

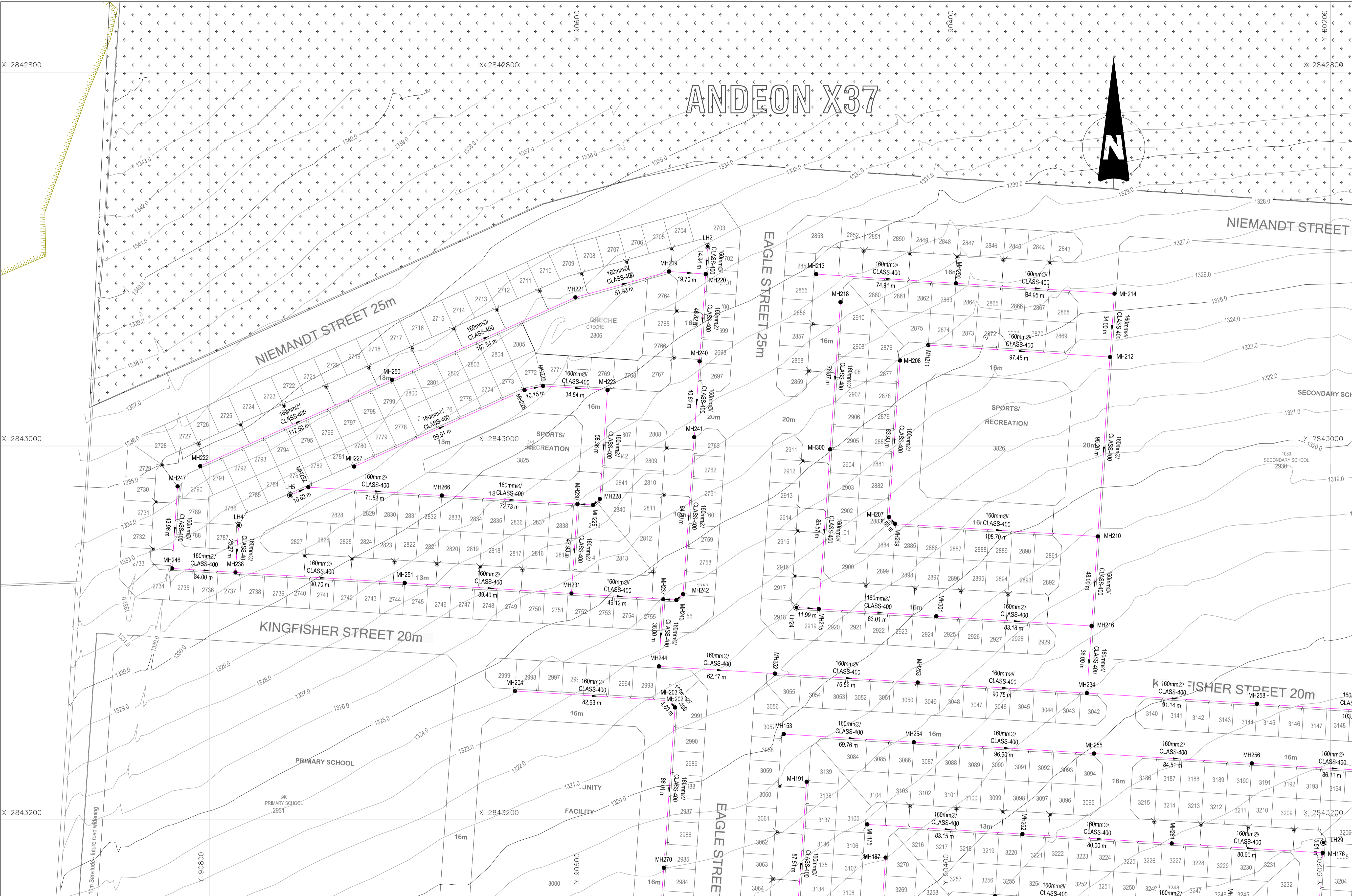
NOTES AND SPECIFICATIONS

GENERAL

1. ALL MATERIAL AND WORKMANSHIP MUST COMPLY WITH THE REQUIREMENTS OF THE LATEST RELEVANT SABS REQUIREMENTS. ALL DIMENSIONS ARE IN MILLIMETERS. (UNLESS OTHERWISE SPECIFIED).
2. DO NOT SCALE FROM THESE DRAWINGS. ALL DIMENSIONS MUST BE CHECKED AND APPROVED ON SITE.
3. ALL CONSTRUCTION TO BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR MUNICIPAL CIVIL ENGINEERING WORKS, THIRD EDITION 2005 AND THE STANDARD COT DETAIL DRAWINGS.
4. THESE DRAWINGS MUST BE READ IN CONJUNCTION WITH THE STANDARD DRAWINGS (IF APPLICABLE).
5. THIS DRAWING MUST BE READ IN CONJUNCTION WITH THE STANDARD SPECIFICATIONS FOR MUNICIPAL CIVIL ENGINEERING WORKS, SERIES 4.
6. THE SIGNATURE OR INITIALS ON THIS DRAWING, OF ANY DIRECTOR OF THE WATER AND SANITATION DEPARTMENT, IN NO WAY REMOVES ANY RESPONSIBILITY WHATSOEVER FROM THE CONSULTANT.
7. THE CONSULTANT REMAINS RESPONSIBLE TO ENSURE THAT ALL THE GUIDELINES, STANDARD DRAWINGS, STANDARDS AND SPECIFICATIONS OF WATER AND SANITATION DEPARTMENT HAVE BEEN MET AND ARE COMPLIED WITH.
8. FINAL POSITION OF SERVICES TO BE DETERMINED ON SITE.
9. ALL SEWER LONG HOUSE CONNECTIONS TO BE CONSTRUCTED AS PER COT STANDARD DRAWING 7515-S209

LEGEND

- SEWER**
- NEW MANHOLE
 - CE/LH
 - EXISTING MANHOLE
 - NEW CCTV INSPECTION
 - EXIST. LINE INSPECTED BY CCTV
 - NEW SEWER LINE
 - EXISTING SEWER LINE
 - HOUSE CONNECTION
 - SUBURV BOUNDARY
 - PIPE NUMBER
 - DIRECTION OF FLOW
 - LENGTH/DIAMETER & MATERIAL/CLASS
 - SLEEVE @ TYPE CLASS
 - CROSSCUT



CITY OF TSHWANE
WATER AND SANITATION DEPARTMENT

PO BOX 1022
PRETORIA
0001

AMENDMENTS				
NR	DATE	APPROVED	DESCRIPTION	PAR
0	19-Oct-23	APPROVED	FOR CONSTRUCTION	

WATER AND SANITATION				
FOR INTERNAL APPROVAL - RECEIVED SIGN WHEN APPLICABLE				
DIRECTOR: WATER AND SANITATION - PLANNING				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
REGIONAL DIRECTOR: (1,2,3,4,5,6 or 7)				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
DIRECTOR: SYSTEM DEVELOPMENT				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
DIRECTOR: BULK WATER				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
DIRECTOR: INFRASTRUCTURE PROVISION				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
DIRECTOR: WASTE WATER TREATMENT				
NAME	Prof. Reg. No.	SIGNATURE	DATE	

CONSULTANT DETAIL

IMBAWULA
CIVIL PROJECTS

PLOT 70
1463 Tienie Street
Andon Ah
Zandfontein
Pretoria West
0183
Tel: 012 372 3708

I. THAMI TOM Prof. Reg. No. 2018300095
HEREBY CERTIFY THAT THE SERVICES WILL HAVE BEEN INSTALLED ACCORDING TO NOTE 9 OF THE ABOVE NOTES AND TO THE DRAWING.

SIGNATURE: [Signature] DATE: 19-Oct-23

CONSULTANT DRAWING NUMBER: 2022-AND-S-0401

DESIGNED
NAME: SAGWADI RINGANI Prof. Reg. No. []
SIGNATURE: [Signature] DATE: []

DRAWN
NAME: MOEMEDI MOTAL Prof. Reg. No. []
SIGNATURE: [Signature] DATE: []

CHECKED
NAME: THAMI TOM Prof. Reg. No. 2018300095
SIGNATURE: [Signature] DATE: 19-Oct-23

INFORMATION OFFICE CHECKED
NAME: [] Prof. Reg. No. []
SIGNATURE: [Signature] DATE: []

DESIGN OFFICE APPROVAL
NAME: [] Prof. Reg. No. []
SIGNATURE: [Signature] DATE: []

CONTRACT
No. HHS01-2018/19
PROJECT No. []

SHEET No.
1 OF 8

PAPER SIZE:
A1

SCALE:
1:1 000

DATE:
19-Oct-23

PROJECT STATUS
RECEIVED SIGN WHEN APPLICABLE

CONCEPT DRAWING: []
TENDER DRAWING: []
PROVIDED HIGH POINT DRAWING: []

PROJECT ENGINEER OF COT:
NAME: [] Prof. Reg. No. []
SIGNATURE: [Signature] DATE: 2023-10-27

INSPECTOR OF WORKS OF COT:
NAME: [] Prof. Reg. No. []
SIGNATURE: [Signature] DATE: []

LOCATION OF PROJECT:
ANDEON EXT 37
REGION 3
WARD 55

DESCRIPTION OF PROJECT:
CONSTRUCTION OF SEWER SERVICES IN ANDEON EXT 37
SEWER LAYOUT (1 OF 8)

WBS No.: []

COT DRAWING NUMBER: []

DESCRIPTION OF PROJECT: []

NOTES AND SPECIFICATIONS

GENERAL

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LEGEND

- SEWER**
- NEW MANHOLE
 - CE / LH
 - EXISTING MANHOLE
 - NEW CCTV INSPECTION
 - EXIST. LINE INSPECTED BY CCTV
 - NEW SEWER LINE
 - EXISTING SEWER LINE
 - HOUSE CONNECTION
 - SUBURB BOUNDARY
 - PIPE NUMBER
 - DIRECTION OF FLOW
 - LENGTH/DIAMETER & MATERIAL/CLASS
 - SLEEVE @ TYPE CLASS
 - CROSSCUT



AMENDMENTS			
NR	DATE	APPROVED	DESCRIPTION
0	19-Oct-23	APPROVED	FOR CONSTRUCTION

WATER AND SANITATION			
FOR INTERNAL APPROVAL - RECEIVED SIGN WHEN APPLICABLE			
DIRECTOR: WATER AND SANITATION - PLANNING			
NAME	Prof. Reg. No.	SIGNATURE	DATE
REGIONAL DIRECTOR: (1,2,3,4,5,6 or 7)			
NAME	Prof. Reg. No.	SIGNATURE	DATE
DIRECTOR: SYSTEM DEVELOPMENT			
NAME	Prof. Reg. No.	SIGNATURE	DATE
DIRECTOR: BULK WATER			
NAME	Prof. Reg. No.	SIGNATURE	DATE
DIRECTOR: INFRASTRUCTURE PROVISION			
NAME	Prof. Reg. No.	SIGNATURE	DATE
DIRECTOR: WASTE WATER TREATMENT			
NAME	Prof. Reg. No.	SIGNATURE	DATE

CONSULTANT DETAIL			
Plot 70 1463 Tienie Street Andon Ah Zandfontein Pretoria West 0183 Tel: 012 372 3708			
I, THAMI TOM Prof. Reg. No. 2018300095 HEREBY CERTIFY THAT THE SERVICES WILL HAVE BEEN INSTALLED ACCORDING TO NOTE 9 OF THE ABOVE NOTES AND TO THE DRAWING.			
SIGNATURE	DATE	19-Oct-23	
CONSULTANT DRAWING NUMBER: 2022-AND-S-0402			

