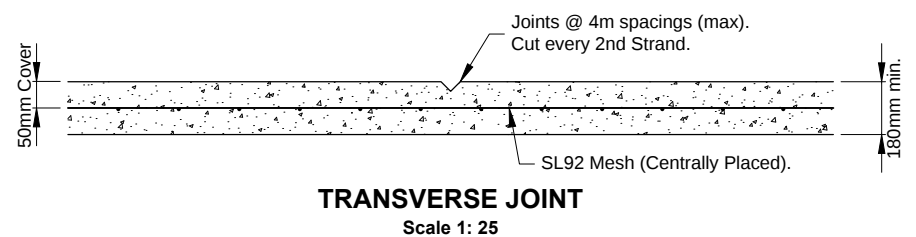
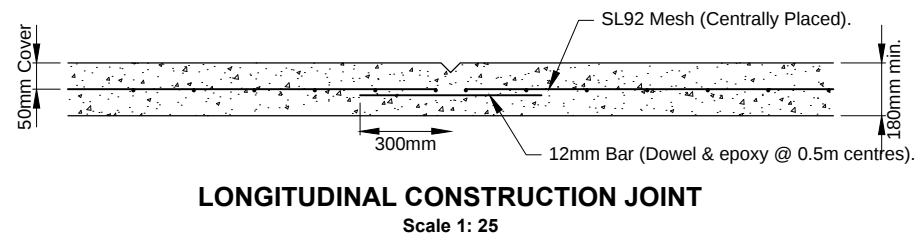
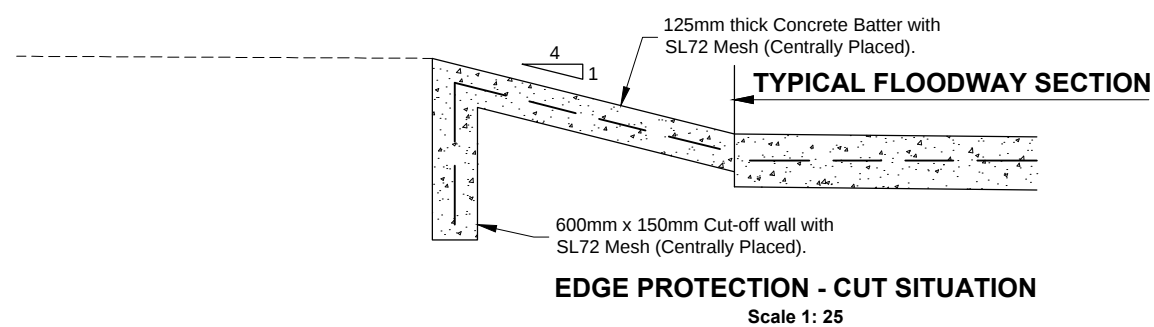
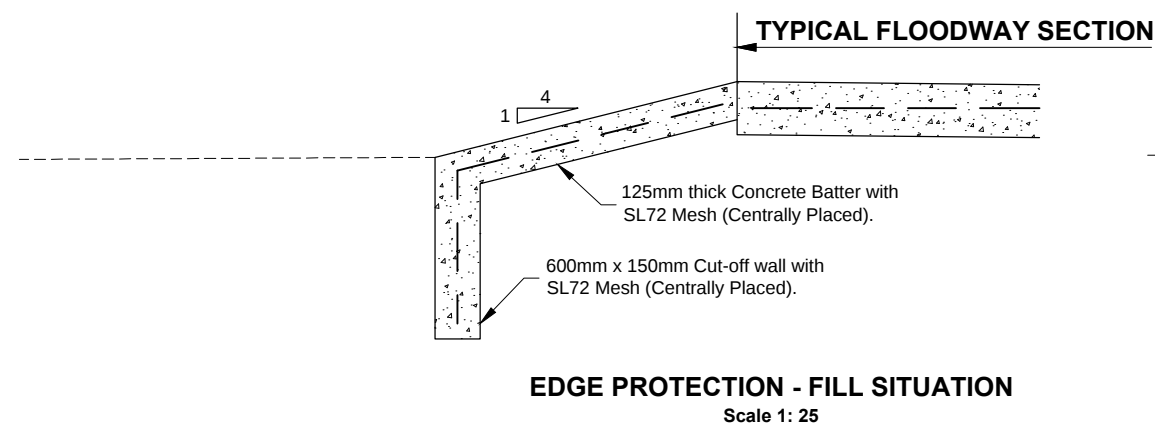
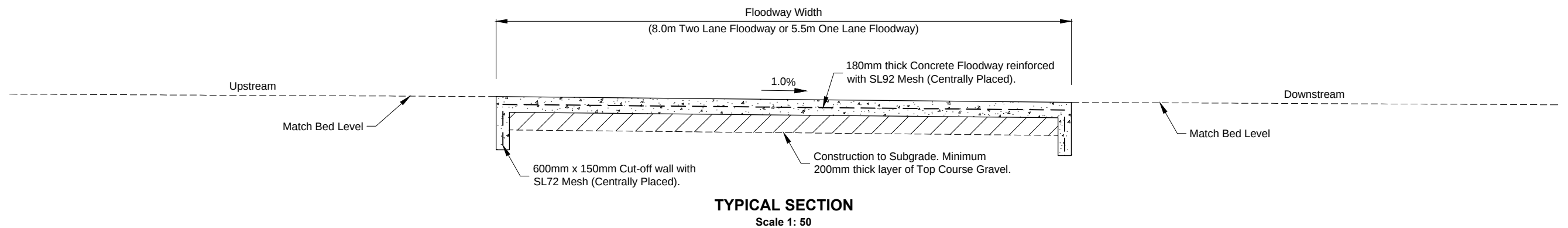
Incorporating:

Banana Shire Council (BSC)
Central Highlands Regional Council (CHRC)
Gladstone Regional Council (GRC)
Isaac Regional Council (IRC)

Livingstone Shire Council (LSC)
Maranoa Regional Council (MRC)
Rockhampton Regional Council (RRC)

FLOODWAY – BED LEVEL CROSSING

ROADS							
STANDARD DRAWING							
CMDG-R-094							
REV.	A	B					



NOTES:

1. Provide Transverse joints at 4.0m spacings.
2. Provide longitudinal joints at shoulder where edge-protection is required.
3. Concrete strength to be 32 MPa.
4. Lap Reinforcement fabric 250mm.
5. Floodway signage to be installed in accordance with MUTCD (Part 2, Figure 4.27).
6. Delineation to be installed on floodway shoulder at maximum 5m centres and spaced evenly to suit floodway length. Delineation to be installed at centreline of two-lane floodway.
7. Floodway depth markers to be installed at lowest point on floodway aligned to downstream side U.N.O.

WATERWAY BARRIER WORKS - COMPLIANCE NOTES:

1. Floodway site to be checked on Queensland Government Spatial Data Layer "Queensland Waterways for Waterway Barrier Works" to determine if assessable or self-assessable codes apply.
2. The lowest level of the floodway must be installed at the level of lowest point of the natural stream bed (Within the footprint of the crossing.)
3. There must be a height difference of at least 100mm from the lowest point of the crossing to the edges of the low flow section of the crossing.
4. The level of the remainder of the crossing must be no higher than the lowest point of the natural stream bed outside of the low flow channel.
5. Refer to *Code for self-assessable development, Minor waterway barrier works, Part 4: Bed level crossings* for more information and alternative treatments.

