

**REPORT ON ENGINEERING SERVICES FOR
KINETIC CATAMARANS
PHASE 2**

**ERF 3146, KNYSNA
PORTIONS OF THE REMAINDER OF ERF 1316
AND 1339, KNYSNA**

3 JUNE 2025

CONTRACT:

Name: KINETIC CATAMARANS
Erf number: 3416
Our reference: 20/10

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DOCUMENT HISTORY:

Revision	Date:	Comments
0	April 2025	
1	3 June 2025	To include Lizemarie's comments & updated SDP & Subdivision plan

REPORT ON ENGINEERING SERVICES FOR KINETIC CATAMARANS

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1. **Introduction**

1.1 **Proposed Development**

This proposal forms part of a broader, multi-phase development initiative. This report focuses only on Phase 2 of the development, which includes the implementation of a successful tender to develop council land situated on portions of the development of erven 1316 and 1339. The development proposal will result in the creation of two portions of land.

Portion "A" measuring 6861m² to be zoned for Industrial 1 purposes, and Portion "B" measuring 2047m² to be zoned for Business 1 purposes.

Portion "A" will be developed into a yacht building facility of approximately 2056m².

Portion "B" contains the existing sea cadet building with a total floor area of approximately 495m².

This report will focus on the new industrial building planned on Portion "A".

Portion "B" is already serviced and for the purposes of this phase of the development, will remain as is.

The layout of the proposed development is shown on the attached SDP layout ANNEXURE "A".

1.2 **Location**

The proposed development is situated on the existing Municipal vehicle driver testing grounds in the Southeast corner of town. The development is bordered to the West by existing industrial buildings, to the North by commercial development to the East by the South African Cadet Corps and to the South by the lagoon.

1.3 **Access**

The development is accessed from the West on New Street. The section of New Street is currently a dirt road which will be paved as part of the development and will provided parking on both sides.

The application includes the closing of New Street as a Public Road. The area will function as a commercial parking area similar to the parking areas of other commercial enterprises such as Food Lover Market.

1.4 **Engineering Services**

Engineering services for the proposed development will be provided using the existing Municipal infrastructure, extended where necessary services will be provided in accordance with the Red Book "Guideline for the provision of engineering Services for residential townships.

2 **Topography & Vegetation**

2.1 **Topography**

The site consists of a flat low-lying area making it ideal for this type of development subject to raising of the floor level within the building to prevent flooding.

There are some existing open unlined channels which connect the stormwater system of the area with the lagoon. This stormwater connection will have to be maintained within the new development.

2.2 **Vegetation**

The majority of the vehicle driver test station is paved with the balance covered in grass, (mainly Kikuyu) which is landscaped and maintained as open space. There are some indigenous trees in the area which will be retained where possible and additional indigenous trees planted for shading.

3 **Geotechnical**

A detailed geotechnical investigation and report will be done on approval of the Development. The design of roads, pipelines and foundations to buildings, will be done using the conclusions and recommendations of this report.

4 **Water Supply**

Water requirements have been assessed using “The Guidelines for provision of Engineering Services and Amenities in residential development as issued by the department of National Housing” The Red Book. The number of people to be accommodated within the building will be in accordance with SANS 10400 Part “A” Table 2. For occupancy D2 Moderate Risk Industrial. The design population is 1 person per 15m² of floor space.

4.1 **Annual Average Daily Water Demand AADD**

The buildings shown in the SDP will be used in the construction of yachts.

The building is approximately 2056m² and will accommodate $2056 \div 15 = 137$ factory workers.

137 Staff @ 20 litres per person per day = 2 740 l / day

General Washing = 300 l / day

Total Annual Average Daily Water Demand = 3 040 l / day

4.2 **Proposed water supply**

A bulk water connection will be created on the 75mm diameter water main which runs along the Northern section of the property.

The municipal water main will have capacity to supply the water demand of the development.

The size of connection will be determined to meet the requirements of the fire chief.

Water from seven 10 000 litre rainwater storage tanks fed from the roof water of the proposed building will be connected to the internal water reticulation of the factory through a pressure pump.

A filter system will be fitted to the reticulation feeding taps in the ablution facility.

Municipal water will only be used as and when the rainwater runs out, or to feed fire hydrants and fire hose reels.

5 Sewage Disposal

5.1 Requirements of The Development

The sewage requirements of the development have been assessed using “The Guidelines for provision of Engineering Services and Amenities in residential township development as issued by the Department of National Housing “The Red Book”. The number of people to be accommodated withing the building will be in accordance with SANS 10400 Part “A” Table 2. For occupancy D2 Moderate Risk Industrial. The design population is 1 person per 15m² of floor space.

These requirements are summarized as follows:

137 Staff @ 20 litres per person per day	=	2 740 l / day
General Washing	=	<u>300 l / day</u>
Total volume of sewage generated per day	=	<u>3 040 l / day</u>

5.2 Existing Municipal Sewers

There is an existing 160mm municipal sewer in New Street. There is a manhole Northwest of “Portion A”. A sewer connection can be created at this manhole to service “Portion A”

5.3 Proposed Sewage Disposal System

An internal reticulation of 100 & 160mm diameter uPVC sewers will be laid withing the development to service all elements of the development. This reticulation will discharge into the sewer manhole.

Drawings of the proposed internal sewer reticulation will be submitted to council for approval, prior to construction of these services.

6 Refuse removal

The building will be used for the construction of yachts and as such, the waste created is industrial in nature. The solid waste is loaded into skips on site. These skips are removed and replaced with empty skips by a company contracted to service the solid waste disposal system.

7 Access

Access to the proposed factory building on Portion “A” will be off New Street in the West.

8 Parking

The new facility will require about 41 parking bays which have to be provide for on site. The Site Development Plan also makes provision for an additional 66 parking bays, to accommodate the future development of Phases 3 and 4 of the planned Development. Plans of the access, internal roads and parking will be submitted to council for approval prior to the construction of services.

9 **Stormwater Disposal System**

9.1 **Stormwater from the Development area North of Portion "A"**

The existing Stormwater system serving this area will be left basically as is. It consists of catchpits and stormwater pipes discharging into open unlined channels which drain into the lagoon. This system also drains stormwater from New Street Road servitude and will continue to do so when the parking area is formalized.

The proposed parking area will be brick paved and provided with kerbs to guide stormwater to existing catchpits. The paving will also be shaped, so that in a situation where the stormwater pipes do not cope, stormwater will escape naturally over the paving of the open unlined stormwater channels draining into the lagoon. The quality of stormwater entering the lagoon through this system will be improved in that there will be no longer be silt from the dirt road in the stormwater.

9.2 **Vehicle Driver Test Station Area**

The stormwater from the test ground area (fully paved) currently flows over land to the open space to the South and East bordering onto the lagoon. Stormwater from the new buildings will be disposed of in the same way.

The level of the ground adjacent to the paved public walkway is higher than the paved area creating a natural soakaway depression on the South side of Portion "A".

The new factory building on Portion "A" will be fitted with gutters and down pipes feeding into seven 10 000 litre water tanks.

Water from these tanks will be used in the new factory for ablutions and general washing.

Limited overflow from these tanks will be provided at a level equivalent to 70% of the tank capacity. In the event of high intensity rainfall the remaining 30% of capacity will act as a stormwater detention system (or stormwater shock absorber).

The overflow from these tanks will flow overland into the natural soak away depression South of Portion "A".

10 **Existing Municipal Services in Portion "A"**

There are two Municipal sewer pumping mains (350mm Ø and 375mm Ø) a section of gravity sewer, a municipal water main (75mm Ø) and an overhead electricity cable. Servitudes will be registered over all of these services in favour of the Knysna Municipality.

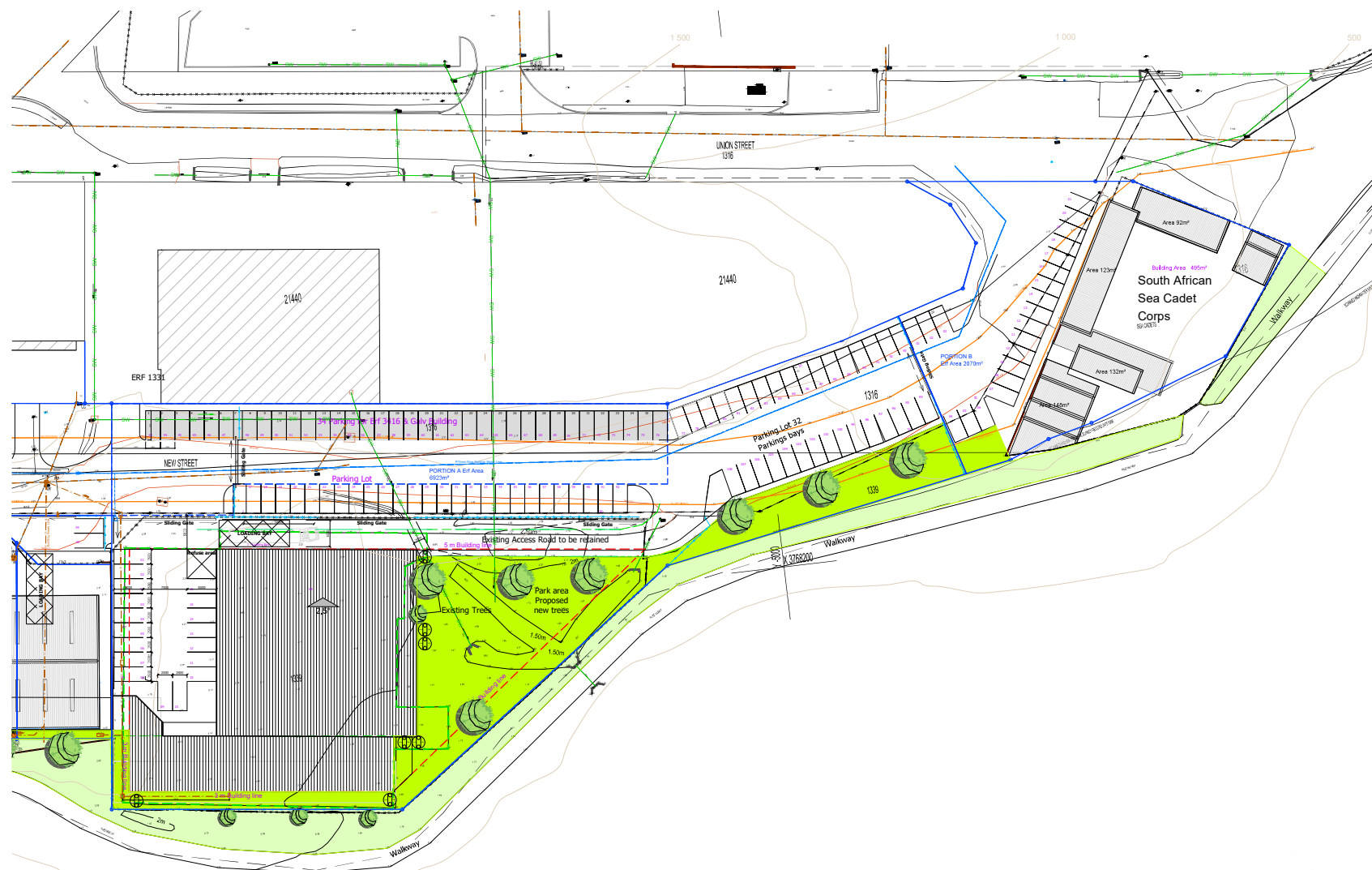
11 **Electrical Supply**

The electrical supply will be constructed in accordance with the design of project electrical Engineers –

They will submit plans to council for approval and will submit a separate services report for electrical supply.

AREA SCHEDULE			
Portion	Phase 2 Drivers Testing Area		Portion B
	Portion A	Portion B	
	Area (m ²)	Area (m ²)	
Ground Floor	4766	4766	
Ground Floor Over Head	523	523	
Messazine Floor	196	196	
Total	5485	5485	

Parking Calculations		Portion A	Portion B
		Area (m ²)	Area (m ²)
Parking Required	41 bays	14.8	26.2
Proposed Courtyard Parking	22 bays		
Roadway parking	19 bays		
Total provided	42 bays		26
Total provided for expansion of building portion a	32 bays		
Total provided for expansion of building portion b	10 bays		
Total provided on Portion A including additional expansion	108 bays		
Existing Bays Required (19000m ² / 1000m ²)	18 bays		



LEGEND:

- ▲ 3.0m = Benchmarks
- MHE = Electrical Manholes
- EX = Electrical Boxes
- CM = Cable Markers
- LP = Lamp Posts
- SP = Power Poles
- SW = Stay Wires
- MHS = Stormwater Manholes
- CP = Catchpit Covers
- GR = Stormwater Grids
- WJ = Water Valve Covers
- FHC = Fire Hydrant Covers
- MHR = Raw Sewer Manholes
- MHT = Telkom Manholes
- TP = Telephone Poles
- GP = Gas Poles
- Powerlines
- Stormwater Lines
- Sewer Lines
- Fences
- Gates
- Walls
- Tar Roads
- Gravel Roads
- Paving
- Kerbs
- Concrete
- Stone Walls
- Embankments



Planning Space
Township Regional Planners

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PROJECT INFORMATION:
SANS Classification - D2 (Moderate Risk Industrial)
Zoning - Industrial Zone I
Occupancy - 1 person per 15m²
Building Lines - 3 m & 5 m street

REV	DATE	DESCRIPTION	BY
F	17/04/2025	Added Lagoon Green Zone	MG
E	17/04/2025	Updated Storm water servitude	MG
D	16/04/2025	Updated as per Lizemories recommendations	MG
C	14/04/2025	Updated Proposed Sewer & Water	MG
B	09/04/2025	Updated Proposed Sewer	MG
A	28/02/2025	Revised Erf perimeters as per meeting	MG

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DRAWING STATUS:
DESIGN

PROJECT:
KINETIC CATAMARANS
Proposed Development on Portions of Erf 1316 and Erf 1339

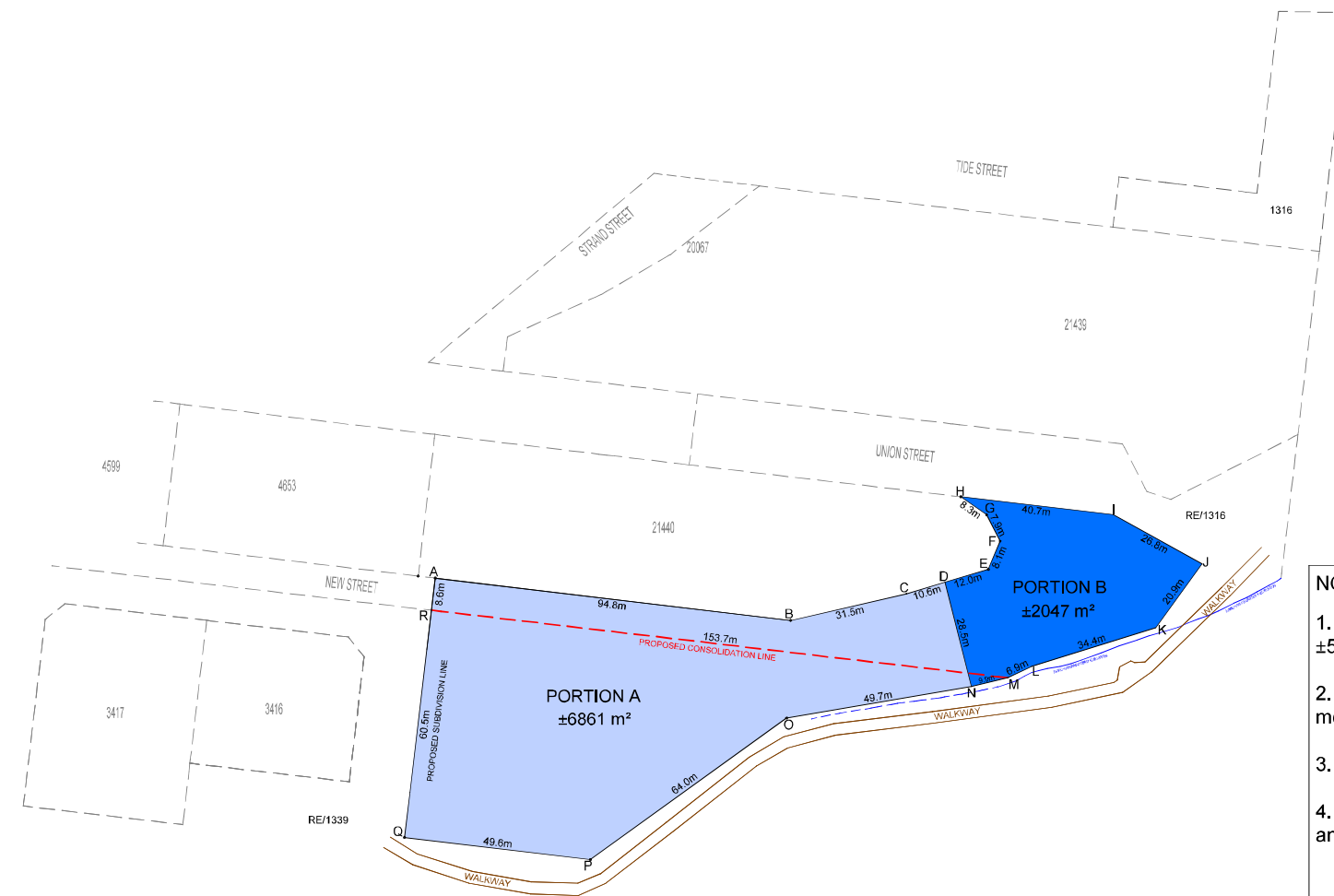
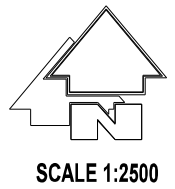
DRAWING TITLE:
Site Development Plan
Phase 2 Drivers Testing Ground



DATE: 01/04/2023	SCALE: 1:500 @A1
JOB NO.: 020	DRAWN BY: MG
DWG NO.: 102	REV: F

CAD REFERENCE: Working Drawings\020-100 New SDP Yacht Factory.dwg

DIAGRAM 8: CONSOLIDATION AND SUBDIVISION PLAN RE/1316 & RE/1339



NOTES:

1. Figures RMNOPQ represents a subdivided portion of the Remainder of Erf 1339 measuring ±5357 m² in extent.
2. Figures ABCDEFGHIJKLMR represents a subdivided portion of the Remainder of Erf 1316 measuring ±3551 m² in extent.
3. Figures described in note (1) and (2) above will be consolidated into one stand.
4. The consolidated site as described in note (3) will be subdivided into Portion A (±6861 m²) and Portion B (±2047 m²).

Sizes and dimensions are approximate and subject to final survey.

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PROPOSED SUBDIVISION	
ERF	SIZE
PORTION A	± 6861 m ²
PORTION B	± 2047 m ²
TOTAL	± 8908 m²

LEGEND

- PROPOSED SUBDIVISION LINE
- PROPOSED CONSOLIDATION LINE
- HIGH WATER MARK
- EXISTING WALKWAY
- PROPOSED PORTION B (BUSINESS ZONE I)
- PROPOSED PORTION A (INDUSTRIAL ZONE I)

REMAINDER OF ERF 1316 & REMAINDER OF ERF 1339 KNYSNA

DRW. NR.: RE1316/1339-CON-SUB3

KNYSNA MUNICIPAL AREA

DATE: 16 APRIL 2025

