

ALIEN CLEARING MANAGEMENT PLAN

PROPOSED CONSTRUCTION OF A LIGHT INDUSTRIAL DEVELOPMENT ON THE REMAINDER OF FARM NO 180 AND PORTION 3 OF THE FARM NO 180, FISANTEKRAAL, DURBANVILLE, WESTERN CAPE.



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Contents

1. INTRODUCTION:.....	2
2. LOCALITY MAP:	3
2.1 LOCALITY IMAGE 1:	3
3. THE VEGETATION:.....	4
3.1 EXISTING CONDITIONS OF VEGETATION WITHIN THE AREA BETWEEN THE ATTENUATION POND OUTLET STRUCTURE AND MOSSELBANK RIVER TO BE ALIEN CLEARED AND REHABILITATED:	4
4. ALIEN CLEARING MANAGEMENT PLAN	5
4.1 ALIEN CLEARING PRACTICES.....	5
4.1.1 HAND PULLING: (RECOMMENDED OPTION)	6
4.1.2 CUTTING AND PAINTING OF MEDIUM SIZE INDIVIDUALS: (NOT ALLOWED WITHIN THE WATERCOURSE).....	7
4.1.3 REMOVAL OF INVASIVE VEGETATION:.....	8
4.1.4 PROTECTIVE GEAR:	8
4.1.5 FREQUENCY OF ALIEN CLEARING:.....	8
4.1.6 WETLAND/WATERCOURSE MANAGEMENT MEASURES DURING ALIEN CLEARING PRACTICES:.....	9
4.1.7 STORAGE AND REMOVAL OF ALIEN VEGETATION.	10
4.1.8 ALIEN CLEARING FOOTPRINT.	11
5 CONCLUSION:	12

**PROPOSED CONSTRUCTION OF A LIGHT INDUSTRIAL DEVELOPMENT ON THE
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1. INTRODUCTION:

The previously disturbed open space area between the storm water attenuation pond and the watercourse must be vegetated (rehabilitated) with indigenous vegetation adapted to soils with increase saturation (due to the release of storm water).

The proposed rehabilitation will:

- Increase the surface toughness and ensure further filtration of the treated water
- Prevent and minimise erosion and siltation towards the Mosselbank River.
- Decreasing the velocity of water entering the watercourse.
- Positively contribute to the ecological and biodiversity value of the existing degraded area.

Before rehabilitation can be conducted alien clearing practices need to be done.

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2. LOCLITY MAP:

2.1 Locality Image 1:

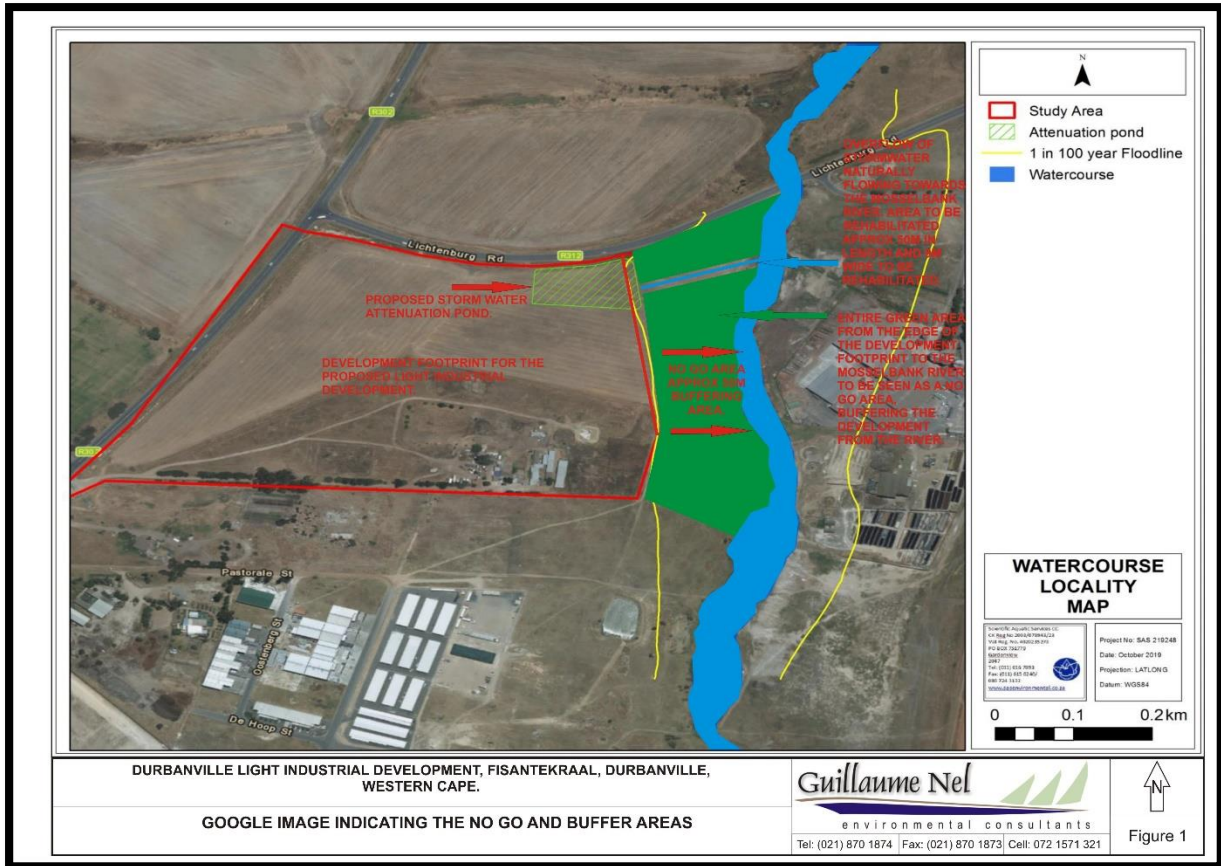


FIGURE 1: LOCALITY MAP SHOWING THE AREA WHERE THE STORM WATER FLOWS FROM THE ATTENUATION OUTLET STRUCTURE TO THE MOSSELBANK RIVER THAT NEED TO BE ALIEN CLEARED AND REHABILITATED.

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3. THE VEGETATION:

**3.1 Existing conditions of vegetation within the area between the
attenuation pond outlet structure and Mosselbank River to be alien
cleared and rehabilitated:**

This portion of the site between the attenuation pond outlet structure and Mosselbank River to be alien cleared and rehabilitated consists mostly of cultivated wheat field species that contains no indigenous vegetation

The area is transformed and contain weeds such as giant wild mustard *Rapistrum rugosum* and Cape weed *Arctotheca calendula*. Other common weeds include ribwort plantain *Plantago lanceolata*, bur clover *Medicago polymorpha*, kweek *Cynodon dactylon*, ripgut brome *Bromus diandrus*, turknael *Erodium moschatum* and wild oats *Avena fatua*.

These species is mostly small to medium sized individuals that can be easily eradicated by hand pulling.

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4. ALIEN CLEARING MANAGEMENT PLAN

4.1 Alien Clearing Practices

Invasive vegetation has been identified within the previously disturbed and degraded area to be rehabilitated between the attenuation pond outlet structure and the Mosselbank River.

It is recommended that the alien vegetation within this section be removed before the rehabilitation of this section can commence.

This alien clearing management plan can be used for future alien clearing within this section should the need occur.

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4.1.1 Hand Pulling: (Recommended option)

Hand pulling is the most environmental friendly method to use for smaller individuals.

Hand pulling need to be done when:

- Invasive vegetation is small enough for easy removal.
- The area is too ecological sensitive for spot spraying with an herbicide. (Close proximity to Watercourse)
- The invasive plant to be removed is in close proximity to a few remaining indigenous vegetation that need to be protected.

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**4.1.2 Cutting and painting of medium size individuals: (Not allowed
within the Watercourse)**

Medium size invasive vegetation that is difficult to hand pull that can easily be lopped or hand sown. These invasive vegetation need to be cut leaving a stem of 10cm. The remaining stem needs to be painted using a brush with a systemic herbicide. The systemic herbicide needs to be coloured to ensure that all the cut stems be treated. Care should be taken not to spill systemic poison when painting the stems. The systemic poison will infiltrate the stem killing the roots, and prevent the invasive species from re-sprouting again.

Systemic Poison, Enviro - Glyphosate; 2% Application. (Registered for use near waterbodies)

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4.1.3 Removal of invasive vegetation:

Cleared invasive vegetation need to be remove form site for the following reasons:

- To prevent the spread of invasive seeds.
- To prevent contamination of natural areas.
- Invasive vegetation left on site is a fire hazard.
- Invasive vegetation left on site inhibit the germination of natural vegetation.

4.1.4 Protective gear:

Alien clearing working/protective gear:

Alien clearing need to be done by a professional well trained team with the necessary safety procedures and protective wear in place.

- Safety boots, steel cap.
- Safety gloves.
- Face mask to prevent herbicide inhalation.
- Safety glasses for eye protection.
- Protective clothes for chainsaw operators.
- Reflector vests to ensure visibility.
- Necessary chainsaw operating certificate and training.

4.1.5 Frequency of alien clearing:

It is suggested that a follow up assessment and follow up clearing be conducted 3 months after the initial clearing. This process need to be repeated until the invasive vegetation is under control. An exact timeframe cannot be connected to this.

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Reasons for follow up:

- Due to the disturbance of the soil during the initial clearing activities, invasive seeds within the seedbank of the soil will start to germinate. These germinated species need to be removed before they produce seed to prevent ongoing infestation.
- Cut down and treated invasive species also tend to re-sprout. A 2nd application of herbicide will be necessary for these species.

4.1.6 Wetland/Watercourse management measures during alien clearing practices:

- The contractor need to make sure that excessive quantities of sand and silt do not enter the wetland/watercourse habitat.
- The contractor need to take cognisance of weather forecast. No clearing activities allowed during times of high rainfall.
- Alien clearing to be conducted within wetland/watercourse habitats, need to be done by manual labour, no heavy machinery allowed.
- All potential pollutants should be kept away from the wetland/watercourse habitat including:
 - Oil, diesel or petrol used for machinery during alien clearing activities.
 - Any chemicals for the control of alien vegetation.
 - Sanitation structures.
- No spoil material should be placed in close proximity to the wetland/watercourse habitat, dumped on riparian or bank habitats, spread out around trees, used to fill hollows and other irregularities in the wetland/watercourse, or be used for erosion control, but must be removed to approved dumping sites
- No spraying of herbicide allowed in close proximity to any water bodies.

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4.1.7 Storage and removal of alien vegetation.

- During alien eradication an area need to be identified for temporary stockpiling of the invasive vegetation.
- Only one area to be identified to prevent the spread of seeds.
- The area identified should not be in close proximity of the watercourse to prevent seeds from entering the watercourse and spreading.
- No invasive vegetation to be left on site.
- All invasive vegetation to be removed immediately form site one clearing has been completed.
- No burning of vegetation on site allowed.
- Removed invasive vegetation to be dispose to the nearest licensed landfill site.
- Alien vegetation to be transported in preferably a closed truck to prevent the seeds from spreading along the road, alternatively the alien vegetation can be covered with a biddem material during transport.

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4.1.8 Alien Clearing Footprint.

The area to be rehabilitated from the attenuation pond outlet structure to the Mosselbank River is approximately 50m in length and 9m in width.

It is suggested that the invasive vegetation be cleared 30m on both sides of the area to be rehabilitated.

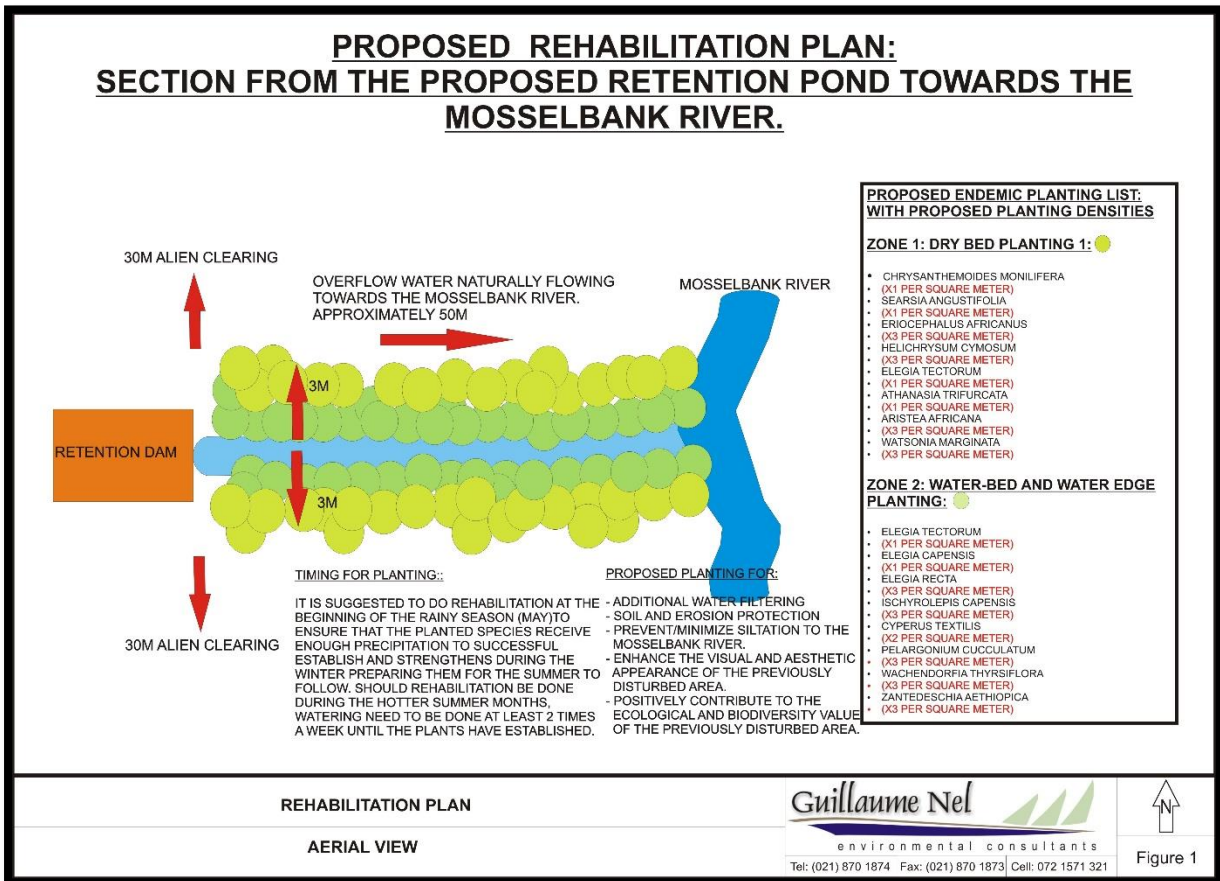


FIGURE 2: AREA TO BE ALIEN CLEARED.

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5 CONCLUSION:

GNEC in our professional capacity as rehabilitation specialist strongly feel that the above mentioned alien clearing prior to rehabilitation will:

- Improve the ecological and biodiversity value and functioning of the previously disturbed section.
- Act as natural area for faunal species.
- Will stabilize bare soil and prevent/minimise further erosion.
- Will prevent siltation of the Mosselbank River.
- Enhance the visual and aesthetic appearance of the previously disturbed and degraded section.