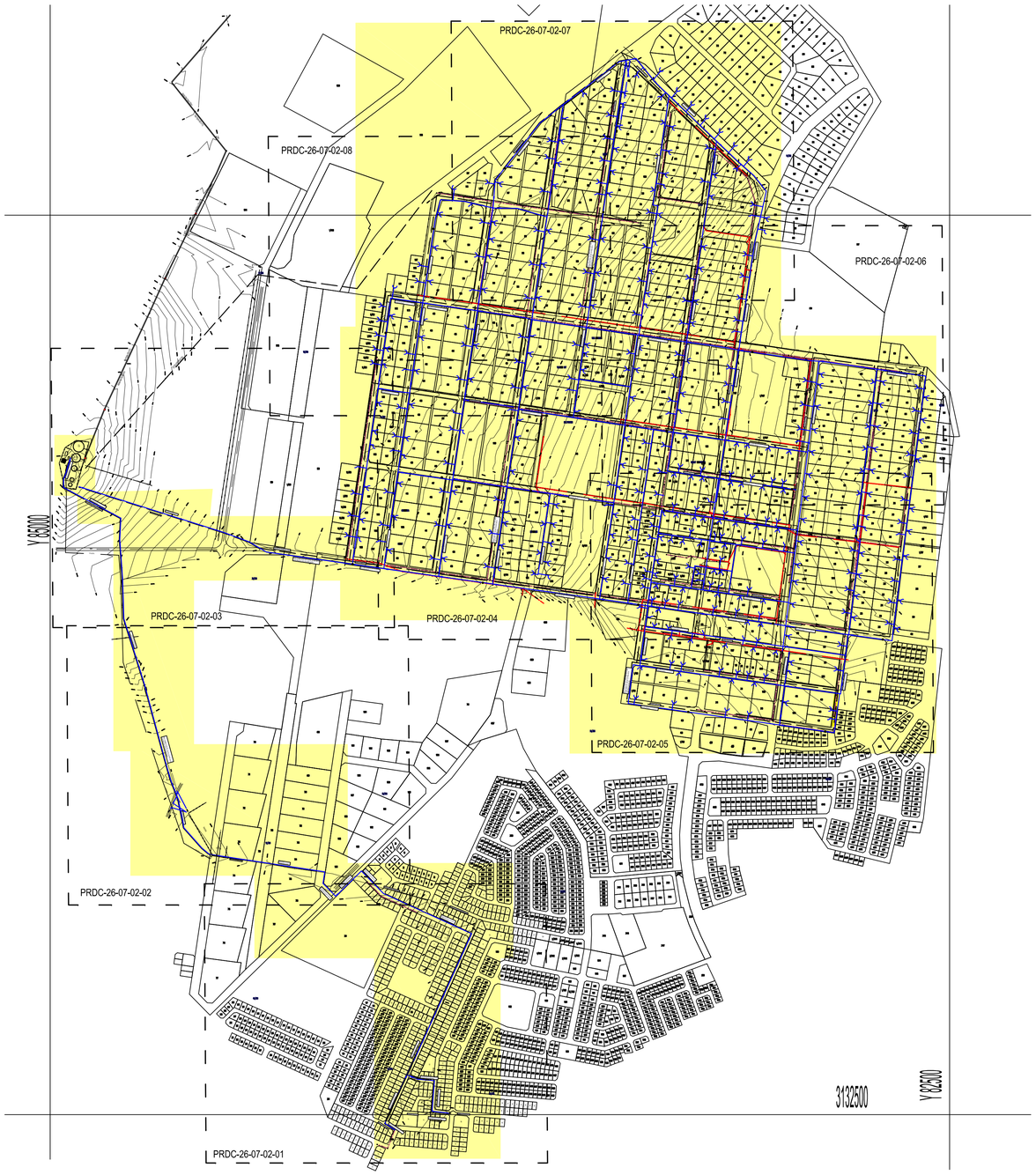
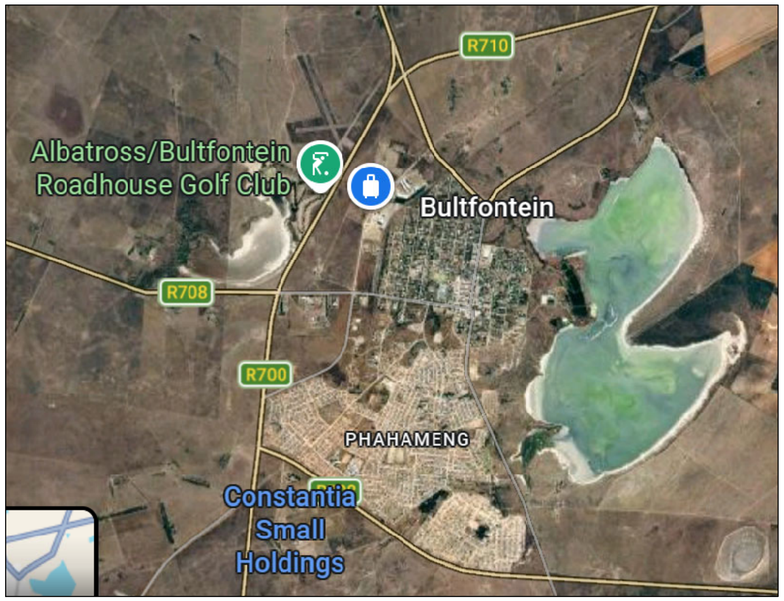


SITE DEVELOPMENT PLAN



LOCALITY PLAN

FEATURE SYMBOLS	
	- TREE
	- BENCHMARK
	- GATE
	- CABLE MANHOLE
	- SEWER MANHOLE
	- WATER VALVE
	- ELECTRIC POLE
	- STORMWATER MANHOLE
	- LIGHT POST
	- BOREHOLE
	- STANDPIPE
	- WATER METRE
	- TELKOM MH
	- RODDING EYE I MARK
	- FIRE HYDRANT
	- POWER BOX
	- SIDE DRAINAGE
	- WATER MARK
	- ISOLATION VALVE
	- SHEWER VALVE
	- AIR VALVE
	- MANHOLE
	- GRID INLET
	- SEWER MANHOLE

BENCHMARKS CO-ORDINATES LIST WGS84/27			
NAME	Y	X	ELEVATION
BM-01	78201.31	31 09 880.06	1279.456
BM-02	79328.98	31 12 757.39	1292.463
BM-03	82193.17	31 17 267.30	1316.186
BM-04	82896.62	31 19 292.31	1329.446
BM-05	83235.65	31 12 950.65	1349.170
BM-06	83583.27	31 24 649.96	1342.580
BM-07	83788.84	31 26 142.42	1346.145
BM-08	83946.76	31 28 440.84	1335.452
BM-09	84510.05	31 29 821.43	1333.377
BM-10	84723.82	31 30 272.80	1336.841
BM-11	84904.12	31 30 688.17	1342.007
BM-12	84693.35	31 31 557.27	1330.073
BM-13	84555.44	31 31 786.03	1330.078
BM-14	84215.61	31 31 830.22	1328.972
BM-15	83979.61	31 31 937.80	1331.477
BM-16	84062.15	31 32 593.68	1326.684
BM-17	84110.25	31 30 686.27	1328.583
BM-18	83764.94	31 29 896.50	1328.574
BM-19	83368.80	31 30 324.46	1319.550
BM-20	82689.92	31 30 427.68	1310.797
BM-21	83275.69	31 30 595.81	1316.721
BM-22	82928.67	31 30 884.30	1312.723
BM-23	82965.72	31 31 206.79	1314.820
BM-24	83686.43	31 31 045.73	1323.288

LIST OF COORDINATES

LIST OF DRAWINGS

PRDC-26-07-02-00	LIST OF DRAWINGS, SITE DEVELOPMENT PLAN, LOCALITY PLAN AND GENERAL NOTES
PRDC-26-07-02-01 OF 8	LAYOUT PLAN 1 OF 8
PRDC-26-07-02-02 OF 8	LAYOUT PLAN 2 OF 8
PRDC-26-07-02-03 OF 8	LAYOUT PLAN 3 OF 8
PRDC-26-07-02-04 OF 8	LAYOUT PLAN 4 OF 8
PRDC-26-07-02-05 OF 8	LAYOUT PLAN 5 OF 8
PRDC-26-07-02-06 OF 8	LAYOUT PLAN 6 OF 8
PRDC-26-07-02-07 OF 8	LAYOUT PLAN 7 OF 8
PRDC-26-07-02-08 OF 8	LAYOUT PLAN 8 OF 8
PRDC-26-07-02-09	THRUST BLOCK DETAILS
PRDC-26-07-02-10	WATER DETAILS
PRDC-26-07-02-11	BEDDING DETAILS

HDPE WATER STANDARD DETAILS

THIS NOTE COMPILES THE SANS 4427 / ISO 4427 STANDARD SPECIFICATIONS FOR HIGH-DENSITY POLYETHYLENE (HDPE) WATER RETICULATION SYSTEMS, OUTLINING STANDARD MATERIAL CONFIGURATIONS, TRENCHING REQUIREMENTS, JOINTING PRACTICES, AND STANDARD DOMESTIC CONNECTIONS.

