water & sanitation
Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

Private Bag X313, Pretoria, 0001, Sedibeng Building, 185 Francis Baard Street, Pretoria,
Tel: (012) 336-7500 Fax: (012) 323-4472 / (012) 326-2715

# WATER USE LICENCE APPLICATION SUMMARY

## *TRANSNET (LTD) - BELCON STORMWATER ATTENUATION, WATER ABSTRACTION AND USE, AND SUBSOIL DEWATERING ON ERF 20414 BELLVILLE SOUTH, WESTERN CAPE*

***WU36972***

**NAME OF APPLICANT:**

**Transnet Limited**

**COMPILED BY:**

**PHS Consulting**

**December 2024**

## 1. Applicant details

Name of applicant: *Transnet Limited*
Postal address: Roggebaai Place, 4 Jetty Street, Foreshore, 8001
Cell phone number*: +27 63 693 7636*
Office number: *+27 21 408 6484*
E-mail address**: botha.pretorius@maersk.com**

## 2. Person submitting application

Consultant on behalf of Applicant: Amanda Fritz-Whyte
Qualifications: BSc; BSc (Hons) Geology; MSc Water Resource Management
Professional registrations: Fellow Member WISA (21064); Member IAIAsa (5421); Registered Environmental Assessment Practitioner: Number 2019/367 (EAPASA); Pri.Sci.Nat (118385).
cell: 082 327 2100
landline: 028 312 1734
fax: 086 508 3249
Company postal address: PO Box 1752, Hermanus, 7200
e-mail: amanda@phsconsulting.co.za
Company website: www.phsconsulting.co.za

## 3. Background and purpose

The proposal entails the development and operation of a new *Maersk* warehousing & distribution facility (logistics hub) at Belcon in Bellville South. *Transnet Limited* is the applicant, however, *Maersk* has permission for the proposed development and operation associated with the water uses contained in this Water Use License Application. *Transnet Limited* has a total B-BBEE recognition of 92.12 points, therefore, a level 2 contributor. Black Directorship is at 75% with Black Women Executive Directors at 35%. BEE Procurement Spend from all Suppliers based on the BEE Procurement Recognition Levels as a percentage of Total Measured Procurement Spend is at 41%.

The basis for the proposed development of a new logistics hub is to enable companies to have a one-stop service when it comes to transporting their goods, regardless of transport type, as the facility also has access to Transnet's rail siding, allowing it to have the goods transported by rail to the port. This will undoubtedly decongest the city as the rail siding will enable reliable, faster, cost-efficient, and greener access into/out of the port, bypassing traffic and port gate congestion. The development will entail the following components:

- Warehousing
- Cold storage
- Container Depot
- Attenuation Pond
- Subsoil drainage systems
- Landscaping component
- Stormwater Infrastructure
- Wash-bays
- Treatment Plant
- Offices

The development opportunity relates to the following factors:

- Transnet Freight Rail Belcon is strategically located 25km from the Port of Cape Town;

- It provides a direct rial link between the Terminals;
- The current Belcon facility is under-utilised.

The potential benefits associated with the development includes the following:

- Improved Transnet Freight Rail asset and infrastructure utilisation;
- Reduced port congestion (by at least 22%) by improving traffic flow to the Port of Cape Town;
- Reduced road congestion and deterioration by removing trucks (at least 80 000 trucks) from the road;
- Build additional access road from Kasselsvlei into Transnet Park to ease traffic flow in and out of Transnet Park;
- Increase cold chain capability – cold chain compliance to international quality standards;
- Creating value & reducing supply chain cost through supply chain integration;
- Creating multiple permanent & temporary jobs.

The proposed development's WULA primarily entails the physical use of water, i.e. the storage of stormwater and groundwater on site in an attenuation pond (Section 21b) & subsequent abstraction of water from the pond for irrigation, cooling, offices, toilet flushing & wash bays (Section 21a).

Additionally, the development will make use of subsoil drainage systems and will be at a depth of between 2.5m and 3.5m. The primary purpose of the subsoil drainage systems is to prevent groundwater seepage from damaging the concrete footings of the building foundation. The intention is that the subsoil water be treated on site to potable standard and used in the refrigeration plant, wash bays, toilet flushing and for drinking water in offices. The in-flow rate is estimated at 1.964l/s (170kl/d). Section 21(j) is therefore also applicable to the WULA as the dewatering volume is above the GA limit.

The municipal water supply will essentially be a back-up to the on-site treated water and would only be required in case of emergency, given the measured subsoil flow rates above. The use of stormwater on site, therefore minimises the need to irrigate using municipal water, which results in lower costs to the applicant and less potable water distribution pressure on the CoCT municipal distribution system. This allows an increase in potable supply to be available for other users within the CoCT metro area. This scenario is the same for the proposed use of treated groundwater for offices (drinking water) toilet flushing, cooling & wash bays, as opposed to using municipal water to conduct these activities.

## 4. Location of water uses

The project in respect of which this Water Use Licence Application is submitted is located in the Western Cape Province, within the City of Cape Town Magisterial district in Bellville South. Please note that **Erf 20414** is currently the property on which the water uses will be located on, however, the client is in the process of subdividing & consolidating multiple erven to be included as part of the proposed future Logistics Hub operations. Based on the above, the water uses applied for as part of this WULA will take place on future subdivided Erven 14881, 14882 & **20414** as well as consolidated erven 14873, 14876, 14877, 14878 & 14867 in Bellville South, which forms part of the G22C Quaternary Catchment, within the Berg Water Management Area. The geographic location of the property (**Erf 20414**) where the water uses will take place are 33°55'25.58"S, 18°37'42.36"E. Please refer to **Figure 1 & 2** below.

***Table 1: Property details***

| Property description | Title Deed number | Owner | SG Code | Geographic Location |
|---|---|---|---|---|
| Erf 20414, Bellville South, Cape Town. | T14537/1978 | Transnet Limited | C01600020002041400000 | 33°55'25.58"S, 18°37'42.36"E |

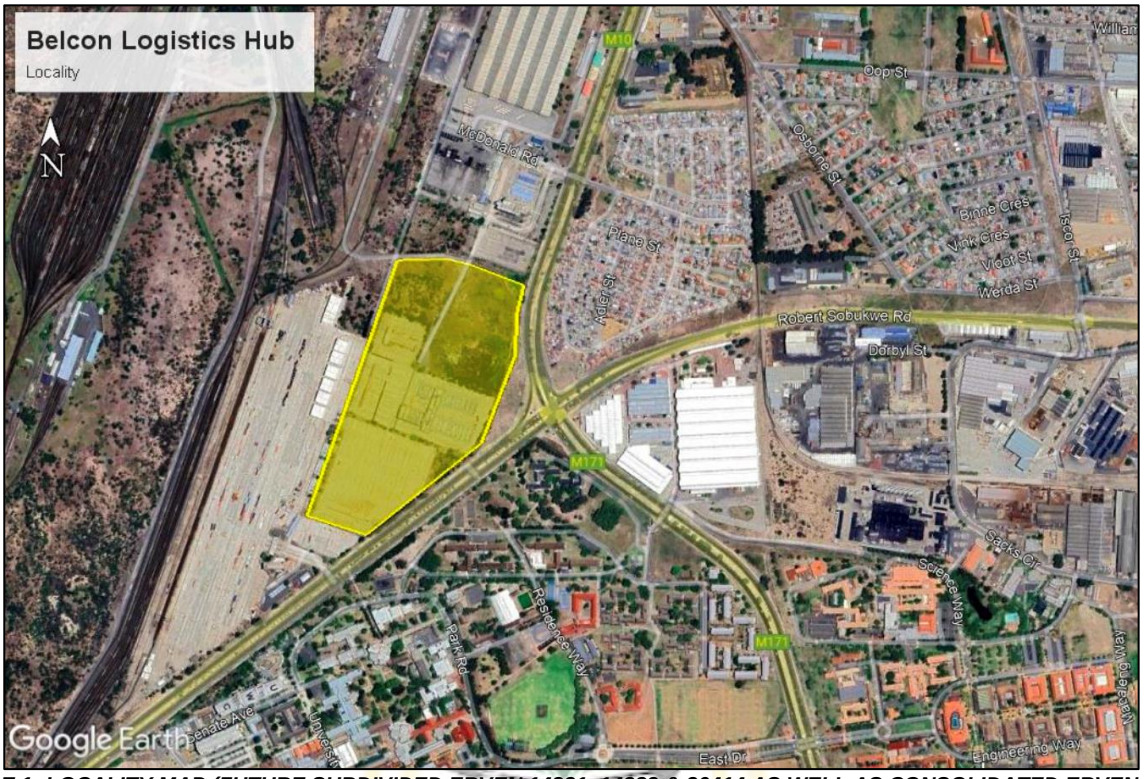


***FIGURE 1: LOCALITY MAP (FUTURE SUBDIVIDED ERVEN 14881, 14882 & 20414 AS WELL AS CONSOLIDATED ERVEN 14873, 14876, 14877, 14878 & 14867)***

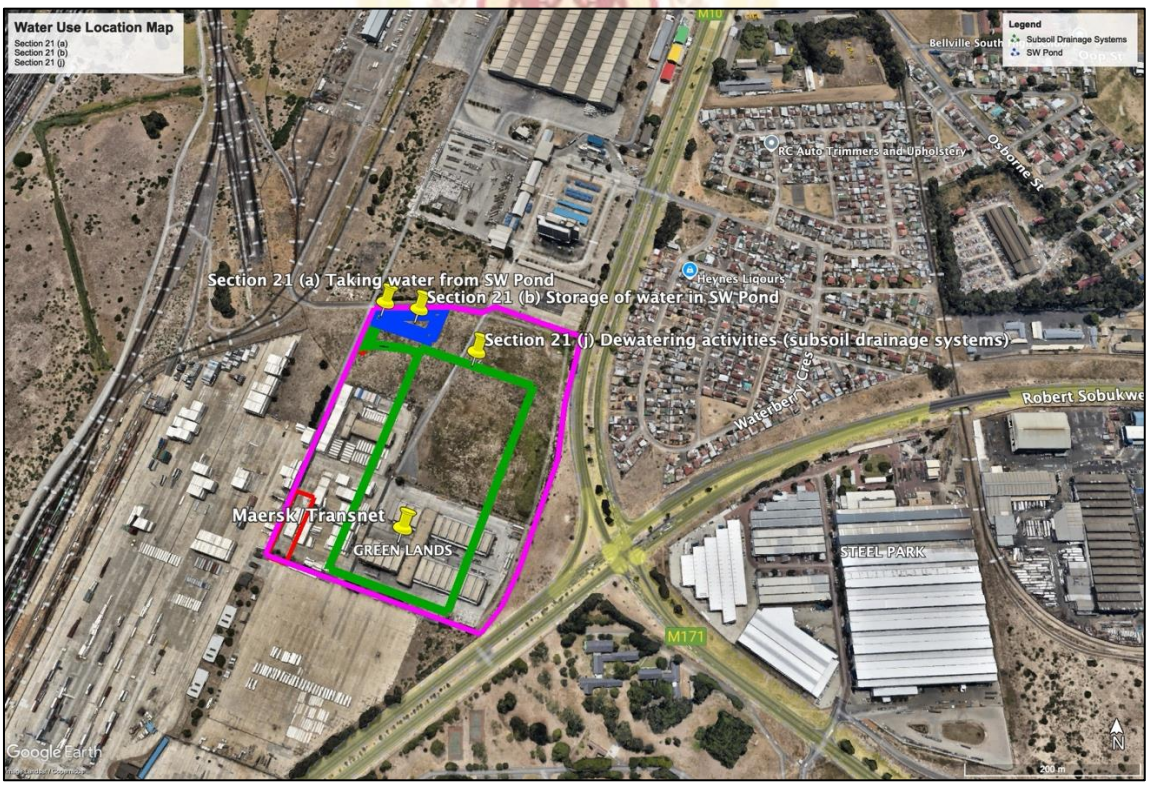


***FIGURE 2: WATER USE LOCATION MAP***

## 5. Administrative documents and technical reports submitted by applicants

### 5.1 Administrative documents

The following administrative documents will be/ were submitted as part of the application:

- Proof of Payment of Water Use Licence Application Processing Fee.
- Copy of Identity Document of applicant / **delegated person.**
- Copy of *Transnet Limited* company registration certificate.
- Power of Attorney for *PHS Consulting* to lodge the WULA application on behalf of the applicant.
- Title Deeds for Erven 14881, 14882, **20414**,14873, 14876, 14877, 14878 & 14867, Bellville South, Western Cape.
- Proof of subdivision & consolidation.

