

OUTENIQUA SENSITIVE COASTAL AREA EXTENSION REGULATIONS: Environmental Impact Report for minor activities

Project overview

1. Project title

Type of activity – construction of a new dwelling, excavation

Construction of new primary dwelling of Erf 222 Buffalo Bay; paving of existing gravel driveway to erf from Main Road; elevated walkway within Main Road reserve to entrance & paved parking bays within Main Road reserve.

2. Proponent details

Include name of individual, organisation, phone fax, email, address, etc.

Mrs Magdalena Roos (landowner)

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3. Proposed location

Identify the location for proposed activities, including suitable maps, plans, diagrams and photos.

Erf 222 Buffalo Bay, Knysna

Refer to Appendix A & B of the accompanying OSCAE Application Form/Report for location and site development plans.

4. Description of the activity or use

Describe all aspects of the proposal, including:

- *stages (set-up, operation and pack-up)*
- *any permanent or temporary construction*
- *size/footprint of area required*
- *ancillary works (such as any works required for access)*

Total area to be altered by activity:

With Erf 222:

- *Temporary (during construction phase) = ± 954m²*
- *Permanent (all hard surfaces not landscaped / rehabilitated) = ±850m² of which ±505m² is under roof (coverage area = 50% of Erf).*

Outside of Erf 222:

- *Temporary (during construction phase) = ± 450m²*
- *Permanent (all hard surfaces not landscaped / rehabilitated) = ± 210m²*

Clearance of Vegetation on Erf 222 (Pre-Construction): 614m²

Erf size = 1010m² minus ±56m² no-go seaside 2m building line / development setback line = ± **954m development area**. Minus approx. 340m² of the property which is currently transformed

/ devoid of vegetative cover.

- The entire development area of the property (erf, excluding 2m setback line) will be cleared of remnant vegetation & topsoil to allow for excavations and work area required to construct basement, house footprint and surrounding open terraces and walkways.

Clearance of Vegetation outside Erf 222 (Pre-Construction): 220m²

- Remnant vegetation to be cleared for retaining walls / berms to be created on either side of sub-surface Driveway / Vehicular Ramp on existing gravel access across Erf 210 ($\pm 20\text{m}^2$);
- Site Camp area on Erf 210 for storage of building material & waste, aggregate / containers / site office / access, scaffolding etc. = $\pm 150\text{m}^2$ of which $\pm 60\text{m}^2$ contains disturbed vegetation.
- Open Entrance Ramp / walkway from Main Road to property boundary ($\pm 50\text{m}^2$);
- Guest Parking (x3 bays) adjacent to Main Road ($\pm 70\text{m}^2$);
- Pedestrian walkway from Main Road (speed bump) to existing electrical kiosk / erf boundary ($\pm 20\text{m}^2$).

Pre-construction site preparation:

- Building-contractor site camp & office (approx. 150m^2) (for storage of topsoil, aggregate, containers, equipment, site office, access, scaffolding etc.) will be established on along existing access to Erf 222, around house footprint and on disturbed area of under the 'Encroachment Agreement' on adjacent Erf 210.
- Topsoil and vegetation will be stripped and stockpiled within site camp area.
- Property and associated 'Encroachment Area' on Erf 210 to be fenced / hoarded for security purposes during construction.

Construction:

- Construction of house & associated installation of basement, pool, eco-biolytix system & soak away (for sewerage) and underground rainwater tanks etc.
- Total Earthworks during construction: 1m to 4.5m in depth from Natural Ground Level (NGL), amounting to approx. 2030m^3 volume of material to be excavated / moved:
 - *Basement = ± 3 to 4.5m depth below NGL; $\pm 1600\text{m}^3$ excavated volume;*
 - *Vehicle Ramp / Driveway = 0 to 3m depth below NGL; $\pm 130\text{m}^3$ excavated volume;*
 - *House Foundations & Services = $\pm 1\text{m}$ depth below NGL; $\pm 250\text{m}^3$ excavated volume;*
 - *Pool = $\pm 2\text{m}$ depth below NGL; $\pm 50\text{m}^3$ excavated volume.*
- Once construction of house is complete, building-contractor's site camp will be removed and the existing driveway and parking area will be paved.
- Once driveway is paved, property will be fenced – low bollard fence to be re-instated along boundary of 'Encroachment Area' on Erf 210 to deter public vehicle access to this area.

Post-construction:

- Topsoil to be re-instated around house and driveway area for rehabilitation and landscaping purposes.
- Rehabilitation & landscaping only with indigenous plant local to the area.

5. Management of the activity

Identify arrangements for the activity or use, including: Monitoring of environmental performance during set-up, operation and pack-up.

It will be the responsibility of the Contractor and landowner to ensure that the recommendations associated with the Adhoc Development Setback Line approval and OSCAE Permit are adhered to.

Environmental impact issues

6. Existing environment

Describe the key natural and landscape features, including vegetation, landforms, geology, watercourses and drainage. Focus on the site of the proposal and the immediately surrounding area. If necessary, provide a simple site analysis plan.

Refer to Appendix A of OSCAE Application Form/Report to biodiversity plans.

Erf 222, Buffalo Bay is located on a convex portion of rocky coastline, on the western side of a headland which protrudes south-east into the sea. Approx. 70m to the north-west a concave beach extends west. The seashore is predominantly rocky, with rock pebbles, directly in front and to the south and east of Erf 222, Buffalo Bay (refer to Figures below). A section of sandy beach starts approx. 70m away to the north-west.



View north-west across 2m coastal building line / setback line. House on Erf 224 noted in background.



View south-east across 2m coastal building line / setback line. Area to be demarcated as no-go.



View north-east across Erf 222 from setback line.



View up boundary between Erf 224 & Erf 222.



Aerial image indicating Erf 222 (**red polygon**) & neighbouring property cadastral boundaries (courtesy Google Earth Pro, 2021). Yellow polygon indicates approx. portion of Erf 210 under Encroachment Agreement.



Buffalo Bay headland and coastline (Google Earth Pro 2021). Erf 222 indicated as red polygon.

Identify any known natural hazards, such as bushfire risk, slope, water bodies. Show these on the site analysis plan (if prepared).

The closest point of Erf 222 to the known storm surge high-water mark of the sea is approximately 8m away. The dwelling is to be built behind the 2m building line / development setback line from the property boundary, some **±10m away from the approx. storm surge high-water mark (edge of vegetation)**. The western (seaside) property boundary is approx. 5m above mean sea level (MSL).

7. Potential environmental impacts

Describe any likely impacts on vegetation, plants and animals (including threatened species). This should address both direct impacts (such as removal of vegetation) and indirect impacts (such as noise and lighting affecting native animals).

Erf 222 is highly transformed due to previous & current landuse – Municipal storage & maintenance depot; followed by demolition of buildings and fenceline in early 2016; used as a stockpile site for excavated material from the neighbouring construction site (on Erf 224) end 2016; and being traversed by the public to access the coast – therefore, very little Dune Fynbos remains on the property. Remnant indigenous vegetation occurs on the municipal Erf 210 to the south and east of the property *albeit* disturbed by vehicle and pedestrian trampling to gain access coastline and braai area to the east.

It is the intention of the Applicant to make use of the transformed portion of the municipal Erf 210 directly adjacent to and east of Erf 222 as a temporary construction site camp & stockpile area. When the construction is completed the landowner of Erf 222 intends to rehabilitate this area with locally occurring indigenous plants, as prescribed by the Encroachment Agreement with the Municipality for continued access across this portion of land (see Appendix C for Plan of area considered under the Encroachment Agreement between landowner of Erf 222 and the Municipality). The intention to re-instate the low bollard fence along this disturbed portion of land and access road (in terms of the Encroachment Agreement) will reduce unauthorised vehicle access (and associated trampling of vegetation and compaction) to the seashore. There is a small 'island of vegetation', as well as a designated public vehicle access and parking to the braai area on Erf 210 further to south-east, which will not be affected by the proposed activities on Erf 222 or in terms of the Encroachment Agreement.

Considering the inherent sensitivity and dynamics of the coastal zone in which Erf 222 occurs, the management of development activities within and surrounding this designated residential erf is paramount i.e. risk adverse approach and general duty of care principles applicable.

Potential impacts associated with the construction of the house include:

Erosion:

Movement of silt laden and/or **polluted stormwater**, from the construction site into the adjacent coastal environment. The establishment of **silt fences** as part of the site hoarding, as well as the implementation of **anti-erosion and pollution avoidance measures** during construction, will adequately avoid and mitigate these potential impacts.

Pollution:

Concrete batching must be restricted to future hard surfaces (paved areas & house footprint). Cleaning of cement, plastering & paint equipment must be done into a designated, bunded & **lined slurry sump** within the site camp, to avoid contamination of surrounding environment. This sump must be cleaned out regularly and all waste material removed from site.

All **fuel-driven equipment** i.e. generators, concrete floaters etc. must be placed within a drip-tray when being re-fuelled or not in use. All **oil and fuel spills** must be cleaned up

immediately (use of sand &/or sawdust) and contaminated soil removed from site by a registered hazardous waste service provider (Spill Tech, Interwaste, EnviroServ etc.) for proper disposal at a hazardous waste facility. Any vehicle noted to be leaking oil, must be removed to site for immediate repair.

Disturbance to remnant vegetation & coastal environment:

Trampling of the adjacent coastal vegetation seaward of the hoarded construction site (to be erected along the 2m building line / setback line) by construction workers – this potential impact must be avoided by the **demarcation of this area as NO-GO**.

It is recommended that the adjacent area of Erf 210 approved under the Encroachment Agreement with the Knysna Municipality (see Plan indication area ABCD in Appendix C attached), as well as the reserve of Main Road, must be **rehabilitated with locally occurring indigenous vegetation**. Species recommended include:

Gazania sp.; *Myrica cordifolia*; *Metalasia muricata*; *Falkia sp.*; Cape Saffron (*Cassine peragua*); Bitou (*Chrysanthemoides monilifera*); *Arctotis sp.*; Seepampoen (*Arctotheca popilifolia*); *Aloe arborescens*; Milkwood (*Sideroxylon inerme*), Baboon Grape (*Rhoicissus digitata*), Cape Coastal Cabbage Tree (*Cussonia thyrsiflora*); *Carpobrotus sp.*, succulent groundcovers etc.

Describe any likely impacts on soils, watercourses and drainage such as erosion and stormwater runoff.

See above.

Describe any noise, water, air, dust, lighting, odour or vibration impacts from the activity. This should include consideration of impacts on neighbours and other users.

Noise:

Due to the proximity of the existing residential erven, it is recommended that noise generation during construction of the house be kept to a minimum and that construction activities be confined to **normal working hours** (08:00 - 17:00 on workdays).

Working hours are therefore restricted to:

- 08:00 – 17:00, Monday – Friday;
- No work on Saturday or Sunday;
- No work on Public holidays.

Should the Contractor or Maintenance Staff require additional working hours, these hours must first be approved in with the landowner and neighbours.

Apart from confining noise to the normal hours as detailed above, the following noise abatement (reduction of intensity and amount) measures should be implemented:

- Construction vehicles **adhering to existing access route** and minimum speed limits;
- **Strict operation times and periods** for construction works;
- Adherence to the National Building Regulations and Section 25 of ECA to minimise noise impacts;
- Provide **baffle and noise screens** to noisy machines as necessary;
- Provide **absorptive linings to the interior of engine compartments**;
- Ensure **machinery is properly maintained** (fasten loose panels, replace defective silencers);
- Switch off machinery immediately when not in use; and
- Reduce impact noise by careful handling of equipment and machinery

Dust Impacts:

Every effort to **minimize dust pollution** on the site must be undertaken especially considering the residential erven in close proximity. Construction vehicles must adhere to **speed limits** and make use of the existing gravel access driveway. **Exposed stockpile**

(covered), and should be sited taking into consideration the prevailing wind conditions.

Lighting Impacts:

Regarding the temporary lighting during construction, the following refers:

- Lighting on site is to be sufficient for **safety** and **security** purposes only, but shall **not** be **intrusive** to on-site or neighbouring residents, disturb wildlife, or interfere with road traffic;
- Should overtime/night work be **authorised** by the landowners and neighbours, the contractor shall be responsible to ensure that lighting does not cause undue disturbance to on-site or neighbouring residents; and
- Only **low flux** and **low frequency** lighting shall be utilised.

Any outdoor security lighting associated with new house, the driveway or parking area should be downward facing, and controlled by motion sensors and day/night switches or timers to ensure that all lights will be switched off during the day.

Describe proposed environmental mitigation measures addressing the above or other relevant environmental features.


See above recommendation associated with impacts.

8. Supporting documentation

Provide any relevant plans or other supporting information.

See appendices attached to OSCAE Application / Report.

9 Proponent sign-off

Signature	
Name	Magdalena Roos
Position	Landowner
Date	17/02/2021.