

DRAWING LIST:

GP05-24-ACSA-200-1 COVER

ROADS AND STORMWATER:

GP05-24-ACSA-502-1	LAYOUT
GP05-24-ACSA-502-2	LAYOUT
GP05-24-ACSA-502-3	LAYOUT
GP05-24-ACSA-505-1	ROAD LONGITUDINAL SECTION
GP05-24-ACSA-505-2	ROAD LONGITUDINAL SECTION
GP05-24-ACSA-509-1	STORMWATER LAYOUT
GP05-24-ACSA-509-2	STORMWATER LAYOUT
GP05-24-ACSA-509-3	STORMWATER LAYOUT
GP05-24-ACSA-510-1	STORMWATER LONGITUDINAL SECTION
GP05-24-ACSA-512-1	TYPICAL CROSS SECTION
GP05-24-ACSA-513-1	PAVEMENT DESIGN
GP05-24-ACSA-518-1	ROAD CROSS SECTION
GP05-24-ACSA-518-2	ROAD CROSS SECTION
GP05-24-ACSA-518-3	ROAD CROSS SECTION
GP05-24-ACSA-560-1	EXISTING SERVICES LAYOUT
GP05-24-ACSA-560-2	EXISTING SERVICES LAYOUT
GP05-24-ACSA-560-3	EXISTING SERVICES LAYOUT
GP05-24-ACSA-580-1	STORMWATER DETAILS
GP05-24-ACSA-580-2	STORMWATER DETAILS
GP05-24-ACSA-580-3	STORMWATER DETAILS
GP05-24-ACSA-580-4	CONTRACT NAMEBOARD

FIRE AND DOMESTIC LAYOUT:

202505001F/WS-01	PROPOSED FIRE & DOMESTIC WATER SUPPLY RETICULATION
202505001F/WS-02	PROPOSED FIRE & DOMESTIC WATER SUPPLY RETICULATION



Figure 1: Locality Map

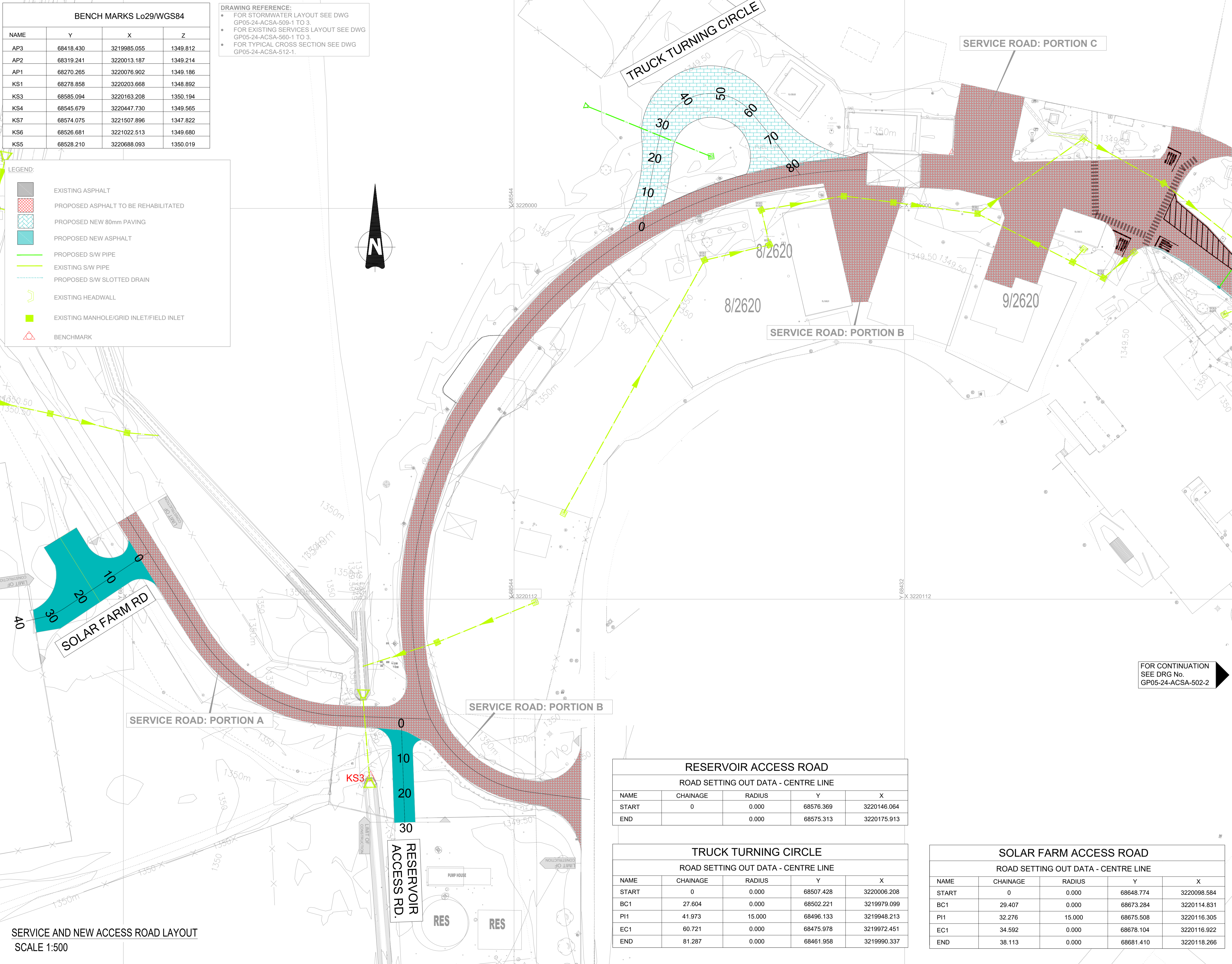
BENCH MARKS Lo29/WGS84			
NAME	Y	X	Z
AP3	68418.430	3219985.055	1349.812
AP2	68319.241	3220013.187	1349.214
AP1	68270.265	3220076.902	1349.186
KS1	68278.858	3220203.668	1348.892
KS3	68585.094	3220163.208	1350.194
KS4	68545.679	3220447.730	1349.565
KS7	68574.075	3221507.896	1347.822
KS6	68526.681	3221022.513	1349.680
KS5	68528.210	3220688.093	1350.019

DRAWING REFERENCE:

- FOR STORMWATER LAYOUT SEE DWG GP05-24-ACSA-509-1 TO 3.
- FOR EXISTING SERVICES LAYOUT SEE DWG GP05-24-ACSA-560-1 TO 3.
- FOR TYPICAL CROSS SECTION SEE DWG GP05-24-ACSA-512-1.

LEGEND:

	EXISTING ASPHALT
	PROPOSED ASPHALT TO BE REHABILITATED
	PROPOSED NEW 80mm PAVING
	PROPOSED NEW ASPHALT
	PROPOSED S/W PIPE
	EXISTING S/W PIPE
	PROPOSED S/W SLOTTED DRAIN
	EXISTING HEADWALL
	EXISTING MANHOLE/GRID INLET/FIELD INLET
	BENCHMARK



- GENERAL NOTES:**
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REVISION INFORMATION

No:	DATE	DESCRIPTION:	BY
F1	16-04-2026	ISSUED FOR TENDER	

CLIENT

BRAM FISCHER
INTERNATIONAL AIRPORT
AIRPORTS COMPANY SOUTH AFRICA

CONSULTANT

amce

Midridge Office Estate North
International Business Gateway Park
Corner of New and 6th Roads
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Fax No. +27 (11) 3 99412 1571
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PROJECT DESCRIPTION
ENGINEERING SERVICES FOR THE UNDERGROUND MAIN WATER LINE AND SERVICE ROADS PROJECT FOR A PERIOD AT BRAM FISCHER INTERNATIONAL AIRPORT

DISCIPLINE
ROADS & TRANSPORT

DRAWING DESCRIPTION

LAYOUT PLAN
SHEET 1 OF 3

DESIGNED BY: M. MTHETHWA	SIGNATURE AND DATE: 16-04-2026
CHECKED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
APPROVED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
PROJECT NO: 7089	DATE: 16-04-2026

DRAWING NO
GP05-24-ACSA-502-1

SCALE 1:500	SHEET SIZE A1	REVISION F1
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RESERVOIR ACCESS ROAD
ROAD SETTING OUT DATA - CENTRE LINE

NAME	CHAINAGE	RADIUS	Y	X
START	0	0.000	68576.369	3220146.064
END		0.000	68575.313	3220175.913

TRUCK TURNING CIRCLE
ROAD SETTING OUT DATA - CENTRE LINE

NAME	CHAINAGE	RADIUS	Y	X
START	0	0.000	68507.428	3220006.208
BC1	27.604	0.000	68502.221	3219979.099
PI1	41.973	15.000	68496.133	3219948.213
EC1	60.721	0.000	68475.978	3219972.451
END	81.287	0.000	68461.958	3219990.337

SOLAR FARM ACCESS ROAD
ROAD SETTING OUT DATA - CENTRE LINE

NAME	CHAINAGE	RADIUS	Y	X
START	0	0.000	68648.774	3220098.584
BC1	29.407	0.000	68673.284	3220114.831
PI1	32.276	15.000	68675.508	3220116.305
EC1	34.592	0.000	68678.104	3220116.922
END	38.113	0.000	68681.410	3220118.266

SERVICE AND NEW ACCESS ROAD LAYOUT
SCALE 1:500

FOR CONTINUATION
SEE DRG No.
GP05-24-ACSA-502-2



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DISCIPLINE
ROADS & TRANSPORT

DRAWING DESCRIPTION

LAYOUT PLAN
SHEET 2 OF 3

DESIGNED BY: M. MTHETHWA	SIGNATURE AND DATE: 16-04-2026
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PROJECT NO: 7089	DATE: 16-04-2026

DRAWING NO
 GP05-24-ACSA-502-2

SCALE	SHEET SIZE	REVISION
1:500	A1	F1

LEGEND:

- EXISTING ASPHALT
- PROPOSED ASPHALT TO BE REHABILITATED
- PROPOSED NEW 80mm PAVING
- PROPOSED NEW ASPHALT
- PROPOSED SW PIPE
- EXISTING SW PIPE
- PROPOSED SW SLOTTED DRAIN
- EXISTING HEADWALL
- EXISTING MANHOLE/GRID INLET/FIELD INLET
- BENCHMARK

TRUCK TURNING CIRCLE

ROAD SETTING OUT DATA - CENTRE LINE

NAME	CHAINAGE	RADIUS	Y	X
START	0	0.000	68507.428	3220006.208
BC1	27.604	0.000	68502.221	3219979.099
PI1	41.973	15.000	68496.133	3219948.213
EC1	60.721	0.000	68475.978	3219972.451
END	81.287	0.000	68461.958	3219990.337

BENCH MARKS Lo29/WGS84

NAME	Y	X	Z
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- FOR TYPICAL CROSS SECTION SEE DWG GP05-24-ACSA-512-1.

SERVICE AND NEW ACCESS ROAD LAYOUT
SCALE 1:500

FOR CONTINUATION
 SEE DRG No. GP05-24-ACSA-502-3

BENCH MARKS Lo29/WGS84

NAME	Y	X	Z
AP3	68418.430	3219985.055	1349.812
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- PROPOSED NEW 80mm PAVING
- PROPOSED NEW ASPHALT
- PROPOSED S/W PIPE
- EXISTING S/W PIPE
- PROPOSED S/W SLOTTED DRAIN
- EXISTING HEADWALL
- EXISTING MANHOLE/GRID INLET/FIELD INLET
- BENCHMARK

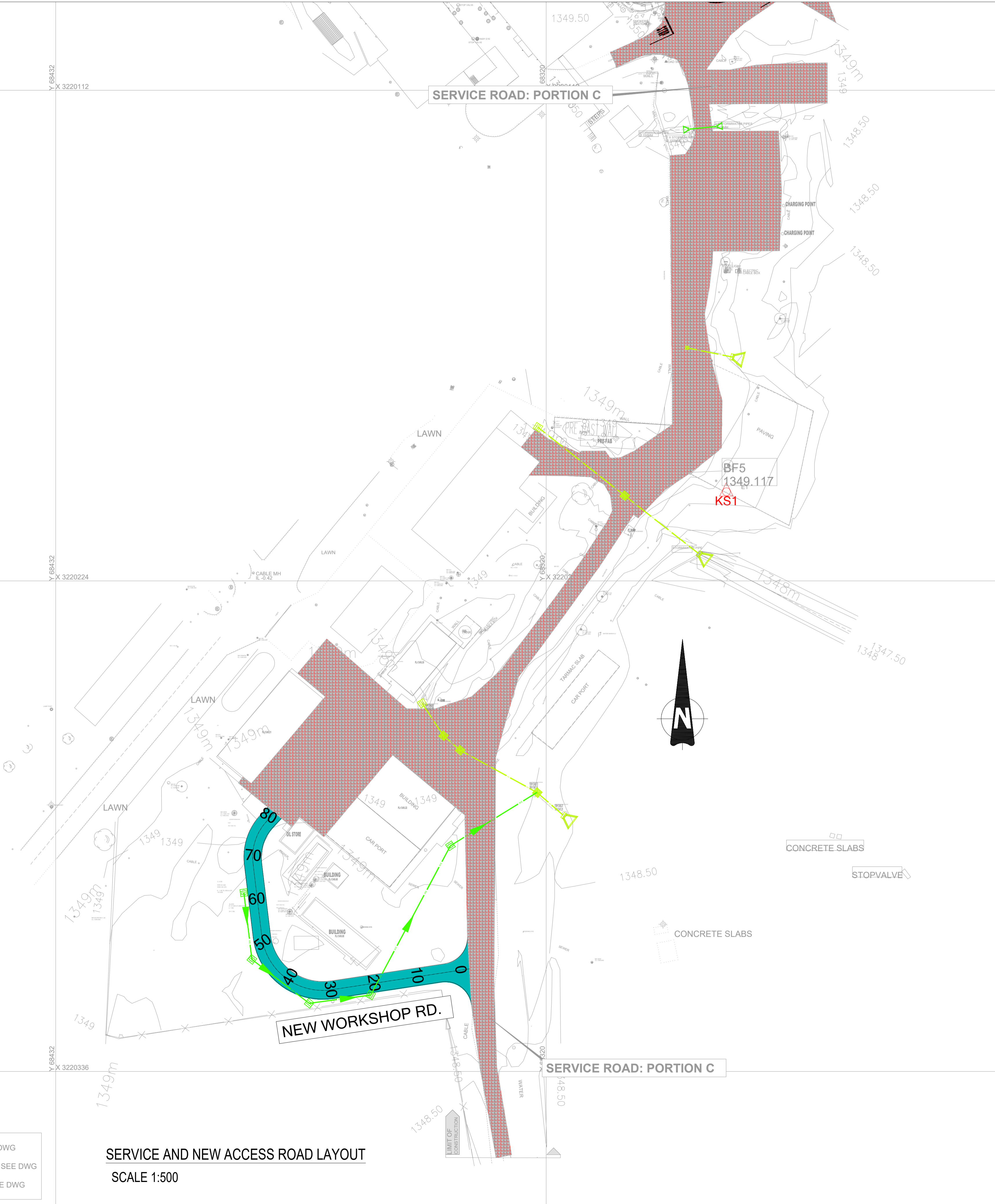
NEW WORKSHOP RD

ROAD SETTING OUT DATA - CENTRE LINE

NAME	CHAINAGE	RADIUS	Y	X
START	0	0.000	68337.464	3220312.566
BC1	31.824	0.000	68368.929	3220317.334
PI1	42.087	14.000	68383.195	3220319.496
EC1	48.034	0.000	68384.926	3220305.172
BC2	69.475	0.000	68386.942	3220288.490
PI2	74.625	12.000	68387.608	3220282.981
EC2	79.578	0.000	68384.926	3220305.172
END	82.543	0.000	68383.841	3220278.905

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SERVICE AND NEW ACCESS ROAD LAYOUT

SCALE 1:500

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DISCIPLINE
ROADS & TRANSPORT

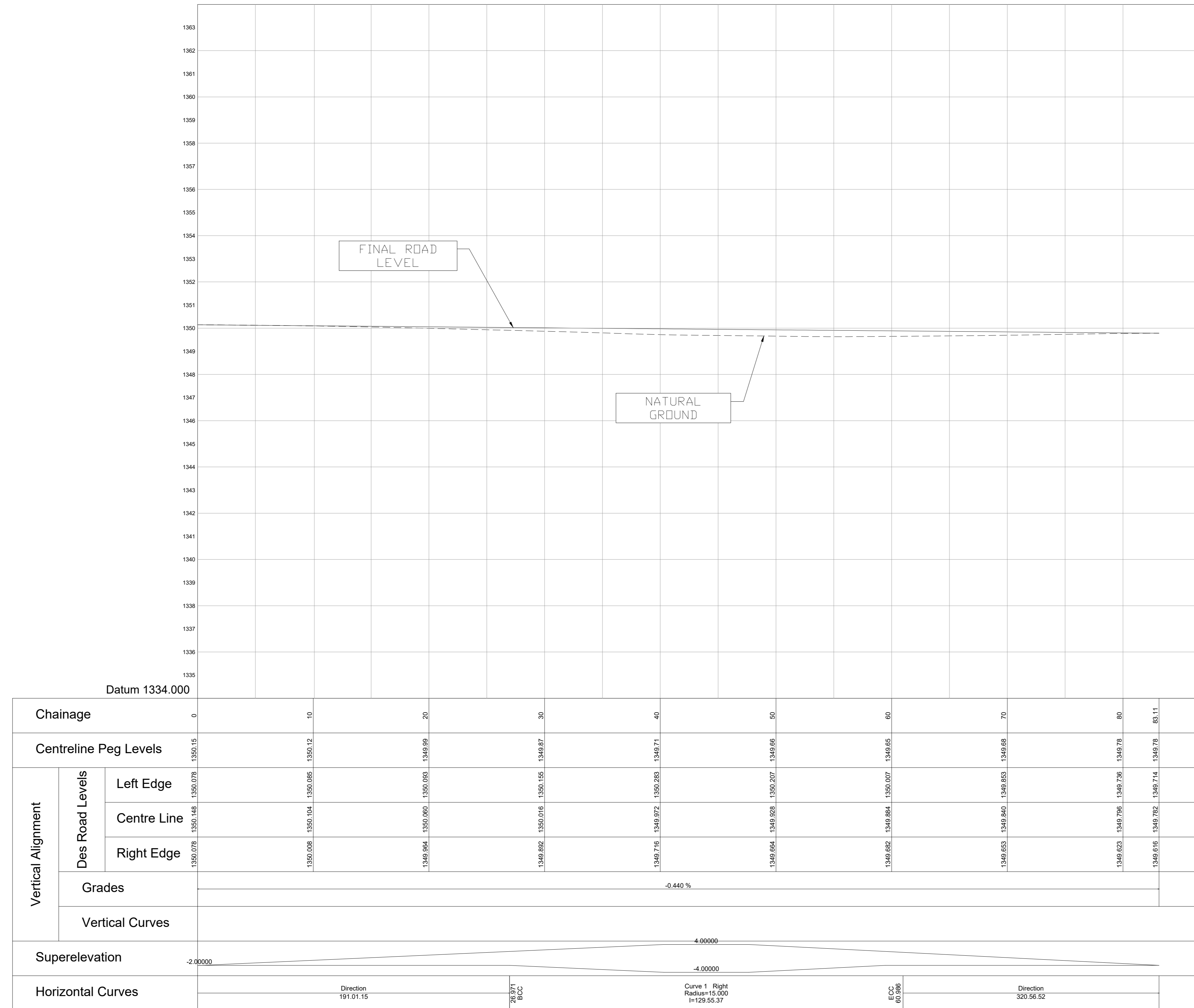
DRAWING DESCRIPTION

LAYOUT PLAN
SHEET 3 OF 3

DESIGNED BY: M. MTHETHWA	SIGNATURE AND DATE: 16-04-2026
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APPROVED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
PROJECT NO: 7089	DATE: 16-04-2026

DRAWING NO
GP05-24-ACSA-502-3

SCALE	SHEET SIZE	REVISION
1:500	A1	F1



Longsection for 0 to 83

GENERAL NOTES:

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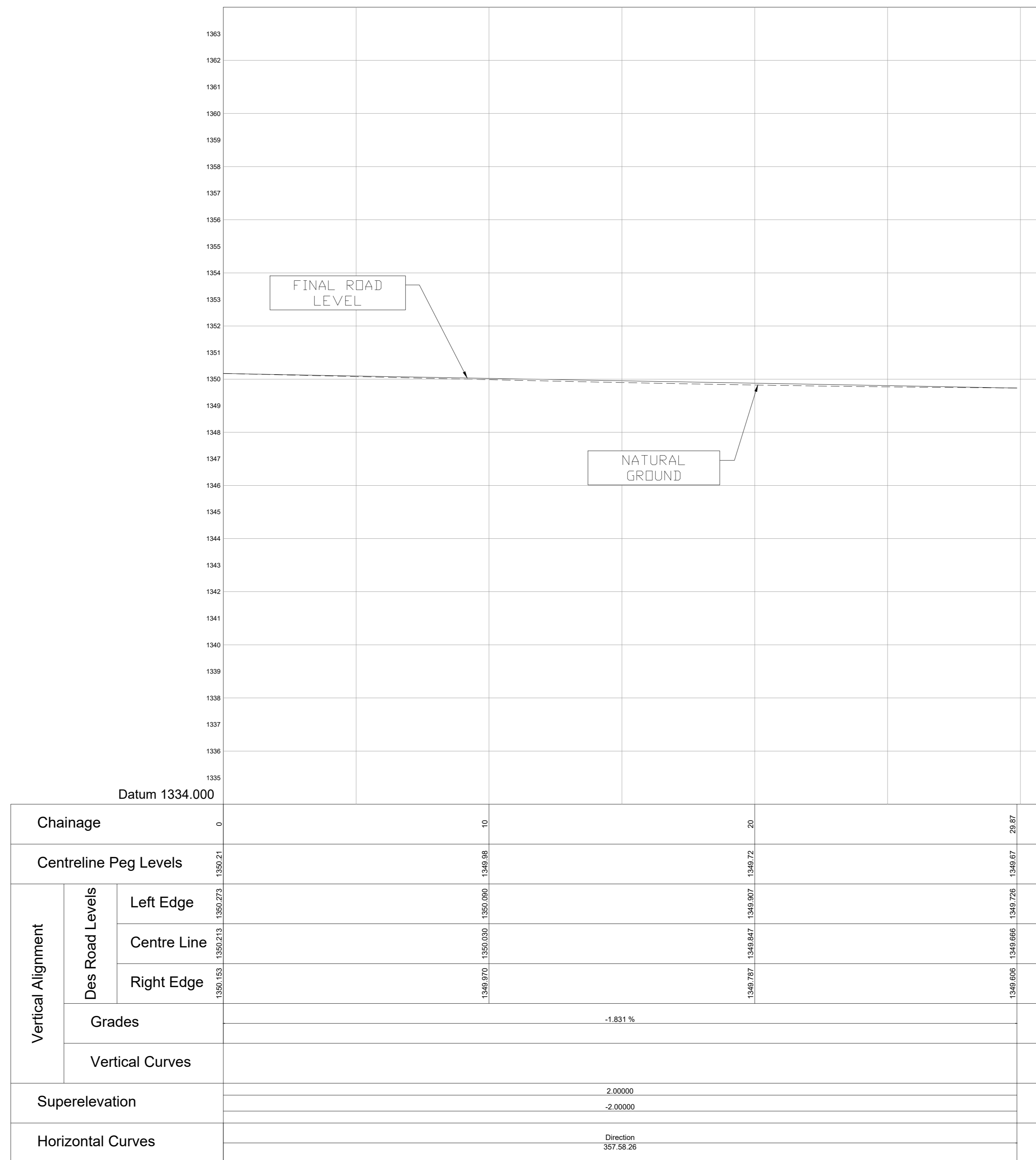
**DISCIPLINE
 ROADS & TRANSPORT**

**DRAWING DESCRIPTION
 LONGITUDINAL SECTION:
 TRUCK TURNING RD
 SHEET 1 OF 3**

DESIGNED BY: M. MTHETHWA	SIGNATURE AND DATE: 16-04-2026
CHECKED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
APPROVED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
PROJECT NO: 7089	DATE 16-04-2026

DRAWING NO
 GP05-24-ACSA-505-1

SCALE	SHEET SIZE	REVISION
AS SHOWN	A1	F1



Reservoir Access Rd
Longsection for 0 to 29

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DISCIPLINE
ROADS & TRANSPORT

DRAWING DESCRIPTION

**LONGITUDINAL SECTION:
RESERVOIR ACCESS RD
SHEET 2 OF 3**

DESIGNED BY: M. MTHETHWA	SIGNATURE AND DATE: 16-04-2026
CHECKED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
APPROVED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
PROJECT NO: 7089	DATE 16-04-2026

DRAWING NO
GP05-24-ACSA-505-2

SCALE	SHEET SIZE	REVISION
AS SHOWN	A1	F1

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DISCIPLINE
ROADS & TRANSPORT

