



**REPORT TO: CITY MANAGER**

**TO BE REFERRED BY THE OFFICIAL TO MAYCO VIA THE WATER AND SANITATION PORTFOLIO  
SECTION 79 COMMITTEE [AFTER CONSIDERATION BY CITY MANAGER]**

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**1. ITEM NUMBER**

**2. FEEDBACK ON THE INTERNATIONAL/OUTSIDE THE BORDERS OF THE RSA TRIP  
UNDERTAKEN FROM 10 SEPTEMBER TO 21 SEPTEMBER 2022 TO ATTEND THE  
INTERNATIONAL WATER ASSOCIATION: WORLD WATER CONGRESS AND CONSULTATION  
IN DENMARK**

**TERUGVOERING OOR DIE REIS NA DIE BUITELAND/BUITE DIE GRENSE VAN DIE RSA  
ONDERNEEM VAN 10 SEPTEMBER TOT 21 SEPTEMBER 2022 OM DIE INTERNASIONALE  
WATERVERENIGING: WÊRELDWATERKONGRES EN KONSULTASIE IN DENEMARKE BY TE  
WOON**

**INGXELO ENGOHAMBO OLUYA PHESHEYA/ NGAPHANDLE KWEEBHODA ZOMZANTSI  
AFRIKA OLUTHATYATHWE UKUSUSELA NGOWE10 UKUYA KOWAMA21 KWEYOMSINTSI  
2022 LOKUZIMASA INKOMFA YEHLABATHI I"INTERNATIONAL WATER ASSOCIATION:  
WORLD WATER CONGRESS AND CONSULTATION EDENMARK**

**P1195**

### 3. EVENT SUMMARY

EVENT DETAILS	
CONFERENCE/SEMINAR	International Water Association: World Water Congress And Consultation  Workshop session: How to alleviate water scarcity using groundwater: The role of knowledge exchange through international cooperation
OTHER	Participated in a delegation, amongst others also including the Department of Water and Sanitation and the Water Research Commission, to consult a number of Danish stakeholders in the area of driller regulation, groundwater data and other databases.
DATE	11 September to 20 September 2022
VENUE	Bella Center
TOTAL COST TO THE CITY	R40 625.94
CITY	Copenhagen
COUNTRY	Denmark

ATTENDEE DETAILS	
NAME AND SURNAME	DESIGNATION
Candice Lasher-Scheepers	PPO: Geohydrologist

PROVIDE SUMMARY OF HOST ORGANISATION / CITY
The Royal Danish Embassy and the Danish Ministry of the Environment hosted a number of South Africans from various water sectors in various regions as part of the South African - Danish Water Sector Cooperation. The Danish Environmental Protection Agency has organised this workshop on experiences and good practices through international cooperation between public authorities as a stepping-stone for alleviating water scarcity and water stress to ensure long-term sustainability.

### 4. OBJECTIVE

The main purpose of this trip was:

- To provide a talk at the IWA: World Water Congress which was aimed to assist other water scarce areas
- To consult a number of Danish stakeholders in the area of driller regulation, groundwater data and other databases.
- Gain exposure to Danish water innovations, new technology and approaches for groundwater schemes

The trip will expose the Principal Professional officer: Geohydrologist to leading thinking and practices in groundwater management in Denmark and other parts of the world and to reflect on the opportunity and challenges in implementing these in the Cape Town context.

## 5. OUTCOMES

Several international delegates at the conference approached her regarding the presentation and congratulated the CCT for outstanding work thus far. The Executive Engineer of the Water Resource Department in the Chennai City, India, requested the presentation and exchanged emails in hope of receiving guidance from the CCTs Groundwater Project Team.

The PPO: Geohydrologist was exposed to innovative designs and technology which could improve the development of the Cape Flats and Atlantis Aquifer Schemes in relation to ongoing contamination of the groundwater resource.

She participated in engagements regarding possible regulations for drilling of boreholes which could impact capacity and resources at the Municipal level.

She also presented the design and flow of data within the Bulk Services Department and discussed how groundwater data management can be improved within South Africa by linking National and local systems, where possible.

## 6. ACTIONS REQUIRED

The following actions are therefore noted:

- Circulate workshop presentation to a number of Congress delegates as requested.
- Consider the feasibility to develop remediation sites within CFA and Atlantis Aquifer
- Set up a meeting with Zolile Basholo to discuss Drillers regulations and risk of regulating at local level
- Ensure that CCT: Bulk Water data is uploaded to the National Groundwater Archive (Set up direct links to transfer data). Email Olga de Beer at the National department of Water and Sanitation.