DESIGNED		DRAWN		CHECKED		INFORMATION OFFICE CHECKED		DESIGN OFFICE APPROVAL	
NAME: SAGWADI RINGANI	Prof. Reg. No.:	NAME: MOEMEDI MOTAL	DATE:	NAME: THAMI TOM	Prof. Reg. No. 2018300095	DATE: 19-Oct-23	NAME:	Prof. Reg. No.:	DATE:
SIGNATURE:	DATE:	SIGNATURE:	DATE:	SIGNATURE:	DATE:	SIGNATURE:	DATE:	SIGNATURE:	DATE:

PROJECT STATUS		LOCATION OF PROJECT:	
CONTRACT No. HHS01-2018/19	PROJECT No.:	ANDEON EXT 37 REGION 3 WARD 55	
SHEET No. 2 OF 8	PAPER SIZE: A1	DESCRIPTION OF PROJECT:	
SCALE: 1:1 000	INSPECTOR OF WORKS OF COT:	CONSTRUCTION OF SEWER SERVICES IN ANDEON EXT 37 SEWER LAYOUT (2 OF 8)	
DATE: 19-Oct-23	NAME:	WBS No.:	
SIGNATURE:	DATE:	COT DRAWING NUMBER:	
		DESCRIPTION OF PROJECT:	



ANDEON X37



- ### NOTES AND SPECIFICATIONS
- #### GENERAL
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 - FINAL POSITION OF SERVICES TO BE DETERMINED ON SITE.
 - ALL SEWER LONG HOUSE CONNECTIONS TO BE CONSTRUCTED AS PER COT STANDARD DRAWING 7515-S209
- #### LEGEND
- ##### SEWER
- NEW MANHOLE
 - CE / LH
 - EXISTING MANHOLE
 - NEW CCTV INSPECTION
 - EXIST. LINE INSPECTED BY CCTV
 - NEW SEWER LINE
 - EXISTING SEWER LINE
 - HOUSE CONNECTION
 - SUBURB BOUNDARY
 - PIPE NUMBER
 - DIRECTION OF FLOW
 - LENGTH/DIAMETER & MATERIAL/CLASS
 - SLEEVE Ø TYPE CLASS
 - CROSSCUT

CITY OF TSHWANE
WATER AND SANITATION
DEPARTMENT

PO BOX 1022
PRETORIA
0001

AMENDMENTS				
NR	DATE	APPROVED	DESCRIPTION	PAR
0	19-Oct-23	APPROVED	FOR CONSTRUCTION	

WATER AND SANITATION				
FOR INTERNAL APPROVAL - RECEIVED SIGN WHEN APPLICABLE				
DIRECTOR: WATER AND SANITATION - PLANNING				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
REGIONAL DIRECTOR: (1,2,3,4,5,6 or 7)				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
DIRECTOR: SYSTEM DEVELOPMENT				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
DIRECTOR: BULK WATER				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
DIRECTOR: INFRASTRUCTURE PROVISION				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
DIRECTOR: WASTE WATER TREATMENT				
NAME	Prof. Reg. No.	SIGNATURE	DATE	

CONSULTANT DETAIL

IMBAWULA
CIVIL PROJECTS

PLOT 70
1463 Tienie Street
Anderson Ab
Zandfontein
Pretoria West
0183
Tel: 012 372 3708

THAMI TOM
Prof. Reg. No. 2018300095
HEREBY CERTIFY THAT THE SERVICES WILL HAVE BEEN INSTALLED ACCORDING TO NOTE 9 OF THE ABOVE NOTES AND TO THE DRAWING.

SIGNATURE: _____ DATE: 19-Oct-23

CONSULTANT DRAWING NUMBER:
2022-AND-S-04U03

DESIGNED

NAME: **SAGWADI RINGANI**
Prof. Reg. No.: _____
SIGNATURE: _____ DATE: _____

DRAWN

NAME: **MOEMEDI MOTAL**
Prof. Reg. No.: _____
SIGNATURE: _____ DATE: _____

CHECKED

NAME: **THAMI TOM**
Prof. Reg. No. 2018300095
SIGNATURE: _____ DATE: 19-Oct-23

INFORMATION OFFICE CHECKED

NAME: _____ Prof. Reg. No.: _____
SIGNATURE: _____ DATE: _____

DESIGN OFFICE APPROVAL

NAME: _____ Prof. Reg. No.: _____
SIGNATURE: _____ DATE: _____

CONTRACT

No. **HHS01-2018/19**
PROJECT No. _____

SHEET

No. **3 OF 8**

PAPER SIZE:

A1

SCALE:

1:1 000

DATE: 19-Oct-23

PROJECT STATUS

RECEIVED SIGN WHEN APPLICABLE

CONCEPT DRAWING

PROJECT ENGINEER OF COT: _____
NAME: _____
SIGNATURE: _____ DATE: 2023-10-27

INSPECTOR OF WORKS: _____
NAME: _____
SIGNATURE: _____ DATE: _____

LOCATION OF PROJECT:

ANDEON EXT 37
REGION 3
WARD 55

DESCRIPTION OF PROJECT:

CONSTRUCTION OF SEWER SERVICES IN ANDEON EXT 37
SEWER LAYOUT (3 OF 8)

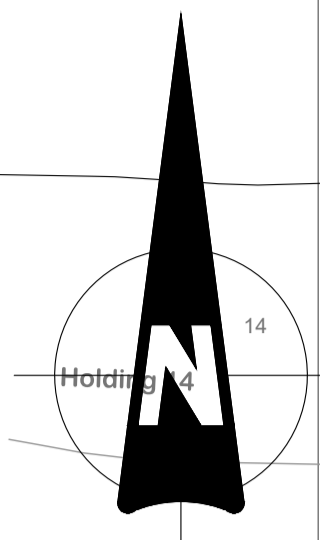
WBNS No. : _____

COT DRAWING NUMBER: _____

DESCRIPTION OF PROJECT: _____



- NOTES AND SPECIFICATIONS**
- GENERAL**
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- LEGEND**
- SEWER**
- NEW MANHOLE
 - CE / LH
 - EXISTING MANHOLE
 - NEW CCTV INSPECTION
 - EXIST. LINE INSPECTED BY CCTV
 - NEW SEWER LINE
 - EXISTING SEWER LINE
 - HOUSE CONNECTION
 - SUBURB BOUNDARY
 - PIPE NUMBER
 - DIRECTION OF FLOW
 - LENGTH/DIAMETER & MATERIAL/CLASS
 - SLEEVE Ø TYPE CLASS
 - CROSSCUT



CITY OF TSHWANE
WATER AND SANITATION
DEPARTMENT

PO BOX 1022
PRETORIA
0001

AMENDMENTS			
NR	DATE	APPROVED	DESCRIPTION
0	19-Oct-23	APPROVED	FOR CONSTRUCTION

WATER AND SANITATION			
FOR INTERNAL APPROVAL - RECEIVED SIGN WHEN APPLICABLE			
DIRECTOR: WATER AND SANITATION - PLANNING			
NAME	Prof. Reg. No.	SIGNATURE	DATE
REGIONAL DIRECTOR: (1,2,3,4,5,6 or 7)			
NAME	Prof. Reg. No.	SIGNATURE	DATE
DIRECTOR: SYSTEM DEVELOPMENT			
NAME	Prof. Reg. No.	SIGNATURE	DATE
DIRECTOR: BULK WATER			
NAME	Prof. Reg. No.	SIGNATURE	DATE
DIRECTOR: INFRASTRUCTURE PROVISION			
NAME	Prof. Reg. No.	SIGNATURE	DATE
DIRECTOR: WASTE WATER TREATMENT			
NAME	Prof. Reg. No.	SIGNATURE	DATE

CONSULTANT DETAIL

IMBAWULA
CIVIL PROJECTS

PLOT 70
1463 Tierne Street
Andeon Ah
Zandfontein
Pretoria West
0183
Tel: 012 372 3708

1. **THAMI TOM** Prof. Reg. No. 2018300095
HEREBY CERTIFY THAT THE SERVICES WILL HAVE BEEN INSTALLED ACCORDING TO NOTE 9 OF THE ABOVE NOTES AND TO THE DRAWING.

SIGNATURE: _____ DATE: 19-Oct-23

CONSULTANT DRAWING NUMBER:
2022-AND-S-0404

DESIGNED	
NAME: SAGWADI RINGANI	Prof. Reg. No. _____
SIGNATURE: _____	DATE: _____
DRAWN	
NAME: MOEMEDI MOTAL	Prof. Reg. No. _____
SIGNATURE: _____	DATE: _____
CHECKED	
NAME: THAMI TOM	Prof. Reg. No. 2018300095
SIGNATURE: _____	DATE: 19-Oct-23
INFORMATION OFFICE CHECKED	
NAME: _____	Prof. Reg. No. _____
SIGNATURE: _____	DATE: _____
DESIGN OFFICE APPROVAL	
NAME: _____	Prof. Reg. No. _____
SIGNATURE: _____	DATE: _____

CONTRACT	
NAME: SAGWADI RINGANI	Prof. Reg. No. _____
SIGNATURE: _____	DATE: _____
PROJECT No.	
NAME: _____	Prof. Reg. No. _____
SIGNATURE: _____	DATE: _____
SHEET No.	
NAME: _____	Prof. Reg. No. _____
SIGNATURE: _____	DATE: _____
PAPER SIZE:	
NAME: _____	Prof. Reg. No. _____
SIGNATURE: _____	DATE: _____
SCALE:	
NAME: _____	Prof. Reg. No. _____
SIGNATURE: _____	DATE: _____

