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Water and Sanitation Department
Catchment, Stormwater & River Management

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To : Mr. Graeme McGill (Graeme McGill Consulting)

CC : Mesdames. Anne Smit & Silverrose Magadlela
[Transport & Urban Development Authority: Development Management]

From : Johann Terblanche

Subject : **STORMWATER MANAGEMENT PLAN (SWMP), REVISION 2, DATED 18 SEPTEMBER 2018 FOR THE PROPOSED NEW RESEDENTIAL DEVELOPMENT ON FARM 222 PORTION 15 STELLENBOSCH**

Our Ref. : 2.5.2 - Development Proposals - North (Kuils River)

Date : 14 November 2018

The Catchment, Stormwater & River Management Branch (this Office) acknowledges receipt of the Stormwater Management Plan (SWMP), revision 2, dated 18 September 2018, compiled by Graeme McGill Consulting.

CONTEXT

It is proposed to develop Farm 222 Portion 15, Stellenbosch as a private residential development with multi-storey apartments. The development is located on the northern side of Bottelary Road.

The property is located within the City of Cape Town Metropolitan Municipality district. The proposed development will cover 2.93 ha. The development will consist of multi-storey apartment buildings and parking bays. Access to the development will be from the north via the planned Zandberg Street extension.

The subject of this report is the management of the quality, volume and rate of stormwater runoff from this precinct and high lying catchments, with a view to preparing a Stormwater Management Plan which satisfies the objectives of the City of Cape Town policy documents "Management of Urban Stormwater Impacts Policy" and "Floodplain and River Corridor Management Policy", as well as approval conditions set by the Department of Environmental Affairs and Development Planning, and the Department of Water and Sanitation.

COMMENT

1. The development footprint is larger than 4 000 m^2; therefore, a Stormwater Management Plan (SWMP) is required in terms of City's Stomwater policies. (Management of Urban Stormwater Impacts Policy and Floodplain and River Corridor Management Policy, both were approved by Council on 27 May 2009)

2. The overall stormwater strategy of this precinct must comply with the City of Cape Town's (the City) Stormwater Policies and By-law, noted here below;
- **2.1** Management of Urban Stormwater Impacts Policy, approved by Council: 27 May 2009
- **2.2** Floodplain and River Corridor Management Policy, approved by Council: 27 May 2009
- **2.3** By-Law Relating to Stormwater Management, approved by Council: 30 August 2005

3. It should be noted, that the Catchment, Stormwater and River Management Branch (this Office) accepts all Stormwater Management Plan (SWMP) in good faith. Furthermore, this Office trust that the developer/ applicant/ his professional team will incorporate into the SWMP, the City's internal departments as well as Organs of State's conditions (i.e. authorisations and/ or water use licence etc.). Failure to do so will result in unnecessary delays, and all cost associated with delays will be for the developers account.

CONDITIONS (LAND USE MANAGMENT APPLICATION)

This Office supports the SWMP application subject to these conditions;

1. Provide this Office with a comprehensive electronic copy of the SWMP, will all the necessary annexures, via email or flash drive.

2. Include into the civil engineering design, a diversion manhole with an 825 mm diameter connection pipe to the newly proposed silt trap. This will fast tract TDA's: Asset Management and Maintenance Department procedure (if and when they decide) to divert stormwater flow from erf 222/24 via the 825 mm connector pipe towards the new proposed Box Culvert.

3. Box Culvert construction expenditure offset in lieu of Development Contributions must be negotiated and finalised via a Service Level Agreement with the relevant TDA: Asset Management and Maintenance Department.

4. Finalise a detail Master Landscaping Plan which tie in with the SWMP.

4.1 Ensure that appropriate stormwater vegetation is included into the "proposed plant species legend" as stipulated within the City's "SUSTAINABLE URBAN DRAINAGE SYSTEMS: Landscape and Indigenous Plant Species Guideline, dated 28 February 2011" (Obtainable from this Office), to facilitate implementation of Sustainable Urban Drainage Systems (SUDS).

4.2 The maintenance that is required specifically for the landscaped and planted components must be clearly defined and documented during the design phase. The plants that are chosen for each SUDS type are important since certain species and growth forms will enhance the functionality of the SUDS more than others. Exposure to different periods of inundation from a few hours to days, weeks or longer also influences which plants are suitable. It is also important to take local site conditions into consideration e.g. is the soil type dominated by clay, sand or mixed, is the site exposed in terms of wind or salt spray etc.

4.3 The owner/ developer must maintain newly vegetated stormwater attenuation & treatment facilities for a period of 24 months, until fully established and formally signed over to the Body Corporate/ Home Owners' Association etc. This includes trimming, fertilizing, irrigation, and plant propagation where necessary. All cost incurred is for the developer's account.

4.4 It is recommended that an experienced horticulturalist be engaged to assist with the initial establishment, monitoring and ongoing maintenance of the facility so as to ensure the continued functioning and performance with respect to the water quality improvement objectives.

4.5 The MLP must be approved by the City's Environmental Resource Management and City's Recreation and Parks Departments respectively.

5. Stormwater attenuation & treatment facilities as well as the proposed Box Culvert must be completed and fully functional, prior to the civil engineering clearance inspection, Section 37 Clearance and/ or Occupation certification. (This will include landscaping in accordance with the approved MLP.)

6. Ensure that stormwater Best Management Practices (BMP's) and stormwater runoff quantity/ quality improvements are implemented on site (i.e. rain tanks, rain gardens, etc.) as stipulated in the Management of Urban Stormwater Impacts Policy, approved by Council: 27 May 2009

7. The Body Corporate/ Home Owners' Association must accept full operational and maintenance responsibility and accountability for all stormwater attenuation/ treatment facilities and infrastructure on private land. (Above and below ground)

8. A copy of the approved SWMP and this Office's approval letter must be submitted, as part of the civil engineering design drawing submission, to the relevant TDA: Asset Management and Maintenance Department.

9. Detailed stormwater infrastructure design drawings (e.g. pipe reticulation, attenuation and treatment facilities) must be prepared by a registered Civil Engineering Professional, be submitted for approval by Council (TDA: Asset Management & Maintenance Department) prior to building plan approval and prior to commencement of any work. All services shall comply with the "Minimum Standards of Civil Engineering Services in Townships (as amended) document - Version 1 (July 2013)"

10. The developer must provide all services and link services required to the satisfaction of City.

11. Stormwater overland escape routes must be lined with Armorflex.

12. Obtain written approval from affected owners, where the route of a proposed civil service crosses private properties and register servitudes accordingly. Maintenance responsibility of servitudes must be included into the servitude conditions. All cost incurred is for the developer's account.

13. Appropriate fencing (e.g. clear-view or concrete palisade fencing) must be constructed around stormwater attenuation & treatment facilities. Fencing types to be discussed with the relevant TDA: Asset Management and Maintenance Department.

14. Prominently displayed safety signage must be placed in the vicinity of stormwater attenuation and treatment facility warning pupils, teachers, maintenance personnel and the public that water levels will temporarily rise during storm events and that water may be contaminated.

15. The Engineer shall monitor all construction activities and maintain an adequate level of supervision of the works.

16. Copies of the following documentation must be forwarded to the relevant TDA: Asset Management & Maintenance Department and this Office, prior to the final civil engineering services inspection.

- **16.1** EKCON Engineers & Project Managers – A photo-file during construction of proposed Box Culverts, Dry Attenuation Pond and Enhance Swale infiltration layer.
- **16.2** EKCON Engineers & Project Managers - Civil engineering as-built drawings (e.g. stormwater reticulation, attenuation and treatment facility/ system.
- **16.3** Graeme McGill Consulting - Revised SWMP.
- **16.4** Graeme McGill Consulting - Stormwater Operation and Maintenance Manual.
- **16.5** Graeme McGill Consulting - Letter confirming Operation and Maintenance Manual training has been provided to the owner, Body Corporate/ Home Owners' Association.
- **16.6** Developer - Letter of undertaking to operate and maintain private stormwater infrastructure.

15 After receiving the abovementioned documentation, this Office together with the relevant TDA: Asset Management & Maintenance Department will inspect all civil engineering services installed, before issuing a Section 137 Clearance Certification and/ or recommend Occupation Certification.

16 The City of Cape Town reserves its right to hold the developer liable for any claims in respect of damage to municipal/ private property or infrastructure and additional municipal maintenance cost incurred as a result of flooding, siltation and contaminated stormwater caused by construction activities on these precincts and/ or ceasing of work due to inclement weather.

17 If the developer should decide to continue with construction of civil engineering infrastructure (which includes the stormwater infrastructure) without municipal approved conceptual stormwater plan/ stormwater management plan and civil engineering design drawings, then these activities are executed at the developer's own risk and cost.

18 It is the responsibility of the developer and his environmental consultant to ensure that, if any of the steps required above will require further authorisation from any other organ of state, such authorisation (s) must be obtained and be brought to this Office's attention. (i.e. Water Use License, Environmental Authorisation, General Authorisation or renewal/ amendment etc.

19 Floodline maps/ data provided by the Office were prepared for the purpose of assessing the degree of flood hazard and risk to assist in the identification and development of measures for managing the flood risk. They may, however, also be of use to the public and other parties as indicative floodlines of flood-prone areas for a range of purposes, including raising awareness of flood risk, preparedness and response planning for flood events, assisting in planning and development decisions, etc. The City's High Level Master Plan Floodlines are coarse; therefore, floodlines compiled prior to 2013 must be verify/ vetted by the developer's professional team, to establish flood risk, etc. All cost incurred is for the developer's account. Furthermore, this Office reserves the right to change the content and / or presentation of any of the information provided on these floodline maps at its sole discretion, including these notes and disclaimer.

Yours faithfully

Johann Terblanche
Head: Catchment Planning: Region 4 (Northern Districts)

CC:

Clarissa Fransman	: Areas Environment: Environmental Management Department (Northern region)
Willie Liebenberg	: Asset Management and Maintenance Department (District 2)
Gilbert Titus	: Asset Management and Maintenance Department (District 2)
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