APPLICABILITY TABLE

Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	No	No	No	Yes	No	No	No
Applicable DWG	CMDG-R-094						

REVISIONS		DATE
B	IRC ADDED	12/2016
A	ORIGINAL ISSUE	04/2016

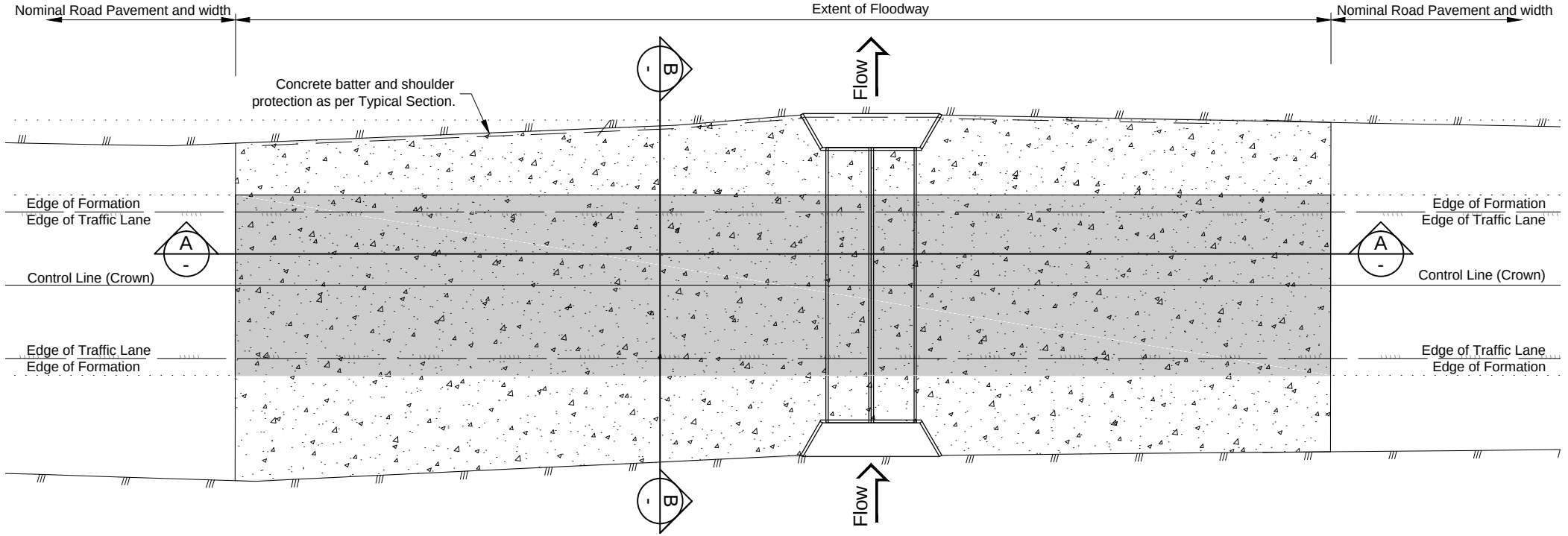
DISCLAIMER.
The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.

Capricorn Municipal Development Guidelines		FLOODWAY – BED LEVEL CROSSING (IRC)		ROADS STANDARD DRAWING CMDG-R-094A
Incorporating: Banana Shire Council (BSC) Central Highlands Regional Council (CHRC) Gladstone Regional Council (GRC) Isaac Regional Council (IRC)		Livingstone Shire Council (LSC) Maranoa Regional Council (MRC) Rockhampton Regional Council (RRC)		REV. A B C D E

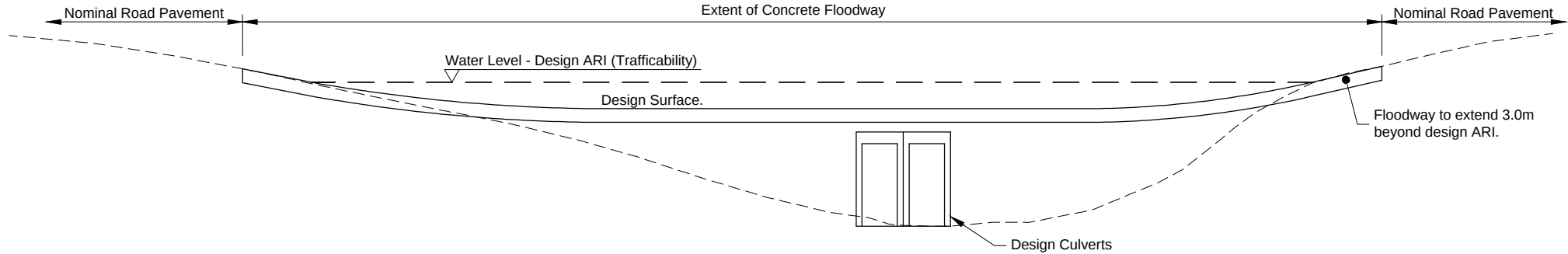
- NOTES:**
- 1. Provide Transverse joints at 4.0m spacings.
 - 2. Provide longitudinal joints at centreline & shoulder.
 - 3. Concrete strength to be 32 MPa.
 - 4. Lap Reinforcement fabric 250mm.
 - 5. Floodway signage to be installed in accordance with MUTCD (Part 2, Figure 4.27).
 - 6. Delineation to be installed on floodway shoulder at maximum 5m centres and spaced evenly to suit floodway length. Delineation to be installed at centreline of two-lane floodway.
 - 7. Floodway depth markers to be installed at lowest point on floodway aligned to downstream side.

