

Longsection CH 700 to CH 1400 Horizontal Scale: 1000 Vertical Scale: 100

**FOR DESIGN PURPOSES**

DESIGNED BY: [ ]  
CHECKED BY: [ ]  
DRAWN BY: [ ]  
CHECKED BY: [ ]

**BLOUBERG MUNICIPALITY**  
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**CONTRACT NUMBER : BM02/14/15**

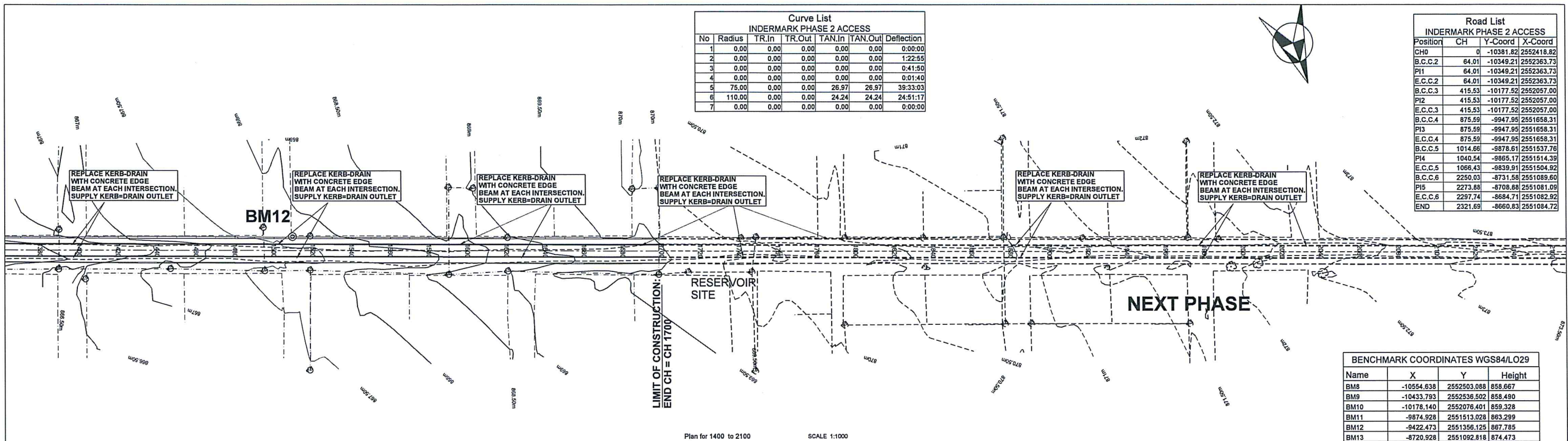
**INDERMARK INTERNAL STREETS & STORMWATER (MULTI YEAR) PHASE 5**

**LAYOUT & LONGITUDINAL SECTION : CH 700 to CH 1400**

**AS BUILT PLAN**  
For Consulting Engineer  
CONTRACT NUMBER  
BM02/14/15/PH5/03

**SHEET 2 of 4**  
SCALE  
HOR 1 : 1000  
VER 1 : 100  
DRAWING NUMBER  