### 5.2 Reports and other technical documents

***Table 2: List of reports and other technical documents submitted***

| Number | Report Title | Compiled by | Date of report |
|---|---|---|---|
| 1 | Freshwater Specialist Statement | Anchor Environmental | November 2022 |
| 2 | S27 Motivation Report (included in this report) | PHS Consulting | September 2024 |
| 3 | Stormwater Management Plan | KLS Consulting Engineers | October 2023 |
| 4 | Comments and Response Report | *to be completed post PPP | tbc |
| 5 | Proof of public participation conducted | **to be completed post PPP | tbc |
| 6 | WSI submission and brine disposal permit application to CoCT | Solution Station | tbc |

Other technical documents used to inform the WULA include diagrams / drawings of stormwater infrastructure related to Section 21 (a), (b) & (j) activities:

- Stormwater Attenuation Pond Layout
- Stormwater Pond Outflow/Outlet Structure Drawing
- Stormwater Layout (Masterplan)
- Bulk Earthworks Layout
- Washbay Layout
- Treatment Plant Design
- Landscaping Layout

## 6. Project Description

A mentioned before, the basis for the proposed development of a new logistics hub is to enable companies to have a one-stop service when it comes to transporting their goods, regardless of

transport type, as the facility also has access to Transnet's rail siding, allowing it to have the goods transported by rail to the port. This will undoubtedly decongest the city as the rail siding will enable reliable, faster, cost-efficient, and greener access into and out of the port, bypassing traffic and port gate congestion. The development will entail the following components:

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Additionally, the development will make use of subsoil drainage systems and will be at a depth of between 2.5m and 3.5m. The primary purpose of the subsoil drainage systems is to prevent groundwater seepage from damaging the concrete footings of the building foundation. The intention is that the subsoil water be treated on site to a potable standard and used in the refrigeration plant, wash bays, toilet flushing and for drinking water in offices. The in-flow rate is estimated at 1.964l/s (170kl/d). Section 21(j) is therefore also applicable to the WULA as the volume is above the GA limit.

<u>Treatment plant description:</u>
Raw water from the stormwater pond is stored in storage tanks at the plant site.
Unit treatment processes include:

1) AFM (activated filter media) filtration for removal of turbidity and iron
2) BIRM filtration for removal of residual iron and manganese
3) GAC (Granular activated carbon) filtration for removal of discoloration

4) Hydrogen peroxide preparation for reverse osmosis membranes
5) Reverse osmosis for removal of high conductivity
6) High duty PVC pipe work throughout, flow meter and dosing arrangement for pH stabilisation
7) Proportional flow liquid chlorine dosing for disinfection
8) Controls for automation with HMI interactive screen
9) Filtered water is discharged to an existing clean water storage tank
10) Design flow rate 35$m^3$/day
11) 12 month process maintenance includes remote motor and alarm monitoring, weekly site visits, monthly sampling and industry audit feedback report.

The municipal water supply will essentially be a back-up to the on-site treated water and would only be required in case of emergency, given the measured subsoil flow rates above. The use of stormwater on site, therefore minimises the need to irrigate using municipal water, which results in lower costs and less pressure on the CoCT municipal distribution system. This allows an increase potable supply to be available for other users within the CoCT metro area. This scenario is the same for the proposed use of treated groundwater for offices (drinking water) toilet flushing, cooling & wash bays, as opposed to using municipal water to conduct these activities.

***Table 3: Project Details Summary***

| Activity | Water use to be applied for (S21 of NWA) | Description |
|---|---|---|
| Abstraction of water from SW Pond for irrigation, cooling, offices, toilet flushing & wash bays | (a) | Abstraction of water from the pond for irrigation, cooling, offices, toilet flushing & wash bays. Provisional annual abstraction is 19 522,5m³. |
| Establishment of Stormwater Attenuation Pond & Storage of water | (b) | The storage of stormwater and groundwater on site in an attenuation pond. The pond will have a max storage capacity of 5 087m³. |
| Dewatering activities (subsoil drainage) | (j) | The development will make use of subsoil drainage systems and will be at a depth of between 2.5m and 3.5m. The primary purpose of the subsoil drainage systems is to prevent groundwater seepage from damaging the concrete footings of the building foundation. The intention is that the subsoil water be treated on site up to a potable standard and used in the refrigeration plant, wash bays, toilet flushing and for drinking water in offices. The in-flow rate is estimated at 1.964l/s (170kl/d). The Section 21(j) volume is above the GA limit. |

**Freshwater Statement:**

A Wetland Specialist Assessment was conducted by *Anchor Environmental* on 2 November 2022 to confirm if the wet area located in the Southeastern corner of the development extent was in fact a natural wetland. The specialist concluded that the area in question is not a true representation of a natural and functional wetland ecosystem because of the following reasons:

- The grasses and plants observed on site are not typical of a wetland.
- The reeds (*Phragmites australis*) and slender knotweeds (*Persicaria decipiens*) noted on the property likely grew over time due to the presence of an underground stormwater system which may have not been maintained to avoid leaks or cracks. Therefore, an artificial wetland has become established.
- No other characteristic wetland vegetation species, such as sedges or cattail reeds (*Typha capensis*) are present. Similarly, no frogs, dragonflies and characteristic wetland species were present.
- Sampling with an auger confirmed that the soil was very sandy and dry. Additionally, the presence of numerous animal burrows seen on site, likely moles and/or snakes, is an indication that the soil is not as wet as a typical wetland, or these animal burrows would be flooded.
- There was no presence of surface water, but the water present is from the stormwater drainage system.

It was the specialists opinion that despite the presence of Phragmites reeds, the absence of other characteristic wetland species suggests that this is a poorly functioning, artificial wetland, of low diversity, which has formed as a result of a water leak. Therefore, it was important that the competent authority, the CoCT, had the final say / decision about this artificial wetland's status and level of importance. No further issues were raised from an environmental perspective by the COCT following the Land Use Management Scheme and Building Development Management Application process.

Based on the above, it is considered unlikely that the proposed development will detrimentally impact on any aquatic features on site.

**7. Methods statement (only for c and i activity)**

N/A (no (c) & (i) activities

**8. Stormwater Management Plan**

The stormwater network is designed to manage post-development runoff for all minor and major storm events, in a sustainable manner, while simultaneously adhering to all authoritative requirements and conditions of approval as set out by the City of Cape Town. *Refer to correspondence from the relevant CoCT departments in* ***Appendix C*** *in the Stormwater Management Plan for the conditions and requirements to be included in the stormwater design and management plan.* The internal network consists of underground gravity fed stormwater box culverts and pipes, ACO Q-max drains, a series of inlet structures, and open swales, which will drain the impermeable surfaces. All runoff will ultimately be conveyed into a newly constructed attenuation pond, which will discharge runoff from the site at pre-development rates. The following minimum

specifications, as per the CoCT Guidelines, will be implemented for the underground stormwater infrastructure:

- Concrete spigot and socket class 100D pipes will be installed.
- A minimum pipe diameter of 300mm for connections, and 375mm for main lines is used.
- A Minimum velocity of 0.9m/s is ensured in the design.
- A Maximum spacing of 90m is adhered to.
- All stormwater structures will be constructed according to the CoCT standard details.

The following assumptions and design principles are used in the stormwater management design:

- The underground stormwater network is designed to convey runoff of up to the 1:10 -year storm event to the attenuation pond.
- The attenuation pond is designed as a wet pond, to ensure that sustainable urban drainage system (SUDS) and LEED-certification requirements are met. The aim is to achieve LEED platinum accreditation.

The approach for stormwater management aims to:

- Keep natural drainage patterns in the post development site, where possible, within the constraints of the new developed site.
- Protect adjacent and downstream properties, water courses and infrastructure from the impacts of increased post development runoff.
- Improve the quality of runoff by reducing the total amount of suspended solids, nitrogen and phosphorus content.
- Promote infiltration and internal reuse of runoff.
- Implement best management practices for a water sensitive urban design and sustainable stormwater management.

**EXISTING STORMWATER NETWORK**

The existing stormwater network consists of an underground gravity pipe network and inlet structures, that drain the impermeable areas. This system is designed to have sufficient capacity to convey a 1:5-year rainfall event.

**MANAGING RUNOFF FROM ADJACENT PROPERTIES**

*C0CT* indicated that flooding occurs in Parow Industrial, north-west of the proposed development due to excessive stormwater runoff from Transnet Park. The proposed solution from *CoCT (see correspondence in* ***Appendix C2 in SWMP****),* was to install a cut-off drain along the railway lines and tying it into an existing earth drain as indicated in ***Figure 3 below***. GIBB consulting Engineers analysed the stormwater runoff for *CoCT* and this led to the size of the cut-off drain to be 0.5m deep, 0.5m wide with side slopes of 1:3 at the start. The cut-off drain increases to 1.2m deep, 1.2m wide with side slopes of 1:3 at the end.

KLS will incorporate the cut-off drain into the works as this will be a condition with the SDP approval. As per CoCT instruction, a low point was identified in Robert Sobukwe Road, just North of the development site. During events of extreme rainfall, flooding may occur and runoff reaching the development site is a possibility, due to the natural overland flow routes. The post development site topography will convey runoff due to possible flooding towards the internal swale network, which channels runoff towards the attenuation pond.

The warehouse is ±1.4m higher than the marshalling yards, therefore a very low risk of flooding of the buildings exists.

**NEW INTERNAL NETWORK**

The proposed development will increase the existing impervious cover to approximately 85%, which will result in an increase in stormwater runoff. The new development will drain the impervious areas via an underground network, consisting of the following elements:

- ACO Q-Max drains,
- ACO Q-Max junction boxes,

- Box culverts,
- Concrete spigot and socket pipes.
- Grids and side inlet structures.
- uPVC pipes class 34, heavy duty.

*Refer to **Figure 3** for the proposed stormwater layout plan.*

The development is divided into three main sub-catchments contributing to the attenuation facility. Catchment A covers the majority of the site. Catchment B and C drains towards a series of swales to the North of the site, which ultimately discharges into the attenuation dam in the northwestern corner of the site. Refer to ***Figure 4*** for the sub catchments and overland flow routes.

The stormwater network has capacity to effectively convey all runoff for up to the 1:10 year rainfall event to the attenuation facility in the northwestern corner of the site, before discharging into the municipal system via 450 mm ø concrete pipe.

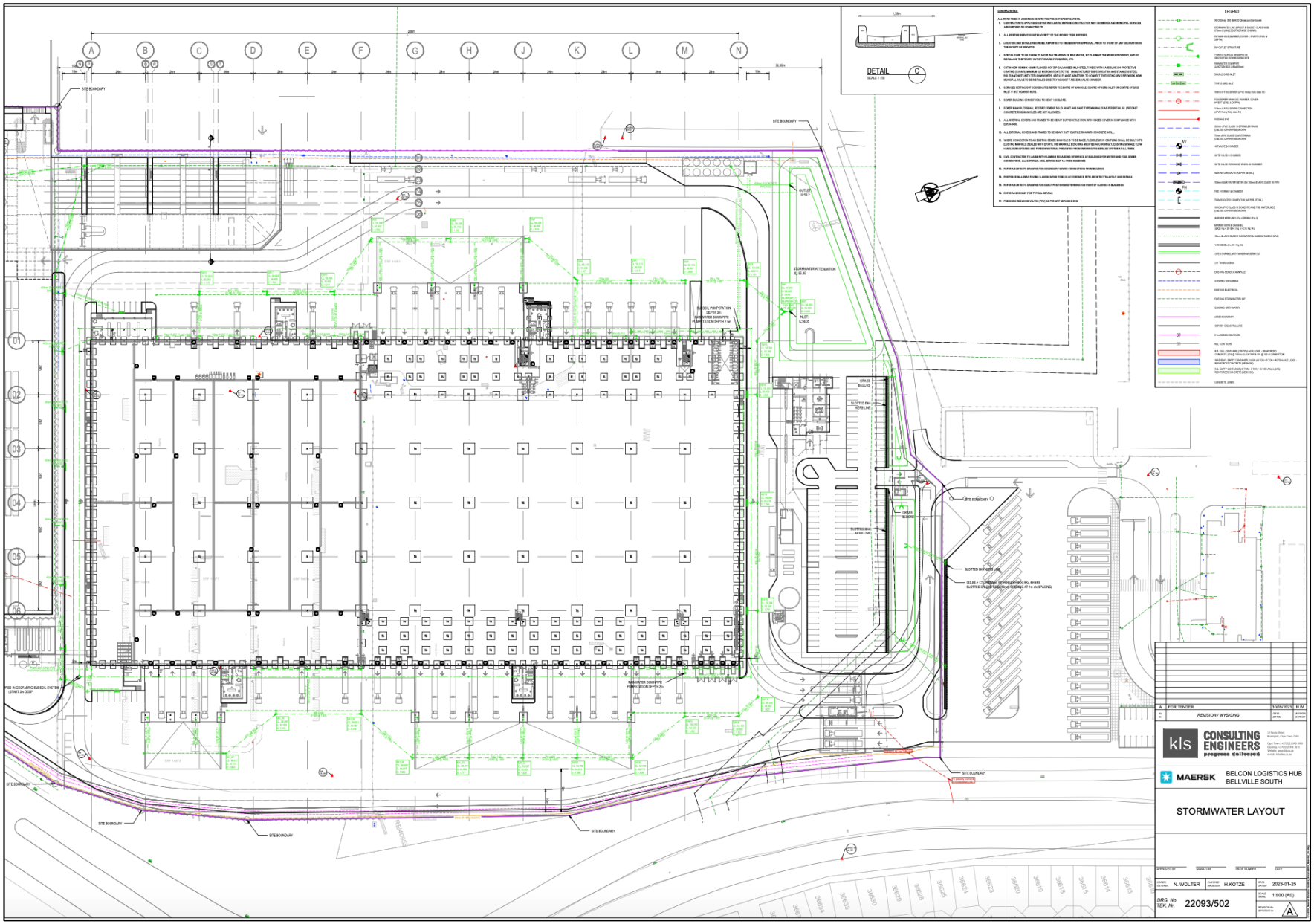


*FIGURE 3: STORMWATER LAYOUT*

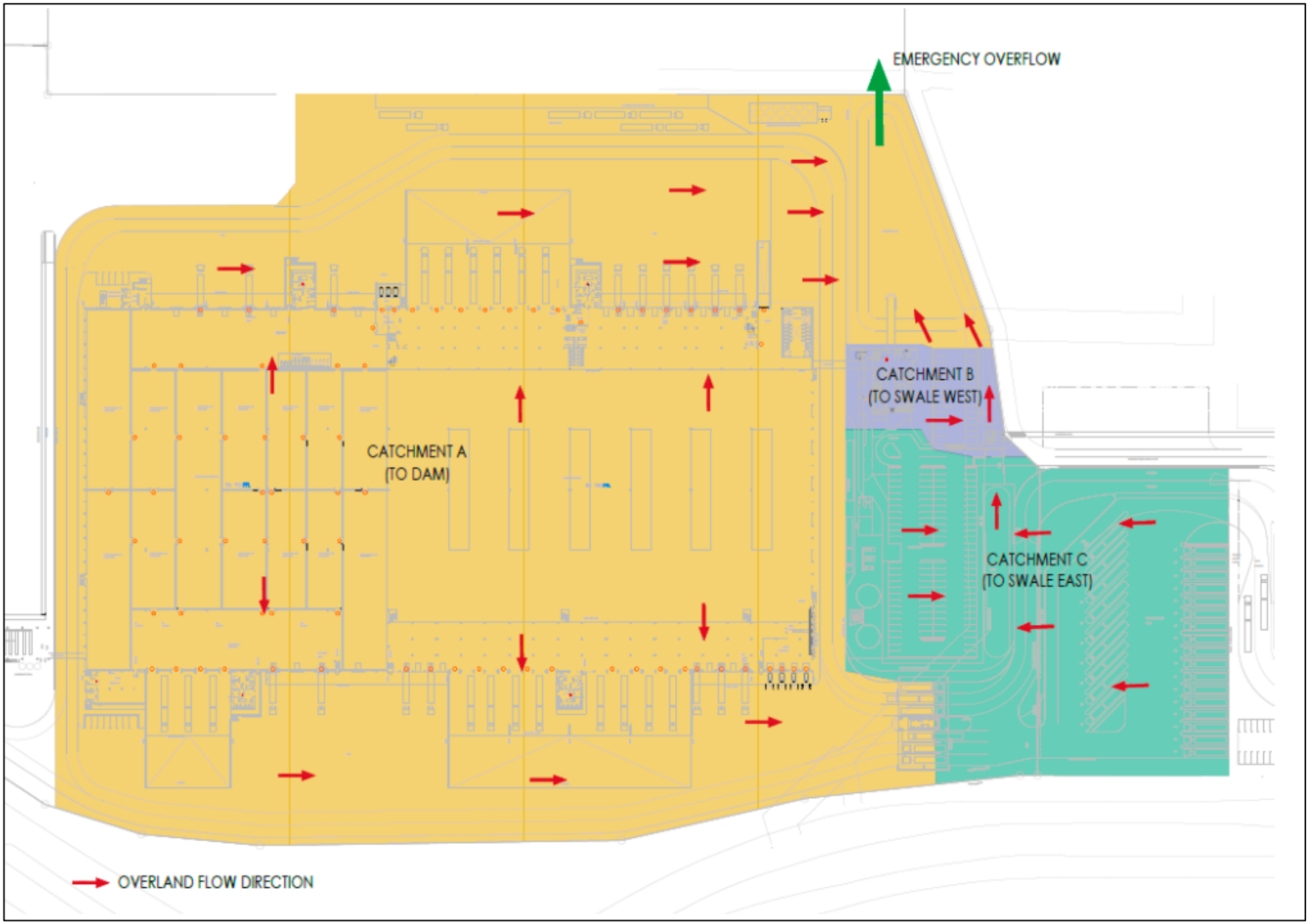


*FIGURE 4: BELCON DEVELOPMENT SUB-CATCHMENTS AND OVERLAND FLOW ROUTES*

**ATTENUATION**

The City of Cape Town Management of Urban Stormwater Impacts Policy requires that the stormwater infrastructure makes allowance for the attenuation of peak runoff flows to pre-development runoff rates, in order to protect downstream watercourses and infrastructure.

A stormwater attenuation dam will be constructed in the northwestern corner of the site. (*see* ***Figure 5***) The dam is designed as a wet pond with no engineered lining at this stage, due to a high water table. The dam will have a permanent water level (PWL) of 1.6m depth, to ensure no reed growth within the dam. The volume of 2 156.6m³ at PWL is more than the required water quality volume. The dam is designed with additional storage capacity above the PWL, to attenuate runoff from up to a 1:100-year peak storm rainfall event. This also meets the CoCT Management of Urban Stormwater Impacts Policy required storage capacity for a volume equal to the 1:1-year, 24-hour storm event, which amounts to 2 878m³.

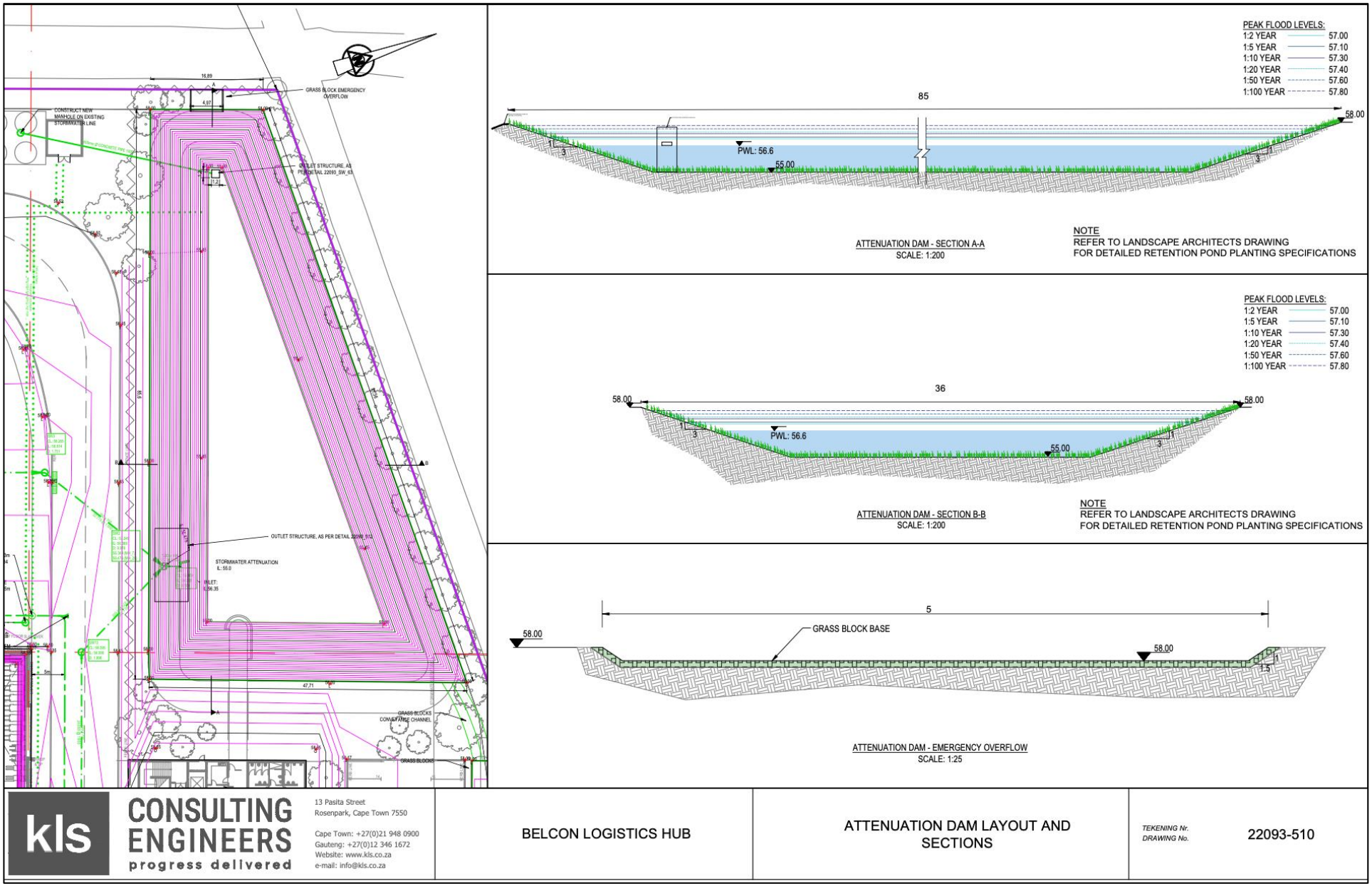


***FIGURE 5: ATTENUATION POND LAYOUT***

The stormwater runoff inside the underground pipe network will pass through a stilling basin outlet structure before being discharged into the attenuation dams. Refer to **Figure 6** for the detailed drawing.

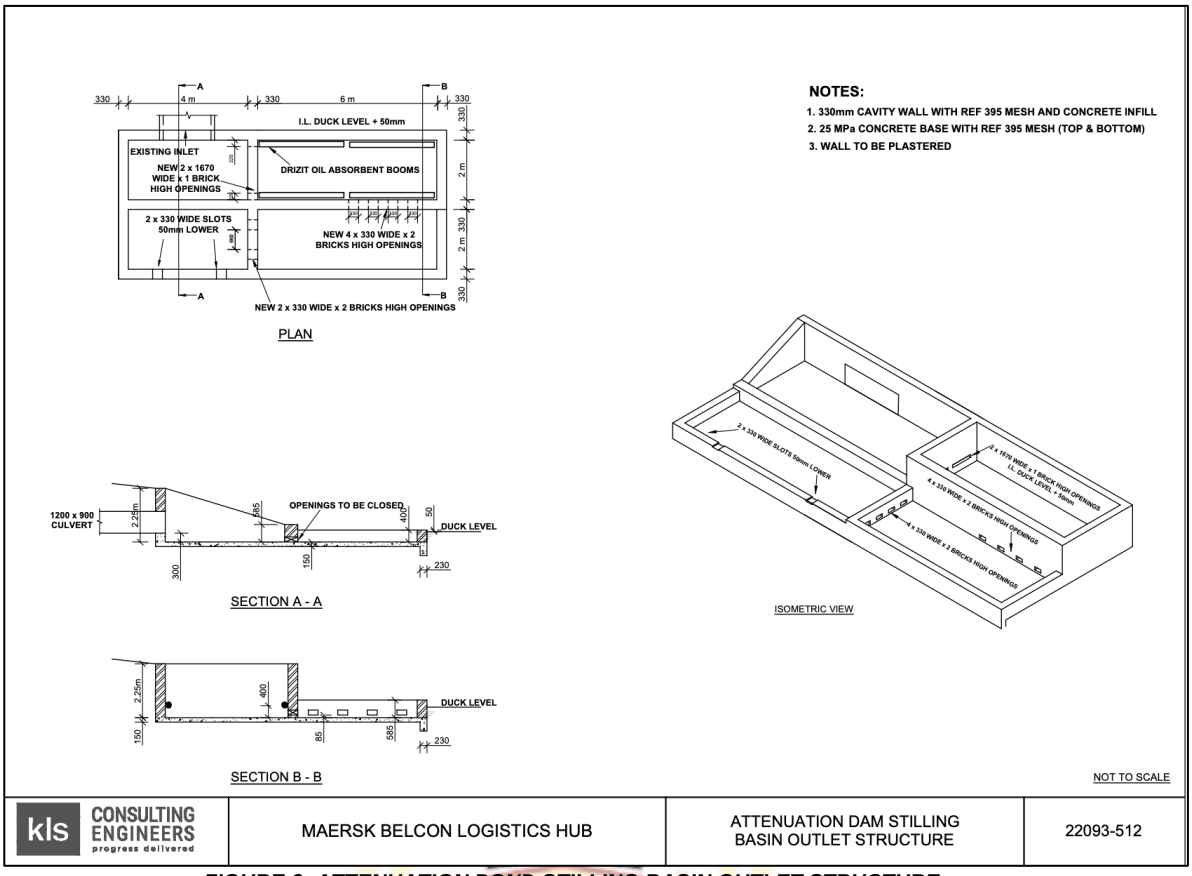


***FIGURE 6: ATTENUATION POND STILLING BASIN OUTLET STRUCTURE***

The maximum full storage capacity of the dam is 5 087m³. The proposed outlet structure (see ***Figure 7***), is designed to release the attenuated volume into the municipal network at pre-development, or as close as possible to pre-development flow rates with a standardised outlet size.
The proposed outlet pipe from the dam to the municipal network will however govern flow rates, with a maximum flow capacity of 0.309m³/s, which is less than pre-development flow rates.

