

FOOTPATHS/PRIVATE PROPERTY/ROADS

ROADS

ROADS

ROADS

FOOTPATHS/PRIVATE PROPERTY/ROADS

TYPE 1

Conforms to Support Type U AS 3725

TYPE 2

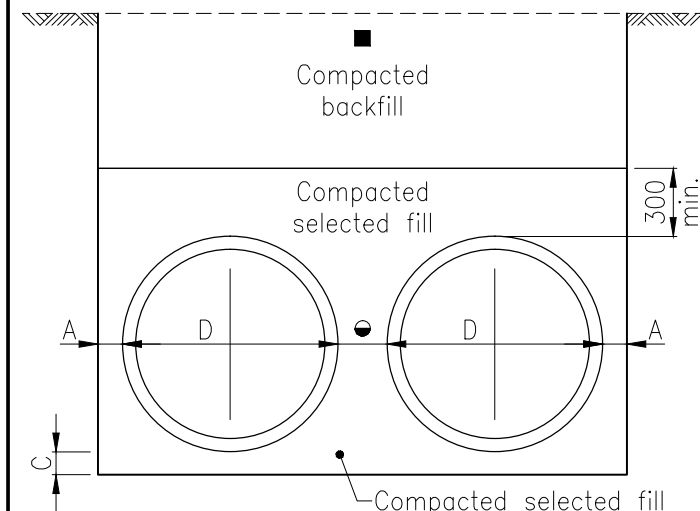
Conforms to Support Type H1 AS 3725

TYPE 3 – SAND SURROUND

TYPE 4 – CONCRETE OR GRAVEL SURROUND

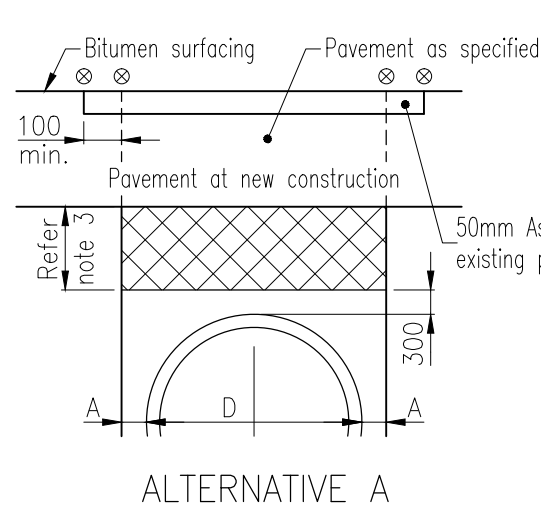
TYPE 5 – CONCRETE OR GRAVEL ENCASEMENT

TYPE 6 – BEDDING IN POOR GROUND



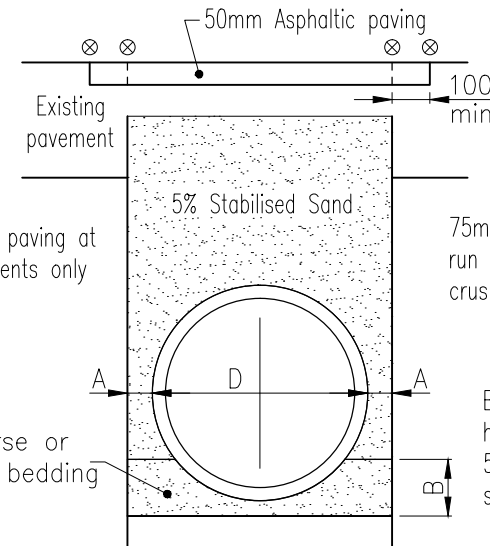
TYPE 7 – BEDDING OF MULTIPLE PIPES

Conforms to Support Type H1



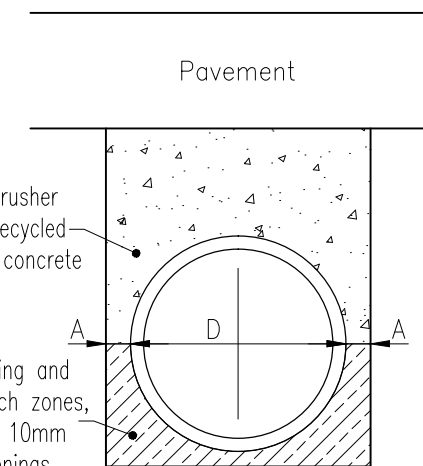
ALTERNATIVE A

(At new pavements on residential streets and rural roads and existing sealed roads)



ALTERNATIVE B

(At existing surfaced pavements on industrial, trunk collector, sub-arterial and arterial streets/roads)



ALTERNATIVE C

NOMINAL Ø culvert D (mm)	MINIMUM width A (mm)	HAUNCH depth B (mm)	BEDDING depth C (mm)	Allowable width, E(m)	
				DES	MAX
300	300	36	100	1.0	1.1
375	300	45	100	1.1	1.2
450	300	53	100	1.1	1.3
525	300	61	100	1.2	1.5
600	300	69	100	1.3	1.6
750	300	85	100	1.5	1.8
900	300	103	100	1.6	1.9
1050	300	120	100	1.8	2.1
1200	300	135	100	2.0	2.2
1350	300	150	100	2.1	2.4
1500	300	169	100	2.3	2.7
1650	330	184	150	2.6	2.9
1800	360	200	150	2.8	3.1
1950	390	222	150	3.1	3.3
2100	420	239	150	3.4	3.5
2400	480	270	150	3.9	4.2
2700	540	303	150	4.3	4.6
3000	600	335	150	4.9	5.0

BEDDING AND HAUNCH MATERIAL GRADING

(Gravel, loam, sand, or mixture)

AS Sieve Size	% Passing by mass	
	Type 1 Pipes < 1200Ø	Type 2 Pipes ≥ 1350Ø
19.0	100	98–100
9.5	–	35–50
4.75	–	5–10
2.36	40–100	0–2
0.425	15–70	0–1
0.075	3–30	0–1

NOTES:

- Selected backfill in all cases shall be carried through to the wings and continued 300 thick for the length and height of the wings.
- Bedding compaction (Compacted selected fill/sand bedding):
 - Cohesive material – 95% standard compaction.
 - Non-cohesive material – density index of 70MIN, refer AS1289.5.5.1.
 - Sand – compact by flooding and use of vibrators.
- Backfill compaction:
 - Compacted gravel (300mm) layer under road pavement 95% standard compaction.
 - Compacted selected fill/CBR 15 Gravel 90% standard compaction – below 300mm zone.
 - Compacted backfill – at footpaths/private property 90% standard compaction.
 - MAX. densities determined by standard compaction tests to AS 1289.5.1.1.

- Refer project drawings for types and/or alternatives to be adopted.
- Type U & Type H1 to conform to AS 3725.
- Dimension A can be reduced to 150 MIN for non mechanical compaction of backfill.
- Pipes are to be designed to their correct strength class under all construction loads, dead loads and in-service loads.
- All dimensions in millimetres.
- Where groundwater is encountered the superintendent must be notified and an appropriate trench drainage solution provided.

LEGEND

- ⊗ Saw cut at existing pavement.
- Pipes: 600 when NOMINAL D < 1800
900 when NOMINAL D > 1800
- Dimensions can be reduced to 100 MIN for 5% stabilised sand backfill.
- Refer Alternative A, B and C for backfill requirements at existing and new pavements.
- Depth to be approved by the superintendent.
- ⊠ Gravel (Min CBR 15).

APPLICABILITY TABLE

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

G	MINOR CORRECTION-ALTERNATIVE B & TABLE	06/2017
REVISIONS		
F	IRC ADDED	12/2016
E	GRC AND LSC ADDED	09/2014
D	NOTE 9 ADDED RE: GROUNDWATER	03/2012
C	MRC ADDED	04/2011
B	REFERENCE TO 'ORDINARY' FILL REMOVED	07/2010
A	POST AMALGAMATION REVIEW	10/2003

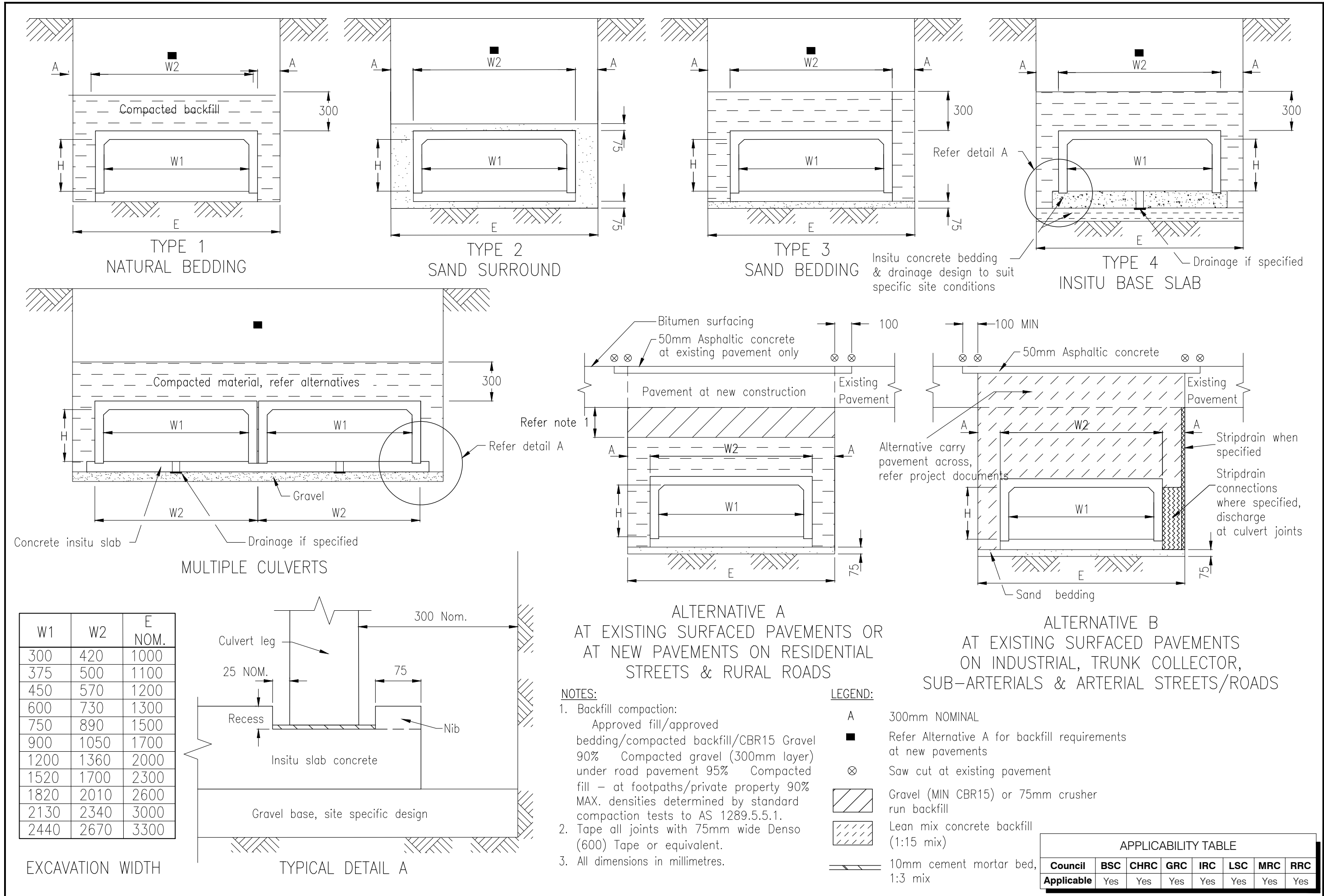
DISCLAIMER.
The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, 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.