BM02/14/15/PH5/03

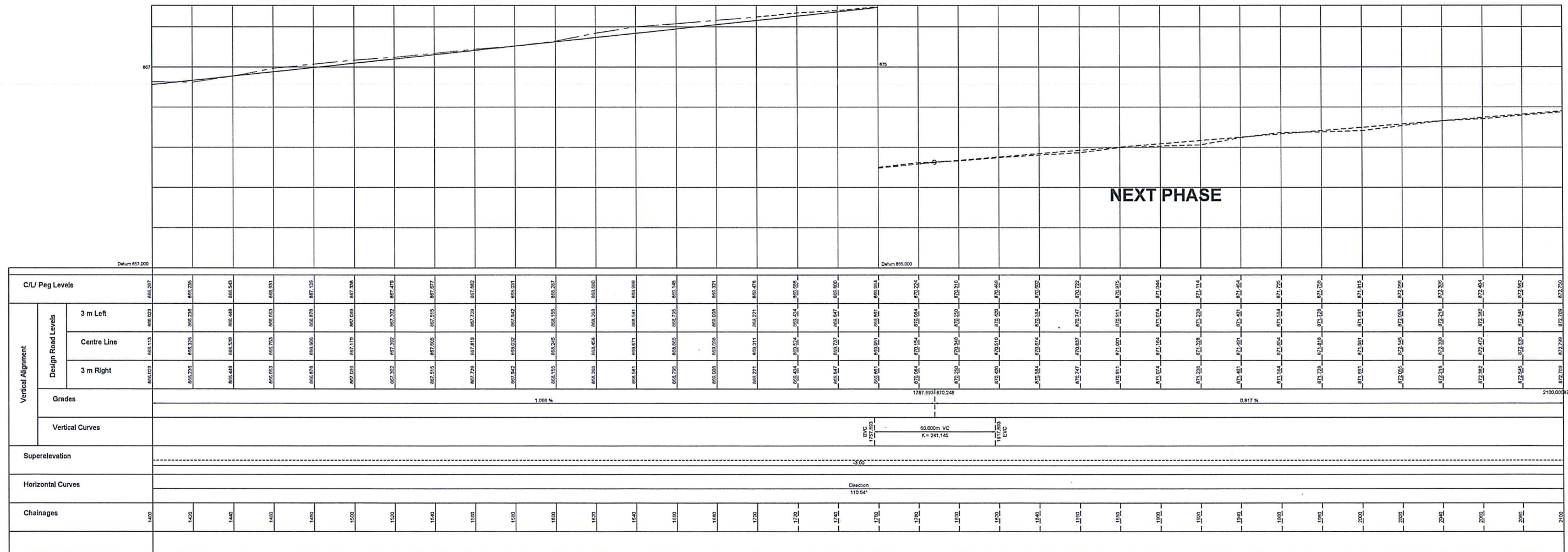




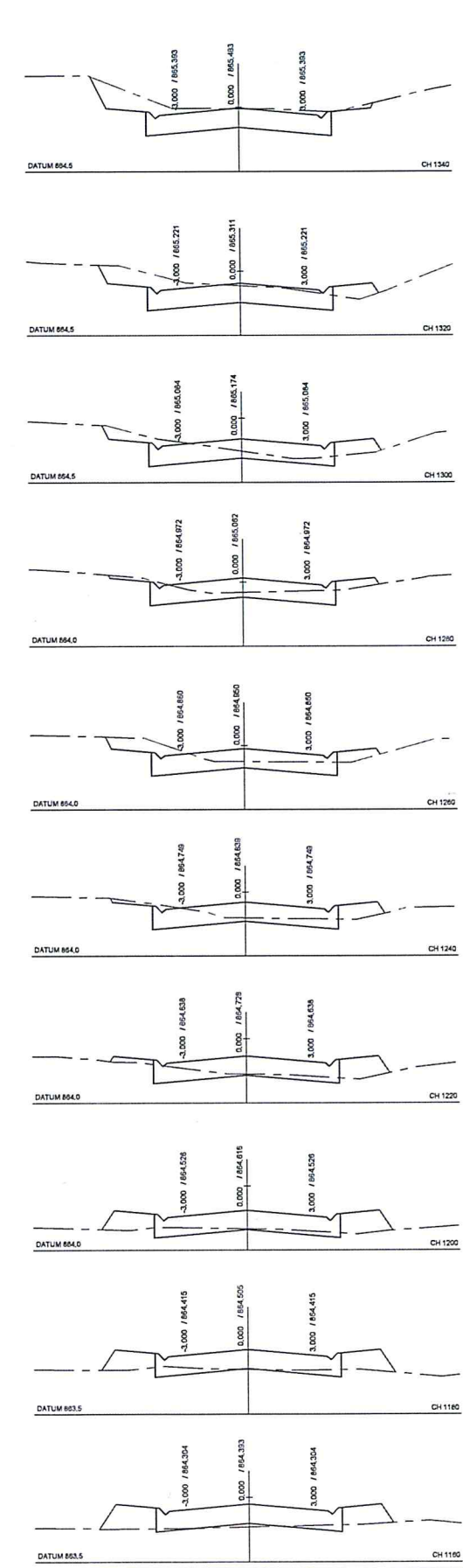
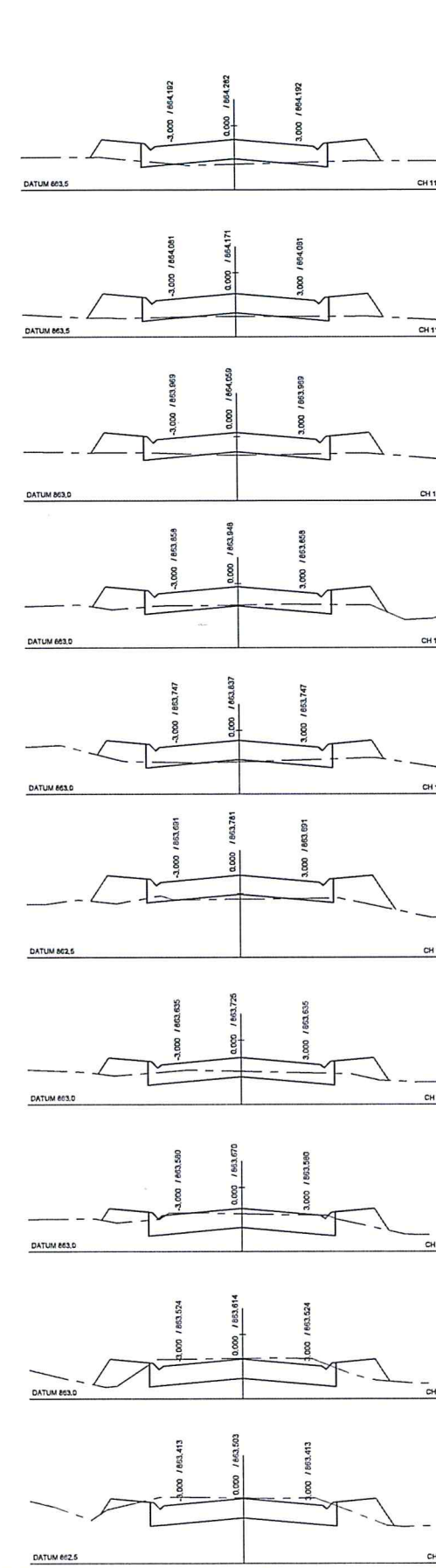
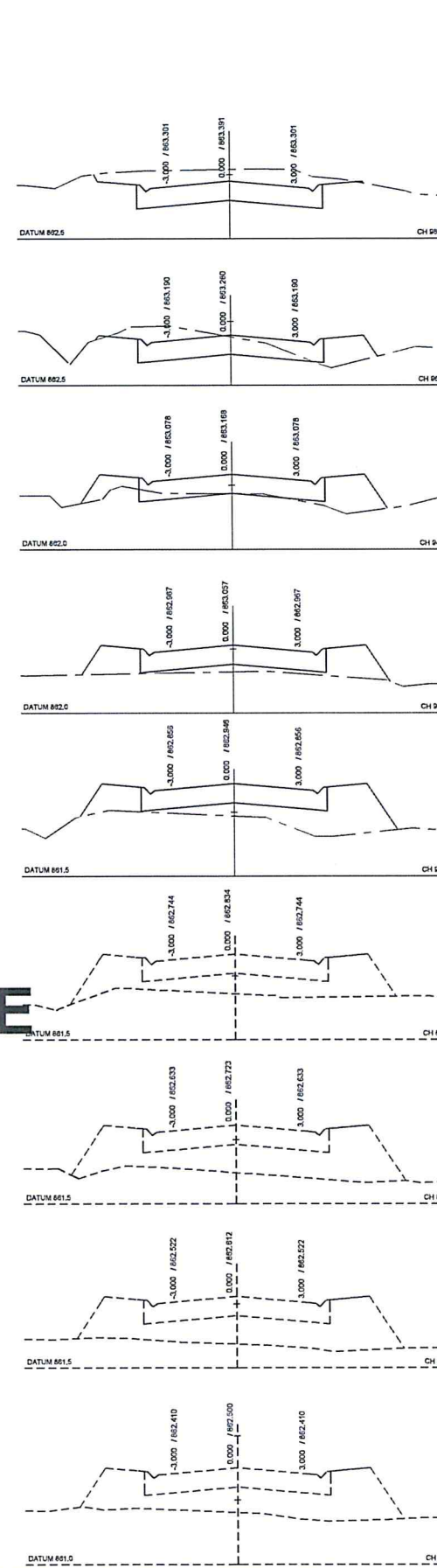
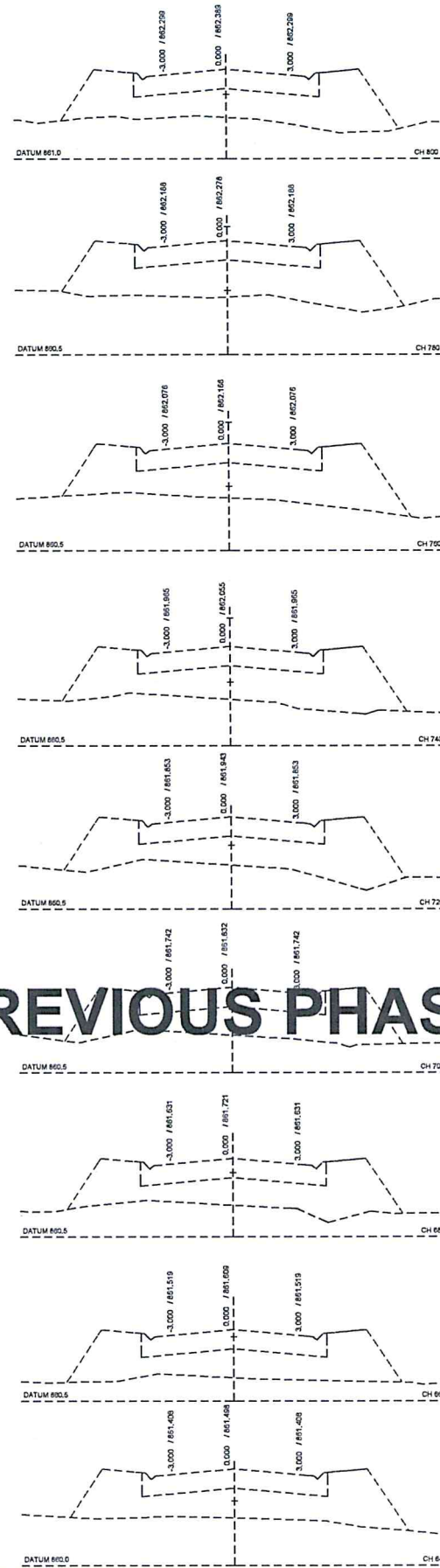
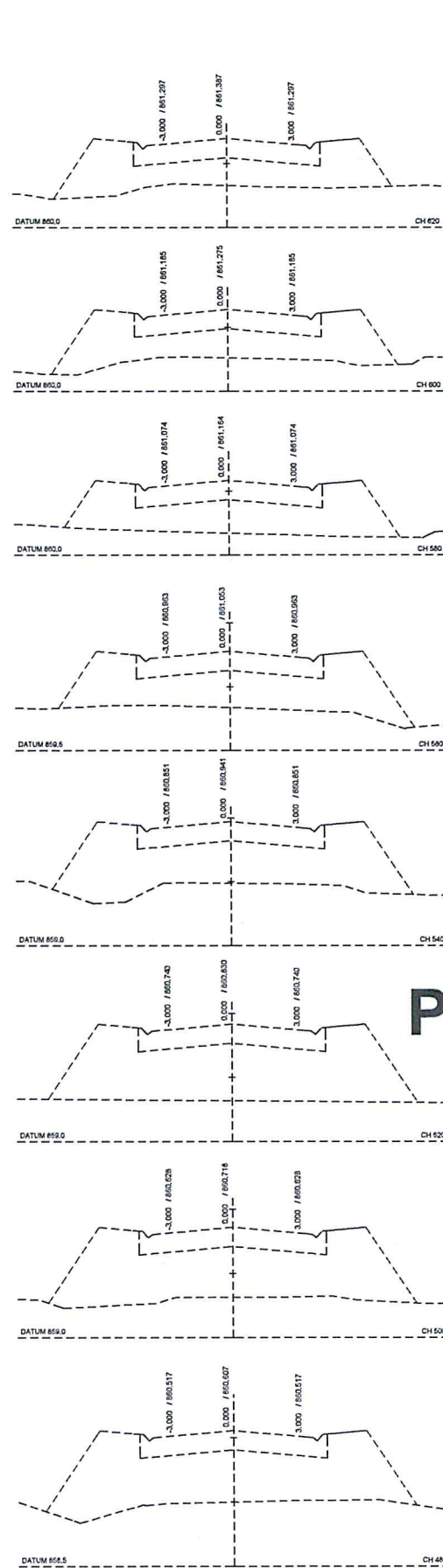
Curve List						
INDERMARK PHASE 2 ACCESS						
No	Radius	TR.In	TR.Out	TAN.In	TAN.Out	Deflection
1	0.00	0.00	0.00	0.00	0.00	0:00:00
2	0.00	0.00	0.00	0.00	0.00	1:22:55
3	0.00	0.00	0.00	0.00	0.00	0:41:50
4	0.00	0.00	0.00	0.00	0.00	0:01:40
5	75.00	0.00	0.00	26.97	26.97	39:33:03
6	110.00	0.00	0.00	24.24	24.24	24:51:17
7	0.00	0.00	0.00	0.00	0.00	0:00:00