WATERWAY BARRIER WORKS - COMPLIANCE NOTES

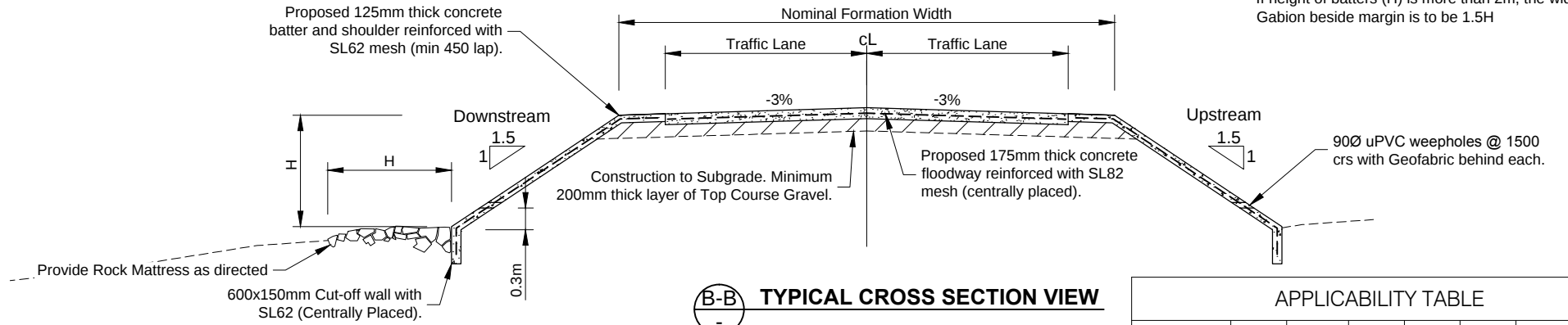
- 1. Floodway site to be checked on Queensland Government spatial data layer *Queensland Waterways for Waterway Barrier Works* to determine is assessable or self-assessable codes apply.
- 2. Summary of design criteria for Low Impact (Green) waterways:
 - (a) Minimum culvert aperture width = 1.2m.
 - (b) Culverts to be installed at (or below) existing bed level.
 - (c) Culvert gradient to be no steeper than the waterway bed gradient.
- 3. Summary of design criteria for Moderate Impact (Amber) waterways:
 - (a) Minimum culvert aperture width = 2.4m.
 - (b) Culverts to be installed at (or below) existing bed level.
 - (c) Culvert obvert to be 300mm min. above bed level.
 - (d) Floor roughening (to simulate natural bed conditions) required if culverts are installed less than 300mm below bed level.
 - (e) Culvert gradient to be no steeper than the waterway bed gradient.
- 4. Summary of design criteria for High Impact (Red) waterways:
 - (i) Culvert aperture width = 100% of the low flow channel width.
 - (ii) Culvert gradient to be no steeper than the waterway bed gradient.
 - (iii) Outermost culvert cells and upstream wingwalls to include baffles.
 - (iv) Culvert cells to be aligned parallel with the direction of flow.
 - (v) Must also comply with one of the following three options:
 - Option 1:
 - (a) Culvert aperture width = 75% of the main channel width.
 - (b) All culverts to be installed minimum 300mm below bed level.
 - (c) Culvert obvert to be 600mm min. above bed level.
 - (d) Depth of cover over the culverts to be max. 750mm.
 - Option 2:
 - (a) Culvert aperture width = 75% of the main channel width.
 - (b) At least one culvert cell in the crossing to be installed minimum 300mm below bed level. Obvert of cell to match remaining cells. Remaining culverts to be installed at (or below) existing bed level.
 - (c) Floor roughening (to simulate natural bed conditions) required for culverts installed less than 300mm below bed level.
 - (d) Culvert obvert to be 600mm min. above bed level.
 - (e) Depth of cover over the culverts to be max. 750mm.
 - Option 3:
 - (a) Minimum culvert aperture width = 3.6m.
 - (b) All culverts to be installed minimum 300mm below bed level.
 - (c) Culvert obvert to be 300mm min. above bed level.
 - (d) Maximum deck height of the crossing is 1.2m above the lowest point of the natural stream bed.
 - (e) Depth of cover over the culverts to be max. 300mm.
 - (f) Crossing incorporates min. 1200mm wide box culvert, or 2/900 pipes.
 - (g) Rock chute is constructed adjacent to each bank.
- 5. Refer *Code for self-assessable development - Minor waterway barrier works - Part 3: culvert crossings* for more information and alternate treatments.



TYPICAL PLAN VIEW
Scale 1:250



TYPICAL LONGITUDINAL SECTION VIEW



TYPICAL CROSS SECTION VIEW

Note
Extent of batter protection to be confirmed on-site by the works engineer.
If height of batters (H) is more than 2m, the width of Gabion beside margin is to be 1.5H

APPLICABILITY TABLE

Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	Yes	Yes	No	Yes	Yes	Yes
Applicable DWG	CMDG-R-095A						

REVISIONS		DATE
B	IRC ADDED	12/2016
A	ORIGINAL ISSUE	04/2016

DISCLAIMER.
The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.

Capricorn Municipal Development Guidelines
Incorporating:
Banana Shire Council (BSC)
Central Highlands Regional Council (CHRC)
Gladstone Regional Council (GRC)
Isaac Regional Council (IRC)
Livingstone Shire Council (LSC)
Maranoa Regional Council (MRC)
Rockhampton Regional Council (RRC)