PROJECT STATUS

RECEIVED SIGN WHEN APPLICABLE

CONCEPT DRAWING

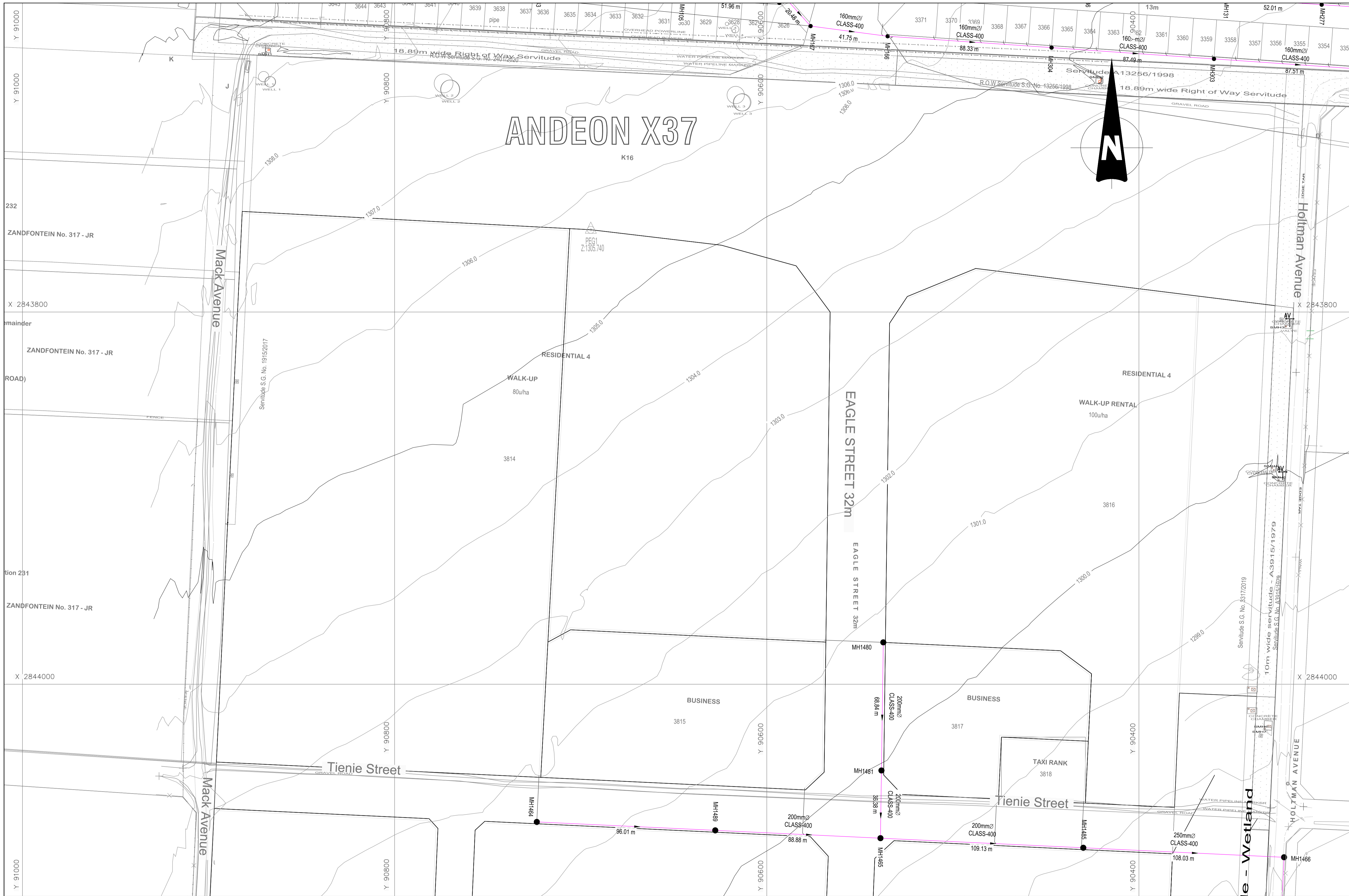
TENDER OF APPROVAL

AS BUILT DRAWING

PROJECT ENGINEER OF COT: _____
2023-10-27

INSPECTOR OF WORKS OF COT: _____

LOCATION OF PROJECT:	
ANDEON EXT 37	REGION 3
WARD 55	
DESCRIPTION OF PROJECT:	
CONSTRUCTION OF SEWER SERVICES IN ANDEON EXT 37	SEWER LAYOUT (4 OF 8)
WBS No.:	
COT DRAWING NUMBER:	
DESCRIPTION OF PROJECT:	



- ### NOTES AND SPECIFICATIONS
- #### GENERAL
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 - EXIST. LINE INSPECTED BY CCTV
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CITY OF TSHWANE
WATER AND SANITATION
DEPARTMENT

PO BOX 1022
PRETORIA
0001

AMENDMENTS				
NR	DATE	APPROVED	DESCRIPTION	PAR
0	19-Oct-23	APPROVED	FOR CONSTRUCTION	

WATER AND SANITATION				
FOR INTERNAL APPROVAL - RECEIVED SIGN WHEN APPLICABLE				
DIRECTOR: WATER AND SANITATION - PLANNING				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
REGIONAL DIRECTOR: (1,2,3,4,5,6 or 7)				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
DIRECTOR: SYSTEM DEVELOPMENT				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
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DIRECTOR: INFRASTRUCTURE PROVISION				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
DIRECTOR: WASTE WATER TREATMENT				
NAME	Prof. Reg. No.	SIGNATURE	DATE	

CONSULTANT DETAIL

IMBAWULA
CIVIL PROJECTS

Plot 70
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Andeon Ah
Zandfontein
Pretoria West
0183
Tel: 012 372 3708

THAMI TOM
Prof Reg No. 2018300095
HEREBY CERTIFY THAT THE SERVICES WILL HAVE BEEN INSTALLED ACCORDING TO NOTE 9 OF THE ABOVE NOTES AND TO THE DRAWING.

SIGNATURE: _____ DATE: 19-Oct-23

CONSULTANT DRAWING NUMBER:
2022-AND-S-04U05

DESIGNED	
NAME: SAGWADI RINGANI	Prof Reg No. _____
SIGNATURE: _____	DATE: _____
DRAWN	
NAME: MOEMEDI MOTAL	Prof Reg No. _____
SIGNATURE: _____	DATE: _____
CHECKED	
NAME: THAMI TOM	Prof Reg No. 2018300095
SIGNATURE: _____	DATE: 19-Oct-23
INFORMATION OFFICE CHECKED	
NAME: _____	Prof Reg No. _____
SIGNATURE: _____	DATE: _____
DESIGN OFFICE APPROVAL	
NAME: _____	Prof Reg No. _____
SIGNATURE: _____	DATE: 19-Oct-23

CONTRACT	
No. HHS01-2018/19	
PROJECT No. _____	
SHEET No. 5 OF 8	
PAPER SIZE: A1	
SCALE: 1:1 000	
DATE: 19-Oct-23	

PROJECT STATUS

RECEIVED SIGN WHEN APPLICABLE

CITY OF TSHWANE
WATER AND SANITATION DEPARTMENT

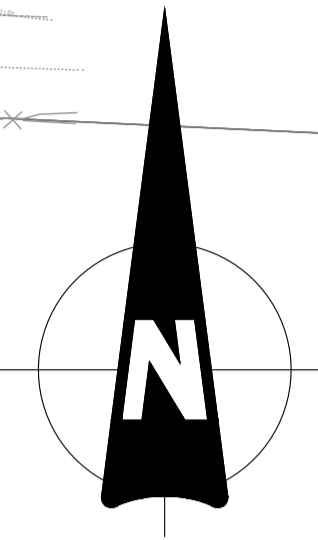
PROJECT ENGINEER OF COT:
2023-10-27

INSPECTOR OF WORKS (COT):
2023-10-27

LOCATION OF PROJECT:	
ANDEON EXT 37	
REGION 3	
WARD 55	
DESCRIPTION OF PROJECT:	
CONSTRUCTION OF SEWER SERVICES IN ANDEON EXT 37	
SEWER LAYOUT (5 OF 8)	
WBS No. : _____	
COT DRAWING NUMBER: _____	
DESCRIPTION OF PROJECT: _____	



- NOTES AND SPECIFICATIONS**
- GENERAL**
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ANDEON X37

CITY OF TSHWANE
WATER AND SANITATION
DEPARTMENT

PO BOX 1022
PRETORIA
0001

AMENDMENTS				
NR	DATE	APPROVED	DESCRIPTION	PAR
0	19-Oct-23	APPROVED	FOR CONSTRUCTION	

WATER AND SANITATION			
FOR INTERNAL APPROVAL - RECEIVED SIGN WHEN APPLICABLE			
DIRECTOR: WATER AND SANITATION - PLANNING			
NAME	Prof. Reg. No.	SIGNATURE	DATE
REGIONAL DIRECTOR: (1,2,3,4,5,6 or 7)			
NAME	Prof. Reg. No.	SIGNATURE	DATE
DIRECTOR: SYSTEM DEVELOPMENT			
NAME	Prof. Reg. No.	SIGNATURE	DATE
DIRECTOR: BULK WATER			
NAME	Prof. Reg. No.	SIGNATURE	DATE
DIRECTOR: INFRASTRUCTURE PROVISION			
NAME	Prof. Reg. No.	SIGNATURE	DATE
DIRECTOR: WASTE WATER TREATMENT			
NAME	Prof. Reg. No.	SIGNATURE	DATE

CONSULTANT DETAIL

Plot 70
1463 Tienie Street
Anderson Ah
Zandfontein
Pretoria West
0183
Tel: 012 372 3708

THAMI TOM Prof. Reg. No. 2018300095
HEREBY CERTIFY THAT THE SERVICES WILL HAVE BEEN INSTALLED ACCORDING TO NOTE 9 OF THE ABOVE NOTES AND TO THE DRAWING.

SIGNATURE: _____ DATE: 19-Oct-23

CONSULTANT DRAWING NUMBER: 2022-AND-S-04U06

DESIGNED	
NAME: SAGWADI RINGANI	Prof. Reg. No. _____
SIGNATURE: _____	DATE: _____
DRAWN	
NAME: MOEMEDI MOTAI	Prof. Reg. No. _____
SIGNATURE: _____	DATE: _____
CHECKED	
NAME: THAMI TOM	Prof. Reg. No. 2018300095
SIGNATURE: _____	DATE: 19-Oct-23
INFORMATION OFFICE CHECKED	
NAME: _____	Prof. Reg. No. _____
SIGNATURE: _____	DATE: _____
DESIGN OFFICE APPROVAL	
NAME: _____	Prof. Reg. No. _____
SIGNATURE: _____	DATE: 19-Oct-23