Road List			
INDERMARK PHASE 2 ACCESS			
Position	CH	Y-Coord	X-Coord
CH0	0	-10381.82	2552418.82
B.C.C.2	64.01	-10349.21	2552363.73
P11	64.01	-10349.21	2552363.73
E.C.C.2	64.01	-10349.21	2552363.73
B.C.C.3	415.53	-10177.52	2552057.00
P12	415.53	-10177.52	2552057.00
E.C.C.3	415.53	-10177.52	2552057.00
B.C.C.4	875.59	-9947.95	2551658.31
P13	875.59	-9947.95	2551658.31
E.C.C.4	875.59	-9947.95	2551658.31
B.C.C.5	1014.66	-9878.61	2551537.76
P14	1014.66	-9878.61	2551537.76
E.C.C.5	1014.66	-9878.61	2551537.76
B.C.C.6	2250.03	-8731.58	2551089.60
P15	2273.68	-8708.88	2551081.09
E.C.C.6	2297.74	-8684.71	2551082.92
END	2321.69	-8660.83	2551084.72

BENCHMARK COORDINATES WGS84/LO29			
Name	X	Y	Height
BM8	-10554.638	2552503.088	858.667
BM9	-10433.793	2552536.502	858.480
BM10	-10178.140	2552076.401	859.328
BM11	-9874.928	2551513.028	863.299
BM12	-9422.473	2551356.125	867.785
BM13	-8720.928	2551092.818	874.473

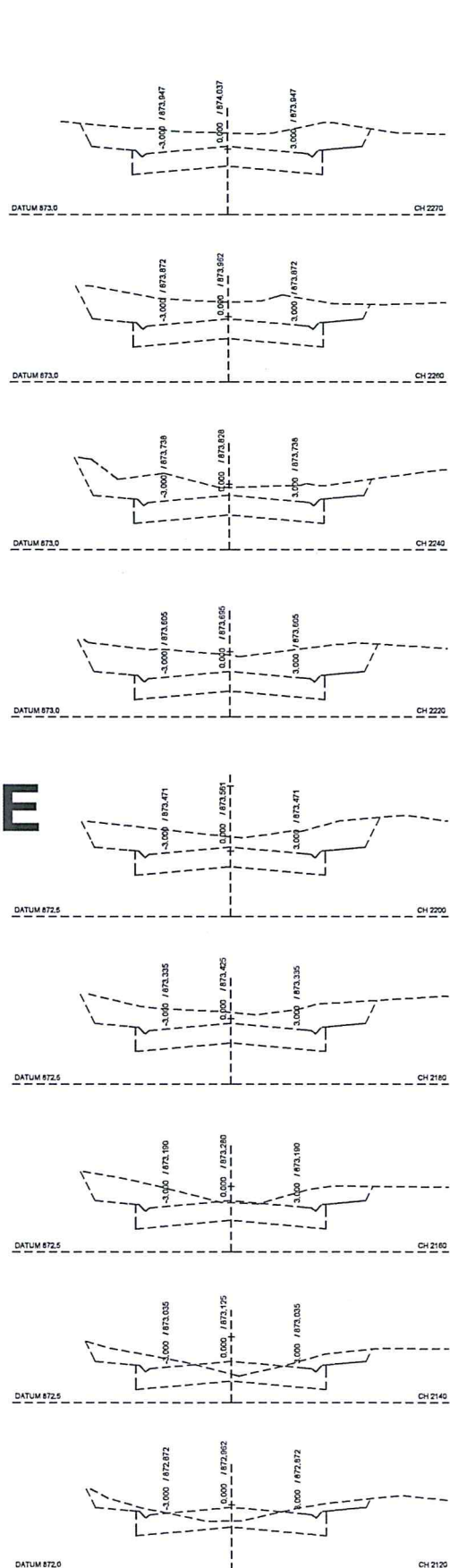
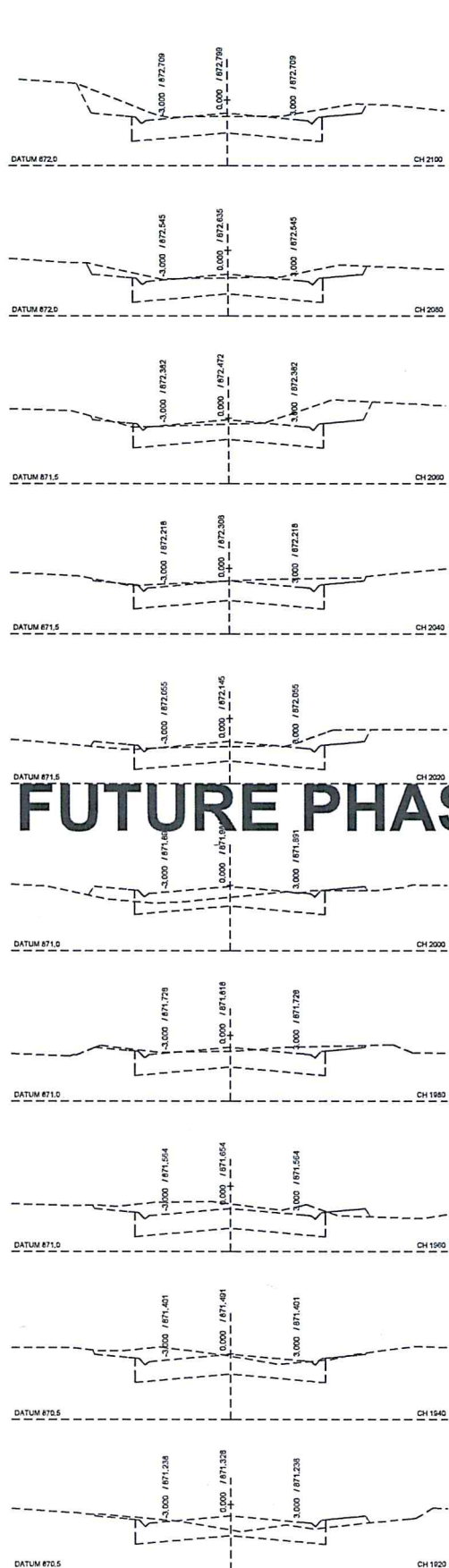
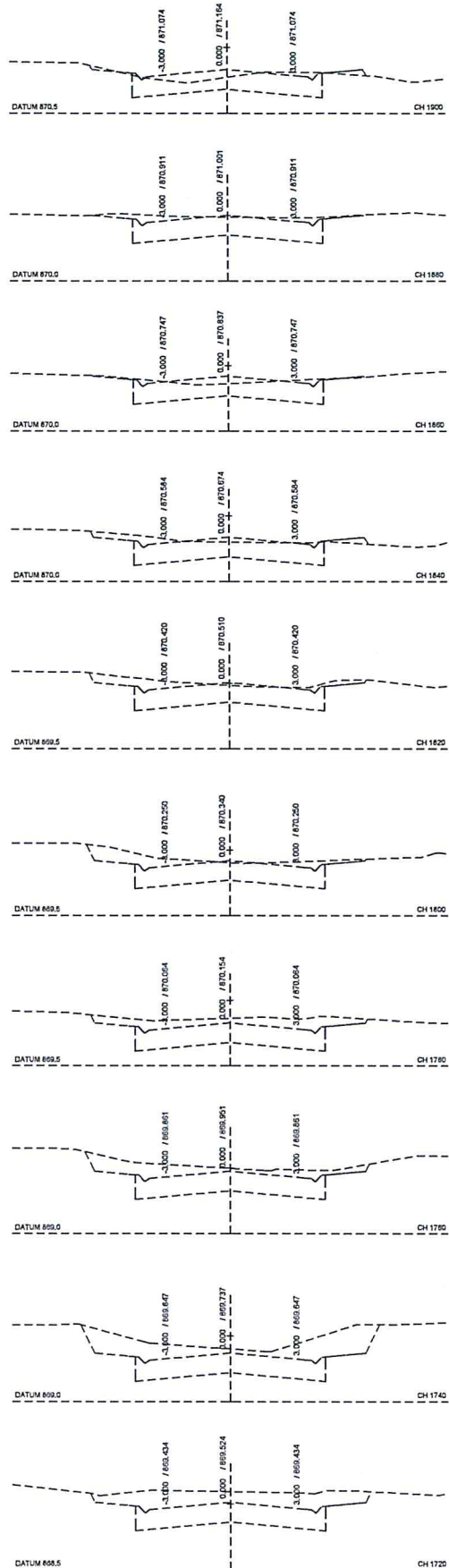
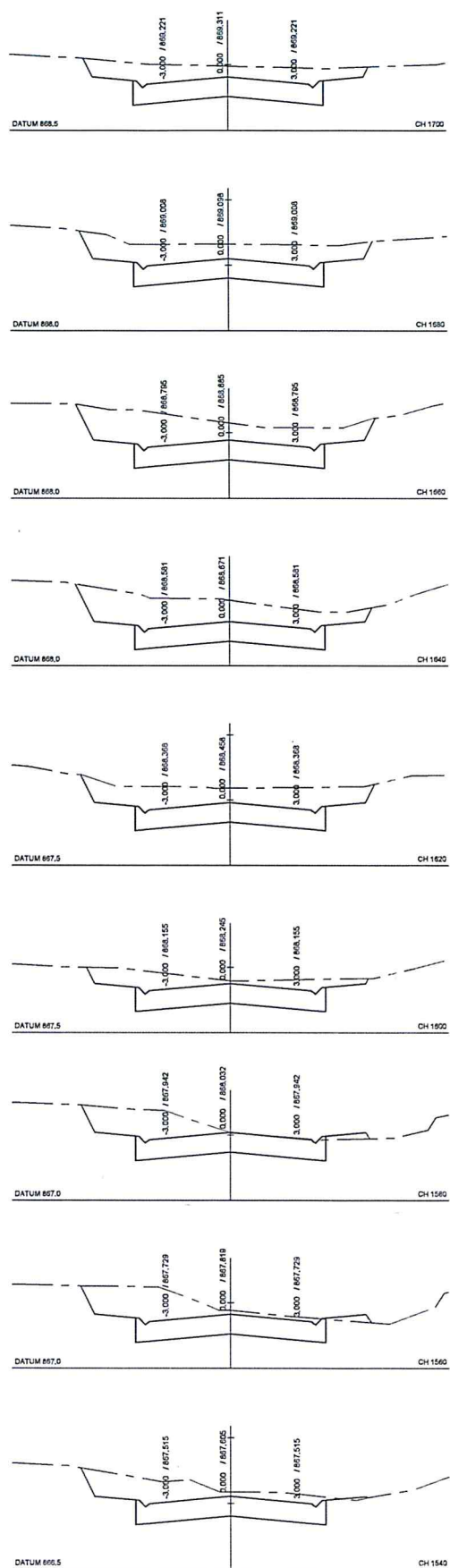
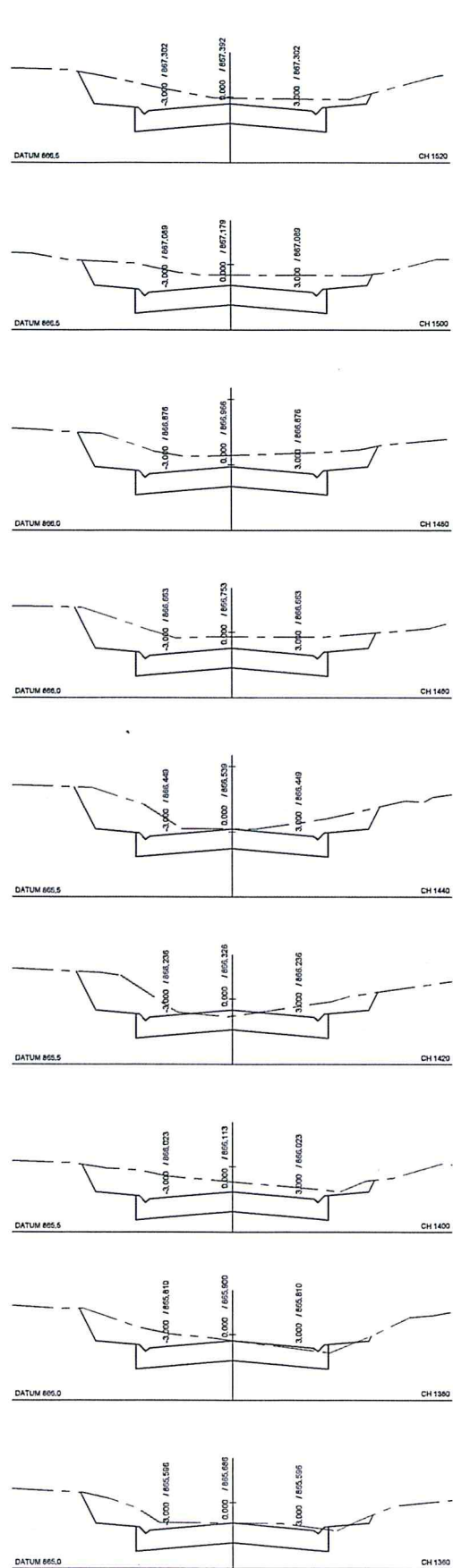






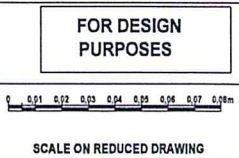
										<div>FOR DESIGN PURPOSES</div>										DESIGNED BY		BLOUBERG MUNICIPALITY		MANES CONSULTING ENGINEERS				CONTRACT NUMBER : BM02/14/15		AS BUILT PLAN		BEST 2 of 4	
																				CHECKED BY		 P.O. Box 1593 Senwabaranna 0790		 06 Isimint Park, Office No. 2 Isimint Street, Bendor Polokwane 0259 Fax: (012) 994 6035/066 661 4403 Cell: 082 900 1062 / 082 780 8858 Email: manescons@gmail.com		Client _____ DATE _____		INDERMARK INTERNAL STREETS & STORMWATER (MULTI YEAR) PHASE 5		Plan Sheet _____		SCALE HOR 1 : 150 VER 1 : 50	
										<div>0 0.01 0.02 0.03 0.04 0.05 0.06 0.07 0.08m</div>										DRAWN BY		 BLOUBERG MUNICIPALITY						ROAD CROSS SECTIONS : CH 900 - CH 1340		No. of Sheets/Drawings _____		DRAWING NUMBER BM02/14/15/PH5/07	
										SCALE ON REDUCED DRAWING										CHECKED BY										CONSULTANTS DRAWING NUMBER BM02/14/15/PH5/07		DRAWING NUMBER BM02/14/15/PH5/07	
No. DATE REVISION REVISION CONSULT DIS																																	





**FUTURE PHASE**

No	DATE	REVISION	REVISION	CONSULT	DR



DESIGNED BY	
CHECKED BY	
DRAWN BY	
CHECKED BY	

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**MCE**

Client	DATE
CONSULTING ENGINEER	DATE

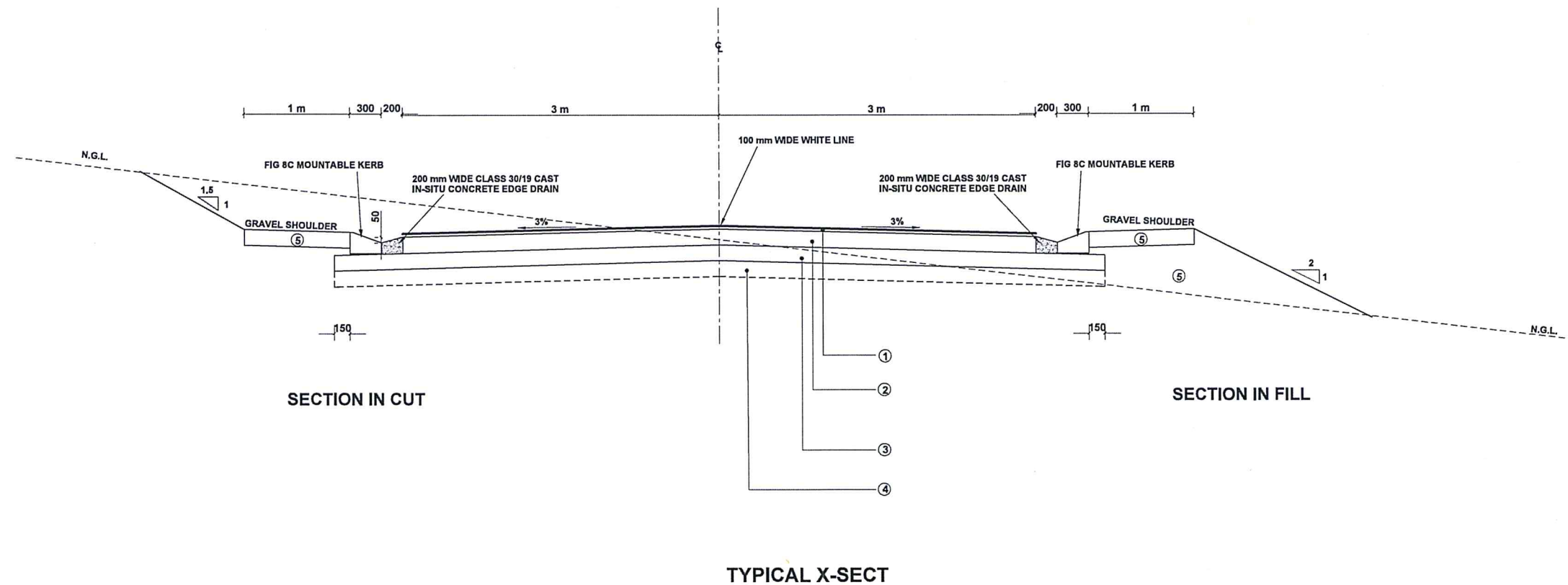
CONTRACT NUMBER : BM02/14/15

**INDERMARK INTERNAL STREETS & STORMWATER (MULTI YEAR) PHASE 5**

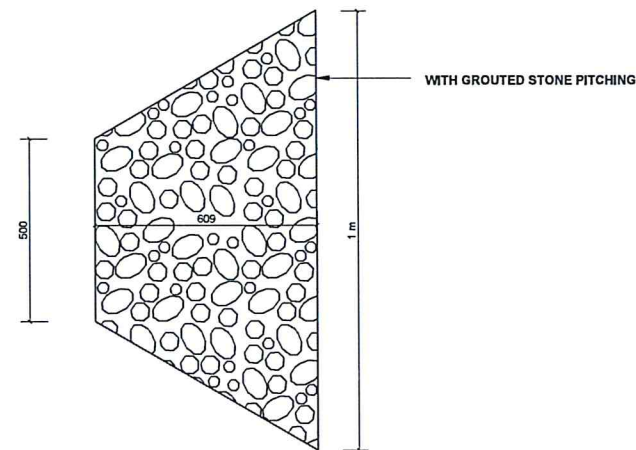
**ROAD CROSS SECTIONS :**  
CH 1360 - CH 1700

AS BUILT PLAN	SHEET 3 of 4
SCALE	HOR 1 : 150
VER 1 : 50	DRAWING NUMBER
BM02/14/15/PH5/08	BM02/14/15/PH5/08

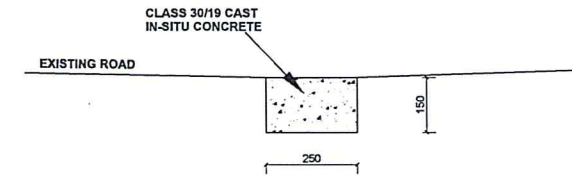
MATERIAL REQUIREMENTS				
LAYER NO.	LAYER	THICKNESS	TRH 4	DESCRIPTION
①	SURFACE TREATMENT		S	25MM THICK CONTINUOUSLY GRADED HOT-MIX ASPHALT USING 60/70 PENETRATION GRADE BITUMEN.
②	BASE	150	C3	150MM THICK C3 CEMENT STABILIZED GRAVEL LAYER COMPACTED TO 98% OF MODIFIED AASHTO DENSITY, WITH MINIMUM UNCONFINED COMPRESSIVE STRENGTH, UCS = 1.5 MPa AT 100% MODIFIED AASHTO AND WET-DRY DURABILITY LOSS < 20% AFTER 12 CYCLES, C3;
③	SUB-BASE	150	C4	150MM THICK NATURAL GRAVEL COMPACTED TO 95% OF MODIFIED AASHTO DENSITY, (G6).
④	ROADBED	150		RIP AND RE-COMPACT 150MM THICK IN-SITU GRAVEL COMPACTED TO 93% OF MODIFIED AASHTO DENSITY, WITH MINIMUM CBR = 7 AT 93% OF MODIFIED AASHTO DENSITY (G8).
⑤	FILL & GRAVEL SHOULDER	150 LAYERS	G7	NATURAL GRAVEL COMPACTED TO 93% OF MODIFIED AASHTO DENSITY

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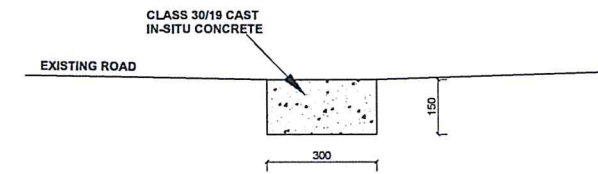