## 7. IMPLICATIONS

7.1	Constitutional and Policy Implications	No <input checked="" type="checkbox"/>	Yes <input type="checkbox"/>
7.2	Environmental implications	No <input checked="" type="checkbox"/>	Yes <input type="checkbox"/>
7.3	Financial Implications	No <input checked="" type="checkbox"/>	Yes <input type="checkbox"/>
7.4	Legal Implications	No <input checked="" type="checkbox"/>	Yes <input type="checkbox"/>
7.5	Staff Implications	No <input checked="" type="checkbox"/>	Yes <input type="checkbox"/>

**7.6 Risk Implications**

No ☒

Yes ☐

**7.7 POPIA Compliance**

☒ It is confirmed that this report has been checked and considered for POPIA Compliance.

*NOTE: POPIA Section MUST be completed otherwise the report will be returned to the author for revision.*

*Contact your Directorate POPIA Stewards should you require assistance.*

**The City has a contract in place with XL Embassy Travel for the safe-keeping of Traveller's personal information as required by the POPI Act.**

**8. RECOMMENDATIONS**

It is recommended that the feedback report on the trip **to participate in the International Water Association: World Water Congress and consultation between 10 and 21 September 2022** undertaken by Candice Lasher-Scheepers **be considered and noted.**

Daar word aanbeveel dat die terugvoeringsverslag oor die reis onderneem deur Candice Lasher-Scheepers om tussen 10 en 21 September 2022 aan die internasionale watervereniging: wêreldwaterkongres en konsultasie deel te neem, oorweeg word en daarvan kennis geneem word.

Kundululwe ukuba makuthathelwe ingqalelo kwaye kuqwalaselwe ingxelo engohambo lokuthatha inxaxheba kwi "International Water Association: World Water Congress and Consultation" oluthatyathwe ngowe10 ukuya kowama21 kweyoMsintsi 2022 nguCandice Lasher-Scheepers.

## 9. GENERAL DISCUSSION

### 11 September

Arrived at Copenhagen late afternoon and checked into hotel.

### 12 September

I attended the session called Groundwater Forum (I, II and III).

The sessions focused on the role of groundwater internationally and how the resource, because it is unseen, is often misunderstood. Other topics discussed were:

- Embracing the challenges within groundwater and strengthening the synergies
- Groundwater issues in Kenya
- MAR and its role in sustainable development
- Determining groundwater response times
- Calculating groundwater reserves and selecting the appropriate scale
- Contamination to aquifers and its protection

The last session focused on groundwater quality and treatment options. It was noted that PFAS (Perfluoroalkyl and Polyfluoroalkyl Substances) is the current contaminant of concern in Denmark and USA with current treatment plants unable to treat it successfully. Furthermore, standardized monitoring has not been developed leading to inconsistencies.

### 13 September

I attended a session called Groundwater Based Production — I and II. These sessions focused on treatment processes for specific water quality issues. The following were discussed in general:

- Bioreactors
- Biofilters
- Adsorption on granular ferric hydroxide
- Reverse osmosis
- Anaerobic groundwater treatment
- Softening with pellet reactors

I was also part of a panel that hosted a workshop titled: ALLEVIATING WATER SCARCITY USING GROUNDWATER: THE ROLE OF KNOWLEDGE EXCHANGE THROUGH INTERNATIONAL COOPERATION.

We presented shared experiences and good practices in terms of international cooperation between public authorities. Denmark is cooperating with a number of partners (South Africa, India, and the State of California) to alleviate water scarcity, which is key to obtaining livable cities. The following projects with groundwater challenges and strategies for alleviating groundwater stress was presented:

- Management of water resources in Tamil Nadu, India: International Cooperation in Identifying Potential Water Abstraction Sites. By Dr. Saxena, India
- The challenges of “Day Zero” created a need for new solutions and an improved mapping of groundwater resources. By Candice Lasher Scheepers, South Africa
- Drought Challenges at Central Karoo Local Municipalities in the Western Cape – The role of the Catchment Management. By John Sibanyoni, South Africa

- The Danish groundwater management concept and toolbox as a platform for international cooperation and bilateral knowledge exchange. By Bjørn Kaare Jensen, Denmark

#### 14 September

In this session, we were introduced to the various skills and expertise needed for the future of digital water. They discussed the concept of machine learning and agile ways of working.

I walked about the exhibition halls looking at new and innovative products which can be used for the groundwater schemes and discussed prospects with exhibitors.

#### 15 September

I attended a groundwater technical tour made up of the following components:

**Birkerød Waterworks:** A consumer-owned waterworks with a production of 1.25 million m<sup>3</sup> drinking water per year. They presented the Danish concept of sustainable and straightforward groundwater treatment by aeration/stripping and biofiltration to drinking water quality. In addition, a presentation regarding the design and operation of the local Water Safety Plan applied to ensure safe drinking water. The City is following the same design and currently on par with best practice.

**Birkerød groundwater park:** In cooperation with the local municipality, the Capital Region of Denmark, the local nature conservation society, and other stakeholders, Birkerød Waterworks has introduced a new concept of sustainable groundwater protection called Ground Water Parks, where groundwater protection, development of biodiversity, climate adaptation and recreation are integrated. Not entirely feasible for the socio dynamics within the City of Cape Town, but has been adopted in some areas already (i.e. Witzands nature reserve, which would be defined as a Ground water Park in Danish context).

**Groundwater remediation activities in Birkerød industrial area:** The Capital Region of Denmark presented its tasks and efforts to protect the groundwater from chlorinated solvents (TCE) from the many old industrial sites in the area. We were taken to a remediation site and they presented the overall remediation strategy which consist of a combination of source remediation using thermal techniques and vacuum ventilation as well as establishing a total pump and treat solution which handle the pollution plumes from entire industrial area.

#### 16 and 17 September

I attended another technical tour which focused on wastewater treatment, industries, water utilities and climate adaptable cities. The following sites were visited:

- Ejby Mølle Wastewater Treatment Plant
- Middelfart City (Climate Change Adaptation Solutions)
- Carlsberg (Water efficient brewery)
- Billund Biorefinery
- Skanderborg Utility (present at AquaGlobe)
- Kamstrup (present at AquaGlobe)
- SUEZ (present at AquaGlobe)
- Water!Tech (present at AquaGlobe)

- DHI Group (Aarhus)
- Aarhus Water

### 19 September

A technical meeting with National Department of Water and Sanitations, Breede-Gouritz CMA, Danish EPA and CCT took place to discuss South African groundwater database management and how to improve it. With the Danish counterparts guiding.

I presented the CCT's Decision Support System and groundwater dashboard design and concept. BGCMA presented how data is managed in their organizations. DWS then provided an overarching structure, which should be followed by all groundwater users. The system is not user friendly, but DWS has committed to assisting the CCT with registering boreholes and uploading data, going forward.

The Danish EPA presented their data management systems and proposed plans going forward. They indicated that their challenges are similar to ours but found common ground and has been successful to date.

Further discussions are required with National DWS and CCT regarding Drillers' Regulations (which was discussed on the 16<sup>th</sup> Sep during my technical tour). CCT needs to understand the nature of the mandate and what implications it will have on the City's business case.

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## 10. ANNEXURES

NA

### FOR FURTHER DETAILS, CONTACT:

DATE	29 September 2022		
NAME	Candice Lasher-Scheepers	CONTACT NUMBER	0788022182
E-MAIL ADDRESS	Candice.LasherScheepers@c apetown.gov.za		
DIRECTORATE	Water and Sanitation	FILE REF NO	
SIGNATURE :			

### EXECUTIVE DIRECTOR : WATER AND SANITATION

COMMENT:

The ED's signature represents support for report content and confirms POPIA compliance.

SIGNATURE:

NAME Michael Webster

DATE

### MANAGER: INTERNATIONAL RELATIONS

COMMENT:

Actions noted

DR. DENVER VAN SCHALKWYK

SIGNATURE:

DATE



☐ REPORT COMPLIANT WITH THE PROVISIONS OF COUNCIL'S DELEGATIONS, POLICIES, BY-LAWS AND ALL LEGISLATION RELATING TO THE MATTER UNDER CONSIDERATION.

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**LEGAL COMPLIANCE**

☐ NON-COMPLIANT

NAME

TEL

DATE

COMMENT:

Certified as legally compliant based on the contents of the report.

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**CITY MANAGER**

☒ NOTED

☒ REFER TO THE MAYORAL COMMITTEE VIA THE RELEVANT SECTION 79 COMMITTEE

DATE

COMMENT: