

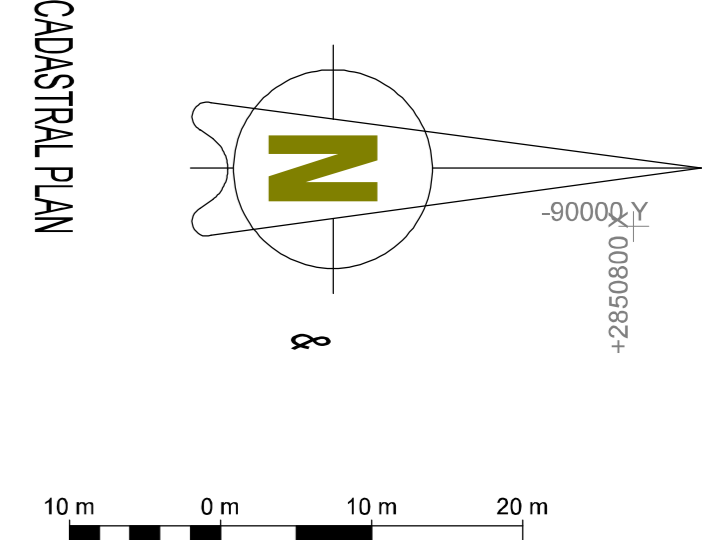
Proposed road reserve on Remainder of Portion 9 of Hartebeespoort No. 482-JQ
S.G. No. 107/1897
Proposed Compensation Area = 774,680 m²

Proposed road reserve on Portion 46 of Hartebeespoort No. 482-JQ
S.G. No. 107/1897
Proposed Compensation Area = 72,935 m²

Proposed road reserve on the Remainder of Portion 29 of Hartebeespoort No. 482-JQ
S.G. No. 107/1897
Proposed Compensation Area = 1167,249 m²

Proposed road reserve on PORTION 107 of WELGEGOND No. 491-JQ
S.G. No. 26462014
Proposed Compensation Area = 3386,109 m²

CONTIGUOUS FROM AERIAL SURVEY
PORT DIAPHOLE WELGEGOND No. 49-102 MEERHOF
SEE INSERTS 1 - 4 (SCALE 1:200 A0)



AMENDMENTS				
Symbol	Date	Description	Checked	Signed

Client:
ORANGEVILLE PROPERTIES (Pty) Ltd

ENGINEER: HW SWART PR TECH.

SIGNATURE	Drawn	Designed
NAME	Checked	Engineer
Prof. Reg. No.	200270005	HWS
DATE		HWS

THE ABOVE SIGNATURE CERTIFIES THAT THE DESIGNER AND CHECKER HAVE CONSENTED TO THEIR NAMES BEING INSERTED ON THIS DRAWING AND THAT THEY HAVE SEEN AND APPROVED THE DRAWING.

Consultant:

 13 Hoogelegen St.
 WHITE RIVER
 7240
 Office Tel: 013 750 1403
 Fax: 086 787 6147
 Cell: 083 276 6805
 Email: hendrikusswart@gmail.com
 Reg No (200270005)

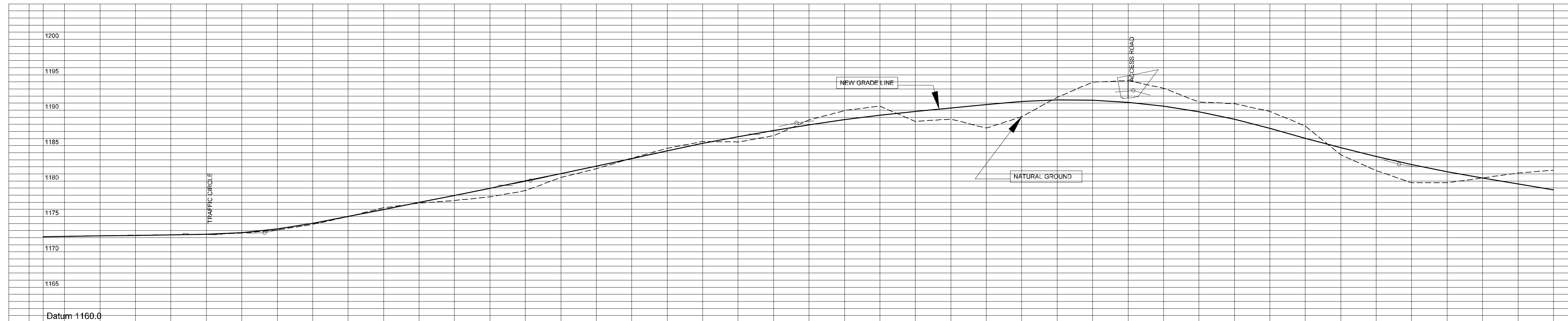
Cleint Acceptance:
 Name: _____
 Signature: _____ Date: _____
 THIS ACCEPTANCE IS FOR PROCEDURAL AND ADMINISTRATIVE REVIEW PURPOSES ONLY AND DOES NOT ATTRACT LEGAL LIABILITY

Local Authority:
HARTEBEEPOORTDAM

Project:
**HARTEBEEPOORTDAM
 LINK ROAD TO
 MEERHOF**

Drawing description:
**ROAD RESERVE
 LAYOUT**

Date: NOV 2019
 Scale: Horizontal Scale: 500
 Vertical Scale: 250
HBPD/G/01
 Rev No **00**



Chainage		Centreline Peg Levels		Design Road Levels		Grades		Vertical Curves		Superelevation		Horizontal Curves	
Chainage	Level	Left Edge	Centre Line	Left Edge	Centre Line	Right Edge	Grade	Chainage	Level	Direction	Radius	Chainage	Level
0	1172.15	1172.15	1172.15	1172.15	1172.15	1172.15	0.715%	46.012	0.715%	0.912	16.18 42	0	1172.15
10	1172.25	1172.25	1172.25	1172.25	1172.25	1172.25	0.000%	30.000m VC	0.000%	Curve 1 Left	Radius=9.99	10	1172.25
20	1172.35	1172.35	1172.35	1172.35	1172.35	1172.35	1.392%	37.736	1.392%	Direction	17.30 38	20	1172.35
30	1172.45	1172.45	1172.45	1172.45	1172.45	1172.45	9.813%	53.948	9.813%	Curve 2 Right	Radius=75.000	30	1172.45
40	1172.55	1172.55	1172.55	1172.55	1172.55	1172.55	10.904%	75.000m VC	10.904%	Direction	32.58 04	40	1172.55
50	1172.65	1172.65	1172.65	1172.65	1172.65	1172.65	4.792%	202.308	4.792%	Curve 3 Left	Radius=75.000	50	1172.65
60	1172.75	1172.75	1172.75	1172.75	1172.75	1172.75	261.248	232.948	261.248	Direction	167.79 27	60	1172.75
70	1172.85	1172.85	1172.85	1172.85	1172.85	1172.85	1182.239	75.000m VC	1182.239	Curve 4 Left	Radius=75.000	70	1172.85
80	1172.95	1172.95	1172.95	1172.95	1172.95	1172.95	1188.95	232.948	1188.95	Direction	337.24 13	80	1172.95
90	1173.05	1173.05	1173.05	1173.05	1173.05	1173.05	1190.97	75.000m VC	1190.97	Curve 5 Left	Radius=75.000	90	1173.05
100	1173.15	1173.15	1173.15	1173.15	1173.15	1173.15	1192.97	232.948	1192.97	Direction	167.79 27	100	1173.15
110	1173.25	1173.25	1173.25	1173.25	1173.25	1173.25	1194.97	75.000m VC	1194.97	Curve 6 Left	Radius=75.000	110	1173.25
120	1173.35	1173.35	1173.35	1173.35	1173.35	1173.35	1196.97	232.948	1196.97	Direction	337.24 13	120	1173.35
130	1173.45	1173.45	1173.45	1173.45	1173.45	1173.45	1198.97	75.000m VC	1198.97	Curve 7 Left	Radius=75.000	130	1173.45
140	1173.55	1173.55	1173.55	1173.55	1173.55	1173.55	1199.97	232.948	1199.97	Direction	167.79 27	140	1173.55
150	1173.65	1173.65	1173.65	1173.65	1173.65	1173.65	1200.97	75.000m VC	1200.97	Curve 8 Left	Radius=75.000	150	1173.65
160	1173.75	1173.75	1173.75	1173.75	1173.75	1173.75	1201.97	232.948	1201.97	Direction	337.24 13	160	1173.75
170	1173.85	1173.85	1173.85	1173.85	1173.85	1173.85	1202.97	75.000m VC	1202.97	Curve 9 Left	Radius=75.000	170	1173.85
180	1173.95	1173.95	1173.95	1173.95	1173.95	1173.95	1203.97	232.948	1203.97	Direction	167.79 27	180	1173.95
190	1174.05	1174.05	1174.05	1174.05	1174.05	1174.05	1204.97	75.000m VC	1204.97	Curve 10 Left	Radius=75.000	190	1174.05
200	1174.15	1174.15	1174.15	1174.15	1174.15	1174.15	1205.97	232.948	1205.97	Direction	337.24 13	200	1174.15
210	1174.25	1174.25	1174.25	1174.25	1174.25	1174.25	1206.97	75.000m VC	1206.97	Curve 11 Left	Radius=75.000	210	1174.25
220	1174.35	1174.35	1174.35	1174.35	1174.35	1174.35	1207.97	232.948	1207.97	Direction	167.79 27	220	1174.35
230	1174.45	1174.45	1174.45	1174.45	1174.45	1174.45	1208.97	75.000m VC	1208.97	Curve 12 Left	Radius=75.000	230	1174.45
240	1174.55	1174.55	1174.55	1174.55	1174.55	1174.55	1209.97	232.948	1209.97	Direction	337.24 13	240	1174.55
250	1174.65	1174.65	1174.65	1174.65	1174.65	1174.65	1210.97	75.000m VC	1210.97	Curve 13 Left	Radius=75.000	250	1174.65
260	1174.75	1174.75	1174.75	1174.75	1174.75	1174.75	1211.97	232.948	1211.97	Direction	167.79 27	260	1174.75
270	1174.85	1174.85	1174.85	1174.85	1174.85	1174.85	1212.97	75.000m VC	1212.97	Curve 14 Left	Radius=75.000	270	1174.85
280	1174.95	1174.95	1174.95	1174.95	1174.95	1174.95	1213.97	232.948	1213.97	Direction	337.24 13	280	1174.95
290	1175.05	1175.05	1175.05	1175.05	1175.05	1175.05	1214.97	75.000m VC	1214.97	Curve 15 Left	Radius=75.000	290	1175.05
300	1175.15	1175.15	1175.15	1175.15	1175.15	1175.15	1215.97	232.948	1215.97	Direction	167.79 27	300	1175.15
310	1175.25	1175.25	1175.25	1175.25	1175.25	1175.25	1216.97	75.000m VC	1216.97	Curve 16 Left	Radius=75.000	310	1175.25
320	1175.35	1175.35	1175.35	1175.35	1175.35	1175.35	1217.97	232.948	1217.97	Direction	337.24 13	320	1175.35
330	1175.45	1175.45	1175.45	1175.45	1175.45	1175.45	1218.97	75.000m VC	1218.97	Curve 17 Left	Radius=75.000	330	1175.45
340	1175.55	1175.55	1175.55	1175.55	1175.55	1175.55	1219.97	232.948	1219.97	Direction	167.79 27	340	1175.55
350	1175.65	1175.65	1175.65	1175.65	1175.65	1175.65	1220.97	75.000m VC	1220.97	Curve 18 Left	Radius=75.000	350	1175.65
360	1175.75	1175.75	1175.75	1175.75	1175.75	1175.75	1221.97	232.948	1221.97	Direction	337.24 13	360	1175.75
370	1175.85	1175.85	1175.85	1175.85	1175.85	1175.85	1222.97	75.000m VC	1222.97	Curve 19 Left	Radius=75.000	370	1175.85
380	1175.95	1175.95	1175.95	1175.95	1175.95	1175.95	1223.97	232.948	1223.97	Direction	167.79 27	380	1175.95

Chainage -55 to 380
Horizontal Scale 1:500
Vertical Scale 1:250

AMENDMENTS				
Symbol	Date	Description	Checked	Signed

Client:
ORANGEVILLE PROPERTIES (Pty) Ltd

ENGINEER: HW SWART PR TECH.
SIGNATURE: _____
NAME: _____
Prof. Reg. No. 200270005
DATE: _____
THE ABOVE SIGNATURE CERTIFIES THAT THE DESIGNER AND CHECKER HAVE CONSENTED TO THEIR NAMES BEING INSERTED ON THIS DRAWING AND THAT THEY HAVE SEEN AND APPROVED THE DRAWING.

