



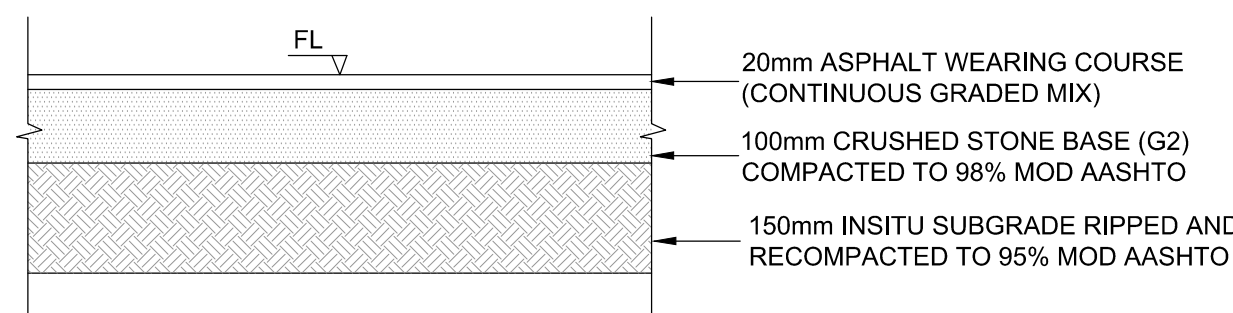
NOTES:  
1. CONCRETE STRENGTH : 30/19 AT 28 DAYS,  
2. COVER TO REINFORCEMENT ; 50mm  
3. CEMENT PLASTER SHALL CONSIST OF 1 PART  
HIGH ALUMINA CEMENT TO 3 PARTS SAND



Diagram illustrating the cross-section of a road structure, showing layers from top to bottom:

- 30mm ASPHALT WEARING COURSE
- 125mm CRUSHED STONE BASE (G2) COMPACTED TO 98% MOD AASHTO
- 150mm GRAVEL SUBBASE (G5) COMPACTED TO 95% MOD AASHTO
- 150mm UPPER SELECTED LAYER (G7) COMPACTED TO 95% MOD AASHTO
- 150mm LOWER SELECTED LAYER (G7) COMPACTED TO 95% MOD AASHTO
- 150mm INSITU SUBGRADE SCARIFIED AND RECOMPACTED TO 95% MOD AASHTO

SCALE 1:10



SCALE 1:10



Diagram illustrating the dimensions of a Half Channel Sampling Manhole with Bench Sides and Cast Iron Cover. The manhole is shown in cross-section, with a total length of 3600mm. The width of the manhole is 500mm, and the depth is 500mm. The cover is 225mm x 225mm. The manhole is labeled "HALF CHANNEL SAMPLING MANHOLE WITH BENCHED SIDES AND CAST IRON COVER 225mmX225mm (SAND / OIL / GREASE TRAP ONLY)".



Figure 1: Schematic diagram of the test specimen. The diagram shows a horizontal bar with various dimensions. From left to right, the segments are: a 100mm end section, a 230mm section, a 915mm central section, a 115mm section, a 1080mm section, another 115mm section, another 915mm section, another 230mm section, and a 100mm end section. A total dimension line above the bar indicates a length of 3600mm.

### THREE CHAMBER SAND / OIL / GREASE TRAP

**SCALE 1:25**



100 TYPE 2A SOLID PRECAST  
MANHOLE COVER AND FRAME.

ST. GOBAIN TYPE 2880  
HEAVY DUTY CAST IRON  
GRATE AND FRAME.