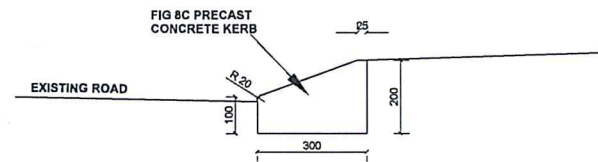
**OUTLET STRUCTURE  
KERB-DRAIN**  
SCALE 1 : 10



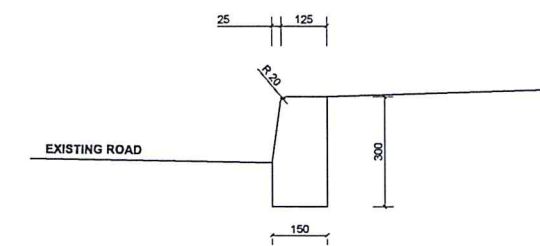
**DETAIL OF EDGE BEAM AT END OF ROAD**  
SCALE 1 : 10



**DETAIL OF EDGE BEAM AT SIDE JUNCTIONS  
(IN LINE WITH FIG 8C KERBS)**  
SCALE 1 : 10

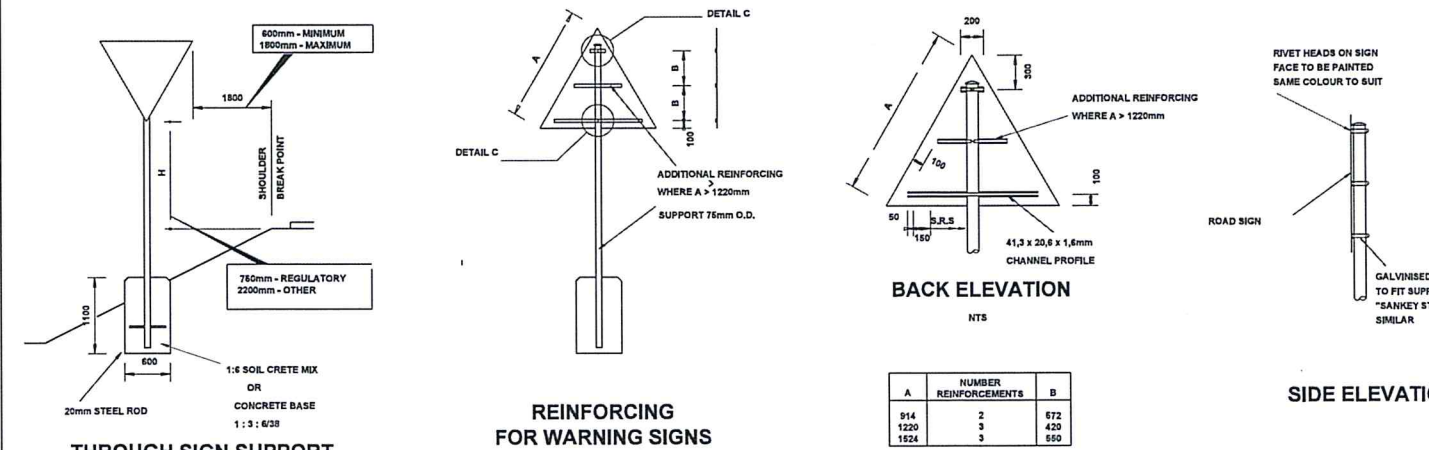
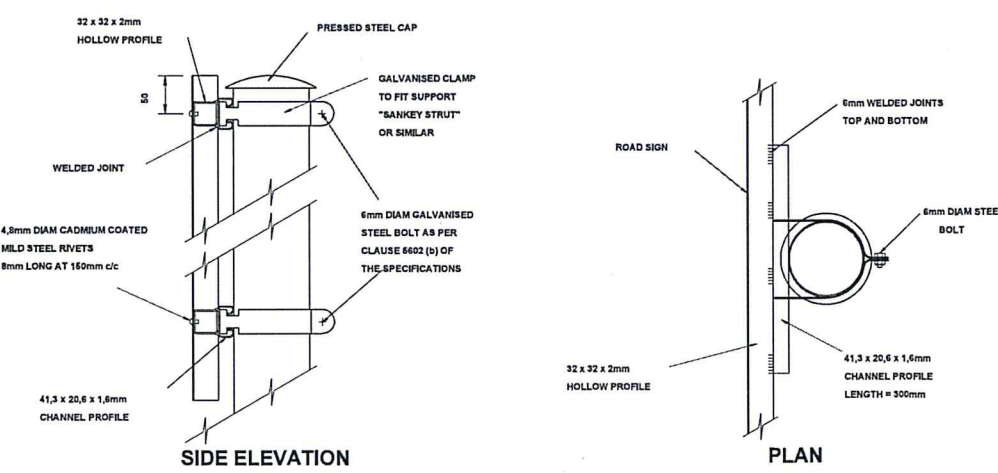
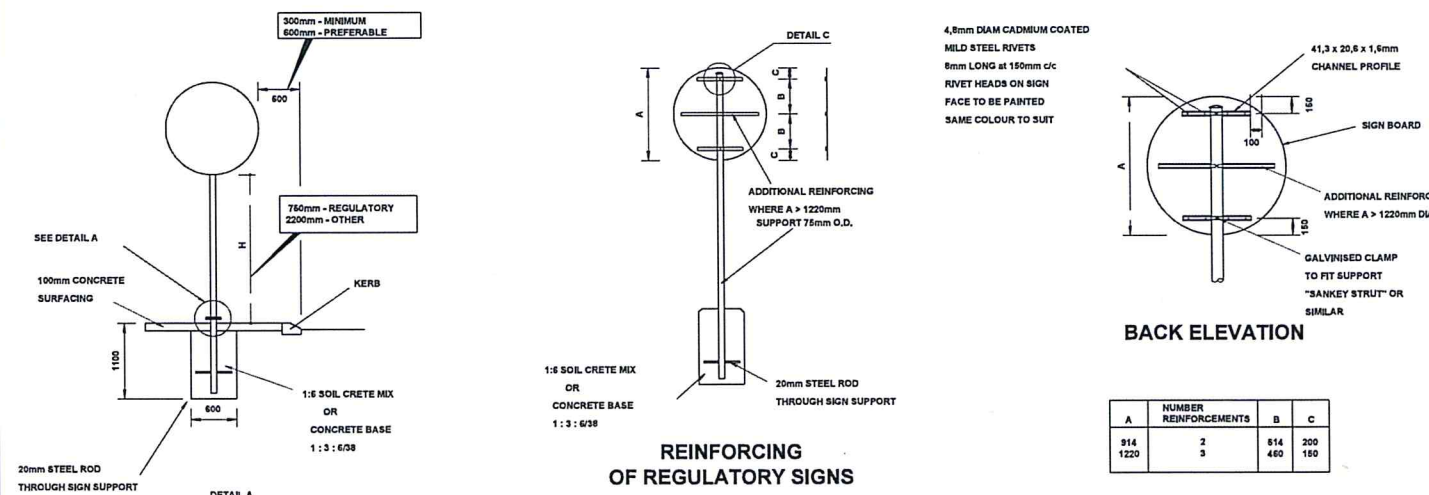
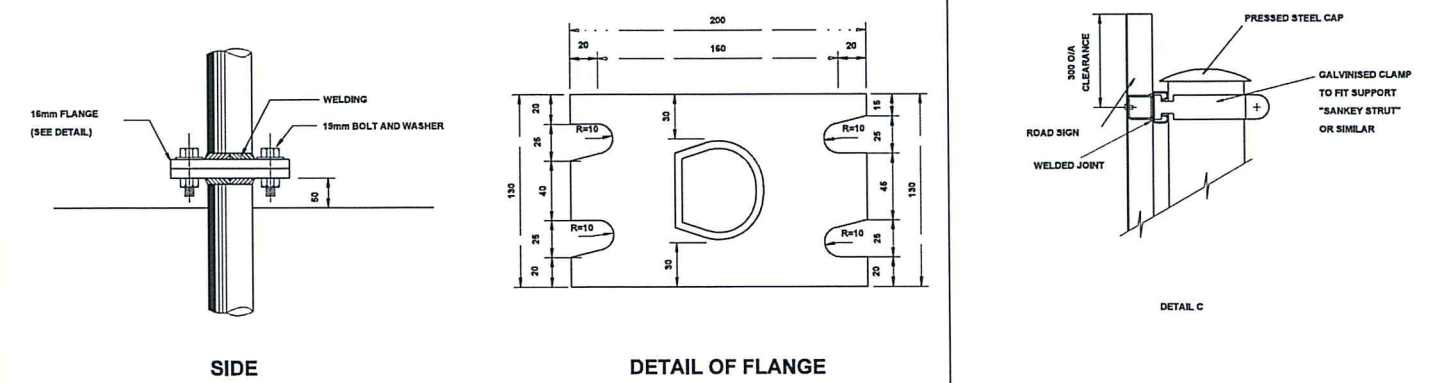