Consultant:

13 Hoogeglegen St.
WHITE RIVER
7240
Office Tel: 013 750 1403
Fax: 086 787 6147
Cell: 083 276 6805
Email: hendrikusswart@gmail.com
Reg No (2002/70005)

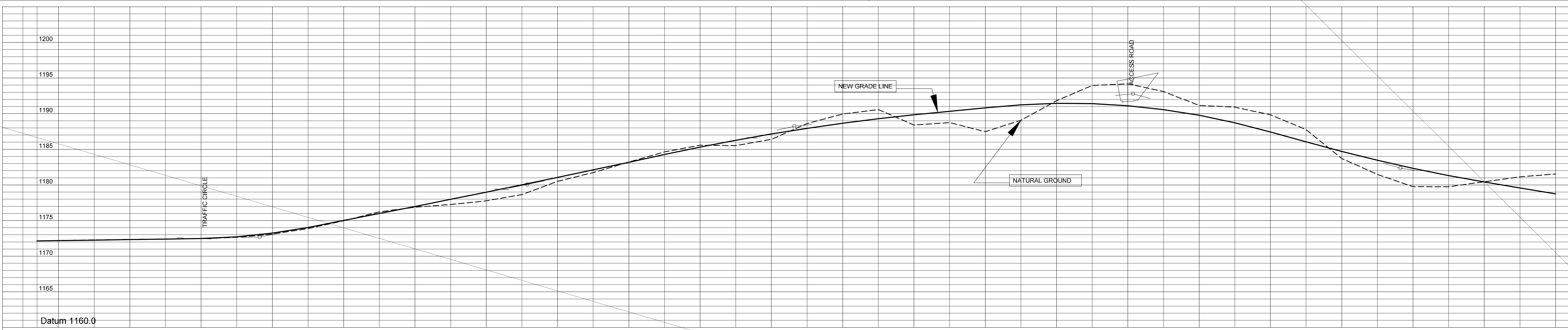
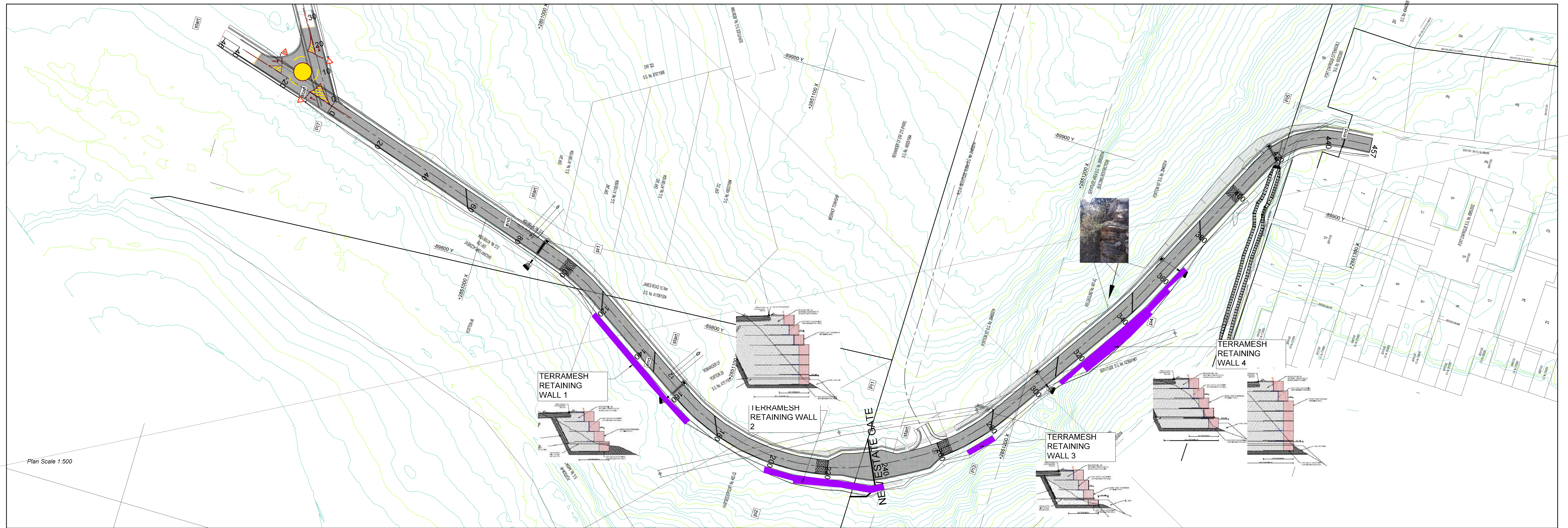
Client Acceptance:
Name: _____
Signature: _____ Date: _____
THIS ACCEPTANCE IS FOR PROCEDURAL AND ADMINISTRATIVE REVIEW PURPOSES ONLY AND DOES NOT ATTRACT LEGAL LIABILITY

Local Authority:
HARTEBESPOORTDAM

Project:
HARTEBESPOORTDAM
LINK ROAD TO
MEERHOF

Drawing description:
ROAD 1
LAYOUT,
LONG SECTION &

FOR APPROVAL
PURPOSES ONLY
Date: OCT 2019
Scale: Horizontal Scale: 500
Vertical Scale: 250
HBDP/R/01
Rev No 00



Chainage		Centreline Peg Levels		Design Road Levels		Grades		Vertical Curves		Superelevation		Horizontal Curves	
Chainage	Level	Left Edge	Centre Line	Right Edge	Grade	VC Type	VC Length	Superelevation	Curve Data	Direction	Curve Data	Direction	
0	1172.15	1172.15	1172.15	1172.15	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
10	1172.20	1172.20	1172.20	1172.20	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
20	1172.25	1172.25	1172.25	1172.25	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
30	1172.30	1172.30	1172.30	1172.30	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
40	1172.35	1172.35	1172.35	1172.35	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
50	1172.40	1172.40	1172.40	1172.40	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
60	1172.45	1172.45	1172.45	1172.45	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
70	1172.50	1172.50	1172.50	1172.50	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
80	1172.55	1172.55	1172.55	1172.55	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
90	1172.60	1172.60	1172.60	1172.60	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
100	1172.65	1172.65	1172.65	1172.65	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
110	1172.70	1172.70	1172.70	1172.70	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
120	1172.75	1172.75	1172.75	1172.75	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
130	1172.80	1172.80	1172.80	1172.80	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
140	1172.85	1172.85	1172.85	1172.85	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
150	1172.90	1172.90	1172.90	1172.90	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
160	1172.95	1172.95	1172.95	1172.95	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
170	1173.00	1173.00	1173.00	1173.00	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
180	1173.05	1173.05	1173.05	1173.05	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
190	1173.10	1173.10	1173.10	1173.10	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
200	1173.15	1173.15	1173.15	1173.15	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
210	1173.20	1173.20	1173.20	1173.20	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
220	1173.25	1173.25	1173.25	1173.25	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
230	1173.30	1173.30	1173.30	1173.30	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
240	1173.35	1173.35	1173.35	1173.35	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
250	1173.40	1173.40	1173.40	1173.40	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
260	1173.45	1173.45	1173.45	1173.45	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
270	1173.50	1173.50	1173.50	1173.50	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
280	1173.55	1173.55	1173.55	1173.55	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
290	1173.60	1173.60	1173.60	1173.60	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
300	1173.65	1173.65	1173.65	1173.65	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
310	1173.70	1173.70	1173.70	1173.70	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
320	1173.75	1173.75	1173.75	1173.75	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
330	1173.80	1173.80	1173.80	1173.80	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
340	1173.85	1173.85	1173.85	1173.85	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
350	1173.90	1173.90	1173.90	1173.90	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
360	1173.95	1173.95	1173.95	1173.95	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
370	1174.00	1174.00	1174.00	1174.00	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	
380	1174.05	1174.05	1174.05	1174.05	0.715%	30.000m VC	30.000	0.000%	Curve 1 Left	16.18 49	Curve 2 Right	17.30 38	

Chainage -55 to 380
Horizontal Scale 1:500
Vertical Scale 1:250

FOR APPROVAL
PURPOSES ONLY

AMENDMENTS				
Symbol	Date	Description	Checked	Signed

Client:
ORANGEVILLE PROPERTIES (Pty) Ltd

ENGINEER: HW SWART PR TECH.
 Signature: _____
 Name: HWS
 Prof. Reg. No. 200270005
 Date: _____
 THE ABOVE SIGNATURE CERTIFIES THAT THE DESIGNER AND CHECKER HAVE CONSENTED TO THEIR NAMES BEING INSERTED ON THIS DRAWING AND THAT THEY HAVE SEEN AND APPROVED THE DRAWING.

Consultant:

 13 Hoogeleegen St.
 WHITE RIVER
 7240
 Office Tel: 013 750 1403
 Fax: 086 787 6147
 Cell: 083 276 6805
 Email: hendrikuswart@gmail.com
 Reg No (200270005)

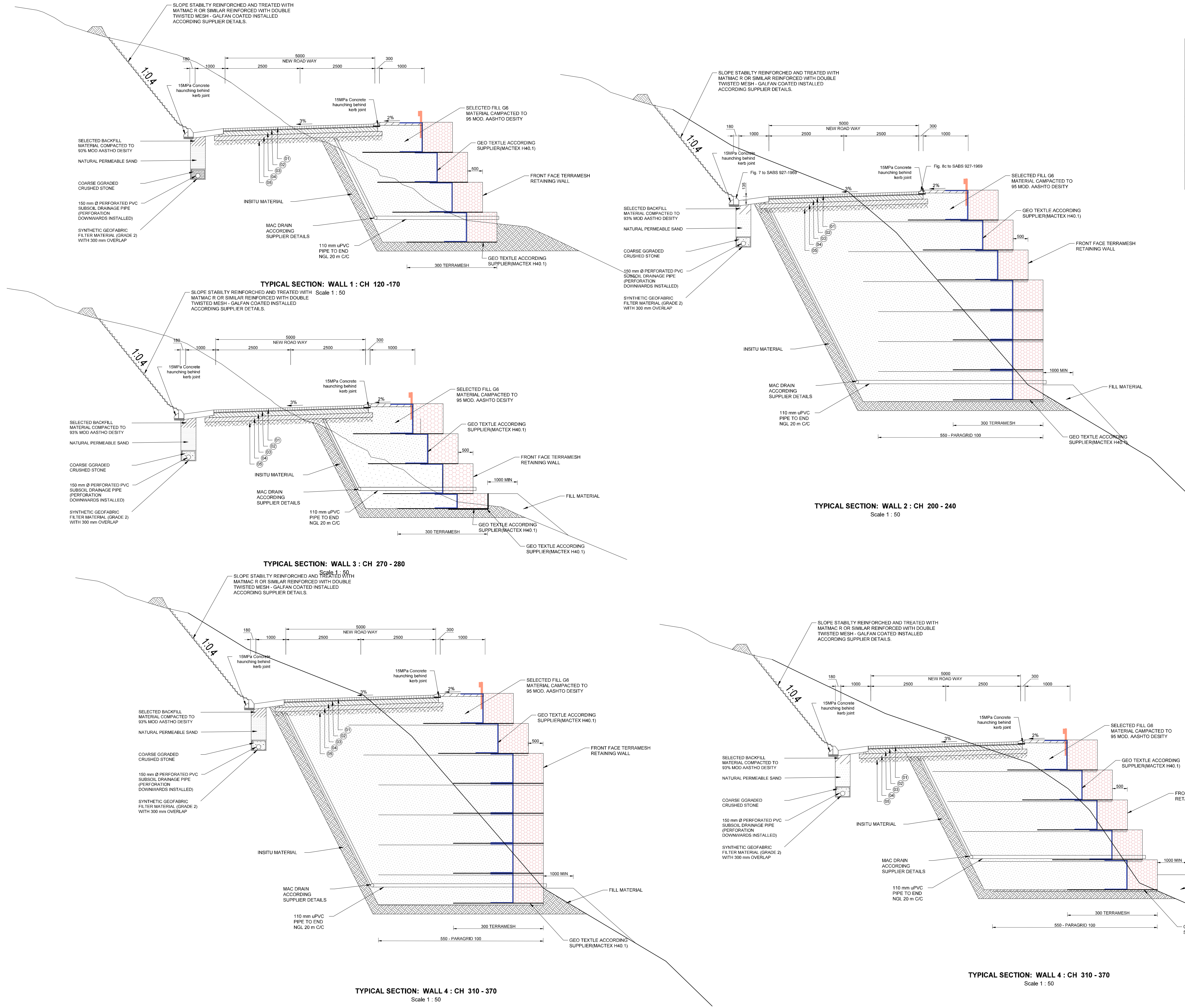
Client Acceptance:
 Name: _____
 Signature: _____
 Date: _____
 THIS ACCEPTANCE IS FOR PROCEDURAL AND ADMINISTRATIVE REVIEW PURPOSES ONLY AND DOES NOT ATTRACT LEGAL LIABILITY

Local Authority:
 HARTEBESPOORTDAM

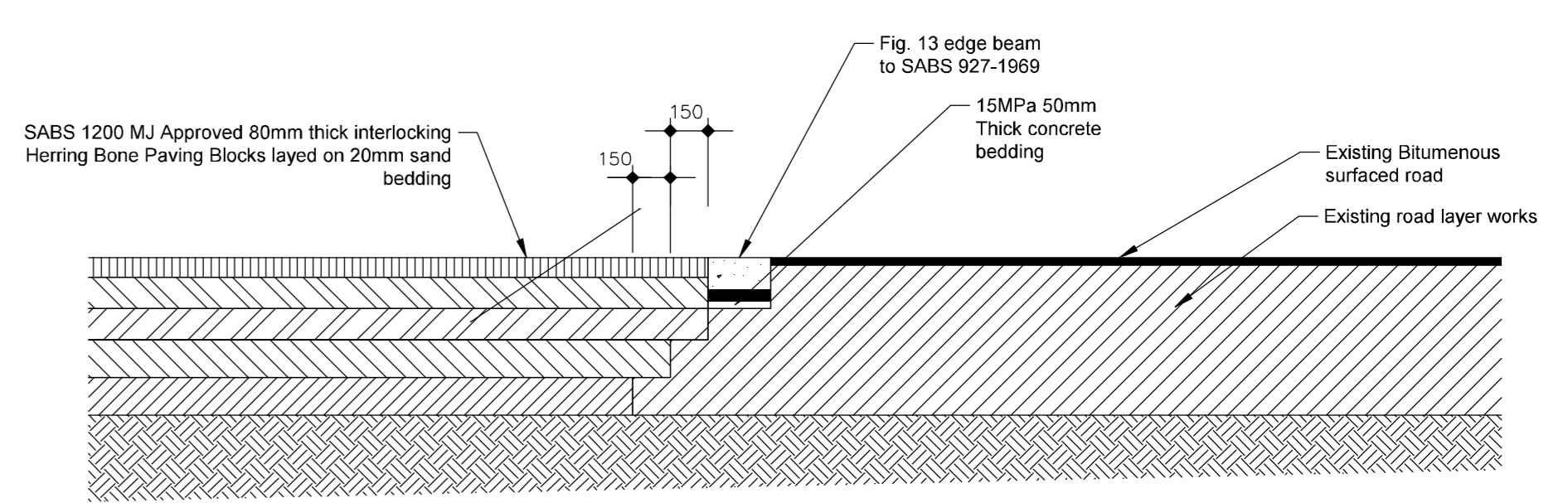
Project:
 HARTEBESPOORTDAM
 LINK ROAD TO
 MEERHOF