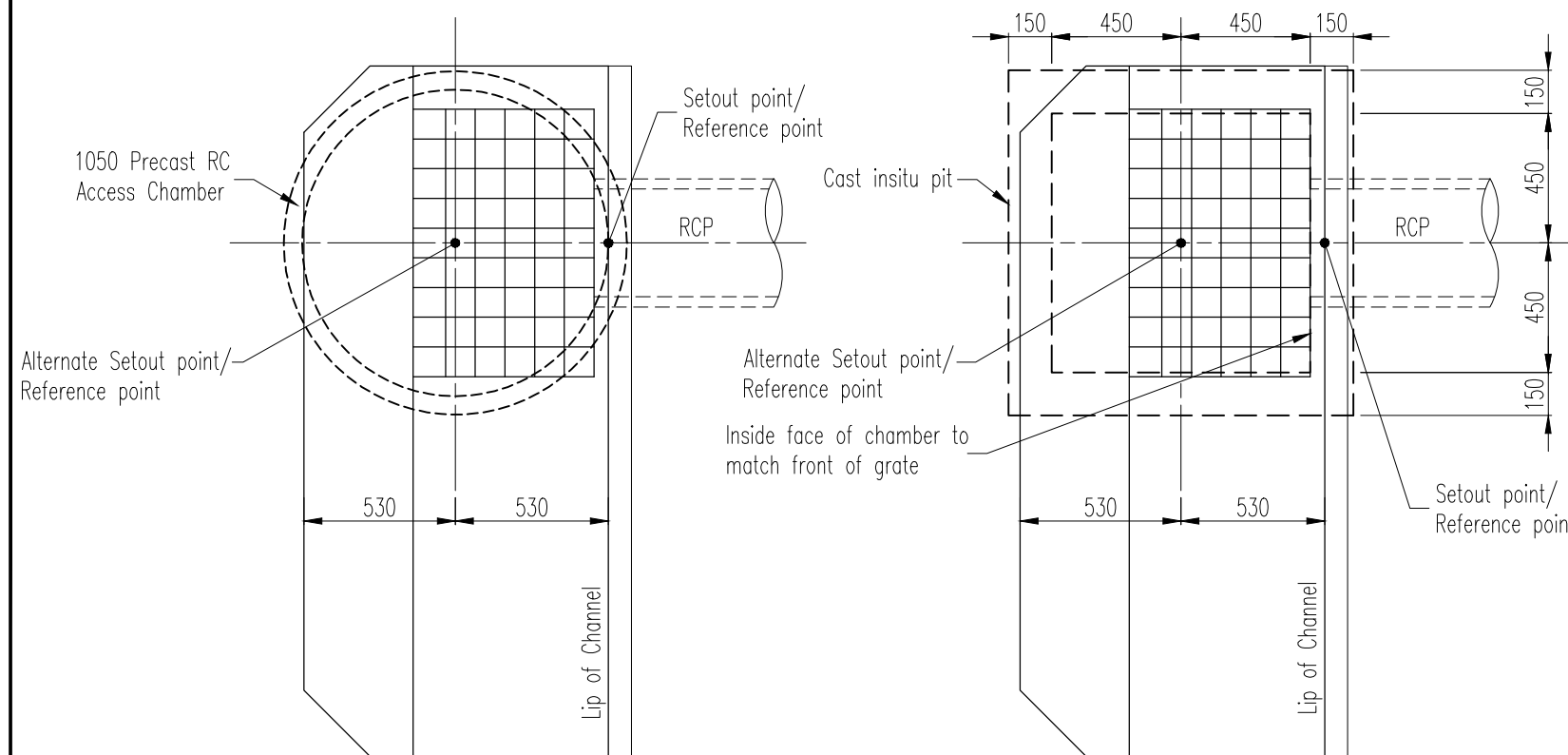
Capricorn Municipal Development Guidelines

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)

EXCAVATION, BEDDING AND BACKFILLING OF CONCRETE/REINFORCED FIBRE DRAINAGE PIPES

DRAINAGE
STANDARD
DRAWING
CMDG-D-010
REV. | B | C | D | E | F | G



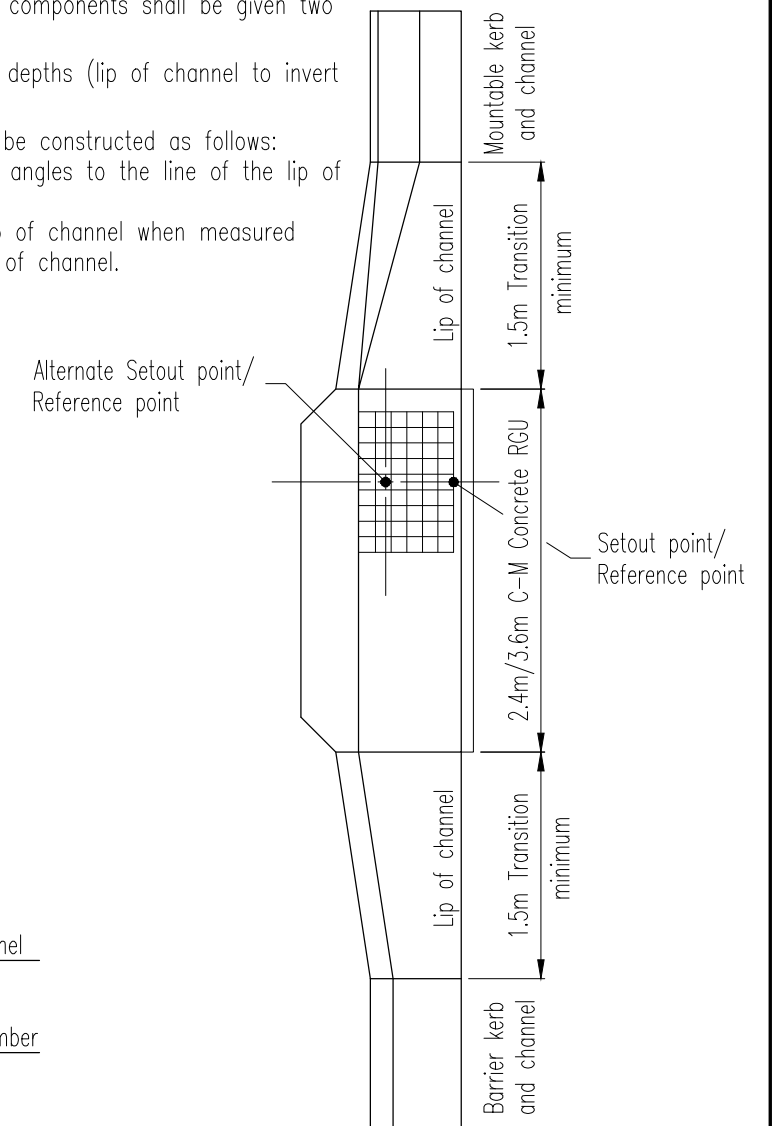


PLAN
C-M CONCRETE RGU
(with 1050 RCP shaft)

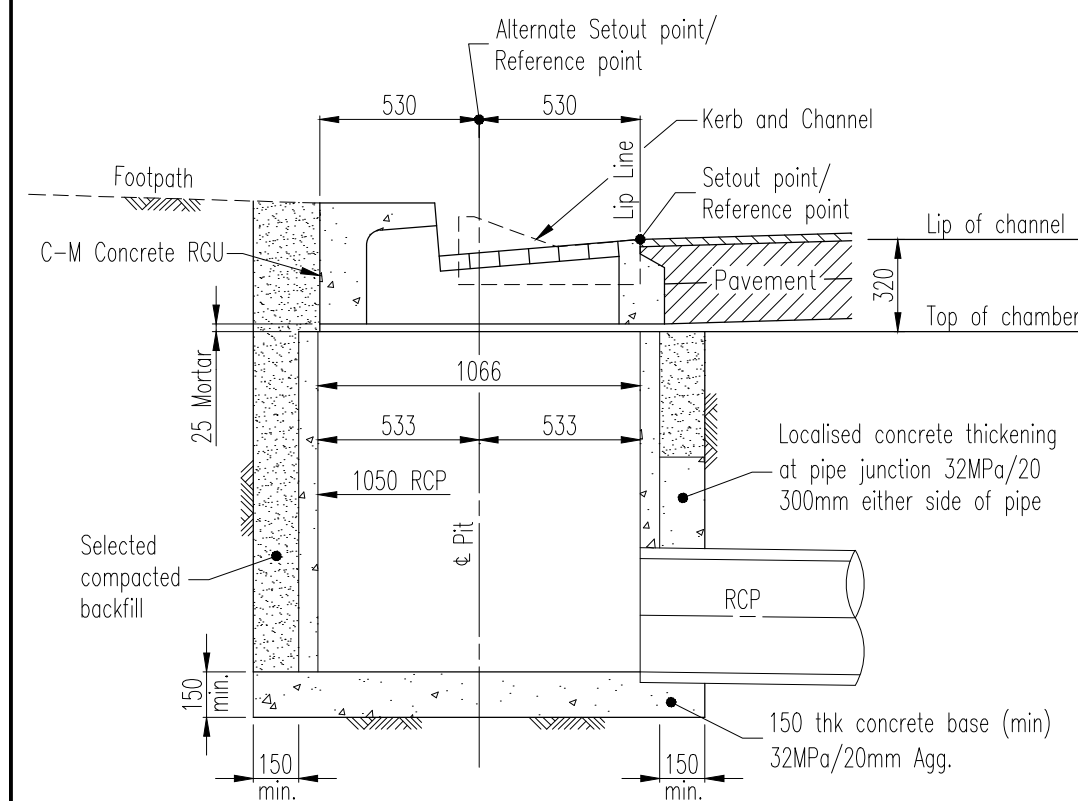
PLAN
C-M CONCRETE RGU
(with 900x900 insitu pit)

NOTES:

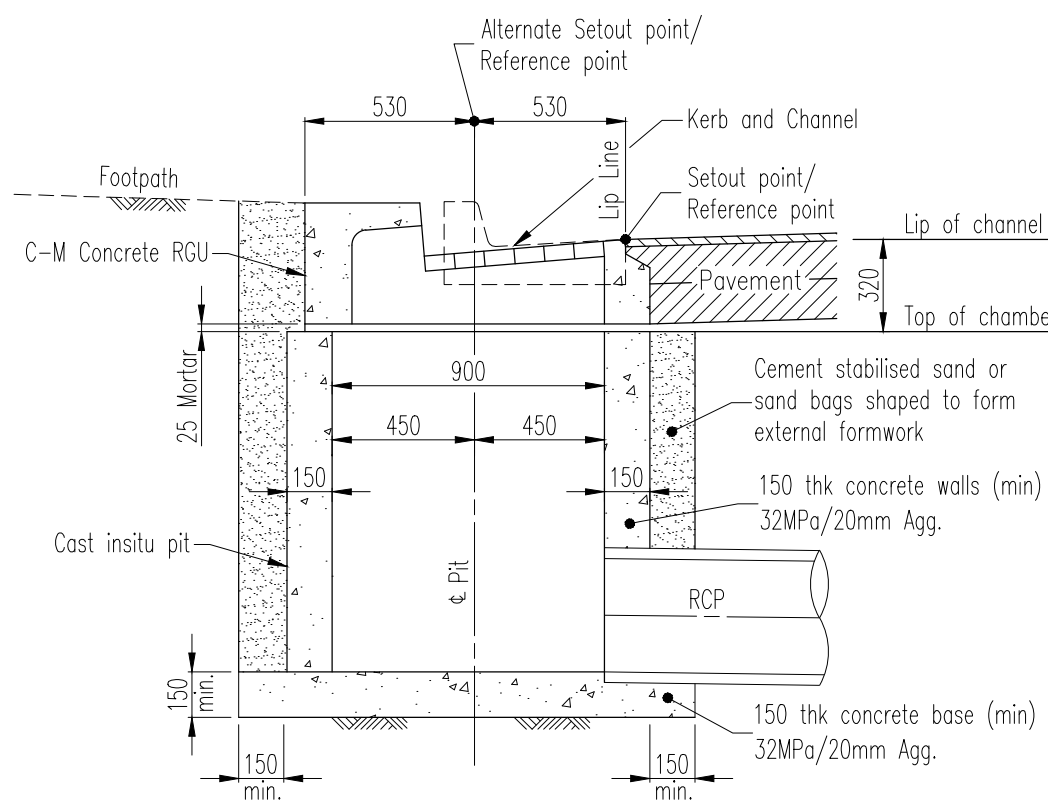
1. Precast road gully units to be 2.4m or 3.6m C-M Concrete Products (recessed type) or similar approved.
2. Reference point/setout point is on line of lip of kerb and channel at centre of grate. alternate reference point/setout point is geometric centre of chamber.
3. Pipe ends to be trimmed flush with internal wall and repaired so as to provide required concrete cover to pipe reinforcing.
4. Cut surfaces of concrete drainage components shall be given two coats of a tar epoxy paint.
5. Precast RC shafts to be used for depths (lip of channel to invert of pit) greater than 0.9m.
6. The plane of the top of pit is to be constructed as follows:
 - (a) Level when measured at right angles to the line of the lip of channel.
 - (b) To the same grade as the lip of channel when measured parallel to the line of the lip of channel.



C-M CONCRETE RGU CONFIGURATION



SECTIONAL ELEVATION



SECTIONAL ELEVATION

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

REVISIONS	DATE
F IRC ADDED	12/2016
E GRC AND LSC ADDED	09/2014
D MRC ADDED	04/2011
C REFERENCE TO LSC REMOVED	01/2011
B TRANSITION 1.5 MINIMUM	07/2010
A POST AMALGAMATION REVIEW	01/2010

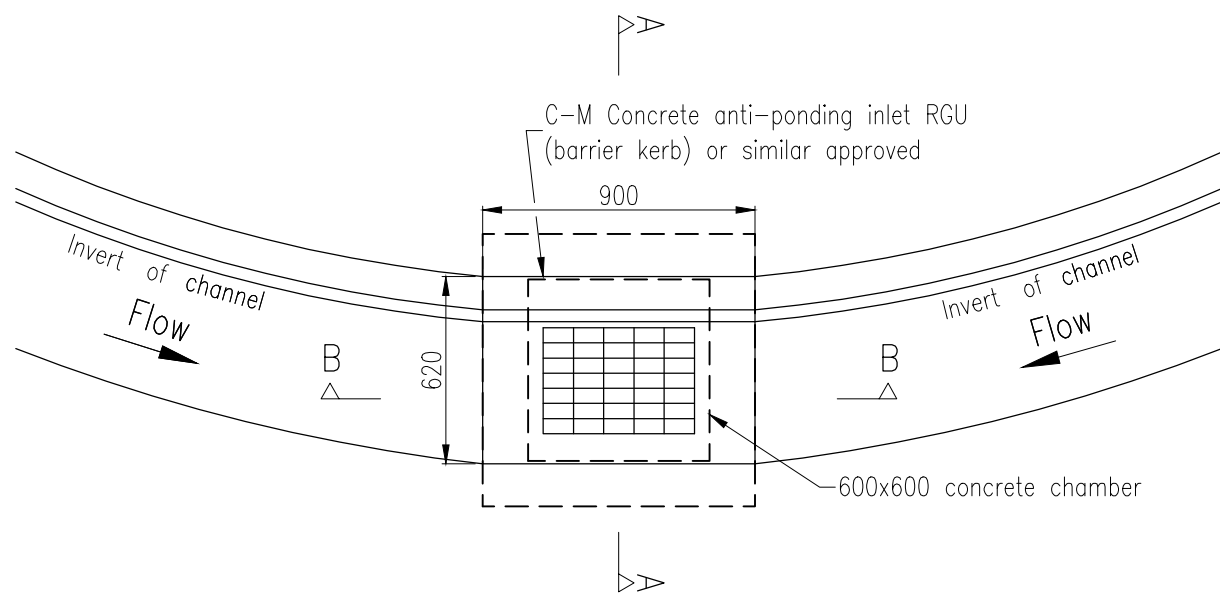
DISCLAIMER.
The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, 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

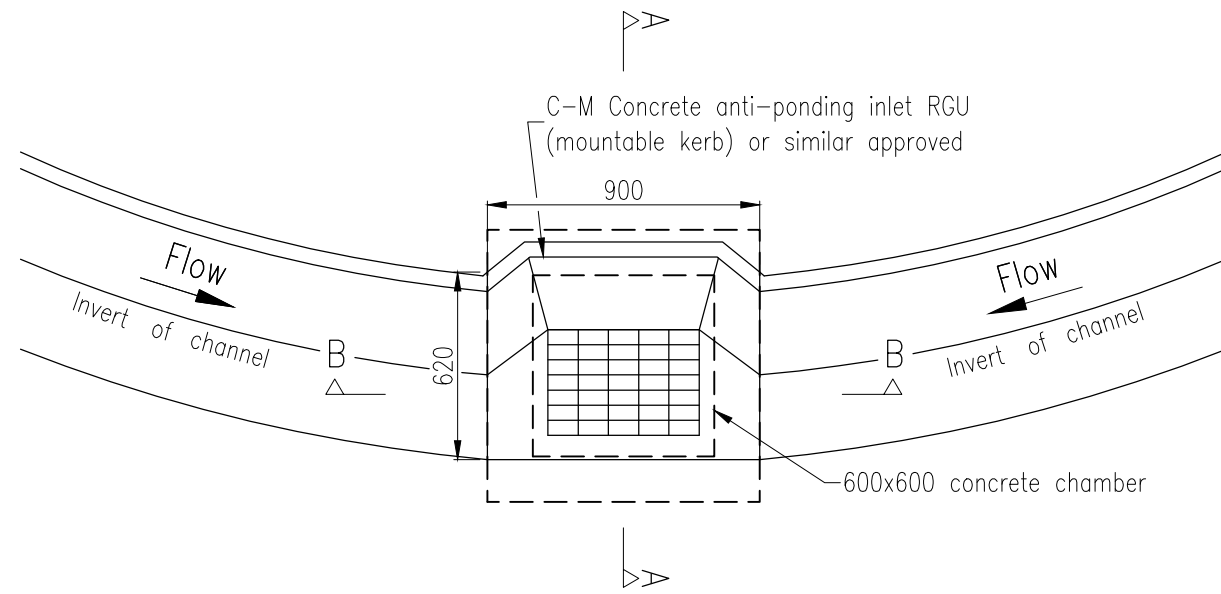
Incorporating:
Banana Shire Council (BSC)
Central Highlands Regional Council (CHRC)
Gladstone Regional Council (GRC)
Isaac Regional Council (IRC)
Livingstone Shire Council (LSC)
Maranoa Regional Council (MRC)
Rockhampton Regional Council (RRC)

**PRECAST STORMWATER INLET
INSTALLATION DETAILS**

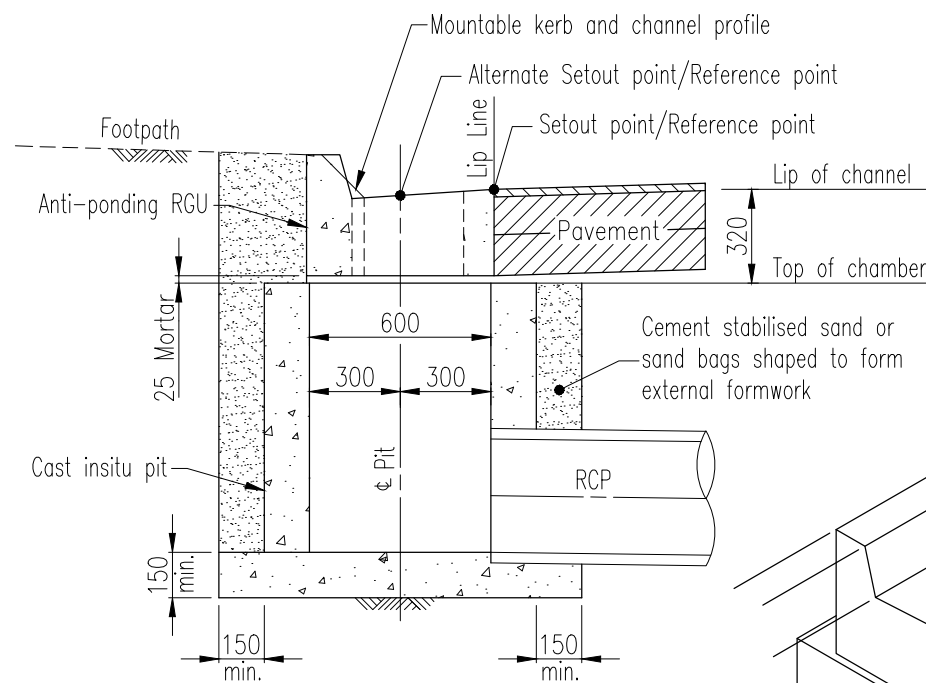
DRAINAGE					
STANDARD DRAWING					
CMDG-D-020					
REV.	A	B	C	D	E



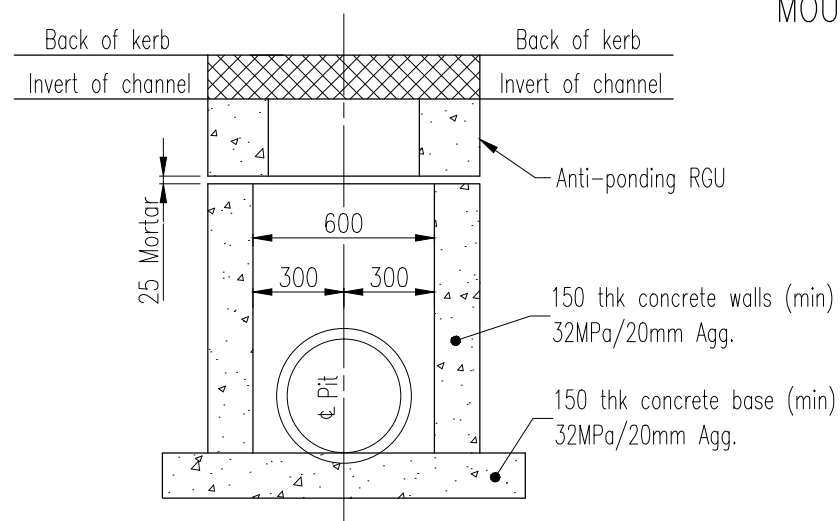
PLAN
BARRIER KERB AND CHANNEL



PLAN
MOUNTABLE KERB AND CHANNEL



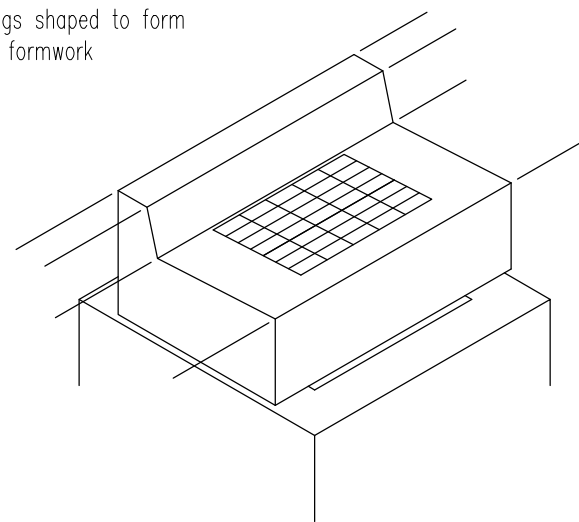
SECTION A-A



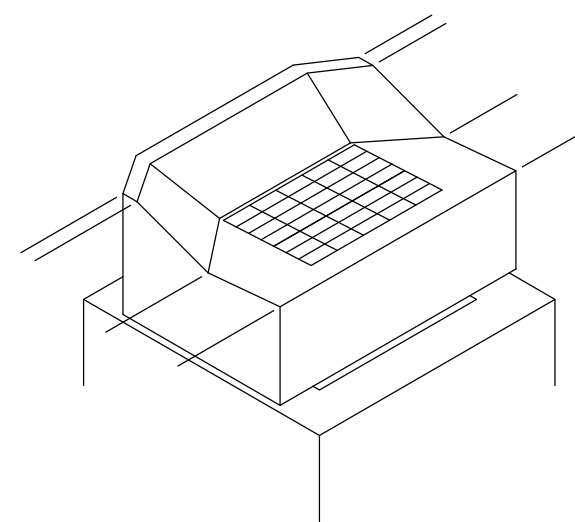
SECTION B-B

NOTES:

1. Precast anti-ponding road gully units to be 0.9m wide C-M Concrete Products or similar approved.
2. Reference point/setout point is on line of lip of kerb and channel at centre of grate. alternate reference point/setout point is geometric centre of chamber.
3. Pipe ends to be trimmed flush with internal wall and repaired so as to provide required concrete cover to pipe reinforcing.
4. Cut surfaces of concrete drainage components shall be given two coats of a tar epoxy paint.
5. The plane of the top of pit is to be constructed level when measured at right angles and parallel to the line of the lip of channel.



PERSPECTIVE
BARRIER KERB AND CHANNEL



PERSPECTIVE
MOUNTABLE KERB AND CHANNEL

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 REFERENCE TO LSC REMOVED	01/2011
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)

**PRECAST ANTI-PONDING INLET
INSTALLATION DETAILS**

DRAINAGE				
STANDARD DRAWING				
CMDG-D-021				
REV.	A	B	C	D E

TYPE 1 GRATE — PLAN

TYPE 1 FRAME — PLAN

TYPE 2 GRATE - PLAN

TYPE 2 INLET CHAMBER
CROSS SECTION

NOTES:

1. Concrete N32 in accordance with AS 1379 and AS 3600.
2. All welds to AS 1554. All welding symbols to AS 1101.3.
3. Grate and frame to be hot dip galvanised after fabrication to AS 4680.
4. Steel reinforcing bars to be Grade 250 to AS 1302.
5. All steel plate to be Grade 250 to AS/NZS 3678.
6. All steel bar and angle to be Grade 250 to AS 3679.1.
7. Hexagonal head bolts to AS 1111.
Nuts to AS 1112.
Washers to AS 1237.
Galvanising to AS 1214.
8. Class B grate to AS 3996 – grate in direction nominated. Refer to Project Drawings.
9. Precast chambers acceptable for level II allotment drainage.
10. All dimensions in millimetres.
11. Provide turf to perimeter of inlet apron.
12. Domed grates are permitted if directed by council.
13. Concrete in-situ pits up to a depth of 2.2m do not require steel reinforcement. One layer of SL81 reinforcing mesh is to be placed centrally in the walls for pit depths 2.2m to 3.0m. All other situations must be RPEQ designed.