**DETAIL OF FIG 8C KERB**  
SCALE 1 : 10



**DETAIL OF FIG 3 VERTICAL KERB AT BELLMOUTH**  
SCALE 1 : 10

						<div>FOR DESIGN PURPOSES</div>		DESIGNED BY	<div>BLOUBERG MUNICIPALITY</div>		<div>MANES CONSULTING ENGINEERS</div>		CONTRACT NUMBER : BM02/14/15		AS BUILT PLAN	SHEET 1 OF 1
								CHECKED BY	<div><div>P.O. Box 1593 Senwabaranwa 0790</div><div>Tel: (015) 505 7100 e-mail : info@blouberg.gov.za</div></div>		<div><div>05 Isimini Park, Office No. 2 Isimini Street, Bendor Polokwane 0699</div><div>Fax: (012) 994 6035/006 661 4403 Cell: 092 900 1062 / 092 780 8660 Email: manescon@gmail.com</div></div>		INDERMARK INTERNAL STREETS & STORMWATER (MULTI YEAR) PHASE 5		For Client	
								DRAWN BY	<div>BLOUBERG MUNICIPALITY</div>				V-DRAIN, KERBS, EDGE BEAM AND CAUSEWAY DETAIL		For Consulting Engineer	
						<div>0 0.01 0.02 0.03 0.04 0.05 0.06 0.07 0.07m</div>		CHECKED BY	<div>BLOUBERG MUNICIPALITY</div>		<div></div>				CONSULTANTS DRAWING NUMBER BM02/14/15/PH5/11	SCALE AS SHOWN DRAWING NUMBER BM02/14/15/PH5/11
No	DATE	REVISION	REVISION	CONSULT	DIR	SCALE ON REDUCED DRAWING										

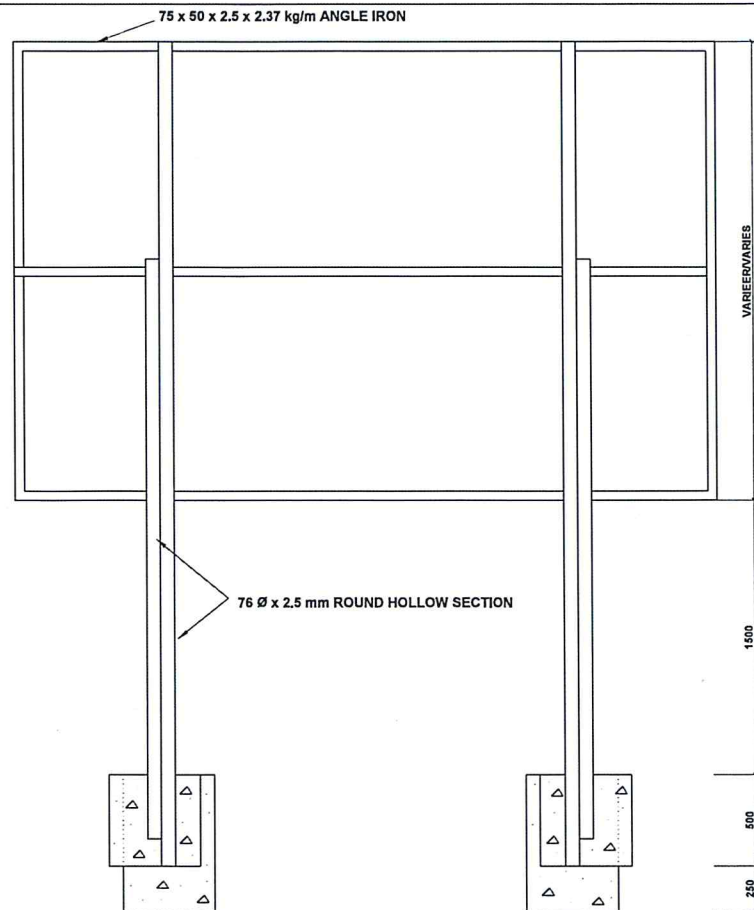


A	NUMBER REINFORCEMENTS	B	C
914	2	614	200
1220	3	460	150

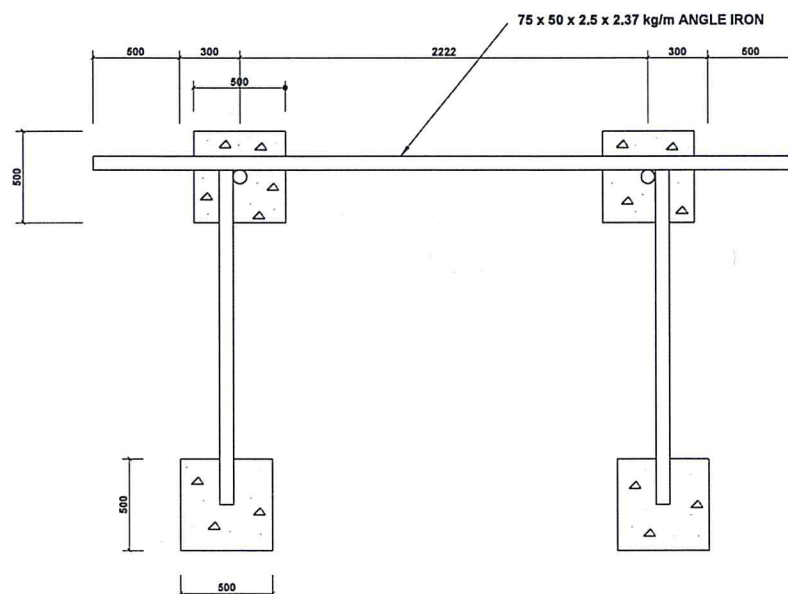
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1220	3	420
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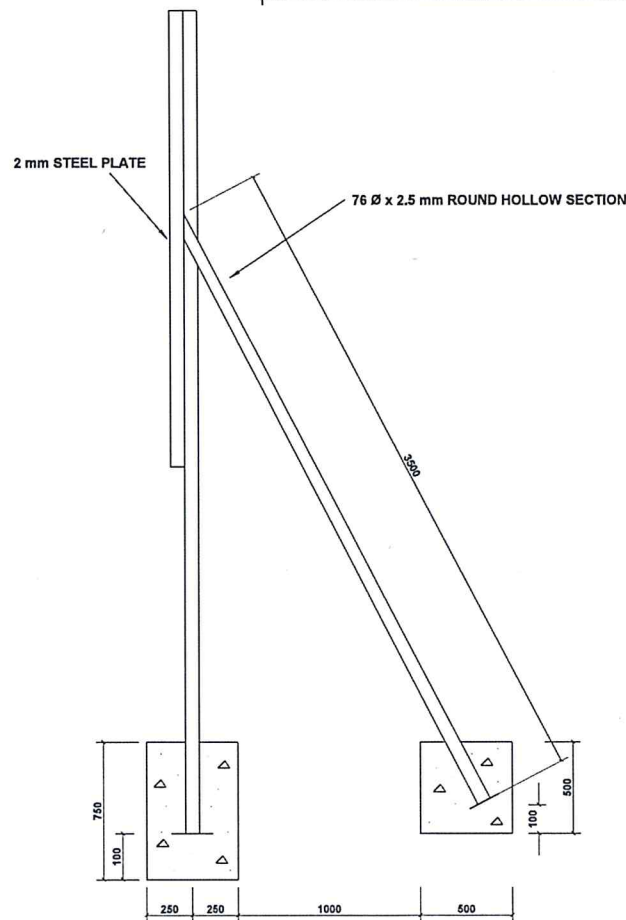




