




IVECO SOUTH AFRICA (PTY) LTD

Wetland Site Investigation Report for the IVECO Rosslyn Plant

Wetland Identification Report

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environmental affairs

Department:
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DETAILS OF SPECIALIST AND DECLARATION OF INTEREST

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Application for authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2010

PROJECT TITLE

Wetland Site Investigation Report for the IVECO Rosslyn Plant

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The specialist appointed in terms of the Regulations,

I, **Shaun Taylor**, declare that --

General declaration:

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 71 and is punishable in terms of section 24F of the Act.



Signature of the specialist

SiVEST Environmental

Name of company (if applicable)

22nd May 2013

Date

**WETLAND SITE INVESTIGATION FOR THE PROPOSED
DEVELOPMENT OF THE IVECO PLANT**

WETLAND IDENTIFICATION REPORT

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WETLAND SITE INVESTIGATION FOR THE PROPOSED DEVELOPMENT OF THE IVECO PLANT

WETLAND IDENTIFICATION REPORT

1 INTRODUCTION

SiVEST has been appointed by Iveco South Africa (Pty) Ltd to perform a wetland site investigation on Erf 72 Rosslyn Ext. 1 in order to determine whether any wetlands could be identified on the site. A brief site investigation was conducted on the 6th of May 2013 to investigate the potential occurrence of wetlands. The purpose of this report is to document the findings of the site investigation and provide recommendations.

2 PROJECT DESCRIPTION

Iveco South Africa (Pty) Ltd plan to purchase the aforementioned property for the purposes of establishing a new plant (hereafter referred to as the, "proposed development"). There is currently existing infrastructure on the site which is understood to be restored and upgraded for the future planned development. The total area of the study site is 18 hectares, with existing buildings on the site which will be restored. The new construction area of 0.1 hectares will be extended from the existing infrastructure. The current site layout is provided in Figure 1 below.