OVERVIEW OF HDPE STANDARD ENGINEERING DETAILS

- MATERIAL CLASS & SPECIFICATIONS:
  - PE 100 GRADE RESIN: SPECIFIED FOR MUNICIPAL MAINLINES WITH A MINIMUM REQUIRED STRENGTH (MRS) OF 10.0 MPA.
  - PRESSURE CLASSES (PN): STANDARDIZED AT PN 10 (10 BAR) OR PN 16 (16 BAR) DEPENDING ON STRUCTURAL OR TRAFFIC LOADING, TYPICALLY PAIRED WITH SDR 11 OR SDR 17 DIMENSIONS.
  - VISUAL ID: SOLID BLACK PIPE WITH CO-EXTRUDED LONGITUDINAL BLUE STRIPES TO EXPLICITLY MARK PORTABLE WATER LINES.
- JOINTING & CONNECTION METHODOLOGIES:
  - BUTT-FUSION WELDING: PRIMARY THERMAL JOINTING FOR MAINLINES = 90MM OUTSIDE DIAMETER (OD) USING COMPUTERIZED LOGGING RIGS TO GUARANTEE TENSILE LINK STRENGTH.
  - ELECTROFUSION COUPLING: PREFERRED FOR SPACE-RESTRICTED UTILITY TIE-INS, REPAIRS, OR SERVICE SADDLES, MANDATING THE MECHANICAL REMOVAL OF PIPE SURFACE OXIDATION BEFORE FUSING.
  - MECHANICAL COMPRESSION FITTINGS: LIMITED TO SMALL DIAMETER DOMESTIC LOOPS (≤ 63MM OD) CONTAINING NITRILE O-RING SEALS AND ACETAL GRIP RINGS.
- TYPICAL HOUSEHOLD (ERF) CONNECTION SEQUENCE:
  1. EXTRACTION: AN ELECTROFUSION UNDER-PRESSURE TAPPING SADDLE IS CLAMPED OVER THE MUNICIPAL MAIN LINE.
  2. SERVICE FEED: A 25MM OR 32MM OD PN 16 HDPE PIPE IS DRAWN THROUGH A SLEEVE UNDERNEATH ROAD RESERVES.
  3. ISOLATION: A HEAVY-DUTY LOCKABLE BRASS STOPCOCK INSIDE A PROTECTIVE PLASTIC SURFACE BOX CONTROLS BOUNDARY CUTOFF.
  4. METERING: A SANS-APPROVED ROTARY PISTON FLOW METER TRACKING HOUSEHOLD USAGE.
- CIVIL INFRASTRUCTURE PROFILES:
  - TRENCHING CONTROLS: STRICT MINIMUM INSTALLATION COVER DEPTH OF 900MM IN ROAD TRACKS AND 750MM INSIDE NON-TRAFFICABLE SIDEWALKS.
  - CRADLE BEDDING: A 100MM PROTECTIVE BEDDING LAYER COMPOSED OF FINE GRANULAR SAND (MAX 6MM AGGREGATE) TO PREVENT SHARP STONE PUNCTURES, TOPPED BY BLUE PLASTIC MARKER WARNING TAPE 300MM ABOVE THE PIPE CROWN.
  - THRUST BLOCKS: CAST-IN-SITU CONCRETE ANCHOR PADS (20/25 MPA GRADE) BACKING UN-WELDED FITTINGS, ELBOWS, OR END CAPS TO ABSORB TRANSIENT SURGE PRESSURE.

For Tender Purpose Only

AMENDMENDS			
No	Date	By	

Client:
TSWELOPELE LOCAL MUNICIPALITY

Project:
THE REPLACEMENT OF OLD ASBESTOS PIPELINE AND ACCOMPANYING APPURTENANCES IN PHAHAMENG (BULTFONTEIN)

Drawing: LOCALITY PLAN
SITE DEVELOPMENT PLAN
LIST OF DRAWINGS
GENERAL NOTES

Date:	Scale:
JUNE 2026	AS SHOWN

PULE RAMASIMONG DEVELOPMENT CONSULTANTS

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Designed By:		PR	
Drawn By:		SM	
Checked By:		PR	

PRDC-26-07-02-00
Drawing No.

Contract No. **PRDC-26-07-02**