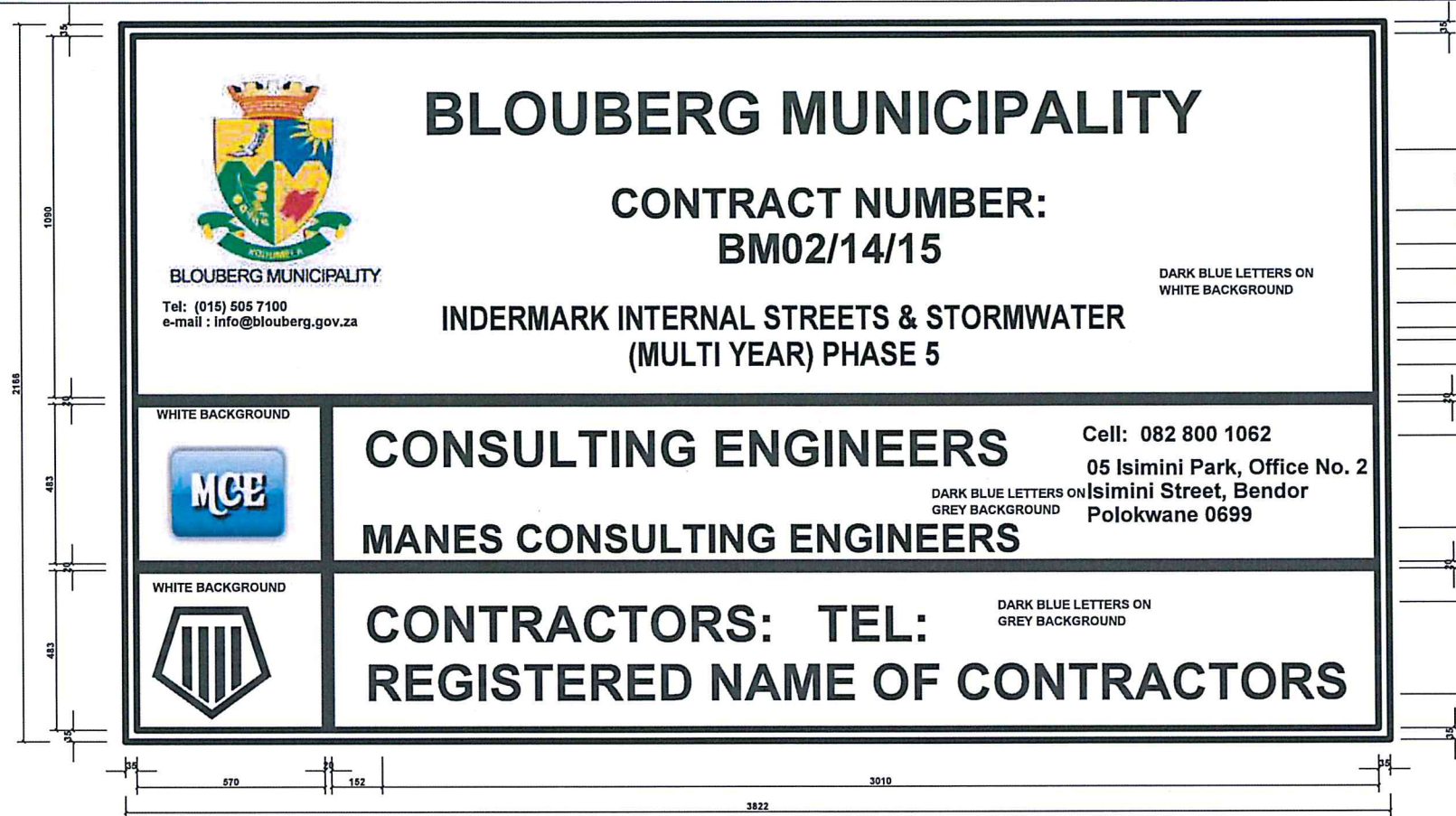
BACK ELEVATION  
SCALE 1 : 10



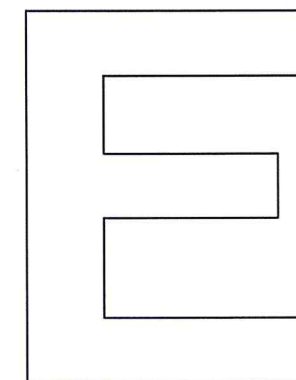
TOP ELEVATION  
SCALE 1 : 10



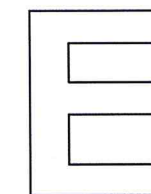
SIDE ELEVATION  
SCALE 1 : 10



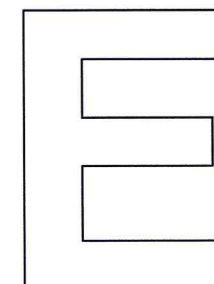
SIGNBOARD  
SCALE 1:10



HELvetica MEDIUM 100mm WHITE CAPITAL AND SMALL LETTERS MUST BE USED FOR PROJECT AND OWNERS NAME.



HELvetica MEDIUM 100mm WHITE CAPITAL AND SMALL LETTERS MUST BE USED FOR PROJECT AND OWNERS NAME.



HELvetica MEDIUM 100mm WHITE CAPITAL AND SMALL LETTERS MUST BE USED FOR PROJECT AND OWNERS NAME.

#### RULES

1. Typeface to be used shall be helvetica medium.
2. Size of lettering and dimensions are indicated on the diagram and shall be strictly adhered to.
3. Height of the board depends on number of professional services displayed. Note all professional services are to be shown.
4. Project name and owner shall be white lettering on middle blue background surrounding border shall be in middle blue.
5. Professional crests and company names shall be in black on white.
6. The board shall conform to the diagram subject to rule 4.

NOTA: Paint colours are based on plascon-evans. White v10 : Tequila v10 ("Velvagio" polyurethane velvet enamel) black ref. 266, middle blue ref. 290 (acrylic road sign paints)

FOR DESIGN PURPOSES				DESIGNED BY		BLOUBERG MUNICIPALITY	MANES CONSULTING ENGINEERS	CONTRACT NUMBER : BM02/14/15		AS BUILT PLAN	SHEET 1 OF 1
CHECKED BY				CHECKED BY		P.O. Box 1593 Senwabaranwa 0790	05 Isimini Park, Office No. 2 Isimini Street, Bendor Polokwane 0699	INDERMARK INTERNAL STREETS & STORMWATER (MULTI YEAR) PHASE 5		Rev. 01	
DRAWN BY				DRAWN BY		Tel: (015) 505 7100 e-mail : info@blouberg.gov.za	Fax: (012) 594 6035/086 661 4403 Cell: 082 800 1062 / 082 780 8658 Email: manescons@gmail.com	CONTRACT NAME BOARD		For Drawing Number	SCALE 1 : 2 500
CHECKED BY				CHECKED BY						CONSULTANTS DRAWING NUMBER BM02/14/15/PH5/13	DRAWING NUMBER BM02/14/15/PH5/13
No	DATE	REVISION	REVISION	CONSULT	DIR	SCALE ON REDUCED DRAWING		Client		DATE	
								CONSULTING ENGINEER		DATE	