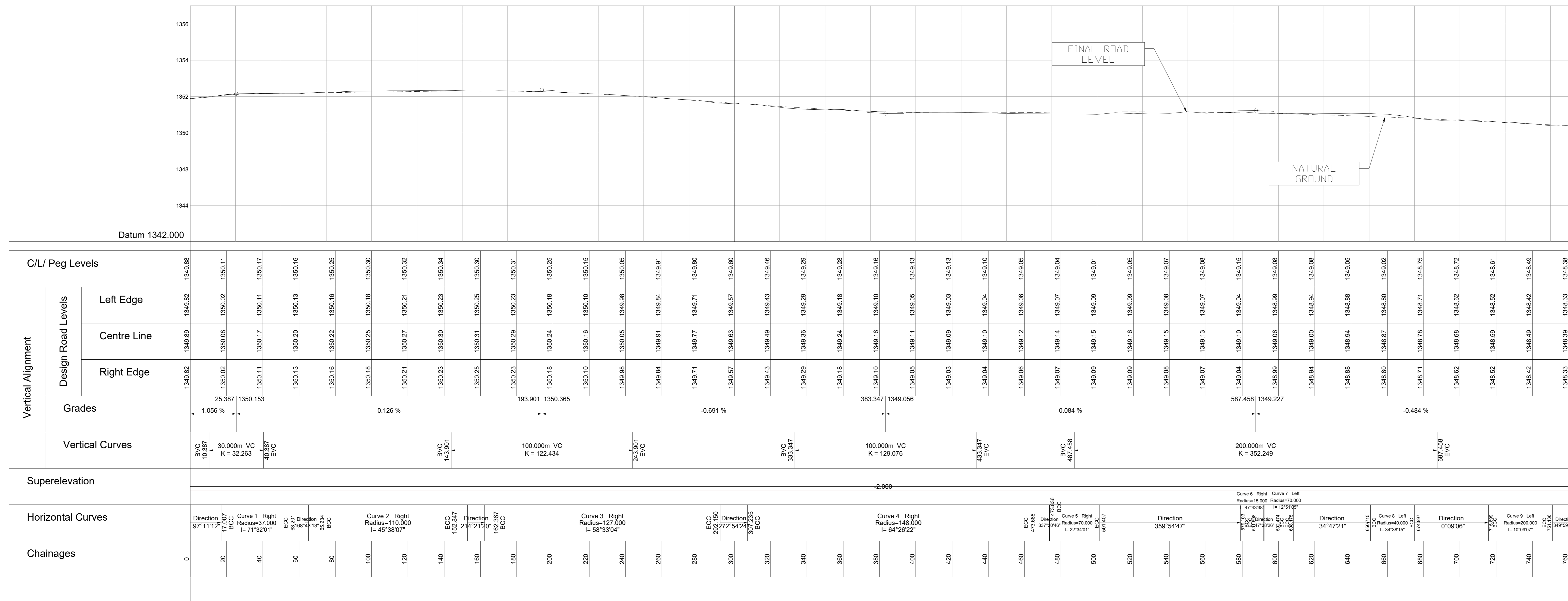
DRAWING DESCRIPTION

LONGITUDINAL SECTION:
SERVICE RD
SHEET 3 OF 3

DESIGNED BY: M. MTHETHIWA	SIGNATURE AND DATE: 16-04-2026
CHECKED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
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DRAWING NO
GP05-24-ACSA-505-2

SCALE	SHEET SIZE	REVISION
AS SHOWN	A1	F1

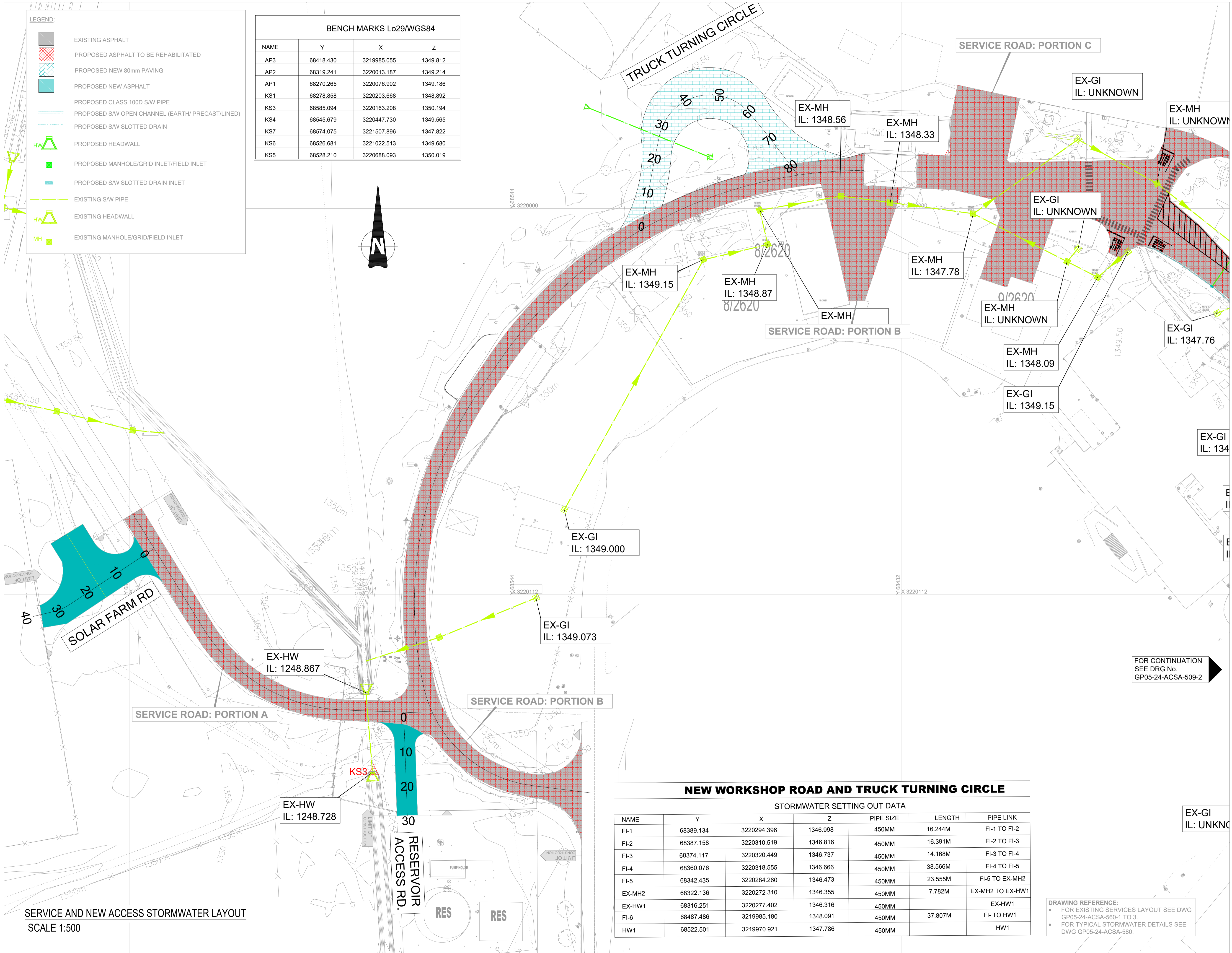
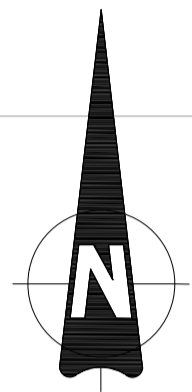


LEGEND:

	EXISTING ASPHALT
	PROPOSED ASPHALT TO BE REHABILITATED
	PROPOSED NEW 80mm PAVING
	PROPOSED NEW ASPHALT
	PROPOSED CLASS 100D S/W PIPE
	PROPOSED S/W OPEN CHANNEL (EARTH/ PRECAST/LINED)
	PROPOSED S/W SLOTTED DRAIN
	PROPOSED HEADWALL
	PROPOSED MANHOLE/GRID INLET/FIELD INLET
	PROPOSED S/W SLOTTED DRAIN INLET
	EXISTING S/W PIPE
	EXISTING HEADWALL
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BENCH MARKS Lo29/WGS84

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DISCIPLINE
ROADS & TRANSPORT

DRAWING DESCRIPTION

STORMWATER LAYOUT SHEET 1 OF 3

DESIGNED BY:	SIGNATURE AND DATE:
M. MTHETHWA	16-04-2026
CHECKED BY:	SIGNATURE AND DATE:
G. MALAMBO	16-04-2026
APPROVED BY:	SIGNATURE AND DATE:
G. MALAMBO	16-04-2026
PROJECT NO:	DATE
7089	16-04-2026
DRAWING NO	
GP05-24-ACSA-509-1	

NEW WORKSHOP ROAD AND TRUCK TURNING CIRCLE

STORMWATER SETTING OUT DATA

NAME	Y	X	Z	PIPE SIZE	LENGTH	PIPE LINK
FI-1	68389.134	3220294.396	1346.998	450MM	16.244M	FI-1 TO FI-2
FI-2	68387.158	3220310.519	1346.816	450MM	16.391M	FI-2 TO FI-3
FI-3	68374.117	3220320.449	1346.737	450MM	14.168M	FI-3 TO FI-4
FI-4	68360.076	3220318.555	1346.666	450MM	38.566M	FI-4 TO FI-5
FI-5	68342.435	3220284.260	1346.473	450MM	23.555M	FI-5 TO EX-MH2
EX-MH2	68322.136	3220272.310	1346.355	450MM	7.782M	EX-MH2 TO EX-HW1
EX-HW1	68316.251	3220277.402	1346.316	450MM		EX-HW1
FI-6	68487.486	3219985.180	1348.091	450MM	37.807M	FI-6 TO HW1
HW1	68522.501	3219970.921	1347.786	450MM		HW1

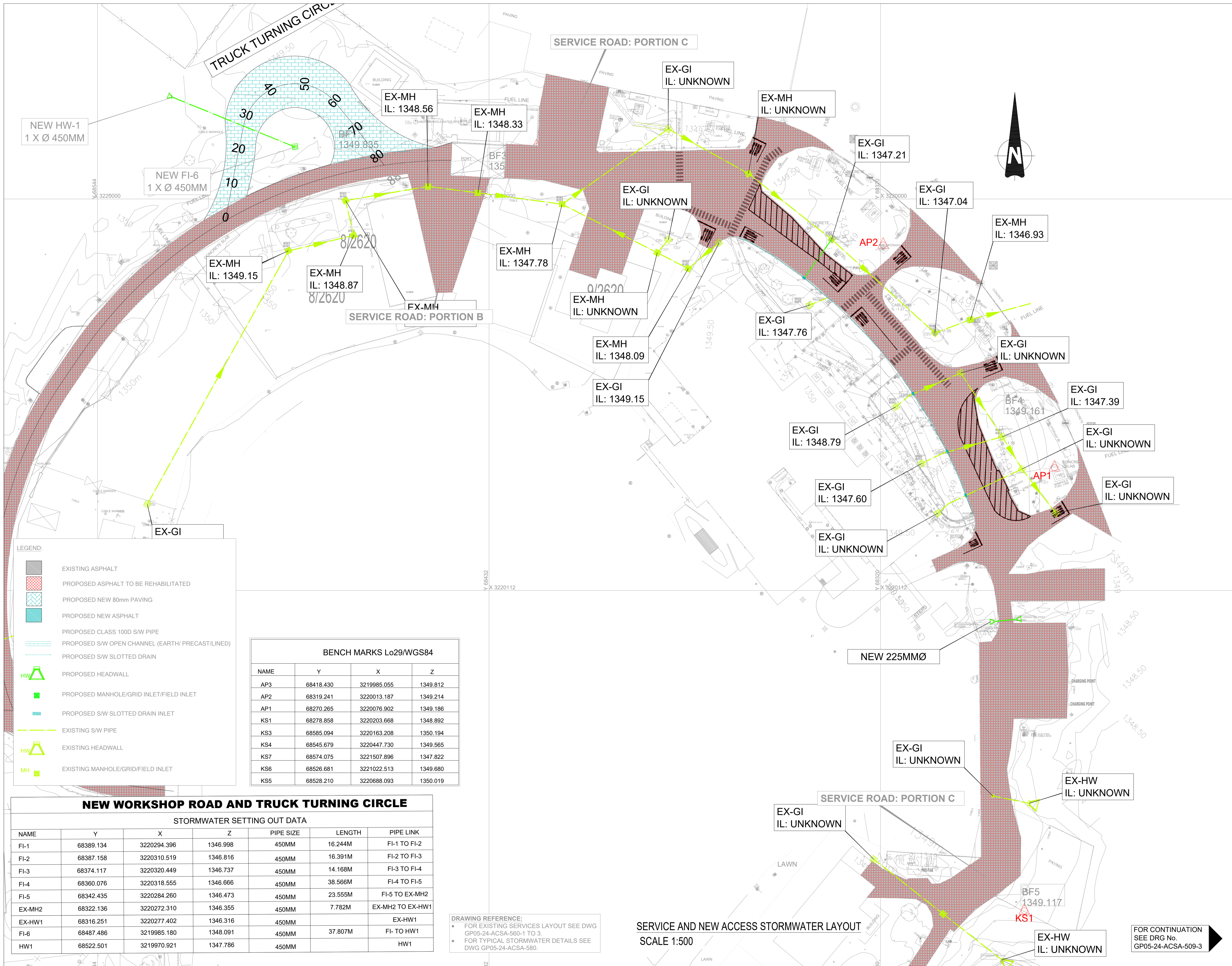
DRAWING REFERENCE:

- FOR EXISTING SERVICES LAYOUT SEE DWG GP05-24-ACSA-500-1 TO 3.
- FOR TYPICAL STORMWATER DETAILS SEE DWG GP05-24-ACSA-580.

SERVICE AND NEW ACCESS STORMWATER LAYOUT
SCALE 1:500

FOR CONTINUATION SEE DRG No. GP05-24-ACSA-509-2

EX-GI IL: UNKN



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 www.amce.co.za

PROJECT DESCRIPTION
 ENGINEERING SERVICES FOR THE UNDERGROUND MAIN WATER LINE AND SERVICE ROADS PROJECT FOR A PERIOD AT BRAM FISCHER INTERNATIONAL AIRPORT

DISCIPLINE
ROADS & TRANSPORT

DRAWING DESCRIPTION

STORMWATER LAYOUT SHEET 2 OF 3

DESIGNED BY: M. MTHETHWA	SIGNATURE AND DATE: 16-04-2026
CHECKED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
APPROVED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
PROJECT NO: 7089	DATE: 16-04-2026

DRAWING NO
 GP05-24-ACSA-509-2

SCALE	SHEET SIZE	REVISION
1:500	A1	F1

BENCH MARKS Lo29/WGS84

NAME	Y	X	Z
AP3	68418.430	3219985.055	1349.812
AP2	68319.241	3220013.187	1349.214
AP1	68270.265	3220076.902	1349.186
KS1	68278.858	3220203.668	1348.892
KS3	68585.094	3220163.208	1350.194
KS4	68545.679	3220447.730	1349.565
KS7	68574.075	3221507.896	1347.822
KS6	68526.681	3221022.513	1349.680
KS5	68528.210	3220688.093	1350.019

NEW WORKSHOP ROAD AND TRUCK TURNING CIRCLE

STORMWATER SETTING OUT DATA

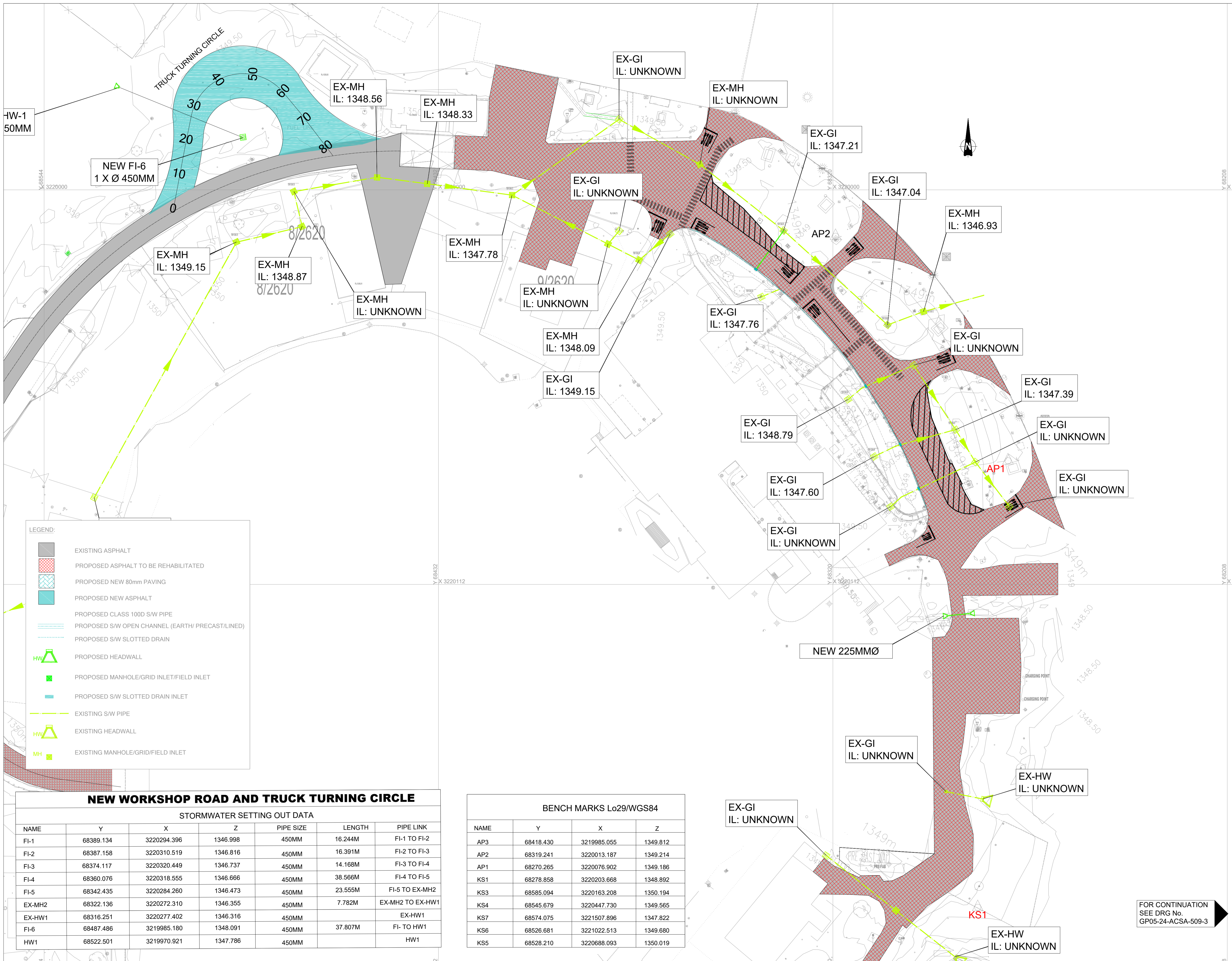
NAME	Y	X	Z	PIPE SIZE	LENGTH	PIPE LINK
FI-1	68389.134	3220294.396	1346.998	450MM	16.244M	FI-1 TO FI-2
FI-2	68387.158	3220310.519	1346.816	450MM	16.391M	FI-2 TO FI-3
FI-3	68374.117	3220320.449	1346.737	450MM	14.168M	FI-3 TO FI-4
FI-4	68360.076	3220318.555	1346.666	450MM	38.566M	FI-4 TO FI-5
FI-5	68342.435	3220284.260	1346.473	450MM	23.555M	FI-5 TO EX-MH2
EX-MH2	68322.136	3220272.310	1346.355	450MM	7.782M	EX-MH2 TO EX-HW1
EX-HW1	68316.251	3220277.402	1346.316	450MM		EX-HW1
FI-6	68487.486	3219985.180	1348.091	450MM	37.807M	FI- TO HW1
HW1	68522.501	3219970.921	1347.786	450MM		HW1

DRAWING REFERENCE:

- FOR EXISTING SERVICES LAYOUT SEE DWG GP05-24-ACSA-560-1 TO 3.
- FOR TYPICAL STORMWATER DETAILS SEE DWG GP05-24-ACSA-580.

SERVICE AND NEW ACCESS STORMWATER LAYOUT
 SCALE 1:500

FOR CONTINUATION
 SEE DRG No.
 GP05-24-ACSA-509-3



- GENERAL NOTES:**
1. DRAWINGS MUST NOT BE SCALED.
 2. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL PROJECT SPECIFICATIONS.
 3. ALL AMBIGUITIES ON DRAWINGS MUST BE REPORTED TO THE ENGINEER PRIOR TO CONSTRUCTION.
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 6. ALL BENCHMARKS TO BE CONFIRMED ON SITE.

REVISION INFORMATION

No:	DATE	DESCRIPTION:	BY
F1	16-04-2026	ISSUED FOR TENDER	



CONSULTANT

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International Business Gateway Park
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PROJECT DESCRIPTION
ENGINEERING SERVICES FOR THE UNDERGROUND MAIN WATER LINE AND SERVICE ROADS PROJECT FOR A PERIOD AT BRAM FISCHER INTERNATIONAL AIRPORT

DISCIPLINE
ROADS & TRANSPORT

DRAWING DESCRIPTION

STORMWATER LAYOUT SHEET 2 OF 3

DESIGNED BY: M. MTHETHWA	SIGNATURE AND DATE: 16-04-2026
CHECKED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
APPROVED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
PROJECT NO: 7089	DATE: 16-04-2026

DRAWING NO
GP05-24-ACSA-509-2

SCALE	SHEET SIZE	REVISION
1:500	A1	F1

LEGEND:

- EXISTING ASPHALT
- PROPOSED ASPHALT TO BE REHABILITATED
- PROPOSED NEW 80mm PAVING
- PROPOSED NEW ASPHALT
- PROPOSED CLASS 100D S/W PIPE
- PROPOSED S/W OPEN CHANNEL (EARTH/ PRECAST/LINED)
- PROPOSED S/W SLOTTED DRAIN
- PROPOSED HEADWALL
- PROPOSED MANHOLE/GRID INLET/FIELD INLET
- PROPOSED S/W SLOTTED DRAIN INLET
- EXISTING S/W PIPE
- EXISTING HEADWALL
- EXISTING MANHOLE/GRID/FIELD INLET

NEW WORKSHOP ROAD AND TRUCK TURNING CIRCLE

STORMWATER SETTING OUT DATA						
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FOR CONTINUATION
SEE DRG No.
GP05-24-ACSA-509-3

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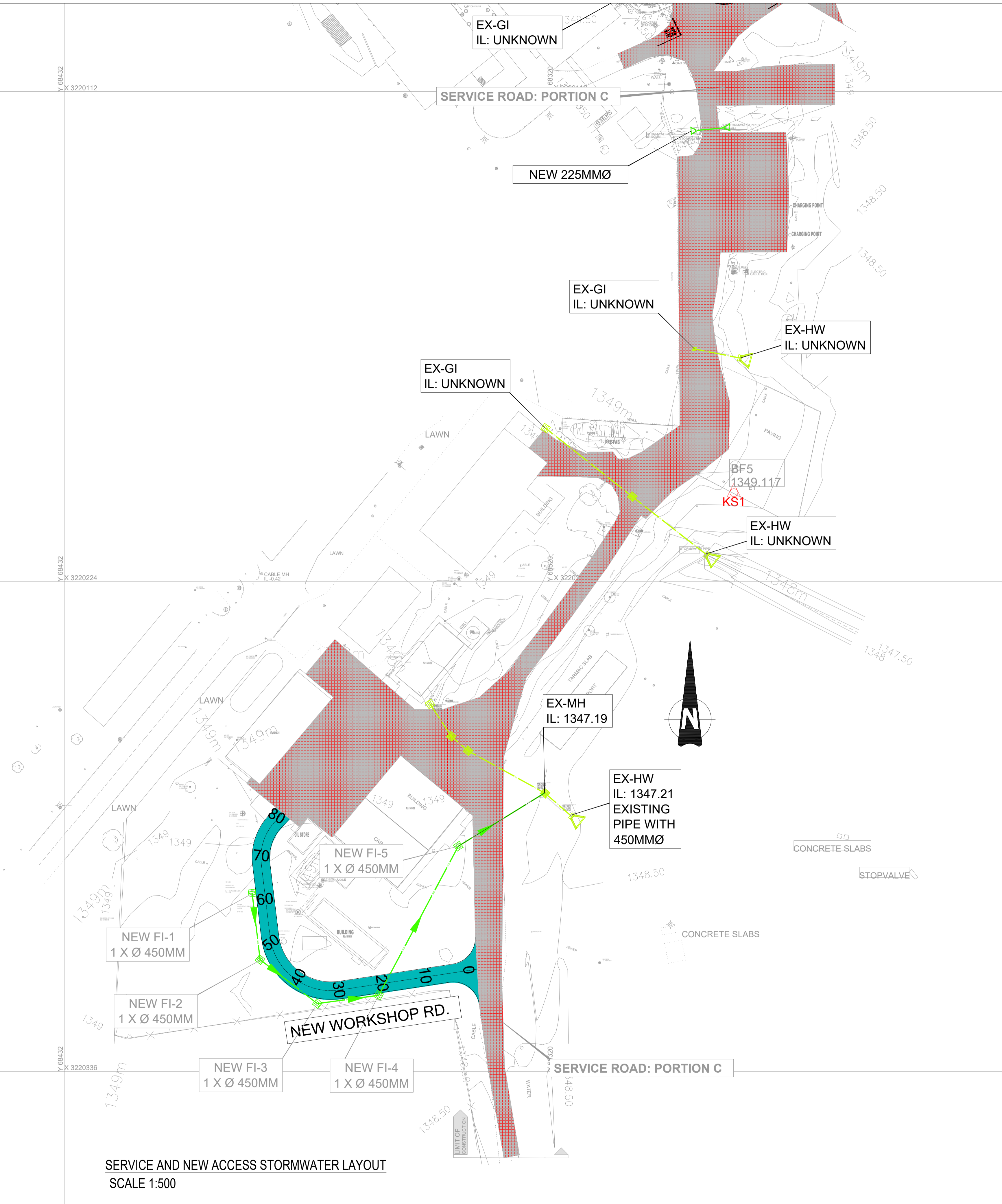
DRAWING REFERENCE:

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LEGEND:

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FI-6	68487.486	3219985.180	1348.091	450MM	37.807M	FI-6 TO HW1
HW1	68522.501	3219970.921	1347.786	450MM		HW1



SERVICE AND NEW ACCESS STORMWATER LAYOUT
SCALE 1:500

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REVISION INFORMATION

No:	DATE	DESCRIPTION:	BY
F1	16-04-2026	ISSUED FOR TENDER	



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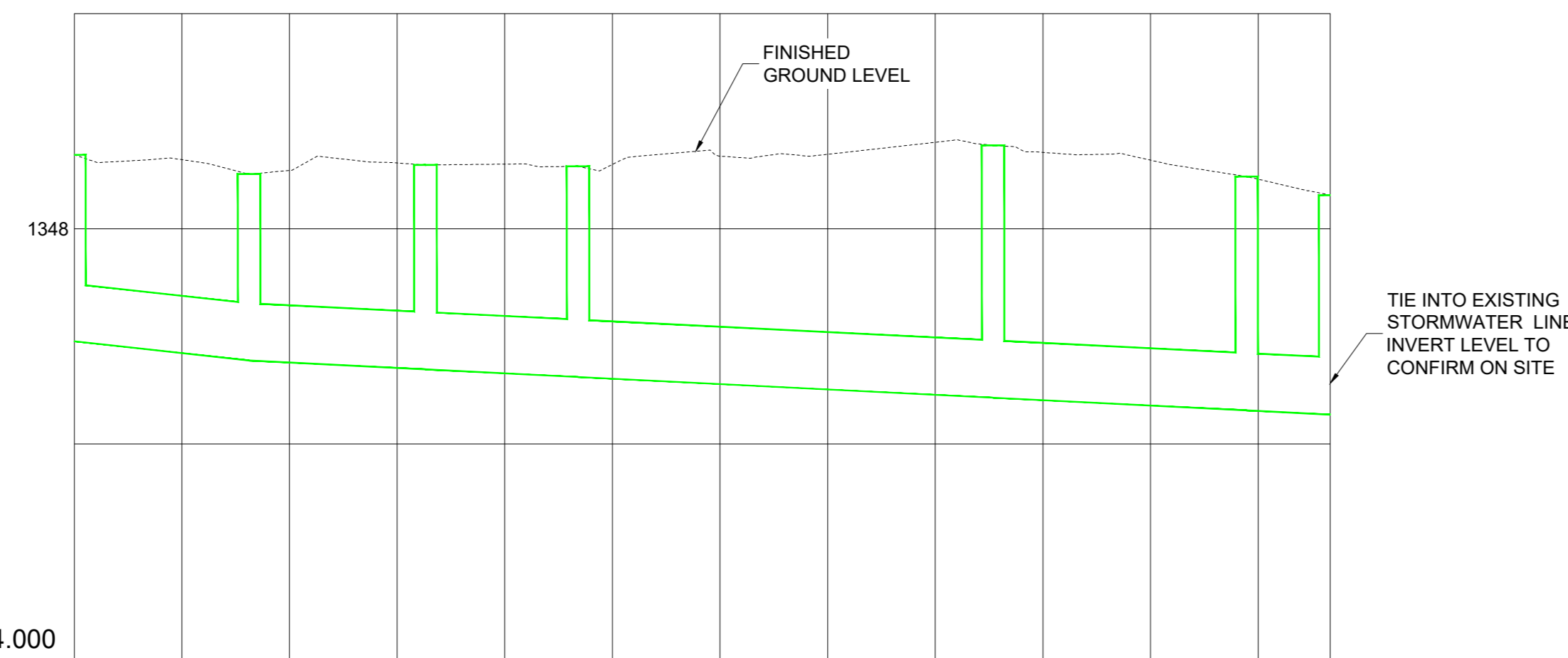
PROJECT DESCRIPTION
ENGINEERING SERVICES FOR THE UNDERGROUND MAIN WATER LINE AND SERVICE ROADS PROJECT FOR A PERIOD AT BRAM FISCHER INTERNATIONAL AIRPORT

DISCIPLINE
ROADS & TRANSPORT

DRAWING DESCRIPTION
STORMWATER LAYOUT
SHEET 3 OF 3

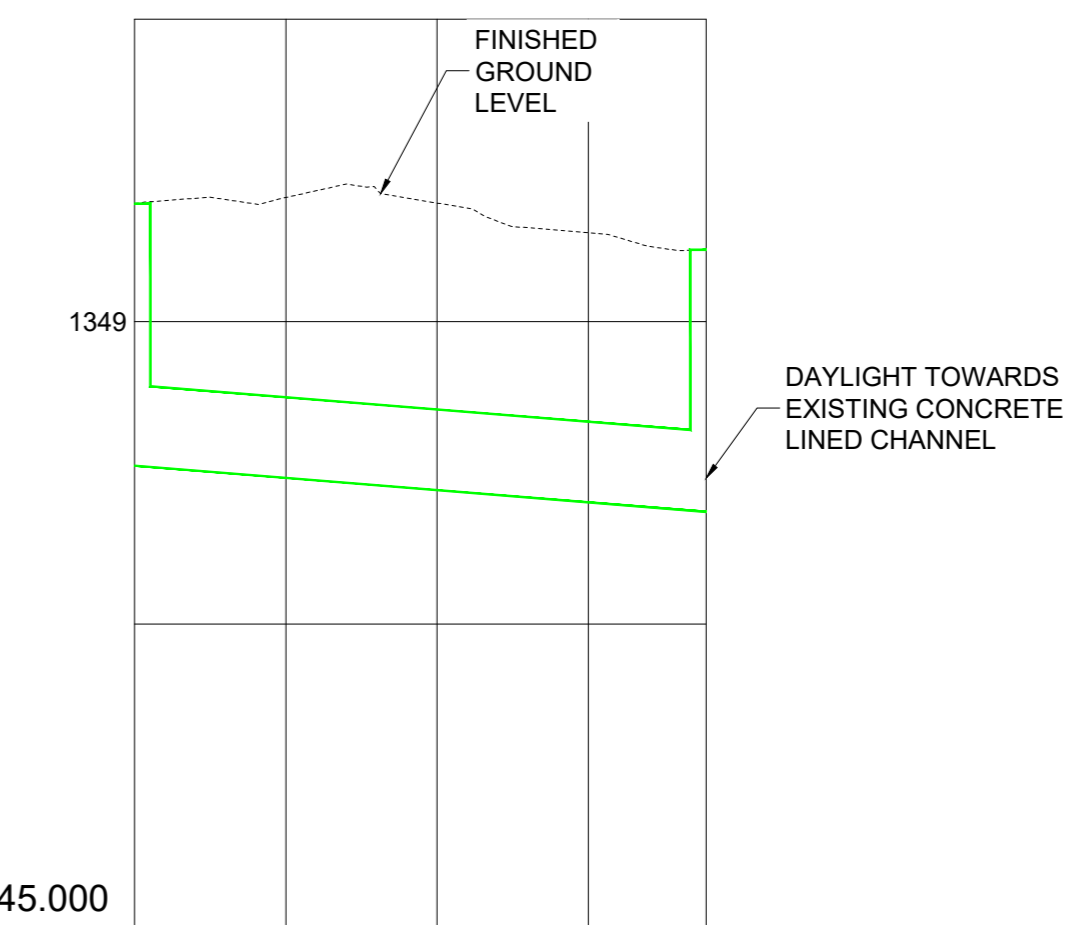
DESIGNED BY: M. MTHETHWA	SIGNATURE AND DATE: 16-04-2026
CHECKED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
APPROVED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
PROJECT NO: 7089	DATE: 16-04-2026

SCALE	SHEET SIZE	REVISION
1:500	A1	F1



Chainage	0.000	16.244	32.488	48.732	64.976	81.220	97.464	113.708	130.000	146.244	162.488	178.732	195.000
Ground Level	1346.897	1346.508	1346.593	1346.590	1346.776	1346.485	1346.485	1346.313	1346.313	1346.141	1346.141	1346.000	1346.000
Manhole Name	FI-1	FI-2	FI-3	FI-4	FI-5	EX-HW4	EX-HW4	EX-HW4	EX-HW4	EX-HW4	EX-HW4	EX-HW4	EX-HW4
Inlet / Outlet	1346.098	1346.819	1346.737	1346.066	1346.473	1346.355	1346.355	1346.310	1346.310	1346.310	1346.310	1346.310	1346.310
Length	16.244 m	16.391 m	14.168 m	38.566 m	23.555 m	7.792 m							
Link Type / Link Size	1000 Concrete 450 mm	1000 Concrete 450 mm	1000 Concrete 450 mm	1000 Concrete 450 mm	1000 Concrete 450 mm	1000 Concrete 450 mm	1000 Concrete 450 mm	1000 Concrete 450 mm	1000 Concrete 450 mm	1000 Concrete 450 mm	1000 Concrete 450 mm	1000 Concrete 450 mm	1000 Concrete 450 mm
Slope	1.102 %	0.500 %	0.501 %	0.500 %	0.501 %	0.501 %	0.501 %	0.501 %	0.501 %	0.501 %	0.501 %	0.501 %	0.501 %
Flow Capacity	0.061 m³/s 0.284 m³/s	0.061 m³/s 0.191 m³/s	0.061 m³/s 0.192 m³/s	0.061 m³/s 0.191 m³/s	0.061 m³/s 0.192 m³/s	0.061 m³/s 0.192 m³/s	0.061 m³/s 0.192 m³/s	0.061 m³/s 0.192 m³/s	0.061 m³/s 0.192 m³/s	0.061 m³/s 0.192 m³/s	0.061 m³/s 0.192 m³/s	0.061 m³/s 0.192 m³/s	0.101 m³/s 0.192 m³/s

Manhole FI-1 to EX-HW4
Horizontal Scale: 500
Vertical Scale :50



Chainage	0.000	37.807
Ground Level	1349.790	1349.476
Manhole Name	FI-6	HW-1
Inlet / Outlet	1348.091	1347.266
Length	37.807 m	
Link Type / Link Size	1000 Concrete 450 mm	
Slope	0.807 %	
Flow Capacity	0.013 m³/s 0.243 m³/s	

Manhole FI-6 to HW-1
Horizontal Scale: 500
Vertical Scale :50

GENERAL NOTES:

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REVISION INFORMATION

No:	DATE	DESCRIPTION:	BY
F1	16-04-2026	ISSUED FOR TENDER	

CLIENT



CONSULTANT



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Fax No. +27 (11) 3 99412 1571
www.amce.co.za

PROJECT DESCRIPTION
ENGINEERING SERVICES FOR THE UNDERGROUND MAIN WATER LINE AND SERVICE ROADS PROJECT FOR A PERIOD AT BRAM FISCHER INTERNATIONAL AIRPORT

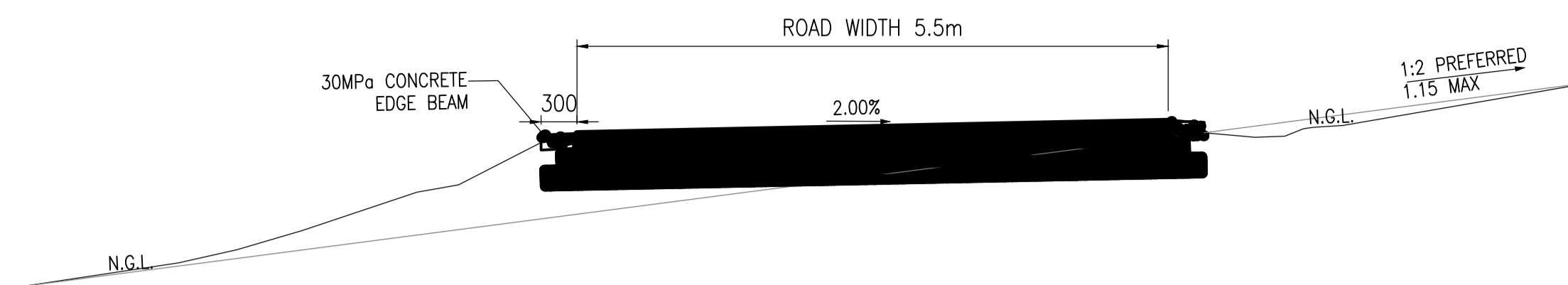
DISCIPLINE
ROADS & TRANSPORT

DRAWING DESCRIPTION
**STORMWATER
LONGITUDINAL SECTION**

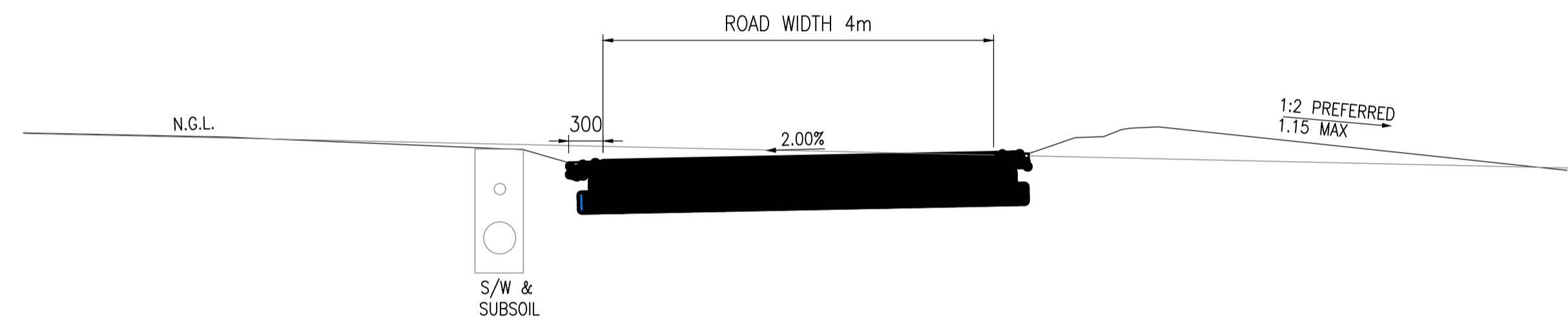
DESIGNED BY: M. MTHETHWA	SIGNATURE AND DATE: 16-04-2026
CHECKED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
APPROVED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
PROJECT NO: 7089	DATE 16-04-2026

DRAWING NO
GP05-24-ACSA-510-1

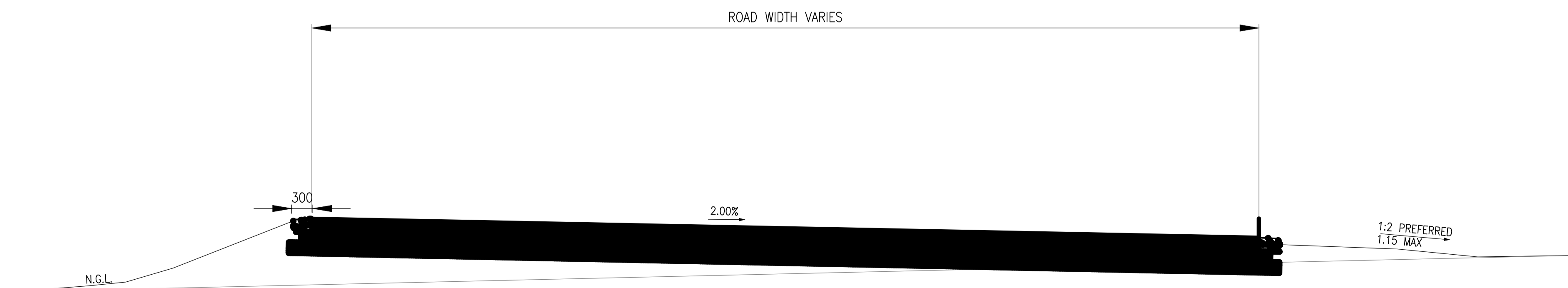
SCALE	SHEET SIZE	REVISION
AS SHOWN	A1	F1



RESERVOIR ROAD TYPICAL CROSS SECTION
SCALE 1:50



WORKSHOP ROAD TYPICAL CROSS SECTION
SCALE 1:50



TRUCK TURNING CIRCLE TYPICAL CROSS SECTION
SCALE 1:50

TYPICAL ROAD CROSS SECTION GEOMETRY
FOR NEW ROADS ONLY

GENERAL NOTES:

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AT BRAM FISCHER INTERNATIONAL AIRPORT

DISCIPLINE
ROADS & TRANSPORT

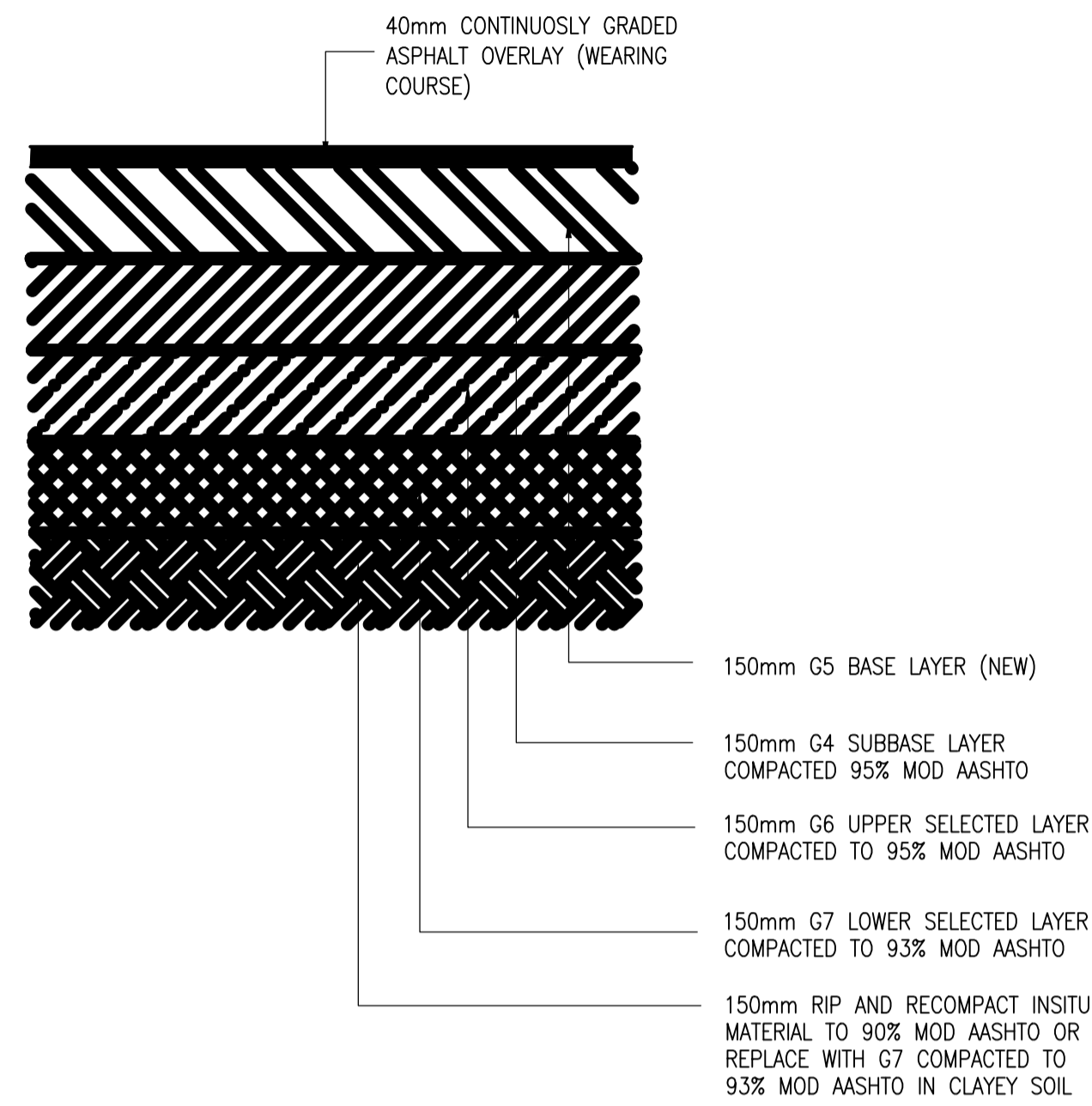
DRAWING DESCRIPTION

TYPICAL CROSS SECTION

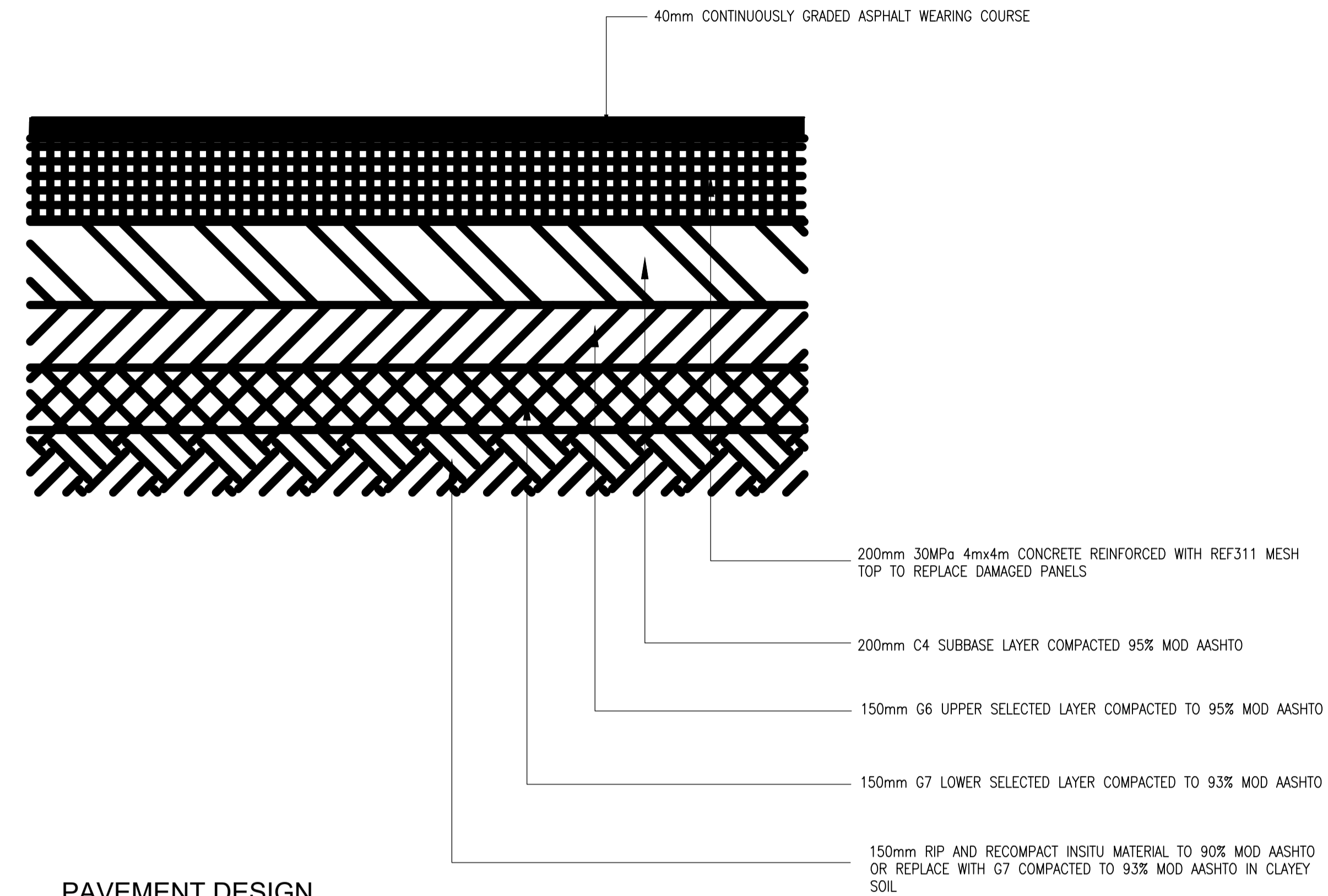
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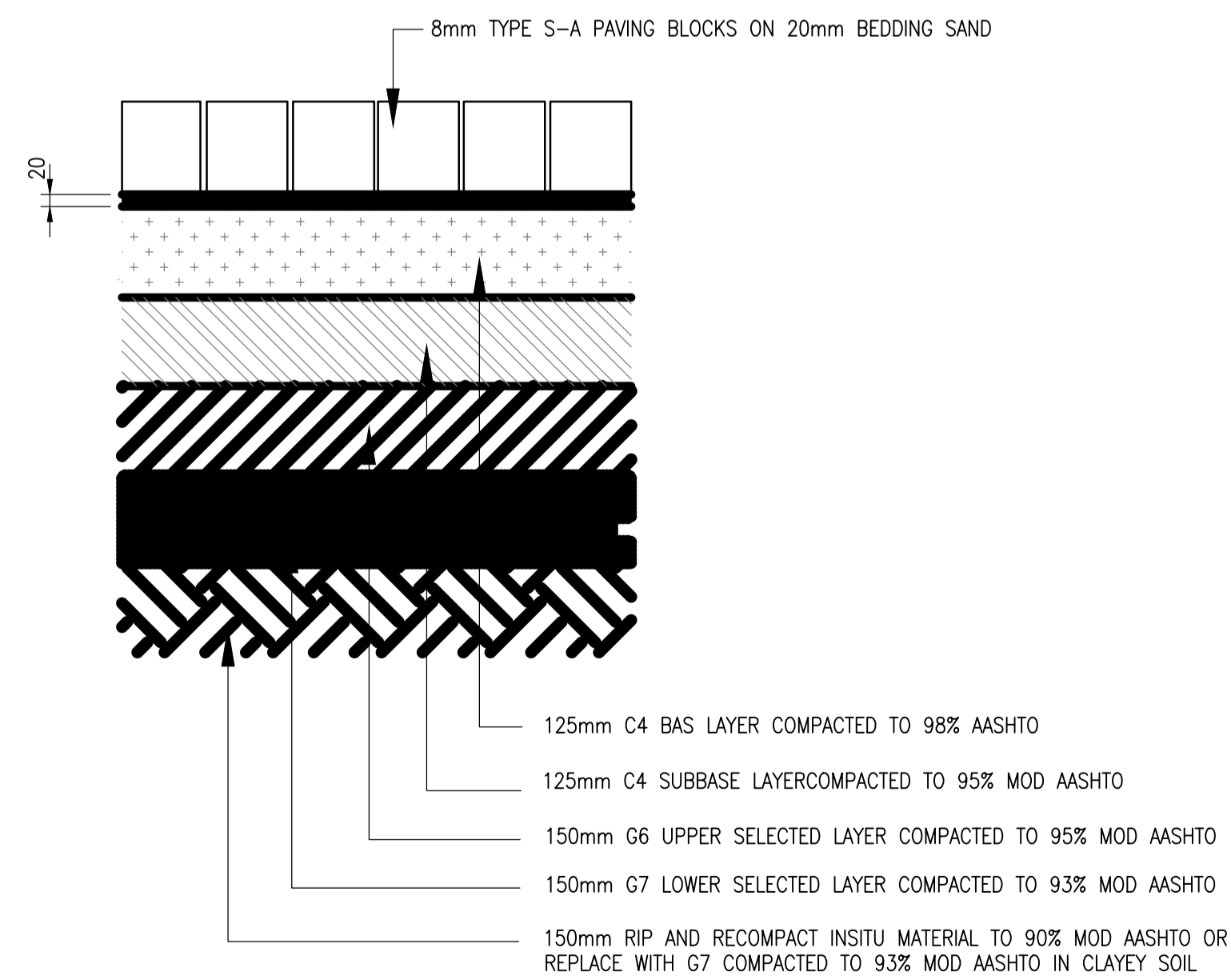
SCALE	SHEET SIZE	REVISION
NIS	A1	F1