The emergency overflow system is designed to accommodate storms larger than the 1:100-year storm. A grass block emergency overflow channel for extreme or abnormal flooding events is proposed on the northwestern bank of the dam.

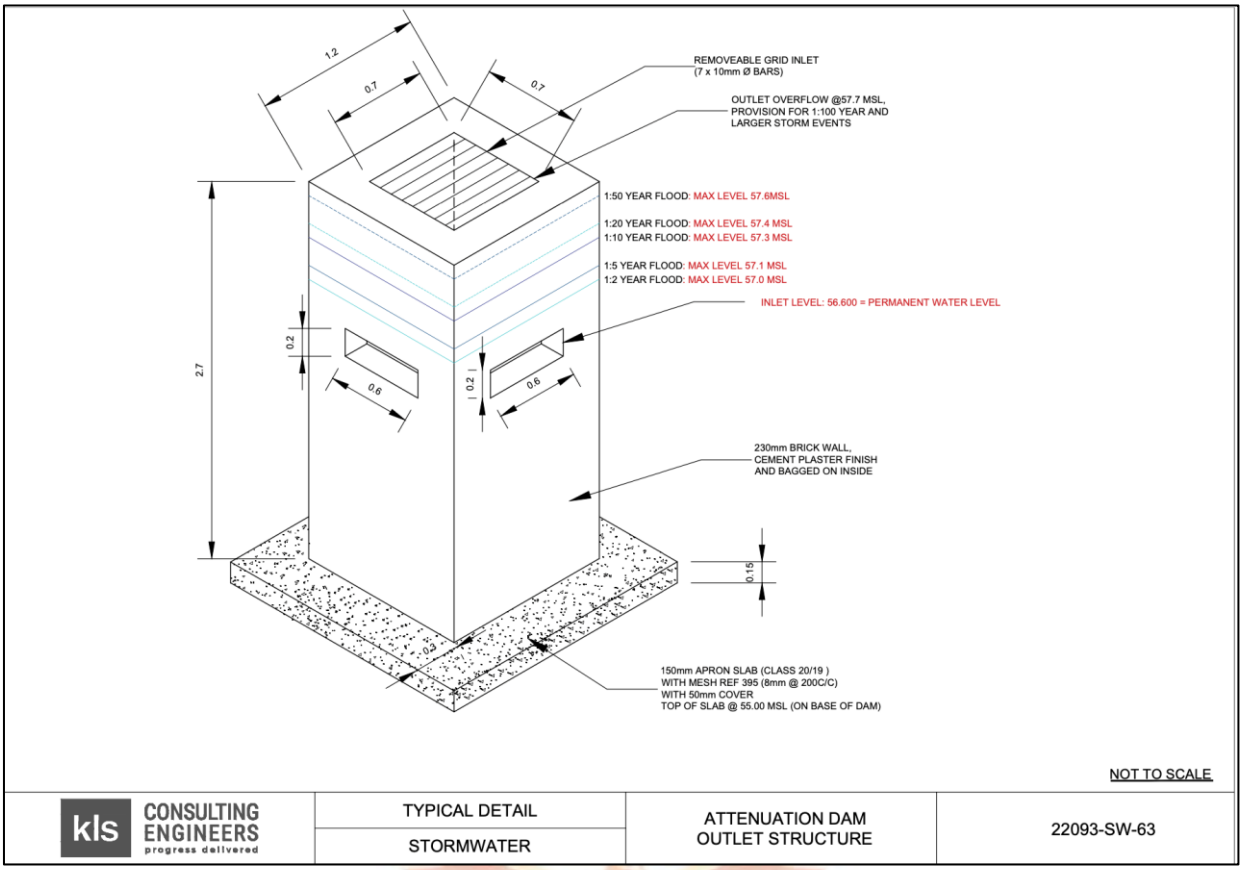


***FIGURE 7: ATTENUATION POND OUTLET STRUCTURE***

The developer aims to achieve LEED platinum accreditation. As a requirement, 20.1mm/m² of runoff should be attenuated. The attenuation facility has sufficient capacity to accommodate this volume of 2 211m³.

## STORMWATER QUALITY IMPROVEMENT

The CoCT Management of Urban Stormwater Impacts Policy requires the improvement of the quality of runoff, through a combination of on-site and regional treatment facilities. The target is to reduce at least 80% of total suspended solids (TSS), and 45% of phosphorus content, for a volume equal to the 1:½-year 24-hour storm event.

Quality improvement targets will be reached through a combination of Best Management Practices along with Water Sensitive Urban Design initiatives, which includes rainwater harvesting, swales and a large attenuation dam which will promote infiltration and evaporation and the removal of suspended solids through settling and sedimentation control at inlet structures.

The attenuation dam in the northwestern corner of the site is the primary treatment facility for stormwater quality improvement, with the two swales also acting as treatment facilities for their respective contributing catchments, before releasing into the larger attenuation dam.

The swales are incorporated into the design as a best management practice. It will convey the runoff from its respective sub-catchments to the larger attenuation dam, which is designed with sufficient capacity for the whole site. Hence, the swales will provide additional storage to the more than sufficient primary attenuation facility, and will serve as pre-treatment facilities for their respective sub-catchments, before releasing into the main attenuation dam via grass block channel. A typical swale detail is included in ***Figure 8***, with final levels and dimensions still to be formalised. The respective swale capacities are currently the following, as modelled with *Civil Designer:*

- Eastern Swale: 350³
- Western Swale:64m³

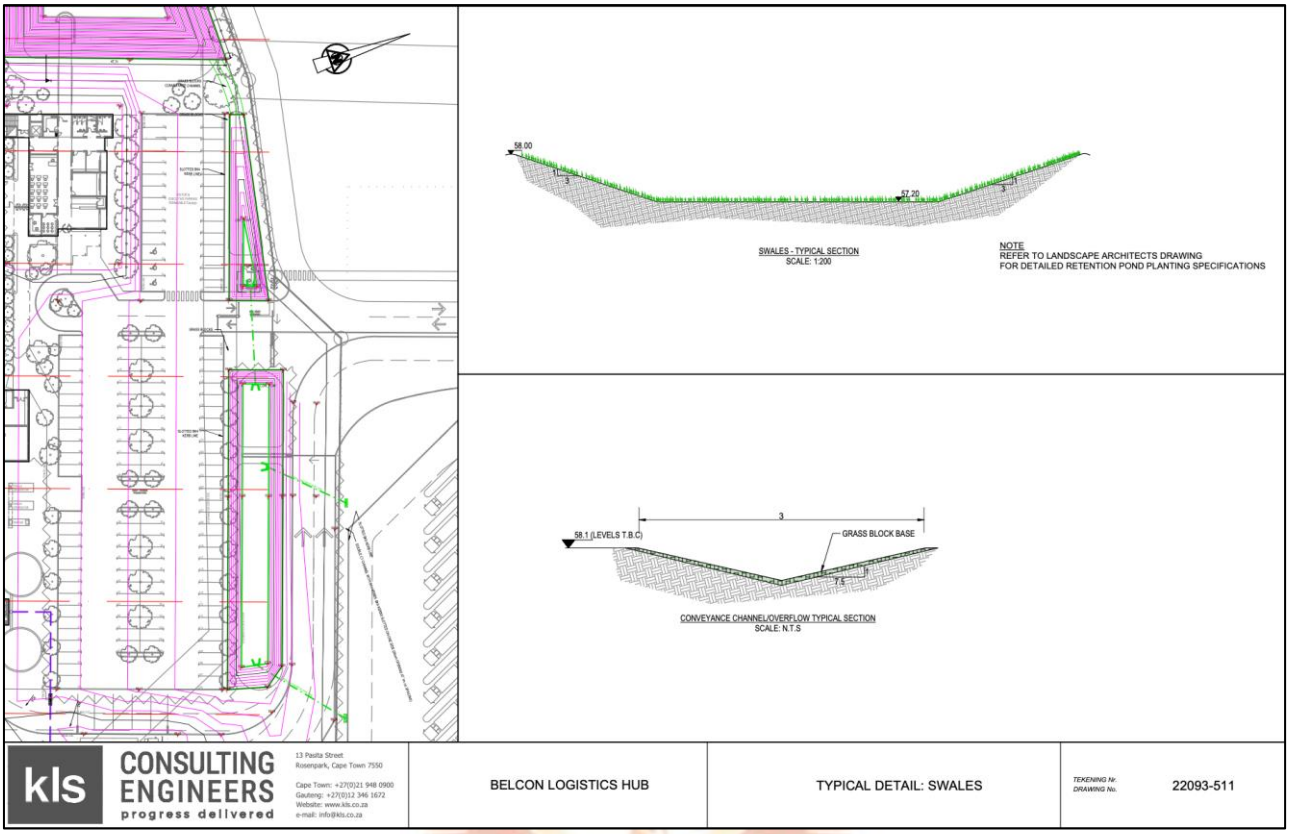


***FIGURE 8: SWALE LAYOUT***

Refer to ***Figure 9*** for the proposed landscape plan for the BELCON Logistic Hub. The permeable, landscaped areas, promote infiltration and further improvement of runoff quality. The internal reuse of stormwater runoff for irrigation will also reduce the need for potable water. 70 000litres, stored by means of tanks, will be used for irrigation purposes.

Treatment plant description:

Raw water from the stormwater pond is stored in storage tanks at the plant site.
Unit treatment processes include:

1) AFM (activated filter media) filtration for removal of turbidity and iron
2) BIRM filtration for removal of residual iron and manganese
3) GAC (Granular activated carbon) filtration for removal of discoloration
4) Hydrogen peroxide preparation for reverse osmosis membranes
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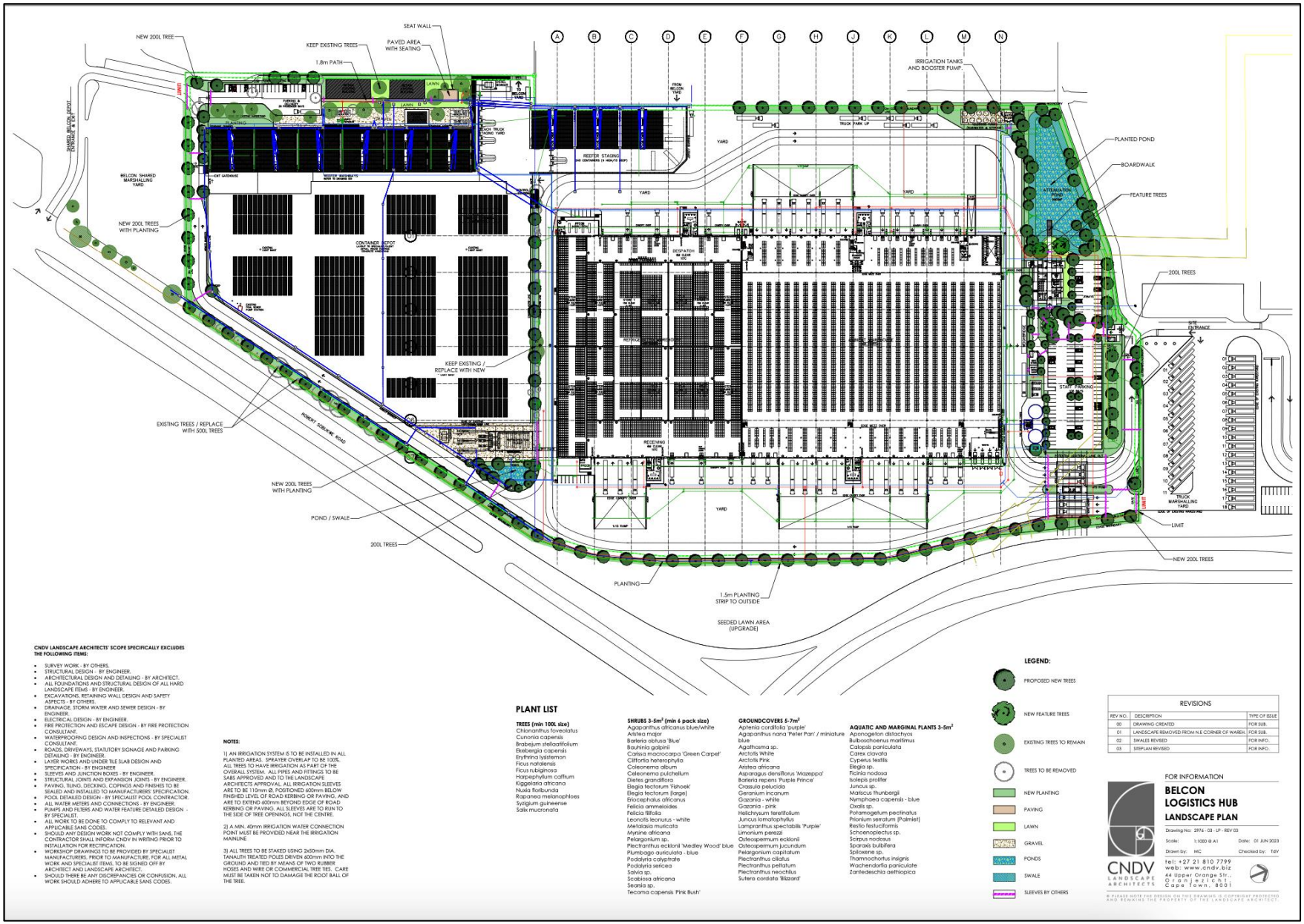
9) Filtered water is discharged to an existing clean water storage tank
10) Design flow rate 35$m^3$/day
11) 12 month process maintenance includes remote motor and alarm monitoring, weekly site visits, monthly sampling and industry audit feedback report.

Figure 10 illustrates the treatment plant layout.




**LEGEND:**

**CNDV LANDSCAPE ARCHITECTS' SCOPE SPECIFICALLY EXCLUDES THE FOLLOWING ITEMS:**

- SURVEY WORK - BY OTHERS.
- STRUCTURAL DESIGN - BY ENGINEER.
- ARCHITECTURAL DESIGN AND DETAILING - BY ARCHITECT.
- ALL FOUNDATIONS AND STRUCTURAL DESIGN OF ALL HARD LANDSCAPE ITEMS - BY ENGINEER.
- EXCAVATIONS, RETAINING WALL DESIGN AND SAFETY ASPECTS - BY OTHERS.
- DRAINAGE, STORM WATER AND SEWER DESIGN - BY ENGINEER.
- ELECTRICAL DESIGN - BY ENGINEER.
- FIRE PROTECTION AND ESCAPE DESIGN - BY FIRE PROTECTION CONSULTANT.
- WATERPROOFING DESIGN AND INSPECTIONS - BY SPECIALIST CONSULTANT.
- ROADS, DRIVEWAYS, STATUTORY SIGNAGE AND PARKING DETAILING - BY ENGINEER.
- LAYER WORKS AND UNDER TILE SLAB DESIGN AND SPECIFICATION - BY ENGINEER
- SLEEVES AND JUNCTION BOXES - BY ENGINEER.
- STRUCTURAL JOINTS AND EXPANSION JOINTS - BY ENGINEER.
- PAVING, TILING, DECKING, COPINGS AND FINISHES TO BE SEALED AND INSTALLED TO MANUFACTURERS' SPECIFICATION.
- POOL DETAILED DESIGN - BY SPECIALIST POOL CONTRACTOR.
- ALL WATER METERS AND CONNECTIONS - BY ENGINEER.
- PUMPS AND FILTERS AND WATER FEATURE DETAILED DESIGN - BY SPECIALIST.
- ALL WORK TO BE DONE TO COMPLY TO RELEVANT AND APPLICABLE SANS CODES.
- SHOULD ANY DESIGN WORK NOT COMPLY WITH SANS, THE CONTRACTOR SHALL INFORM CNDV IN WRITING PRIOR TO INSTALLATION FOR RECTIFICATION.
- WORKSHOP DRAWINGS TO BE PROVIDED BY SPECIALIST MANUFACTURERS, PRIOR TO MANUFACTURE, FOR ALL METAL WORK AND SPECIALIST ITEMS, TO BE SIGNED OFF BY ARCHITECT AND LANDSCAPE ARCHITECT.
- SHOULD THERE BE ANY DISCREPANCIES OR CONFUSION, ALL WORK SHOULD ADHERE TO APPLICABLE SANS CODES.

**NOTES:**

1) AN IRRIGATION SYSTEM IS TO BE INSTALLED IN ALL PLANTED AREAS. SPRAYER OVERLAP TO BE 100%. ALL TREES TO HAVE IRRIGATION AS PART OF THE OVERALL SYSTEM. ALL PIPES AND FITINGS TO BE SABS APPROVED AND TO THE LANDSCAPE ARCHITECTS APPROVAL. ALL IRRIGATION SLEEVES ARE TO BE 110mm Ø, POSITIONED 600mm BELOW FINISHED LEVEL OF ROAD KERBING OR PAVING, AND ARE TO EXTEND 600mm BEYOND EDGE OF ROAD KERBING OR PAVING. ALL SLEEVES ARE TO RUN TO THE SIDE OF TREE OPENINGS, NOT THE CENTRE.

2) A MIN. 40mm IRRIGATION WATER CONNECTION POINT MUST BE PROVIDED NEAR THE IRRIGATION MAINLINE

3) ALL TREES TO BE STAKED USING 2x50mm DIA. TANALITH TREATED POLES DRIVEN 600mm INTO THE GROUND AND TIED BY MEANS OF TWO RUBBER HOSES AND WIRE OR COMMERCIAL TREE TIES. CARE MUST BE TAKEN NOT TO DAMAGE THE ROOT BALL OF THE TREE.

**PLANT LIST**

**TREES (min 100L size)**
Chionanthus foveolatus
Cunonia capensis
Brabejum stellatifolium
Ekebergia capensis
Erythrina lysistemon
Ficus natalensis
Ficus rubiginosa
Harpephyllum caffrum
Kiggelaria africana
Nuxia floribunda
Rapanea melanophloes
Syzigium guineense
Salix mucronata

**SHRUBS 3-5m² (min 6 pack size)**
Agapanthus africanus blue/white
Aristea major
Barleria obtusa 'Blue'
Bauhinia galpinii
Carissa macrocarpa 'Green Carpet'
Clitfortia heterophylla
Coleonema album
Coleonema pulchellum
Dietes grandiflora
Elegia tectorum 'Fishoek'
Elegia tectorum (large)
Enocephalus africanus
Felicia ammeloides
Felicia filifolia
Leonotis leonurus - white
Metalasia muricata
Myrsine africana
Pelargonium sp.
Plectranthus ecklonii 'Medley Wood' blue
Plumbago auriculata - blue
Podalyria calyptrata
Podalyria sericea
Salvia sp.
Scabiosa africana
Searsia sp.
Tecoma capensis 'Pink Bush'

**GROUNDCOVERS 5-7m²**
Apteria conifolia 'purple'
Agapanthus nana 'Peter Pan' / miniature blue
Agathosma sp.
Arctotis White
Arctotis Pink
Aristea africana
Asparagus densiflorus 'Mazeppa'
Barleria repens 'Purple Prince'
Crassula peluicida
Geranium incanum
Gazania - white
Gazania - pink
Helichrysum teretifolium
Juncus lomatophyllus
Lampranthus spectabilis 'Purple'
Limonium perezii
Osteospermum ecklonii
Osteospermum jucundum
Pelargonium capitatum
Plectranthus ciliatus
Plectranthus petiolatum
Plectranthus neochilus
Sutera cordata 'Blizzard'

**AQUATIC AND MARGINAL PLANTS 3-5m²**
Aponogeton distachyos
Bulbocholenus maritimus
Calopsis paniculata
Carex clavata
Cyperus textilis
Elegia sp.
Ficinia nodosa
Isolepis prolifer
Juncus sp.
Mariscus thunbergii
Nymphaea capensis - blue
Oxalis sp.
Potamogetum pectinatus
Prionium serratum (Palmiet)
Restio festuciformis
Schoenoplectus sp.
Scirpus nodosus
Sparaxis bulbifera
Spilxoxene sp.
Thamnochortus insignis
Wachendorfia paniculata
Zantedeschia aethiopica

| REVISIONS | | |
|---|---|---|
| REV NO. | DESCRIPTION | TYPE OF ISSUE |
| 00 | DRAWING CREATED | FOR SUB. |
| 01 | LANDSCAPE REMOVED FROM N.E CORNER OF WAREH | FOR SUB. |
| 02 | SWALES REVISED | FOR INFO. |
| 03 | STEPLAN REVISED | FOR INFO. |

FOR INFORMATION

**BELCON LOGISTICS HUB**

**LANDSCAPE PLAN**

Drawing No: 2976 - 03 - LP - REV 03
Scale: 1:1000 @ A1 Date: 01 JUN 2023
Drawn by: MC Checked by: TdV

CNDV LANDSCAPE ARCHITECTS
tel: +27 21 810 7799
web: www.cndv.biz
44 Upper Orange Str., Oranjezicht, Cape Town, 8001



***FIGURE 9: LANDSCAPING LAYOUT***

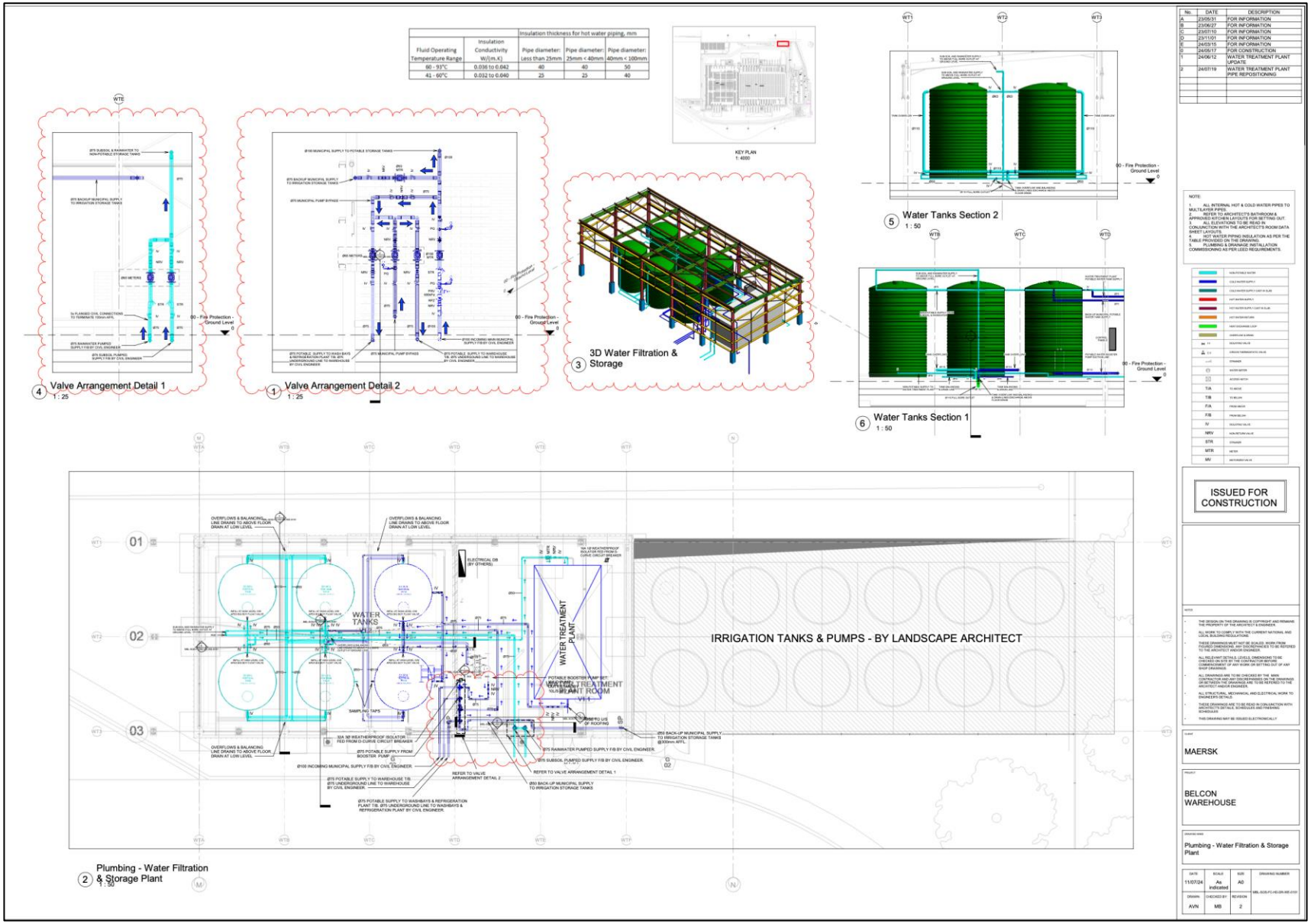



***FIGURE 10: TREATMENT PLANT DESIGN***

## IMPACT OF MAJOR FLOWS

For the purpose of this design, major flows are classified as rainfall events with a return period larger than 1:10 -years, not included in the underground network capacity design.

The development is designed in such a manner that ponding will not disrupt the day-to-day activities within the development, or negatively impact the internal property or infrastructure. The topography and internal stormwater system of the proposed development site will ensure overland flow into the attenuation dam, which has capacity for the full volume generated from up to a 1:100-year peak storm event. Larger or abnormal rainfall event will be catered for by the north western overflow.

The current full dam capacity, excluding the additional swale storage capacity, is equal to 5 086.91m³. The total volume generated by the peak 1:100-year storm event, for the total development site is 3 047.38m³. The permanent water volume, is 2 156.56m³ at full capacity. The combined permanent water volume and the peak 1:100-year generated runoff volume is 5 203.94m³, not taking into account the outflow capacity. Based on a simplified, but conservative inflow vs outflow modelling of the attenuation dam, limited by the outflow pipe capacity, the maximum water level in the dam at any stage during the peak storm event will be 57.8 MSL, with the corresponding volume equal to 4 820.42m³.

## MAINTENANCE PROCEDURES

The internal stormwater system will be exposed to external elements and pollutants such as vehicle oils, litter and windblown sedimentation. This will significantly impact the operation and efficiency of the system. It is thus imperative that the stormwater infrastructure is maintained, checked, and cleaned at regular intervals to ensure optimal functioning of the system.

The completed development will be handed over to the facilities manager, who will be responsible for the maintenance and day-to-day operation of the development. This includes responsibility of the maintenance items specified in this section of the document.
It is imperative that maintenance personnel who carries out the routine inspections and maintenance procedures adhere to all Health and Safety standards, as per the Occupational Health and Safety Act (Act 85 of 1993).

## ROUTINE CLEANING INSPECTIONS

Routine inspections and necessary cleaning should be undertaken on a regular basis by a competent, responsible person, such as a facilities manager or caretaker. It is recommended that routine inspections are done on a monthly basis, as well as after heavy rainfall events during the rainfall season. The inspection should include, but is not limited to:

- Checking that all gully-, grid- and kerb inlets are in place, clean and free of any blockages such as litter, leaves or sand build up.
- Manhole covers should be in place and free of any blockages.
- All stormwater pipes must be free of blockages.
- ACO-drains must be clean and clear of any litter build up or blockages.
- The level of sand in sand traps should be assesses and cleaned if necessary.
- Stilling basins at outlet structures should be checked for the level of sand and sedimentation build up.
- Open swales and the attenuation dam must be free of blockages to ensure free flow, and vegetation must be maintained.
- The structural integrity and water quality of rainwater harvesting tanks should be assessed, and all connections should be in place and free of leaks.

Any of the items which are deemed to not be satisfactory, must be tended to immediately.

## ENGINEERING INSPECTIONS FOR MAINTENANCE

Engineering maintenance inspections should be undertaken on a yearly basis by a qualified engineer to assess the current condition of the stormwater infrastructure, to determine any repairs that may be required.

The water quality of the attenuation dams and runoff being discharged into the municipal system should be measured on a bi-yearly basis, by an independent laboratory. The routine cleaning inspection checklist should also be assessed and updated as necessary.

The findings and recommendations of the maintenance inspection should be submitted to the client, who should immediately attend to any required remedial work, via a qualified contractor.

**FINANCIAL ALLOWANCES FOR MAINTENANCE AND REPAIR WORKS**

Although specific risk components can be identified at this stage of the development, it is very difficult to accurately determine the future vulnerability of the stormwater network. In addition to this, the future maintenance and replacement costs will largely depend on a number of building-industry and economic factors which is difficult to predict. In order to avoid large future expenditure on replacement and maintenance, we would recommend that the developer make allowance for a yearly stormwater maintenance budget of at least 5% of the total capital cost for the installation of the stormwater network.

**SAFETY CONSIDERATIONS**

The stormwater infrastructure must always be operated and maintained in accordance with all provisions of the Occupational Health and Safety Act (Act 85 of 1993).

In addition to the guidelines and requirements of the Occupational Health and Safety Act, it is also recommended that maintenance staff work in a safe manner. Appropriate personal protection equipment must be worn at all times during maintenance of the stormwater network, and any unsafe conditions should be reported immediately. All manholes should be properly shut after maintenance procedures, to avoid tripping hazards. Open manholes should be cordoned off with appropriate danger tape.

**CONCLUSION**

CoCT confirmed that they are in agreement with the KLS approach for stormwater management*, and detail design can* proceed. This stormwater strategy plan is based on the design principles as set out in this document, as well as the conditions of approval set by CoCT. It is a holistic approach, which will significantly improve stormwater runoff generated by the new development in terms of quality and quantity, which will reduce strain on the existing municipal system. The design and management plan complies with the City of Cape Town policies and requirements.

## 9. Rehabilitation Plan

No rehab measures proposed.

## 10. Water Uses applied for

**The application includes the following water uses.**

***Table 4: Water Use Applied for***

| Water use(s) activities | Purpose | Capacity/ Volume ($m^3$, tonnes and/or $m^3$/annum)/ dimension | Property Description | Co-ordinates |
|---|---|---|---|---|
| **Section 21(a)** | | | | |
| Abstraction of water from stormwater attenuation pond. | Irrigation, cooling, offices, toilet flushing & wash bays. | 19 522,5$m^3$/a<br><br>1.11ha landscape area (irrigation) | Erf 20414, Bellville South | 33°57'25.68"S, 18°40'17.93"E |

| Water use(s) activities | Purpose | Capacity/ Volume ($m^3$, tonnes and/or $m^3$/annum)/ dimension | Property Description | Co-ordinates |
|---|---|---|---|---|
| **Section 21(a)** | | | | |
| **Section 21(b)** | | | | |
| Stormwater Attenuation Pond | Storage | 5 087 $m^3$ | Erf 20414, Bellville South | 33°55'25.56"S, 18°37'41.96"E |
| **Section 21 (j)** | | | | |
| Dewatering activities (subsoil) | The primary purpose of the subsoil drainage systems is to prevent groundwater seepage from damaging the concrete footings of the building foundation. The intention is that the subsoil water be treated on site to potable standard and used in the refrigeration plant, wash bays, toilet flushing and for drinking water in offices. | The development will make use of subsoil drainage systems and will be at a depth of between 2.5m and 3.5m. The in-flow rate is estimated at 1.964l/s (170kl/d). | Erf 20414, Bellville South | 33°55'27.47"S, 18°37'44.95"E |

## 11. Impacts and mitigation measures

The potential impacts and mitigation measures that are expected from the proposed activities are presented in **Table 5.**

***Table 5: Summary of impacts and mitigation measures***

| **Water Use activity** | **Possible causes of the impacts of the activities Impacts to the water resources** | **Possible Impacts to the water resource and other water users** | **Mitigation Measures** |
|---|---|---|---|
| Section 21(a) | Abstration of water from stormwater attenuation pond | 1) Use of groundwater and stormwater on site which requires less munipal supply (positive impact)<br>2) Decrease of stormwater runoff from site and to receiving environment | 1) No mitigation required – positive impact<br>2.1) Water saving and minimisation of use on site to be implemented; metering and reporting to DWS of abstraction from stormwater pond<br>2.2) All surplus water to be discharged to the Kuilsriver<br>2.3) No polluted runoff or discharge from the site<br>2.4) Leak detection of irrigation system and water reticulation system; regular maintenance and inspection of treatment plant to be conducted<br>2.5) Compliance with SANS drinking water standard to be provided to CoCT at required intervals (as stipulated in WSI agreement)<br>2.6) Compliance with brine disposal permit to be provided to CoCT at required intervals (as stipulated in permit) |
| Section 21(b) | Storage of stormwater and subsoil drainage water in stormwater attenuation pond | 1) Prevention of flooding during high rainfall events (positive impact)<br>2) Decrease of stormwater runoff from site and to receiving environment | 1) No mitigation required – positive impact<br>2.1) Water saving and minimisation of use on site to be implemented; metering of abstraction from stormwater pond<br>2.2) Stormwater pond to be regularly inspected to ensure capacity and cleaned of silt when required<br>2.3) Any debris / litter in the stormwater pond to be suitably disposed of |
| Section 21 (j) | Dewatering of groundwater around the site | 1) Prevention of damage to foundations of buildings (positive impact)<br>2) Decrease in subsoil groundwater flow from site | 1) No mitigation required – positive impact<br>2.1) Water saving and minimisation of use on site to be implemented; metering of subsoil drains to form part of monitoring program for the site<br>2.2) Maintenance of subsoil drains on a regular basis and silt clearing when required |

## 12. Water demand and water supply

### 12.1 Water demand

The water demand is illustrated in the water balance in Table 6.

The water consumption estimates for the site are:

| | |
|---|---|
| Refrigeration & AC plant | 4 050$m^3$/annum (potable standard) |
| Offices (drinking water included) | 3 200$m^3$/annum (potable standard) |
| Washbays | 950$m^3$/annum (potable standard) |
| Irrigation | 8 405$m^3$/annum (non-potable standard) |

### 12.2 Water supply

The intention is that the subsoil water captured in the stormwater pond be treated to potable standard and used in the refrigeration plant, wash bays, toilet flushing and for drinking water. The in-flow rate is estimated at 1.964l/s (170kl/d).

The municipal water supply will essentially be a back-up to the on-site treated water and would only be required in case of emergency, given the measured subsoil flow rates that were provided to us previously.

Total abstraction volume from the stormwater attenuation pond is approximately 19 600$m^3$/annum, and surplus water will be discharged to the Kuils River.

A 20% brine loss has been allowed for in the calculation of the total abstraction volume where it relates to the volumes required for the offices, Refrigeration and AC plant and the washbays.

A volume of 1 277,5$m^3$/annum flushwater has also been allowed for.

A Brine disposal permit application to CoCT has been submitted for the disposal of the brine and flushwater to sewer.

***Table 6: Water Balance***

| Month | Landscape Architect Irrigation Requirements (m³) | Water requirement for Refrigeration & AC Plant (m³) | Water requirement for offices & toilet flushing [drinking water included] (m³) | Water requirement for washbays (m³) | |
|---|---|---|---|---|---|
| January | 1,229 | 337,5 | 267 | 79 | |
| February | 1,110 | 337,5 | 267 | 79 | |
| March | 983 | 337,5 | 267 | 79 | |
| April | 714 | 337,5 | 267 | 79 | |
| May | 246 | 337,5 | 267 | 79 | |
| June | 0 | 337,5 | 267 | 79 | |
| July | 0 | 337,5 | 267 | 79 | |
| August | 246 | 337,5 | 267 | 79 | |
| September | 476 | 337,5 | 267 | 79 | |
| October | 983 | 337,5 | 267 | 79 | |
| November | 1,189 | 337,5 | 267 | 79 | |
| December | 1,229 | 337,5 | 267 | 79 | |
| Total ($m^3$/Annum) | ± 8 405 m³ | ± 4 050 m³ | ± 3 200 m³ | ± 950 m³ | |
| | | | | | |
| Total ($m^3$/Day) | ± 23 m³ | ± 11.1 m³ | ± 8.77 m³ | ± 2.6 m³ | |
| | *± 45,47 m³ p/d (combined total)* | | | | |
| | | | | | |
| Abstraction Volume ($m^3$/Annum) | 8405 m³/a | 4860 m³/a | 3840 m³/a | 1140 m³/a | *TOTAL* |
| Flushwater (m3/Annum) | 1277,5 m³/a | | | | *19 522,5 m³/a* |

## 12 . Public participation

The public participation process still to be conducted in terms of Section 41 (4) of the National Water Act, Act no 36 of 1998.
The proposed public participation includes a 60 day commenting period with site notices placed at the site, an advert in the Tygerburger and email notification sent to the councillor, and the local Ratepayers association. All technical documentation relevant to the application will be placed on the PHS Consulting website for the duration of the commenting period. Once completed the Comments and responses will be compiled into **Table 7**.

***Table 7: Outcome of the public participation***

| **Person who commented** | **Comments (support or object)** | **Reasons for objection** | **Applicant's response to the objection** |
|---|---|---|---|
| To be finalised once PPP completed | | | |

## 13. Other authorisations applicable to the activity

Subdivision & Consolidation of Erven 14881, 14882 & **20414** as well as consolidated erven 14873, 14876, 14877, 14878 & 14867 in Bellville South, Western Cape.

WSI application to CoCT for the on site treatment and use of potable water.

Brine disposal permit application to CoCT for the disposal to sewer of the brine from the treatment plant.

## 14. Section 27 (1)

The requirements contained in Section 27(1) of the National Water Act, 1998 (Act 36 of 1998) have been considered and are discussed further below.

### a) Existing lawful water uses

An existing lawful water use (ELU) is a water use that lawfully took place in the period two years before the commencement of the National Water Act (Act 36 of 1998). This allows any water use that lawfully took place to continue until such time as it can be converted into a Licence. No existing lawful water uses have been registered for this site.

### b) Need to redress the results of past racial and gender discrimination

The proposal entails the development and operation of a new *Maersk* warehousing & distribution facility (logistics hub) at Belcon in Bellville South. *Transnet Limited* is the applicant, however, *Maersk* has permission for the proposed development and operation associated with the water uses contained in this Water Use License Application. *Transnet Limited* has a total B-BBEE recognition of 92.12 points, therefore, a level 2 contributor. Black Directorship is at 75% with Black Women Executive Directors at 35%. BEE Procurement Spend from all Suppliers based on the BEE Procurement Recognition Levels as a percentage of Total Measured Procurement Spend is at 41%.

The basis for the proposed development of a new logistics hub is to enable companies to have a one-stop service when it comes to transporting their goods, regardless of transport type, as the facility also has access to Transnet's rail siding, allowing it to have the goods transported by rail to

the port. This will undoubtedly decongest the city as the rail siding will enable reliable, faster, cost-efficient, and greener access into/out of the port, bypassing traffic and port gate congestion.
The development will entail the following components:

- Warehousing
- Cold storage
- Container Depot
- Attenuation Pond
- Subsoil drainage systems
- Landscaping component
- Stormwater Infrastructure
- Wash-bays
- Treatment Plant
- Offices

The development opportunity relates to the following factors:

- Transnet Freight Rail Belcon is strategically located 25km from the Port of Cape Town;
- It provides a direct rial link between the Terminals;
- The current Belcon facility is under-utilised.

The potential benefits associated with the development includes the following:

- Improved Transnet Freight Rail asset and infrastructure utilisation
- Reduced port congestion (by at least 22%) by improving traffic flow to the Port of Cape Town
- Reduced road congestion and deterioration by removing trucks (at least 80 000 trucks) from the road
- Build additional access road from Kasselsvlei into Transnet Park to ease traffic flow in and out of Transnet Park
- Increase cold chain capability – cold chain compliance to international quality standards
- Creating value & reducing supply chain cost through supply chain integration
- Creating multiple permanent & temporary jobs

*Transnet* supports the broad impetus of B-BBEE to structure and transform the economy to enable meaningful participation of the majority of its Citizens, and to further create capacity within the broader economic landscape at all levels through:

- Skills development;
- Employment equity;
- Socio-economic development;
- Preferential procurement;
- Enterprise development, especially with respect to small and medium-sized enterprises;
- Promotion of black entrepreneurs into the mainstream of economic activity; and
- The advancement of cooperatives.

*Transnet* fully endorses and supports the Government's Broad-Based Black Economic Empowerment Programme, and it would therefore prefer to do business with local business enterprises who share these same values. Transnet will award preference points to companies who provide proof of their B-BBEE status using either the latest version of the generic Codes of Good Practice or Sector Specific Codes (if applicable). Respondents are required at all times to comply with the latest B-BBEE legislation and/or instruction notes as issued from time to time by the Department of Trade Industry (DTI).

*Transnet* encourages its Suppliers/Service Providers to constantly strive to improve their B-BBEE rating. Whereas Respondents will be allocated points in terms of a preference point system based on its B-BBEE scorecard, in addition to such scoring, Transnet also requests that Respondents submit a B-BBEE improvement plan. Respondents are therefore requested to indicate the extent to which the elements of their B-BBEE scorecard will be maintained or improved over the contract period. This intent is to be submitted with their Bid proposal in the form of a B-BBEE Improvement Plan.

According to the client, 60 permanent jobs will be available for staff, and up to 120 additional job opportunities during peak season.The construction & operational contracts have and will be awarded to a contractor selected through a competitive tender process. Transnet requires prospective tenderers to be a minimum B-BEEE Status Level 3 Contributor with a 25-30% subcontract commitment. Many of the employment opportunities will most likely benefit historically disadvantaged individuals through preferential procurement implementation. Furthermore, the project must comply with the City of Cape Town Municipality's tender requirements. The City of Cape Town Municipality is a recognized equal opportunity employment provider.

An additional component of the potential benefit of this proposed development is the local economic stimulation. The COCT IDP (2022-2027) identifies the importance of economic development; local investment and job creation to stimulate the national economy. It should be noted that the project represents a significant opportunity for the local employment sector and members of the local community in terms of job opportunities during both the construction & operational phase for both skilled and unskilled labourers. The majority of the employment opportunities is expected to benefit local Historically Disadvantaged (HDI) members of the community.

Furthermore, additional short-and-long term employment opportunities for both skilled and unskilled labourers can become available during the operational phase at the logistics hub. These opportunities could arise at the warehouse as direct employment or subsequent logistical distribution opportunities through indirect sub-contractual agreements. The establishment of a new warehousing & distribution facility (logistics hub) will furthermore increase logistical service delivery capacity which will in turn stimulate and facilitate economic growth from a national economy perspective.

In addition to the construction & operational components associated with the warehousing & distribution facility (logistics hub), a landscaping component will also be included which entails 1.11 ha. The landscaping component will also create employment and wage opportunities over and above the annual jobs associated with the warehousing & distribution facility (logistics hub).

The proposed development will not only contribute to the local economic development of the area, but also secure a dedicated logistics hub for business opportunities that will entice relocation and development of small and medium enterprises to the area. The knock-on employment opportunities will have a positive impact on the local & national economy during the operational phases.

**c) Efficient and beneficial use of water in the public interest**

The proposed developments WULA primarily entails the physical use of water, i.e. the storage of stormwater and groundwater on site in an attenuation pond (Section 21b) & subsequent abstraction of water from the pond for irrigation, cooling, offices, toilet flushing & wash bays (Section 21a).

Additionally, the development will make use of subsoil drainage systems and will be at a depth of between 2.5m and 3.5m. The primary purpose of the subsoil drainage systems is to prevent groundwater seepage from damaging the concrete footings of the building foundation. The intention is that the subsoil water be treated on site to a potable standard and used in the refrigeration plant, wash bays, toilet flushing and for drinking water in offices. The in-flow rate is estimated at 1.964l/s (170kl/d). Section 21(j) is therefore also applicable to the WULA as the volume is above the GA limit.

The municipal water supply will essentially be a back-up to the on-site treated water and would only be required in case of emergency, given the measured subsoil flow rates above. The use of stormwater on site, therefore minimises the need to irrigate using municipal water, which results in lower costs and less pressure on the CoCT municipal distribution system. This allows an increase potable supply to be available for other users within the CoCT metro area. This scenario is the same for the proposed use of treated groundwater for offices (drinking water) toilet flushing, cooling & wash bays, as opposed to using municipal water to conduct these activities.

As mentioned in section (b), a component of the potential benefit of this proposed development is the local economic stimulation. The COCT IDP (2022-2027) identifies the importance of economic development; local investment and job creation to stimulate the national economy. It should be noted that the project represents a significant opportunity for the local employment sector and members of the local community in terms of job opportunities during both the construction & operational phase for both skilled and unskilled labourers. The majority of the employment opportunities is expected benefit local Historically Disadvantaged (HDI) members of the community.

Furthermore, additional short-and-long term employment opportunities for both skilled and unskilled labourers can become available during the operational phase at the logistics hub. These opportunities could arise at the warehouse as direct employment or subsequent logistical distribution opportunities through indirect sub-contractual agreements. The establishment of a new warehousing & distribution facility (logistics hub) will furthermore increase logistical service delivery capacity which will in turn stimulate and facilitate economic growth from a national economy perspective.

The proposed development will not only contribute to the local economic development of the area, but also secure a dedicated logistics hub for business opportunities that will entice relocation and development of small and medium enterprises to the area. The knock-on employment opportunities will have a positive impact on the local & national economy during the operational phases.

In addition to the construction & operational components associated with the warehousing & distribution facility (logistics hub), a landscaping component will also be included which entails 1.11ha. The landscaping component will also create employment and wage opportunities over and above the annual jobs associated with the warehousing & distribution facility (logistics hub).

Besides the expected employment benefits, additional benefits entail the following:

- Improved Transnet Freight Rail asset and infrastructure utilisation
- Reduced port congestion (by at least 22%) by improving traffic flow to the Port of Cape Town
- Reduced road congestion and deterioration by removing trucks (at least 80 000 trucks) from the road
- Build additional access road from Kasselsvlei into Transnet Park to ease traffic flow in and out of Transnet Park
- Increase cold chain capability – cold chain compliance to international quality standards
- Creating value & reducing supply chain cost through supply chain integration

A Wetland Specialist Assessment was conducted by *Anchor Environmental* on 2 November 2022 to confirm if the wet area located in the Southeastern corner of the development extent was in fact a natural wetland. The specialist concluded that the area in question is not a true representation of a natural and functional wetland ecosystem because of the following reasons:

- The grasses and plants observed on site are not typical of a wetland.
- The reeds (*Phragmites australis*) and slender knotweeds (*Persicaria decipiens*) noted on the property likely grew overtime due to the presence of an underground stormwater system which may have not been maintained to avoid leaks or cracks. Therefore, an artificial wetland has become established.
- No other characteristic wetland vegetation species, such as sedges or cattail reeds (*Typha capensis*). Similarly, no frogs, dragonflies and characteristic wetland species were present.
- Sampling with an auger confirmed that the soil was very sandy and dry. Additionally, the presence of numerous animal burrows seen on site, likely moles and/or snakes, is an indication that the soil is not as wet as a typical wetland, or these animal burrows would be flooded.
- There was no presence of surface water, but the water found present was from the stormwater drainage system.

It was the specialists opinion that despite the presence of Phragmites reeds, the absence of other characteristic wetland species suggests that this is a poorly functioning, artificial wetland, of low diversity, which has formed as a result of a water leak. Therefore, it was important that the competent authority, the CoCT, had the final say / decision about this artificial wetland's status and level of importance. No further issues were raised from an environmental perspective by the CoCT following the Land Use Management Scheme and Building Development Management Application process. Based on the above, it is considered unlikely that the proposed development will detrimentally impact any aquatic features on site.

**d) Socio-economic impact –**

**i) Of water use or uses if authorised:**

As mentioned in section (b), a component of the potential benefit of this proposed development is the local economic stimulation. The COCT IDP (2022-2027) identifies the importance of economic development; local investment and job creation to stimulate the national economy. It should be noted that the project represents a significant opportunity for the local employment sector and members of the local community in terms of job opportunities during both the construction & operational phase for both skilled and unskilled labourers. The majority of the employment opportunities is expected benefit local Historically Disadvantaged (HDI) members of the community.

Furthermore, additional short-and-long term employment opportunities for both skilled and unskilled labourers can become available during the operational phase at the logistics hub. These opportunities could arise at the warehouse as direct employment or subsequent logistical distribution opportunities through indirect sub-contractual agreements. The establishment of a new warehousing & distribution facility (logistics hub) will furthermore increase logistical service delivery capacity which will in turn stimulate and facilitate economic growth from a national economy perspective.

The proposed development will not only contribute to the local economic development of the area, but also secure a dedicated logistics hub for business opportunities that will entice relocation and

development of small and medium enterprises to the area. The knock-on employment opportunities will have a positive impact on the local & national economy during the operational phases.

In addition to the construction & operational components associated with the warehousing & distribution facility (logistics hub), a landscaping component will also be included which entails 1.11ha. The landscaping component will also create employment and wage opportunities over and above the annual jobs associated with the warehousing & distribution facility (logistics hub).

The municipal water supply will essentially be a back-up to the on-site treated water and would only be required in case of emergency, given the measured subsoil flow rates above. The use of stormwater on site, therefore minimises the need to irrigate using municipal water, which results in lower costs and less pressure on the CoCT municipal distribution system. This allows an increase potable supply to be available for other users within the CoCT metro area. This scenario is the same for the proposed use of treated groundwater for offices (drinking water) toilet flushing, cooling & wash bays, as opposed to using municipal water to conduct these activities.

It is well documented that the CoCT Municipal Service Supply Capacity has been under increasing pressure due to old infrastructure, urban development / expansion and associated increase in service demand.
According to an article in *The Mail & Guardian* (published 11 July 2024 by Lyse Comins), "*The City of Cape Town needs to spend R2 billion on building and refurbishing water infrastructure, as well as spend on developing new water sources, to achieve water security for the next 10 years. Any delays in implementing the water plan will increase the probability of water restrictions as it closely monitors demand for the scarce resource over the next 12 months.*
*This is according to the city's water and sanitation directorate's March 2024 Water Outlook Report released this week, which also highlights the need to swiftly implement its New Water Programme (NWP) that aims to diversify water sources to ensure sustainability of future supply.*
*The proposed diversified water sources include plans to develop a desalination plant in the vicinity of the Port of Cape Town, the recycling of wastewater, the drilling of new boreholes, and the sourcing of groundwater from aquifers. According to the report, initial scoping has indicated that the city's infrastructure stability programme, which involves refurbishing infrastructure and building new capacity, will require funding of R2 billion over the next 10 years, a sum that has already been incorporated into its budget".*

It is reiterated that the basis for the proposed development of a new logistics hub is to enable companies to have a one-stop service when it comes to transporting their goods, regardless of transport type, as the facility also has access to Transnet's rail siding, allowing it to have the goods transported by rail to the port. This will undoubtedly assist in decongesting the city as the rail siding will enable reliable, faster, cost-efficient, and greener access into and out of the port, bypassing traffic and port gate congestion.

Additional benefits associated with the development entails the following:

- Improved Transnet Freight Rail asset and infrastructure utilisation
- Reduced port congestion (by at least 22%) by improving traffic flow to the Port of Cape Town
- Reduced road congestion and deterioration by removing trucks (at least 80 000 trucks) from the road
- Build additional access road from Kasselsvlei into Transnet Park to ease traffic flow in and out of Transnet Park
- Increase cold chain capability – cold chain compliance to international quality standards

- Creating value & reducing supply chain cost through supply chain integration

**Table 8: Direct and indirect Job opportunities**

| Job Opportunities | Number of Job Opportunities | Type of employment | Affected sectors of the economy |
|---|---|---|---|
| Direct | 180 | 60 Permanent, 120 Additional during peak season | • Admin<br>• Transportation & Logistics<br>• Security<br>• Domestic services<br>• Landscaping |
| Indirect | Unknown | Unknown | |
| **TOTAL** | **180** | | |

**ii) Of the failure to authorise water use or uses:**

- Failure to authorise the Section 21 (a) water use would mean that the irrigation water demand will not be met, and the water will have to be sourced from municipal supply. This scenario is the same for the proposed use of treated groundwater for offices, toilet flushing, cooling & wash bays. Therefore, if the proposed water uses are not authorised, the site will then need to use potable municipal water to conduct the proposed activities at the hub, placing added pressure on already scarce water resources in the CoCT supply network.

  Landscaping of a site being developed with particular water sensitive plants and in a particular layout is a requirement by CoCT, in order to get the proposed building plans authorised, which in turn requires the Applicant to source the irrigation water in order to comply. The landscaping plan is the most water efficient planting plan after due consideration and sign-off by CoCT, which minimises the water required for planting. The Applicant chooses to contain stormwater & groundwater on site and use that for irrigation, offices, toilet flushing, cooling & wash bays and excess stormwater will be released to the Kuils River (as and when required).

- Failure to authorise the S21(b) water use will result in uncontrolled stormwater release form the site, which could result in detrimental impacts on the receiving environment.

- Failure to authorise Section 21 (j) will result in inadequate subsoil drainage which could result in detrimental impacts to the infrastructural integrity of the building infrastructure, as the primary purpose of the subsoil drainage systems are to prevent groundwater seepage from damaging the concrete footings of the building foundations.

- Failure to authorise the above water uses will result in an opportunity cost of all the potential socio-economic benefits, meaning the potential benefit will be lost.

**e) Any catchment management strategy applicable to the relevant water resource**

None at this time.

**f) Likely effect of the water use to be authorized on the water resource and on other water users.**

A Wetland Specialist Assessment was conducted by *Anchor Environmental* on 2 November 2022 to confirm if the wet area located in the Southeastern corner of the development extent was in fact a natural wetland. The specialist concluded that the area in question is not a true representation of a natural and functional wetland ecosystem because of the following reasons:

- The grasses and plants observed on site are not typical of a wetland.
- The reeds (*Phragmites australis*) and slender knotweeds (*Persicaria decipiens*) noted on the property likely grew over time due to the presence of an underground stormwater system which may have not been maintained to avoid leaks or cracks. Therefore, an artificial wetland has become established.
- No other characteristic wetland vegetation species, such as sedges or cattail reeds (*Typha capensis*). Similarly, no frogs, dragonflies and characteristic wetland species were present.
- Sampling with an auger confirmed that the soil was very sandy and dry. Additionally, the presence of numerous animal burrows seen on site, likely moles and / or snakes, is an indication that the soil is not as wet as a typical wetland, or these animal burrows would be flooded.
- There was no presence of surface water, and the water present is from the stormwater drainage system.

It was the specialists opinion that despite the presence of Phragmites reeds, the absence of other characteristic wetland species suggests that this is a poorly functioning, artificial wetland, of low diversity, which has formed as a result of a water leak. Therefore, it was important that the competent authority, the CoCT, had the final say / decision about this artificial wetland's status and level of importance. No further issues were raised from an environmental perspective by the CoCT following the Land Use Management Scheme and Building Development Management Application process.

Based on the above, it is considered unlikely that the proposed development will detrimentally impact existing water resources on site due to the lack of water resources located on or within close proximity to the development extent.

The Applicant proposes to contain stormwater & groundwater on site and use the contained water for irrigation, offices, toilet flushing, cooling & wash bays and excess stormwater will be released to the Kuils River (as and when required). The release of excess stormwater into the Kuils River is not expected to detrimentally impact the ecological condition of the river.

Additionally, as the WULA primarily relates to the storage and re-use of stormwater & dewatered groundwater, it is considered unlikely that the water users in close proximity will be detrimentally affected by the proposed water uses.

***g) the class and the resource quality objectives of the water resource;***

The site lies within quaternary catchment G22C within the Berg River Catchment Management Area. There is no class and resource quality objectives for the stormwater and subsoil water.

**h) Investments already made and to be made by the water user in respect of the water use in question**

Total spend to date on the construction of the site is in excess of R420M.

| REF | DESCRIPTION | ESTIMATED COST<br>A | CERTIFIED TO DATE<br>B | BALANCE OUTSTANDING<br>C |
|---|---|---|---|---|
| **1.00** | **BUILDERS WORK** | | | |
| 1.01 | Phase 1 - Depot & Demolitions | R 46 647 882 | R45 822 316 | R 825 567 |
| 1.02 | Phase 2 - Enabling Works | R 19 372 466 | R19 372 466 | R 0 |
| 1.03 | Phase 2 - Warehouse | R 315 579 067 | R94 650 784 | R 220 928 283 |
| | Direct Contractors | | | R 0 |
| 1.04 | Generators and minisubs | R 4 700 000 | R3 436 702 | R 1 263 298 |
| 1.05 | Demolition of existing facilities - Phase 1 | R 7 754 640 | R6 254 640 | R 1 500 000 |
| 1.06 | Fencing (Phase 1,2,3a) | R 6 031 600 | R5 730 020 | R 301 580 |
| 1.07 | Fencing (Future work) | R 1 824 435 | R0 | R 1 824 435 |
| 1.08 | Racking - Mobile | R 36 101 028 | R5 415 154 | R 30 685 874 |
| 1.09 | Racking - Steri Chambers | R 30 691 556 | R17 170 000 | R 13 521 556 |
| 1.10 | Refrigeration | R 132 611 964 | R32 162 650 | R 100 449 314 |
| 1.11 | Insulated panel (Supply) | R 41 965 566 | R15 604 022 | R 26 361 544 |
| | **TOTAL BUILDER'S WORK** | **R 643 280 204** | **R 245 618 754** | **R 397 661 451** |
| | | | | |
| **2.00** | **FEES, DISBURSEMENTS ETC** | **R 74 629 466** | **R 60 506 074** | **R 14 123 392** |
| | | | | |
| **3.00** | **GENERAL COSTS** | | | |
| 3.01 | Plan scrutiny and approval fees | R 1 668 076 | R1 668 076 | R 0 |
| 3.02 | Bulk electrical supply upgrade | R 12 700 000 | R12 700 000 | R 0 |
| 3.03 | Infrastructure / bulk services contributions | R 15 000 000 | R0 | R 15 000 000 |
| | **TOTAL GENERAL COSTS** | **R 29 368 076** | **R 14 368 076** | **R 15 000 000** |
| | | | | |
| **4.00** | **FINANCE COSTS** | | | |
| 4.01 | Capitalised interest | R 0 | R0 | R 0 |
| | | | | |
| **5.00** | **LAND COSTS** | | | |
| 5.01 | Land costs | R 0 | R0 | R 0 |
| | | | | |
| | **TOTAL DEVELOPMENT COST (EXCL. VAT)** | **R 747 277 747** | **R 320 492 904** | **R 426 784 843** |

### i) Strategic importance of the water use to be authorised

The proposed water uses for licencing pertain to the development and operation of a new *Maersk* Logistics hub, which will not only contribute to the local social and economic development of the area, but also secure a dedicated hub for secondary business opportunities that will entice relocation and development of small and medium enterprise to the area (e.g. Logistical Support Services, Security Services, Maintenance Services).

The knock-on employment opportunities will have a positive impact on the local & national economy during the operational phase. In addition to the logistical component of the proposed development (Distribution Centre), a landscaping component will also be included which entails 1.11ha. The landscaping component will also create employment and wage opportunities over and above the annual jobs associated with the logistics hub.

Additional benefits associated with the development entails the following:

- Improved Transnet Freight Rail asset and infrastructure utilisation
- Reduced port congestion (by at least 22%) by improving traffic flow to the Port of Cape Town
- Reduced road congestion and deterioration by removing trucks (at least 80 000 trucks) from the road
- Build additional access road from Kasselsvlei into Transnet Park to ease traffic flow in and out of Transnet Park
- Increase cold chain capability – cold chain compliance to international quality standards
- Creating value & reducing supply chain cost through supply chain integration

Furthermore, the storage & subsequent use of stormwater will enable irrigation, which in turn enables the development of the site in terms of its landscaping component, which will subsequently improve the overall aesthetic value of the site and surrounding area. The presence of trees & plants from the landscaping component will also serve as carbon sinks as trees take in carbon from the air and store it in wood, plant matter, roots and in the soil. Plants constantly exchange carbon with the atmosphere, absorbs carbon dioxide during photosynthesis and much of this carbon dioxide is then stored in the roots. In this way, trees & plants forming part of the landscaping component play an important role in the local & global carbon cycle.

Additionally, the storage & subsequent use of treated groundwater from dewatering activities will also enable toilet flushing, office drinking water, cooling & wash bay operations which in turn enables the development of the site in terms of its efficiency, standard operating procedures & potable needs, which will subsequently result in numerous local & national benefits from a socio-economic & logistical service delivery perspective.

**j) The quality of water in the water resource which may be required for the Reserve and for meeting international obligations**

There are no international obligations to be met.

**k) Probable duration of any undertaking for which a water use is to be authorised**

The Applicant has made significant financial investment on this site and aims to manage the site and the resource responsibly and according to the WULA requirements and other legislation / bylaws, therefore a minimum authorisation period of 20 years is requested.

**15. Declaration by the applicant with signature confirming that the information submitted is correct:**

We the applicant, ***Transnet Limited (1990/000900/30)***, hereby confirm that the information contained in this report to be submitted as part of the WULA: ***BELCON STORMWATER ATTENUATION, WATER ABSTRACTION AND USE, AND SUBSOIL DEWATERING ON ERF 20414 BELLVILLE SOUTH (WU36972)***, is true and correct.

Signed by: Botha Pretorius

Regional Construction Project Manager IMEA

Signature: 

Date: 11 December 2024