CONTRACT	
No. HHS01-2018/19	PROJECT No. _____
SHEET No. 6 OF 8	PAPER SIZE: A1
SCALE: 1:1 000	DATE: 19-Oct-23

PROJECT STATUS

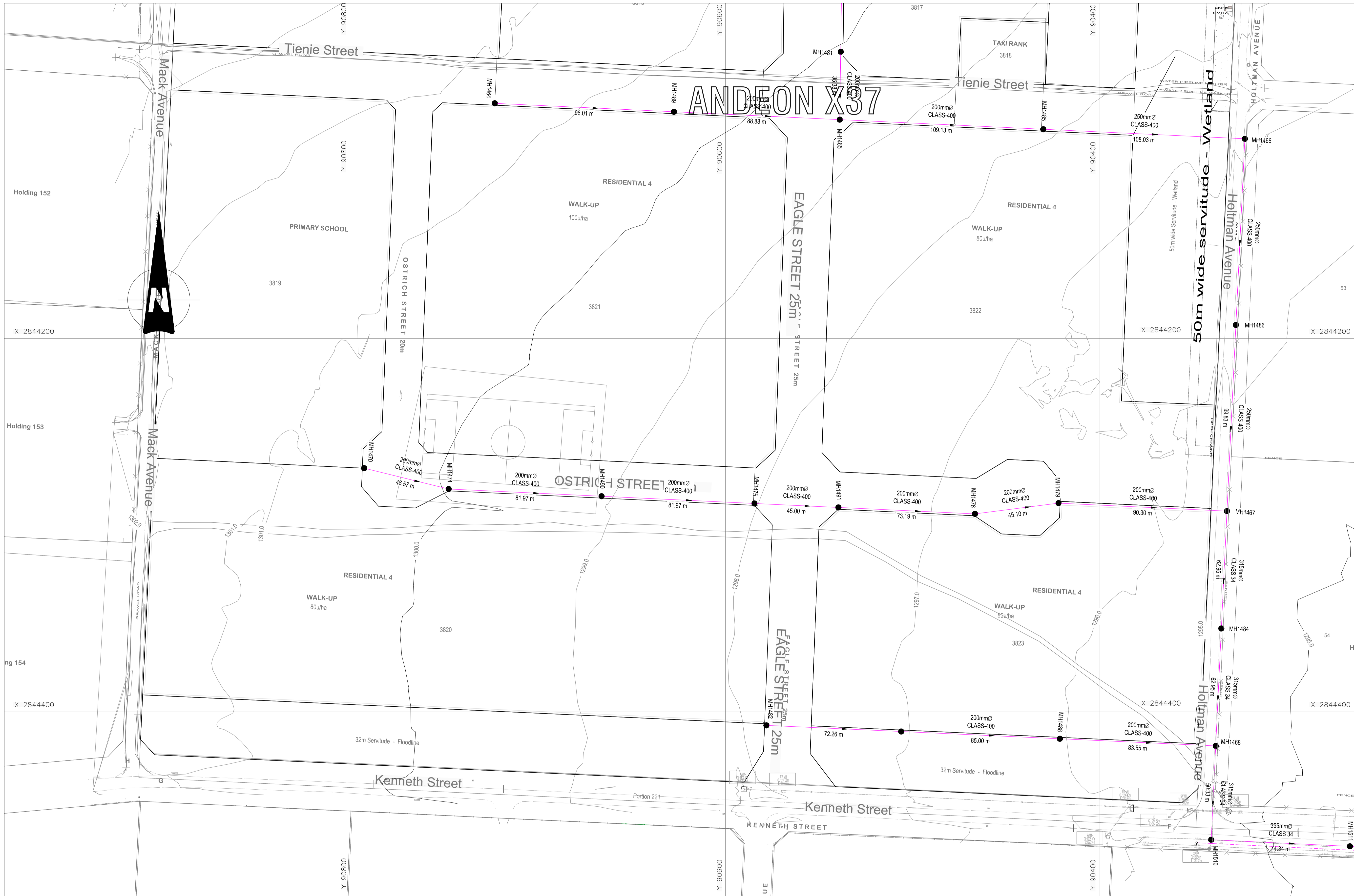
RECEIVED SIGN WHEN APPLICABLE

CONCEPT DRAWING
 TENDER DRAWING
 APPROVED CONSTRUCTION DRAWING
 AS BUILT DRAWING

PROJECT ENGINEER OF COT: _____
 NAME: _____
 SIGNATURE: _____
 DATE: 2023-10-27

INSPECTOR OF WORKS OF COT: _____
 NAME: _____
 SIGNATURE: _____
 DATE: _____

LOCATION OF PROJECT: ANDEON EXT 37 REGION 3 WARD 55	DESCRIPTION OF PROJECT: CONSTRUCTION OF SEWER SERVICES IN ANDEON EXT 37 SEWER LAYOUT (6 OF 8)
WBS No. : _____	COT DRAWING NUMBER: DESCRIPTION OF PROJECT: _____



- NOTES AND SPECIFICATIONS**
- GENERAL**
- ALL MATERIAL AND WORKMANSHIP MUST COMPLY WITH THE REQUIREMENTS OF THE LATEST RELEVANT SABS REQUIREMENTS. ALL DIMENSIONS ARE IN MILLIMETERS. (UNLESS OTHERWISE SPECIFIED).
 - DO NOT SCALE FROM THESE DRAWINGS. ALL DIMENSIONS MUST BE CHECKED AND APPROVED ON SITE.
 - ALL CONSTRUCTION TO BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR MUNICIPAL CIVIL ENGINEERING WORKS, THIRD EDITION 2005 AND THE STANDARD COT DETAIL DRAWINGS.
 - THESE DRAWINGS MUST BE READ IN CONJUNCTION WITH THE STANDARD DRAWINGS (IF APPLICABLE).
 - THIS DRAWING MUST BE READ IN CONJUNCTION WITH THE STANDARD SPECIFICATIONS FOR MUNICIPAL CIVIL ENGINEERING WORKS, SERIES 4.
 - THE SIGNATURE OR INITIALS ON THIS DRAWING, OF ANY DIRECTOR OF THE WATER AND SANITATION DEPARTMENT, IN NO WAY REMOVES ANY RESPONSIBILITY WHATSOEVER FROM THE CONSULTANT.
 - THE CONSULTANT REMAINS RESPONSIBLE TO ENSURE THAT ALL THE GUIDELINES, STANDARD DRAWINGS, STANDARDS AND SPECIFICATIONS OF WATER AND SANITATION DEPARTMENT HAVE BEEN MET AND ARE COMPLIED WITH.
 - FINAL POSITION OF SERVICES TO BE DETERMINED ON SITE.
 - ALL SEWER LONG HOUSE CONNECTIONS TO BE CONSTRUCTED AS PER COT STANDARD DRAWING 7515-S209.
- LEGEND**
- SEWER**
- NEW MANHOLE
 - CE / LH
 - EXISTING MANHOLE
 - NEW CCTV INSPECTION
 - EXIST. LINE INSPECTED BY CCTV
 - NEW SEWER LINE
 - EXISTING SEWER LINE
 - HOUSE CONNECTION
 - SUBURB BOUNDARY
 - PIPE NUMBER
 - DIRECTION OF FLOW
 - LENGTH/DIAMETER & MATERIAL/CLASS
 - SLEEVE @ TYPE CLASS
 - CROSSCUT

CITY OF TSHWANE
WATER AND SANITATION
DEPARTMENT

PO BOX 1022
PRETORIA
0001

AMENDMENTS				
NR	DATE	APPROVED	DESCRIPTION	PAR
0	19-Oct-23	APPROVED	FOR CONSTRUCTION	

WATER AND SANITATION				
FOR INTERNAL APPROVAL - RECEIVED SIGN WHEN APPLICABLE				
DIRECTOR: WATER AND SANITATION - PLANNING				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
REGIONAL DIRECTOR: (1,2,3,4,5,6 or 7)				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
DIRECTOR: SYSTEM DEVELOPMENT				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
DIRECTOR: BULK WATER				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
DIRECTOR: INFRASTRUCTURE PROVISION				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
DIRECTOR: WASTE WATER TREATMENT				
NAME	Prof. Reg. No.	SIGNATURE	DATE	

CONSULTANT DETAIL

IMBAWULA
CIVIL PROJECTS

PLOT 70
1463 Tienie Street
Anderson Ab
Zandfontein
Pretoria West
0183
Tel: 012 372 3708

THAMI TOM
Prof Reg No: 2018300095
HEREBY CERTIFY THAT THE SERVICES WILL HAVE BEEN INSTALLED ACCORDING TO NOTE 9 OF THE ABOVE NOTES AND TO THE DRAWING.

SIGNATURE: _____ DATE: 19-Oct-23

CONSULTANT DRAWING NUMBER:
2022-AND-S-04U07

DESIGNED	
NAME: SAGWADI RINGANI	Prof Reg No: _____
SIGNATURE: _____	DATE: _____
DRAWN	
NAME: MOEMEDI MOTAI	Prof Reg No: _____
SIGNATURE: _____	DATE: _____
CHECKED	
NAME: THAMI TOM	Prof Reg No: 2018300095
SIGNATURE: _____	DATE: 19-Oct-23
INFORMATION OFFICE CHECKED	
NAME: _____	Prof Reg No: _____
SIGNATURE: _____	DATE: _____
DESIGN OFFICE APPROVAL	
NAME: _____	Prof Reg No: _____
SIGNATURE: _____	DATE: _____

CONTRACT	
CONTRACT No:	HHS01-2018/19
PROJECT No:	
SHEET No:	7 OF 8
PAPER SIZE:	A1
SCALE:	1:1 000
DATE:	19-Oct-23

PROJECT STATUS

RECEIVED SIGN WHEN APPLICABLE

CONCEPT DRAWING TENDER DRAWING APPROVED CONSTRUCTION DRAWING AS BUILT DRAWING

PROJECT ENGINEER OF CITY OF TSHWANE

NAME: _____

SIGNATURE: _____ DATE: 2023-10-27

INSPECTOR OF WORKS OF COT:

NAME: _____

SIGNATURE: _____ DATE: _____

LOCATION OF PROJECT:	
ANDEON EXT 37	REGION 3
WARD 55	
DESCRIPTION OF PROJECT:	
CONSTRUCTION OF SEWER SERVICES IN ANDEON EXT 37 SEWER LAYOUT (7 OF 8)	
WBS No.:	
COT DRAWING NUMBER:	
DESCRIPTION OF PROJECT:	



- NOTES AND SPECIFICATIONS**
- GENERAL**
- ALL MATERIAL AND WORKMANSHIP MUST COMPLY WITH THE REQUIREMENTS OF THE LATEST RELEVANT SABS REQUIREMENTS. ALL DIMENSIONS ARE IN MILLIMETERS.
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 - THE CONSULTANT REMAINS RESPONSIBLE TO ENSURE THAT ALL THE GUIDELINES, STANDARD DRAWINGS, STANDARDS AND SPECIFICATIONS OF WATER AND SANITATION DEPARTMENT HAVE BEEN MET AND ARE COMPLIED WITH.
 - FINAL POSITION OF SERVICES TO BE DETERMINED ON SITE.
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- LEGEND**
- SEWER**
- NEW MANHOLE
 - CE / LH
 - EXISTING MANHOLE
 - NEW CCTV INSPECTION
 - EXIST. LINE INSPECTED BY CCTV
 - NEW SEWER LINE
 - EXISTING SEWER LINE
 - HOUSE CONNECTION
 - SUBURB BOUNDARY
 - PIPE NUMBER
 - DIRECTION OF FLOW
 - LENGTH/DIAMETER & MATERIAL/CLASS
 - CROSSCUT

CITY OF TSHWANE
WATER AND SANITATION
DEPARTMENT

PO BOX 1022
PRETORIA
0001

AMENDMENTS				
NR	DATE	APPROVED	DESCRIPTION	PAR
0	19-Oct-23	APPROVED	FOR CONSTRUCTION	

WATER AND SANITATION				
FOR INTERNAL APPROVAL - RECEIVED SIGN WHEN APPLICABLE				
DIRECTOR: WATER AND SANITATION - PLANNING				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
REGIONAL DIRECTOR: (1,2,3,4,5,6 or 7)				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
DIRECTOR: SYSTEM DEVELOPMENT				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
DIRECTOR: BULK WATER				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
DIRECTOR: INFRASTRUCTURE PROVISION				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
DIRECTOR: WASTE WATER TREATMENT				
NAME	Prof. Reg. No.	SIGNATURE	DATE	

CONSULTANT DETAIL

Plot 70
1463 Tienie Street
Andeon Ah
Zandfontein
Pretoria West
0183
Tel: 012 372 3708

THAMI TOM Prof. Reg. No. 2018300095
HEREBY CERTIFY THAT THE SERVICES WILL HAVE BEEN INSTALLED ACCORDING TO NOTE 9 OF THE ABOVE NOTES AND TO THE DRAWING.

SIGNATURE: _____ DATE: 19-Oct-23

CONSULTANT DRAWING NUMBER: 2022-AND-S-04U08

DESIGNED	
NAME: SAGWADI RINGANI	Prof. Reg. No. _____
SIGNATURE: _____	DATE: _____
DRAWN	
NAME: MOEMEDI MOTAI	Prof. Reg. No. _____
SIGNATURE: _____	DATE: _____
CHECKED	
NAME: THAMI TOM	Prof. Reg. No. 2018300095
SIGNATURE: _____	DATE: 19-Oct-23
INFORMATION OFFICE CHECKED	
NAME: _____	Prof. Reg. No. _____
SIGNATURE: _____	DATE: _____
DESIGN OFFICE APPROVAL	
NAME: _____	Prof. Reg. No. _____
SIGNATURE: _____	DATE: 19-Oct-23

CONTRACT	
No. HHS01-2018/19	PROJECT No. _____
SHEET No. 8 OF 8	PAPER SIZE: A1
SCALE: 1:1 000	DATE: 19-Oct-23

PROJECT STATUS

RECEIVED SIGN WHEN APPLICABLE

CONCEPT DRAWING

PROJECT ENGINEER OF COT: **THAMI TOM** Prof. Reg. No. 2018300095

INSPECTOR OF WORKS OF COT: **THAMI TOM** Prof. Reg. No. 2018300095

DATE: 2023-10-27

LOCATION OF PROJECT: ANDEON EXT 37 REGION 3 WARD 55
DESCRIPTION OF PROJECT: CONSTRUCTION OF SEWER SERVICES IN ANDEON EXT 37 SEWER LAYOUT (8 OF 8)
WBS No. : _____
COT DRAWING NUMBER: DESCRIPTION OF PROJECT:

STRUCTURE LIST-Andeon Ext 37 phase 1

STRUCTURE NAME	Y	X	INVERT ELEVATION
LH2	90 533.358	2 842 893.122	P174-INV OUT 1327.853
LH4	90 784.260	2 843 042.385	P183-INV OUT 1330.897
LH5	90 756.648	2 843 026.370	P167-INV OUT 1330.560
LH16	90 723.574	2 843 461.566	P108-INV OUT 1311.693
LH18	90 621.650	2 843 459.911	P211-INV OUT 1309.898
LH24	90 485.851	2 843 086.389	P155-INV OUT 1320.078
LH29	90 203.999	2 843 212.150	P205-INV IN 1310.082
MH81	89 779.915	2 844 467.746	P61(1)(1)-INV IN 1285.895 P60-INV OUT 1285.895
MH93	89 781.257	2 844 496.371	P60-INV IN 1285.310
MH94	89 743.761	2 843 696.878	P62(1)(1)(1)-INV IN 1296.600 P61-INV OUT 1296.600
MH95	90 172.846	2 843 676.975	P172(1)-INV IN 1299.728 P191-INV IN 1299.771 P62-INV OUT 1299.636
MH96	90 751.676	2 843 533.011	P65-INV IN 1308.946 P212-INV IN 1308.946 P63-INV OUT 1308.866
MH97	90 754.692	2 843 577.906	P63-INV IN 1308.025 P98-INV IN 1308.025 P213-INV OUT 1307.945
MH98	90 748.106	2 843 533.252	P64-INV IN 1309.062 P212-INV OUT 1308.982
MH99	90 745.523	2 843 531.002	P66-INV IN 1309.233 P64-INV OUT 1309.153
MH100	90 790.088	2 843 530.417	P65-INV OUT 1310.426
MH101	90 740.541	2 843 460.491	P101-INV IN 1311.190 P66-INV OUT 1311.110
MH102	90 823.149	2 843 407.363	P67-INV OUT 1314.210
MH103	90 573.928	2 843 422.967	P67(1)(1)-INV IN 1309.961 P112-INV OUT 1309.881
MH104	90 642.087	2 843 585.475	P69-INV IN 1306.236 P109-INV IN 1306.236 P68-INV OUT 1306.156
MH105	90 645.103	2 843 630.374	P68-INV IN 1305.706 P215-INV IN 1305.706 P216-INV OUT 1305.626
MH106	90 692.980	2 843 582.056	P69-INV OUT 1307.654
MH107	90 238.165	2 843 595.096	P202-INV IN 1301.460 P71-INV IN 1301.514 P70-INV OUT 1301.380
MH108	90 240.919	2 843 639.079	P70-INV IN 1300.939 P91(1)-INV IN 1300.934 P201-INV OUT 1300.891
MH110	90 232.406	2 843 592.094	P73-INV IN 1301.594 P71-INV OUT 1301.562
MH111	90 329.005	2 843 589.479	P72-INV OUT 1303.086
MH112	90 225.377	2 843 489.877	P75-INV IN 1304.058 P73-INV OUT 1303.978
MH113	90 277.551	2 843 592.661	P74-INV IN 1302.256 P72-INV IN 1302.251 P202-INV OUT 1302.171
MH114	90 270.290	2 843 487.065	P76-INV IN 1304.684 P74-INV OUT 1304.609
MH115	90 242.546	2 843 488.802	P75-INV OUT 1304.345

STRUCTURE LIST-Andeon Ext 37 phase 1

STRUCTURE NAME	Y	X	INVERT ELEVATION
MH116	90 317.400	2 843 484.115	P76-INV OUT 1305.306
MH117	90 194.990	2 843 653.292	P77-INV IN 1300.389 P78-INV OUT 1300.309
MH118	90 201.742	2 843 641.777	P201-INV IN 1300.872 P81-INV IN 1300.710 P77-INV OUT 1300.592
MH119	90 196.537	2 843 675.331	P78-INV IN 1300.088 P119(1)-INV IN 1300.088 P191-INV OUT 1300.008
MH121	90 188.356	2 843 447.107	P83(1)-INV IN 1304.331 P82-INV OUT 1304.247
MH123	90 195.242	2 843 547.250	P82-INV IN 1302.943 P81-INV OUT 1302.863
MH124	90 314.588	2 843 439.203	P83-INV OUT 1306.213
MH125	90 470.786	2 843 429.424	P84-INV OUT 1308.515
MH126	90 341.539	2 843 437.516	P84(1)-INV IN 1306.332 P87-INV OUT 1306.250
MH127	90 442.893	2 843 476.259	P85-INV OUT 1306.933
MH128	90 344.351	2 843 482.430	P85-INV IN 1305.288 P87-INV IN 1305.288 P208-INV OUT 1305.208
MH129	90 445.100	2 843 529.105	P86-INV OUT 1305.776
MH130	90 347.656	2 843 535.208	P86-INV IN 1304.062 P208-INV IN 1304.062 P209-INV OUT 1303.982
MH131	90 353.671	2 843 631.290	P210-INV IN 1302.355 P204-INV IN 1302.355 P91-INV OUT 1302.275
MH132	90 470.089	2 843 580.643	P88-INV IN 1304.876 P88-INV OUT 1304.796
MH133	90 350.968	2 843 588.104	P88(1)-INV IN 1302.868 P209-INV IN 1302.868 P210-INV OUT 1302.788
MH134	90 472.819	2 843 577.548	P90(1)-INV IN 1305.022 P89-INV OUT 1304.922
MH135	90 465.886	2 843 466.803	P90-INV OUT 1307.570
MH136	90 429.501	2 843 626.051	P92-INV IN 1303.831 P204-INV OUT 1303.755
MH138	90 510.681	2 843 620.443	P94-INV IN 1304.742 P92-INV OUT 1304.665
MH139	90 496.300	2 843 416.805	P94(1)-INV OUT 1309.369
MH140	90 856.885	2 843 616.145	P95(1)-INV IN 1308.387 P115-INV OUT 1308.308
MH141	90 842.038	2 843 395.159	P95-INV OUT 1314.476
MH142	90 719.923	2 843 580.249	P214-INV IN 1307.597 P213-INV IN 1307.597 P96-INV OUT 1307.517
MH143	90 722.939	2 843 625.145	P96-INV IN 1306.663 P115(1)-INV IN 1306.663 P215-INV OUT 1306.583
MH144	90 714.942	2 843 580.585	P106(1)-INV IN 1307.857 P214-INV OUT 1307.777
MH145	90 815.157	2 843 573.831	P99-INV IN 1308.711 P98-INV OUT 1308.631
MH146	90 818.320	2 843 570.213	P100(1)-INV IN 1308.839 P99-INV OUT 1308.759
MH147	90 810.304	2 843 450.913	P100-INV OUT 1312.962
MH148	90 791.925	2 843 457.273	P101-INV OUT 1312.829

STRUCTURE LIST-Andeon Ext 37 phase 1

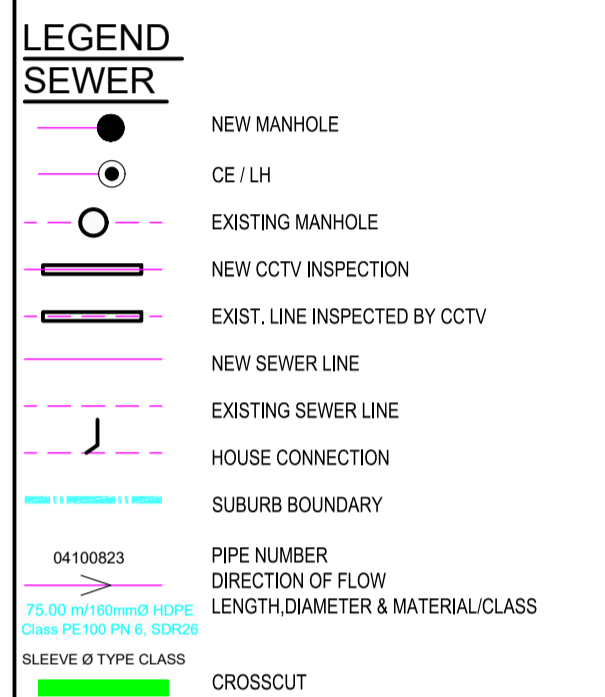
STRUCTURE NAME	Y	X	INVERT ELEVATION
MH149	90 251.870	2 843 252.317	P103-INV IN 1309.797 P102-INV OUT 1309.717
MH150	90 257.188	2 843 329.571	P102-INV IN 1307.500 P121-INV IN 1307.500 P193-INV OUT 1307.420
MH151	90 255.010	2 843 248.736	P104(1)-INV IN 1309.914 P103-INV OUT 1309.834
MH152	90 379.580	2 843 240.905	P104-INV OUT 1312.362
MH153	90 492.652	2 843 154.099	P105-INV OUT 1317.813
MH154	90 156.333	2 843 175.156	P105(1)(1)-INV IN 1310.486 P206-INV OUT 1310.406
MH156	90 682.498	2 843 464.139	P107-INV OUT 1311.140
MH157	90 622.216	2 843 467.914	P107-INV IN 1309.709 P211-INV IN 1309.698 P111-INV OUT 1309.629
MH159	90 706.607	2 843 462.629	P108-INV IN 1311.349 P106-INV OUT 1311.269
MH161	90 630.337	2 843 582.840	P111(1)-INV IN 1306.525 P109-INV OUT 1306.375
MH163	90 588.539	2 843 629.747	P112(1)-INV IN 1304.918 P113-INV OUT 1304.838
MH164	90 590.123	2 843 631.127	P113-INV IN 1304.762 P114-INV IN 1304.762 P118-INV OUT 1304.682
MH165	90 593.257	2 843 633.857	P216-INV IN 1304.884 P114-INV OUT 1304.804
MH166	90 535.065	2 843 651.837	P116-INV IN 1303.980 P119-INV OUT 1303.900
MH167	90 576.456	2 843 646.383	P118-INV IN 1304.478 P116-INV OUT 1304.398
MH169	90 223.485	2 843 379.780	P120-INV IN 1305.963 P134(1)-INV IN 1305.963 P194-INV OUT 1305.883
MH170	90 220.101	2 843 331.893	P193-INV IN 1305.523 P122-INV IN 1305.523 P120-INV OUT 1306.443
MH171	90 357.883	2 843 323.266	P121-INV OUT 1309.411
MH172	90 215.687	2 843 332.169	P123-INV IN 1306.648 P122-INV OUT 1306.568
MH173	90 212.041	2 843 328.978	P124(1)-INV IN 1306.776 P123-INV OUT 1306.696
MH175	90 447.946	2 843 202.399	P125-INV OUT 1315.083
MH176	90 204.378	2 843 217.649	P125(1)-INV IN 1309.969 P124-INV OUT 1309.889 P205-INV OUT 1309.969
MH177	90 170.424	2 843 379.677	P207-INV IN 1305.200 P127-INV OUT 1305.120
MH178	90 174.071	2 843 382.874	P127-INV IN 1305.072 P128-INV OUT 1304.992
MH180	90 181.647	2 843 382.399	P194-INV IN 1304.916 P128-INV IN 1304.916 P129-INV OUT 1304.836
MH181	90 184.185	2 843 418.311	P129-INV IN 1304.476 P199(1)-INV IN 1304.476 P200-INV OUT 1304.396
MH182	90 382.526	2 843 321.723	P197-INV IN 1308.916 P130-INV OUT 1308.836
MH183	90 388.836	2 843 405.498	P198-INV IN 1307.794 P138-INV IN 1307.794 P199-INV OUT 1307.714
MH184	90 405.805	2 843 244.445	P131-INV OUT 1312.890
MH185	90 411.139	2 843 319.932	P132-INV IN 1310.518 P132-INV IN 1310.518 P197-INV OUT 1310.438

STRUCTURE LIST-Andeon Ext 37 phase 1

STRUCTURE NAME	Y	X	INVERT ELEVATION
MH186	90 445.074	2 843 317.807	P133-INV IN 1311.069 P132-INV OUT 1310.989
MH187	90 438.176	2 843 220.190	P133-INV OUT 1314.220
MH188	90 358.307	2 843 371.339	P134-INV OUT 1308.255
MH189	90 493.371	2 843 362.883	P136(1)-INV IN 1310.674 P135-INV OUT 1310.594
MH190	90 386.132	2 843 369.597	P135-INV IN 1308.654 P130-INV IN 1308.654 P198-INV OUT 1308.574
MH191	90 480.422	2 843 179.631	P136-INV OUT 1316.731
MH192	90 663.984	2 843 275.171	P137-INV OUT 1316.575
MH193	90 666.090	2 843 304.977	P137-INV IN 1315.228 P148(1)-INV IN 1315.228 P195-INV OUT 1315.148
MH194	90 155.166	2 843 420.128	P200-INV IN 1303.911 P190(1)-INV IN 1303.909 P172-INV OUT 1303.791
MH195	90 581.295	2 843 393.449	P139-INV IN 1310.874 P138(1)-INV OUT 1310.794
MH196	90 579.045	2 843 357.519	P140(1)(1)-INV IN 1311.314 P143-INV IN 1311.314 P139-INV OUT 1311.234
MH197	90 845.992	2 843 340.806	P141-INV IN 1317.068 P140-INV OUT 1316.988
MH198	90 849.168	2 843 337.189	P142-INV IN 1317.341 P141-INV OUT 1317.261
MH199	90 845.735	2 843 285.629	P142-INV OUT 1319.628
MH200	90 569.844	2 843 358.108	P144-INV IN 1311.488 P143-INV OUT 1311.408
MH201	90 565.990	2 843 354.910	P196-INV IN 1311.617 P144-INV OUT 1311.537
MH202	90 550.792	2 843 139.844	P145-INV IN 1319.818 P145-INV OUT 1319.738
MH203	90 553.954	2 843 136.231	P147-INV IN 1320.037 P146-INV OUT 1319.957
MH204	90 636.422	2 843 131.068	P147-INV OUT 1322.352
MH205	90 820.628	2 843 295.302	P148-INV OUT 1318.378
MH206	90 562.918	2 843 311.437	P195-INV IN 1313.402 P145(1)-INV IN 1313.402 P196-INV OUT 1313.322
MH207	90 436.327	2 843 037.981	P149-INV IN 1320.543 P150-INV OUT 1320.463
MH208	90 430.411	2 842 954.255	P149-INV OUT 1324.293
MH209	90 433.166	2 843 041.594	P150-INV IN 1320.303 P151-INV OUT 1320.223
MH210	90 324.683	2 843 048.386	P151-INV IN 1316.600 P217-INV IN 1316.600 P218-INV OUT 1316.520
MH211	90 415.322	2 842 946.065	P152-INV OUT 1324.345
MH212	90 318.083	2 842 952.410	P170-INV IN 1321.768 P152-INV IN 1321.768 P217-INV OUT 1321.688
MH213	90 475.268	2 842 908.081	P153-INV OUT 1327.405
MH214	90 315.751	2 842 918.490	P153(1)-INV IN 1322.955 P170-INV OUT 1322.875
MH215	90 473.886	2 843 087.139	P155-INV IN 1319.551 P156(1)-INV IN 1319.551 P154-INV OUT 1319.471

NOTES AND SPECIFICATIONS

- GENERAL**
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 - DO NOT SCALE FROM THESE DRAWINGS. ALL DIMENSIONS MUST BE CHECKED AND APPROVED ON SITE.
 - ALL CONSTRUCTION TO BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR MUNICIPAL CIVIL ENGINEERING WORKS, THIRD EDITION 2005 AND THE STANDARD COT DETAIL DRAWINGS. THESE DRAWINGS MUST BE READ IN CONJUNCTION WITH THE STANDARD DRAWINGS (IF APPLICABLE).
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 - THE CONSULTANT REMAINS RESPONSIBLE TO ENSURE THAT ALL THE GUIDELINES, STANDARD DRAWINGS, STANDARDS AND SPECIFICATIONS OF WATER AND SANITATION DEPARTMENT HAVE BEEN MET AND ARE COMPLIED WITH.
 - FINAL POSITION OF SERVICES TO BE DETERMINED ON SITE.
 - ALL SEWER LONG HOUSE CONNECTIONS TO BE CONSTRUCTED AS PER COT STANDARD DRAWING 7515-S209



CITY OF TSHWANE
WATER AND SANITATION
DEPARTMENT

PO BOX 1022
PRETORIA
0001

AMENDMENTS				
NR	DATE	APPROVED	DESCRIPTION	PAR
0	19-Oct-23	APPROVED	FOR CONSTRUCTION	

WATER AND SANITATION				
FOR INTERNAL APPROVAL - RECEIVED SIGN WHEN APPLICABLE				
DIRECTOR: WATER AND SANITATION - PLANNING				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
REGIONAL DIRECTOR: (1,2,3,4,5,6 or 7)				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
DIRECTOR: SYSTEM DEVELOPMENT				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
DIRECTOR: BULK WATER				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
DIRECTOR: INFRASTRUCTURE PROVISION				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
DIRECTOR: WASTE WATER TREATMENT				
NAME	Prof. Reg. No.	SIGNATURE	DATE	

CONSULTANT DETAIL

IMBAWULA
CIVIL PROJECTS

PLOT 70
1463 Tierne Street
Andeon Ah
Zandfontein
Pretoria West
0183
Tel: 012 372 3708

THAMI TOM
Prof. Reg. No. 2018300095
HEREBY CERTIFY THAT THE SERVICES WILL HAVE BEEN INSTALLED ACCORDING TO NOTE 9 OF THE ABOVE NOTES AND TO THE DRAWING.

SIGNATURE: _____ DATE: 19-Oct-23

CONSULTANT DRAWING NUMBER:
2022-AND-S-04U09

DESIGNED	
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STRUCTURE LIST-Andeon Ext 37 phase 1			
STRUCTURE NAME	Y	X	INVERT ELEVATION
MH216	90 327.976	2 843 096.274	P154(1)-INV IN 1315.043 P218-INV IN 1315.157 P219-INV OUT 1315.077
MH218	90 462.294	2 842 923.102	P156-INV OUT 1326.474
MH219	90 554.058	2 842 906.640	P158-INV IN 1327.943 P157-INV OUT 1327.863
MH220	90 534.412	2 842 908.029	P157-INV IN 1327.666 P174-INV IN 1327.666 P175-INV OUT 1327.586
MH221	90 604.103	2 842 920.515	P159(1)-INV IN 1329.688 P158-INV OUT 1329.608
MH222	90 804.797	2 843 010.737	P159-INV OUT 1332.250
MH223	90 586.920	2 842 970.138	P161-INV IN 1328.230 P164-INV OUT 1328.155
MH225	90 621.391	2 842 967.889	P162-INV IN 1329.429 P161-INV OUT 1329.349
MH226	90 631.316	2 842 970.027	P163-INV IN 1329.611 P162-INV OUT 1329.530
MH227	90 722.440	2 843 010.992	P163-INV OUT 1330.860
MH228	90 591.034	2 843 028.352	P164-INV IN 1325.313 P165-INV OUT 1325.233
MH229	90 594.688	2 843 031.550	P165-INV IN 1325.172 P168-INV OUT 1325.175
MH230	90 602.995	2 843 031.030	P168-INV IN 1325.092 P169(1)-INV IN 1325.175 P166-INV OUT 1325.095
MH231	90 606.208	2 843 078.854	P166-INV IN 1323.497 P173(1)-INV IN 1323.417 P192-INV OUT 1323.337
MH232	90 746.965	2 843 022.016	P167-INV IN 1330.427 P169-INV OUT 1330.347
MH234	90 330.445	2 843 132.190	P219-INV IN 1313.796 P181(1)-INV IN 1313.769 P182(1)-INV OUT 1313.716
MH235	90 136.183	2 843 144.352	P182(1)-INV IN 1311.048 P190-INV OUT 1310.973
MH237	90 557.185	2 843 081.923	P192-INV IN 1321.670 P179-INV IN 1321.670 P180-INV OUT 1321.590
MH238	90 785.954	2 843 067.601	P183-INV IN 1329.247 P184-INV IN 1329.247 P173-INV OUT 1329.167
MH240	90 537.713	2 842 954.735	P175-INV IN 1326.100 P176-INV OUT 1326.020
MH241	90 540.575	2 842 995.250	P176-INV IN 1325.414 P177-INV OUT 1325.334
MH242	90 546.510	2 843 079.241	P177-INV IN 1321.966 P178-INV OUT 1321.886
MH243	90 550.084	2 843 082.368	P178-INV IN 1321.750 P179-INV OUT 1321.741
MH244	90 559.435	2 843 117.853	P190-INV IN 1320.826 P181-INV OUT 1320.729
MH246	90 819.888	2 843 065.476	P185-INV IN 1330.075 P184-INV OUT 1329.995
MH247	90 816.941	2 843 021.614	P185-INV OUT 1332.382
MH250	90 702.187	2 842 964.608	P159-INV IN 1330.844 P159(1)-INV OUT 1330.764
MH251	90 695.431	2 843 073.268	P173-INV IN 1326.184 P173(1)-INV OUT 1326.104
MH252	90 497.383	2 843 121.738	P181-INV IN 1318.484 P181(1)-INV OUT 1318.404
MH253	90 421.018	2 843 126.519	P181(1)-INV IN 1316.874 P181(1)-INV OUT 1316.794