PAVEMENT DESIGN
SERVICE ROADS (PORTION A, B AND C) AND NEW ACCESS ROADS (RESEROIR AND SOLAR PLANT)



PAVEMENT DESIGN
CONCRETE PANELS IN FRONT OF FIRE AND RESCUE



PAVEMENT DESIGN
TRUCK TURNING CIRCLE

GENERAL NOTES:

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DISCIPLINE
ROADS & TRANSPORT

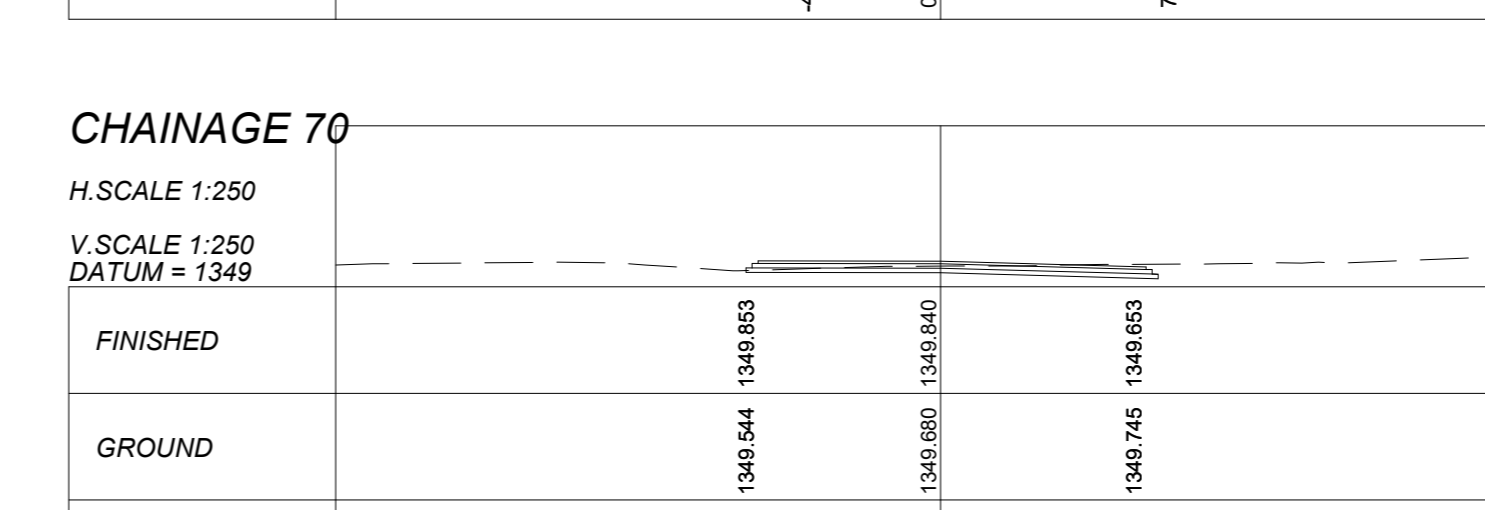
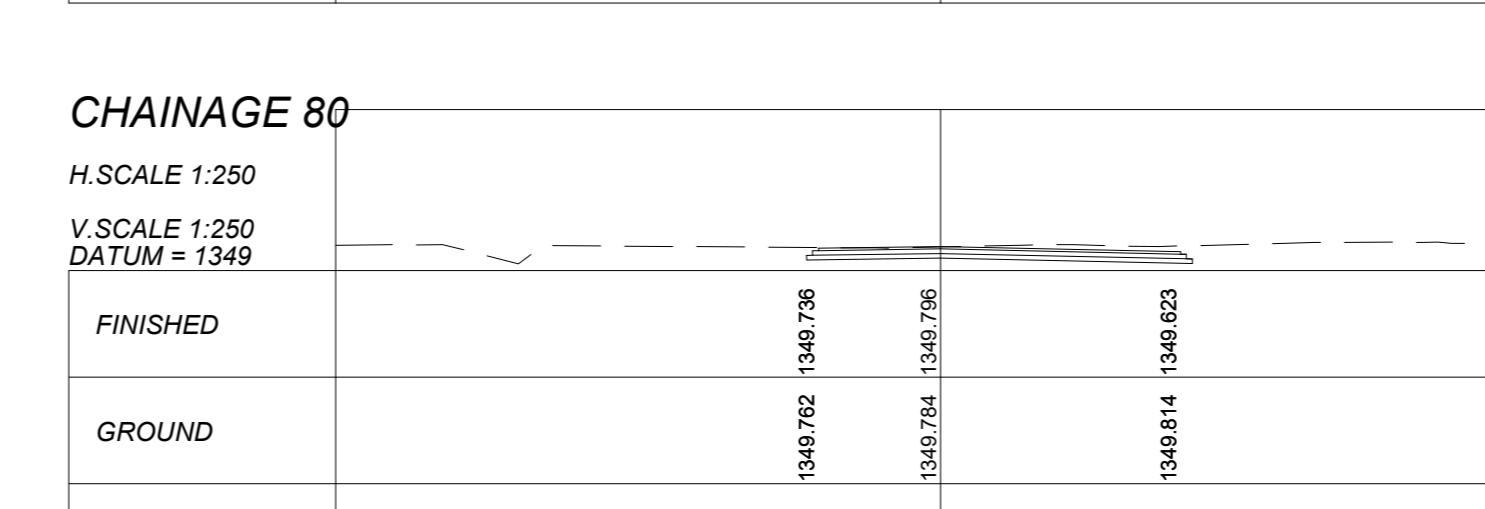
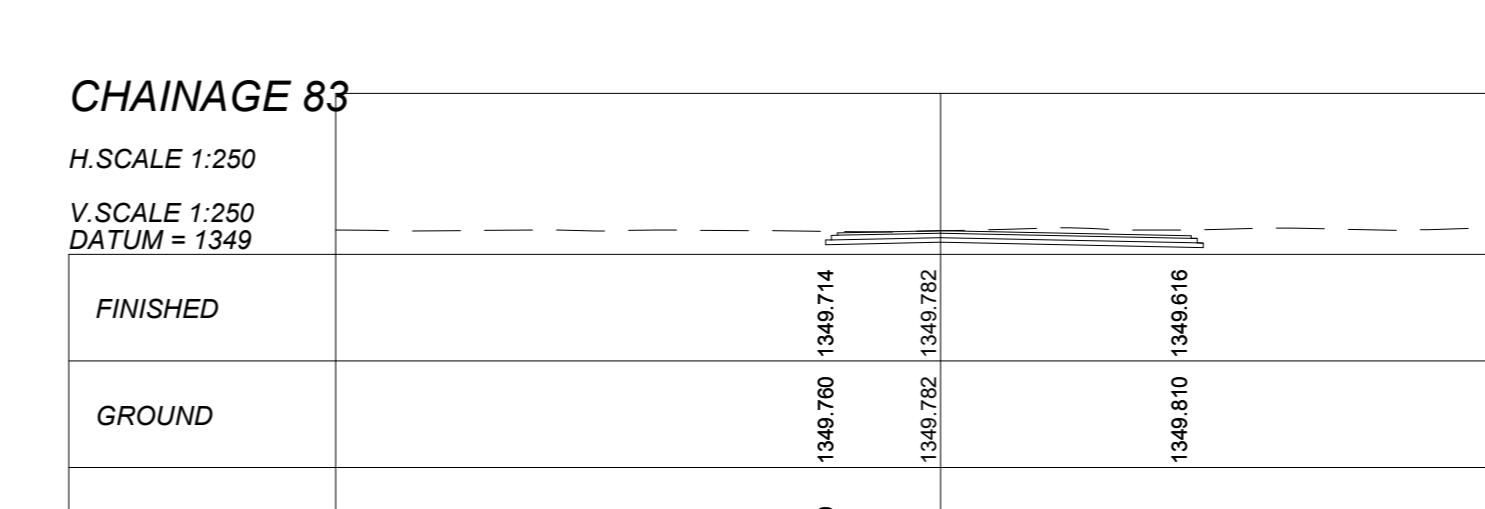
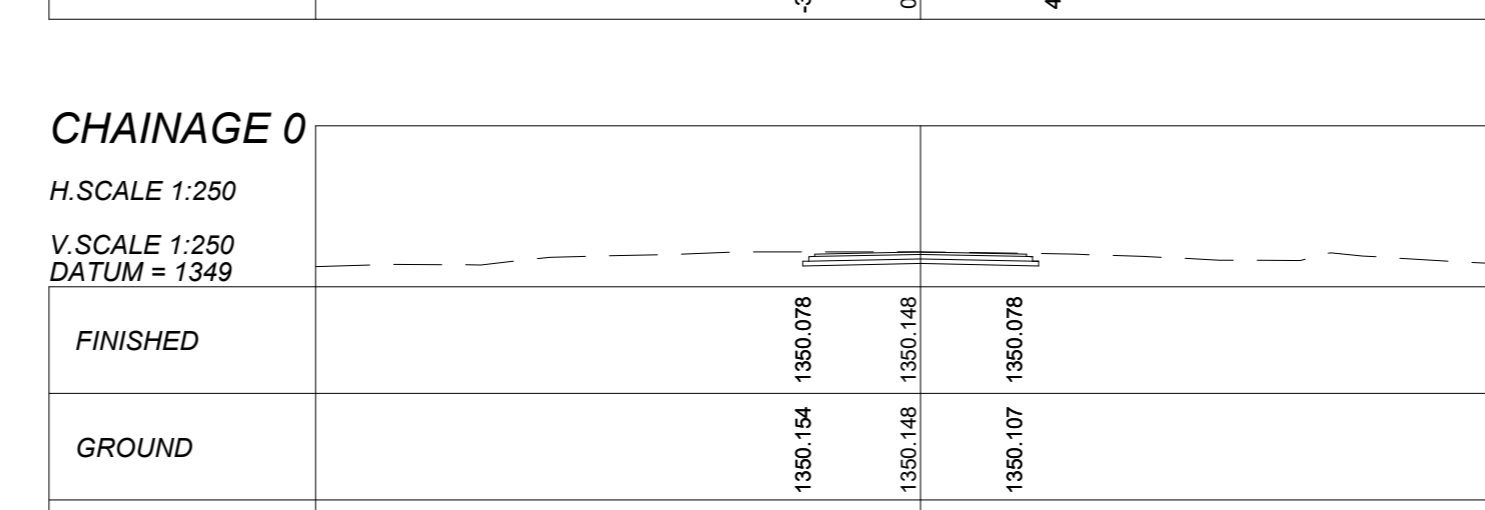
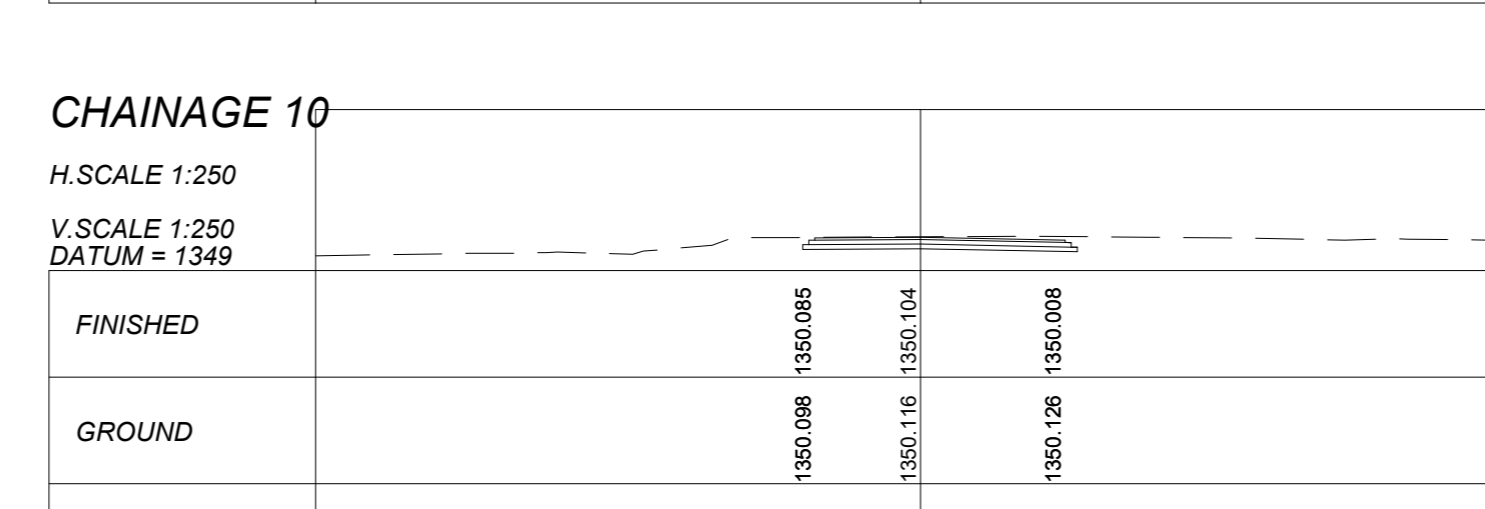
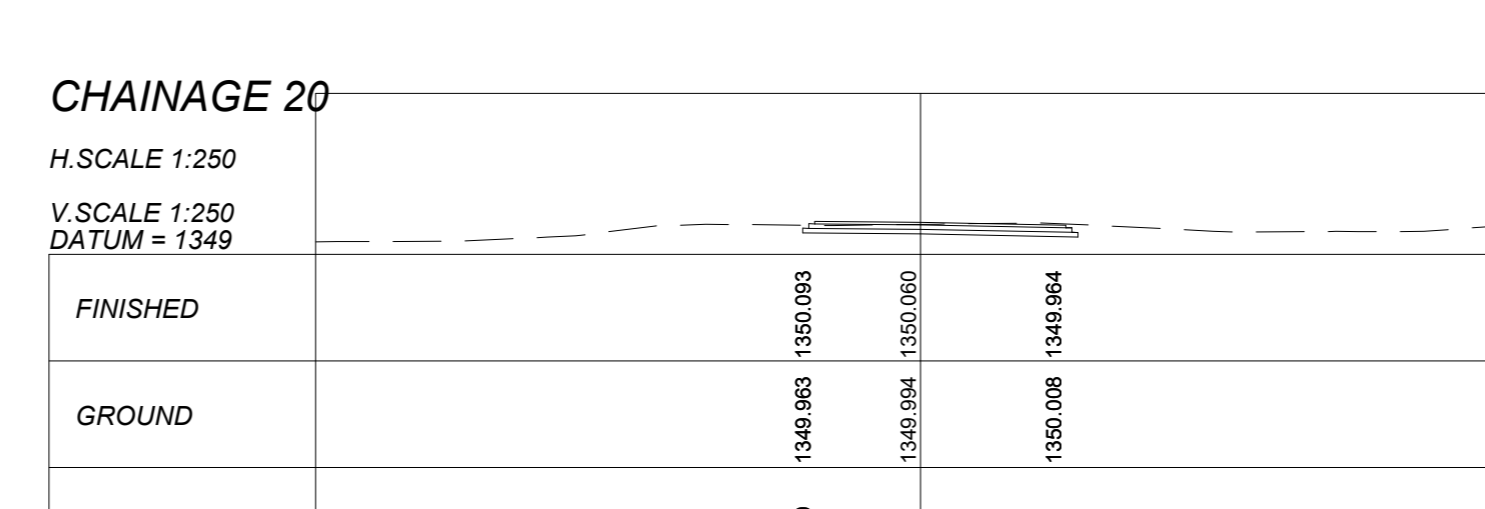
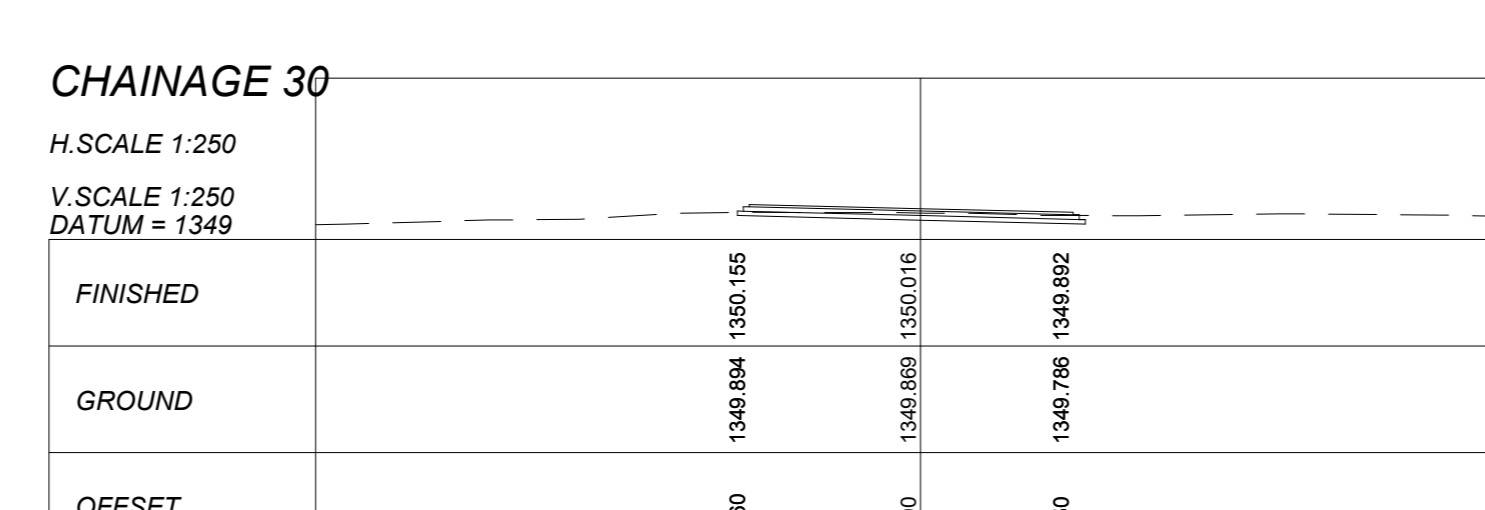
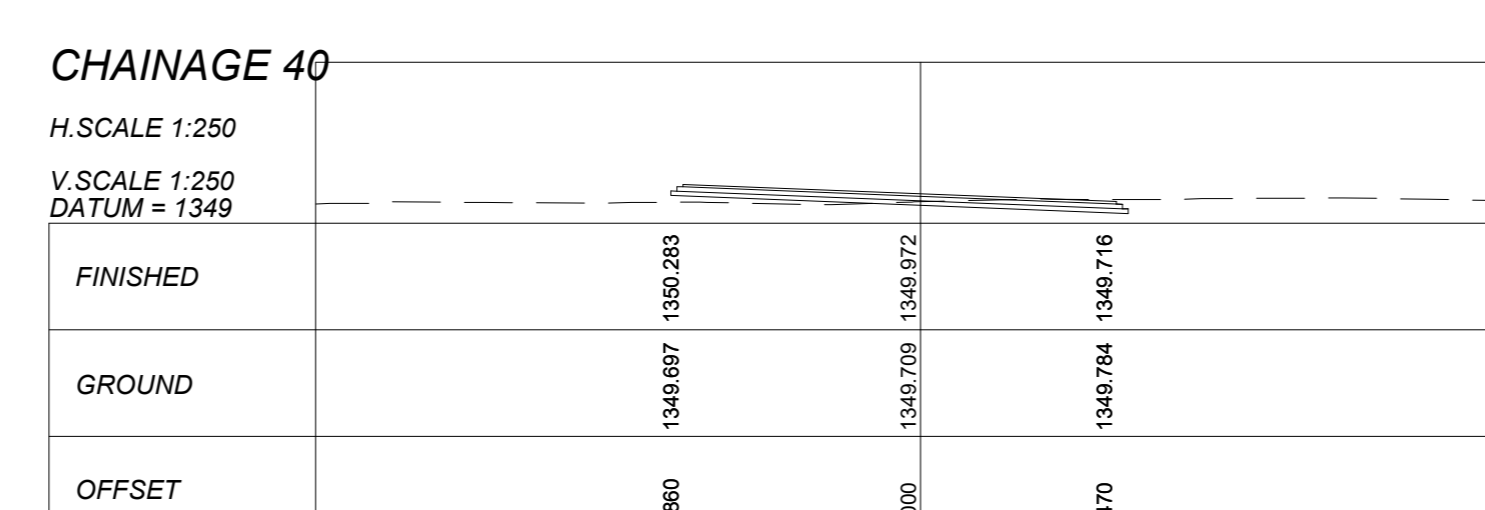
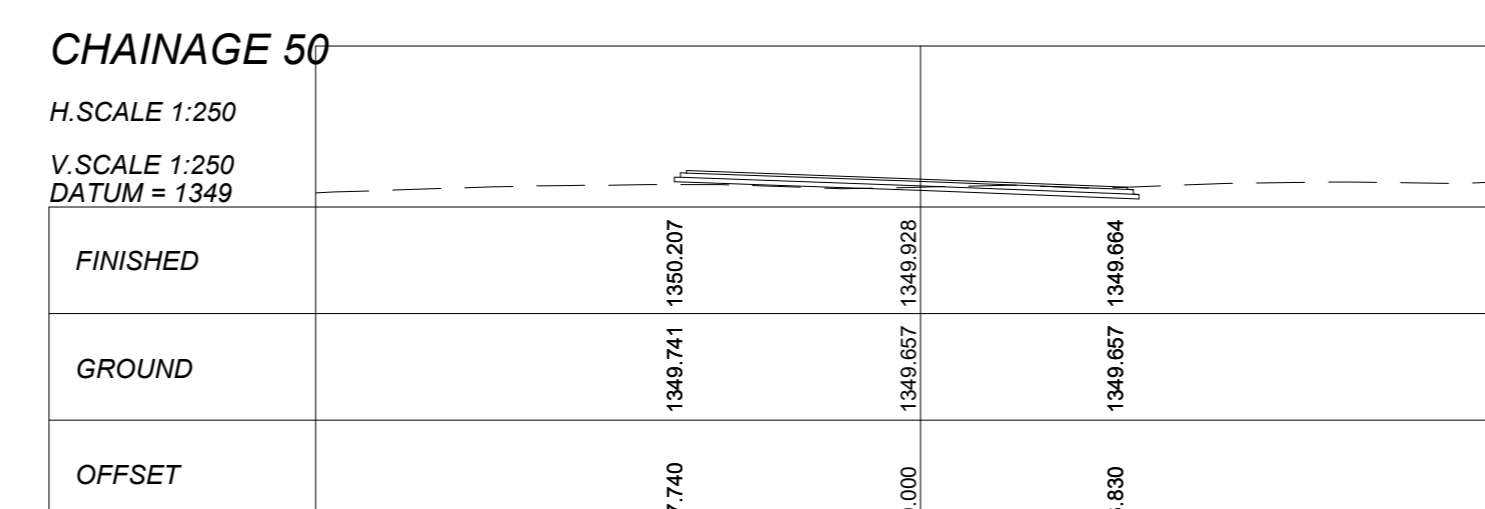
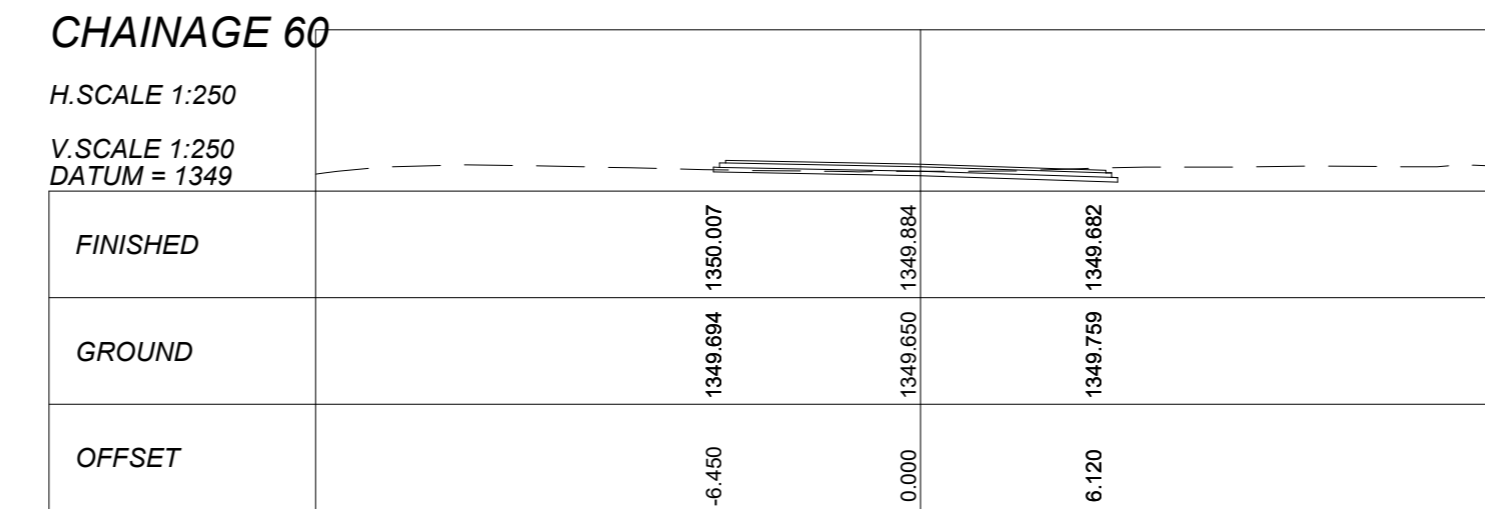
DRAWING DESCRIPTION

PAVEMENT DESIGN

DESIGNED BY: M. MTHETHWA	SIGNATURE AND DATE: 16-04-2026
CHECKED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
APPROVED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
PROJECT NO: 7089	DATE 16-04-2026

DRAWING NO
GP05-24-ACSA-513-1

SCALE	SHEET SIZE	REVISION
M.T.S	A1	F1



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ENGINEERING SERVICES FOR THE UNDERGROUND MAIN WATER LINE AND SERVICE ROADS PROJECT FOR A PERMANENT AT BRAM FISCHER INTERNATIONAL AIRPORT

DISCIPLINE
ROADS & TRANSPORT

DRAWING DESCRIPTION
ROAD CROSS SECTIONS
TRUCK TURNING RD
SHEET 2 OF 3

DESIGNED BY: M. MTHETHWA	SIGNATURE AND DATE: 16-04-2026
CHECKED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
APPROVED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
PROJECT NO: 7089	DATE 16-04-2026

DRAWING NO
GP05-24-ACSA-518-2

SCALE	SHEET SIZE	REVISION
AS SHOWN	A1	F1

GENERAL NOTES:

1. DRAWINGS MUST NOT BE SCALED.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL PROJECT SPECIFICATIONS.
3. ALL AMBIGUITIES ON DRAWINGS MUST BE REPORTED TO THE ENGINEER PRIOR TO CONSTRUCTION.
4. ALL DIMENSIONS ARE IN MILLIMETERS (UNLESS OTHERWISE INDICATED.)
5. DO NOT SCALE FOR MEASUREMENTS FROM DRAWINGS. ALL DIMENSIONS MUST BE CHECKED ON SITE.
6. ALL BENCHMARKS TO BE CONFIRMED ON SITE.

REVISION INFORMATION

No:	DATE	DESCRIPTION:	BY
F1	16-04-2026	ISSUED FOR TENDER	

CLIENT



CONSULTANT



Midridge Office Estate North
International Business Gateway Park
Corner of New and 6th Roads
PO Box 8587,
Midrand, 1685
Tel No. +27 (11) 312 1569, +27 (11) 312 1570
Fax No. +27 (11) 3 99412 1571
www.amce.co.za

PROJECT DESCRIPTION
ENGINEERING SERVICES FOR THE UNDERGROUND MAIN WATER LINE AND SERVICE ROADS PROJECT FOR A PERIOD AT BRAM FISCHER INTERNATIONAL AIRPORT

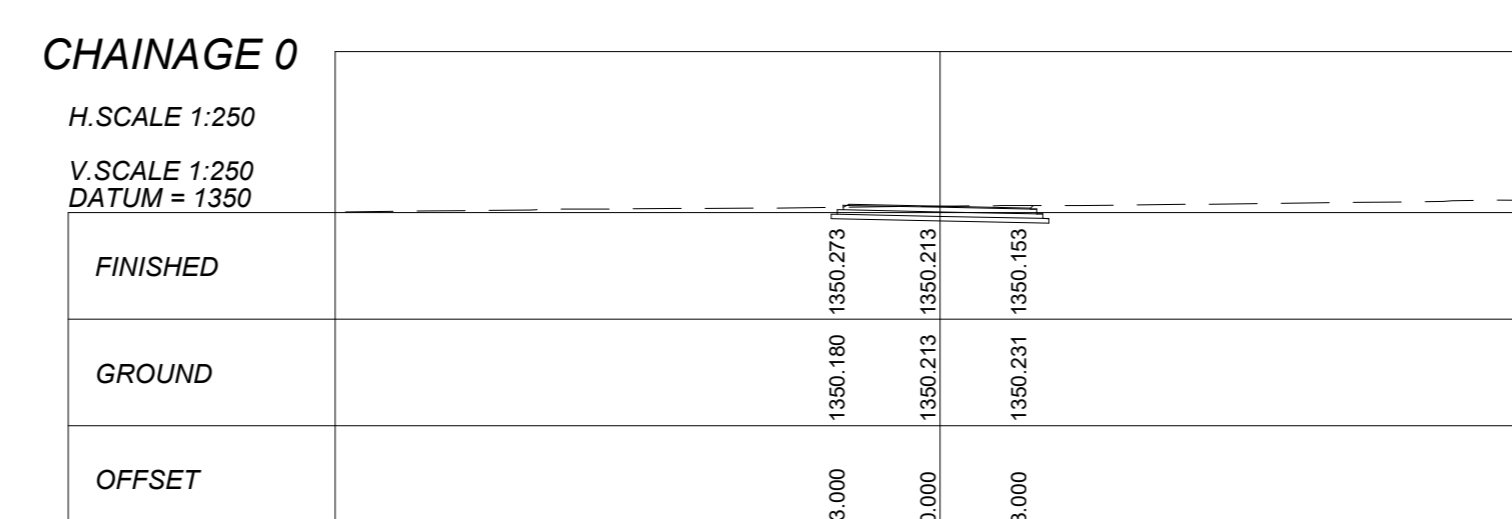
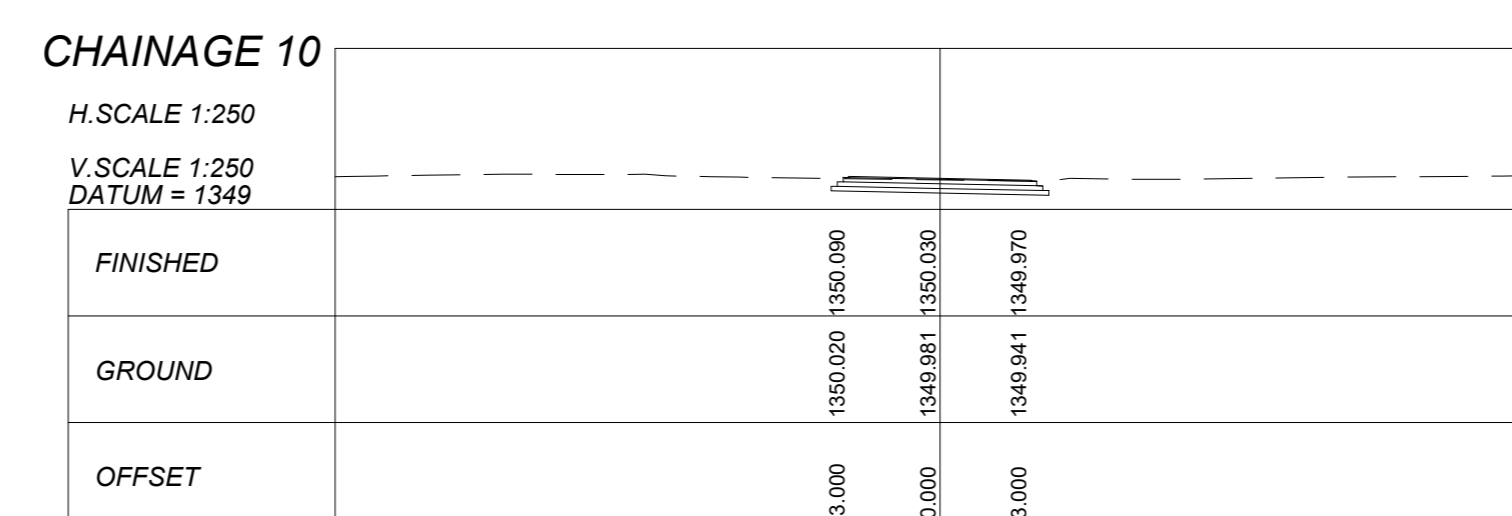
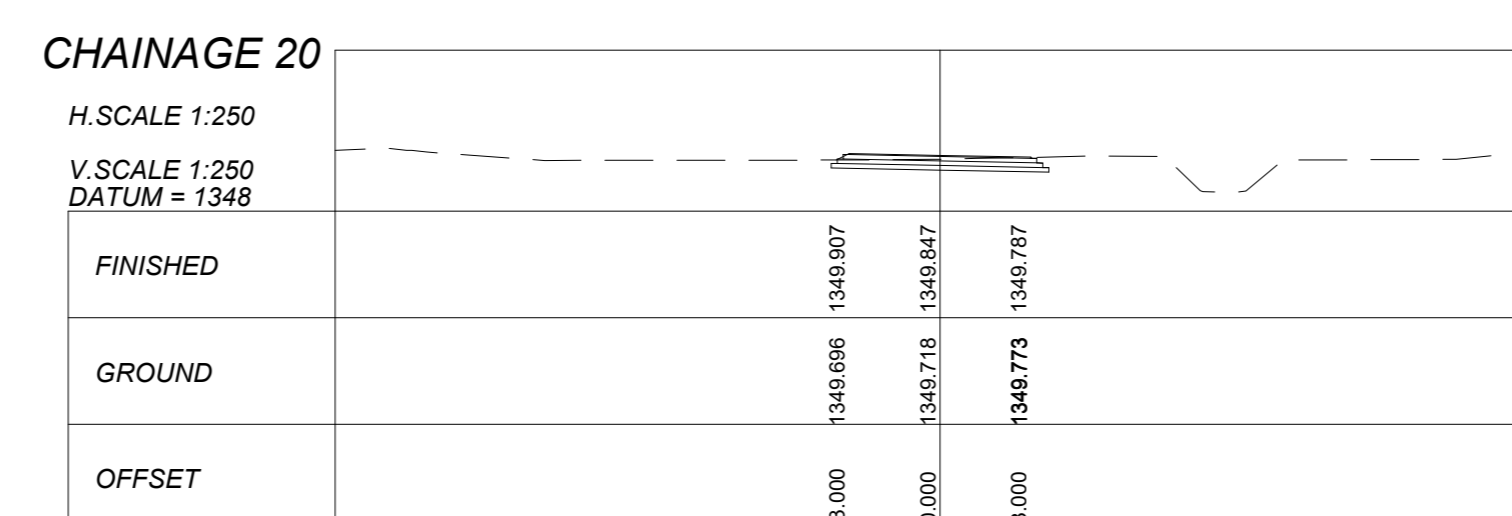
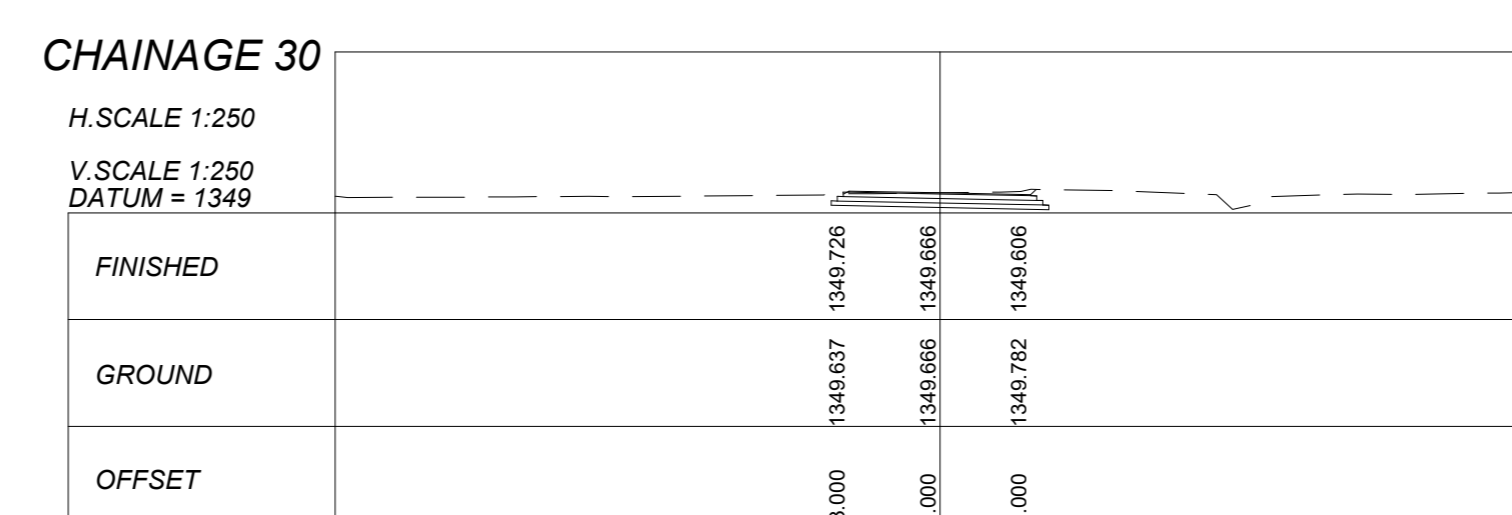
**DISCIPLINE
ROADS & TRANSPORT**

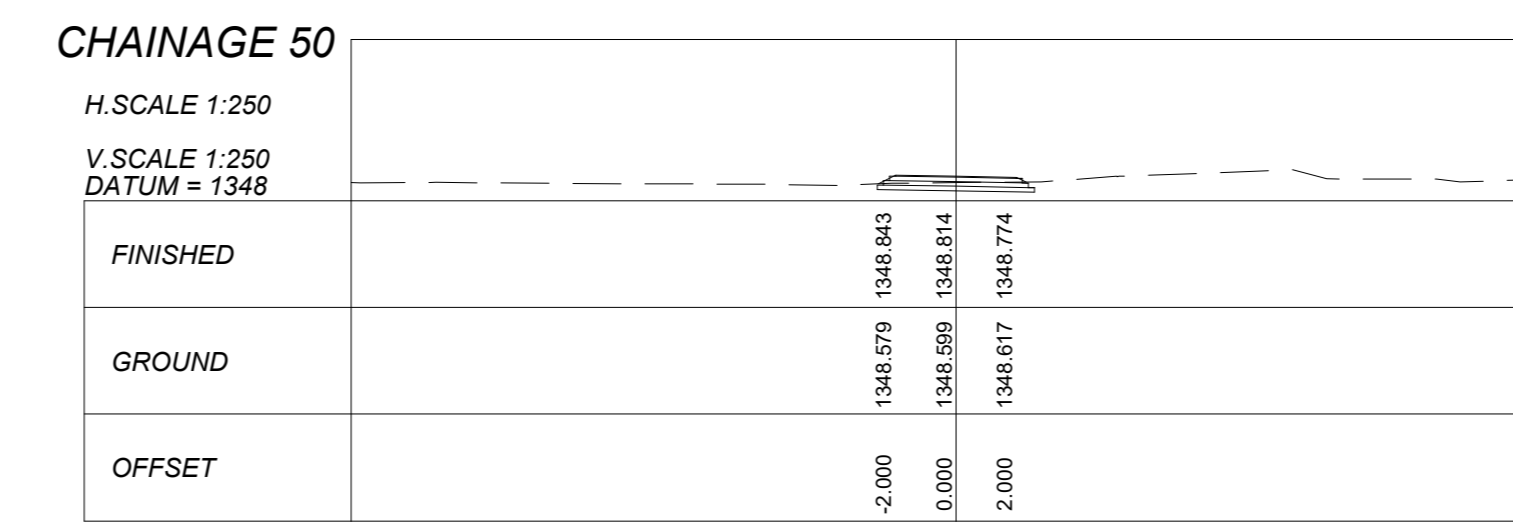
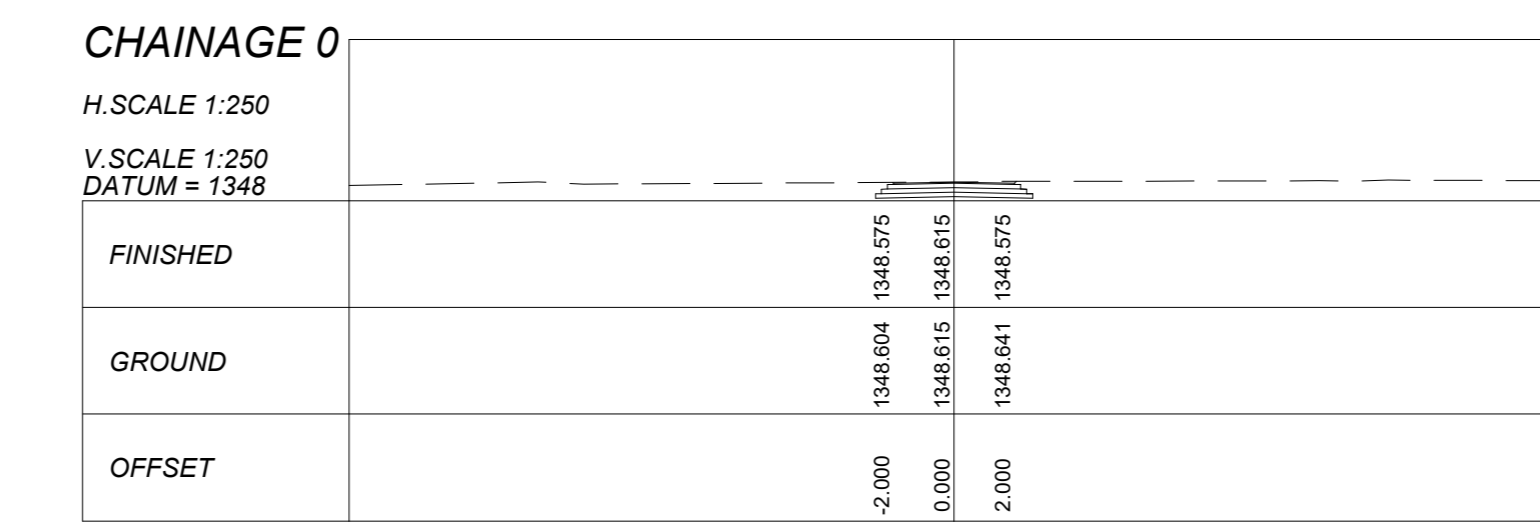
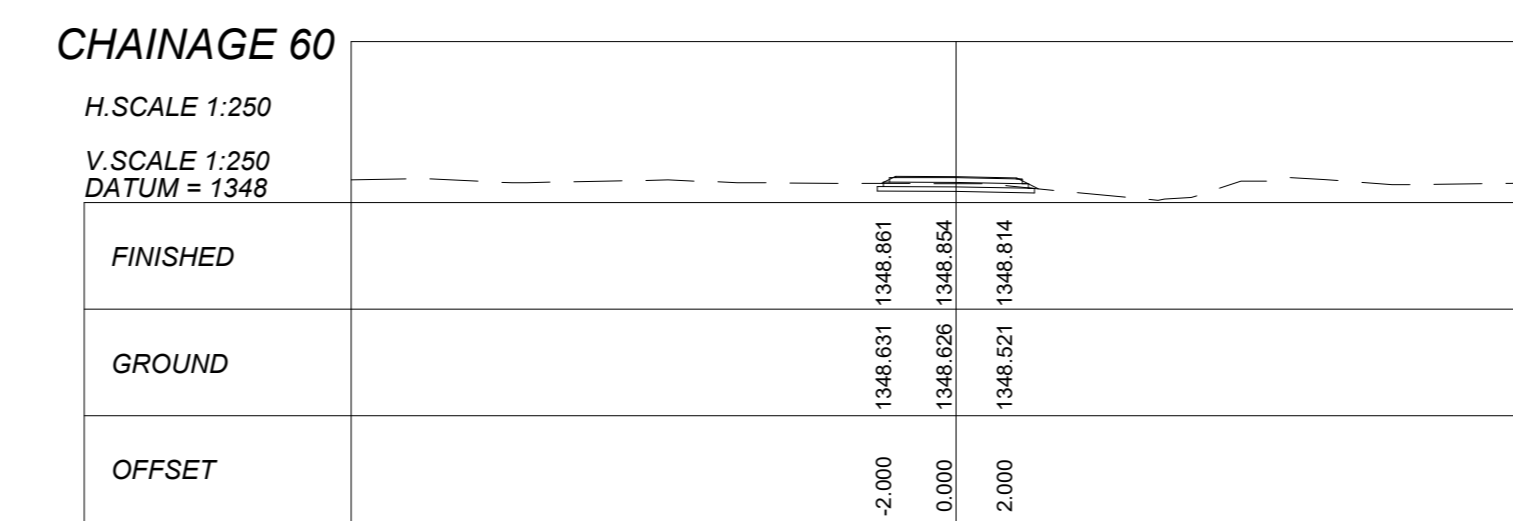
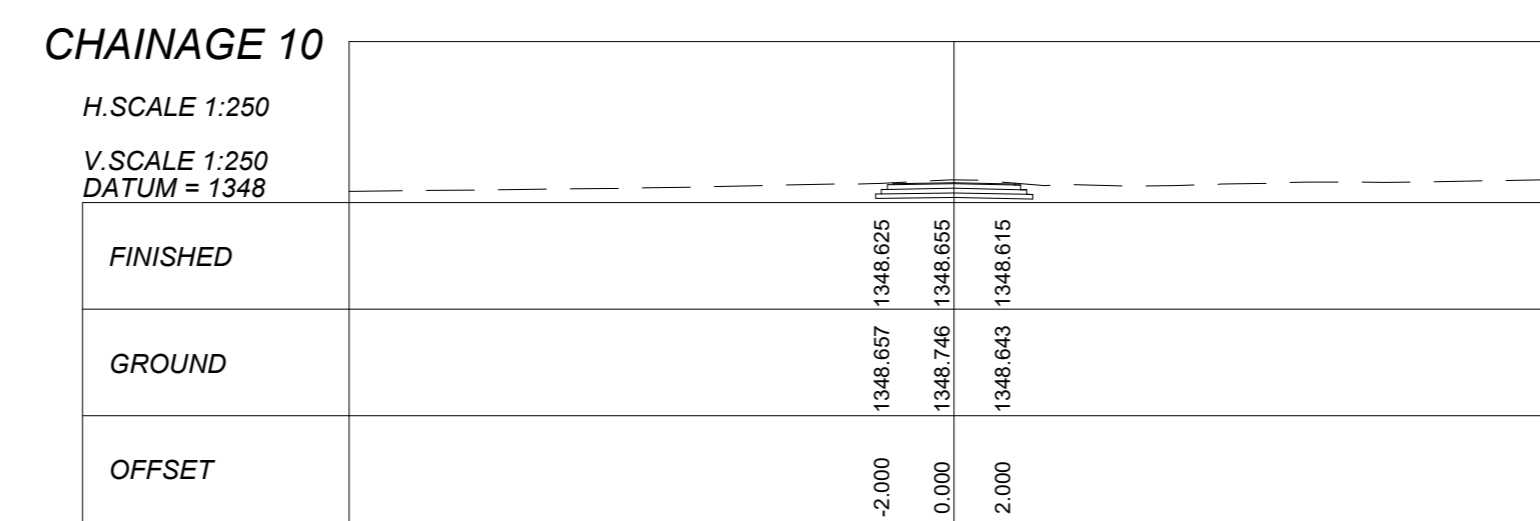
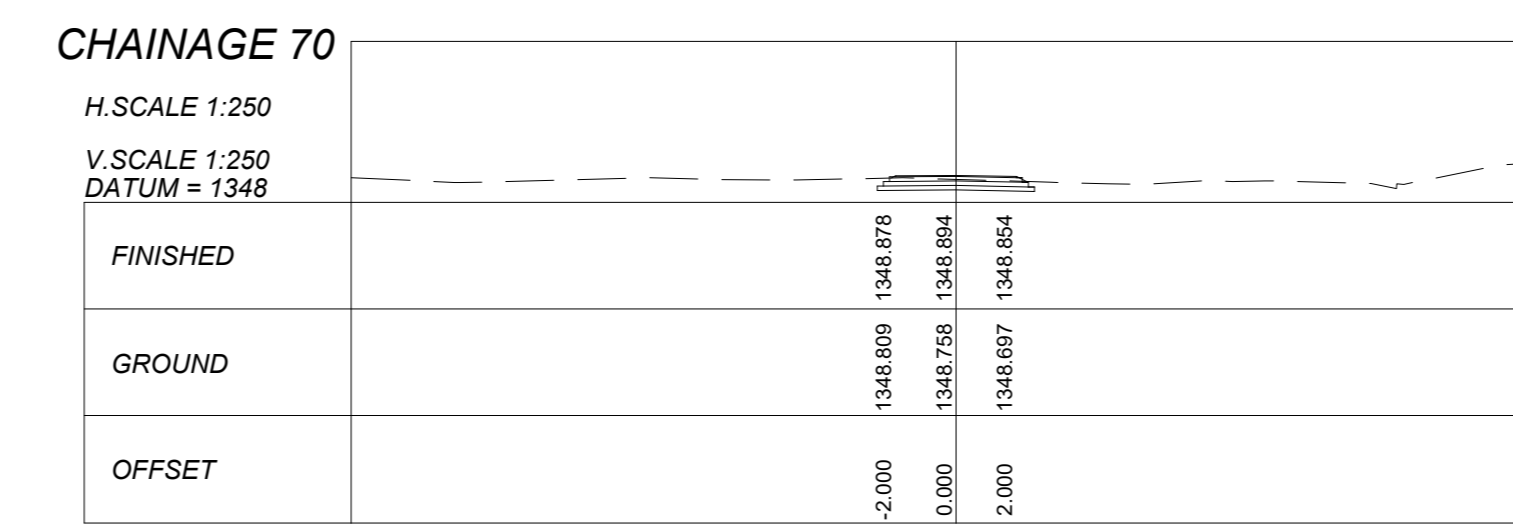
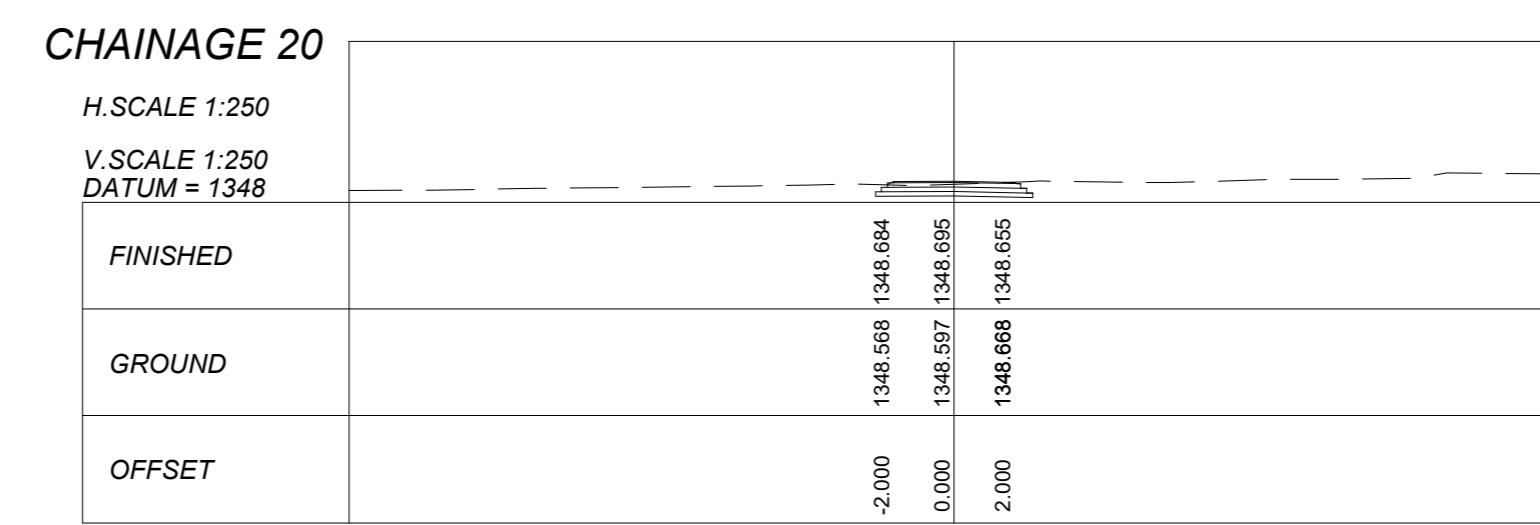
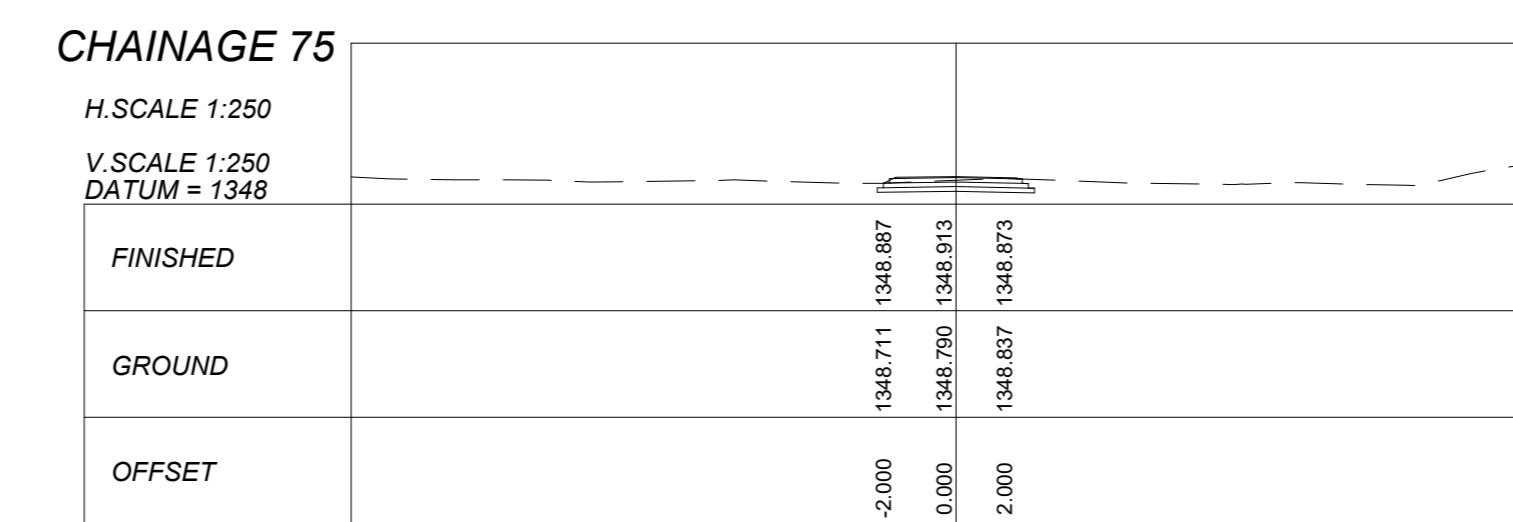
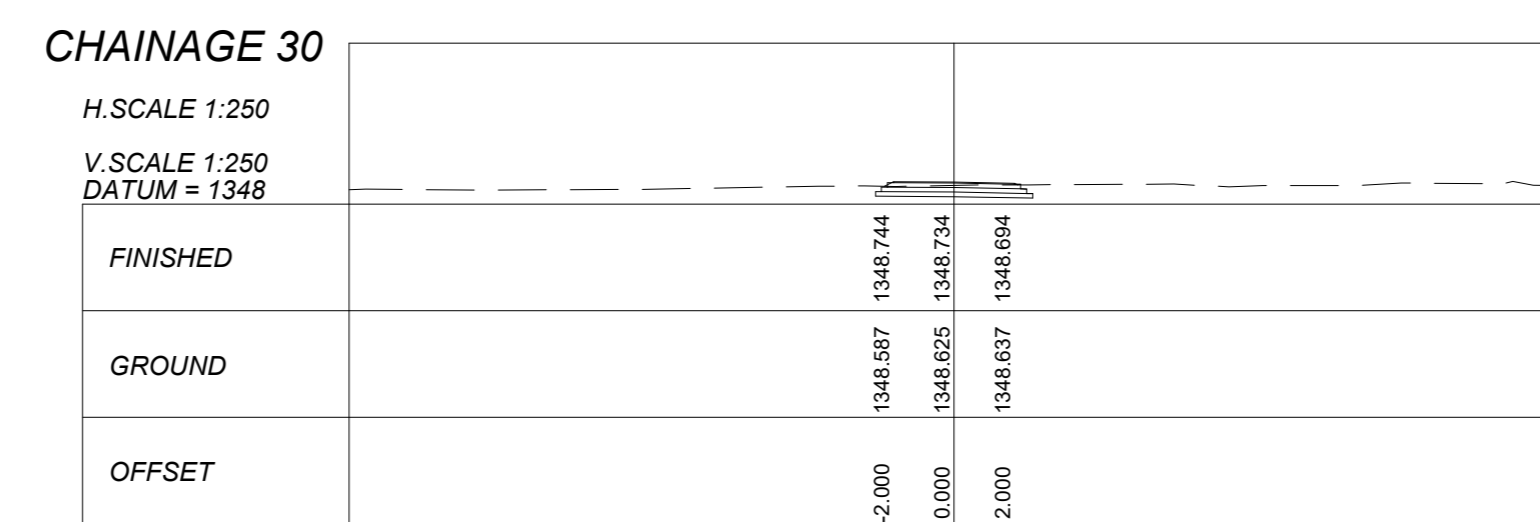
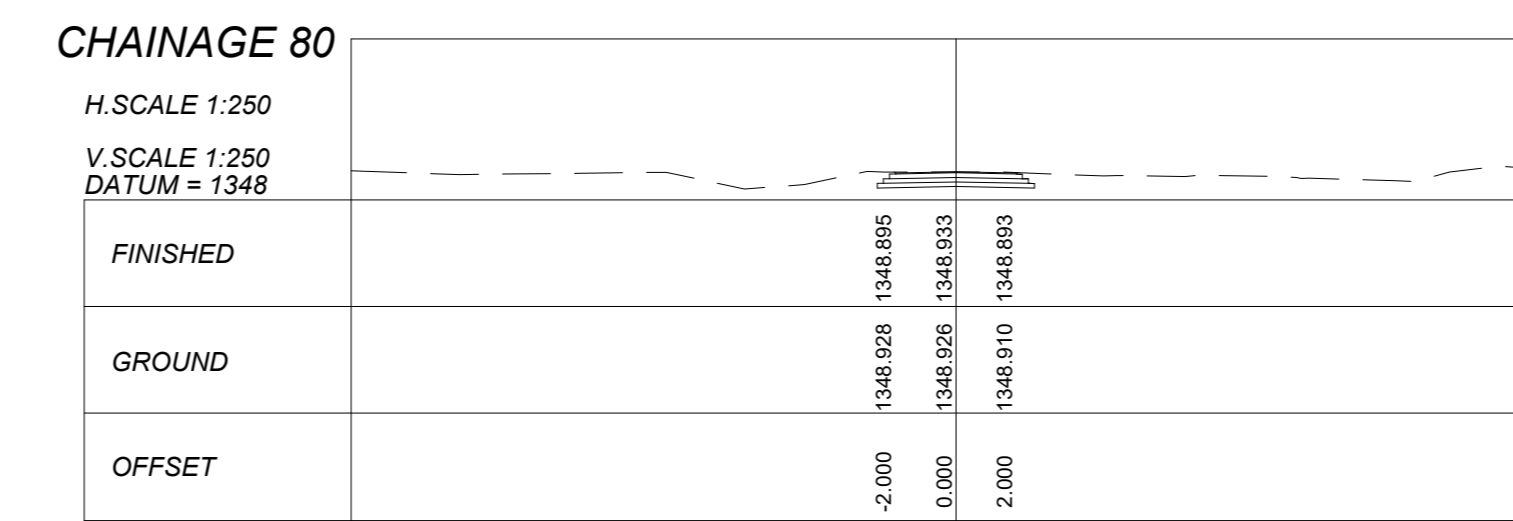
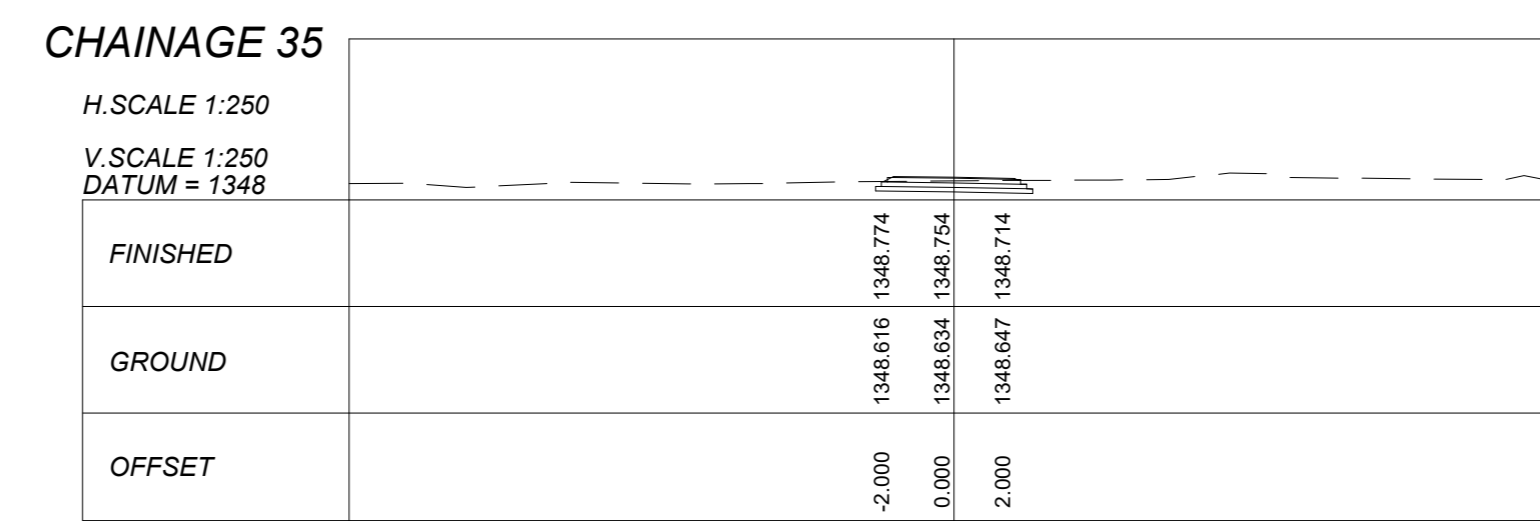
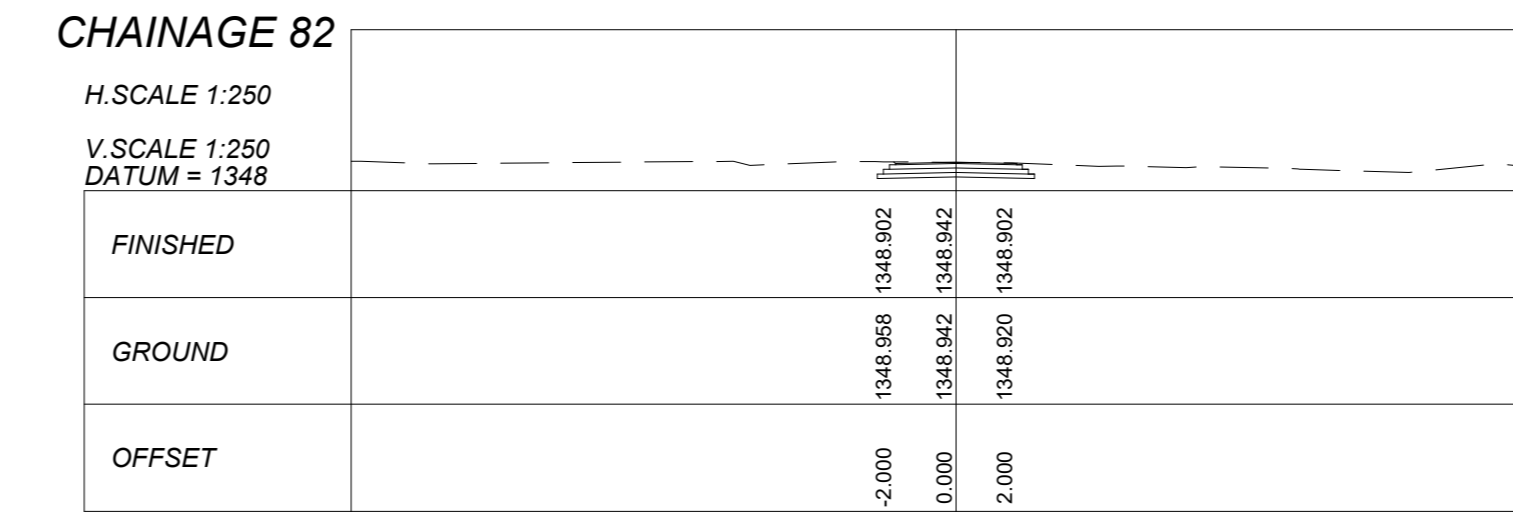
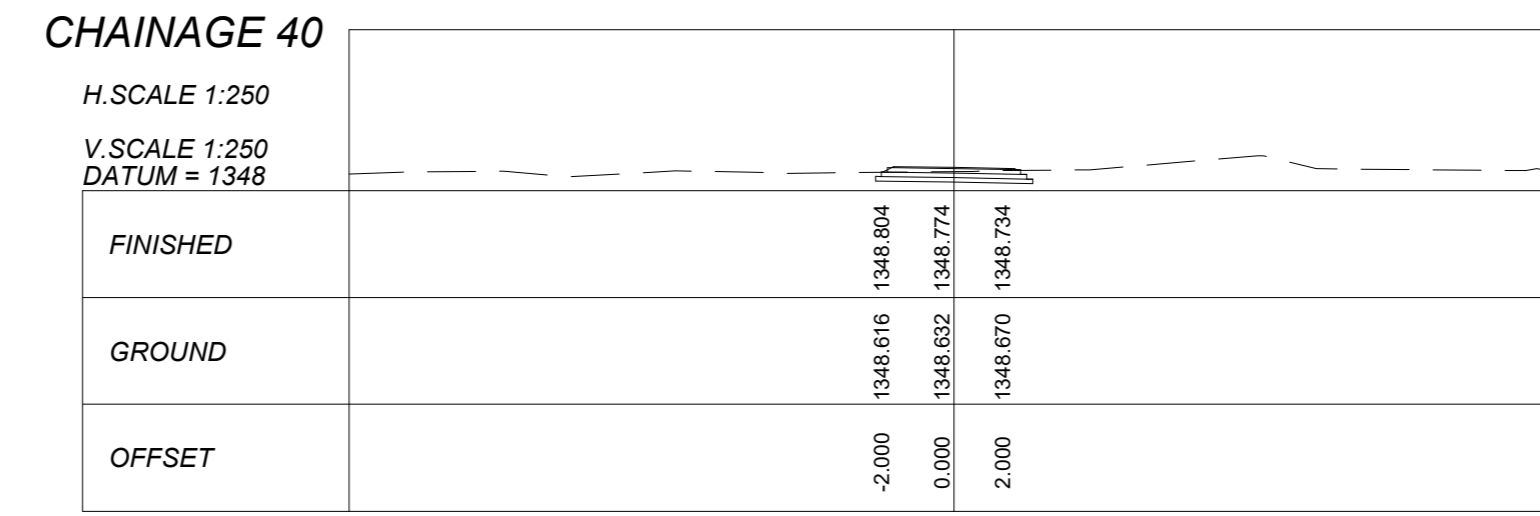
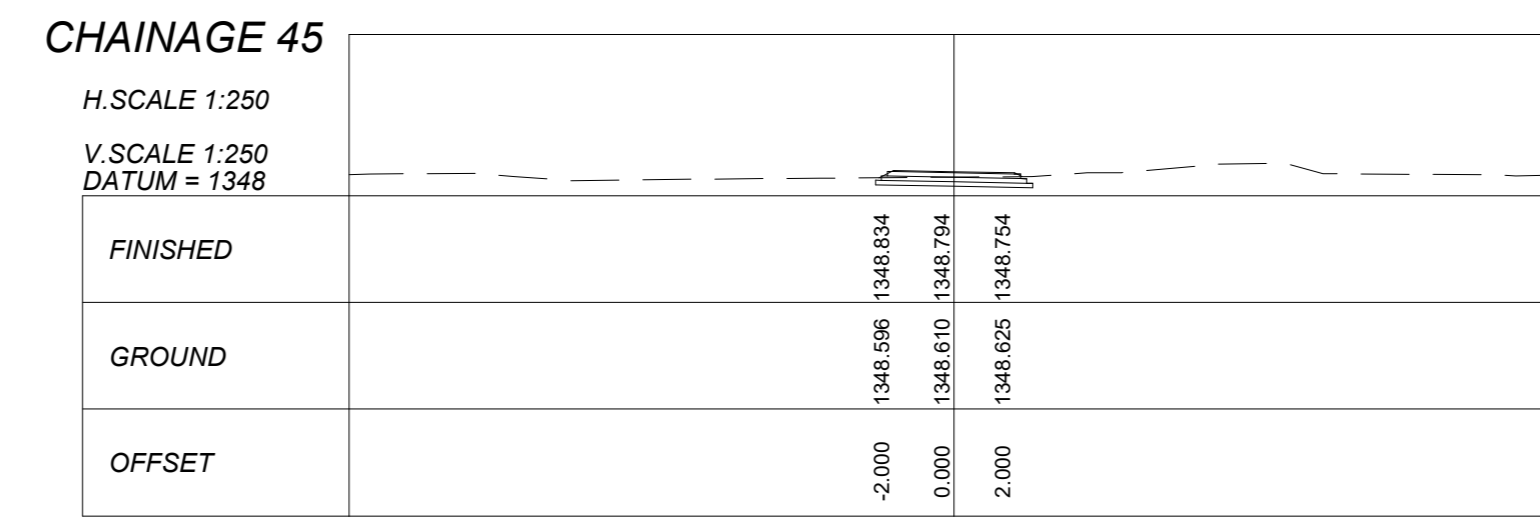
**DRAWING DESCRIPTION
ROAD CROSS SECTIONS
RESERVOIR ACCESS RD
SHEET 3 OF 3**

DESIGNED BY: M. MTHETHWA	SIGNATURE AND DATE: 16-04-2026
CHECKED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
APPROVED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
PROJECT NO: 7089	DATE 16-04-2026

DRAWING NO
GP05-24-ACSA-518-3

SCALE AS SHOWN	SHEET SIZE A1	REVISION F1
-------------------	------------------	----------------





GENERAL NOTES:

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REVISION INFORMATION

No:	DATE	DESCRIPTION:	BY
F1	16-04-2026	ISSUED FOR TENDER	

CLIENT



CONSULTANT



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PROJECT DESCRIPTION
ENGINEERING SERVICES FOR THE UNDERGROUND MAIN WATER LINE AND SERVICE ROADS PROJECT FOR A PERIOD AT BRAM FISCHER INTERNATIONAL AIRPORT

DISCIPLINE
ROADS & TRANSPORT

DRAWING DESCRIPTION
ROAD CROSS SECTIONS
WORKSHOP RD
SHEET 1 OF 3

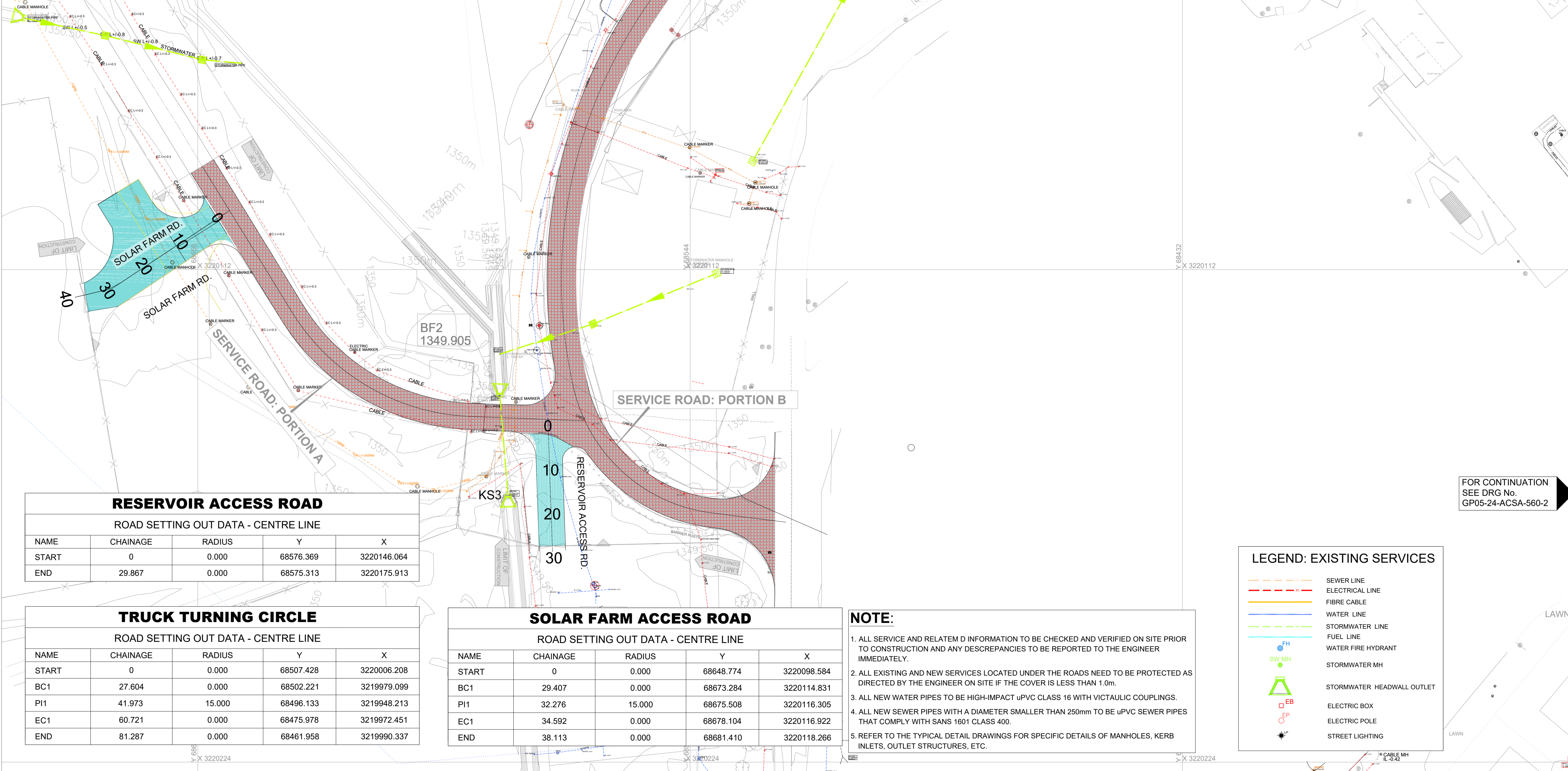
DESIGNED BY: M. MTHETHWA	SIGNATURE AND DATE: 16-04-2026
CHECKED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
APPROVED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
PROJECT NO: 7089	DATE 16-04-2026

DRAWING NO
GP05-24-ACSA-518-1

SCALE AS SHOWN	SHEET SIZE A1	REVISION F1
-------------------	------------------	----------------

BENCH MARKS Lo29/WGS84			
NAME	Y	X	Z
AP3	68418.430	3219985.055	1349.812
AP2	68319.241	3220013.187	1349.214
AP1	68270.265	3220076.902	1349.186
KS1	68278.858	3220203.668	1348.892
KS3	68585.094	3220163.208	1350.194
KS4	68545.679	3220447.730	1349.565
KS7	68574.075	3221507.896	1347.822
KS6	68526.681	3221022.513	1349.680
KS5	68528.210	3220688.093	1350.019

LEGEND:	
	EXISTING ASPHALT
	PROPOSED ASPHALT TO BE REHABILITATED
	PROPOSED NEW 80mm PAVING
	PROPOSED NEW ASPHALT
	PROPOSED S/W PIPE
	PROPOSED S/W OPEN CHANNEL (EARTH/ PRECAST/LINED)
	PROPOSED S/W SLOTTED DRAIN
	EXISTING HEADWALL
	EXISTING MANHOLE/GRID INLET/FIELD INLET
	PROPOSED PRECAST CONCRETE BOLLARD



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 2. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL PROJECT SPECIFICATIONS.
 3. ALL AMBIGUITIES ON DRAWINGS MUST BE REPORTED TO THE ENGINEER PRIOR TO CONSTRUCTION.
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 6. ALL BENCHMARKS TO BE CONFIRMED ON SITE.

REVISION INFORMATION			
No.	DATE	DESCRIPTION:	BY
F1	16-04-2026	ISSUED FOR TENDER	



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PROJECT DESCRIPTION
ENGINEERING SERVICES FOR THE UNDERGROUND MAIN WATER LINE AND SERVICE ROADS PROJECT FOR A PERIOD AT BRAM FISCHER INTERNATIONAL AIRPORT

DISCIPLINE
ROADS & TRANSPORT

DRAWING DESCRIPTION

EXISTING SERVICES LAYOUT PLAN
SHEET 1 OF 3

DESIGNED BY: M. MTHETHWA	SIGNATURE AND DATE: 16-04-2026
CHECKED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
APPROVED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
PROJECT NO: 7089	DATE: 16-04-2026

DRAWING NO
GP05-24-ACSA-560-1

SCALE	SHEET SIZE	REVISION
1:500	A1	F1

RESERVOIR ACCESS ROAD				
ROAD SETTING OUT DATA - CENTRE LINE				
NAME	CHAINAGE	RADIUS	Y	X
START	0	0.000	68576.369	3220146.064
END	29.867	0.000	68575.313	3220175.913

TRUCK TURNING CIRCLE				
ROAD SETTING OUT DATA - CENTRE LINE				
NAME	CHAINAGE	RADIUS	Y	X
START	0	0.000	68507.428	3220006.208
BC1	27.604	0.000	68502.221	3219979.099
PI1	41.973	15.000	68496.133	3219948.213
EC1	60.721	0.000	68475.978	3219972.451
END	81.287	0.000	68461.958	3219990.337

SOLAR FARM ACCESS ROAD				
ROAD SETTING OUT DATA - CENTRE LINE				
NAME	CHAINAGE	RADIUS	Y	X
START	0	0.000	68648.774	3220098.584
BC1	29.407	0.000	68673.284	3220114.831
PI1	32.276	15.000	68675.508	3220116.305
EC1	34.592	0.000	68678.104	3220116.922
END	38.113	0.000	68681.410	3220118.266

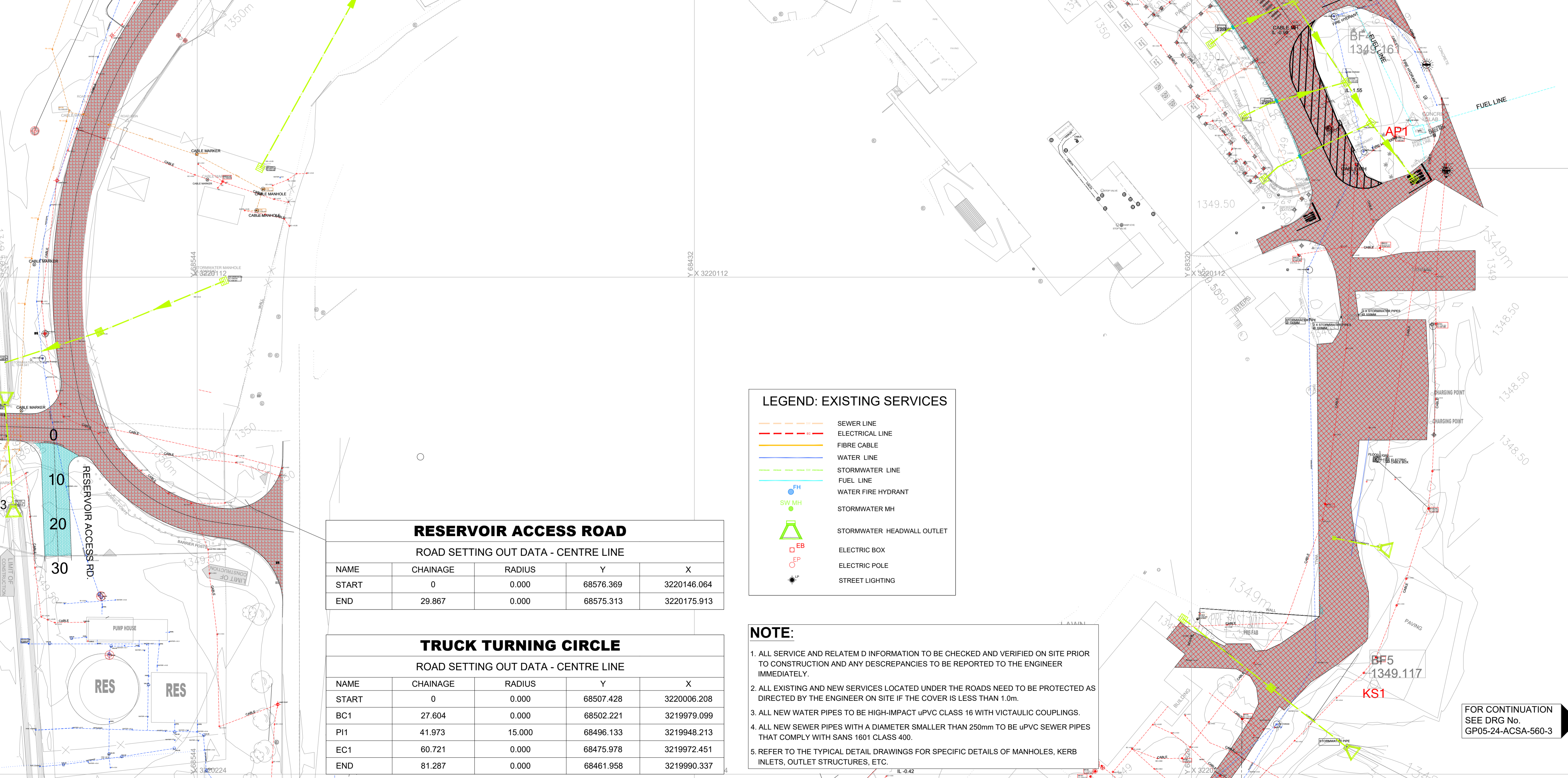
- NOTE:**
1. ALL SERVICE AND RELATED INFORMATION TO BE CHECKED AND VERIFIED ON SITE PRIOR TO CONSTRUCTION AND ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER IMMEDIATELY.
 2. ALL EXISTING AND NEW SERVICES LOCATED UNDER THE ROADS NEED TO BE PROTECTED AS DIRECTED BY THE ENGINEER ON SITE IF THE COVER IS LESS THAN 1.0m.
 3. ALL NEW WATER PIPES TO BE HIGH-IMPACT uPVC CLASS 16 WITH VICTAULIC COUPLINGS.
 4. ALL NEW SEWER PIPES WITH A DIAMETER SMALLER THAN 250mm TO BE uPVC SEWER PIPES THAT COMPLY WITH SANS 1601 CLASS 400.
 5. REFER TO THE TYPICAL DETAIL DRAWINGS FOR SPECIFIC DETAILS OF MANHOLES, KERB INLETS, OUTLET STRUCTURES, ETC.

LEGEND: EXISTING SERVICES	
	SEWER LINE
	ELECTRICAL LINE
	FIBRE CABLE
	WATER LINE
	STORMWATER LINE
	FUEL LINE
	WATER FIRE HYDRANT
	STORMWATER MH
	STORMWATER HEADWALL OUTLET
	ELECTRIC BOX
	ELECTRIC POLE
	STREET LIGHTING

FOR CONTINUATION
SEE DRG No.
GP05-24-ACSA-560-2

BENCH MARKS Lo29/WGS84			
NAME	Y	X	Z
AP3	68418.430	3219985.055	1349.812
AP1	68319.241	3220013.187	1349.214
AP1	68270.265	3220076.902	1349.186
KS1	68278.858	3220203.668	1348.892
KS3	68585.094	3220163.208	1350.194
KS4	68545.679	3220447.730	1349.565
KS7	68574.075	3221507.896	1347.822
KS6	68526.681	3221022.513	1349.680
KS5	68528.210	3220688.093	1350.019

LEGEND:	
	EXISTING ASPHALT
	PROPOSED ASPHALT TO BE REHABILITATED
	PROPOSED NEW 80mm PAVING
	PROPOSED NEW ASPHALT
	PROPOSED S/W PIPE
	PROPOSED S/W OPEN CHANNEL (EARTH/ PRECAST/LINED)
	PROPOSED S/W SLOTTED DRAIN
	EXISTING HEADWALL
	EXISTING MANHOLE/GRID INLET/FIELD INLET
	PROPOSED PRECAST CONCRETE BOLLARD



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REVISION INFORMATION

No:	DATE	DESCRIPTION:	BY
F1	16-04-2026	ISSUED FOR TENDER	

CLIENT



CONSULTANT



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PROJECT DESCRIPTION
ENGINEERING SERVICES FOR THE UNDERGROUND MAIN WATER LINE AND SERVICE ROADS PROJECT FOR A PERIOD AT BRAM FISCHER INTERNATIONAL AIRPORT

DISCIPLINE
ROADS & TRANSPORT

DRAWING DESCRIPTION

EXISTING SERVICES LAYOUT PLAN SHEET 2 OF 3

DESIGNED BY: M. MTHETHWA	SIGNATURE AND DATE: 16-04-2026
CHECKED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
APPROVED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
PROJECT NO: 7089	DATE: 16-04-2026
DRAWING NO GP05-24-ACSA-560-2	

SCALE	SHEET SIZE	REVISION
N.T.S	A1	F1

RESERVOIR ACCESS ROAD				
ROAD SETTING OUT DATA - CENTRE LINE				
NAME	CHAINAGE	RADIUS	Y	X
START	0	0.000	68576.369	3220146.064
END	29.867	0.000	68575.313	3220175.913

TRUCK TURNING CIRCLE				
ROAD SETTING OUT DATA - CENTRE LINE				
NAME	CHAINAGE	RADIUS	Y	X
START	0	0.000	68507.428	3220006.208
BC1	27.604	0.000	68502.221	3219979.099
PI1	41.973	15.000	68496.133	3219948.213
EC1	60.721	0.000	68475.978	3219972.451
END	81.287	0.000	68461.958	3219990.337

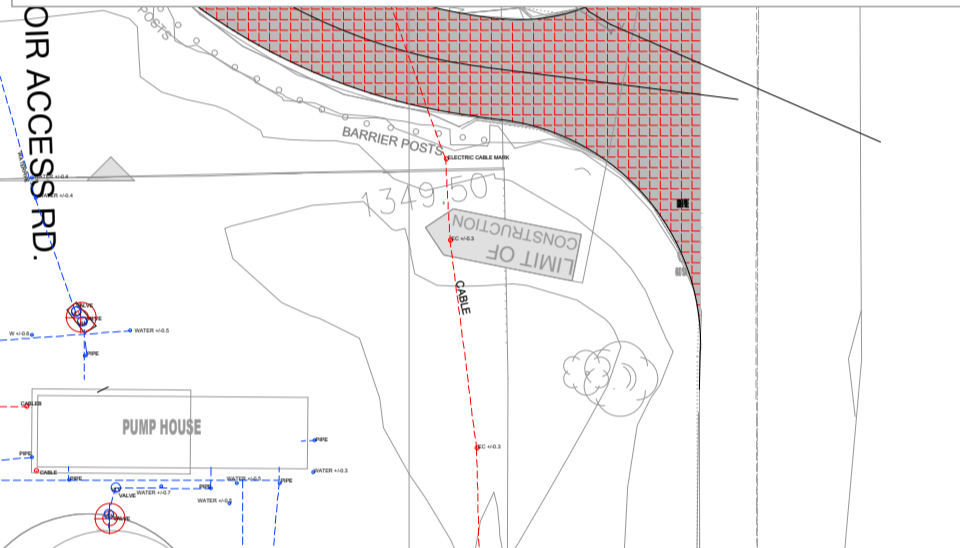
LEGEND: EXISTING SERVICES	
	SEWER LINE
	ELECTRICAL LINE
	FIBRE CABLE
	WATER LINE
	STORMWATER LINE
	FUEL LINE
	WATER FIRE HYDRANT
	STORMWATER MH
	STORMWATER HEADWALL OUTLET
	ELECTRIC BOX
	ELECTRIC POLE
	STREET LIGHTING

- NOTE:**
- ALL SERVICE AND RELATEM D INFORMATION TO BE CHECKED AND VERIFIED ON SITE PRIOR TO CONSTRUCTION AND ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER IMMEDIATELY.
 - ALL EXISTING AND NEW SERVICES LOCATED UNDER THE ROADS NEED TO BE PROTECTED AS DIRECTED BY THE ENGINEER ON SITE IF THE COVER IS LESS THAN 1.0m.
 - ALL NEW WATER PIPES TO BE HIGH-IMPACT uPVC CLASS 16 WITH VICTAULIC COUPLINGS.
 - ALL NEW SEWER PIPES WITH A DIAMETER SMALLER THAN 250mm TO BE uPVC SEWER PIPES THAT COMPLY WITH SANS 1601 CLASS 400.
 - REFER TO THE TYPICAL DETAIL DRAWINGS FOR SPECIFIC DETAILS OF MANHOLES, KERB INLETS, OUTLET STRUCTURES, ETC.

FOR CONTINUATION
SEE DRG No.
GP05-24-ACSA-560-3

BENCH MARKS Lo29/WGS84			
NAME	Y	X	Z
AP3	68418.430	3219985.055	1349.812
AP2	68319.241	3220013.187	1349.214
AP1	68270.265	3220076.902	1349.186
KS1	68278.858	3220203.668	1348.892
KS3	68585.094	3220163.208	1350.194
KS4	68545.679	3220447.730	1349.565
KS7	68574.075	3221507.896	1347.822
KS6	68526.681	3221022.513	1349.680
KS5	68528.210	3220688.093	1350.019

LEGEND:	
	EXISTING ASPHALT
	PROPOSED ASPHALT TO BE REHABILITATED
	PROPOSED NEW 80mm PAVING
	PROPOSED NEW ASPHALT
	PROPOSED S/W PIPE
	PROPOSED S/W OPEN CHANNEL (EARTH/ PRECAST/LINED)
	PROPOSED S/W SLOTTED DRAIN
	EXISTING HEADWALL
	EXISTING MANHOLE/GRID INLET/FIELD INLET
	PROPOSED PRECAST CONCRETE BOLLARD

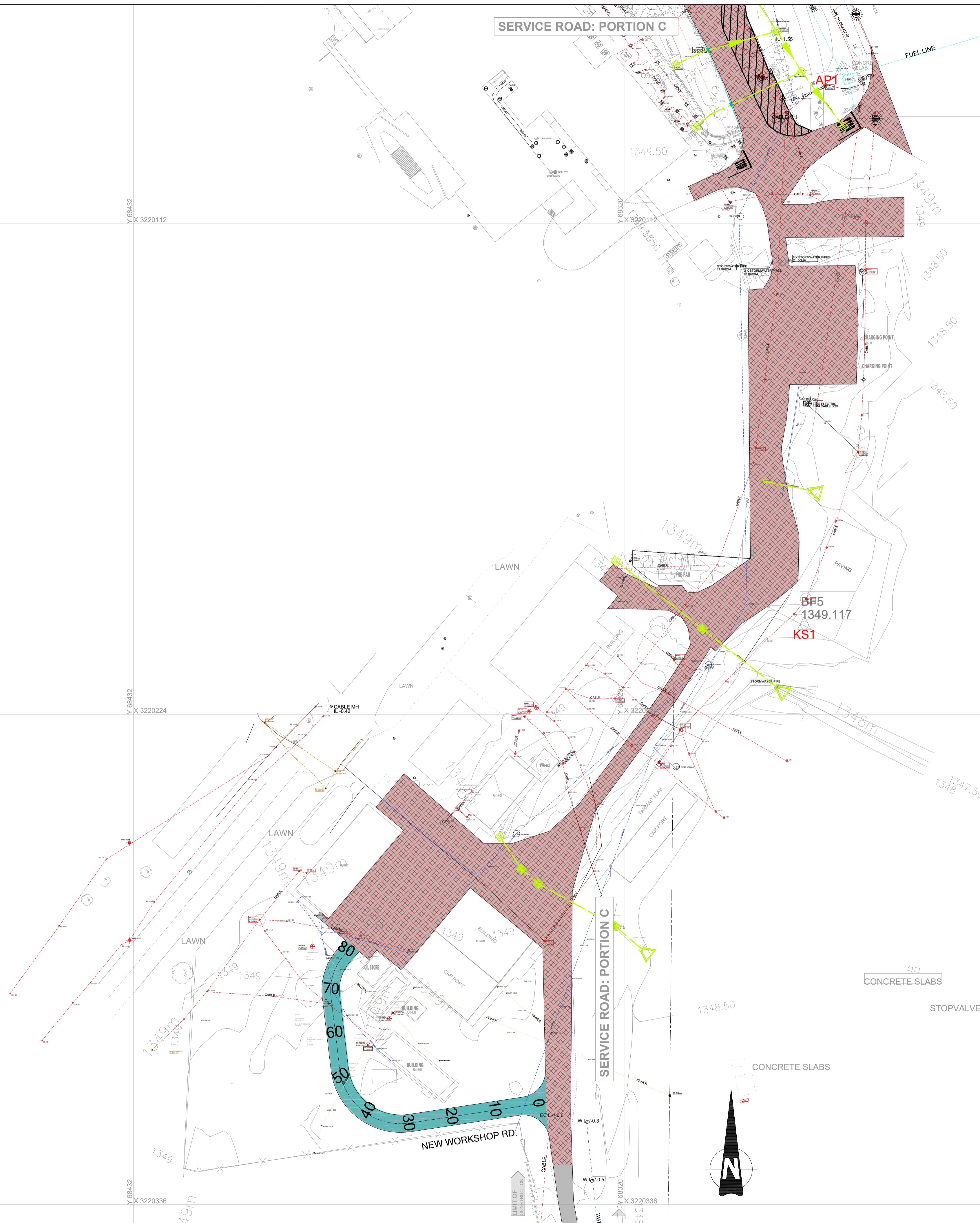


LEGEND: EXISTING SERVICES	
	SEWER LINE
	ELECTRICAL LINE
	FIBRE CABLE
	WATER LINE
	STORMWATER LINE
	FUEL LINE
	WATER FIRE HYDRANT
	STORMWATER MH
	STORMWATER HEADWALL OUTLET
	ELECTRIC BOX
	ELECTRIC POLE
	STREET LIGHTING

NOTE:

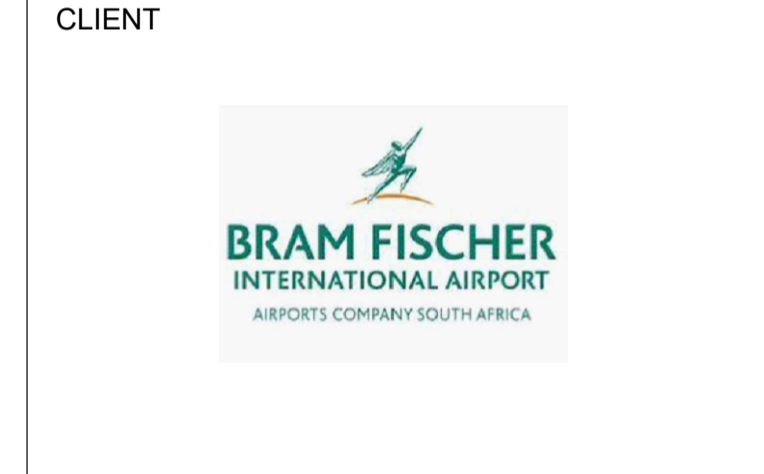
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5. REFER TO THE TYPICAL DETAIL DRAWINGS FOR SPECIFIC DETAILS OF MANHOLES, KERB INLETS, OUTLET STRUCTURES, ETC.

NEW WORKSHOP ROAD				
ROAD SETTING OUT DATA - CENTRE LINE				
NAME	CHAINAGE	RADIUS	Y	X
START	0	0.000	68337.464	3220312.566
BC1	31.824	0.000	68368.929	3220317.334
PI1	42.836	14.000	68383.195	3220319.496
EC1	53.809	0.000	68384.926	3220305.172
BC2	70.591	0.000	68386.942	3220288.490
PI2	75.736	12.000	68387.608	3220282.981
EC2	80.678	0.000	68384.287	3220279.416
END	83.359	0.000	68384.287	3220279.416



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REVISION INFORMATION		
No:	DATE	DESCRIPTION:
F1	16-04-2026	ISSUED FOR TENDER



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PROJECT DESCRIPTION
ENGINEERING SERVICES FOR THE UNDERGROUND MAIN WATER LINE AND SERVICE ROADS PROJECT FOR A PERIOD AT BRAM FISCHER INTERNATIONAL AIRPORT

DISCIPLINE
ROADS & TRANSPORT

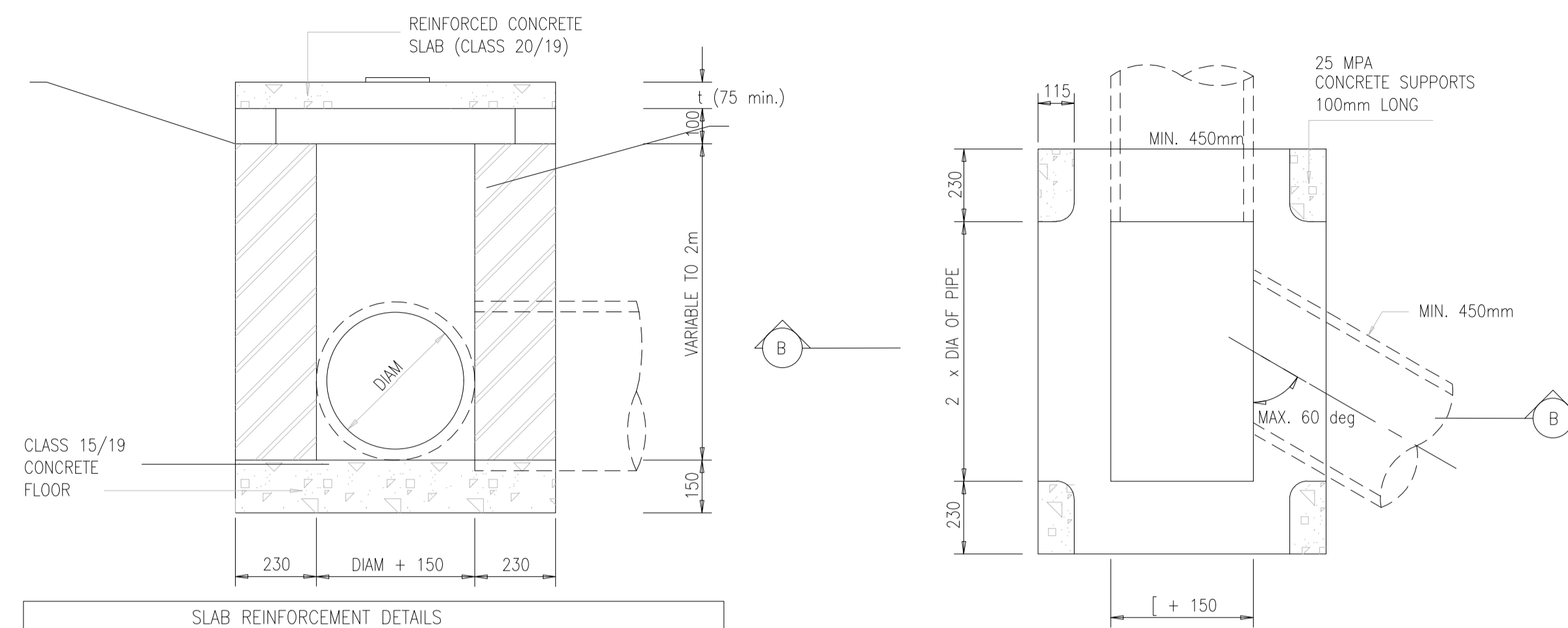
DRAWING DESCRIPTION

EXISTING SERVICES LAYOUT PLAN SHEET 3 OF 3

DESIGNED BY: M. MTHETHWA	SIGNATURE AND DATE: 16-04-2026
CHECKED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
APPROVED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
PROJECT NO: 7089	DATE 16-04-2026