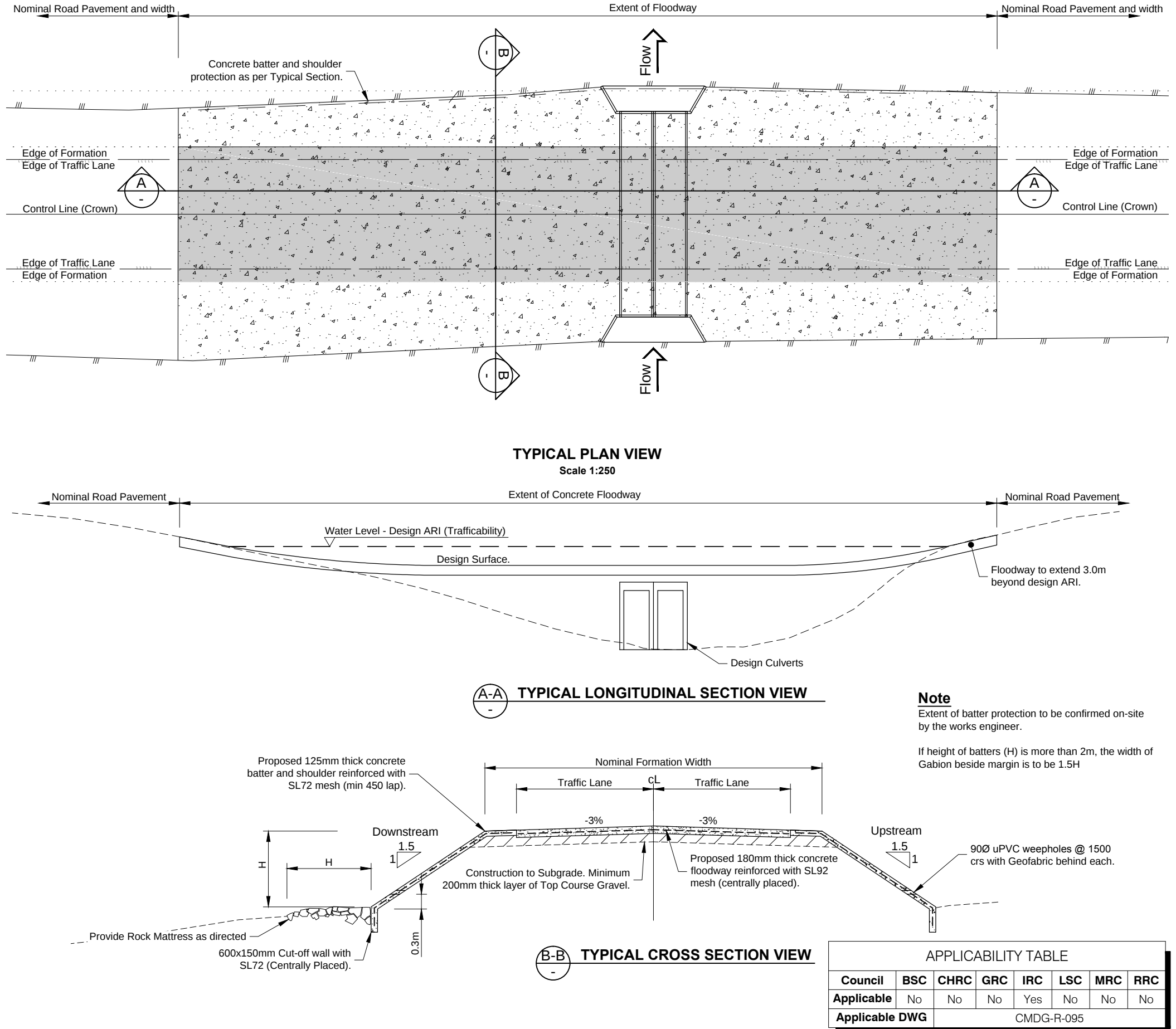
**FLOODWAY –
CULVERT CROSSING**

ROADS	
STANDARD DRAWING CMDG-R-095	
REV.	A B

- NOTES:**
- 1. Provide Transverse joints at 4.0m spacings.
 - 2. Provide longitudinal joints at centreline & shoulder.
 - 3. Concrete strength to be 32 MPa.
 - 4. Lap Reinforcement fabric 250mm.
 - 5. Floodway signage to be installed in accordance with MUTCD (Part 2, Figure 4.27).
 - 6. Delineation to be installed on floodway shoulder at maximum 5m centres and spaced evenly to suit floodway length. Delineation to be installed at centreline of two-lane floodway.
 - 7. Floodway depth markers to be installed at lowest point on floodway aligned to downstream side, U.N.O.

WATERWAY BARRIER WORKS - COMPLIANCE NOTES

- 1. Floodway site to be checked on Queensland Government spatial data layer *Queensland Waterways for Waterway Barrier Works* to determine is assessable or self-assessable codes apply.
- 2. Summary of design criteria for Low Impact (Green) waterways:
 - (a) Minimum culvert aperture width = 1.2m.
 - (b) Culverts to be installed at (or below) existing bed level.
 - (c) Culvert gradient to be no steeper than the waterway bed gradient.
- 3. Summary of design criteria for Moderate Impact (Amber) waterways:
 - (a) Minimum culvert aperture width = 2.4m.
 - (b) Culverts to be installed at (or below) existing bed level.
 - (c) Culvert obvert to be 300mm min. above bed level.
 - (d) Floor roughening (to simulate natural bed conditions) required if culverts are installed less than 300mm below bed level.
 - (e) Culvert gradient to be no steeper than the waterway bed gradient.
- 4. Summary of design criteria for High Impact (Red) waterways:
 - (i) Culvert aperture width = 100% of the low flow channel width.
 - (ii) Culvert gradient to be no steeper than the waterway bed gradient.
 - (iii) Outermost culvert cells and upstream wingwalls to include baffles.
 - (iv) Culvert cells to be aligned parallel with the direction of flow.
 - (v) Must also comply with one of the following three options:
 - Option 1:
 - (a) Culvert aperture width = 75% of the main channel width.
 - (b) All culverts to be installed minimum 300mm below bed level.
 - (c) Culvert obvert to be 600mm min. above bed level.
 - (d) Depth of cover over the culverts to be max. 750mm.
 - Option 2:
 - (a) Culvert aperture width = 75% of the main channel width.
 - (b) At least one culvert cell in the crossing to be installed minimum 300mm below bed level. Obvert of cell to match remaining cells. Remaining culverts to be installed at (or below) existing bed level.
 - (c) Floor roughening (to simulate natural bed conditions) required for culverts installed less than 300mm below bed level.
 - (d) Culvert obvert to be 600mm min. above bed level.
 - (e) Depth of cover over the culverts to be max. 750mm.
 - Option 3:
 - (a) Minimum culvert aperture width = 3.6m.
 - (b) All culverts to be installed minimum 300mm below bed level.
 - (c) Culvert obvert to be 300mm min. above bed level.
 - (d) Maximum deck height of the crossing is 1.2m above the lowest point of the natural stream bed.
 - (e) Depth of cover over the culverts to be max. 300mm.
 - (f) Crossing incorporates min. 1200mm wide box culvert, or 2/900 pipes.
 - (g) Rock chute is constructed adjacent to each bank.
- 5. Refer *Code for self-assessable development - Minor waterway barrier works - Part 3: culvert crossings* for more information and alternate treatments.



Note
Extent of batter protection to be confirmed on-site by the works engineer.
If height of batters (H) is more than 2m, the width of Gabion beside margin is to be 1.5H

APPLICABILITY TABLE							
Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	No	No	No	Yes	No	No	No
Applicable DWG	CMDG-R-095						

REVISIONS		DATE
B	IRC ADDED	12/2016
A	ORIGINAL ISSUE	04/2016

DISCLAIMER.
The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.

Capricorn Municipal Development Guidelines

Incorporating:

Banana Shire Council (BSC)

Central Highlands Regional Council (CHRC)

Gladstone Regional Council (GRC)

Isaac Regional Council (IRC)

Livingstone Shire Council (LSC)

Maranoa Regional Council (MRC)

Rockhampton Regional Council (RRC)

FLOODWAY –
CULVERT CROSSING (IRC)

ROADS

STANDARD
DRAWING

CMDG-R-095A

REV. A B

Corridor width	
Electricity & Communications	1300
Sewerage	910
Water	540
Poles/trees	400
Gas	600

Corridor width	
Gas	600
Poles/trees	400
Sewerage	910
Communications Electricity &	1300

NOTES

1. The alignment and depths of existing services shall be proven on site by consultation with the relevant service authorities prior to any excavation and shall not be inferred from this drawing.
2. Various configurations of trench width and conduit numbers/diameters exist for both electricity and common trench arrangements with communication companies.
3. Refer Standard Drawing CMDG-R-101 for sectional views.
4. Water connection point to be on alternate front boundary to the electricity connection point
5. Water main to be on alternate footpath to the electricity main
6. Conduit trenches are to be filled with sand.
7. Skewed conduits are not favored, if required conduits should be from pillar to pillar.
8. Preferred Tree planting location to be Mid-Property Alignment
9. Location and width of Footpath indicative only.
10. All dimensions in millimeters
11. Alternative alignments to be negotiated with relevant authority and to provide adequate clearances to other services.

LEGEND

Road crossing conduits	== == == ==
Gas -	===== G =====
Water -	===== W =====
Sewerage -	===== S =====
Communications -	===== C =====
Electricity -	===== E =====
Street light -	----- X -----
Tree (location)	⊗

* Nominal Pole/Tree Location to be 1.0m behind back of Kerb.

SERVICE ALIGNMENTS	
SERVICES	ALIGNMENT (MEASURED FROM BOUNDARY) (mm)
ELECTRICAL	450
TELECOMMUNICATION	950
SEWERAGE	1800
WATER	2500
LIGHT POLES / STREET TREES	2950
GAS (PREFERRED)	3400

APPLICABILITY TABLE

Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	Yes	Yes	No	Yes	Yes	Yes	Yes
Applicable DWG							

REVISIONS	DATE
F IRC ADDED	12/2016
E NOTE 11 ADDED	03/2015
D GRC AND LSC ADDED	09/2014
C MRC ADDED/ WATER CONDUIT ALIGNMENT AMENDED	07/2011
B NOTE REMOVED RE FOOTPATHS WIDER THAN 3.75m	07/2010
A POST AMALGAMATION REVIEW	04/2010

DISCLAIMER.
The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.

Capricorn Municipal Development Guidelines

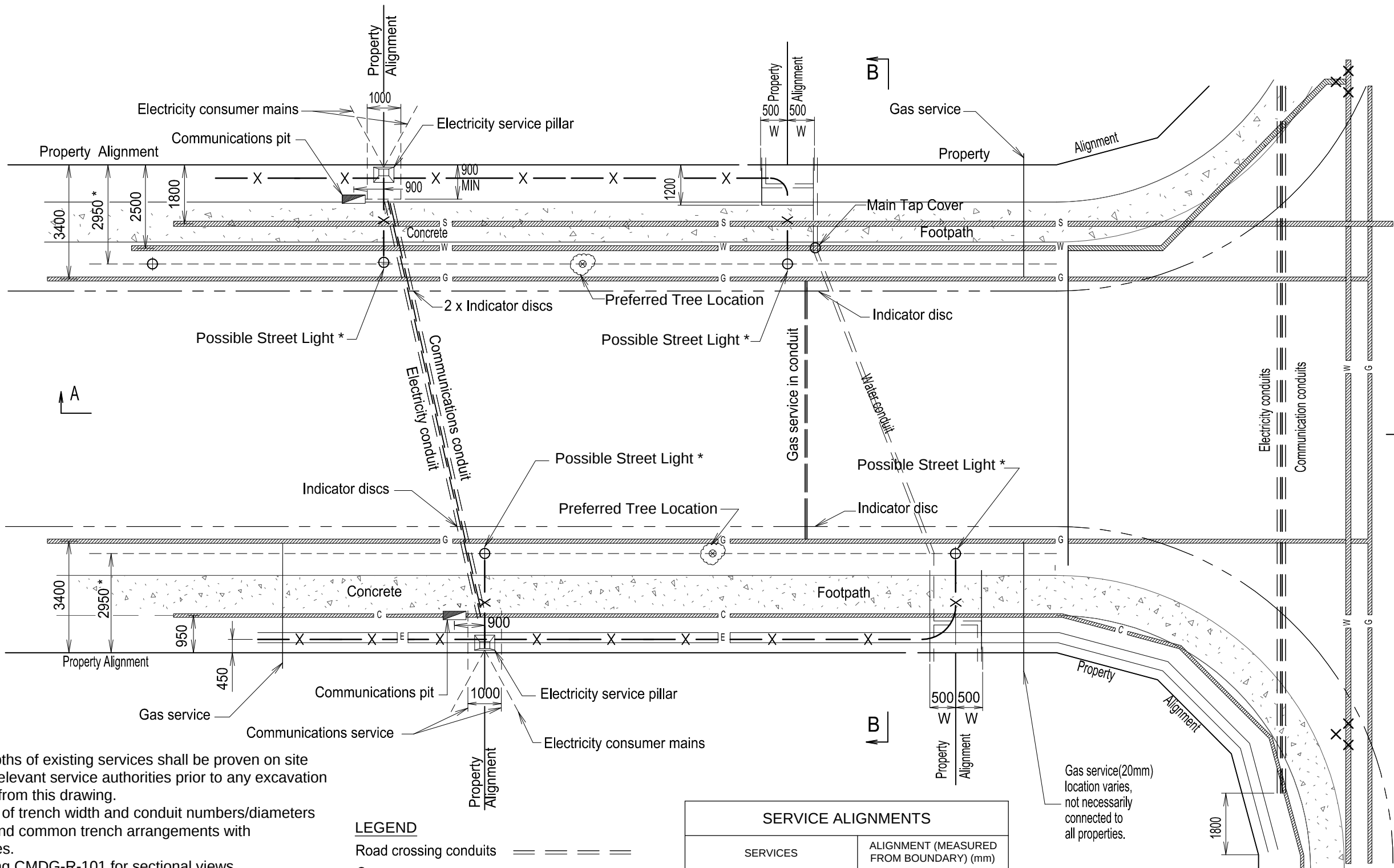
Incorporating:

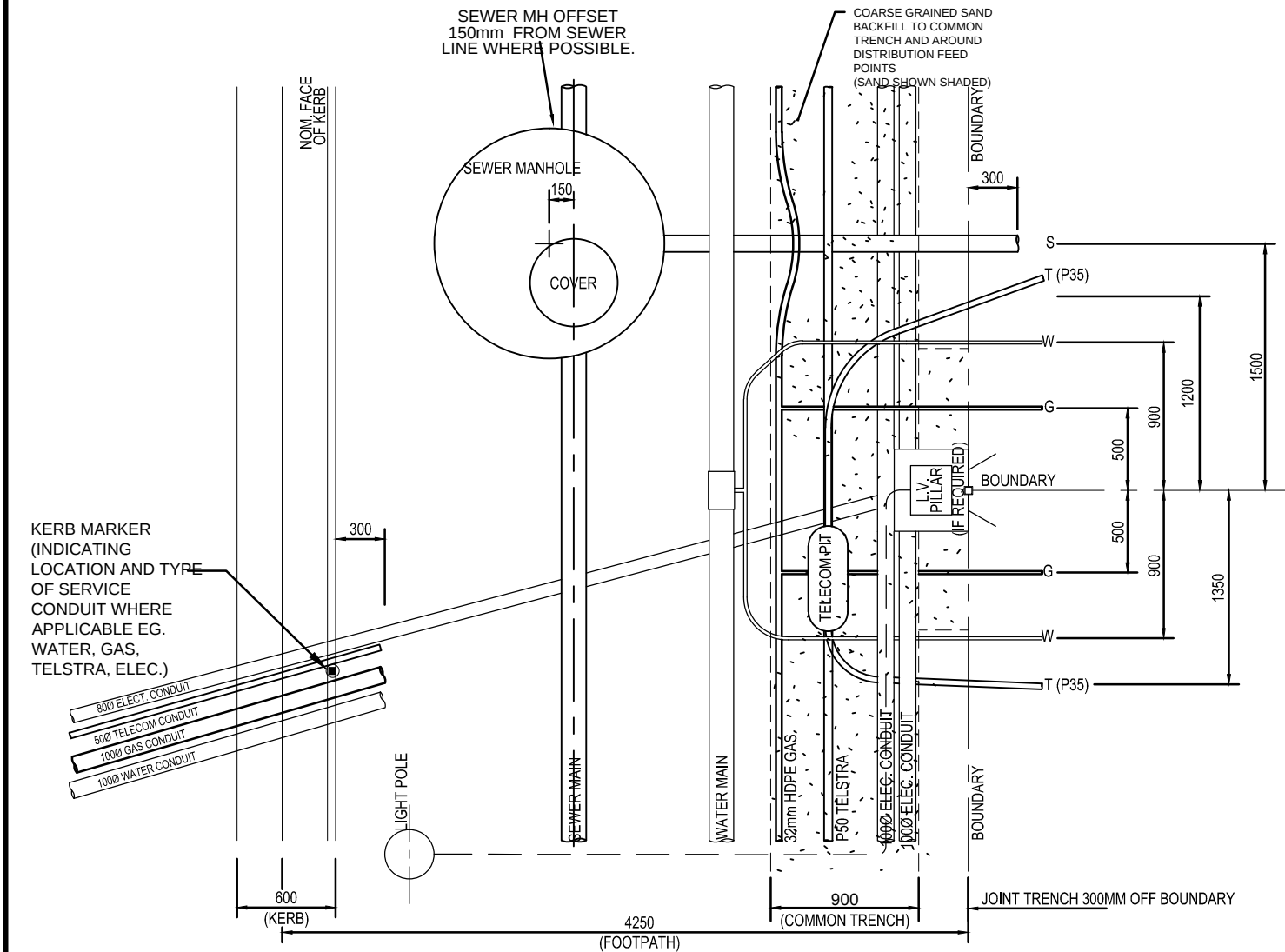
Banana Shire Council (BSC)
Central Highlands Regional Council (CHRC)
Gladstone Regional Council (GRC)
Isaac Regional Council (IRC)

Livingstone Shire Council (LSC)
Maranoa Regional Council (MRC)
Rockhampton Regional Council (RRC)

PUBLIC UTILITIES IN STREETS TYPICAL SERVICE CORRIDORS AND ALIGNMENTS

ROADS	
STANDARD DRAWING CMDG-R-100	
REV.	A B C D E F





COMMON TRENCH (PLAN)

Scale 1:20
SERVICE ENTRY TO ADJOINING PROPERTIES

JOINT TRENCHING NOTES:

GENERAL

- TRENCH WIDTH OF 900mm IS A MINIMUM. THE TRENCH WIDTH SHALL BE WIDENED FOR CUL-DE-SAC SITUATIONS. LARGER DIAMETER WATER MAINS AND ANY OTHER SITUATIONS WHERE MINIMUM CLEARANCES CANNOT BE MAINTAINED.
- SERVICES ENTRY MAY BE SPLIT BETWEEN EITHER BOUNDARY PEG TO SATISFACTION OF CITY ENGINEER
- FUTURE EXCAVATION AREAS MUST BE CLEAR OF ALL OTHER SERVICES.
- DIMENSIONS INDICATE CLEAN TRENCH WIDTHS.
- EXCAVATIONS ACROSS ROADWAYS TO BE FILLED AND COMPACTED TO COUNCIL REQUIREMENTS.

POWER CABLE - CAPELEC REQUIREMENTS

- CONDUITS: - CLASS 6 ORANGE IS SUITABLE FOR UNDERGROUND RESIDENTIAL SUBDIVISIONS - HEAVY DUTY CONDUIT IN ACCORDANCE WITH A.S. 2053-1984 SHALL BE USED UNDER ALL MAIN ROADS.

GAS MAIN - GAS CORP. QLD LTD REQUIREMENTS

- MARKER TAPE OVER SERVICE
- KERB MARKER @ CROSSING TO INDICATE SERVICE LOCATION.
- WHERE GAS SERVICE COINCIDES WITH WATER SERVICE, GAS MUST BE LOCATED UNDER WATER MAIN.

WATER - COUNCIL REQUIREMENTS

- WHERE THRUST BLOCKS ARE REQUIRED ON THE WATER MAIN, THE ELECTRICITY CABLE SHALL BE LOWERED TO GIVE 150mm MIN. VERTICAL CLEARANCE TO WATER MAIN.

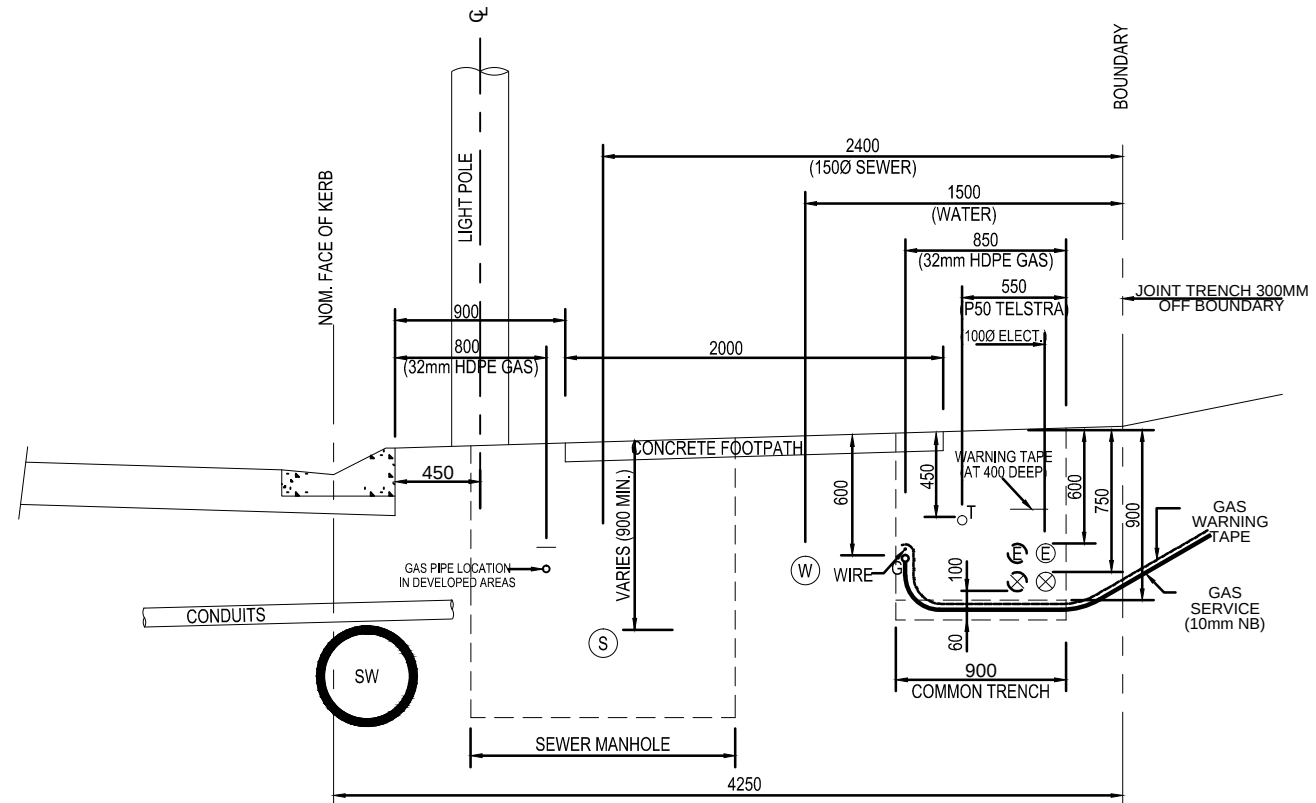
- MINIMUM 100mm SAND BEDDING SHALL SURROUND WATER MAIN.