STRUCTURE LIST-Andeon Ext 37 phase 1			
STRUCTURE NAME	Y	X	INVERT ELEVATION
MH254	90 423.029	2 843 158.458	P105-INV IN 1315.862 P105(1)-INV OUT 1315.782
MH255	90 326.616	2 843 164.494	P105(1)-INV IN 1312.915 P105(1)(1)-INV OUT 1312.835
MH256	90 242.270	2 843 169.775	P105(1)-INV IN 1311.427 P105(1)(1)-INV OUT 1311.347
MH258	90 239.479	2 843 137.885	P182(1)-INV IN 1312.107 P182(1)(1)-INV OUT 1312.027
MH259	90 317.211	2 843 244.826	P104-INV IN 1310.902 P104(1)-INV OUT 1310.822
MH261	90 285.115	2 843 212.594	P125(2)-INV IN 1311.089 P125(1)-INV OUT 1311.009
MH262	90 364.961	2 843 207.595	P125-INV IN 1312.663 P125(2)-INV OUT 1312.583
MH264	90 486.590	2 843 266.926	P136-INV IN 1313.689 P136(1)-INV OUT 1313.609
MH265	90 208.727	2 843 280.841	P124-INV IN 1308.409 P124(1)-INV OUT 1308.329
MH266	90 675.584	2 843 026.485	P169-INV IN 1328.037 P169(1)-INV OUT 1327.957
MH267	90 746.368	2 843 299.951	P148-INV IN 1316.698 P148(1)-INV OUT 1316.618
MH268	90 754.701	2 843 346.521	P140-INV IN 1315.159 P140(1)-INV OUT 1315.079
MH269	90 667.372	2 843 351.989	P140(1)-INV IN 1313.621 P140(1)(1)-INV OUT 1313.541
MH270	90 556.855	2 843 225.641	P145-INV IN 1316.249 P145(1)-INV OUT 1316.169
MH272	90 507.176	2 843 398.089	P138(1)-INV IN 1309.559 P138(2)-INV OUT 1309.479
MH273	90 333.739	2 843 408.948	P199-INV IN 1306.965 P199(1)-INV OUT 1306.885
MH274	90 261.880	2 843 413.447	P199(1)-INV IN 1305.861 P199(1)(1)-INV OUT 1305.781
MH276	90 416.846	2 843 583.978	P88-INV IN 1304.168 P88(1)-INV OUT 1304.088
MH277	90 301.784	2 843 634.874	P91-INV IN 1301.755 P91(1)-INV OUT 1301.675
MH278	90 252.210	2 843 443.109	P83-INV IN 1305.150 P83(1)-INV OUT 1305.070
MH279	90 444.023	2 843 402.043	P138(2)-INV IN 1308.575 P138-INV OUT 1308.495
MH280	90 295.927	2 843 375.244	P134-INV IN 1306.997 P134(1)-INV OUT 1306.917
MH281	90 163.529	2 843 279.598	P206-INV IN 1307.788 P207-INV OUT 1307.708
MH282	90 149.012	2 843 330.723	P190(2)-INV IN 1306.021 P190(1)-INV OUT 1305.941
MH283	90 143.002	2 843 243.416	P190-INV IN 1309.471 P190(2)-INV OUT 1309.391
MH284	90 166.795	2 843 589.071	P172(2)-INV IN 1301.807 P172(1)-INV OUT 1301.727
MH285	90 160.785	2 843 501.764	P172-INV IN 1302.973 P172(2)-INV OUT 1302.899
MH286	90 503.361	2 843 516.724	P94(1)-INV IN 1307.007 P94-INV OUT 1306.927
MH287	90 469.145	2 843 518.866	P90-INV IN 1306.381 P90(1)-INV OUT 1306.301
MH288	90 407.418	2 843 433.391	P84-INV IN 1307.427 P84(1)-INV OUT 1307.347

STRUCTURE LIST-Andeon Ext 37 phase 1			
STRUCTURE NAME	Y	X	INVERT ELEVATION
MH289	90 743.867	2 843 412.327	P67-INV IN 1312.976 P67(1)-INV OUT 1312.896
MH290	90 657.049	2 843 417.763	P67(1)-INV IN 1311.733 P67(1)(1)-INV OUT 1311.653
MH291	90 580.961	2 843 522.502	P112-INV IN 1307.885 P112(1)-INV OUT 1307.805
MH292	90 625.849	2 843 519.334	P111-INV IN 1308.394 P111(1)-INV OUT 1308.314
MH293	90 710.448	2 843 516.987	P108-INV IN 1309.465 P108(1)-INV OUT 1309.385
MH294	90 814.322	2 843 510.708	P100-INV IN 1310.877 P100(1)-INV OUT 1310.797
MH295	90 787.815	2 843 620.786	P115-INV IN 1307.393 P115(1)-INV OUT 1307.313
MH296	90 852.056	2 843 544.264	P95(2)-INV IN 1310.497 P95(1)-INV OUT 1310.417
MH297	90 847.229	2 843 472.426	P95-INV IN 1311.886 P95(2)-INV OUT 1311.806
MH299	90 400.517	2 842 912.959	P153-INV IN 1324.639 P153(1)-INV OUT 1324.559
MH300	90 467.864	2 843 001.778	P156-INV IN 1323.082 P156(1)-INV OUT 1323.002
MH301	90 410.996	2 843 091.076	P154-INV IN 1317.896 P154(1)-INV OUT 1317.816
MH302	90 272.369	2 843 670.068	P119(2)-INV IN 1301.107 P119(1)-INV OUT 1301.027
MH303	90 359.672	2 843 664.010	P119(3)-INV IN 1302.062 P119(2)-INV OUT 1301.982
MH304	90 446.949	2 843 657.953	P119-INV IN 1303.017 P119(3)-INV OUT 1302.937
MH305	90 087.923	2 843 680.914	P62-INV IN 1299.211 P62(1)-INV OUT 1299.131
MH306	89 993.563	2 843 685.291	P62(1)-INV IN 1298.658 P62(1)(1)-INV OUT 1298.578
MH307	89 908.641	2 843 689.230	P62(1)(1)-INV IN 1298.154 P62(1)(1)(1)-INV OUT 1298.074
MH308	89 823.718	2 843 693.169	P62(1)(1)(1)-INV IN 1297.649 P62(1)(1)(1)(1)-INV OUT 1297.569
MH309	89 761.704	2 844 079.456	P61(2)(1)-INV IN 1290.687 P61(1)-INV OUT 1290.607
MH310	89 771.546	2 844 289.317	P61(1)(2)-INV IN 1287.837 P61(1)(1)-INV OUT 1287.757
MH311	89 766.393	2 844 179.438	P61(1)-INV IN 1289.015 P61(1)(2)-INV OUT 1288.935
MH312	89 775.060	2 844 364.235	P61(1)(1)-INV IN 1287.009 P61(1)(1)(1)-INV OUT 1286.929
MH313	89 753.336	2 843 901.039	P61(3)-INV IN 1293.809 P61(2)-INV OUT 1293.729
MH314	89 757.316	2 843 985.900	P61(2)-INV IN 1293.069 P61(2)(1)-INV OUT 1293.069
MH315	89 748.182	2 843 791.160	P61-INV IN 1294.743 P61(3)-INV OUT 1294.663

STRUCTURE LIST-Andeon Ext 37 phase 2			
STRUCTURE NAME	Y	X	INVERT ELEVATION
MH1464	90 723.595	2 844 073.965	P221-INV OUT 1298.351
MH1465	90 538.907	2 844 082.700	P221(1)-INV IN 1296.022 P238-INV IN 1296.022 P222-INV OUT 1295.942
MH1466	90 321.987	2 844 092.960	P222(1)-INV IN 1294.776 P223-INV OUT 1294.659
MH1467	90 331.555	2 844 292.398	P223(1)-INV IN 1290.966 P236-INV IN 1291.074 P224-INV OUT 1290.886
MH1468	90 337.589	2 844 418.151	P224(1)-INV IN 1290.177 P239(1)(1)-INV IN 1290.365 P225-INV OUT 1290.097
MH1469	89 848.532	2 844 493.858	P225(1)(1)(1)(1)(1)(1)-INV IN 1286.920
MH1470	90 793.513	2 844 269.409	P226-INV OUT 1296.793
MH1474	90 748.296	2 844 280.561	P226-INV IN 1296.560 P230-INV OUT 1296.480
MH1475	90 584.549	2 844 288.305	P230(1)-INV IN 1294.352 P231-INV OUT 1294.272
MH1476	90 466.487	2 844 293.889	P231(1)-INV IN 1293.601 P232-INV OUT 1293.521
MH1479	90 421.756	2 844 288.132	P232-INV IN 1293.295 P236-INV OUT 1293.215
MH1480	90 537.383	2 843 977.487	P237-INV OUT 1298.073
MH1481	90 538.380	2 844 046.324	P237-INV IN 1297.257 P238-INV OUT 1297.177
MH1482	90 578.154	2 844 407.162	P239-INV OUT 1293.327
MH1484	90 334.572	2 844 355.275	P224-INV IN 1290.571 P224(1)-INV OUT 1290.491
MH1485	90 429.901	2 844 087.856	P222-INV IN 1295.396 P222(1)-INV OUT 1295.316
MH1486	90 326.771	2 844 192.679	P223-INV IN 1292.754 P223(1)-INV OUT 1292.674
MH1487	90 505.969	2 844 410.460	P238-INV IN 1292.619 P239(1)-INV OUT 1292.539
MH1488	90 421.054	2 844 414.339	P239(1)-INV IN 1292.114 P239(1)(1)-INV OUT 1292.034
MH1489	90 627.690	2 844 078.501	P221-INV IN 1297.302 P221(1)-INV OUT 1297.222
MH1490	90 666.423	2 844 284.433	P230-INV IN 1295.721 P230(1)-INV OUT 1295.641
MH1491	90 539.598	2 844 290.431	P231-INV IN 1294.047 P231(1)-INV OUT 1293.967
MH1510	90 340.001	2 844 468.421	P225-INV IN 1289.806 P225(1)(1)-INV OUT 1289.708
MH1511	90 265.746	2 844 471.970	P225(1)(1)-INV IN 1289.444 P225(1)(1)(1)-INV OUT 1289.364
MH1512	90 213.101	2 844 474.482	P225(1)(1)(1)-INV IN 1289.101 P225(1)(1)(1)(1)-INV OUT 1289.021
MH1513	90 118.134	2 844 479.014	P225(1)(1)(1)(1)-INV IN 1288.545 P225(1)(1)(1)(1)(1)-INV OUT 1288.465
MH1514	90 028.236	2 844 483.304	P225(1)(1)(1)(1)(1)-INV IN 1288.015 P225(1)(1)(1)(1)(1)(1)-INV OUT 1287.935
MH1515	89 938.338	2 844 487.594	P225(1)(1)(1)(1)(1)(1)-INV IN 1287.485 P225(1)(1)(1)(1)(1)(1)(1)-INV OUT 1287.405
MH1516	89 848.440	2 844 491.884	P225(1)(1)(1)(1)(1)(1)(1)-INV IN 1286.955 P225(1)(1)(1)(1)(1)(1)(1)(1)-INV OUT 1286.930

NOTES AND SPECIFICATIONS

GENERAL

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- FINAL POSITION OF SERVICES TO BE DETERMINED ON SITE.
- ALL SEWER LONG HOUSE CONNECTIONS TO BE CONSTRUCTED AS PER COT STANDARD DRAWING 7515-S209

