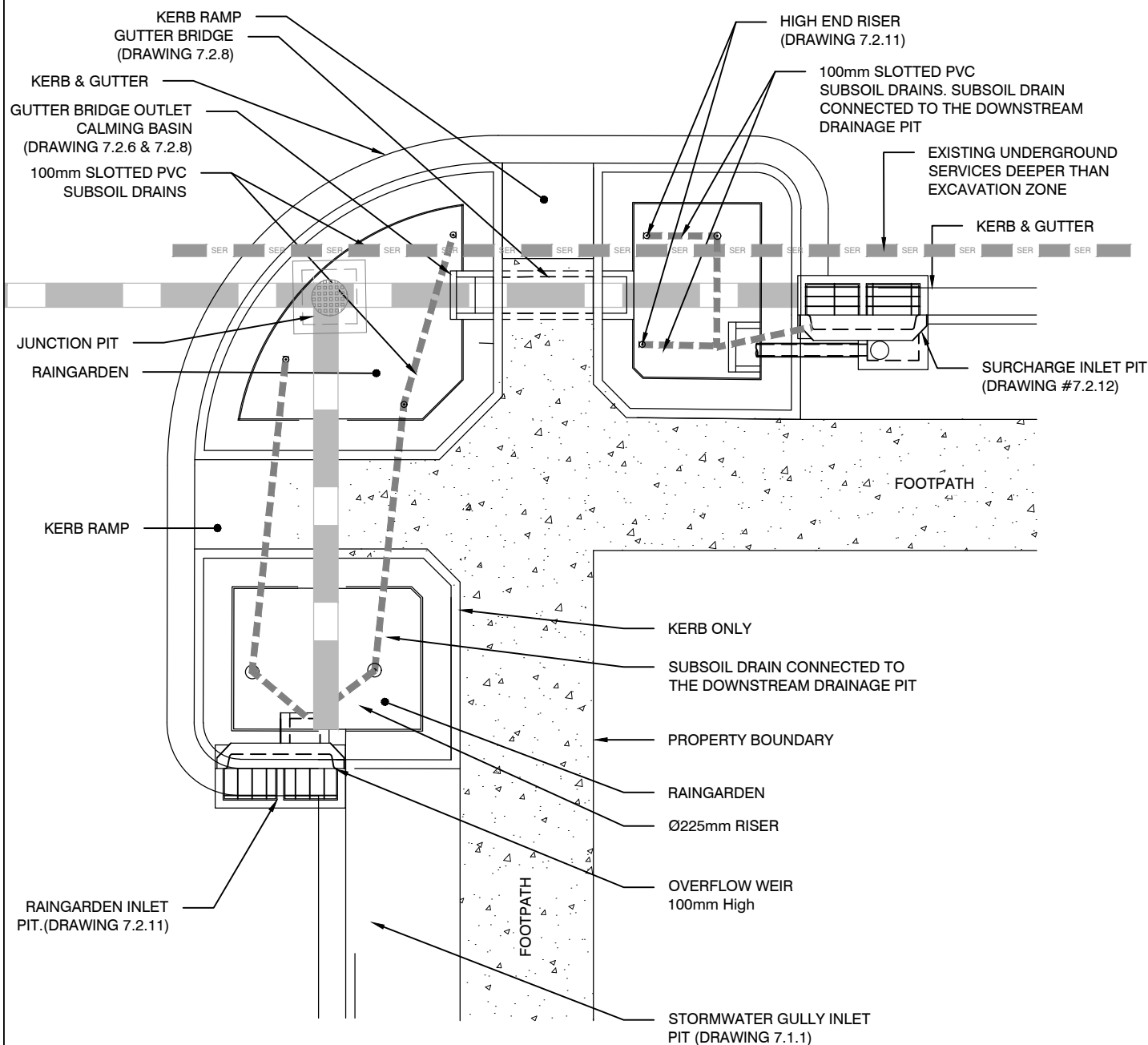


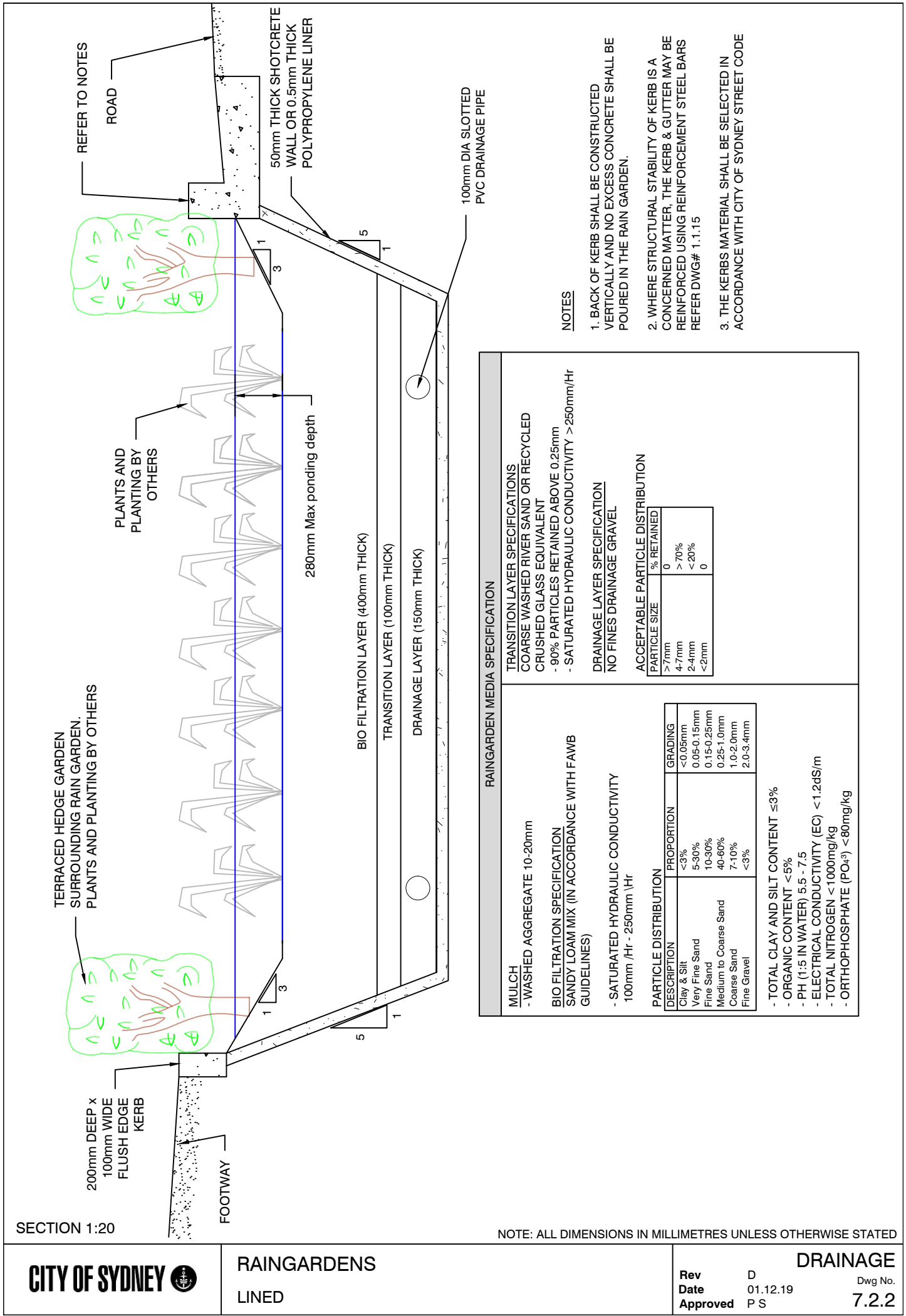


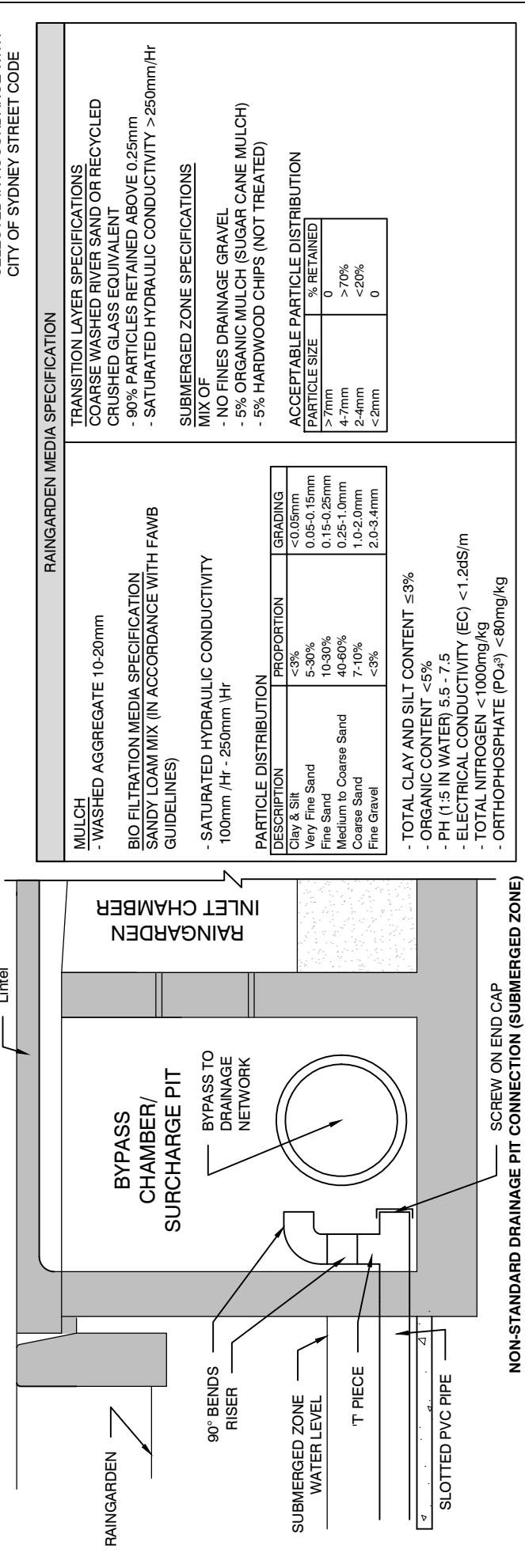
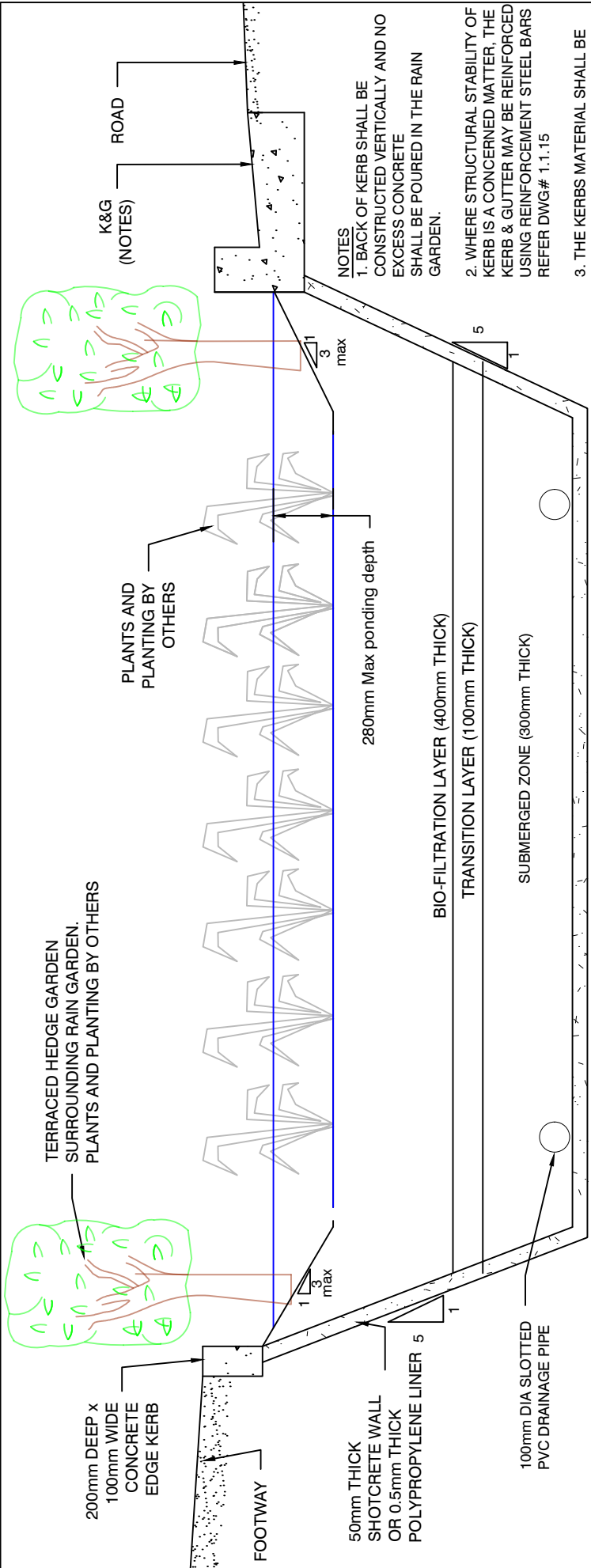
PLAN 1:100

NOTES:

1. THE RAINGARDENS ARE PREFERRED TO BE TERRACED RAINGARDEN TO MAXIMISE THE PONDING VOLUME. REFER DRAWING 7.2.5.
2. THE RAINGARDEN & SURROUNDINGS AREAS SHALL BE DESIGNED IN ACCORDANCE WITH SYDNEY STREET TECHNICAL SPECIFICATION PART A4.

NOTE: ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED





RAINGARDEN MEDIA SPECIFICATION		
MULCH	TRANSITION LAYER SPECIFICATIONS	
- WASHED AGGREGATE 10-20mm	COARSE WASHED RIVER SAND OR RECYCLED CRUSHED GLASS EQUIVALENT	
	- 90% PARTICLES RETAINED ABOVE 0.25mm	
	- SATURATED HYDRAULIC CONDUCTIVITY > 250mm/Hr	
BIO FILTRATION MEDIA SPECIFICATION	SUBMERGED ZONE SPECIFICATIONS	
SANDY LOAM MIX (IN ACCORDANCE WITH FAWB GUIDELINES)	MIX OF	
	- NO FINES DRAINAGE GRAVEL	
	- 5% ORGANIC MULCH (SUGAR CANE MULCH)	
	- 5% HARDWOOD CHIPS (NOT TREATED)	
- SATURATED HYDRAULIC CONDUCTIVITY 100mm /Hr - 250mm /Hr	ACCEPTABLE PARTICLE DISTRIBUTION	
	TABLE	
	PARTICLE SIZE	% RETAINED
	> 7mm	0
	4-7mm	>70%
	2-4mm	<20%
	<2mm	0
PARTICLE DISTRIBUTION	ACCEPTABLE PARTICLE DISTRIBUTION	
DESCRIPTION	PROPORTION	GRADING
Clay & Silt	<3%	<0.05mm
Very Fine Sand	5-30%	0.05-0.15mm
Fine Sand	10-30%	0.15-0.25mm
Medium to Coarse Sand	40-60%	0.25-1.0mm
Coarse Sand	7-10%	1.0-2.0mm
Fine Gravel	<3%	2.0-3.4mm
TOTAL CLAY AND SILT CONTENT ≤3%		
- ORGANIC CONTENT <5%		
- PH (1:5 IN WATER) 5.5 - 7.5		
- ELECTRICAL CONDUCTIVITY (EC) <1.2dS/m		
- TOTAL NITROGEN <1000mg/kg		
- ORTHOPHOSPHATE (PO ₄ ³⁻) < 80mg/kg		



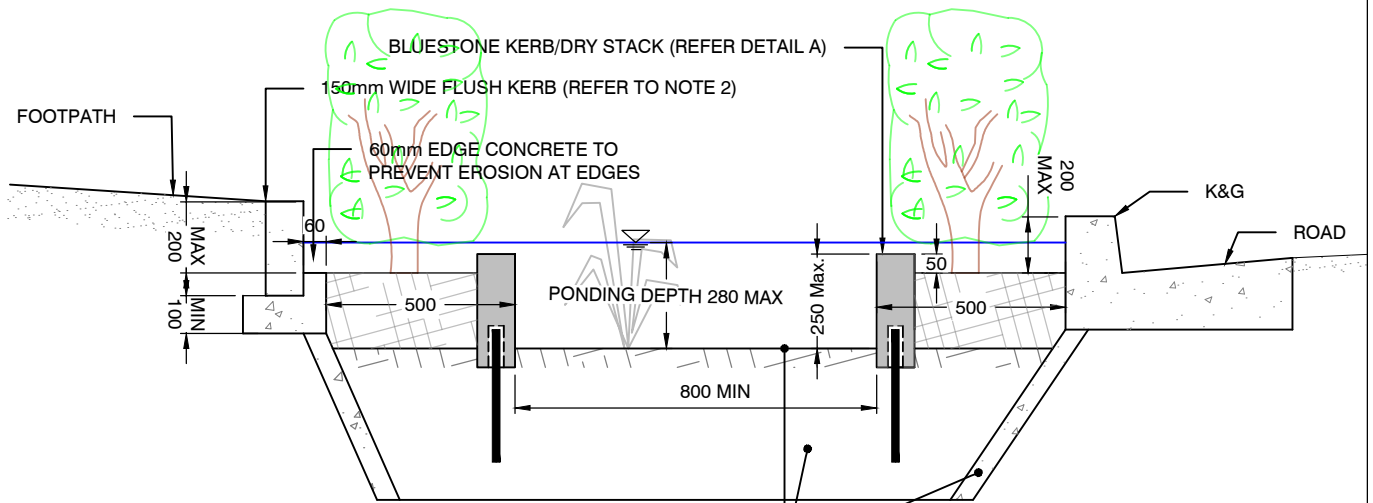
1. BACK OF KERB SHALL BE CONSTRUCTED VERTICALLY AND NO EXCESS CONCRETE SHALL BE POURED IN THE RAIN GARDEN.
2. WHERE STRUCTURAL STABILITY OF KERB IS A CONCERNED MATTER, THE KERB & GUTTER MAY BE REINFORCED USING REINFORCEMENT STEEL BARS REFER DWG# 1.1.15
3. THE KERBS MATERIAL SHALL BE SELECTED IN ACCORDANCE WITH CITY OF SYDNEY STREET CODE
4. DRAINAGE LAYER MAY BE DELETED IF THERE IS NO DRAINAGE IN THE VICINITY SUBJECTED TO CITY'S APPROVAL.
5. THE SLOTTED PIPE SHALL BE CONNECTED TO BY PASS CHAMBER OF BYPASS PIT/SURCHARGE PIT

NOTE: ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED

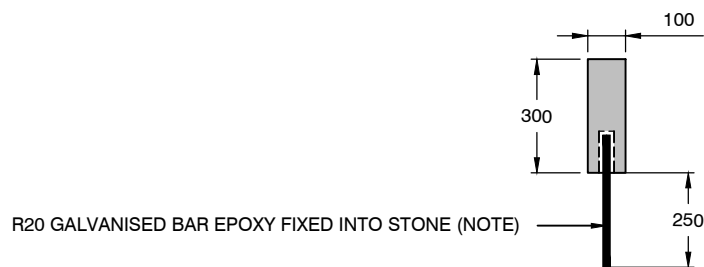
CITY OF SYDNEY 

Rev	D
Date	01.12.19
Approved	P S

DRAINAGE
Dwg No.
7.2.4



RAINGARDEN'S LAYERS, LINERS AND MULCH TO SUIT THE SPECIFIED TYPE OF THE RAINGARDEN. REFER DRAWINGS 7.2.2 TO 7.2.4

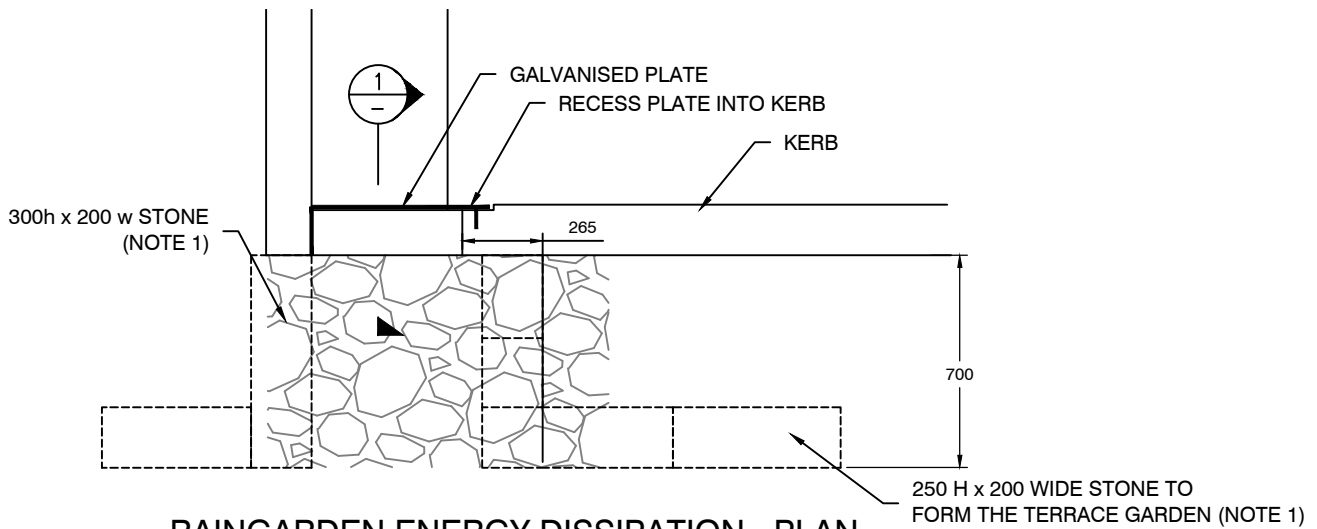


DETAIL A

NOTE:

- 1- THE STONE SHALL BE BLUESTONE UNLESS SPECIFIED BY THE DESIGNER AND APPROVED BY CITY'S REPRESENTATIVE.
- 2- THE FLUSH KERB AT THE EGDE OF THE FOOTPATH SHALL BE SELECTED TO MATCH THE SURROUNDING KERBS.
- 3- OTHER MATERIALS MAY BE USED FOR THE RETAINING TERRACED EDGES UPON CITY'S APPROVAL.

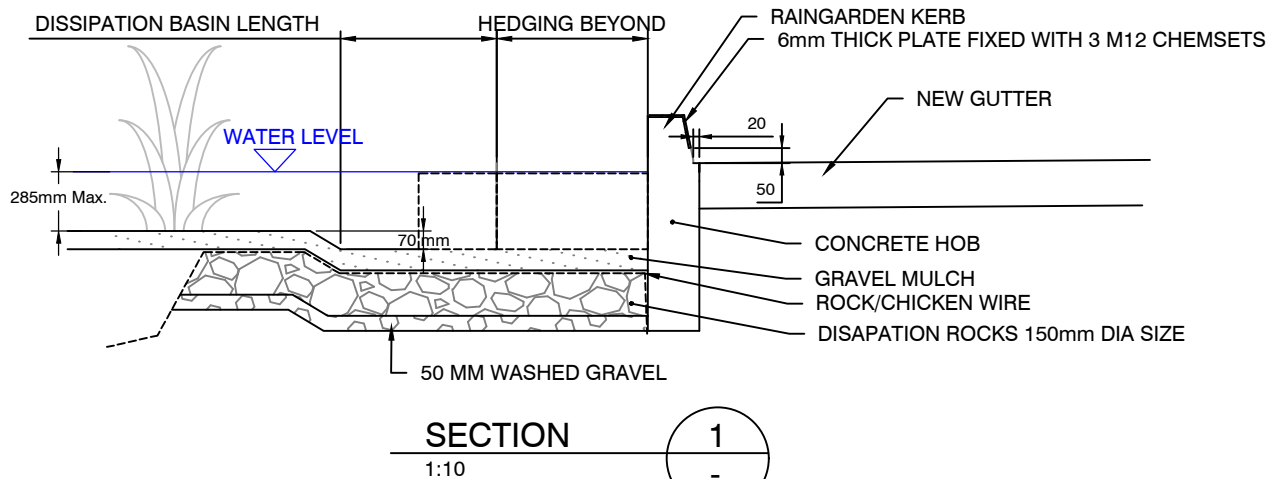
NOTE: ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED



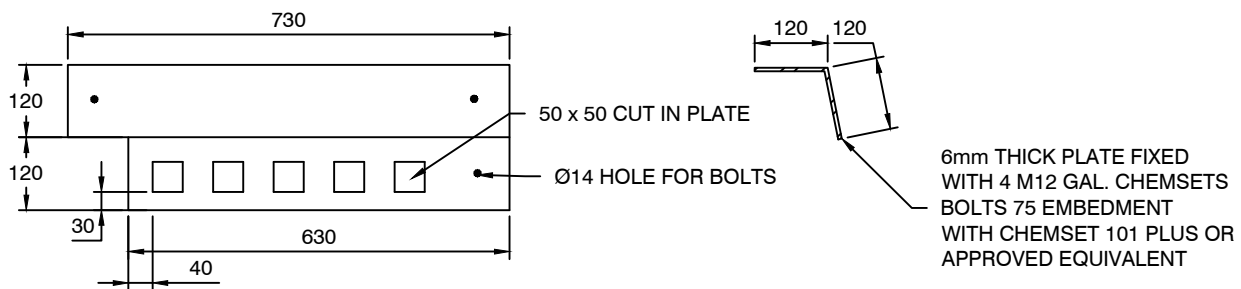
RAINGARDEN ENERGY DISSIPATION - PLAN

1:25

NOTE: DISSIPATION BASIN LENGTH SHALL BE MINIMUM 400mm UNLESS NOTES OTHERWISE.



NOTE: THE PLATE SHALL BE RECESSED INTO THE KERB



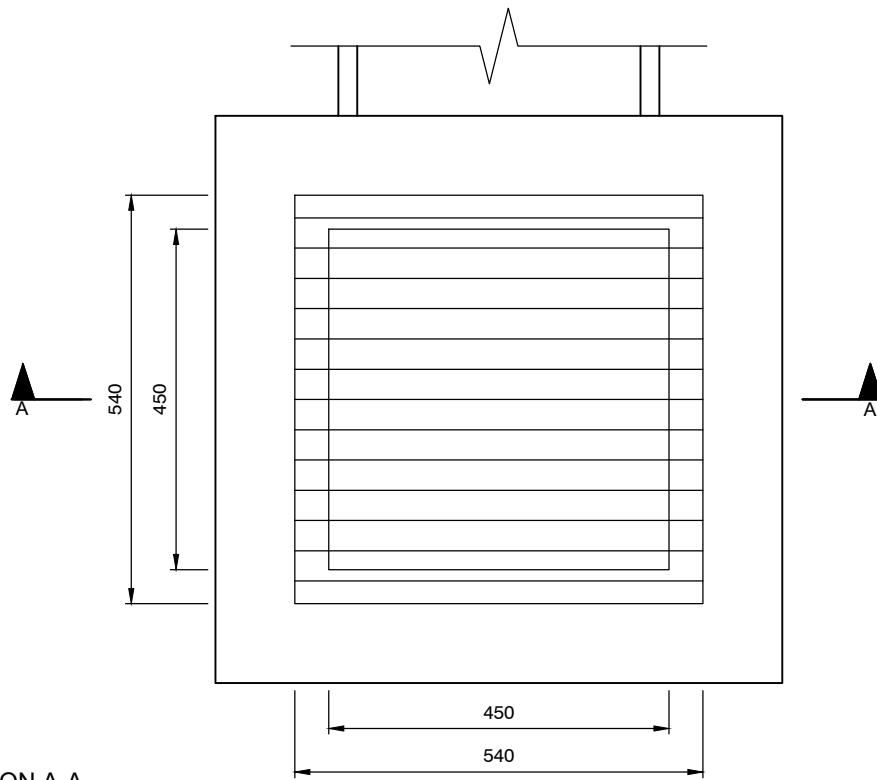
GALVANISED PLATE

1:10

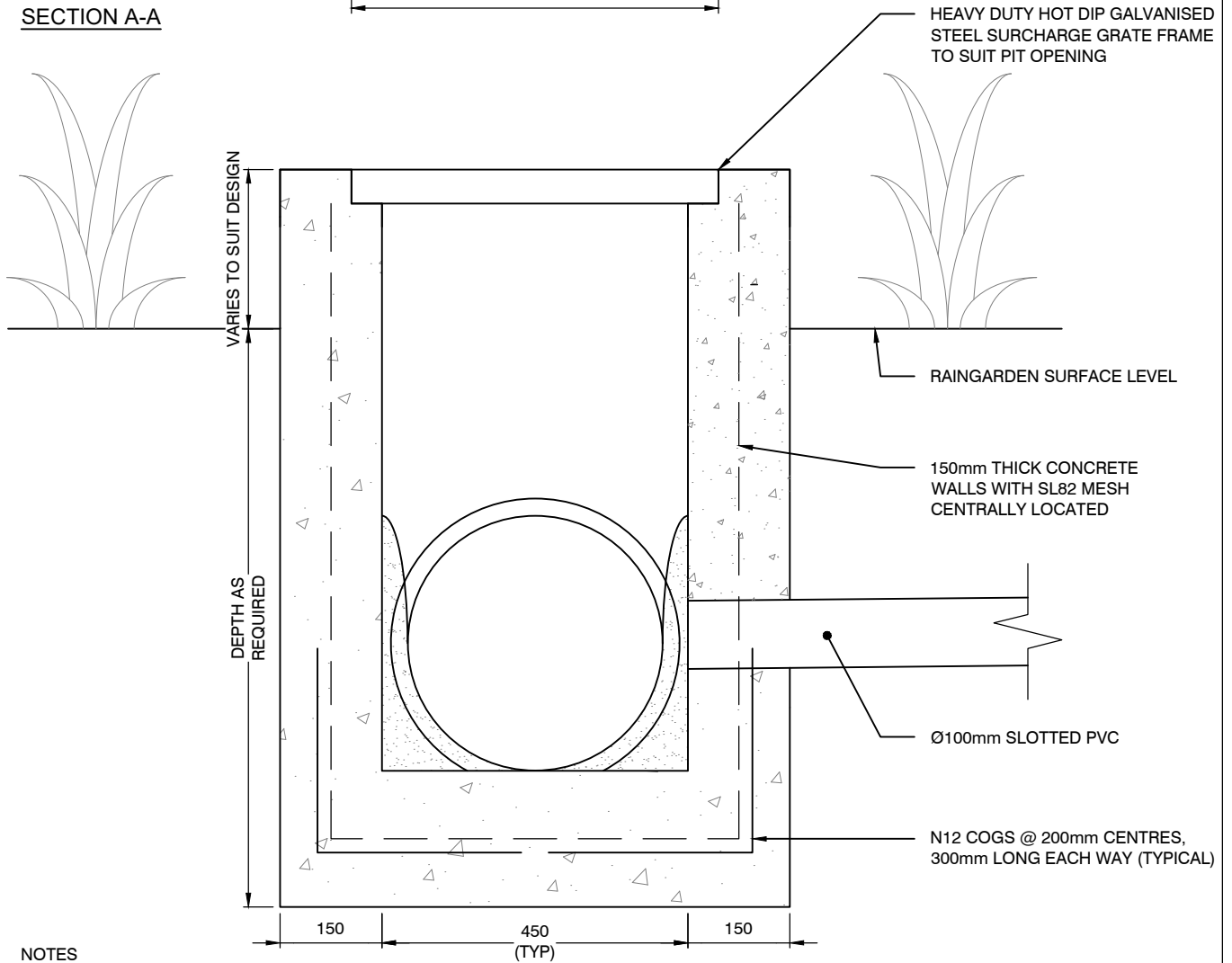
NOTE: T - TERRACE GARDEN IS THE PREFFERED OPTION FOR MOST OF RAINGARDENS EXCEPT ROCK SWALES: IN WHICH CASE ENTRY STRUCTURE SHALL BE DESIGNED TO SUIT THE ROCK SWALE

NOTE: ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED

PLAN



SECTION A-A

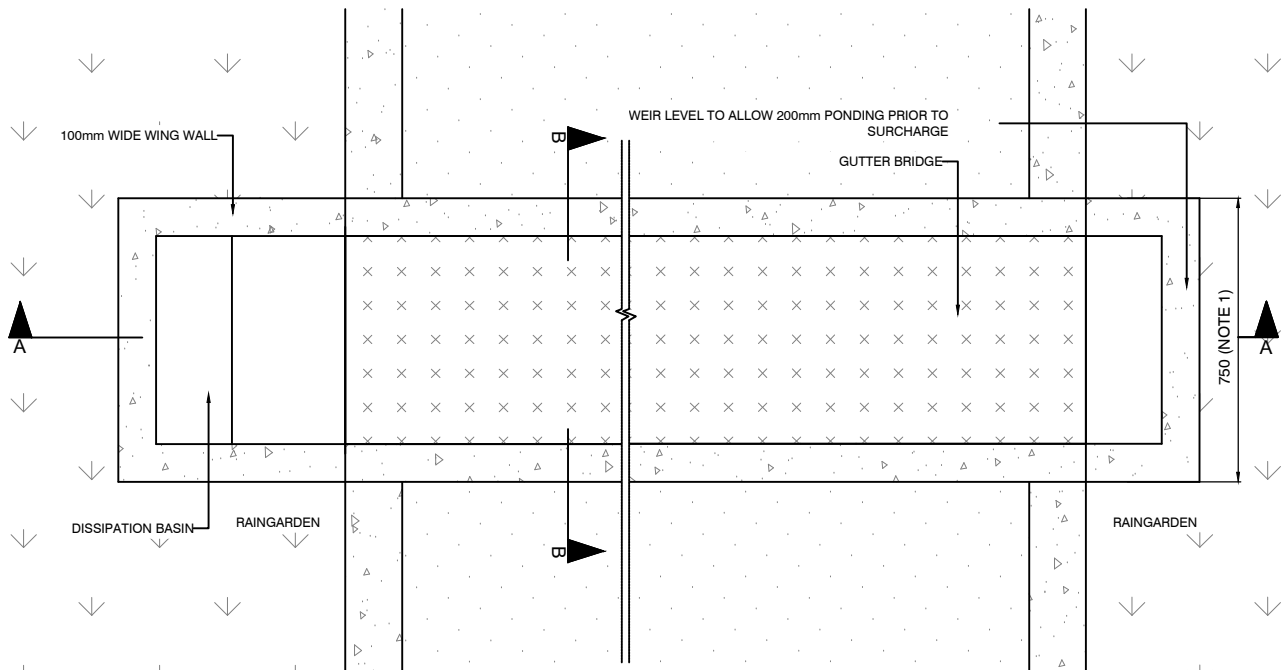


NOTES

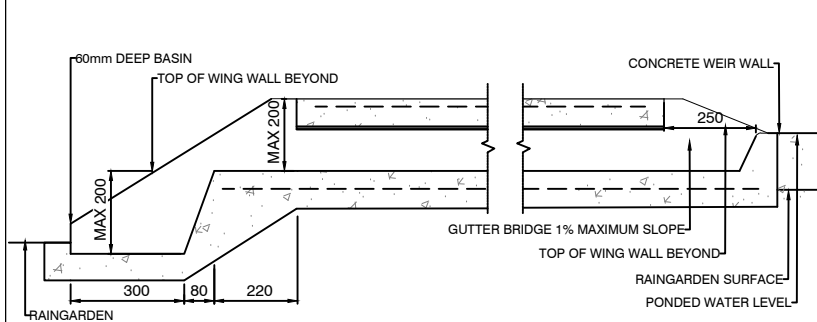
1. ALL CONCRETE IS TO HAVE A MINIMUM STRENGTH OF 32 MPa.
2. PIT STRUCTURE TO BE 150mm THICK UNLESS NOTED OTHERWISE.
3. DRAINAGE PIPE TO BE MINIMUM 375Ø CLASS 4 REINFORCED CONCRETE PIPE

SCALE 1:10

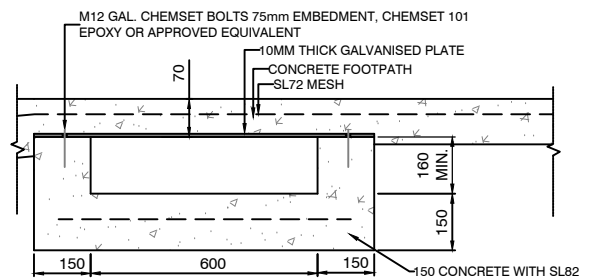
NOTE: ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED



PLAN
1:20

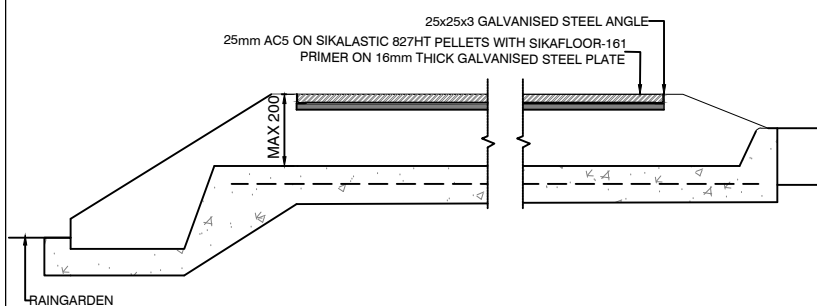


SECTION A-A
1:20

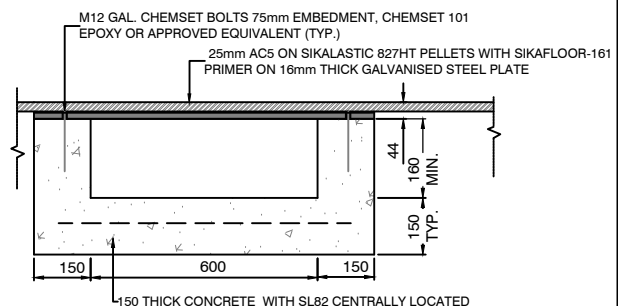


SECTION B-B
1:20

CONCRETE GUTTER BRIDGE



SECTION A-A
1:20



SECTION B-B
1:20

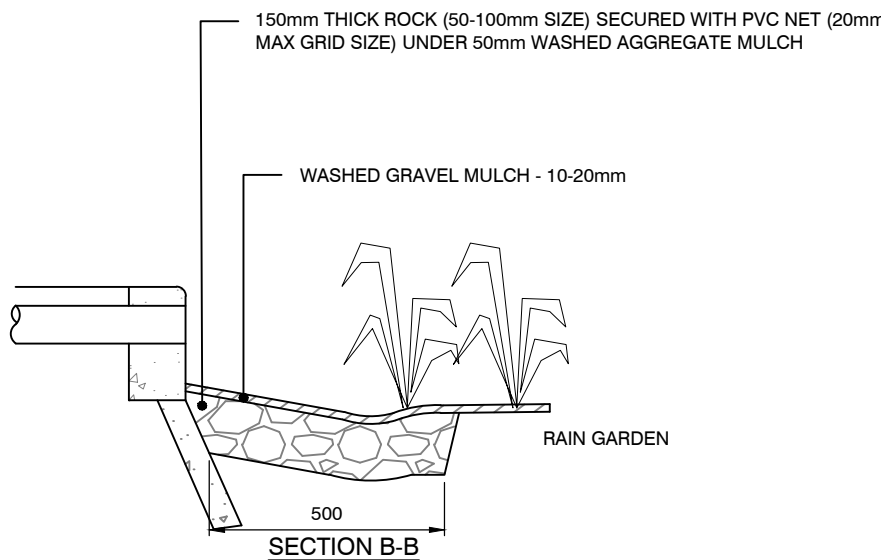
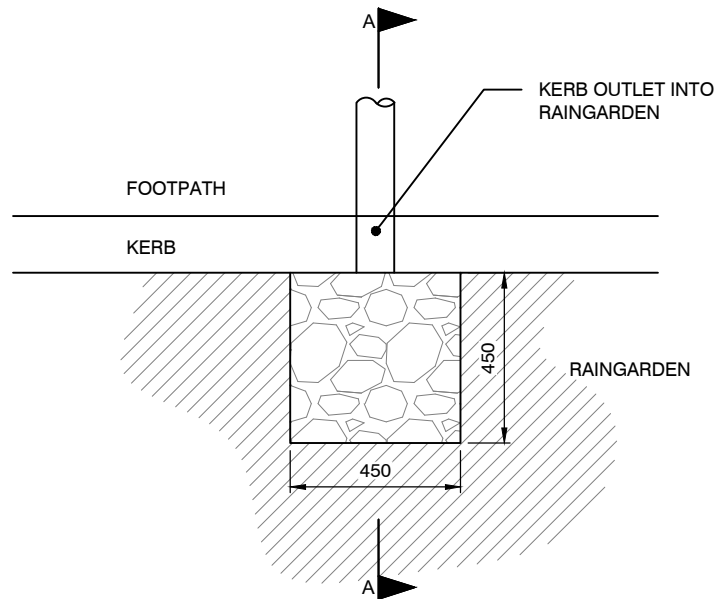
ASPHALT GUTTER BRIDGE

NOTES:

1. GUTTER BRIDGE SHALL BE DESIGNED TO SUIT MINIMUM 5 YEARS ARI STORM & SHALL HAVE 240 kN ULTIMATE LOAD CAPACITY. DESIGNER SHALL SUBMIT MAINTENANCE REGIME WITH ANY RAINGARDEN INCORPORATED IN DESIGN.
2. USE OF BONDEK IS NOT ALLOWED FOR GUTTER BRIDGES.
3. SIZE OF GUTTER BRIDGE SHALL BE DESIGNED TO SUIT THE ANTICIPATED FLOW RATES