TYPE 1 INLET CHAMBER
PLAN

PLAN

SECTION A-A

SECTION B-B
Scale - 1:5

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

REVISIONS		DATE
F	NOTE 13 ADDED.	03/2017
D	IRC ADDED	12/2016
E	GRC AND LSC ADDED	09/2014
C	MRC ADDED	04/2011
B	NOTE 12 ADDED RE. DOMED GRATES	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) 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)

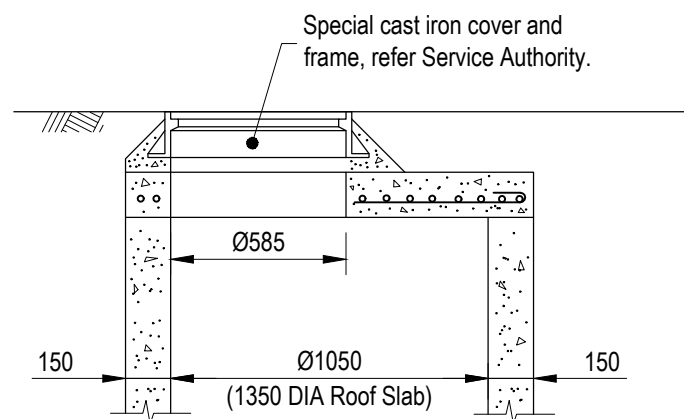
FIELD INLET DETAILS

DRAINAGE

STANDARD
DRAWING

CMDG-D-022

REV.	A	B	C	D	E	F
------	---	---	---	---	---	---

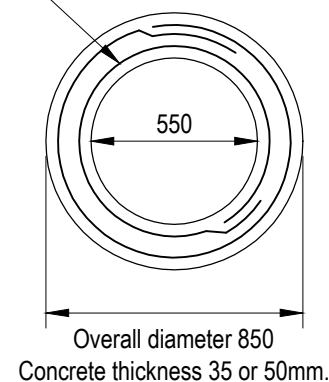


SECTION
ALTERNATIVE 1
1050 DIA MH.

INVERT GRADE DIMENSION 't' (MIN)

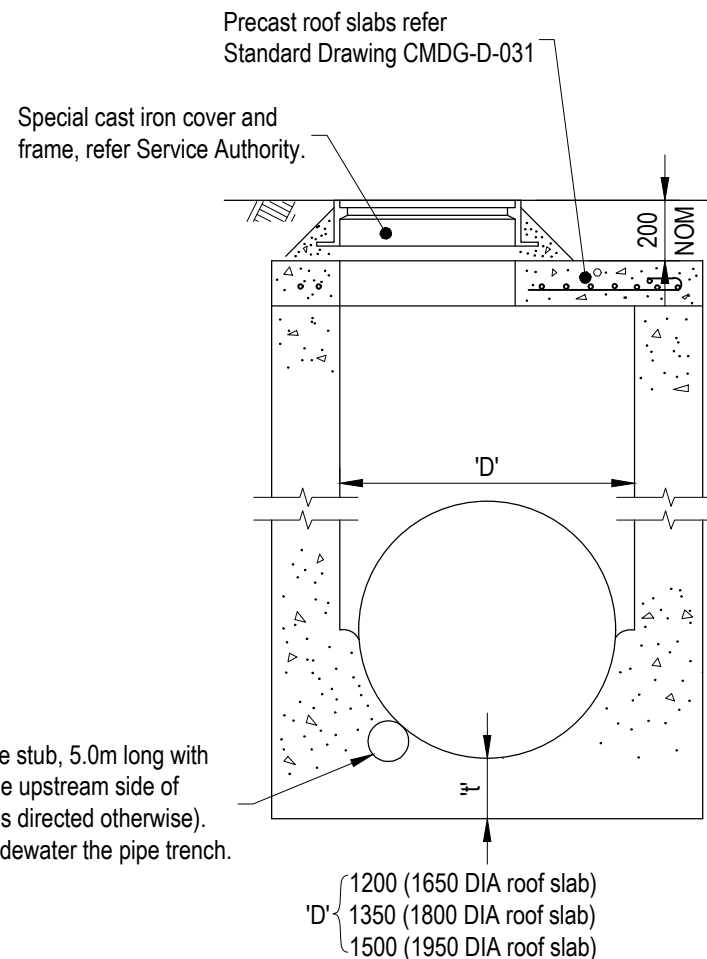
Access Chamber DIA	FLOOR THICKNESS 't'	
	INLET	OUTLET
1050	175	150
1200	250	225
1350	250	225
1500	250	225

2 R6 bars, Grade 400 to AS ISO 1302, placed centrally in ring with 40 side cover. Lap 250.



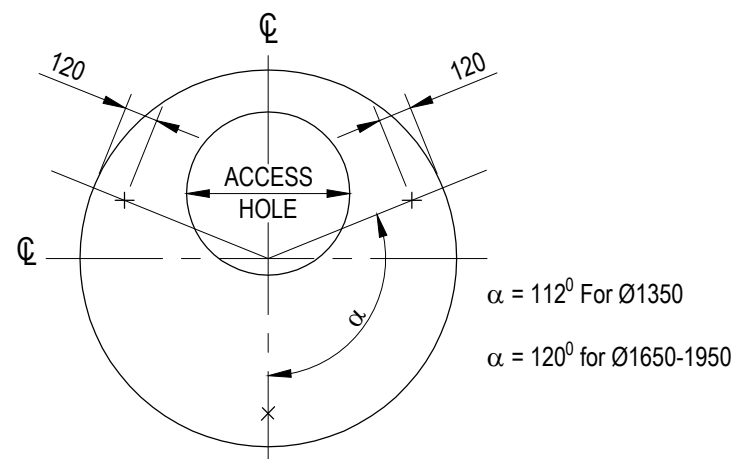
PLAN
ROOF RING

For use in raising covers and frames of existing access chambers.

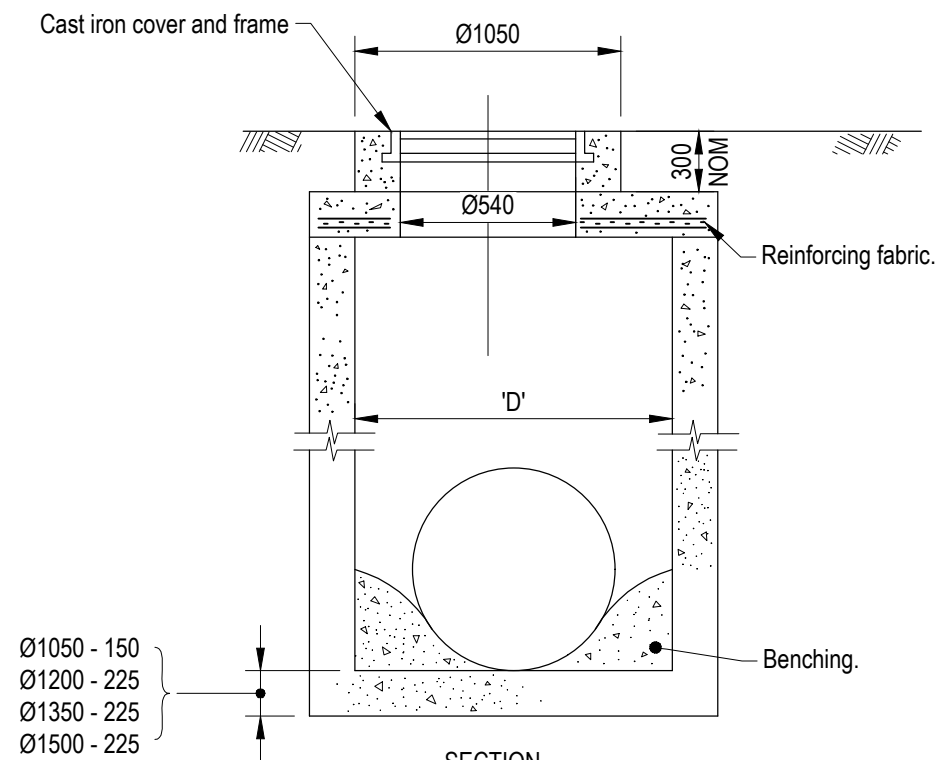


TYPICAL SECTION

ACCESS CHAMBER DETAILS



LIFTING ANCHOR LOCATIONS
(Refer Note 4)



SECTION
ALTERNATIVE 2

NOTES:

1. Structural concrete N32, benching N20 in accordance with AS 1379 and AS 3600.
2. Alternatives: For access hole location refer Service Authority, For turret type refer Service Authority.
3. Refer Project Drawings for size and level of culverts, and chamber cover level.
4. Lifting anchors to be SWIFTLIFT or equivalent, 1.8 tonne, galvanized to AS 4680 and fitted to manufacturer's specifications.
5. All dimensions in millimetres.
6. Concrete in-situ pits up to a depth of 2.2m do not require steel reinforcement. One layer of SL81 reinforcing mesh is to be placed centrally in the walls for pit depths 2.2m to 3.0m. All other situations must be RPEQ designed.

APPLICABILITY TABLE

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

REVISIONS	DATE
F NOTE 1 REINFORCING DETAILS AMENDED	12/2017
E NOTE 6 ADDED	03/2017
D IRC ADDED	12/2016
C GRC AND LSC ADDED	09/2014
B MRC ADDED	04/2011
A POST AMALGAMATION REVIEW	01/2010

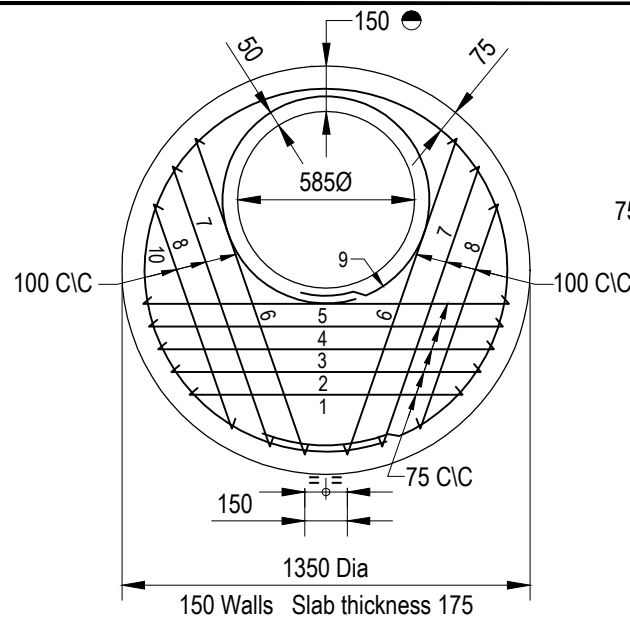
DISCLAIMER.
The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged to be caused, directly or indirectly, by the adoption and use of these Standard Drawings including, 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) 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)

ACCESS CHAMBER DETAILS DIA 1050 TO 1500

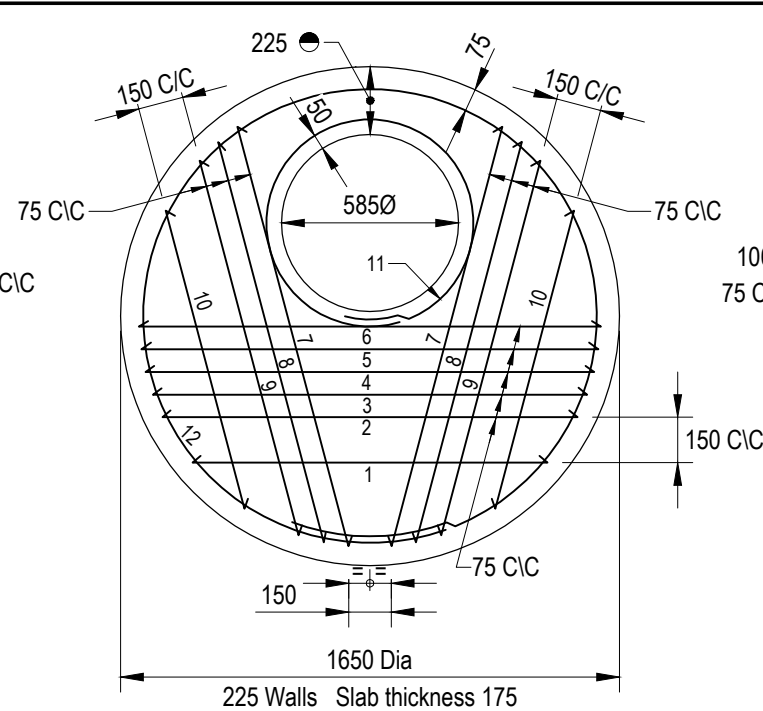
DRAINAGE
STANDARD DRAWING
CMDG-D-030
REV. A B C D E F



BAR No.	SHAPE	a/b	OVERALL LENGTH	No. OFF	TOTAL LENGTH
1		937	1175	1	1175
2		1030	1255	1	1255
3		1125	1350	1	1350
4	a	1175	1400	1	1400
5		1225	1450	1	1450
6		1125	1350	2	2700
7		1000	1225	2	2450
8		812	1050	2	2100
9	b	685	2550	1	2550
10		1200	4200	1	4200
TOTAL					20630

Steel Mass: 19kg
Concrete: 0.20m³
Total Mass: 508kg

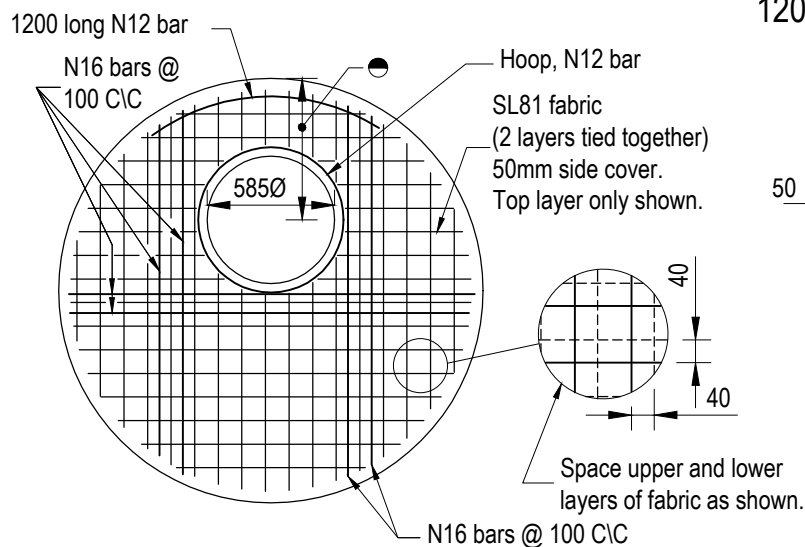
1050 DIA ACCESS CHAMBER



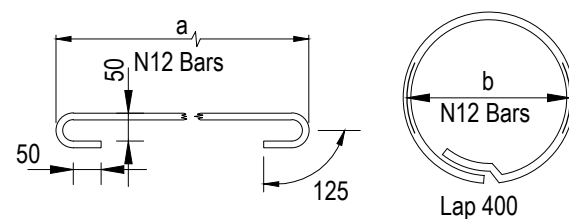
BAR No.	SHAPE	a/b	OVERALL LENGTH	No. OFF	TOTAL LENGTH
1		1200	1425	1	1425
2		1400	1625	1	1625
3		1450	1675	1	1675
4		1500	1725	1	1725
5	a	1520	1745	1	1745
6		1537	1775	1	1775
7		1450	1675	2	3350
8		1375	1600	2	3200
9		1300	1525	2	3050
10		1050	1275	2	2550
11	b	685	2550	1	2550
12		1500	5150	1	5150
TOTAL					23200

Steel Mass: 27kg
Concrete: 0.33m³
Total Mass: 818kg

1200 DIA ACCESS CHAMBER



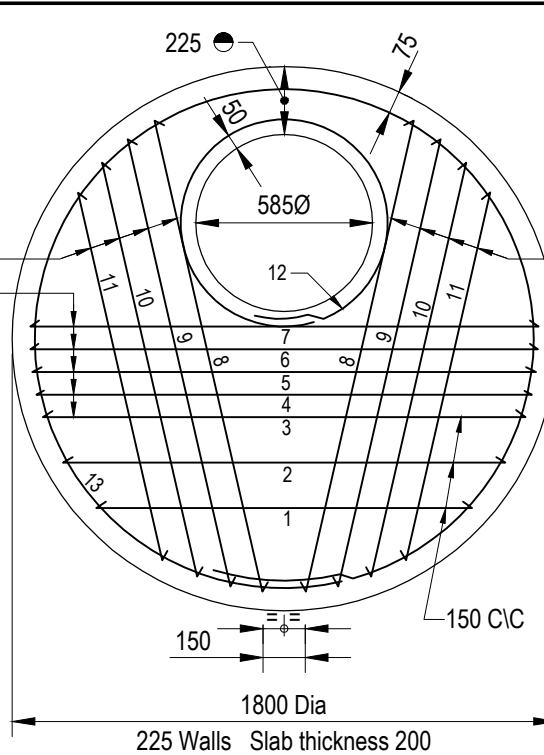
FABRIC REINFORCEMENT ALTERNATIVE



REINFORCEMENT DIMENSIONS

FABRIC REINFORCED SLAB

NOM DIA	ROOF THICKNESS
1050	175
1200	175
1350	200
1500	250



BAR No.	SHAPE	a/b	OVERALL LENGTH	No. OFF	TOTAL LENGTH
1		1275	1500	1	1500
2		1488	1725	1	1725
3		1612	1850	1	1850
4		1645	1870	1	1870
5	a	1675	1900	1	1900
6		1675	1900	1	1900
7		1675	1900	1	1900
8		1600	1825	2	3650
9		1525	1750	2	3500
10		1412	1650	2	3300
11		1262	1500	2	3000
12	b	685	2550	1	2550
13		1650	5625	1	5625
TOTAL					34270

Steel Mass: 31kg
Concrete: 0.45m³
Total Mass: 1138kg

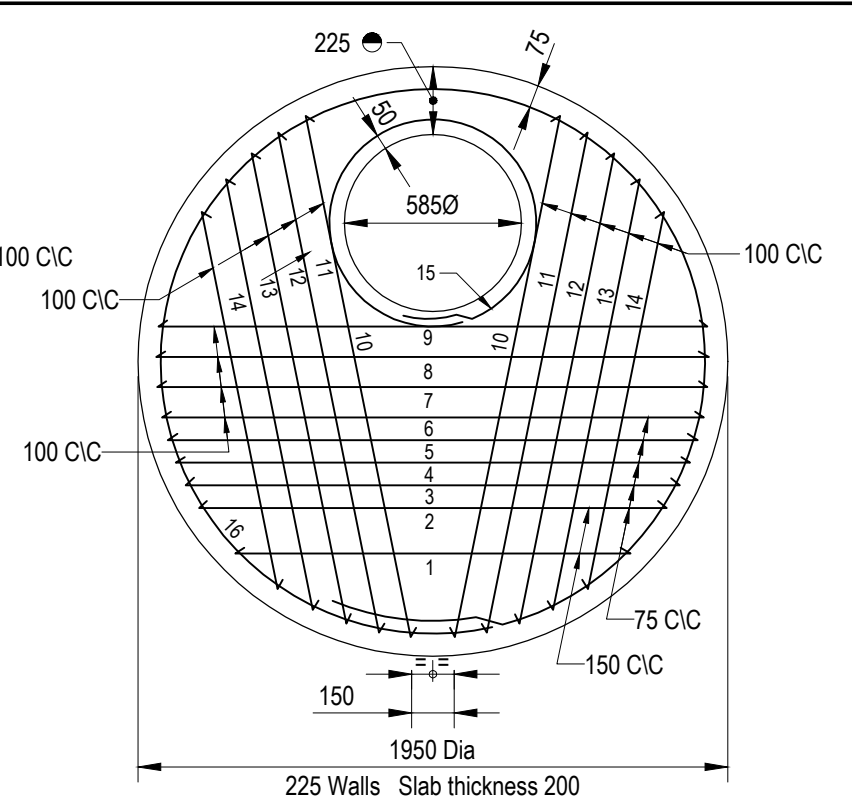
1350 DIA ACCESS CHAMBER

LEGEND:

- Offset to access hole varies:
 - Hole in line with chamber wall, or
 - Hole offset from wall 460mm

NOTES:

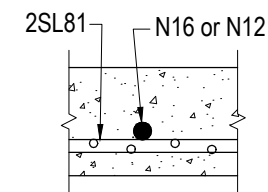
- Concrete N40 in accordance with AS 1379 and AS 3600.
- Reinforcement cover 30 MIN (bottom cover).
- Reinforcement: SL81 Fabric to AS/NZS 4671.
Bars N12 and N16, Grade 400 to AS ISO 1302.
- Refer Std Dwg No. CMDG-D-030 (Access Chamber Details - Dia 1050 to 1500) for lifting anchor locations and details.
- Roof design based on Austroads bridge code, W7 wheel load, dynamic factor 0.4.
- All dimensions in millimetres.



BAR No.	SHAPE	a/b	OVERALL LENGTH	No. OFF	TOTAL LENGTH
1		1337	1575	1	1575
2		1575	1800	1	1800
3		1645	1870	1	1870
4		1712	1950	1	1950
5		1756	1980	1	1980
6	a	1800	2025	1	2025
7		1825	2050	1	2050
8		1837	2075	1	2075
9		1825	2050	1	2050
10		1762	2000	2	4000
11		1700	1925	2	3850
12		1600	1825	2	3650
13		1462	1700	2	3400
14		1275	1500	2	3000
15	b	685	2550	1	2550
16		1800	6100	1	6100
TOTAL					43925

Steel Mass: 39kg
Concrete: 0.55m³
Total Mass: 1360kg

1500 DIA ACCESS CHAMBER



ROOF SECTION

APPLICABILITY TABLE

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

REVISIONS	DATE
E	REINFORCING DETAILS AMENDED 12/2017
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) 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)

ACCESS CHAMBER ROOF SLAB DIA 1050 TO 1500

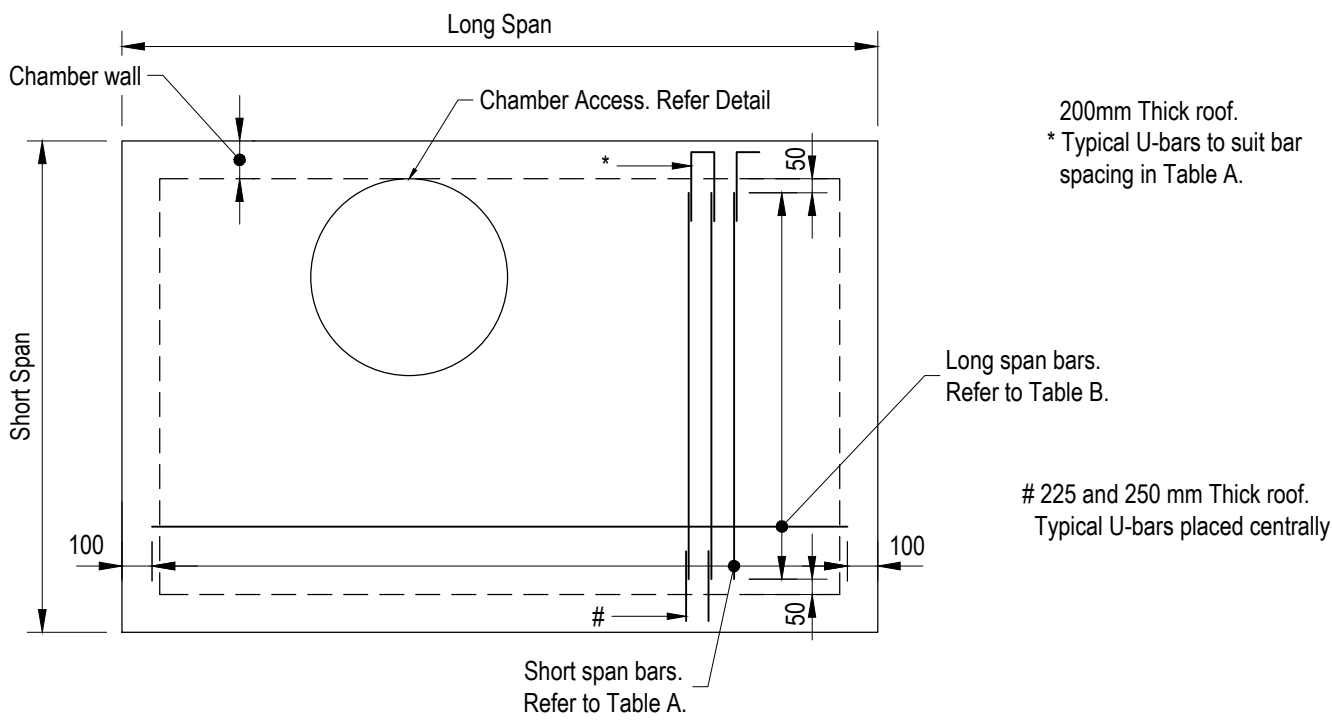
DRAINAGE							
STANDARD DRAWING							
CMDG-D-031							
REV.	A	B	C	D	E		

SHORT SPAN	LONG SPAN											SLAB
	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	DEPTH	
	1200	N12 AT 150	N16 AT 200	N16 AT 200	N16 AT 200	N16 AT 175	N16 AT 175	N16 AT 175	N16 AT 150	N12 AT 150	N16 AT 150	200
	1400		N12 AT 150	N16 AT 200	N16 AT 200	N16 AT 175	N16 AT 175	N16 AT 150	N16 AT 150	N16 AT 150	N16 AT 150	200
	1600			N12 AT 150	N16 AT 200	N16 AT 200	N16 AT 175	N16 AT 150	N16 AT 150	N16 AT 150	N16 AT 150	200
	1800				N12 AT 150	N16 AT 200	N16 AT 200	N16 AT 200	N16 AT 175	N16 AT 175	N16 AT 175	225
	2000					N12 AT 150	N16 AT 200	N16 AT 200	N16 AT 200	N16 AT 175	N16 AT 175	225
	2200						N12 AT 150	N16 AT 200	N16 AT 200	N16 AT 175	N16 AT 175	225
	2400							N16 AT 200	N16 AT 200	N16 AT 200	N16 AT 175	225
	2600								N16 AT 200	N16 AT 200	N16 AT 175	250
2800									N16 AT 200	N16 AT 175	250	
3000										N16 AT 175	250	

TABLE A: SHORT SPAN BARS

	LONG SPAN										SLAB DEPTH
	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	
SHORT SPAN	1200	N12 AT 150	N12 AT 200	N12 AT 200	N12 AT 200	N12 AT 200	N12 AT 200	N12 AT 200	N12 AT 200	N12 AT 200	200
	1400		N12 AT 150	N12 AT 200	N12 AT 200	N12 AT 200	N12 AT 200	N12 AT 200	N12 AT 200	N12 AT 200	200
	1600			N12 AT 150	N12 AT 150	N12 AT 200	N12 AT 200	N12 AT 200	N12 AT 200	N12 AT 200	200
	1800				N12 AT 150	N12 AT 150	N12 AT 200	N12 AT 200	N12 AT 200	N12 AT 200	225
	2000					N12 AT 150	N12 AT 200	N12 AT 200	N12 AT 200	N12 AT 200	225
	2200						N12 AT 150	N12 AT 150	N12 AT 150	N12 AT 200	225
	2400							N16 AT 200	N12 AT 150	N12 AT 150	225
	2600								N16 AT 200	N16 AT 200	250
	2800									N16 AT 200	250
	3000									N16 AT 175	250

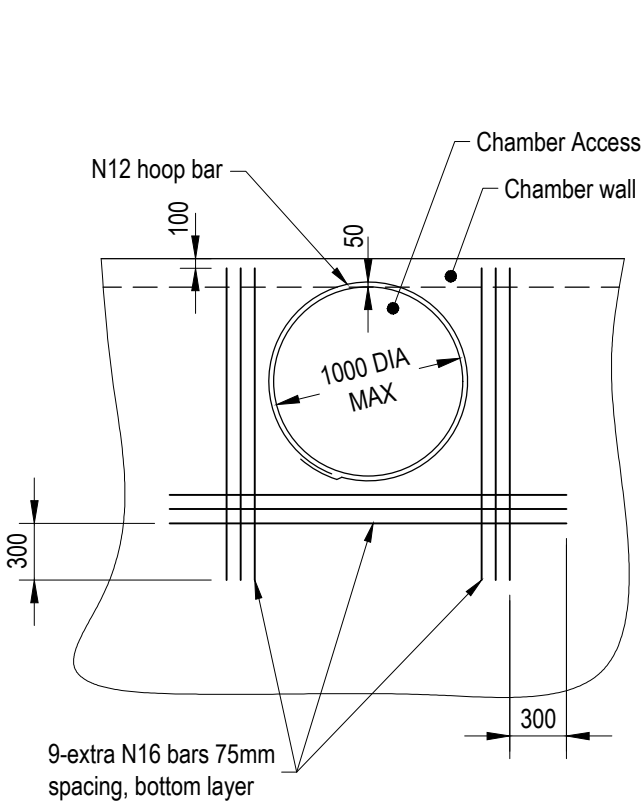
TABLE B: LONG SPAN BARS



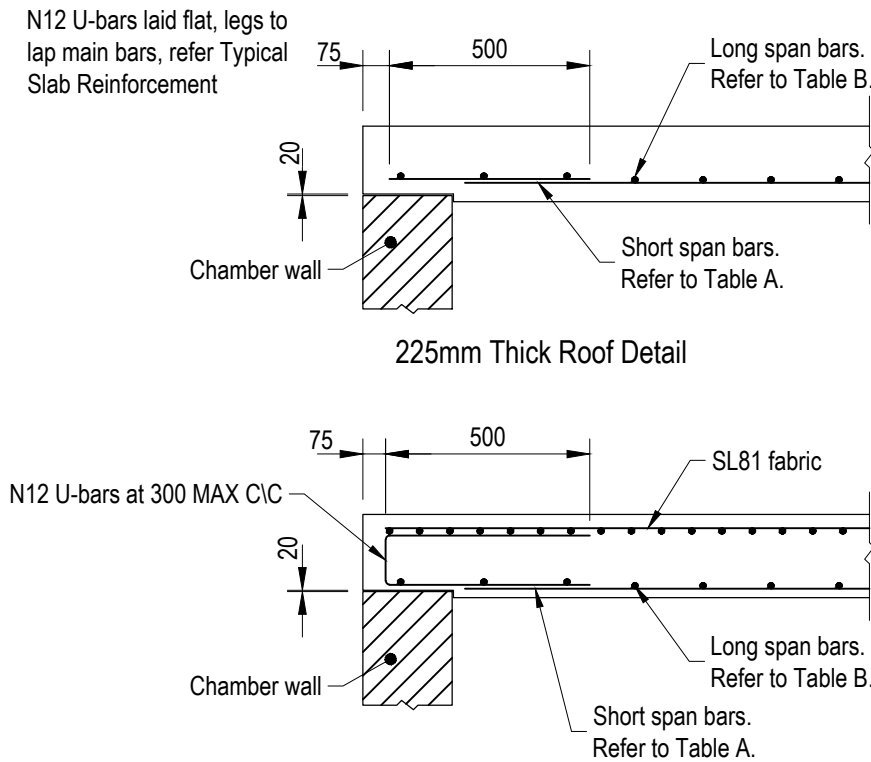
TYPICAL SLAB REINFORCEMENT

NOTES:

- Concrete N32/20 in accordance with AS 1379 and AS 3600.
- Reinforcement :- SL81 fabric to AS/NZS 4671
Bars N12 and N16 Grade 400 to AS ISO 1302.
- All laps in reinforcement shall be :- N12 - 300, N16 - 400.
- Form work in accordance with AS 3610.
- Designed to AustRoads Bridge Code, W7 wheel load, dynamic factor 0.4.
- Maximum fill over roof slab shall be 3000mm.
- Reinforcement cover 45 min.
- Refer Service Authority for access hole diameter to be adopted.
- Refer project drawings for details of chamber walls and floors.
- All dimensions in millimetres.



SLAB REINFORCEMENT
AROUND CHAMBER ACCESS



250mm Thick Roof Detail

TYPICAL SECTIONS

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

REVISIONS	DATE
E REINFORCING DETAILS AMENDED	12/2017
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)

ACCESS CHAMBER ROOF SLAB
RECTANGULAR

DRAINAGE
STANDARD
DRAWING
CMDG-D-032
REV. A B C D E



TYPE1
CAST INSITU

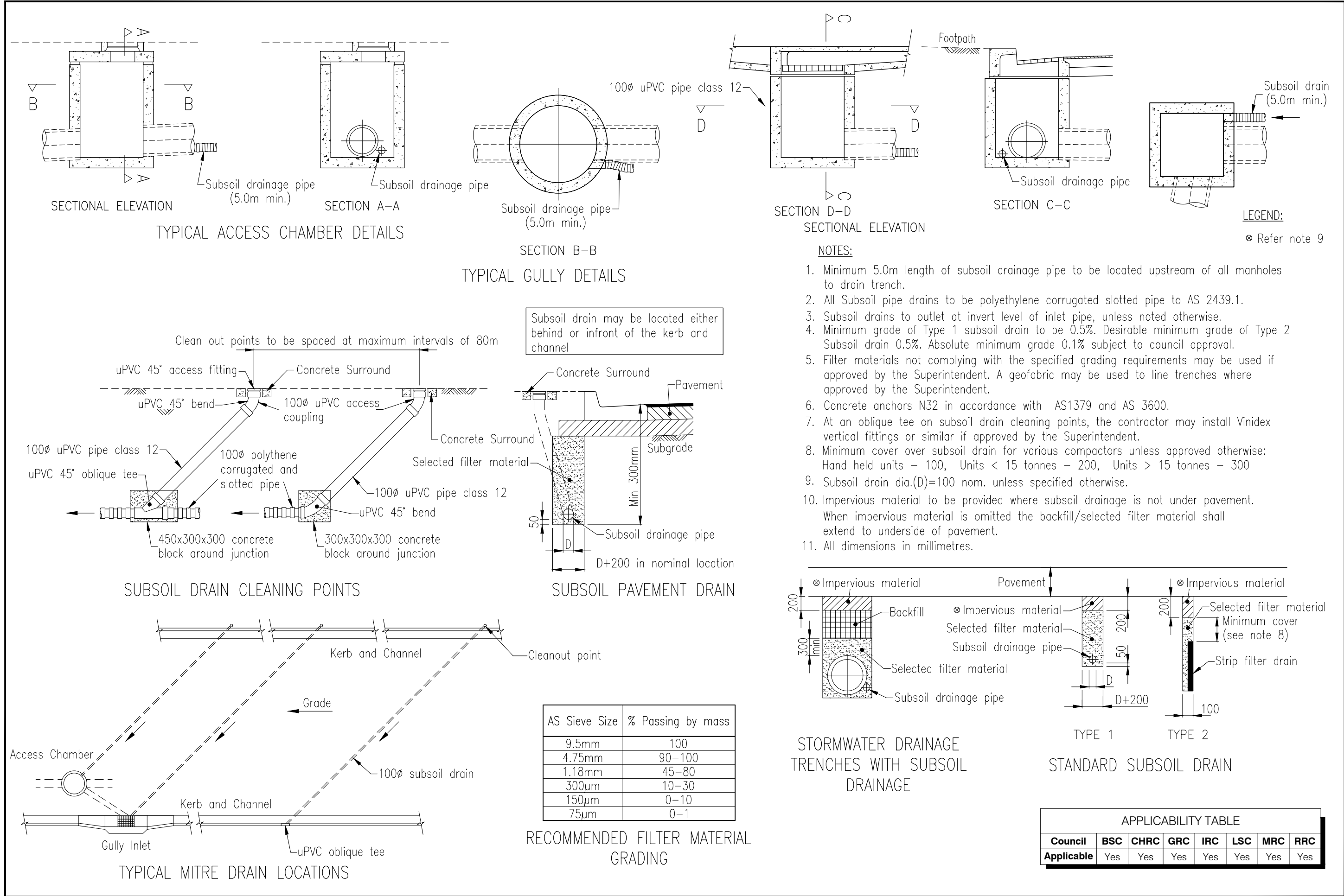


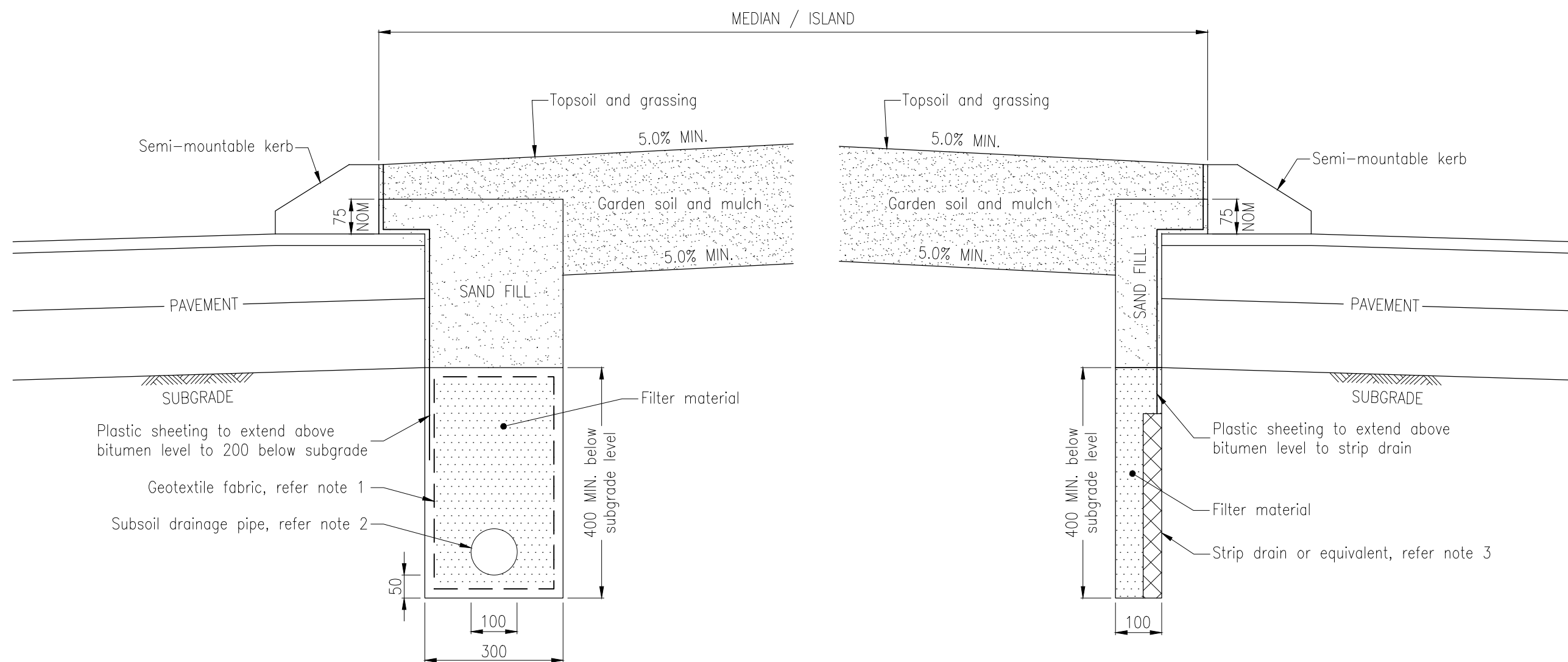
TYPE 2 PRECAST/INSITU

NOTES:

- | APPLICABILITY TABLE | | | | | | |
|---------------------|-----|------|-----|-----|-----|-----|
| Council | BSC | CHRC | GRC | LSC | MRC | RRC |
| Applicable | Yes | Yes | Yes | Yes | Yes | Yes |

REVISIONS		DATE	<p>DISCLAIMER.</p> <p>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.</p>	<p>Capricorn Municipal Development Guidelines</p> <p>Incorporating:</p> <div><div>Banana Shire Council (BSC) Central Highlands Regional Council (CHRC) Gladstone Regional Council (GRC) Livingstone Shire Council (LSC)</div><div>Maranoa Regional Council (MRC) Rockhampton Regional Council (RRC) Isaac Regional Council (IRC)</div></div>		<p>ROOFWATER INSPECTION CHAMBER</p>		DRAINAGE	
				STANDARD DRAWING		A3			
E	NOTE 5 AMENDED TO PERMIT NON CIRCULAR CHAMBERS	08/2022							
D	IRC ADDED	12/2016							
C	GRC AND LSC ADDED	09/2014							
B	MRC ADDED	04/2011							
A	POST AMALGAMATION REVIEW	01/2010							
REV.	A	B	C	D	E	CMDG-D-033			





AS Sieve Size	% Passing by mass
9.5mm	100
4.75mm	90-100
1.18mm	45-80
300µm	10-30
150µm	0-10
75µm	0-1

RECOMMENDED FILTER MATERIAL GRADING

NOTES:

- Geotextile surround proprietary product, U.V. stabilised, non-woven, type flow rate > 50 l/m/sec, $G > 1300$ and E.O.S. < 200µm.
- 100Ø Subsoil drainage pipe – corrugated slotted polyethylene, connect to drainage system at 0.5% minimum grade.
- Strip drain – proprietary product, deep-fin plastic core, 120 Kpa minimum crush strength, 40mm minimum thickness, fully enclosed by a non woven geotextile, connect to drainage system at 0.5% desirable minimum grade, 0.1% absolute minimum grade subject to Council approval.
- All dimesions in millimetres.
- Plastic sheeting to be 200µm minimum

APPLICABILITY TABLE

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

REVISIONS	DATE
F IRC ADDED	12/2016
E GRC AND LSC ADDED	09/2014
D MRC ADDED	04/2011
C NOTE 3 AMENDED	01/2011
B NOTE 5 ADDED. SHEETING EXTENDED UP KERB	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) 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)

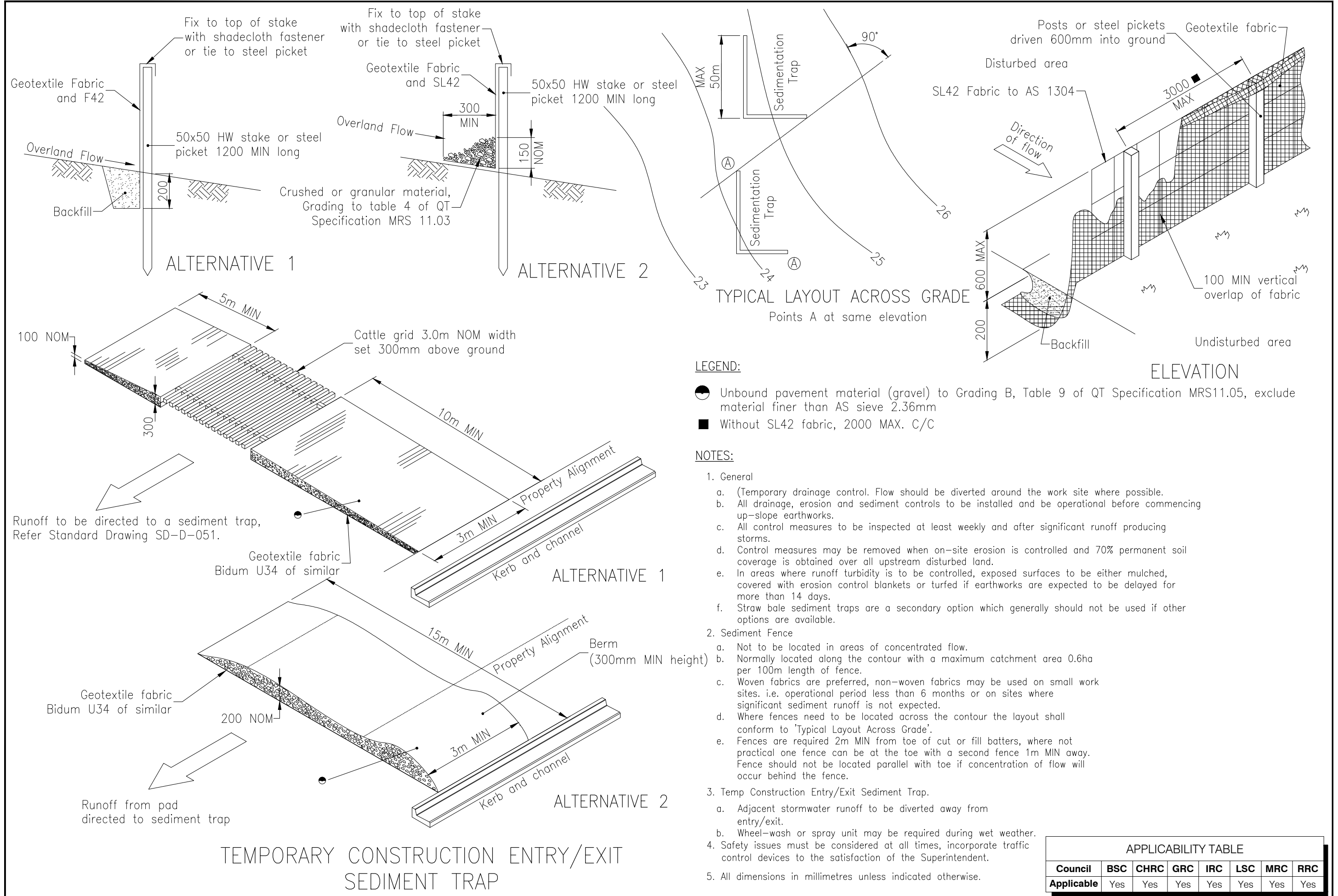
SUBSOIL DRAINAGE DETAILS AT MEDIANS/ISLANDS

DRAINAGE

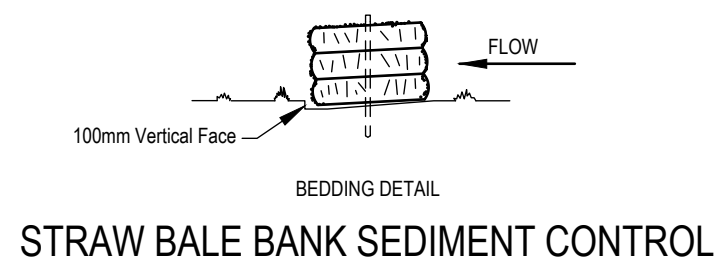
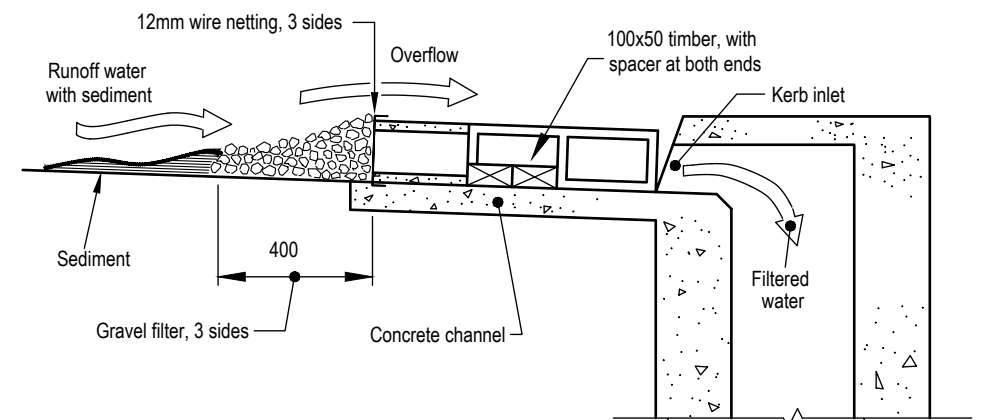
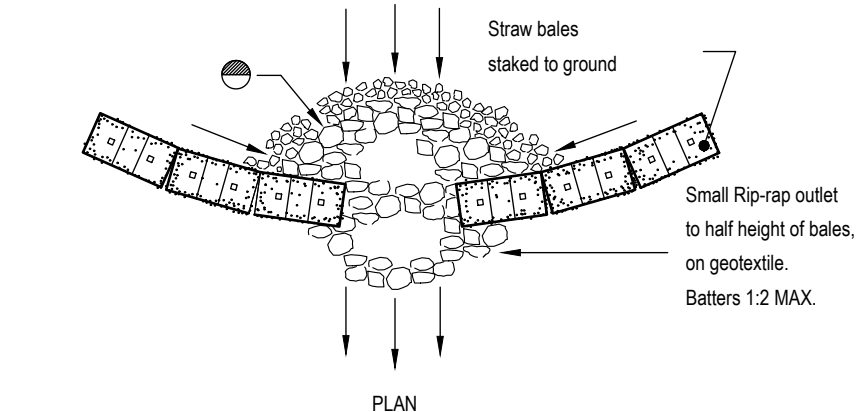
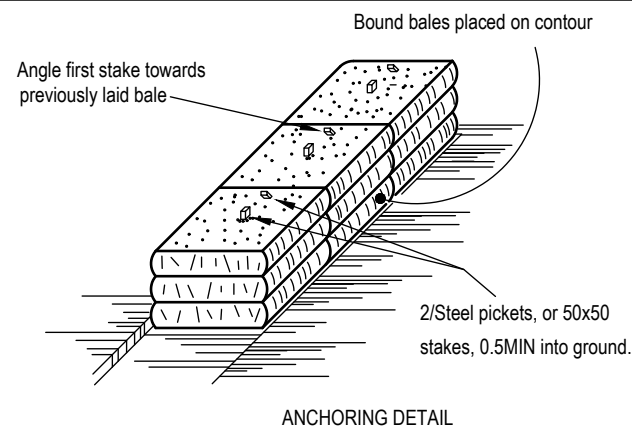
STANDARD DRAWING