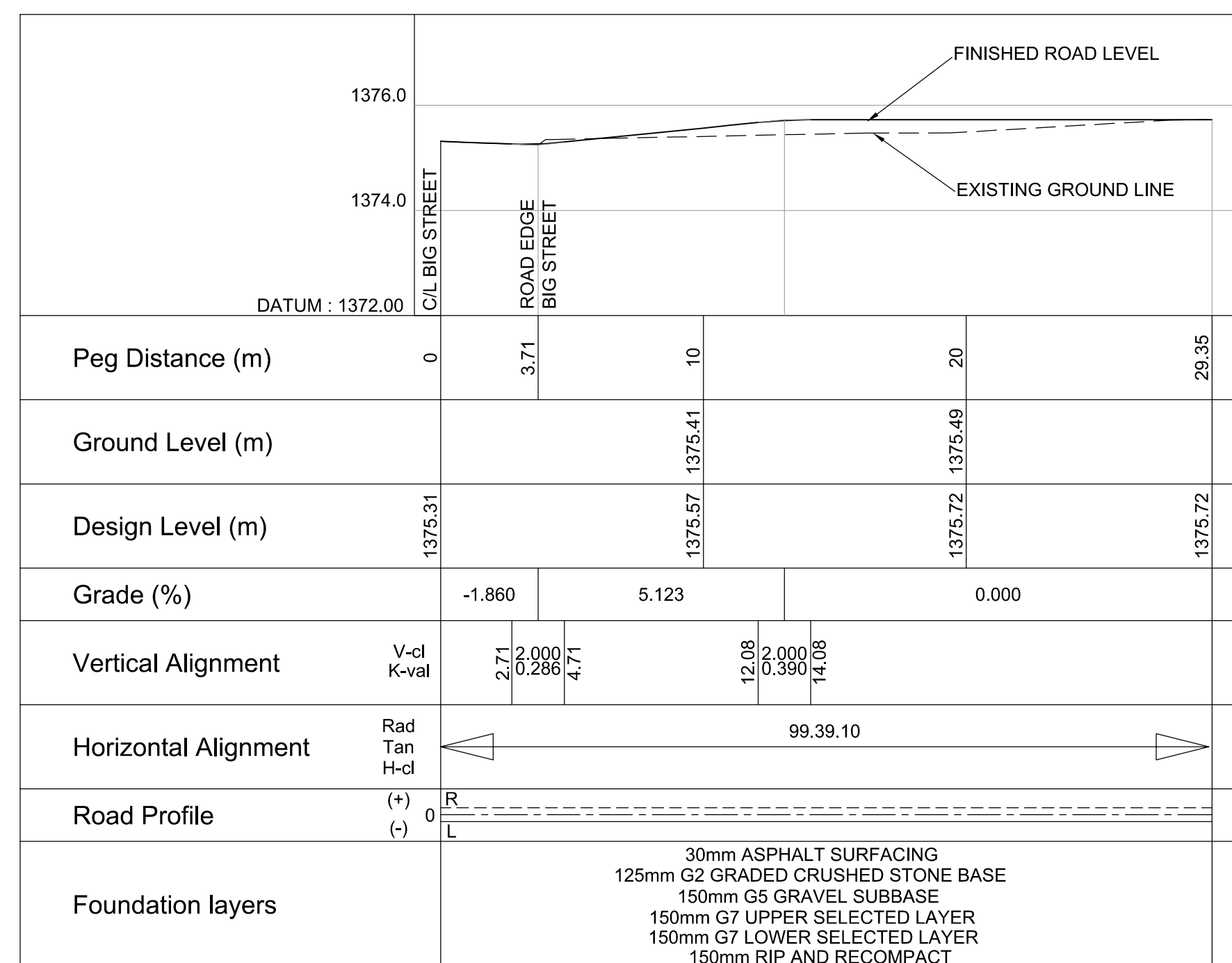


## SURFACE ATTENUATION MANHOLE DETAILS

SCALE 1 - 25

TABLE ONE: CONTROLS FOR ATTENUATION MANHOLES

ATTENUATION AREA	MANHOLE NO.	COVER LEVEL (CL)	INVERT LEVEL 1 (IL1)	INTERNAL PIPE DIA	INVERT LEVEL 2 (IL2)	DISCHARGE Q (m³ /s)	OUTLET PIPE DIA.
1	MH4	1375.945	1375.930	1100	1374.880	0.030	2000
2	MH10	1375.216	1374.100	1100	1374.047	0.030	2500