LEGEND

SEWER

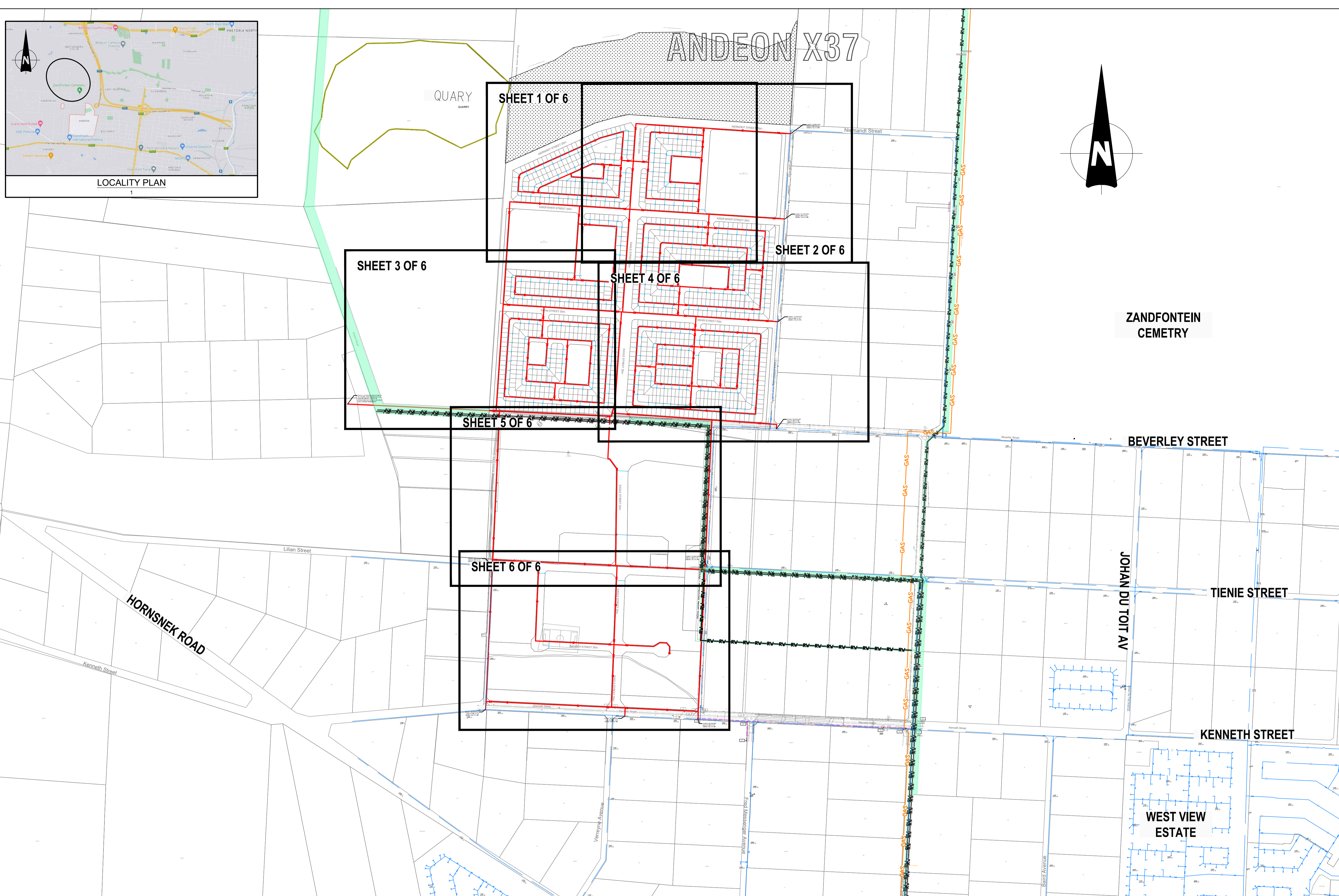
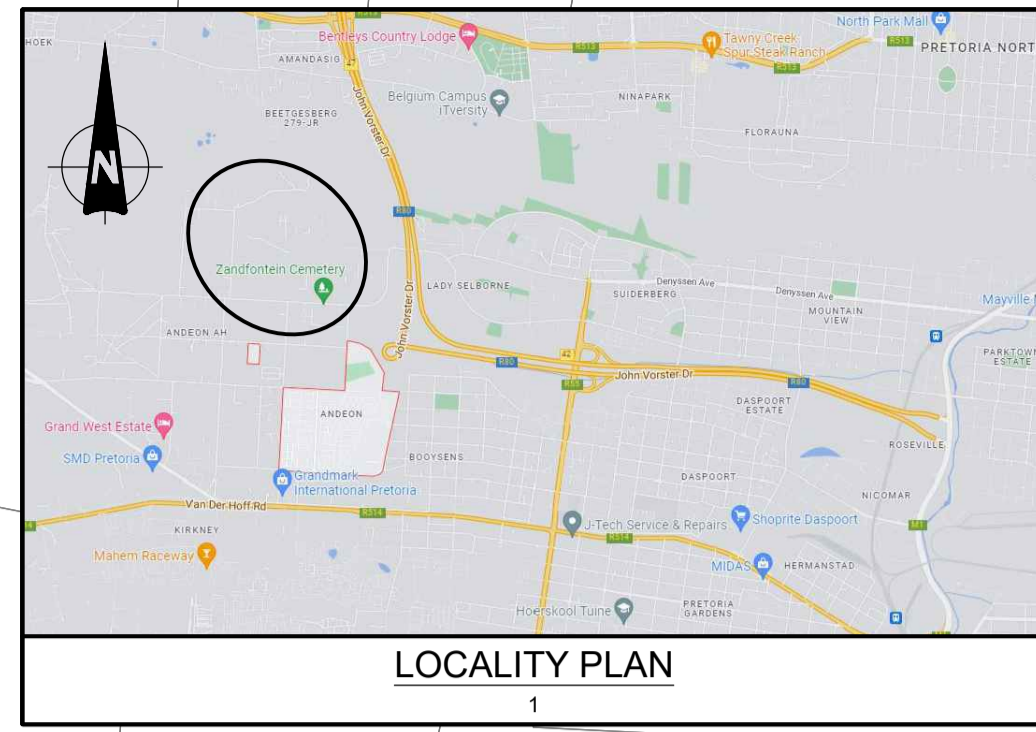
- NEW MANHOLE
- CE / LH
- EXISTING MANHOLE
- NEW CCTV INSPECTION
- EXIST. LINE INSPECTED BY CCTV
- NEW SEWER LINE
- EXISTING SEWER LINE
- HOUSE CONNECTION
- SUBURB BOUNDARY
- PIPE NUMBER
- DIRECTION OF FLOW
- LENGTH/DIAMETER & MATERIAL CLASS
- SLEEVE @ TYPE CLASS
- CROSSCUT

CITY OF TSHWANE
WATER AND SANITATION DEPARTMENT

PO BOX 1022
PRETORIA
0001

AMENDMENTS			
NR	DATE	APPROVED	DESCRIPTION
0	19-Oct-23	APPROVED	FOR CONSTRUCTION

WATER AND SANITATION			
FOR INTERNAL APPROVAL - RECEIVED SIGN WHEN APPLIC			



- NOTES AND SPECIFICATIONS**
- GENERAL**
1. ALL MATERIAL AND WORKMANSHIP MUST COMPLY WITH THE REQUIREMENTS OF THE LATEST RELEVANT SABS REQUIREMENTS.
 2. ALL DIMENSIONS ARE IN MILLIMETERS. (UNLESS OTHERWISE SPECIFIED).
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 10. FINAL POSITION OF SERVICES TO BE DETERMINED ON SITE.

LEGEND

WATER

- NEW HYDRANT
- PROPOSED / NEW PIPE
- NEW VALVE
- NEW VALVE ON EXISTING PIPE
- NEW HYDRANT ON EXISTING PIPE
- NEW END CAP
- NEW PRV
- NEW AIR VALVE
- NEW WATER METER
- EXISTING PIPE CAPPED
- EXISTING END CAP
- EXISTING NETWORK PIPE
- EXISTING BULK PIPELINE
- EXISTING HYDRANT
- NODE NUMBER
- CLOSED VALVE
- EXISTING VALVE
- EXISTING COMMUNICATION PIPES
- EXISTING AIRVALVE
- EXISTING WATER METER
- EXISTING PRV
- EXISTING PUMP
- PIPE TO BE ABANDONED
- REDUNDANT PIPE
- EXISTING RES DISTRIBUTION ZONE
- PROPOSED RES DISTRIBUTION ZONE
- EXISTING RAND WATER PIPE
- SUBURB BOUNDARY
- SASOL GAS LINE
- PETRONET PIPE
- NEW PIPE IN NEW SLEEVE
- CROSS CUT
- PROPOSED SEWER

AMENDMENTS				
NR	DATE	APPROVED	DESCRIPTION	PAR
0	2-Oct-23		FOR CONSTRUCTION	

WATER AND SANITATION				
FOR INTERNAL APPROVAL - RECEIVED SIGN WHEN APPLICABLE				
DIRECTOR: WATER AND SANITATION - PLANNING				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
REGIONAL DIRECTOR: (1,2,3,4,5,6 or 7)				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
DIRECTOR: SYSTEM DEVELOPMENT				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
DIRECTOR: BULK WATER				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
DIRECTOR: INFRASTRUCTURE PROVISION				
NAME	Prof. Reg. No.	SIGNATURE	DATE	
DIRECTOR: WASTE WATER TREATMENT				
NAME	Prof. Reg. No.	SIGNATURE	DATE	

CONSULTANT DETAIL

IMBAWULA CIVIL PROJECTS

PLOT 70
1463 Tienie Street
Anderson Ah
Zandfontein
Pretoria West
0183
Tel: 012 372 3708

1. **THAMI TOM** Prof. Reg. No. 2018300095
HEREBY CERTIFY THAT THE SERVICES WILL HAVE BEEN INSTALLED ACCORDING TO NOTE 9 OF THE ABOVE NOTES AND TO THE DRAWING.

SIGNATURE: *[Signature]* DATE: 2-Oct-23

CONSULTANT DRAWING NUMBER: 2022-AND-W-01U01

DESIGNED	
NAME: SAGWADI RINGANI	Prof. Reg. No.:
SIGNATURE:	DATE:
DRAWN	
NAME: MOEMEDI MQOTAI	Prof. Reg. No.:
SIGNATURE:	DATE:
CHECKED	
NAME: THAMI TOM	Prof. Reg. No. 2018300095
SIGNATURE:	DATE: 2-Oct-23
INFORMATION OFFICE CHECKED	
NAME:	Prof. Reg. No.:
SIGNATURE:	DATE:
DESIGN OFFICE APPROVAL	
NAME:	Prof. Reg. No.:
SIGNATURE:	DATE: 2-Oct-23

CONTRACT No.:
PROJECT No.:
SHEET No.:
1 OF 1
PAPER SIZE:
A1
SCALE:
1:1 000
DATE:
2-Oct-23

PROJECT STATUS

RECEIVED SIGN WHEN APPLICABLE

CITY OF TSHWANE
WATER AND SANITATION DEPARTMENT

PROJECT ENGINEER: *[Signature]* DATE: 2-Oct-23

INSPECTOR OF WORKS OF COT: *[Signature]* DATE: 2-Oct-23

LOCATION OF PROJECT:	
ANDEON EXT 37 ZANDFONTAIN 317-JR REGION 3 WARD 55	
DESCRIPTION OF PROJECT:	
CONSTRUCTION OF WATER SERVICES IN ANDEON EXT 37 GENERAL WATER LAYOUT (1 OF 1)	
WBS No.:	
COT DRAWING NUMBER:	
DESCRIPTION OF PROJECT:	