CMDG-D-041

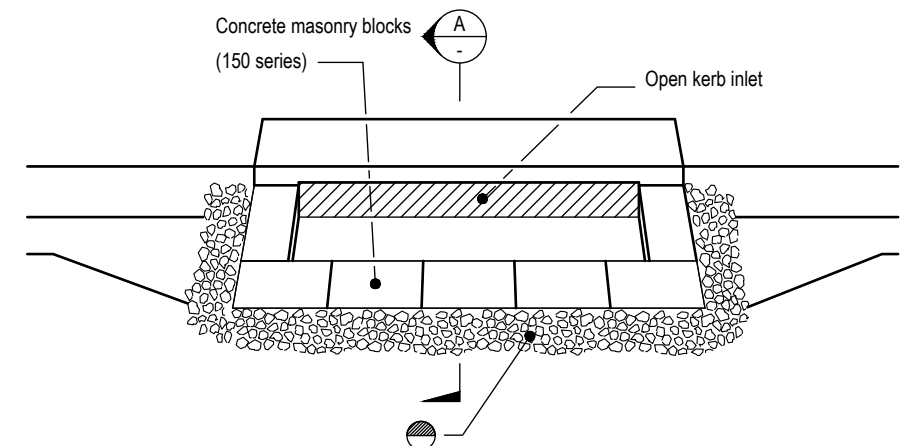
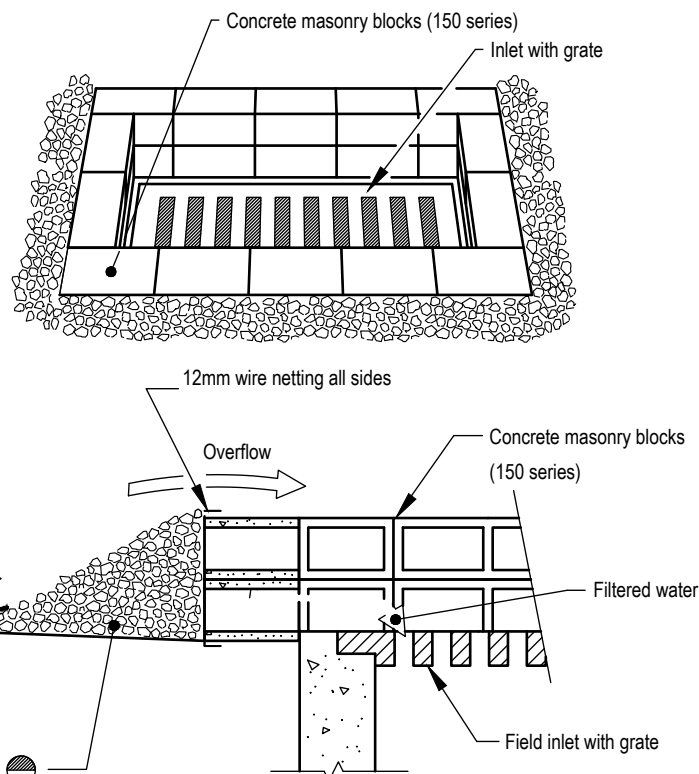
REV. A B C D E F



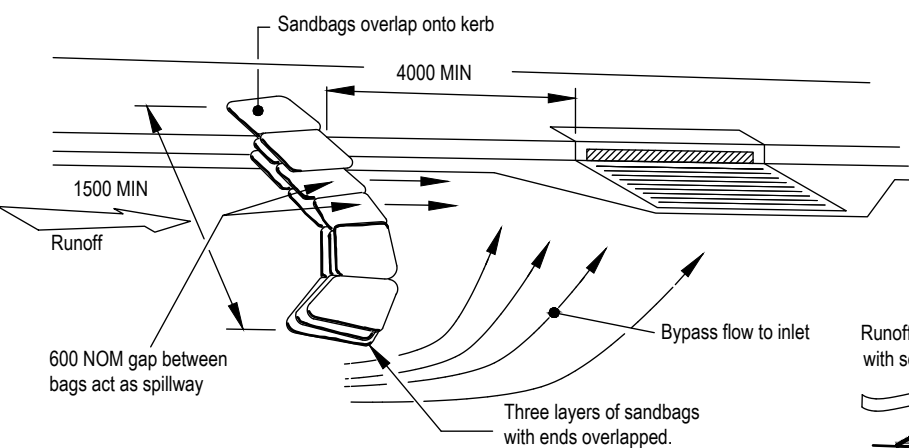
REVISIONS		DATE	DISCLAIMER.		Capricorn Municipal Development Guidelines		SEDIMENT CONTROL DEVICES		DRAINAGE	
			The authors and sponsoring organisations shall have no liability or responsibility to the user or any other person or entity with respect to any liability, loss or damage caused or alleged 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:		SEDIMENT FENCE		STANDARD DRAWING	
D	IRC ADDED	12/2016			Banana Shire Council (BSC)	Livingstone Shire Council (LSC)	ENTRY/EXIT SEDIMENT TRAP		CMDG-D-050	
C	GRC AND LSC ADDED	09/2014			Central Highlands Regional Council (CHRC)	Maranoa Regional Council (MRC)				
B	MRC ADDED	04/2011			Gladstone Regional Council (GRC)	Rockhampton Regional Council (RRC)				
A	POST AMALGAMATION REVIEW	01/2010			Isaac Regional Council (IRC)				REV. A B C D	



STRAW BALE AND STONE TRAP SEDIMENT CONTROL - CONCENTRATED FLOW



A stabilised bypass 'overland flow path' should exist adjacent to inlet in genuine sags.



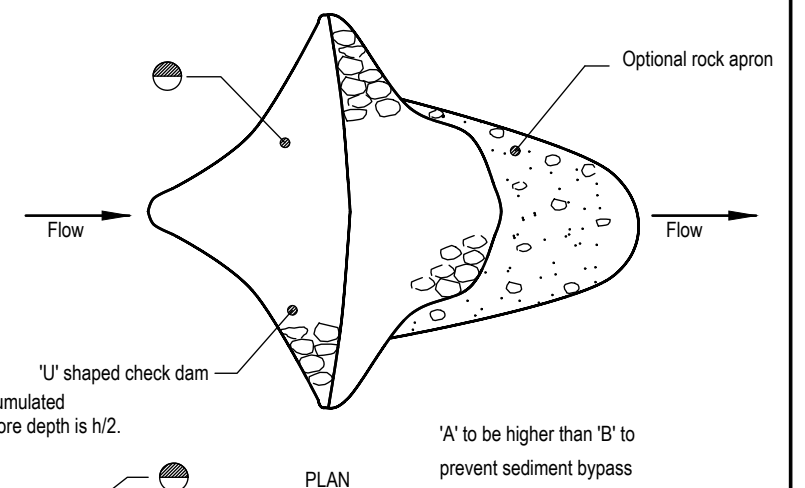
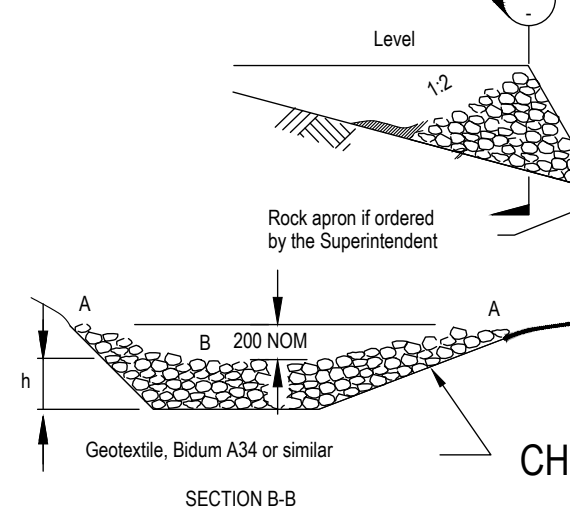
LEGEND:

- Gravel filter, refer MRTS 05 Table 7.2.4(a) - Grading Envelopes - Type 2 - Grading B, exclude material finer than AS sieve 2.36mm.

NOTES:

- Field Inlet
 - A stabilised bypass overland flow path should exist adjacent to the field inlet.
 - Water level control perimeter banks may be required.
 - Blocks to be restrained by a horizontal timber rail at block joint height fixed to timber stakes at corners.
- Check Dams
 - Catchment area limited to 4 ha.
 - Use in minor open drains only, (velocity control), sediment collection is a secondary purpose.
- Straw Bale Banks
 - Bales shall be placed at the toe of a slope or on the contour, in a row with ends tightly abutting the adjacent bales.
 - Each bale shall be embedded in the soil a minimum of 100mm on the downstream side and placed so the bindings are horizontal.
 - Bales shall be securely anchored in place with either two stakes or steel pickets driven through the bale. The first stake in each bale shall be driven toward the previously laid bale at an angle to force the bales together.
 - Inspections shall be frequent and repair or replacement shall be made promptly as needed. Replace at least 3 monthly.
- Safety issues must be considered at all times, incorporate traffic control devices to the satisfaction of the Superintendent.
- All dimensions in millimeters.

FIELD INLET SEDIMENT TRAP



APPLICABILITY TABLE

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

REVISIONS	DATE
E NOTE ADDED, STYLE UPDATED	04/2023
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

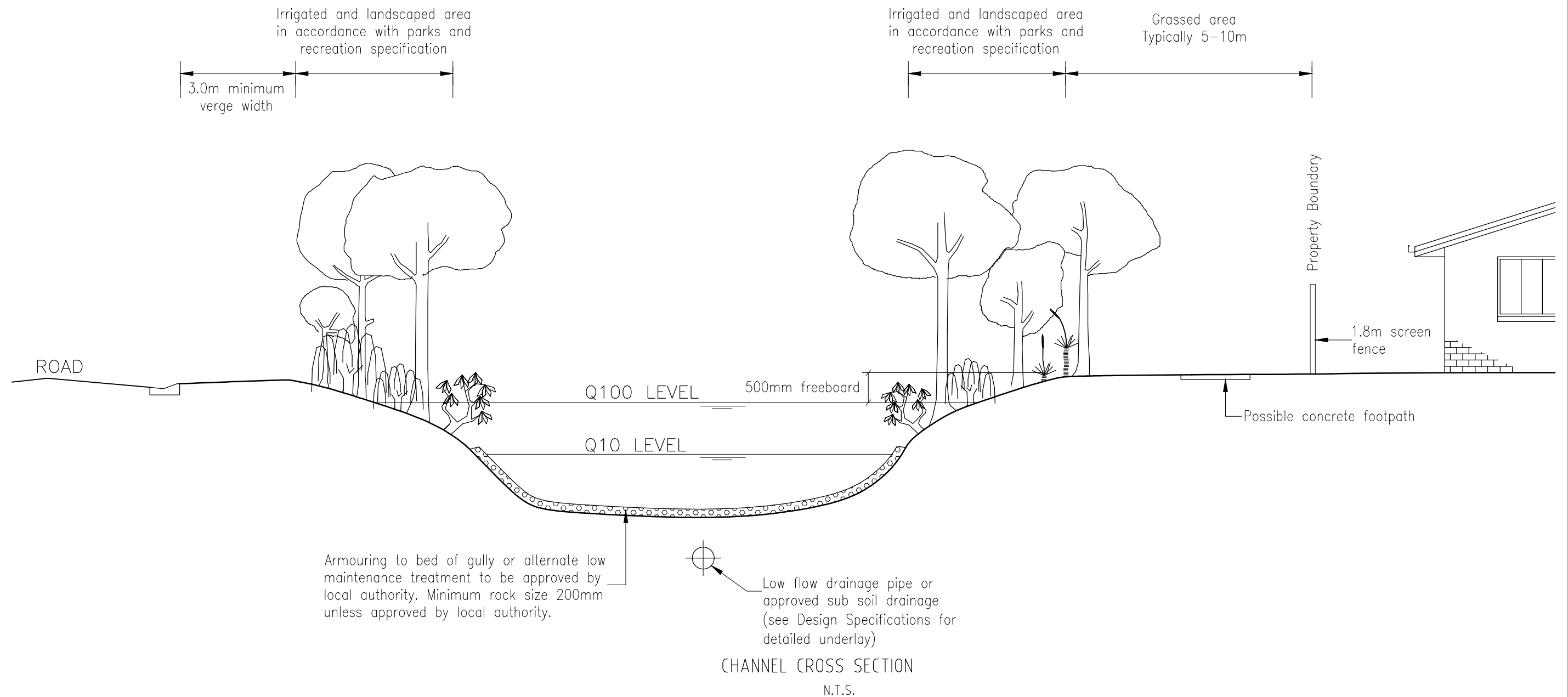
Incorporating:

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

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

SEDIMENT CONTROL DEVICES
KERB AND FIELD INLET,
CHECK DAMS & STRAW BALE BANK

DRAINAGE	
STANDARD DRAWING	A3
CMDG-D-051	
REV.	A B C D E



NOTES:

1. The desired treatment is for the road to be provided along the bank of the gully.
2. The above solutions are indicative of councils requirements but alternate proposals will be considered on the basis of merit and sound engineering practice.

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

REVISIONS			DATE	DISCLAIMER.		Capricorn Municipal Development Guidelines				REQUIRED TREATMENTS TO OPEN CHANNELS				DRAINAGE	
E	IRC ADDED		12/2016	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: <div>Banana Shire Council (BSC)</div> <div>Central Highlands Regional Council (CHRC)</div> <div>Gladstone Regional Council (GRC)</div> <div>Isaac Regional Council (IRC)</div> <div>Livingstone Shire Council (LSC)</div> <div>Maranoa Regional Council (MRC)</div> <div>Rockhampton Regional Council (RRC)</div>				STANDARD DRAWING CMDG-D-060					
D	GRC AND LSC ADDED		09/2014												
C	MRC ADDED		04/2011												
B	ARI REFERENCE TO LOW FLOW DRAINAGE PIPE REMOVED		01/2011												
A	POST AMALGAMATION REVIEW		01/2010												
REV.			A											B	C