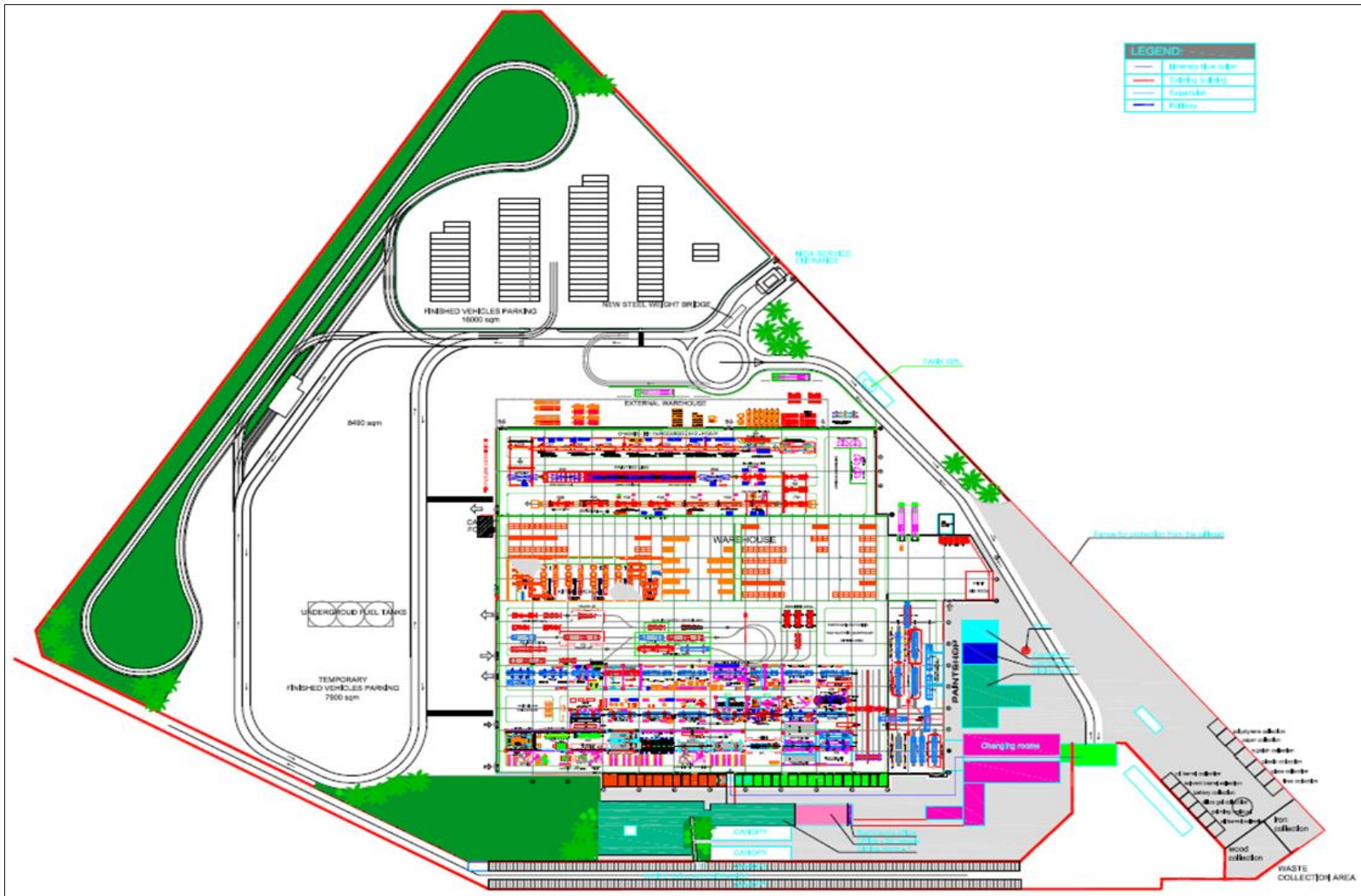


Figure 1. Site Layout.

3 WETLANDS AND HYDROMORPHIC SOILS

The National Water Act, No. 36 of 1998 (NWA) defines wetlands as, "land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil". Wetlands are a very important component of the natural environment, as they are typically characterised by high levels of biodiversity and are critical for sustaining human livelihoods through the provision of water for drinking and other human uses. Wetlands are sensitive features of the natural environment. Pollution or degradation of wetlands can result in a loss of biodiversity, as well as an adverse impact on the human users which depend on the natural resource to sustain their livelihoods. As such, wetlands are specifically protected under the NWA and generally under the National Environmental Management Act, No. 107 of 1998 (NEMA).

Hydromorphic (Hydric) soils are soils that are found within wetlands. Hydric soils are defined by the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) as being "soils that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part". These anaerobic conditions would typically support the growth of hydromorphic vegetation (vegetation adapted to grow in soils that are saturated and depleted of oxygen) and are typified by the presence of redoximorphic features (chemical features that develop in the soil under oxygenless conditions). The presence of hydric (wetland) soils on the site of a proposed development is significant, as the alteration or destruction of these areas, or development within a certain radius of these areas would require authorisation in terms of the NWA and the Environmental Impact Assessment Regulations (2010) promulgated under the NEMA.

Wetland identification and delineations are based primarily on soil wetness indicators. For an area to be considered a wetland, redoximorphic features must be present within 50cm of the surface soil profile (Collins, 2005). Redoximorphic features are the result of the reduction, translocation and oxidation (precipitation) of Fe (iron) and Mn (manganese) oxides that occur when soils alternate between aerobic (oxygenated) and anaerobic (oxygen-less) conditions. Only once soils within 50cm of the surface display these redoximorphic features, can the soils be considered 'hydric soils'. Three other indicators (vegetation, soil form and terrain unit) are used in combination with soil wetness indicators to supplement findings.

4 APPROACH AND METHODOLOGY

The potential occurrence / non-occurrence of wetlands and wetland (hydric) soils on the study site were assessed according to the **DWAF (2005)** guidelines, “A practical field procedure for the identification and delineation of wetlands and riparian areas”. According to the DWAF guidelines, soil wetness indicators (i.e. identification of redoximorphic features) are the most important indicator of wetland occurrence. This is mainly due to the fact that soil wetness indicators remain in wetland soils, even if they are degraded or desiccated. It is important to note that the presence or absence of redoximorphic features within the upper 50cm of the soil profile alone is sufficient to identify the soil as being hydric or non-hydric (non-wetland soil) (**Collins, 2005**). Three other indicators (vegetation, soil form and terrain unit) are used in combination with soil wetness indicators to supplement findings. Where soil wetness and/or soil form could not be identified, information and personal professional judgment was exercised using the other indicators to determine what area would represent the outer edge of the wetland.

The actual identification process entailed drawing soil samples, at depths between 0-50 cm in the soil profile, using a soil augur. This is done in order to determine the soil characteristics of a potential wetland area. A conventional handheld Global Positioning System (GPS) was used to record the point(s) taken in the field. The GPS points are then imported into a GIS system for mapping purposes. The GPS is expected to be accurate from 15 meters up to 5 metres depending on meteorological conditions. A GIS shapefile is created to represent the boundaries of the delineated wetlands.

5 SITE INVESTIGATION FINDINGS

The entire site was surveyed for potential wetland areas (Figure 1) on the 6th May 2013. The lowest lying areas were of specific interest. This area is located to the south east of the study site. Typical wetland vegetation (*Typha capensis* – Photo 1) was observed emerging from *Kikuyu pennisetum* at a relatively modified piece of land located just south of the proposed development site (outside the site boundary). Soil samples drawn from this area revealed redoximorphic features (in the form of sesquioxide iron mottling – Photo 2) in the top 50cm of the soil profile. The topography of the site is relatively flat and the potential occurrence of a wetland in this position of the landscape is likely. However, the extent of the wetland is rather limited and appears to have been reduced / modified due to the encroachment of existing surrounding buildings and road and road servitude and storm water infrastructure. There is also a degree of soil disturbance in the immediate vicinity of the wetland area where presumably soil stockpiling has taken place. A larger wetland may therefore have occurred in this position historically. However, the wetland has currently been significantly reduced in size. Given the indicators present, the potential wetland can be confirmed as a wetland.

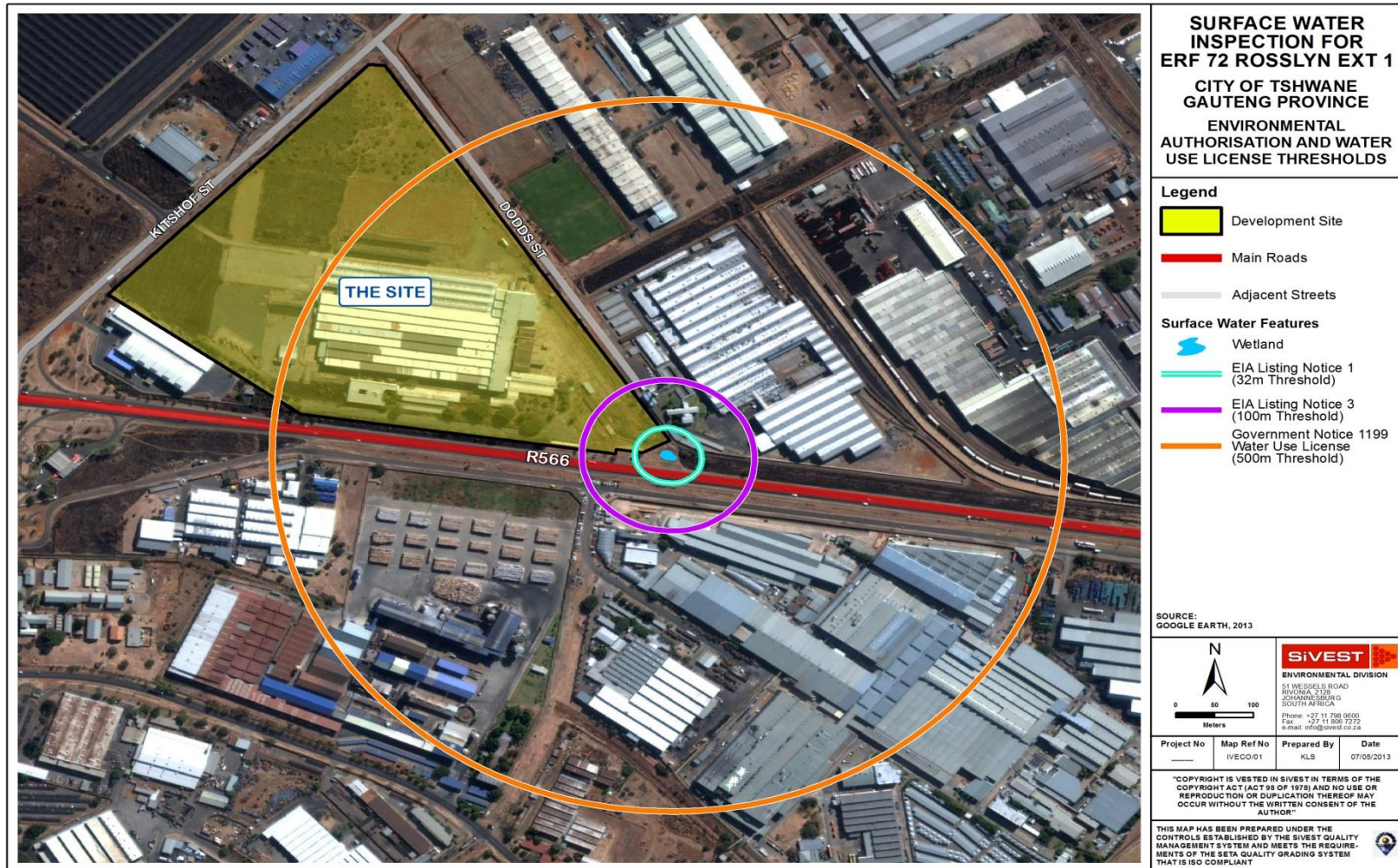


Figure 1: Wetland investigation map



Photo 1: Emergent vegetation in the wetland area.



Photo 2: Redoximorphic features indicative of wetland soils evident in the soil samples.