Drawing description:
 ROAD 1
 LAYOUT,
 LONG SECTION &

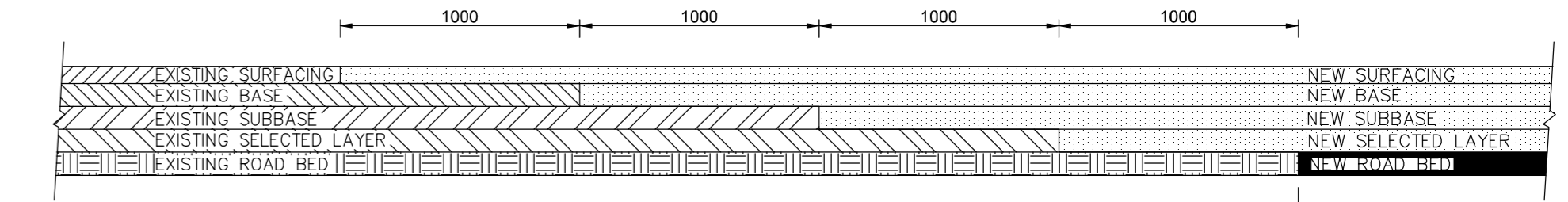
Date: OCT 2019
 Scale: Horizontal Scale: 500
 Vertical Scale: 250
 HBDP/R/01
 Rev No 00



Description of layers				
Layer No.	Thickness	Material Description	Material Spec. (TRH)	Layer Compaction
01	80	80mm paving on 20mm sand	-	-
02	150	Sub-Base	C4	97% mod AASHTO
03	150	Upper Selected	G5	97% mod AASHTO
04	150	Insitu selected layer	G7	95% mod AASHTO
05	150	Road bed preparation	Insitu	93% mod AASHTO



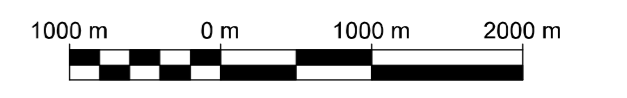
TYPICAL DETAIL OF THE CONNECTION BETWEEN THE EXISTING BITUMINOUS SURFACED ROAD AND THE NEW PAVED ROAD
N.T.S



LONG SECTION: CONSTRUCTION JOINTS FOR NEW AND EXISTING LAYERWORKS
N.T.S

PLAN SCHEMATIC LAYOUT OF CONSTRUCTION JOINTS FOR NEW AND EXISTING LAYERWORKS
N.T.S

FOR APPROVAL PURPOSES ONLY



AMENDMENTS				
Symbol	Date	Description	Checked	Signed

READ THIS DRAWING IN CONJUNCTION WITH	
Drw Number	Description

ENGINEER: HW SWART PR TECH.

SIGNATURE	Drawn	Designed
NAME	Checked	HWS
Prof. Reg. No.	200270005	Engineer
DATE		HWS

THE ABOVE SIGNATURE CERTIFIES THAT THE DESIGNER AND CHECKER HAVE CONSENTED TO THEIR NAMES BEING INSERTED ON THIS DRAWING AND THAT THEY HAVE SEEN AND APPROVED THE DRAWING.

Consultant:

13 Hoogeglegen St.
WHITE RIVER
1240
Office Tel.: 013 750 1403
Fax: 086 767 6147
Cell: 083 276 6805
Email: hendrikusswart@gmail.com
Reg No (200270005)

Cleint Acceptance:

Name: _____
Signature: _____ Date: _____

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Local Authority:

HARTEBESPOORTDAM

Project:

HARTEBESPOORTDAM LINK ROAD

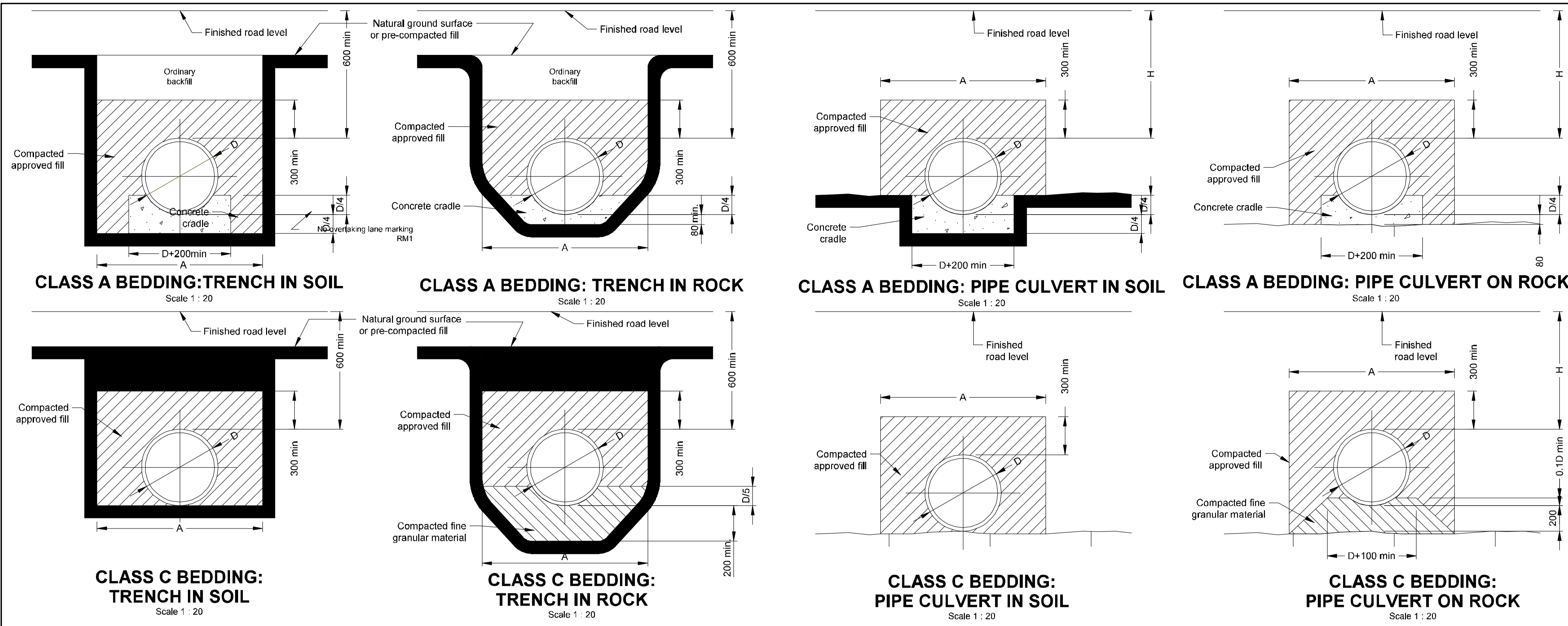
Drawing description:

RETAINING WALL DETAILS SECTIONS AND ROAD DETAILS

Date: OCT 2019
Scale: 1:50

HBPD-RD-01

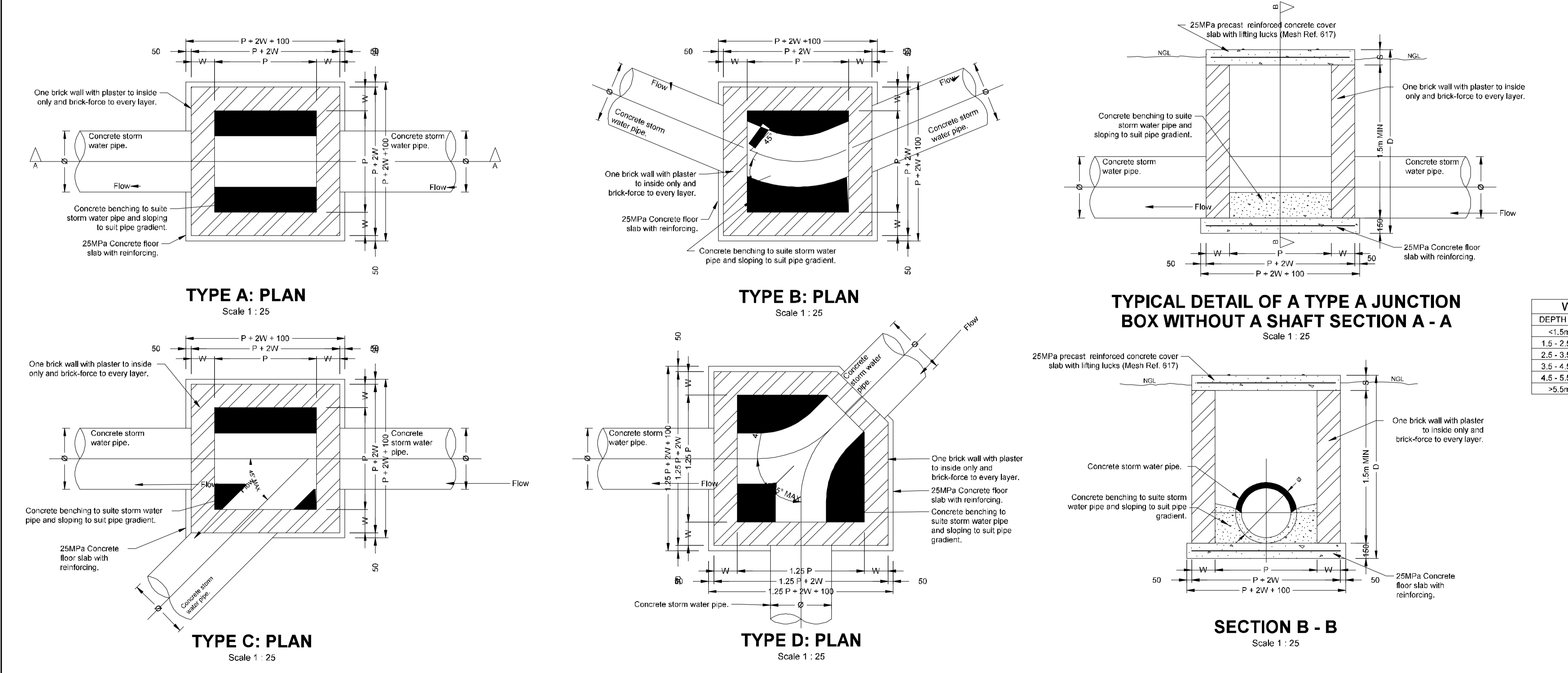
Rev No **00**



- Notes:
- When possible pipes shall be laid by first constructing the required compacted fill to allow pipe trench to be excavated into it, thereby satisfying recommendations for negatively projecting pipeline. The recommended trench widths are listed in Table 2. The maximum trench widths apply to deep trenches where shoring is required.
 - All pipes shall comply with SABS 667-1986, "Standard specifications concrete non-pressure pipes", and shall be installed in accordance with SABS 0102-1987, "Code of practice for design and installation of precast concrete pipes".
 - Joints shall either be spigot and socket with rubber ring, ogee with rubber collar or modified ogee with rubber ring seal.
 - In selecting the type and class of pipe it is generally preferable to use the stronger class of pipe with a class C bedding rather than the lower strength pipe with class A bedding.
 - Actual internal diameter of heavy duty pipes are to be checked against waterway requirements.
 - For fill heights exceeding 10m or pipeline length exceeding 40m a minimal diameter of 900mm is recommended.
 - Construction joints in concrete cradle to coincide with pipe joints. All insitu concrete shall be 15MPa.
 - The following minimal nominal pipe diameters shall apply: 450mm for minor access roads and bellmouths. 600mm for other roads.
 - The minimum cover over any pipe culvert shall be 600mm. In exceptional cases pipes may be encased in concrete and the cover reduces to 200mm.
 - All pipe lifting holes must be plugged to the satisfaction of the Engineer.
 - Pipes to be laid to a minimum grade of 2%.