NOTE: ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED

SMALL DISSIPATION ROCKS

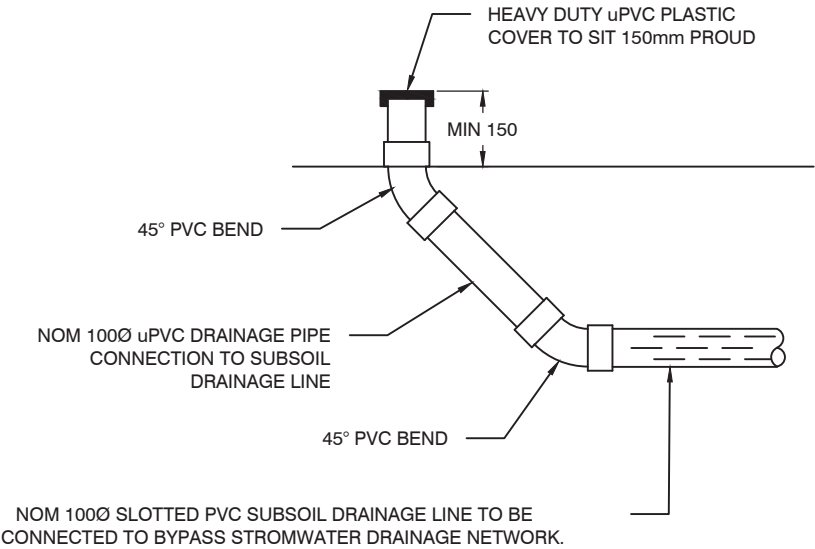


SCALE 1:20

NOTE: ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED

100Ø HIGH END RISER

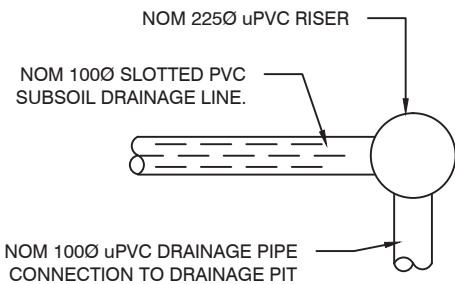
SECTION



SCALE 1:20

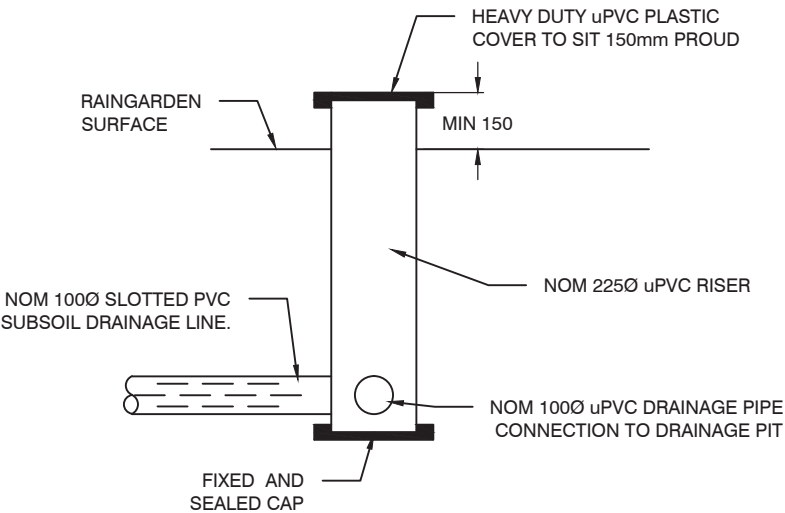
225Ø HIGH END RISER JUNCTION

PLAN



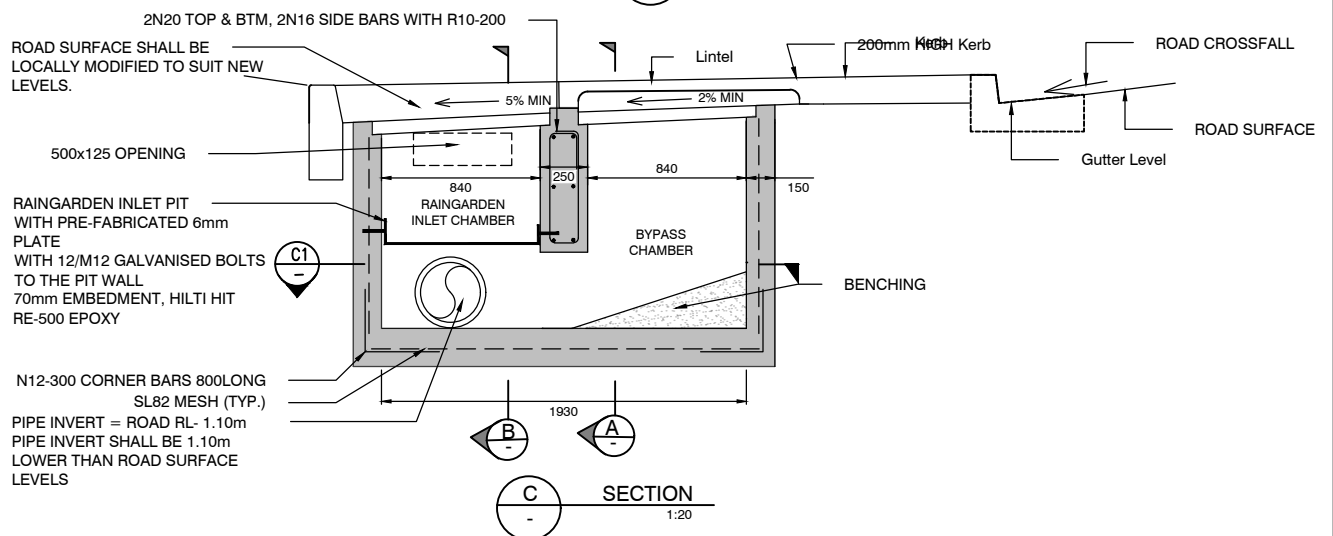
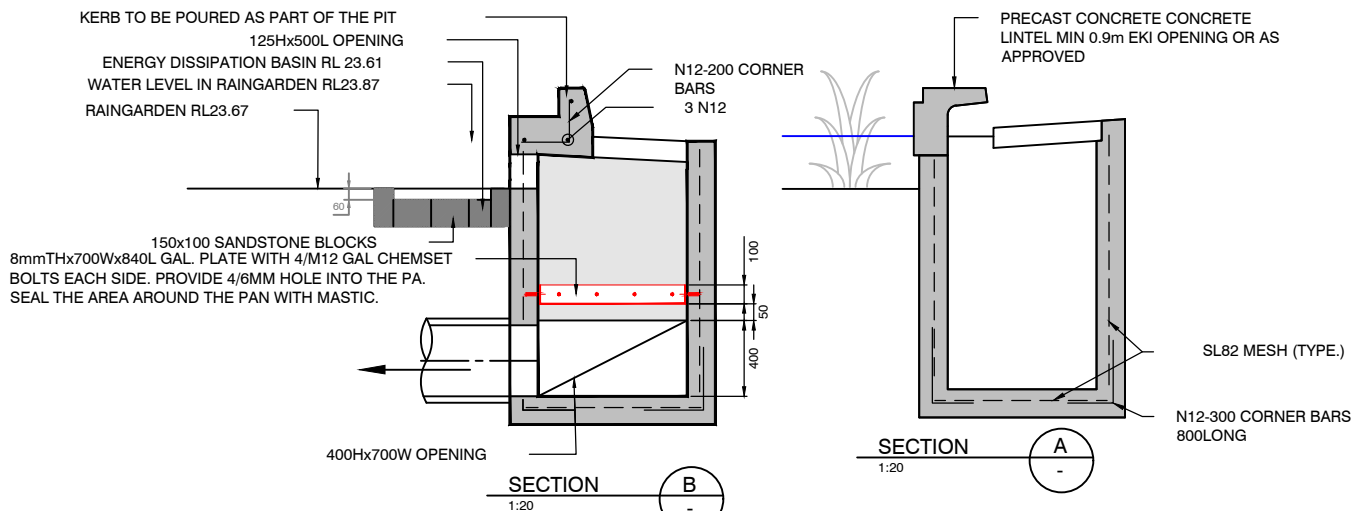
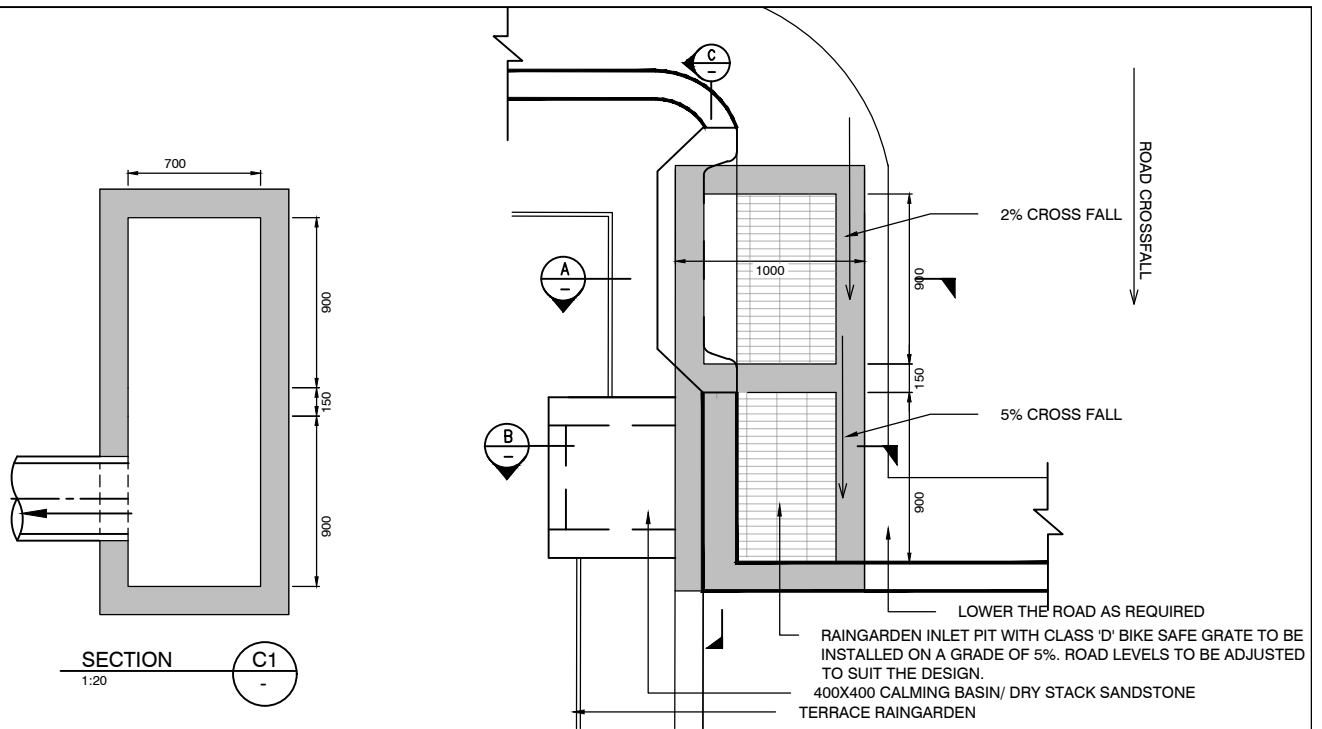
SCALE 1:20

SECTION



NOTE:
1- THE SUBSOIL DRAIN SHALL BE CONNECTED TO THE
- BYPASS CHAMBER OF THE INLET PIT, OR;
- BYPASS DRAINAGE PIT, OR;
- RAINGARDEN SURCHARGE PIT.

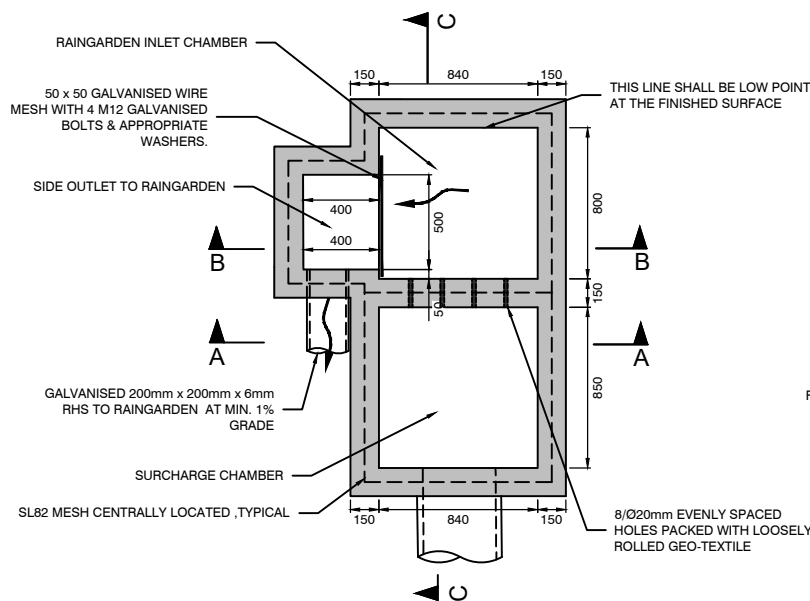
NOTE: ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED



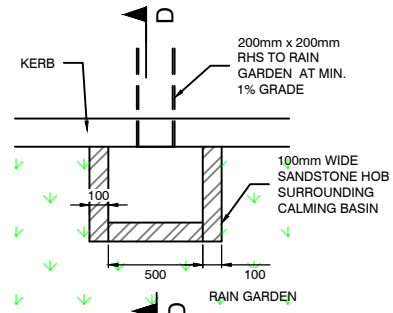
- NOTE:
1. THIS OPTION REQUIRES OBVERT OF THE STORMWATER DRAINAGE PIPE TO BE DEEPER THAN 600mm
 2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWING #7.2.1
 3. EXISTING UTILITY SERVICES & DEPTH TO EXISTING STORM WATER SHALL BE VERIFIED BEFORE SPECIFYING THIS OPTION

SCALE 1:40

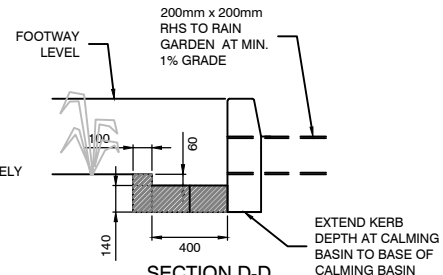
NOTE: ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED



PLAN
1:40



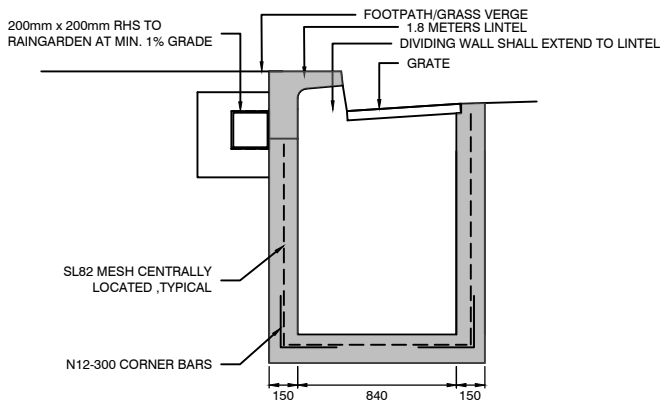
PLAN



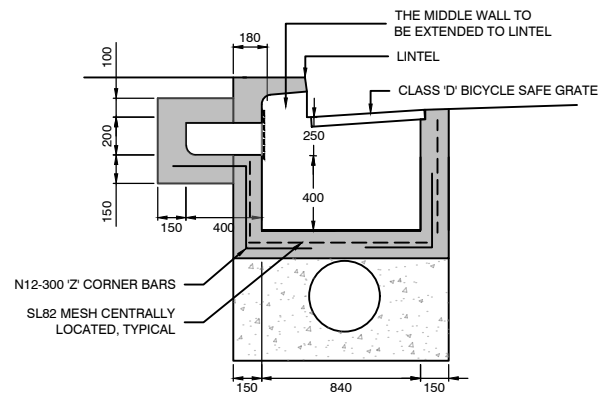
SECTION D-D

CALMING BASIN DETAILS

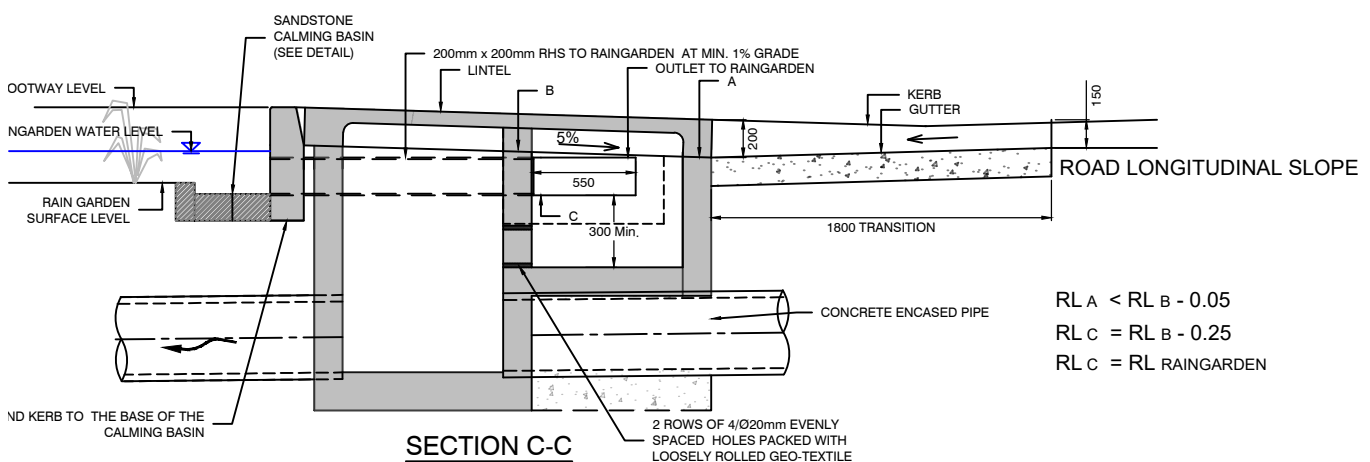
1:40



SECTION A-A
1:40



SECTION B-B
1:40

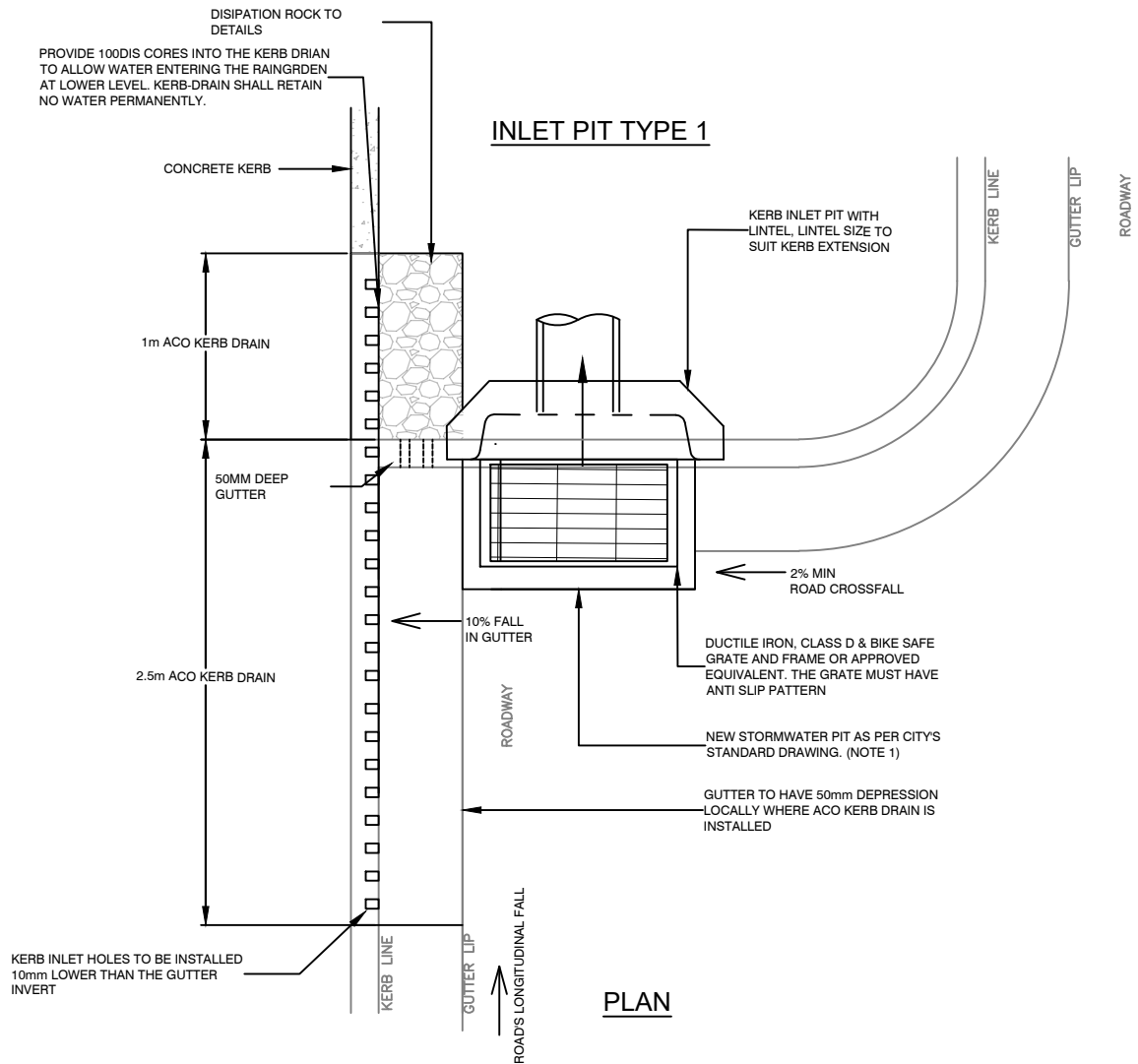


SECTION C-C
1:40

NOTES

- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWING #7.2.1
- THIS OPTION REQUIRES OBVERT OF THE STORMWATER DRAINAGE PIPE TO BE DEEPER THAN 550mm.
- SIZE OF THE BYPASS SHALL BE ADJUSTED TO SUIT THE CATCHMENT SIZE.
- LEVELS OF THE SURROUNDING SHLL BE DESIGN TO ALLOW FOR 60mm LOCAL PONDING OVER THE RAINGARDEN INLET CHAMBER.

NOTE: ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED

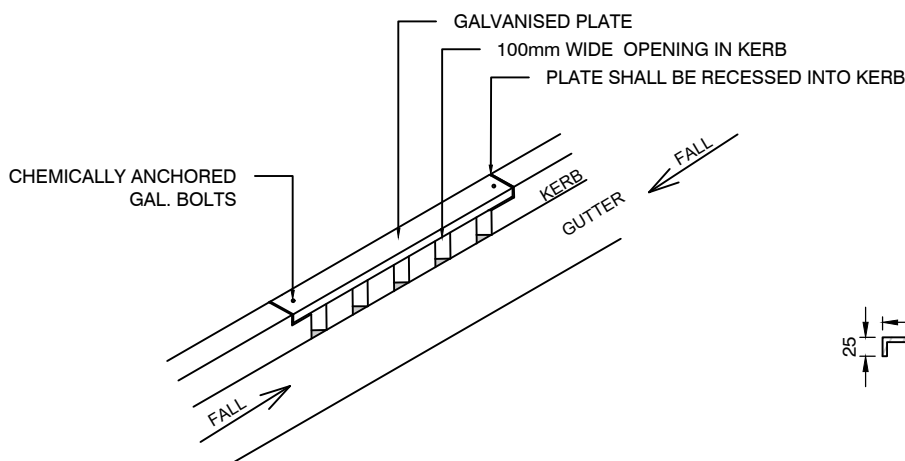
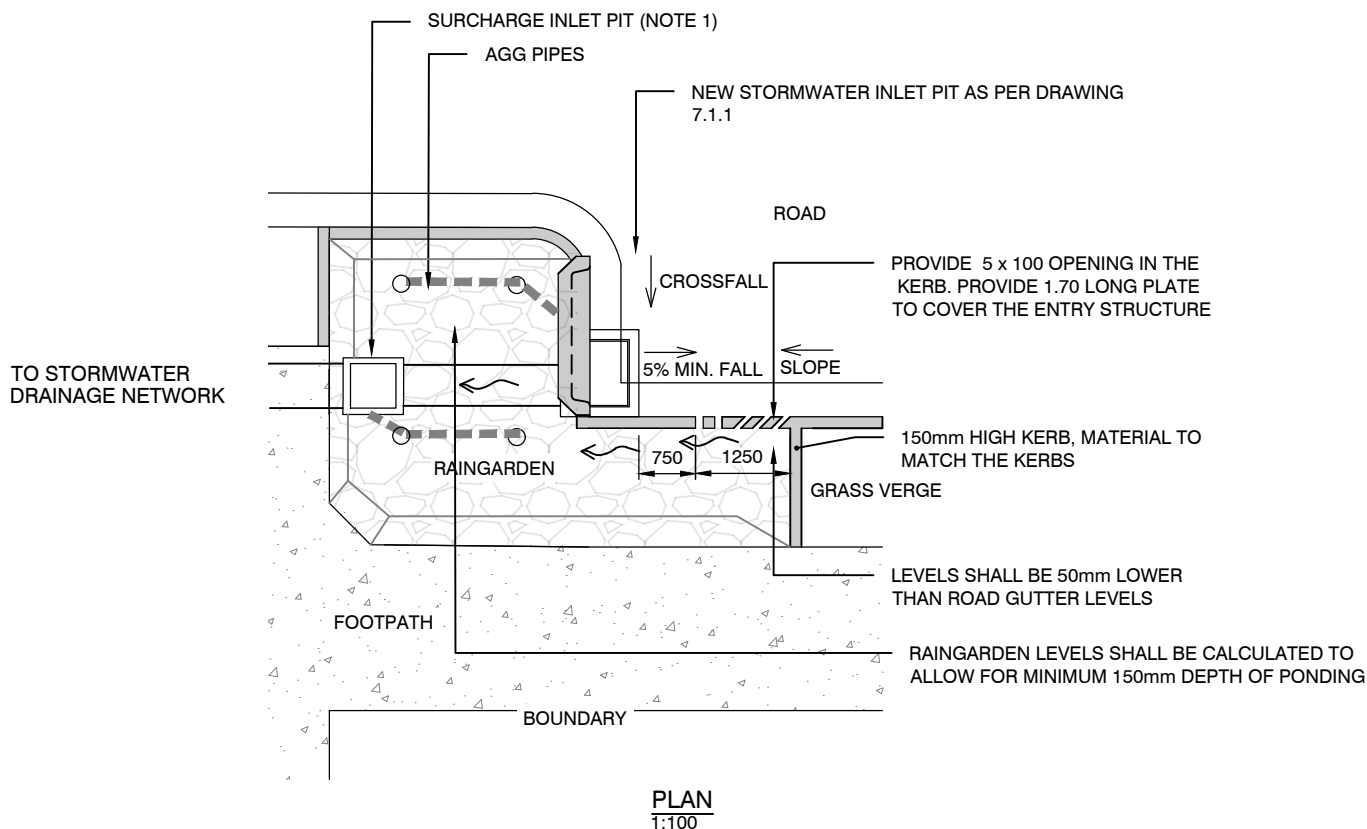


NOTE:

1. STORMWATER PIT SHALL BE CONSTRUCTED AS PER CITY'S STANDARD DRAWINGS. THE PIT SHALL BE CAREFULLY SELECTED TO SUIT SYDNEY STREET CODE & STANDARD SPEC. FROM DRAWINGS #7.1.1 TO 7.1.6.
2. THE ACO KERB DRAIN OR APPROVED EQUIVALENT SHALL BE USED FOR RANGARDEN ENTRY PIT.
3. THIS DETAIL IS WELL SUITED FOR THE AREAS WHERE
 - NO GRASS VERGE EXISTS
 - THE DRAINAGE PIPES ARE SHALLOWER THAN 1.20m.

SCALE 1:40

NOTE: ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED



GALVANISED PLATE DETAIL INSTALLATION DETAIL
1:50

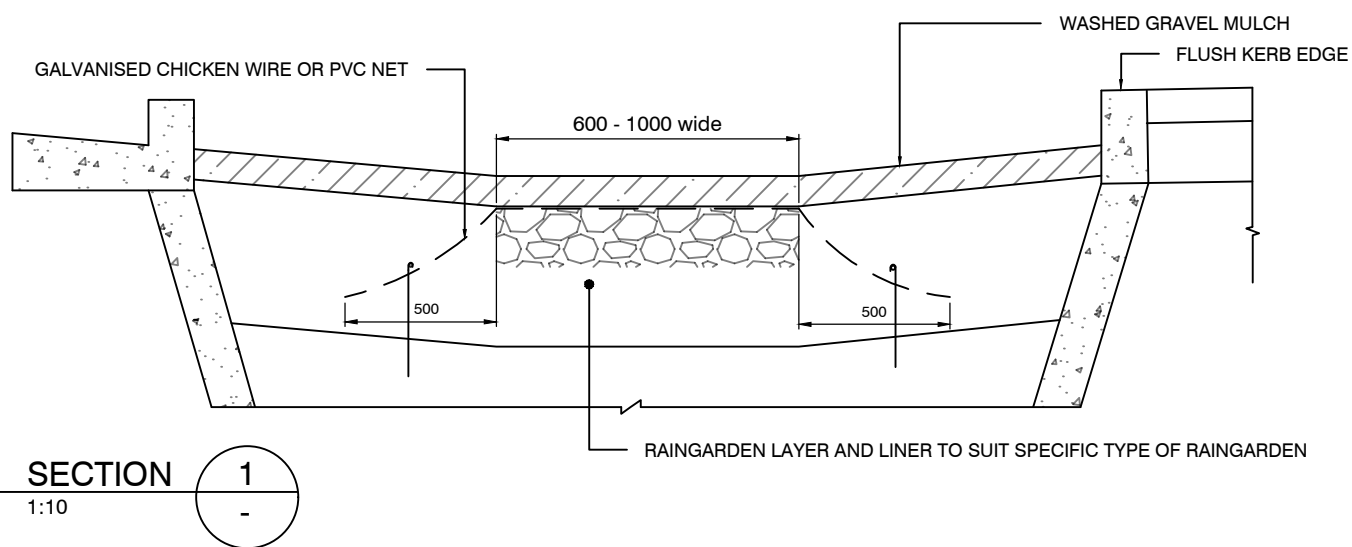
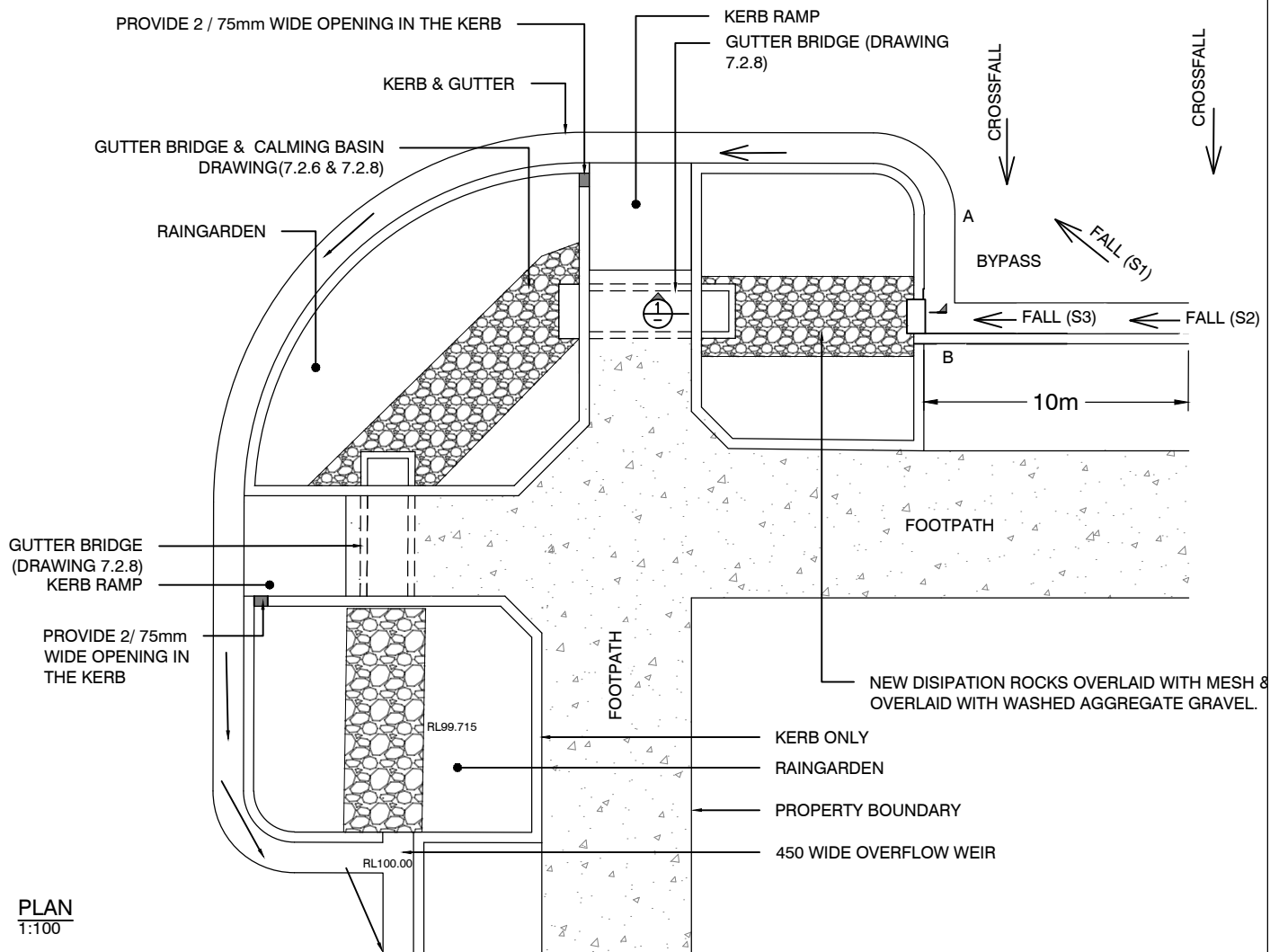


GALVANISED PLATE DETAIL
1:10

NOTE:

- 1- RAINGARDEN SHALL BE DESIGNED IN ACCORDANCE WITH SYDNEY STREET TECHNICAL SPECIFICATION PART A4.
- 2- SURCHARGE PIT MAY BE DELETED UPON APPROVAL. REFER SYDNEY STREET TECHNICAL SPECIFICATION PART A4.
- 3- THIS OPTION BEST SUITS SMALLER CATCHMENTS WHERE
 - FOOTPATH HAS A GRASS VERGE.
 - INVERTS OF THE EXISTING DRAINAGE PIPES ARE SHALLOWER THAN 1.2m.
- 4- THE DRAINAGE PIT SHALL BE CONSTRUCTED IN ACCORDANCE WITH DRAWINGS #7.1.1 TO #7.1.6.

NOTE: ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED



NOTE:

1 - THE SLOPE AND LEVELS SPECIFIED ON THE PLAN SHALL COMPLY WITH THE COMMENT BELOW:

- i- $S3 > S1 + 1\%$
- ii- $RL A > RL B + 0.05m$
- iii- THE CROSS FALL OF THE ROAD SHALL ALWAYS BE MAINTAINED TO BE TOWARDS THE KERB & GUTTER AND NOT LESS THAN 1.5%.

2 - THIS DRAWING IS A GENERAL GUIDELINE ONLY AND THE RAINGARDEN & SURROUNDINGS SHALL BE DESIGNED & CONSTRUCTED IN ACCORDANCE WITH SYDNEY STREET TECHNICAL SPECIFICATIONS PART A4.

3- THE ENTRY TO THE RAINGARDEN SHALL DESIGN IN ACCORDANCE WITH DRAWING #7.2.6.

NOTE: ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED