

Practical Training Report for Con3023X

Prepared for:

Karen Le Jeune

Prepared by:

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Date of submission: 25 September 2023

TERMS OF REFERENCE

Construction studies undergraduate students are required to submit a written report in accordance with the guidelines set out by the Department of Construction Economics and Management , which is endorsed by their employer/s, on the nature and duration of the experience obtained in the workplace . This must be submitted either on 31 March or 30 September each year.

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1. INTRODUCTION

1.1. Subject of and Motivation for Report

The purpose of this report is to reflect upon my practical training experience in the construction industry. This report serves as a record for my practical experience during the year of 2022. It must entail descriptions, diaries and essays on how I did my work.

1.2. Background to Investigation

This report came because of the request sent by Karen Le Jeune , who is the course convenor , stating that she requires construction studies to produce a report relative to their practical training.

1.3. Objectives of Report

- State and discuss duration of practical training done.
- State activities done during practical training.
- Reflect on what was done during the practical experience at and draw conclusions on what was learnt and also challenges faced.

1.4. Limitations and Scope of Investigation

This report is only based on the experience gained during the year of 2023 for the completion of Con3023X.

1.5. Plan of Development

The report will describe activities that took place in the SALGA:DATA4MIA

2. Submission Declaration



Faculty of Engineering and the Built Environment
Department of Construction Economics and Management
Practical Training
CON1007X, CON2013X and CON3023X

ANNEXURE C

CON1007X, CON2013X, CON3023X SUBMISSION DECLARATION

Summary of Submission

I hereby declare that I have checked on PeopleSoft that I am **correctly registered** for the appropriate practical training courses for 2023.

Herewith the summary of the hours/days/weeks worked as part of my 2023 practical training submission:

(indicate whether hours/days/weeks)		
CON1007X	110	Hrs/dys/wks
CON2013X	237.5	Hrs/dys/wks
CON3023X	160	Hrs/dys/wks
TOTAL	507.5	

I further declare that I have read the 2023 course handout for the practical training requirements for the Department of Construction Economics and Management, understand the contents and acknowledge what my obligations are. By ticking the checklist, I confirm that I have adhered to the minimum submission requirements applicable for 2023.

<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Employer letter(s)	<input checked="" type="checkbox"/> e-portfolio
<input checked="" type="checkbox"/> URL submission (working order)	<input checked="" type="checkbox"/> Submission declaration	

Plagiarism Declaration

1. I know that plagiarism is wrong. Plagiarism is to use another's work and pretend that it is one's own.
2. Where I have made use of referencing, I have used the prescribed UCT convention for citation and referencing. Each contribution to, and quotation in, this report from the work(s) of other people has been attributed, and has been cited and referenced.
3. This report is my own work.
4. I have not allowed, and will not allow, anyone to copy my work with the intention of passing it off as his or her own work.
5. I acknowledge that copying someone else's report or part of it, is wrong and declare that this submission comprises my own work.

Signature:..... *L Shezi*

Date 25 / 09 / 23

Full Name of Student Luthando Shezi

Student Number SHZLUT001

3. SALGA: DATA4MIA

3.1. Daily Diary 1

I did my third-year training with DATA4MIA from the 19 June 2023 to 14 July 2023 completing a total of 160 hrs. Below is my daily diary of my time with DATA4MIA.

Daily Diary: DATA4MIA

Total Hours Completed		160 hrs
Date	Hours of work	Activities
WEEK 1		
Monday (19/06/2023)	8am-4pm 8hrs	<ul style="list-style-type: none">• We had a welcome and orientation session.• Then the supervisor introduced us to the wastewater risk assessment and abatement planning and the Green Drop Report. This is "P1".• It was labelled P1 because it's the 1st of 4 projects /assessments we had do for the programme period.• After that we started reviewing case studies and best practices. Then we were all allocated a municipality to investigate on.• Then for the rest of the day we did our own work session to identify key risk areas and develop strategies for risk abatement plans.
Tuesday (20/06/2023)	8am-4pm 8hrs	<ul style="list-style-type: none">• I did a series of data analysis and mapping for identifying high-risk areas.• Then I had to evaluate existing infrastructure and identifying potential improvement measures of my municipality.• At the end of the day, I started developing a draft wastewater risk abatement plan based on Green Drop Report.
Wednesday (21/06/2023)	8am-4pm 8hrs	<ul style="list-style-type: none">• Today I was continuing and refining the draft wastewater risk abatement plan.• Then we were discussing the draft plans with the supervisors.• Thereafter, I incorporated feedback and continued with the wastewater risk abatement plans.

Thursday (22/06/2023)	8am-4pm 8hrs	<ul style="list-style-type: none"> • We had a peer review and feedback session with fellow colleagues. • Then I went back to revising and finalizing the plans based on the peer review feedback.
Friday (23/06/2023)	8am-4pm 8hrs	<ul style="list-style-type: none"> • Today's task was basically finalizing the report and presentation materials for the wastewater risk abatement plans. • And the end of the day, we then had a wrap-up session, and the program supervisors prepared us for the next week's tasks.
WEEK 2		
Monday (26/06/2023)	8am – 4pm 8hrs	<ul style="list-style-type: none"> • Today, we were introduced to the Blue Drop Report and the Blue Drop Corrective Plan “P2”, and also different water systems in different municipalities in South Africa. • After that we repeated last week's routine of looking at case studies and best practices, then we all got given few municipalities to investigate and evaluate their water systems by compiling a Blue Drop Corrective Plan report and a presentation.
Tuesday (27/06/2023)	8am – 4pm 8hrs	<ul style="list-style-type: none"> • I continued with the Blue Drop Corrective Plan by referencing my findings from the 2022 Blue Drop report. • Then after, we had a Zoom meeting with a retired professional in the water and sanitation industry who spoke to us about many things about the industry and then we had a Q&A session.
Wednesday (28/06/2023)	8am-4pm 8hrs	<ul style="list-style-type: none"> • Discussed my Blue Report Findings with the supervisors, them had to make amendments to various sections of my Blue Drop Corrective Plan.
Thursday (29/06/2023)	8am – 4pm 8hrs	<ul style="list-style-type: none"> • Finished my Blue Drop report and was now starting with the presentation. • Consulted with various other students that were also part of the programme and got feedback on how they did stuff and then referenced my adjustments to that.
Friday (30/06/2023)	8am-4pm 8hrs	<ul style="list-style-type: none"> • I did my final checks on my Blue Drop Corrective Plan report and presentation. • Then at the end of the day, the supervisors discussed with us in terms of the quality of our previous week's work and gave us advise on how we should tackle the next upcoming weeks with the tasks set on hand.

WEEK 3

Monday (03/07/2023)	8am-4pm 8hrs	<ul style="list-style-type: none"> • We got introduced to the No Drop Implementation Tool, “P3.” • Today was a bit harder because we now had to figure stuff by ourselves for the next two weeks. • Therefore, spent the entire day using the No Drop Report and also using websites like GoMuni to search for information and data to use for the No Drop Tool.
Tuesday (04/07/2023)	8am-4pm 8hrs	<ul style="list-style-type: none"> • I made little progress today with my No Drop Tool as the municipality I had to investigate for had scarce information and some data looked quite exaggerated at times. • But, still continued working the whole developing the No Drop Tool.
Wednesday (05/07/2023)	8am-4pm 8hrs	<ul style="list-style-type: none"> • Made much more progress today, as one of the other students discovered another site to search for information and therefore shared with the entire group. • This helped me to get much more information for the No Drop Tool.
Thursday (06/07/2023)	8am-4pm 8hrs	<ul style="list-style-type: none"> • We had a Zoom meeting again with a retired professional, and we were speaking almost about the same things just that this time it was about the No Drop Tool. • Continued work and was almost finished at the end of the day.
Friday (07/07/2023)	8am-4pm 8hrs	<ul style="list-style-type: none"> • Finalised my No Drop Implementation report and presentation and submitted it. • Thereafter, helped other fellow students who were struggling a bit.

WEEK 4

Monday (10/07/2023)	8am-4pm 8hrs	<ul style="list-style-type: none"> • The supervisor discussed with us what was expected of us to deliver when doing Tariff Modelling “P4”, for our municipalities. • Thereafter, we started and continued with work for the whole day using the same routine from the 1st week for the entire week.
Tuesday (11/07/2023)	8am-4pm 8hrs	<ul style="list-style-type: none"> • I continued with Tariff Modelling today but made little progress as my municipality had little information about prices and amounts spent for various activities. • Discussed with others and reviewed what they did to get a better understanding on how to tackle P4.
Wednesday (12/07/2023)	8am-4pm 8hrs	<ul style="list-style-type: none"> • We had a physical meeting with a professional from the Department of Water & Sanitation for most of the day. • I continued to figure out how to do P4.
Thursday (13/07/2023)	8am-4pm 8hrs	<ul style="list-style-type: none"> • I finally got to understand P4 and was now extracting data from various websites and using it to complete P4. • Spent the entire day finishing P4.
Friday (14/07/2023)	8am-4pm 8hrs	<ul style="list-style-type: none"> • Finalised P4 by checking the No Drop Implementation Tool report and presentation and then submitted it.

		<ul style="list-style-type: none"> • Our supervisors thanked us at the end of day for our commitment and time, and then we said our final goodbyes.
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3.2. Reflective Essay

I got the opportunity to participate in the Data4Mia programme by SALGA for a period of 4 weeks during the July Vac Period. However, we had to sign an NDA, therefore, this report will not be able to thoroughly describe the specific data figures found and etc, however I'll be summarising the various applicable information and results and stating conclusions based on the results for each project I did.

During the first week, we got introduced to the Green Drop Report And the wastewater risk assessment and abatement plan. These documents mainly dealt with the wastewater systems and wastewater system management within municipalities whether district/local. The main purpose of these documents is to:

- Present the 2022 Municipal Strategic Self-Assessment (MuSSA) to provide an overall municipal view.
- Present the summary municipal Green Drop performance.
- Present key Risk areas and planned measures to drive improvement in the municipality.

After that presentation and introduction session, we got allocated a municipality to investigate and evaluate the wastewater systems available. The municipality that I had was Nala Local Municipality in Free State. This municipality had 3 wastewater systems named: Bothaville , Wesselsbron , Monyakeng. At the end of the week, I found that the municipality had many compliance issues and was not up to standard based on minimum requirements however that could have been due to the relevant parties of the municipality not submitting required document on due time or also it could mean that the municipality was generally not compliant to requirements.

For week 2, we now were introduced to the Blue Drop Report and Blue Drop Corrective Plan. These two sets of documentation dealt with the drinking water quality and management within district/local municipalities in South Africa. Again, we were located different municipalities than the ones from week 1. This time my municipality was Mohokare Local Municipality in Free State. There were 3 water treatment plants in the municipality: Rouxville , Smithfield, Zastron. At the end of the week, the municipality performed very well with the water quality, however in terms of chemical and microbiological compliances, there were many question marks as some values showed 0% which could mean that the municipality never submitted the required documentation, or they generally did not comply to the standards and requirements.

The last two weeks were the hardest of the whole programme, firstly because we got less assistance from the program supervisors and secondly because information relevant to the two remain projects was very hard to obtain. For both weeks we were instructed to use the same municipality we got allocated to, therefore my municipality was Merafong City Local Municipality in Gauteng. Hence, for week 3, we dealt with the No Drop Report and the No Drop Implementation Tool. The main purpose of these documents is to:

- Present an overview of the key challenges and risks faced by the municipality in the reduction of its non-revenue water.
- Present an overview of the performance trends and the target reductions and the accompanying business case.
- Support the municipality in improving status quo, thorough a targeted approach.

With the municipality I had, the main challenges discovered in terms of water quality management and compliance were:

- Logistics (26%)
- Capacity (24%)
- Skills (18%)
- Funding (13%)
- Procurement (9%)
- Other (6%)
- Political (4%)

For the final week, we did Tariff Modelling, this was by far the hardest of them all mainly because of the scarcity of information available. The main purpose of tariff model is to:

- Assist municipalities to determine the full cost of providing water and sanitation services through a model that considers all reasonable inputs. Towards the provision of reliable and sustainable water and sanitation services.

Luckily, I was able to finish this task by the end of the week.

Lesson Learnt and Challenges.

I've learnt a lot during my time on this project, especially wastewater systems and their management, they were something I didn't really think about but now that I have some knowledge about it, I'm very curious on how other places in South Africa are managing their wastewater systems. However, the one that really caught my attention was the 2nd weeks project dealing mainly with drinking water quality and management. What I discovered in my findings was that many municipalities were not complaint in terms of the chemical and microbiological aspects of water quality even when the actual water quality was up to standard. The attention on week 2 was further increased because at the time, there was news regarding the deaths of individuals as a result of poor water quality in Hammanskraal,

however I didn't do further research on the area. After that week, my biggest concern was how were informal or rural municipalities able to manage their water quality and water systems if other municipalities who seem to be in a better or more urban environment/area were failing quite significantly.

Another thing we were taught in the programme was that when we go into the working environment, information will not be available most often, therefore one must be able to adapt to the situations on hand and also be able to make assumptions wherever possible with respect to rational thinking and sound judgement. Finally working with Data4Mia, made me realise that municipalities are not performing to the capacity their meant to be in, but also realized that this could be due a result of many components: incompetence of people given managerial roles, politics, lack of skills to those involved in resource management, lack of financial management, corruption and etc.

The main challenges faced was that due to one chasing deadlines of weekly submissions and not enough relevant information being available for use, I had to make a lot of assumptions on quite a number of things on all 4 projects given, therefore not being able to properly understand some concepts explained and concepts that were a concerning a factor within the fur projects.

In conclusion, I genuinely enjoyed my time with Data4Mia, I learnt a lot from the programme, and also learnt a lot from the meetings we had with the two professionals. I can confidently say that I have improved my critical thinking skills, communication skills with fellow students and also the program supervisors, and also a bit of my time management skills.