Permissible maximum height (H) of fill in meters		
D' Load	Class A Bedding	Class C Bedding
25 D	3.0	1.5
50 D	6.0	3.0
75 D	9.0	4.5
100 D	12.0	6.0
125 D	15.0	7.5
150 D	18.0	9.0
200 D	24.0	12.0

Trench widths		
Nominal pipe diameter (D)	Recommended dimension (A)	Maximum trench width
450mm	1100mm	1100mm
600mm	1300mm	1300mm
750mm	1500mm	1500mm
900mm	1600mm	1700mm
1050mm	1800mm	2200mm
1200mm	2000mm	2400mm



JUNCTION BOX DIMENSIONS		
Ø*	DISTANCE P**	1.25xP
450	1000	1250
600	1000	1250
750	1100	1380
825	1300	1630
900	1400	1750
1050	1500	1880
1200	1700	2130
1350	1800	2250
1500	2000	2500

*DIAMETER OF OUTGOING PIPE
**EFFECTIVE WIDTH WITHIN JUNCTION BOX

WALL AND SLAB DIMENSIONS AT 1m DEPTH INTERVALS				
DEPTH (D)	WALL THICKNESS (W)	SLAB THICKNESS (S)	MESH REF	WIRE SIZE
<1.5m	220	150	311	8
1.5 - 2.5m	220	150	311	8
2.5 - 3.5m	330	200	617	10
3.5 - 4.5m	330	200	617	10
4.5 - 5.5m	330	300	888	12
>5.5m	440	300	888	12

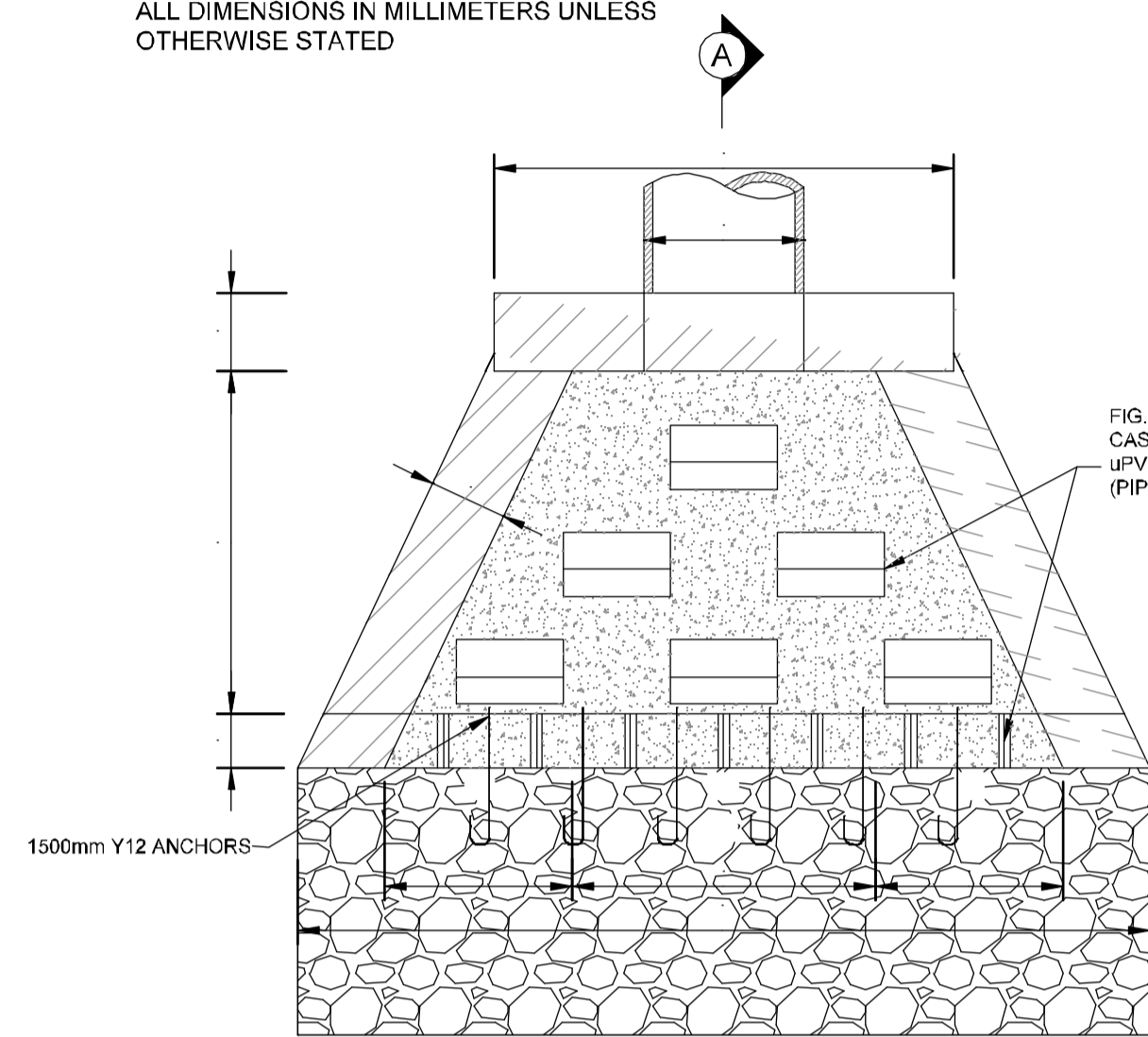
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Symbol	Date	Description	Checked	Signed	Dwg Number	Description	SIGNATURE	Drawn	Designed	Name:	HARTEBESPOORTDAM	HARTEBESPOORTDAM LINK ROAD	STORMWATER DETAILS	Date:	OCT 2019		
							NAME	Checked	Engineer	Signature:				Scale:	1:100		
							Prof. Reg. No.		Engineer	Date:							
							DATE		Engineer								
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INLET OR OUTLET DIMENSION					
PIPE NOMINAL DIAMETER	450mmØ	600mmØ	900mmØ	1050mmØ	1200mmØ
A1	1000	1300	1900	2200	2500
A2	2505	3001	3994	4490	4987
B1	1021	1270	1766	2014	2262
B2	1021	1270	1766	2014	2262
C1	1350	1500	1800	1950	2100
C2	888	1038	1338	1488	1638

NOTE: THE DIMENSIONS FOR THE ABOVE NEEDS TO BE CONFIRMED PRIOR TO CONSTRUCTION OF ANY OUTLET OR INLET STRUCTURES

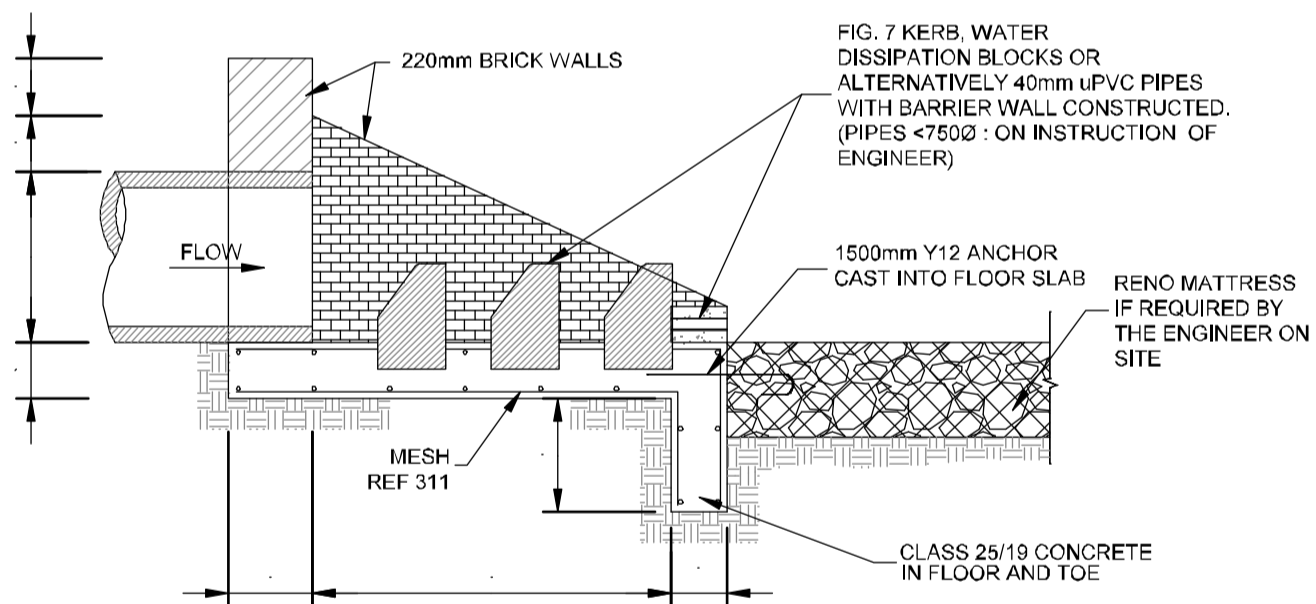
ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE STATED



TYPICAL OUTLET STRUCTURE

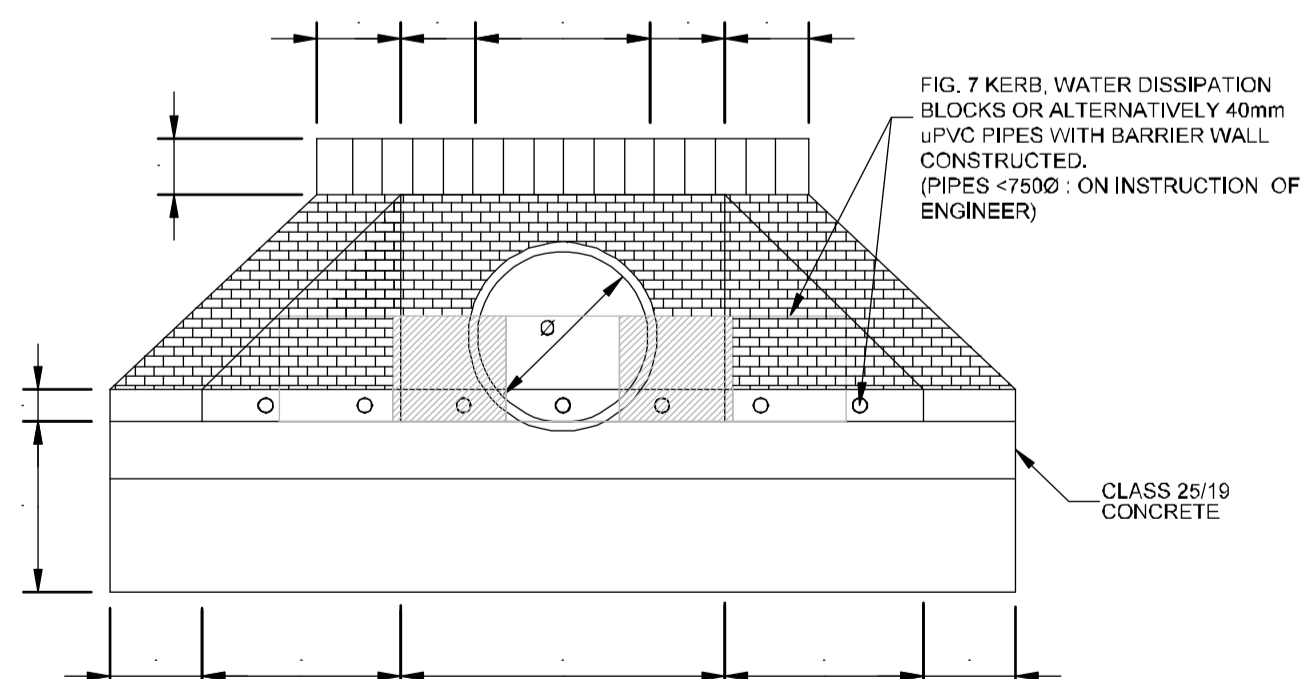
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FIG. 7 KERB WATER DISSIPATION BLOCKS TO BE CAST INTO FLOOR SLAB OR ALTERNATIVELY 40mm uPVC PIPES WITH BARRIER WALL CONSTRUCTED. (PIPES <750Ø: ON INSTRUCTION OF THE ENGINEER)



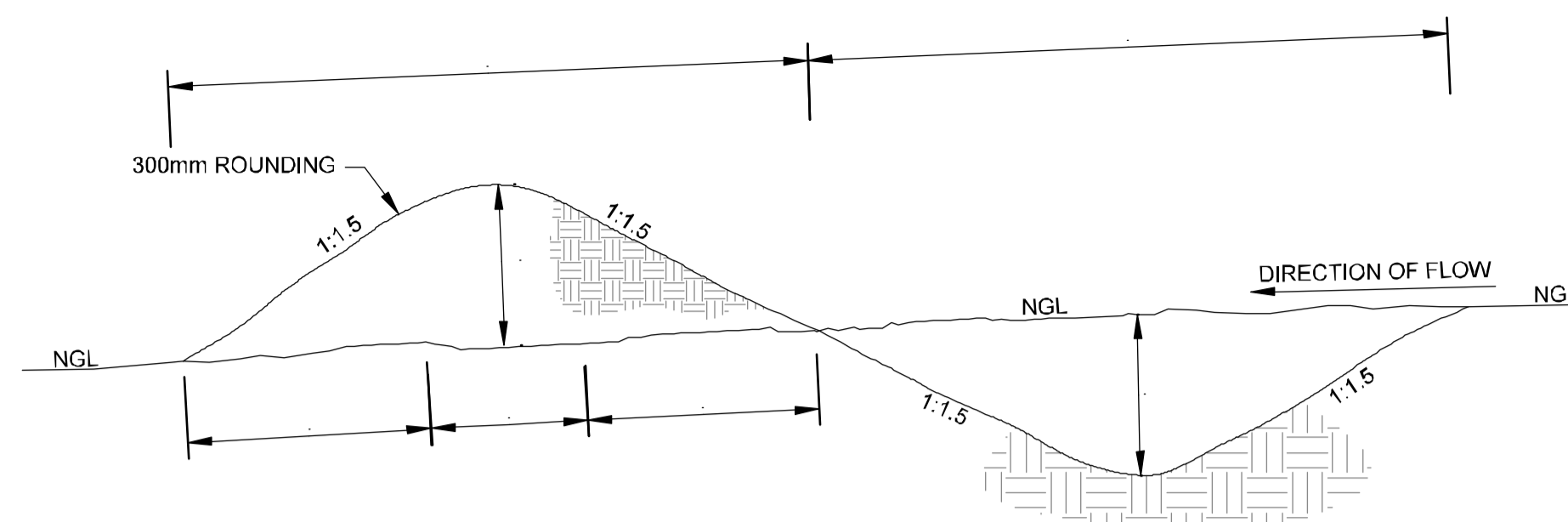
SECTION C-C: IN- OR OUTLET STRUCTURE

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ELEVATION

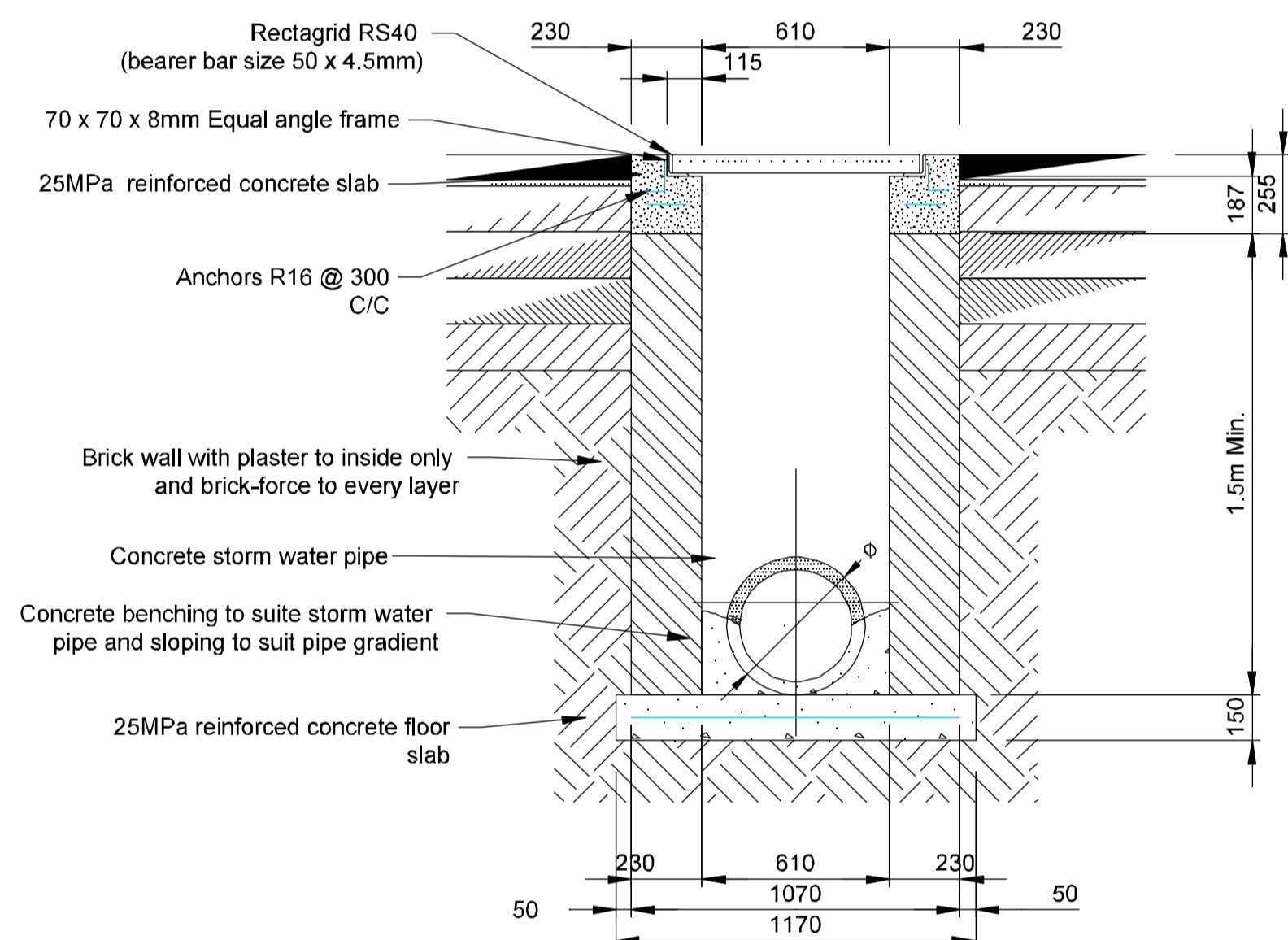
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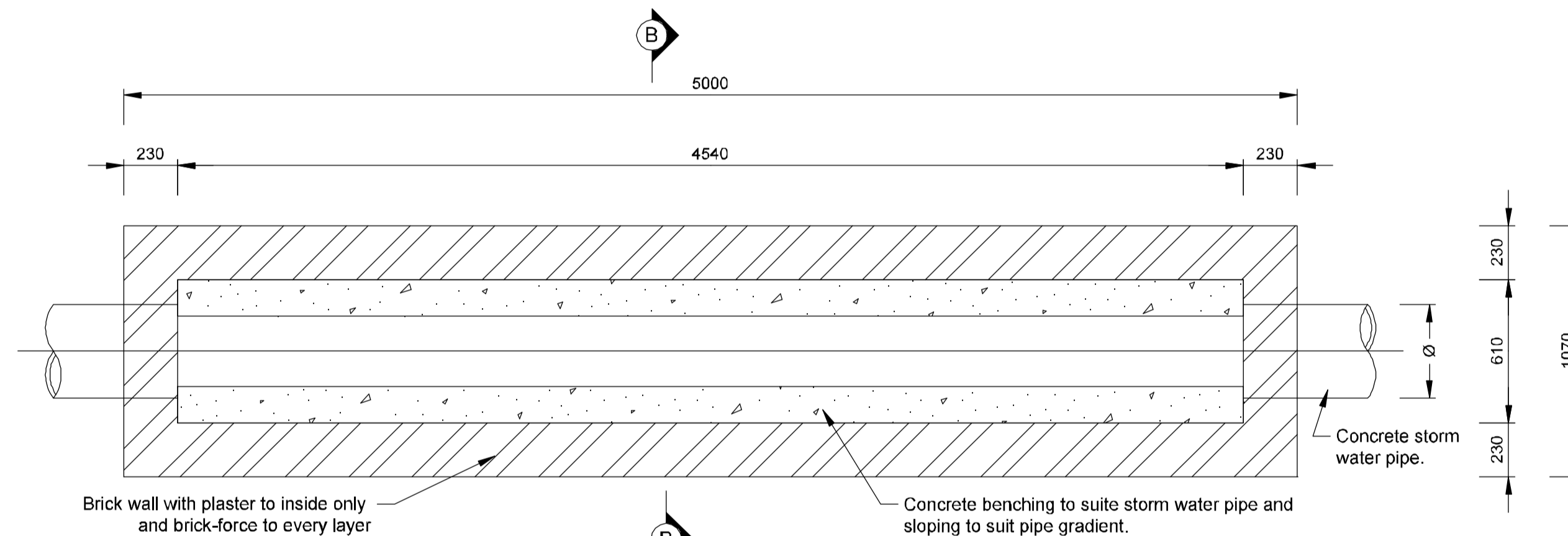
DETAIL C: CATCHWATER

BERM

SCALE 1:20

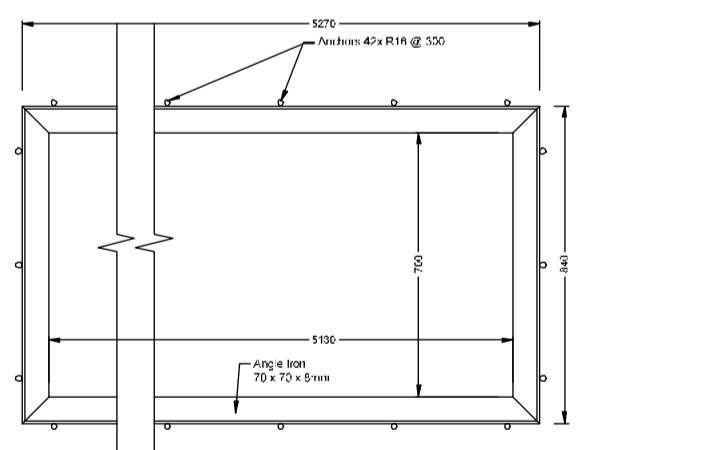


SECTION B-B



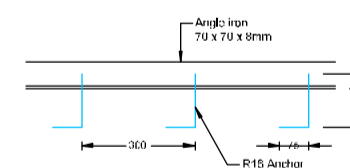
TYPICAL GRID INLET ACROSS ROAD

SCALE 1:20



DETAIL GALVANIZED STEEL FRAME

SCALE 1:20



DETAIL GALVANIZED STEEL FRAME

SCALE 1:20

Notes:

1. All welding to be done before any galvanizing.
2. Hinges to be welded to frame and grid.
3. All mild steel to be hot dip galvanized to SABS 763.
4. All concrete to be 20MPa minimum.

NOTES:

1. DISSIPATION BLOCKS OR BARRIER WITH 40 mm uPVC PIPES TO BE CONSTRUCTED ON OUTLET STRUCTURES FOR PIPE DIAMETER > 750mm Ø AS INSTRUCTED BY THE ENGINEER ON SITE
2. ALL BRICKWORK TO BE PLASTERED ON THE INSIDE
3. BRICKFORCE TO BE PLACED IN EVERY THIRD COURSE
4. ALL EXPOSED CONCRETE EDGES TO BE ROUNDED WITH A NOSING TOOL
5. BENCHING TO BE A MINIMUM THICKNESS OF 50mm
6. MINIMUM CONCRETE COVER TO REINFORCING TO BE 20mm
7. ALL CONCRETE FLOOR AND COVER SLABS TO BE CLASS 25/19 MPa CONCRETE

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20 m 0 m 20 m 40 m

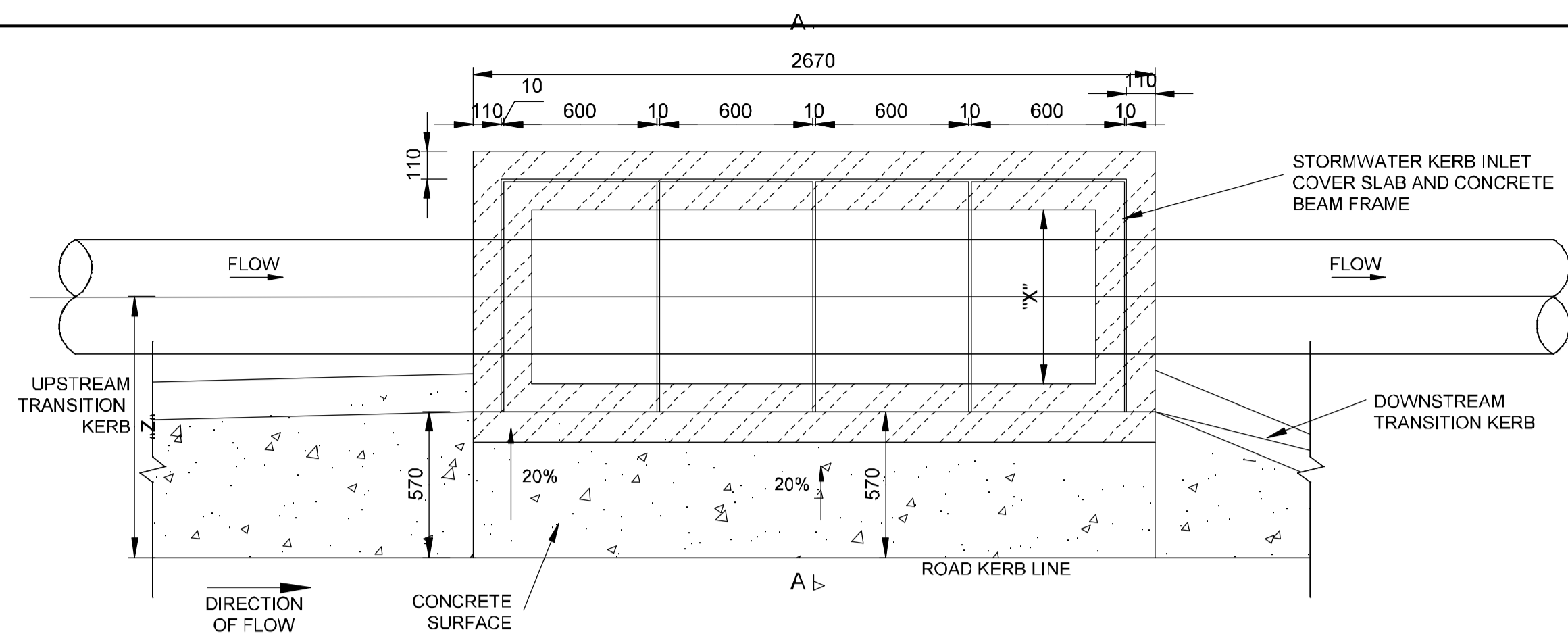
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SIGNATURE	Drawn	Designed	
NAME		Engineer	HWS
Prof. Reg. No.	200270005	Checked	HWS
DATE			
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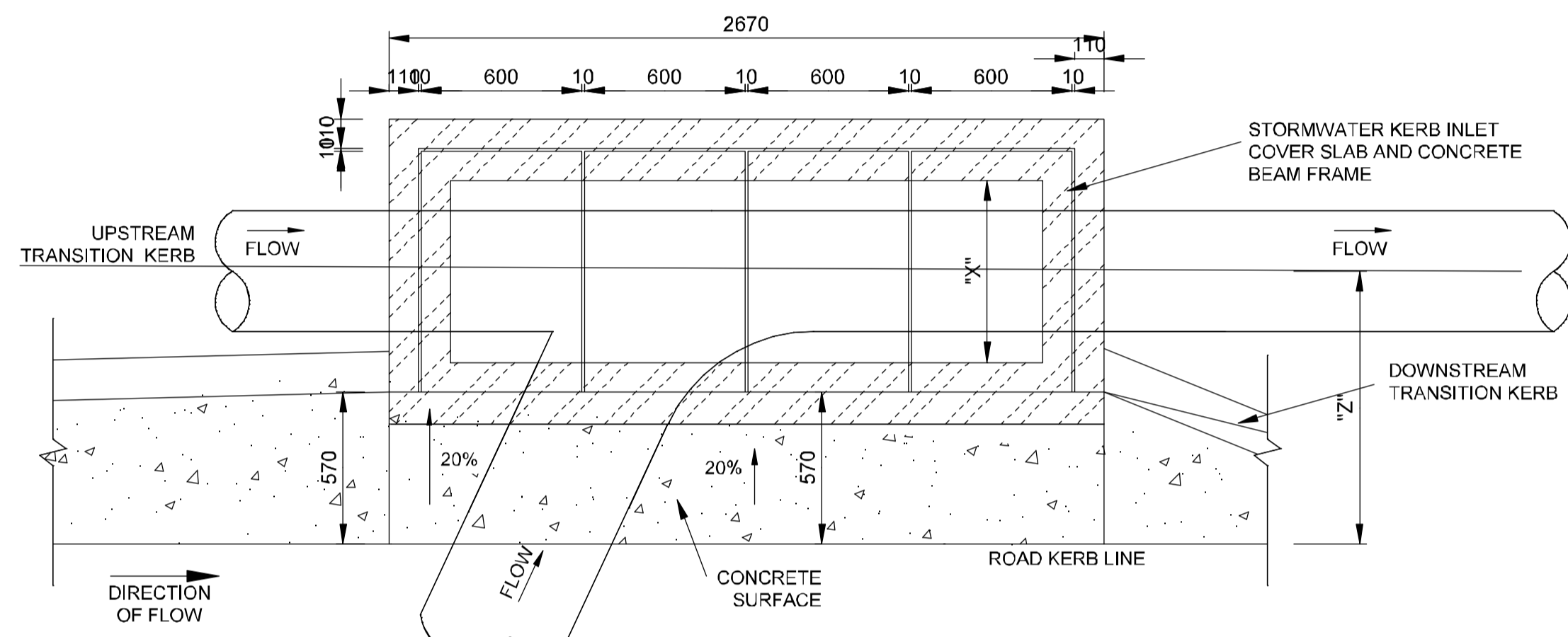
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Project:		Drawing description:	
HARTEBESPOORTDAM LINK ROAD		STORMWATER DETAILS GRID INLET SW OUTLET STRUCTURES	

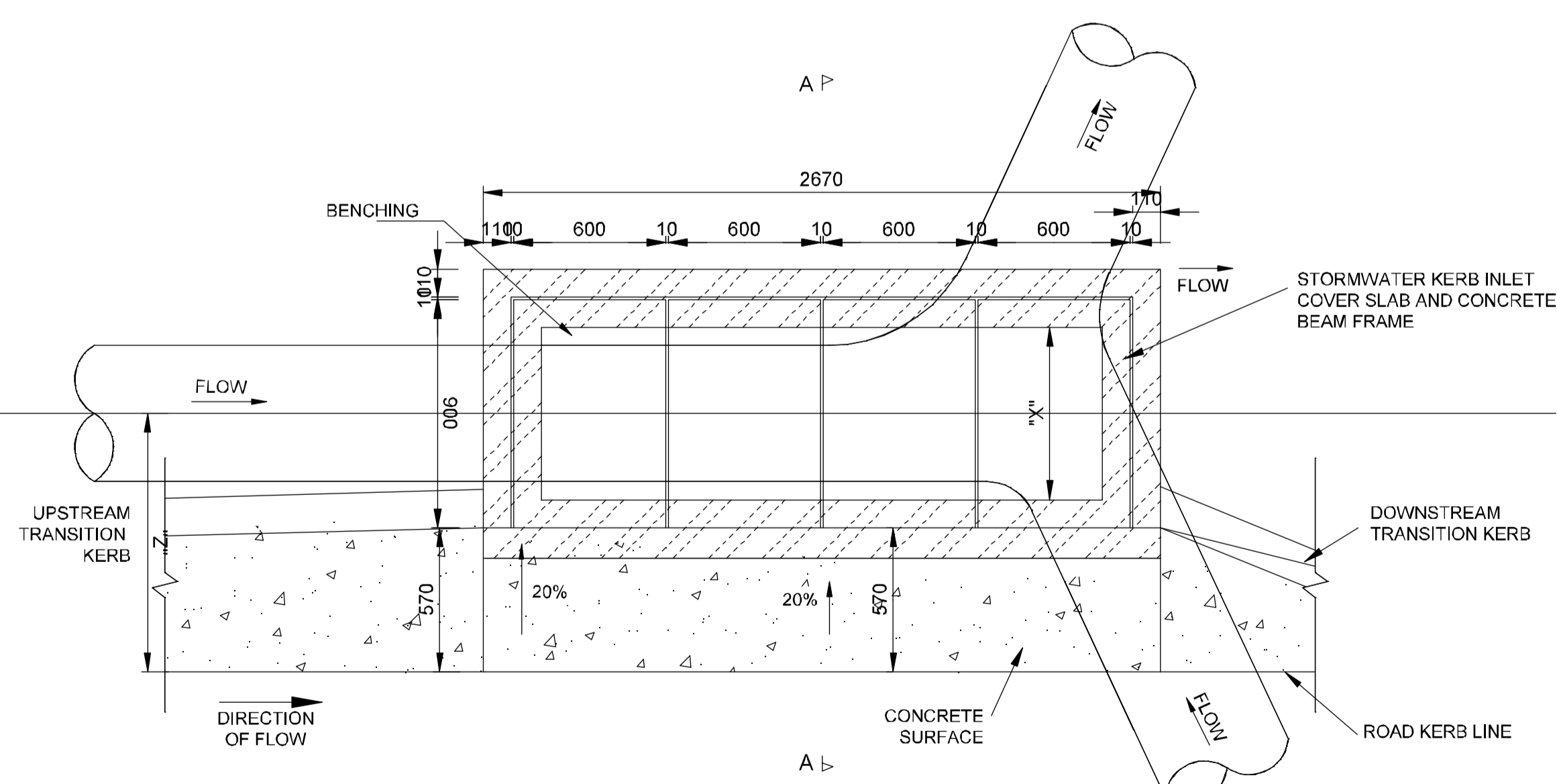
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OCT 2019		AS SHOWN		00	
HBP/SDW/02					



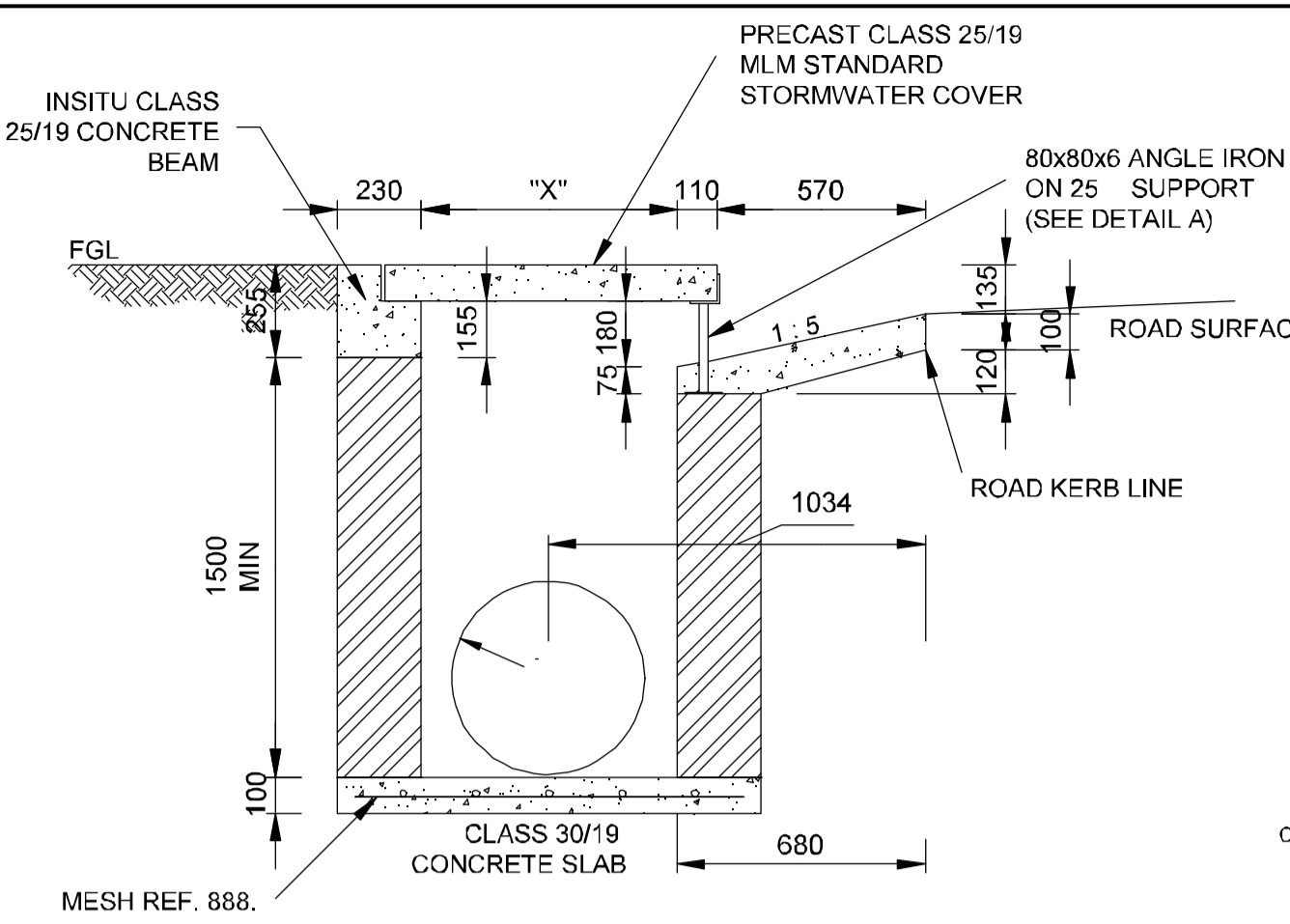
PLAN: TYPICAL STORM WATER PIPE FROM KERB INLET OR JUNCTION BOX
N.T.S
A P



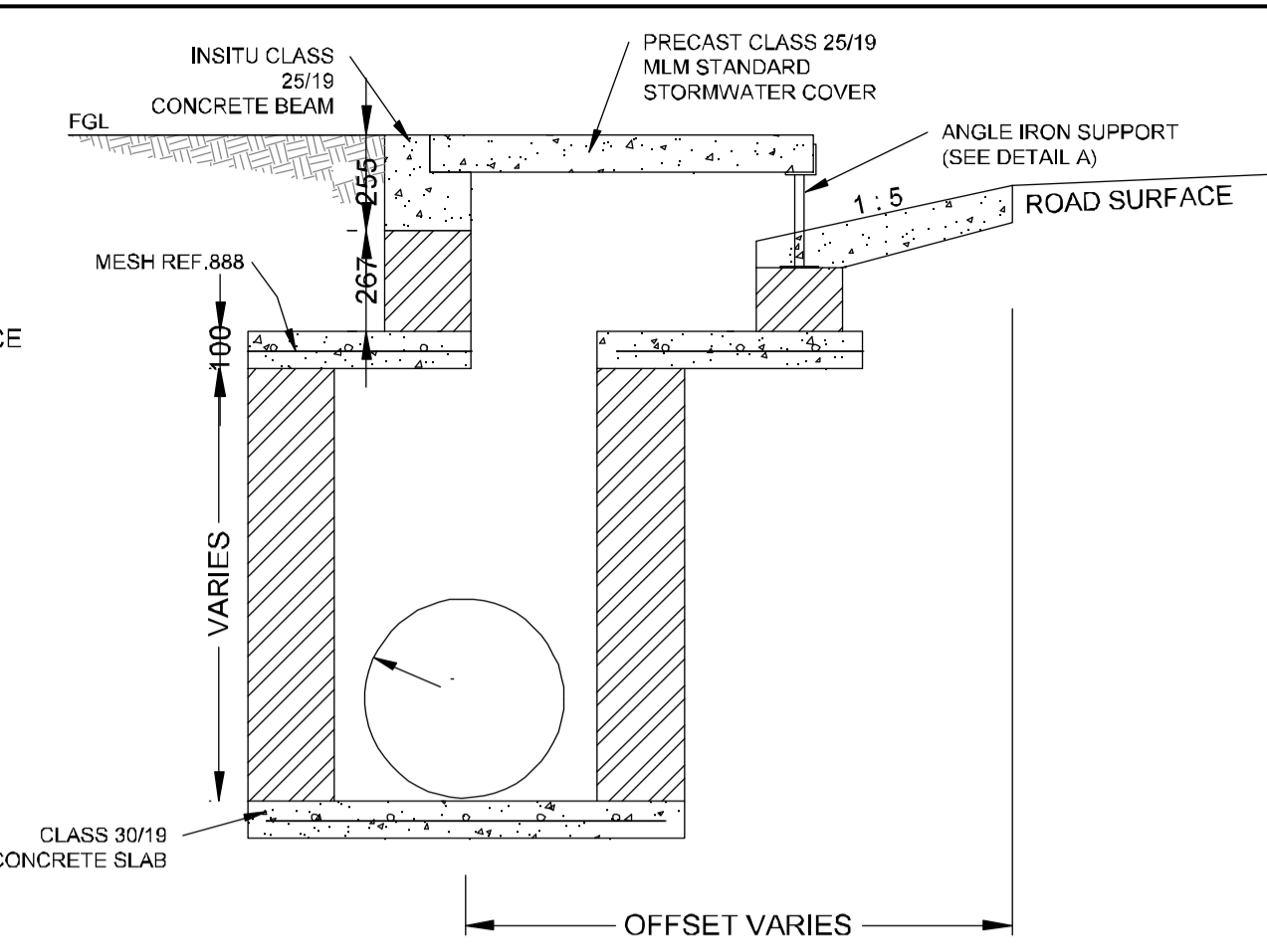
PLAN: TYPICAL STORM WATER PIPE FROM KERB INLET OR JUNCTION BOX
N.T.S
A P



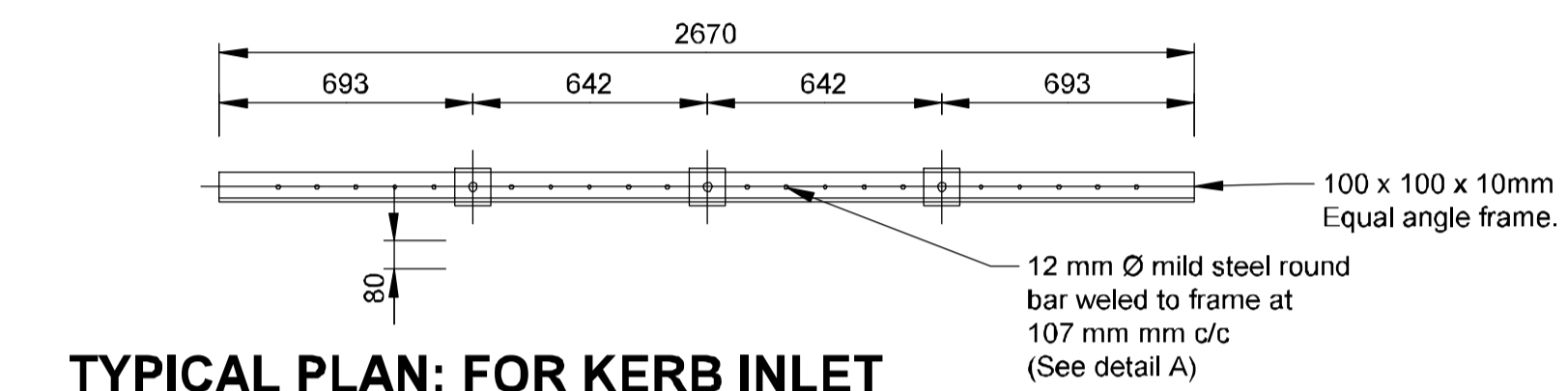
PLAN: TYPICAL STORM WATER PIPE FROM KERB INLET OR JUNCTION BOX
N.T.S
A P



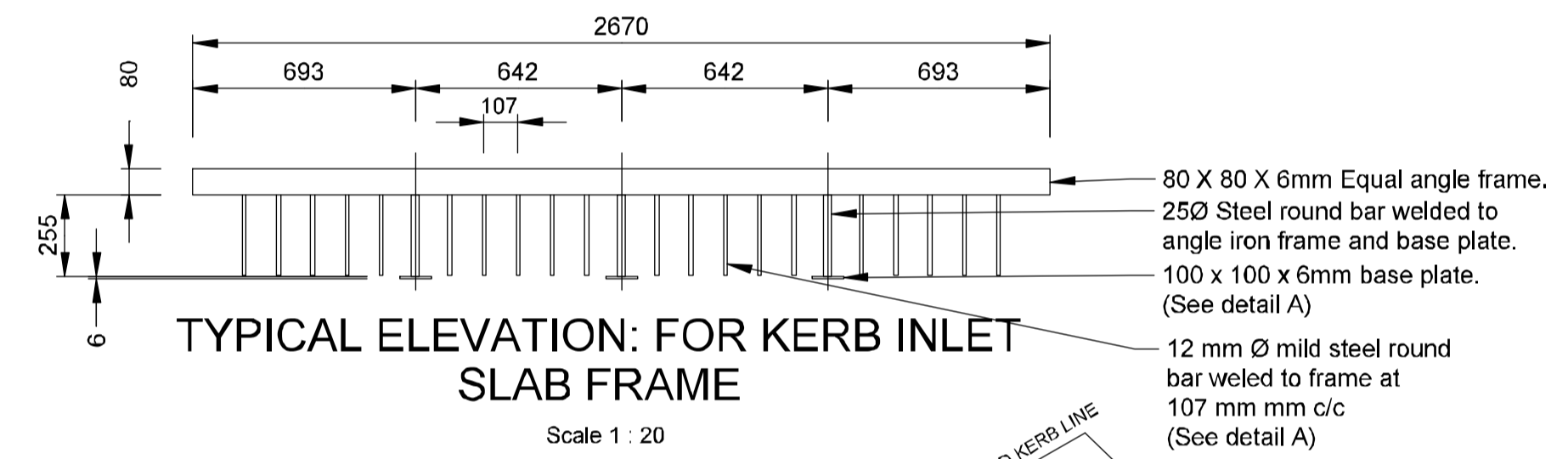
TYPICAL SECTION A-A: KERB INLET
Scale 1 : 25



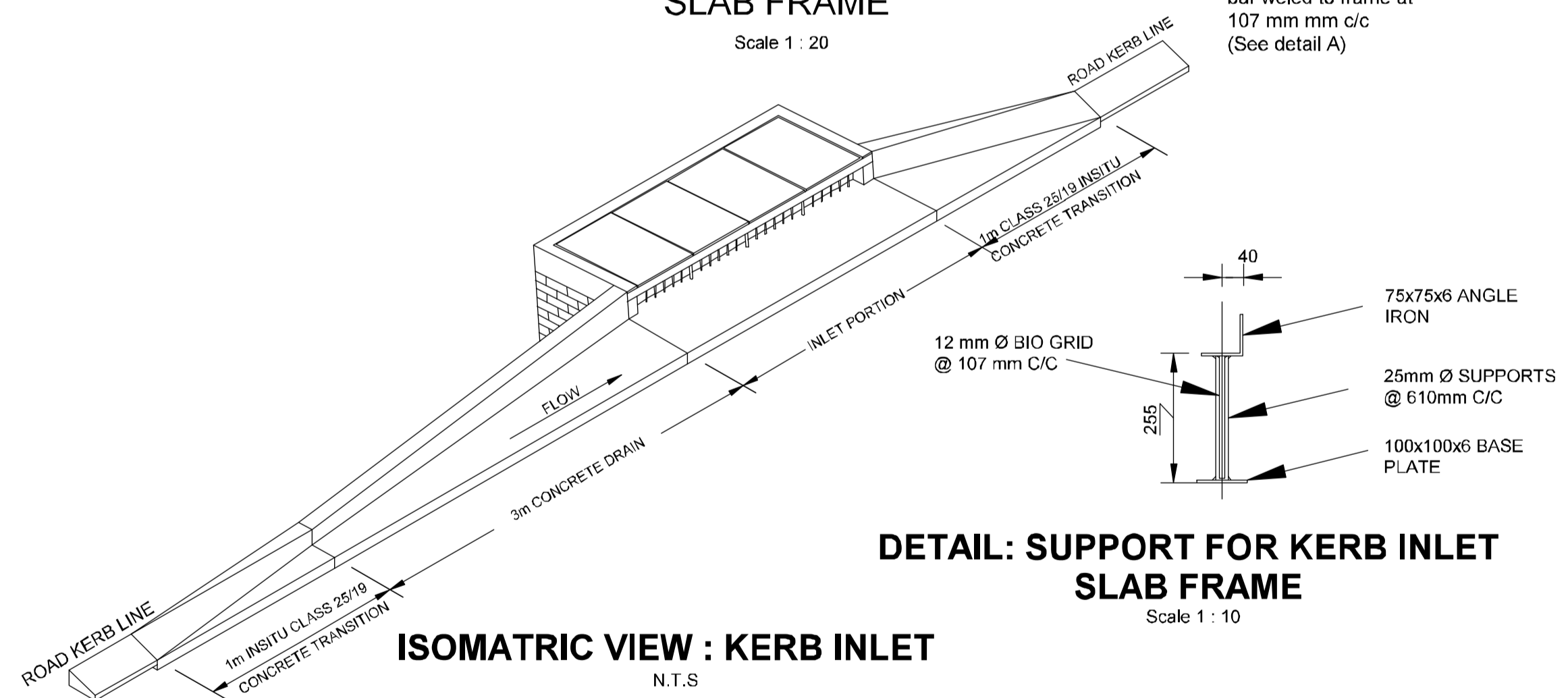
TYPICAL SECTION : OFFSET KERB INLET
N.T.S



TYPICAL PLAN: FOR KERB INLET SLAB FRAME
Scale 1 : 20



TYPICAL ELEVATION: FOR KERB INLET SLAB FRAME
Scale 1 : 20



ISOMETRIC VIEW : KERB INLET
N.T.S

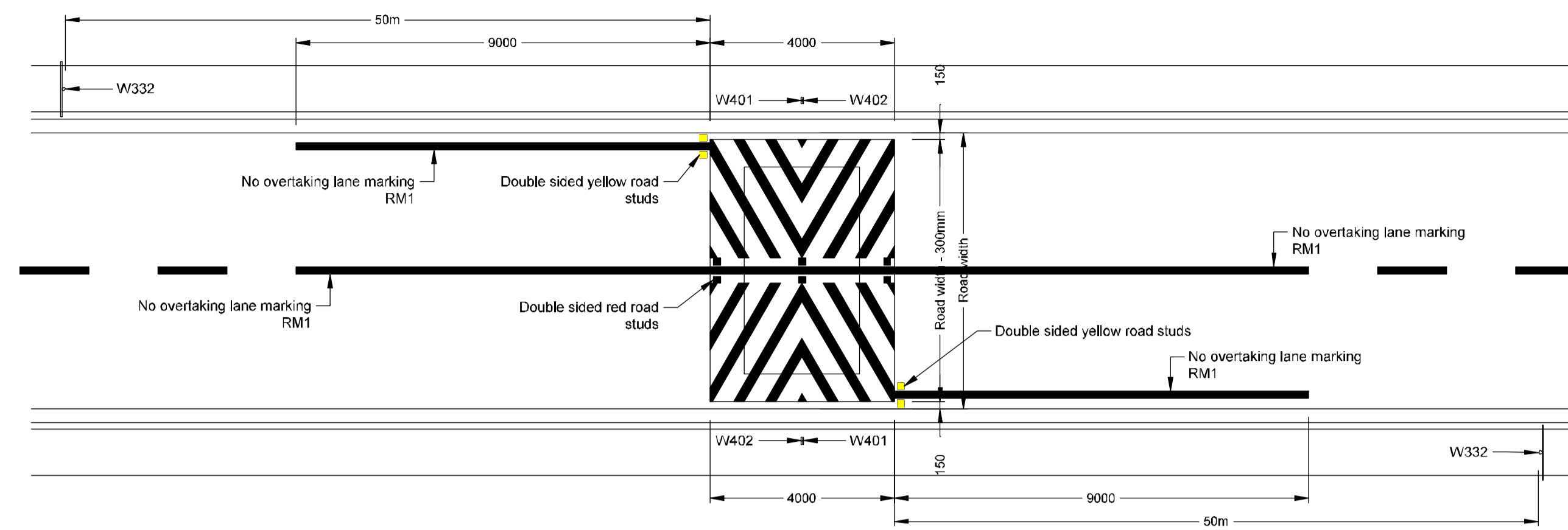
DETAIL: SUPPORT FOR KERB INLET SLAB FRAME
Scale 1 : 10

KERB INLET DIMENSIONS		
Ø	WIDTH OF KERB INLET STRUCTURE "X"	PIPE CENTRE LINE OFF-SET FROM ROAD/KERB LINE "Z"
450mm Ø	700mm	950mm
600mm Ø	950mm	1075mm
900mm Ø	1150mm	1175mm

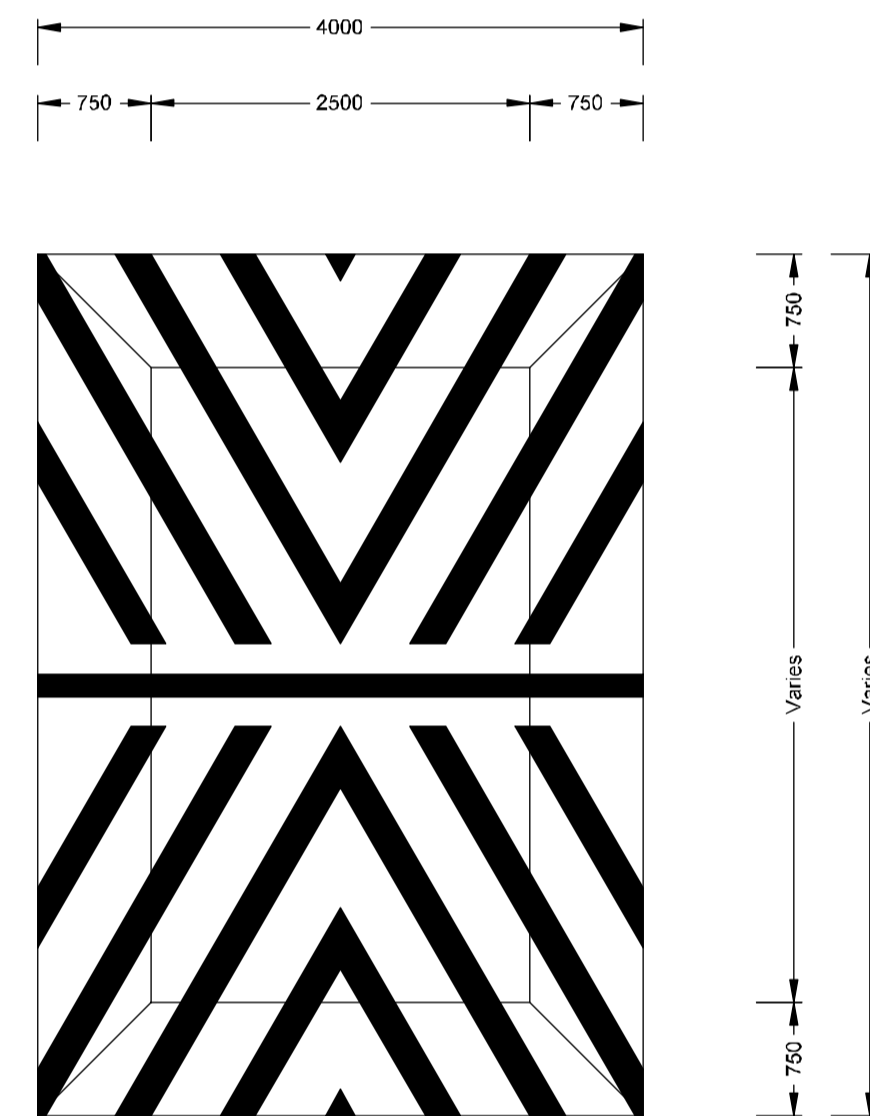
NOTE: THE DIMENSIONS FOR X, Y AND Z TO BE CONFIRMED PRIOR TO CONSTRUCTION OF MASONRY KERB INLET STRUCTURE AND PRECAST KERB INLET CONCRETE LID

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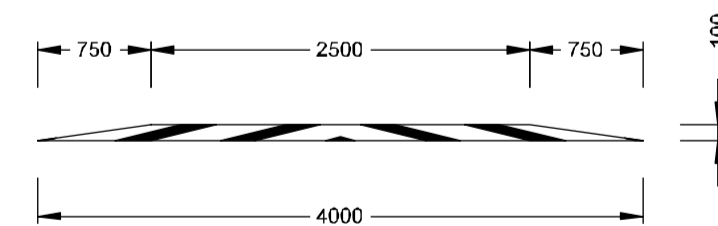
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							NAME		HW		HW								OCT 2019	1:100	
							Prof. Reg. No.	200270005													
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												<p>13 Hoogelegen St. WHITE RIVER 1240 Office Tel.: 013 750 1493 Fax: 086 767 6147 Cell: 083 276 6806 Email: hendrikuswart@gmail.com Reg No: (200270005)</p>		<p>THIS ACCEPTANCE IS FOR PROCEDURAL AND ADMINISTRATIVE REVIEW PURPOSES ONLY AND DOES NOT ATTRACT LEGAL LIABILITY</p>		<p>HARTEBESPOORTDAM HARTEBESPOORTDAM LINK ROAD</p>		<p>STORMWATER DETAILS</p>		<p>Date: OCT 2019 Scale: 1:100</p>	
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																		<p>Rev No 00</p>			



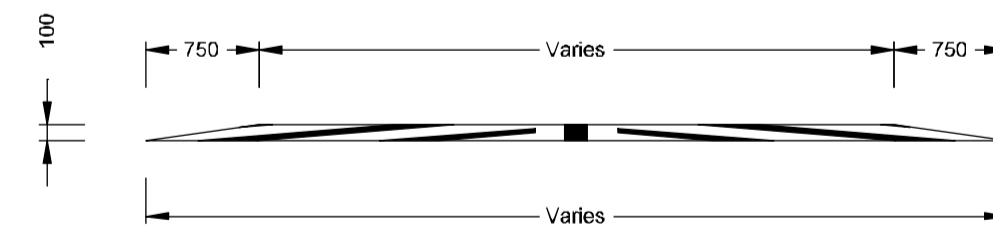
TYPICAL SPEEDHUMP LAYOUT
N.T.S



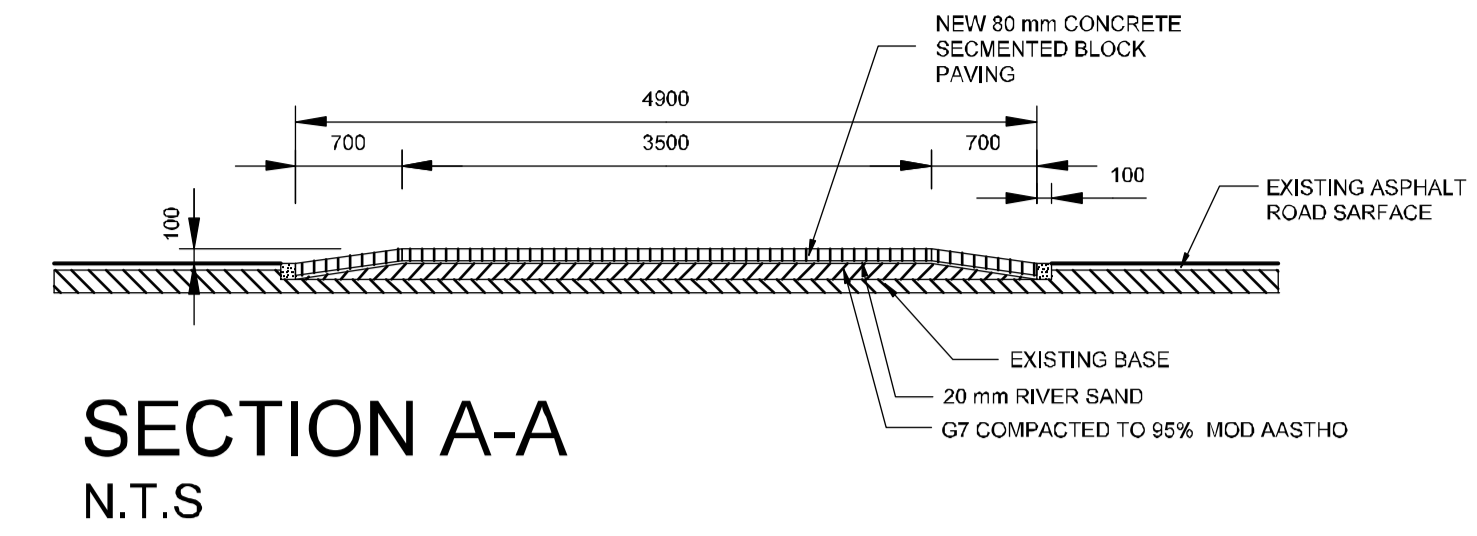
TYPICAL SPEEDHUMP
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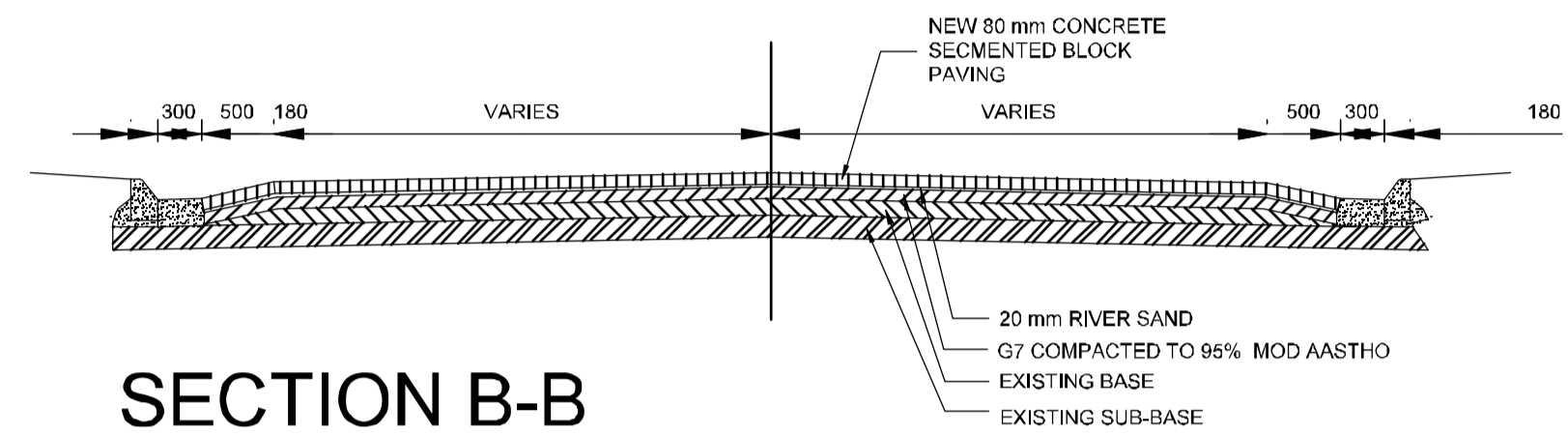
TYPICAL SIDE ELEVATION SPEEDHUMP
N.T.S



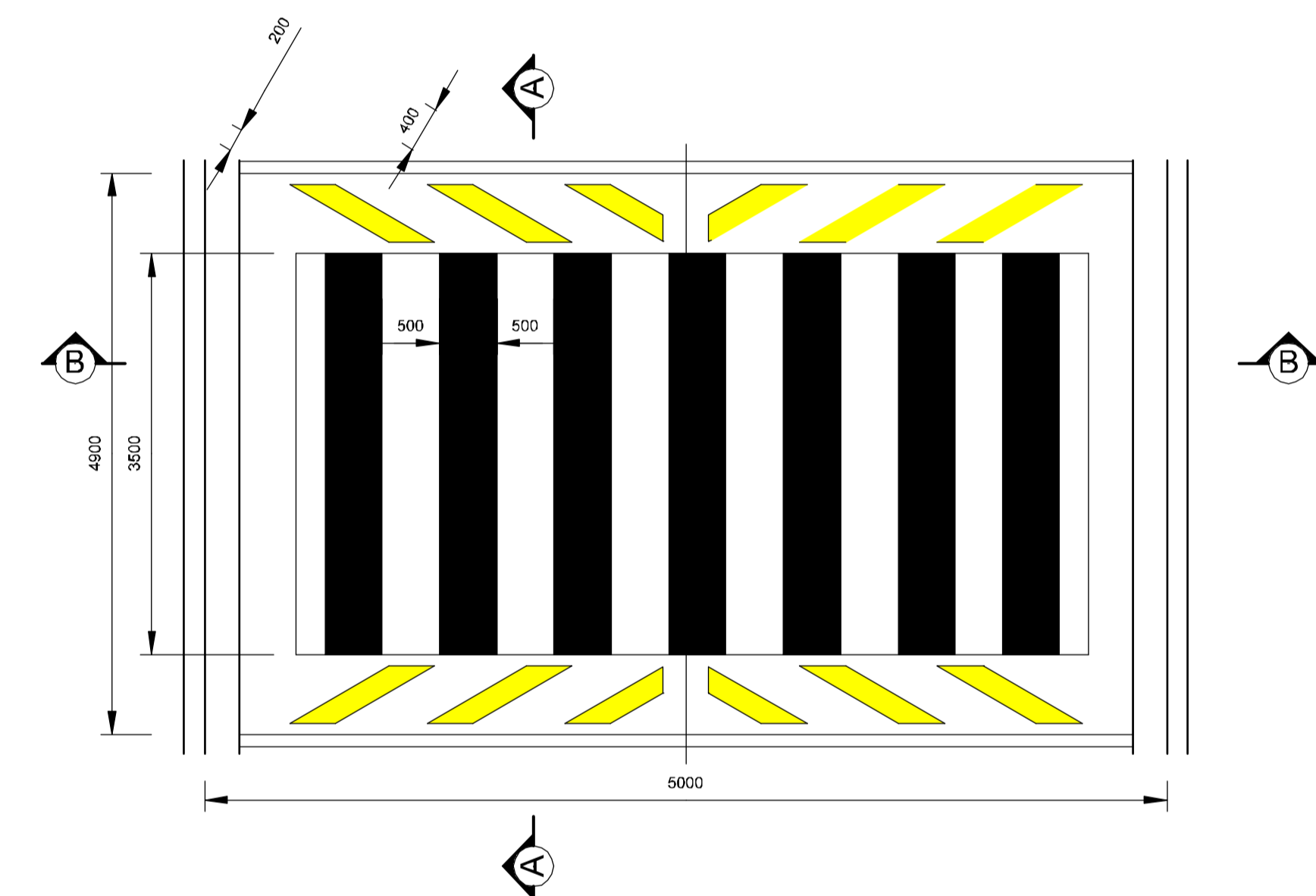
TYPICAL FRONT ELEVATION SPEEDHUMP
N.T.S



SECTION A-A
N.T.S



SECTION B-B
N.T.S



TYPICAL SPEEDTABLE WITH PEDESTRIAN CROSSING
N.T.S

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