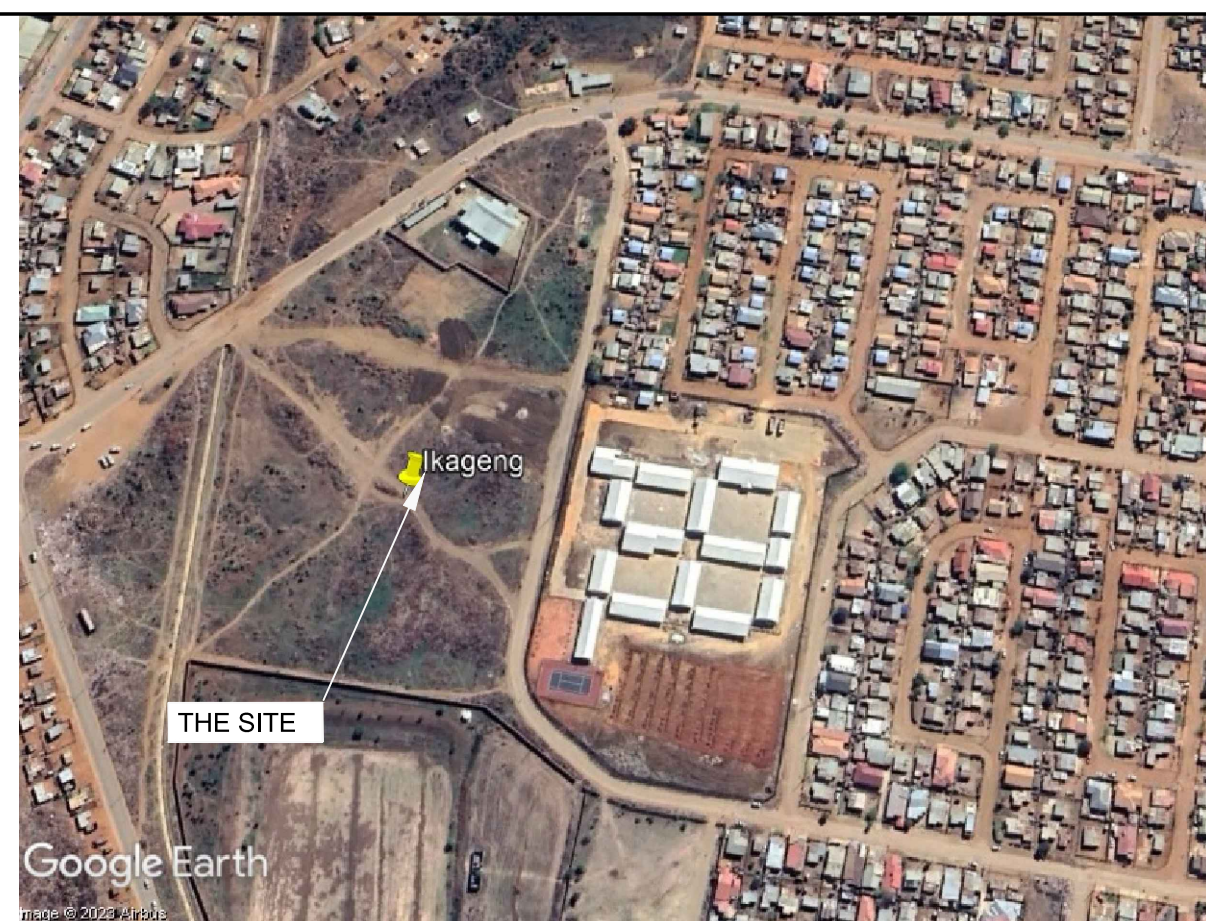


### ACCESS DRIVEWAY LONGITUDINAL SECTION

SCALE : Vert 1 : 100  
Hor 1 : 200

HORIZONTAL ALIGNMENT DATA							
P/No	Name	Y	X	Radius	Tr. In	Tr. Out	Defl.
1	P11	-1624.171	2958772.795	-	-	-	-
2	P12	-1595.357	2958767.894	-	-	-	-

VERTICAL ALIGNMENT DATA					
Peg dist.	Elev.	BVc	EVc	CL	Grade(%)
0.000	1375,314	0.000	0.000	0.00	-1.860
3.710	1375,245	2.710	2.000	2.00	5.123
13.080	1375,725	12.080	14.080	2.00	0.000
29.350	1375,725	29.350	29.350	0.00	




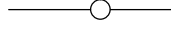
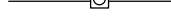












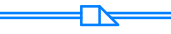
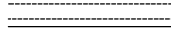




### LOCALITY PLAN




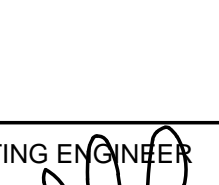
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## EARTHWORKS NOTES

1. ANY EX. CIVL. ENG. INFRASTRUCTURE DAMAGED DURING CONSTRUCTION PERIOD IS TO BE REPAIRED TO THE ENGINEERS SATISFACTION.
2. SEVER MANHOLES UNDER VEHICULAR TRAFFIC TO HAVE HEAVY DUTY TYPE 2A CAST IRON COVERS AND FRAMES.
3. STORM WATER DRAIN MANHOLES IN ROADWAYS UNDER VEHICULAR TRAFFIC TO HAVE HEAVY DUTY 450mmx300mmx95kg (Type 2B98) CAST IRON COVERS AND FRAMES.
4. ALL DRAINING EGDS IN ROADWAYS TO HAVE DUCTILE IRON COVERS AND FRAMES CAST IN 300x300x150mm DEEP MASS CONCRETE (25MPa)
5. THIS DRAWING TO BE READ IN CONJUNCTION WITH OTHER DISCIPLINES DRAWINGS. CIVIL ENGINEER RESPONSIBLE FOR TRAFFIC LOADS, STRUCTURAL ENGINEER RESPONSIBLE FOR MECHANICAL ENGINEER RESPONSIBLE FOR DESIGN SPECIFICATION OF WATERMAINS AND WATER TANKS.

— KEY —

CAADSTRAL	
EX SEWERS AND M.H.'S	
EX STORMWATER DRAINS AND M.H.'S	
EX WATERMAINS AND VALVES	
EX OVERHEAD ELECTRICAL POWERLINES	
EX UNDERGROUND ELECTRICITY CABLE	
EXISTING DFA OPEN ACCESS FIBRE OPTIC LINE	
EXISTING TELKOM FIBRE OPTIC LINE	
EX WATERCOURSE	
SEEPAGE	
1:100 YR FLOODLINE	
SERVITUDE	
PROPERTY BOUNDARY	
PROPOSED SEWERS AND M.H.'S	
PROPOSED STORMWATER DRAINS AND M.H.'S	
PROPOSED SUBSOIL DRAIN	
PROPOSED STORMWATER KERB INLET	
PROPOSED STORMWATER CHANNEL	
PROPOSED WATER FILL LINE	
PROPOSED DOMESTIC WATER (BY OTHERS)	
PROPOSED FIREMAIN (BY OTHERS)	

DRAWING REFERENCE			
TITLE			
TGC/01	CONCRETE RING MANHOLES		
TGC/02	SEWER MANHOLES		
TGC/03	STORMWATER BRICK MANHOLES		
TGC/04	STORMWATER INLETS		
TGC/10	WATERMANS		
<div> NORTH POINT</div>			
NOTES			
<div><div></div></div>			
G	EARTHWORKS LEVELS REVISED.	G.L	MAR 2024
F	SERVICES DETAILS REVISED AND ACCESS DRIVEWAY SECTION ADDED.	G.P	JAN 2024
E	DOMESTIC WATER MAIN UPDATED AS PER ARCHITECTS REVISED DRG. No. D3825-DW-AD-02 & D3825-MF-AD-01	G.L	NOV 2023
D	PARKING LAYERWORKS REVISED. LAYOUT UPDATED AS PER ARCHITECT LATEST SITE PLAN. DRAWING No. UKU-A-1001-SPO	G.L	OCT 2023
C	UPDATED PROPOSED SEWER & WATER SUPPLY CONNECTION POINTS. PROPOSED BOREHOLE FILL LINE TO WATER STORAGE TANK	G.P	JULY 2023
B	UPDATED AS PER ARCHITECTS REVISED DRG. No. UKU-A-1001 & 1002-SPO-REV.C	G.P	JUNE 2023
A	UPDATED AS PER ARCHITECTS REVISED DRG. No. UKU-A-1001 & 1002-SPO-REV.B	G.P	JUNE 2023
NO.	AMENDMENT	APPROVED	DATE
REVISONS			
CLIENT			
<b>SOUTH AFRICAN POLICE SERVICE</b>			
Thekwini Geocivils cc T/A <b>TGC Engineers</b> Geotechnical & Civil Engineers Waste Disposal Consultants ■ Project Managers			
Suite 6 4 The Crossport Westway Office Park Westville 3611 Telephone 265-1777		 P.O. Box 446 PAVILION 3611 Telefax 265-2727 E-mail: tgc@tgcengineers.co.za	
PROJECT			
<b>NEW SAPS IKAGENG POLICE STATION: NORTH WEST</b>			
TITLE			
<b>EARTHWORKS AND SERVICES LAYOUT</b>			
CONSULTING ENGINEER		DESIGNED : G.L	
SIGNATURE: 		DRAWN : A.N	
PR. NO.: 650381		CHECKED : G.P	
DATE: 13/06/2023		SCALE : AS SHOWN	
		DATE : MAY 2023	
		ORIGINAL SIZE: A1	
REFERENCE NO.		FIGURE NO.	REVISION
<b>51660</b>		<b>01</b>	<b>G</b>
CAD FILE: S/.....			