IMPLICATIONS FOR THE PROPOSED DEVELOPMENT

The identified wetland is located approximately 10 metres off the study site. In the context of NEMA (1998), the EIA Regulations (2010) and the proposed development, the proposed development area therefore falls inside the 32 metre and 100 metre threshold (Figure 1) potentially triggering Listed Activity No. 11 of Government Notice R. 544 Listing Notice 1 as well as Listed Activities No. 10 and No. 11 of Government Notice R. 546 Listing Notice 3 respectively of the EIA Regulations (2010). Each activity is outlined below in detail.

Listed Activity 11 of Government Notice R. 544 - The construction of:

- i. canals;
- ii. channels;
- iii. bridges;
- iv. dams;
- v. weirs;
- vi. bulk storm water outlet structures;
- vii. marinas;
- viii. jetties exceeding 50 square metres in size;
- ix. slipways exceeding 50 square metres in size;
- x. buildings exceeding 50 square metres in size; or
- xi. infrastructure or structures covering 50 square metres or more

where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.

Should any structure or infrastructure need to be placed within 32 metres from the edge of the wetland, that covers an area of 50 metres or more, the activity would be triggered and a basic assessment would need to be carried out to obtain environmental authorisation prior to development.

Listed Activity 10 of Government Notice R. 546 - The construction of facilities or infrastructure for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of 30 but not exceeding 80 cubic metres.

(a) In Gauteng:

- vi. Within 100 metres of a watercourse or within 100 metres of wetland that is not linked to a watercourse

Listed Activity 11 of Government Notice R. 546 - The construction of tracks or routes for the testing, recreational use or outdoor racing of motor powered vehicles excluding conversion of existing tracks or routes for the testing, recreational use or outdoor racing of motor powered vehicles.

(a) In Gauteng:

- vi. Within 100 metres of a watercourse or within 100 metres of wetland that is not linked to a watercourse;

Should any of the above mentioned construction activities occur or need to take place within 100 metres from the edge of the wetland, the activity would be triggered and a basic assessment would need to be carried out to obtain environmental authorisation prior to development.

In the context of the NWA and the proposed development, a “water use” is required where construction activities will impact on a water resource. In this light, “water use” is defined *inter alia* as follows:

- a) *Taking water from a water resource;*
- b) *Storing water;*
- c) *Impeding or diverting the flow of water in a watercourse;*
- d) *Engaging in stream flow reduction activity contemplated in Section 36 of the NWA;*
- e) *Engaging in a controlled activity identified as such in Section 37 (1) or declared under Section 38(1) of the NWA;*
- f) *Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit;*
- g) *Disposing of waste in a manner which may detrimentally impact on a water resource;*
- h) *Disposing of waste in a manner of water which contains waste from, or which has been heated in any industrial or power generation process;*
- i) *Altering the bed, banks, course or characteristics of a watercourse;*
- j) *Removing, discharging or disposing of water found underground if it is necessary for efficient continuation of an activity or for the safety of people; and*
- k) *Using water for recreational purposes.*

In this context, a Water Use License would be required where any of the above water uses are required for a development. As such, for the proposed development, it is not anticipated that any water uses will be required for the proposed development as no impact would directly take place on the wetland which is located off site. However, Government Notice 1199 does however apply to the proposed development. Government Notice 1199 makes for the provision of a General Authorisation with respect to water uses (c) and (i) if certain conditions are met, except where water uses (c) and (i) are triggered for activities that will take place on a watercourse and within 500 metres of a delineated wetland. In this instance, the propose development will be within the 500 metre threshold (Figure 1) but no impact will take place on a watercourse in terms of water uses (c) and (i). The Department of Water Affairs would need to be consulted to provide final input on whether a full Water Use License or a General Authorisation will be required.

6 CONCLUSION AND RECOMMENDATIONS

A site investigation was conducted on the study site to determine the presence of a wetland. The in-field investigation confirmed the presence of a wetland. Several legislative implications were anticipated to potentially be applicable to the proposed development. More specifically, in terms of the EIA Regulations (2010), the proposed development area falls inside the 32 metre threshold for Listed Activity No. 11 of Government Notice R. 544 Listing Notice 1. Should any structure or

infrastructure need to be placed within 32 metres from the edge of the wetland, that covers an area of 50 metres or more, the activity would be triggered and a basic assessment would need to be carried out to obtain environmental authorisation prior to development. To avoid triggering this activity it is recommended that no development take place within 32 metres of the wetland.

With regards to the NWA, it is not envisaged that any impact as a result of the proposed development will trigger a Water Use License or Government Notice 1199. However, it is recommended that the Department of Water Affairs are consulted to provide final decision on the application of the water uses and Government Notice 1199 given the project specific nature and condition of the wetland.

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