TELSTRA REQUIREMENTS

- TELSTRA CONDUIT (MAXIMUM DIAMETER 50mm) TO BE LAID TO TELCOM REQUIREMENTS.
- P4 TELSTRA PITS ARE NOT TO BE USED EVEN FOR ROAD CROSSINGS. THE TELSTRA CONDUIT IS TO BE LOWERED OVER THE DISTANCE FROM THE END OF THE PIT TO THE KERB MAINTAINING THE ABOVE STATED MINIMUM SEPARATIONS FROM POWER.
- CRUSHER DUST OR SAND IS TO BE SPREAD OVER THE TELSTRA CONDUIT TO A DEPTH OF 100mm IF THE EXCAVATED SOIL HAS A HIGH ROCK CONTENT.
- IN SOME CASES, PARTICULARLY WHERE BLASTING IS REQUIRED TO OPEN A TRENCH, IT MAY BE NECESSARY TO ALTER THE ABOVE TRENCH DESIGNS TO INCLUDE TELSTRA MAIN CONDUIT. THIS IS TO AVOID DAMAGE TO EXISTING SERVICES DUE TO TRENCH EXCAVATIONS ON TELSTRA'S MAIN CONDUIT ALIGNMENT.

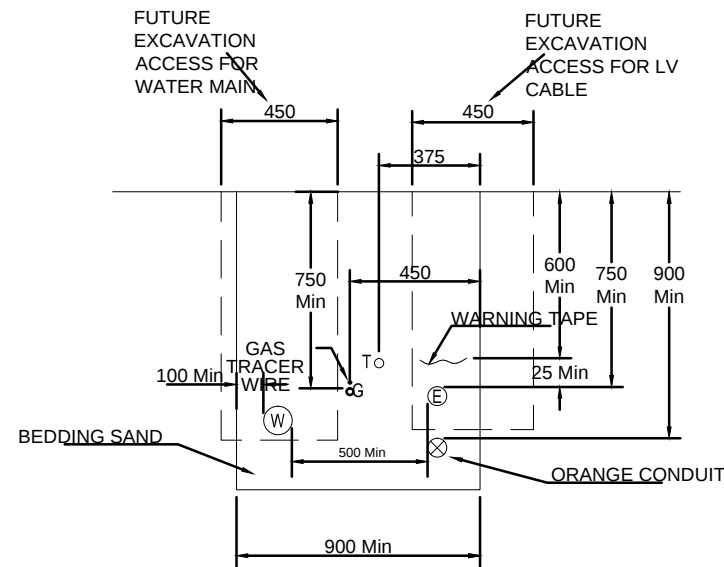
LEGEND

- SW STORMWATER
- W WATER MAIN
- S SEWER MAIN
- E 1000 L.V. ELECT. CONDUIT
- X 1000 H.V. ELECT. CONDUIT
- G 32mm HDPE GAS MAIN & TRACER WIRE
- T P50mm TELSTRA CONDUIT



COMMON TRENCH (SECTION)

Scale 1:20



ROADWAY COMMON TRENCH (SECTION)

APPLICABILITY TABLE

Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	No	No	Yes	No	No	No	No
Applicable DWG	CMDG-R-100						

REVISIONS	DATE
B	IRC ADDED
A	NEW DRAWING FOR GRC

DISCLAIMER.
The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.

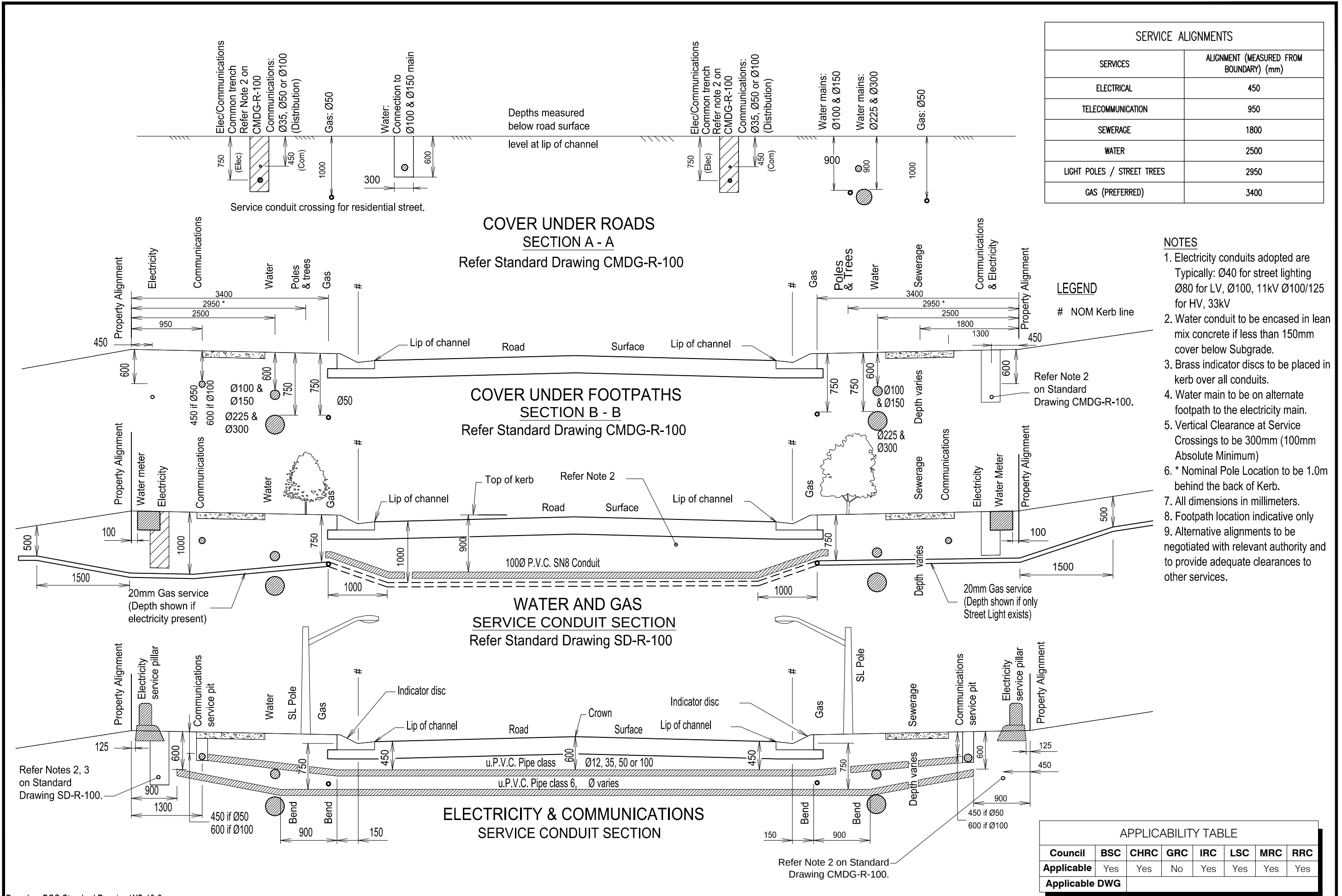
Capricorn Municipal Development Guidelines

Incorporating:

- Banana Shire Council (BSC)
- Central Highlands Regional Council (CHRC)
- Gladstone Regional Council (GRC)
- Isaac Regional Council (IRC)
- Livingstone Shire Council (LSC)
- Maranoa Regional Council (MRC)
- Rockhampton Regional Council (RRC)

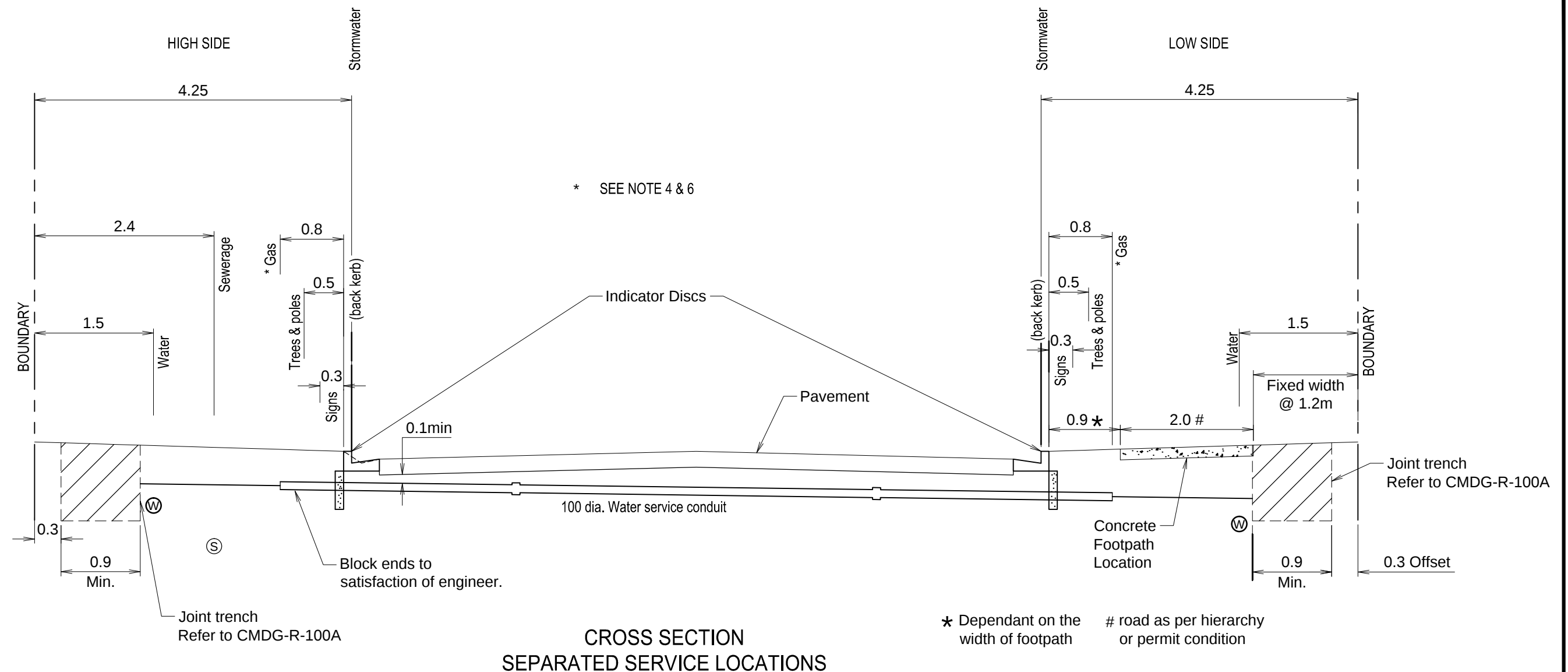
PUBLIC UTILITIES IN STREETS
TYPICAL SERVICE CORRIDORS AND ALIGNMENTS

ROADS
STANDARD DRAWING
CMDG-R-100A
REV. A B



Based on BCC Standard Drawing WS-10-2.

REVISIONS			DATE	DISCLAIMER. The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.	Capricorn Municipal Development Guidelines				PUBLIC UTILITIES IN STREETS TYPICAL SERVICE CONDUIT SECTIONS				ROADS					
F	IRC ADDED		12/2016		Incorporating: Banana Shire Council (BSC) Central Highlands Regional Council (CHRC) Gladstone Regional Council (GRC) Isaac Regional Council (IRC) Livingstone Shire Council (LSC) Maranoa Regional Council (MRC) Rockhampton Regional Council (RRC)								STANDARD DRAWING					
E	NOTE 9 ADDED		03/2015										CMDG-R-101					
D	GRC AND LSC ADDED		09/2014															
C	MRC ADDED		04/2011															
B	MINOR PRESENTATION CHANGES		07/2010															
A	POST AMALGAMATION REVIEW		02/2010															
												REV.	A	B	C	D	E	F



NOTES

1. No pits or manhole covers for power, telephone, water, sewerage and drainage services shall be placed within the carriageway unless approved by the director of technical services.
2. Trimming and compaction of the subgrade is to be completed and approved before excavation for the service conduits is commenced. excavation material shall be thrown on the footpath and not on the subgrade.
3. Service conduit alternatives:-100 Ø Concrete/FR pipes (S.F.) Class C or S (R.R.J.) 100Ø uPVC, Class 12
4. On wider footpaths, positions of services except stormwater, and signs are to be fixed by measurement from the property alignment.
5. Where practical, stormwater drainage is to be located between lip of channel and space allocated for poles. Sub-soil drainage is to be located under kerb & channel when required.
6. Location and width of concrete footpath where ordered shall be determined by the director of technical services.
7. For service conduits other than water, similar construction is to be utilised but with minimum depths of 750mm or as specified by relevant authorities.

APPLICABILITY TABLE

Council	BSC	CHRC	GRC	IRC	LSC	MRC	RRC
Applicable	No	No	Yes	No	No	No	No
Applicable DWG	CMDG-R-101						

Based on BCC Standard Drawing WS-10-2.

REVISIONS		DATE	DISCLAIMER.		Capricorn Municipal Development Guidelines		PUBLIC UTILITIES IN STREETS TYPICAL SERVICE CONDUIT SECTIONS		ROADS STANDARD DRAWING CMDG-R-101A	
			The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, but not limited to, any interruption of service, loss of business or anticipatory profits, of consequential damages resulting from the use of these Standard Drawings. Persons must not rely on these Standard Drawings as the equivalent of, or a substitute for, project-specific design and assessment by an appropriately qualified professional.		Incorporating:				REV. A B C	
C	IRC ADDED	12/2016			Banana Shire Council (BSC)		Livingstone Shire Council (LSC)			
B	FOOTPATH DIMENSIONS AMENDED	03/2015			Central Highlands Regional Council (CHRC)		Maranoa Regional Council (MRC)			
A	NEW DRAWING FOR GRC	01/2015			Gladstone Regional Council (GRC)		Rockhampton Regional Council (RRC)			
					Isaac Regional Council (IRC)					