DRAWING NO
GP05-24-ACSA-560-3

SCALE	SHEET SIZE	REVISION
1:500	A1	F1



SLAB REINFORCEMENT DETAILS			
SPAN	t	MAIN REINFORCEMENT	DISTRIBUTION STEEL
450	75	Y10 dia @ 150	Y10 dia @ 300
500	90	Y12 dia @ 200	Y10 dia @ 300
600	100	Y12 dia @ 160	Y10 dia @ 300
750	100	Y12 dia @ 160	Y10 dia @ 300
900	125	Y16 dia @ 210	Y10 dia @ 300
1000	125	Y16 dia @ 200	Y10 dia @ 300
1100	125	Y16 dia @ 200	Y10 dia @ 300
1200	140	Y16 dia @ 185	Y10 dia @ 300
1350	140	Y16 dia @ 175	Y10 dia @ 300
1500	150	Y16 dia @ 165	Y10 dia @ 270
1650	165	Y16 dia @ 165	Y10 dia @ 270
1800	165	Y16 dia @ 150	Y10 dia @ 260
2000	180	Y16 dia @ 125	Y10 dia @ 230
2200	190	Y20 dia @ 170	Y10 dia @ 200
2400	200	Y20 dia @ 150	Y10 dia @ 200
2600	200	Y20 dia @ 150	Y10 dia @ 200
2750	215	Y20 dia @ 140	Y10 dia @ 180
2900	225	Y20 dia @ 140	Y10 dia @ 170
3000	250	Y20 dia @ 125	Y10 dia @ 160

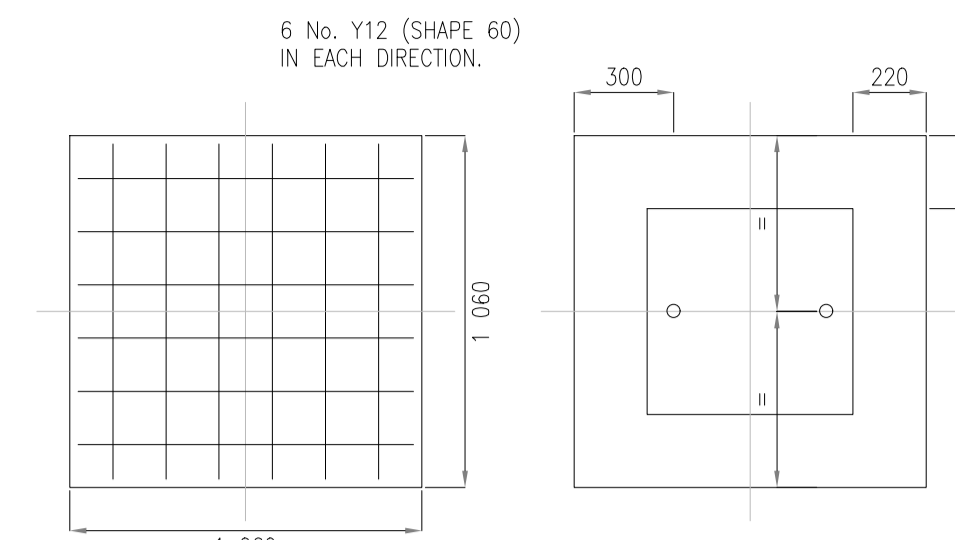
PLAN OF FIELD INLET (WITHOUT LID)



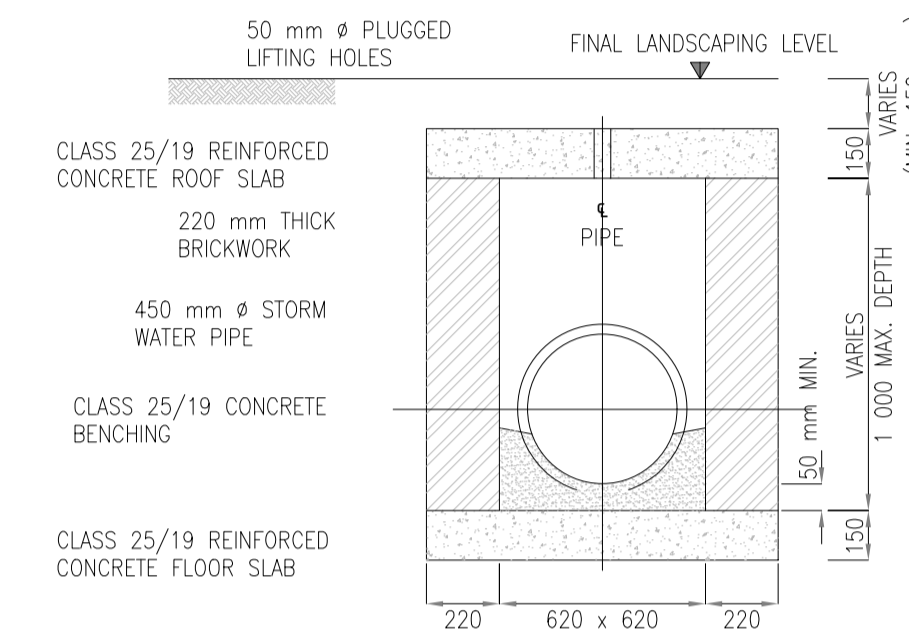
END SUPPORT FOR COVER SLAB

- NOTES:
1. ALL BRICKS TO BE QUALITY FBSE30 TO SABS 227-1986 WITH WATER ABSORPTION <14% AND EFFLORESCENCE <10.
 2. ALL BRICK WORK TO BE ENGLISH BOND.
 3. REINFORCED CONCRETE SLAB AND SUPPORTS CAST SEPARATE.

DETAILS OF FIELD INLET
NTS



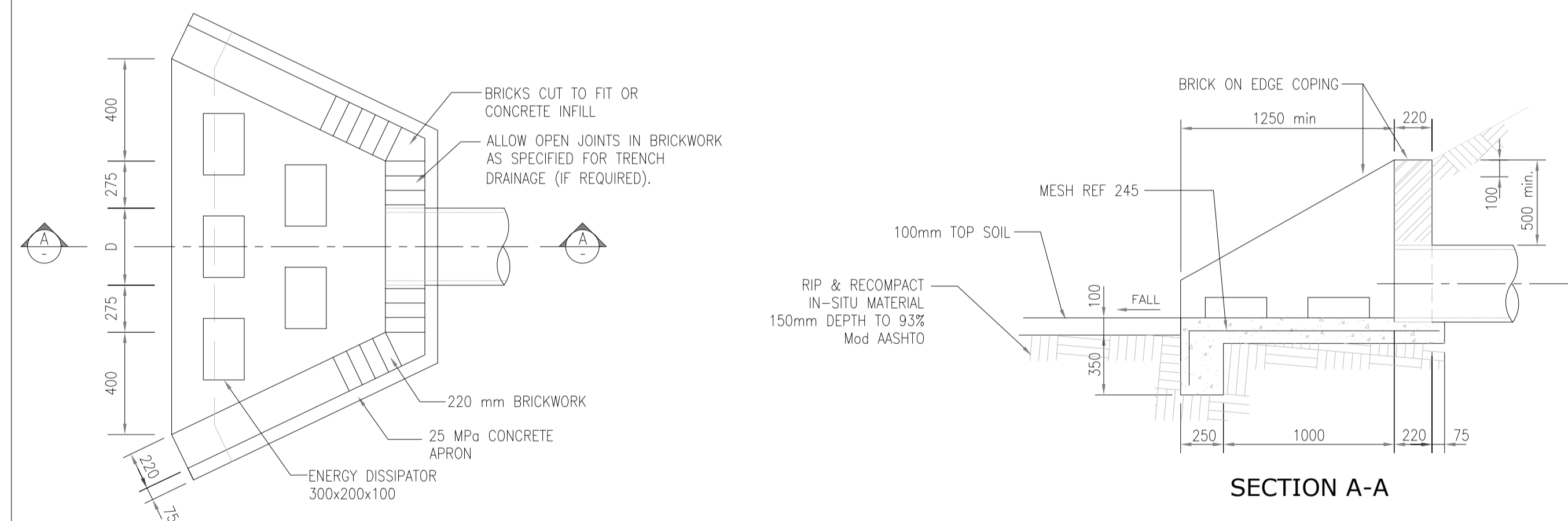
REINFORCEMENT OF ROOF SLAB



SECTIONED ELEVATION

- NOTES:
1. BRICKS TO BE ENGINEERING UNITS (NXFE - 14) AS PER SABS 227
 2. STEP IRONS TO COMPLY WITH BS 1247
 3. MAX. PIPE DIAMETER 500 mm
 4. MIN. COVER TO REINFORCEMENT TO BE 25 mm

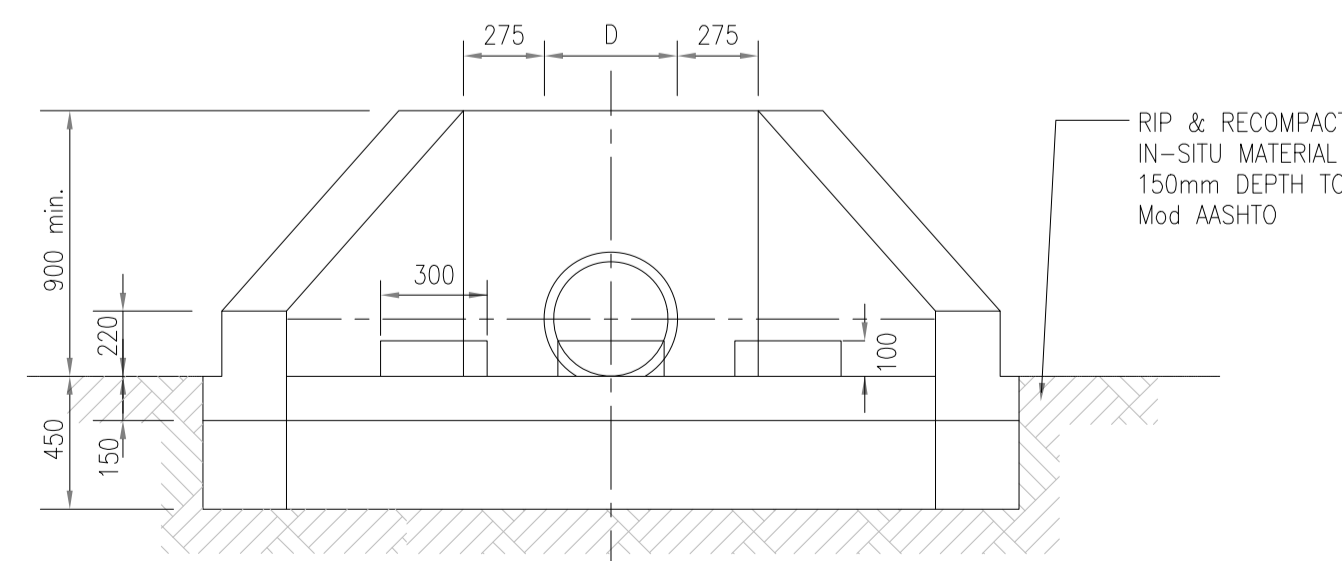
JUNCTION BOX FOR UP TO 500 mm Ø PIPE
NTS



PLAN

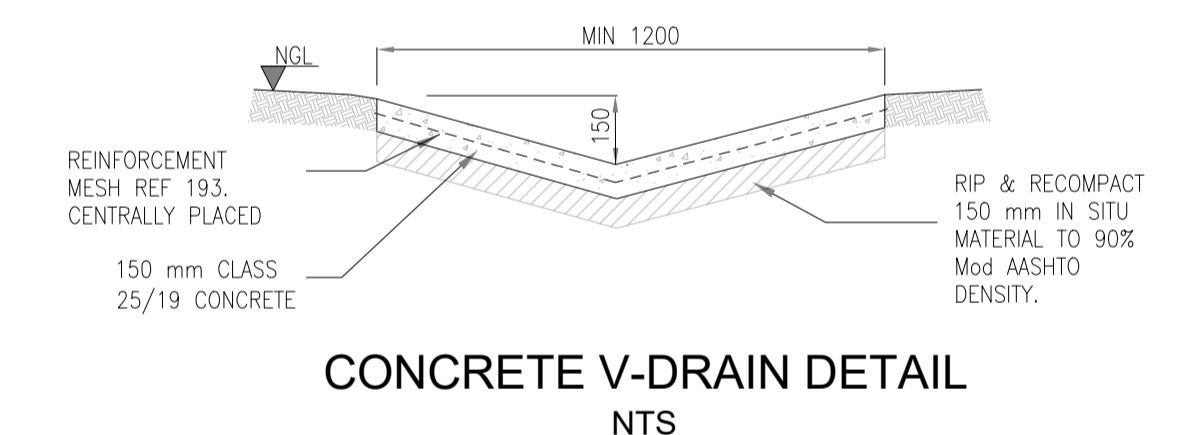
SECTION A-A

- NOTES:
1. ALL BRICKWORK TO BE ENGINEERING UNITS TO SABS 227.
 2. ALLOW EXPOSED CONCRETE TO BE STEEL TROWEL FINISH.
 3. D=PIPE OUTSIDE DIAMETER

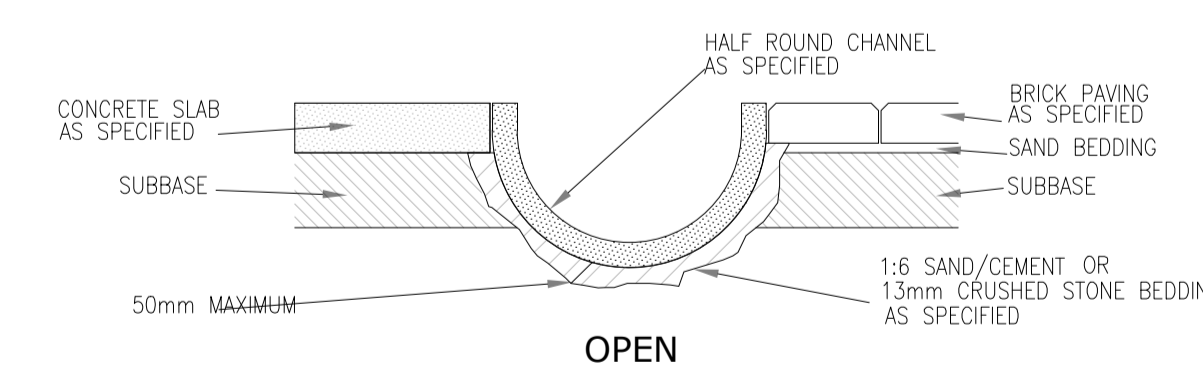


ELEVATION

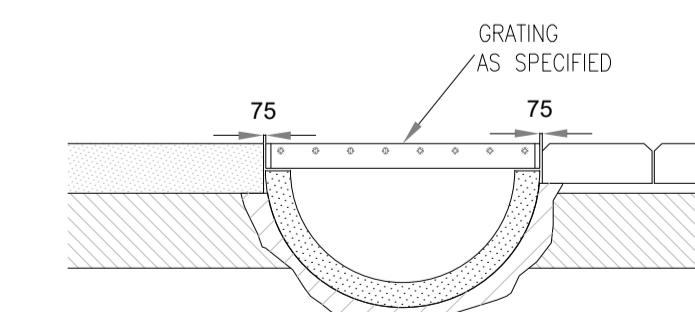
TYPICAL BRICK HEADWALL
NTS



CONCRETE V-DRAIN DETAIL
NTS



OPEN



WITH GRATING

HALF-ROUND CHANNEL TYPICAL DETAIL
NTS

GENERAL NOTES:

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6. ALL BENCHMARKS TO BE CONFIRMED ON SITE.

REVISION INFORMATION

No.	DATE	DESCRIPTION:	BY
F1	16-04-2026	ISSUED FOR TENDER	

CLIENT



CONSULTANT



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PROJECT DESCRIPTION
ENGINEERING SERVICES FOR THE UNDERGROUND MAIN WATER LINE AND SERVICE ROADS PROJECT FOR A PERIOD AT BRAM FISCHER INTERNATIONAL AIRPORT

DISCIPLINE
ROADS & TRANSPORT

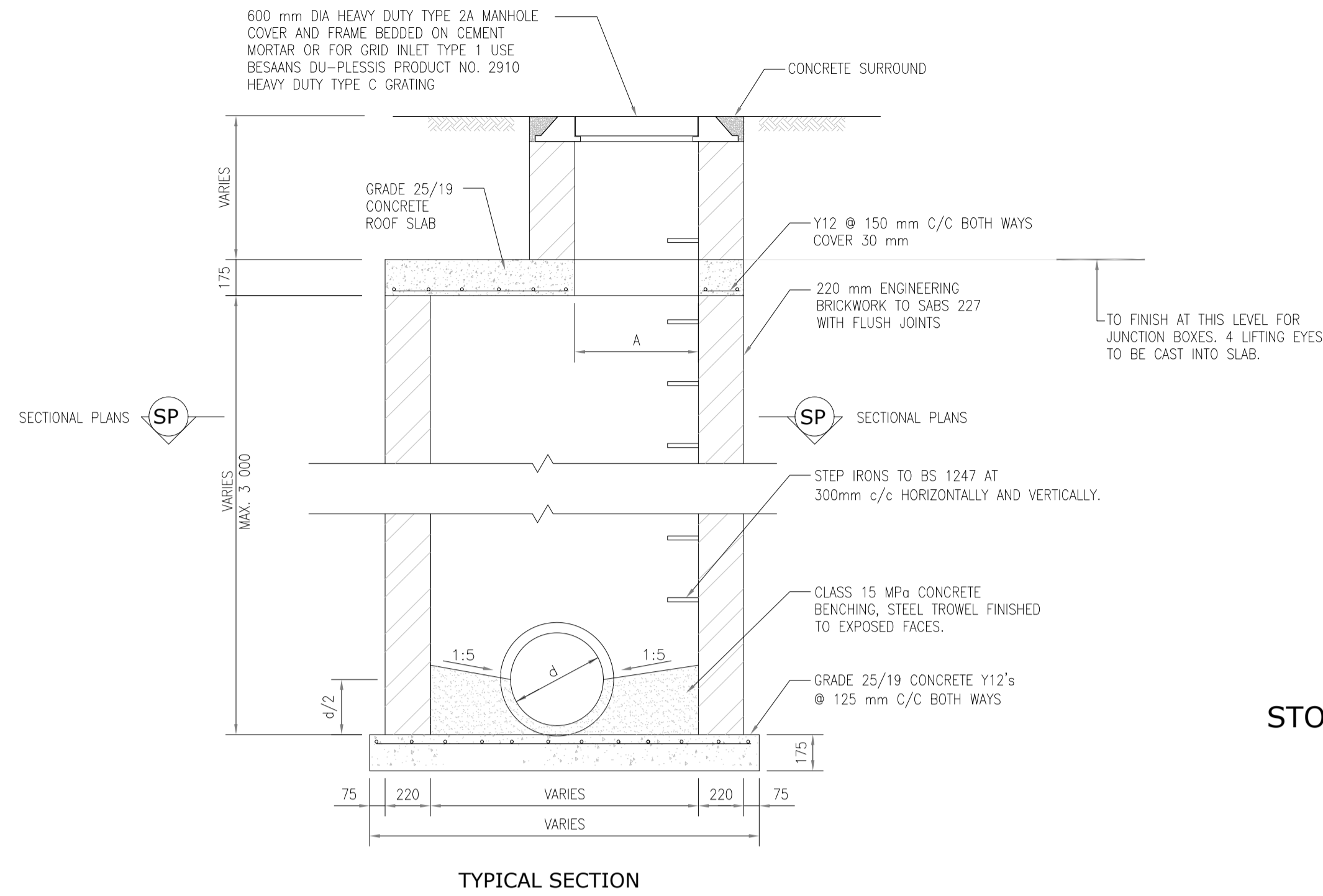
DRAWING DESCRIPTION

STORMWATER DETAILS
SHEET 2 OF 3

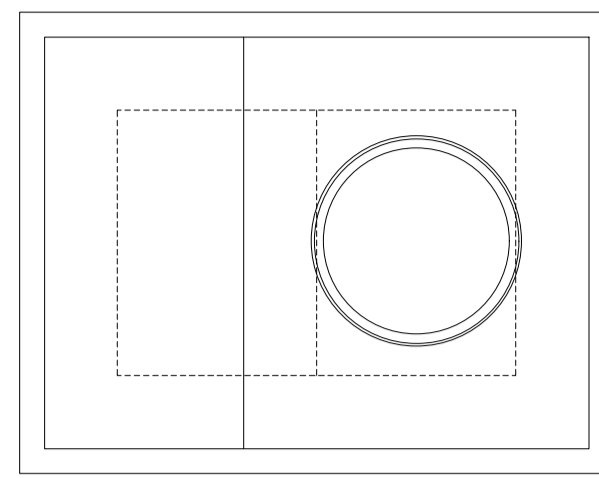
DESIGNED BY: M. MTHETHWA	SIGNATURE AND DATE: 16-04-2026
CHECKED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
APPROVED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
PROJECT NO: 7089	DATE 16-04-2026

DRAWING NO
GP05-24-ACSA-580-2

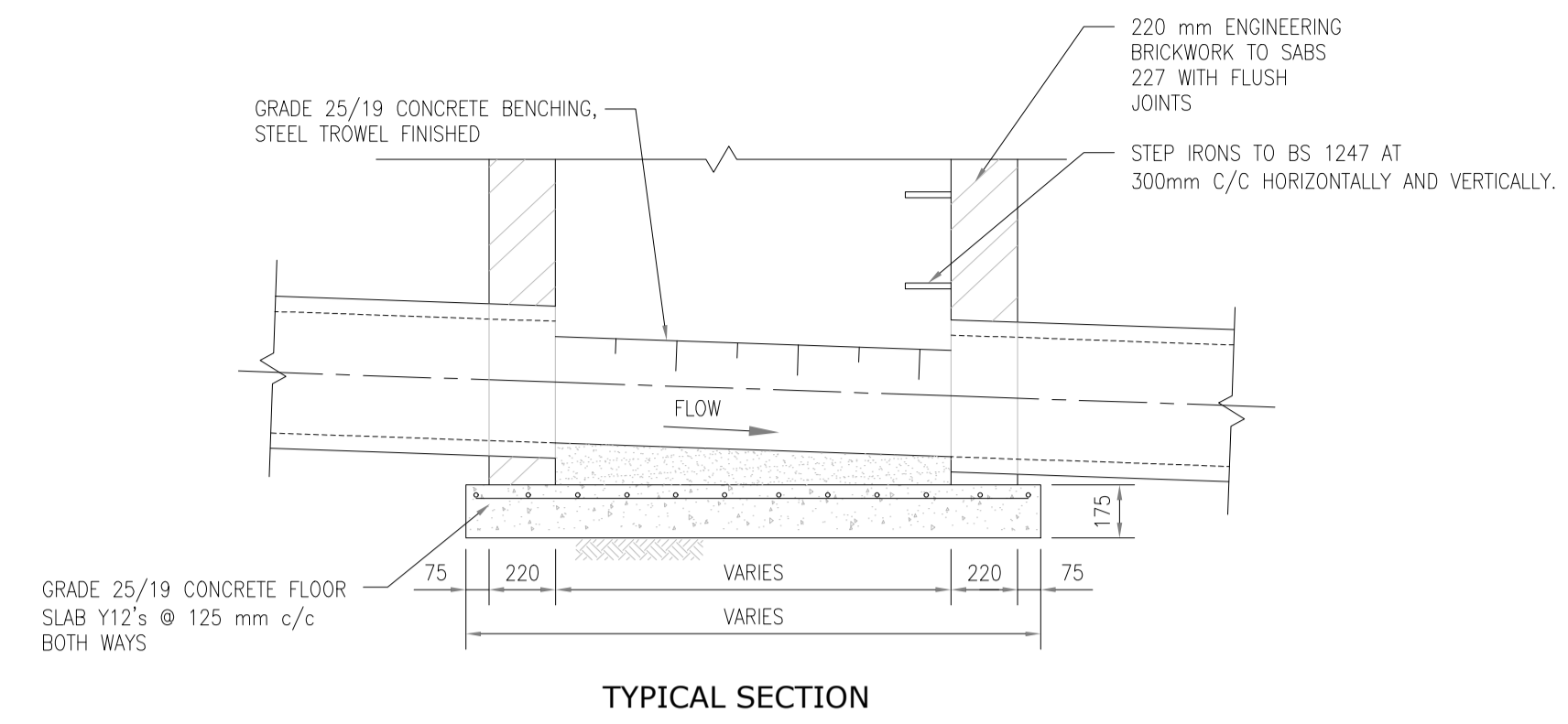
SCALE	SHEET SIZE	REVISION
N.T.S	A1	F1



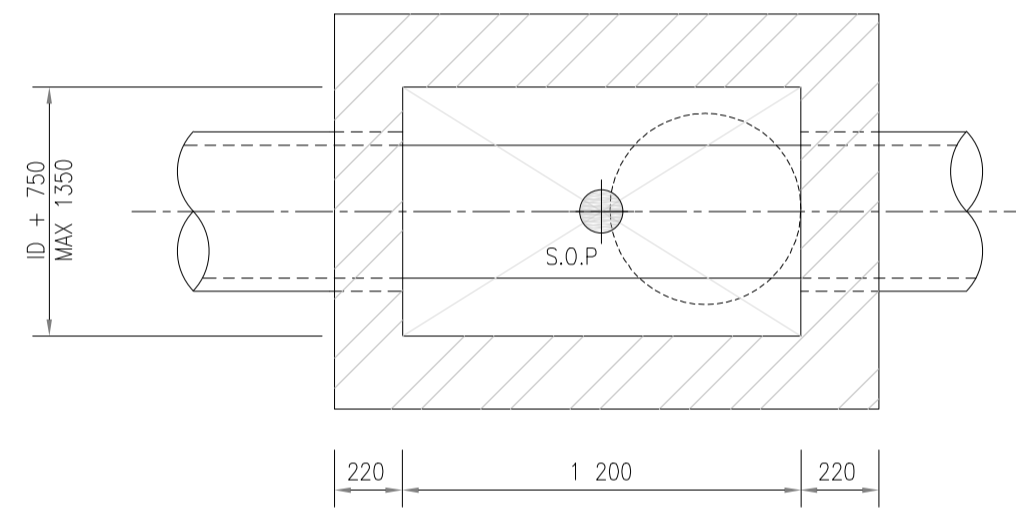
STORMWATER MANHOLE / DEEP GRID INLET
NTS



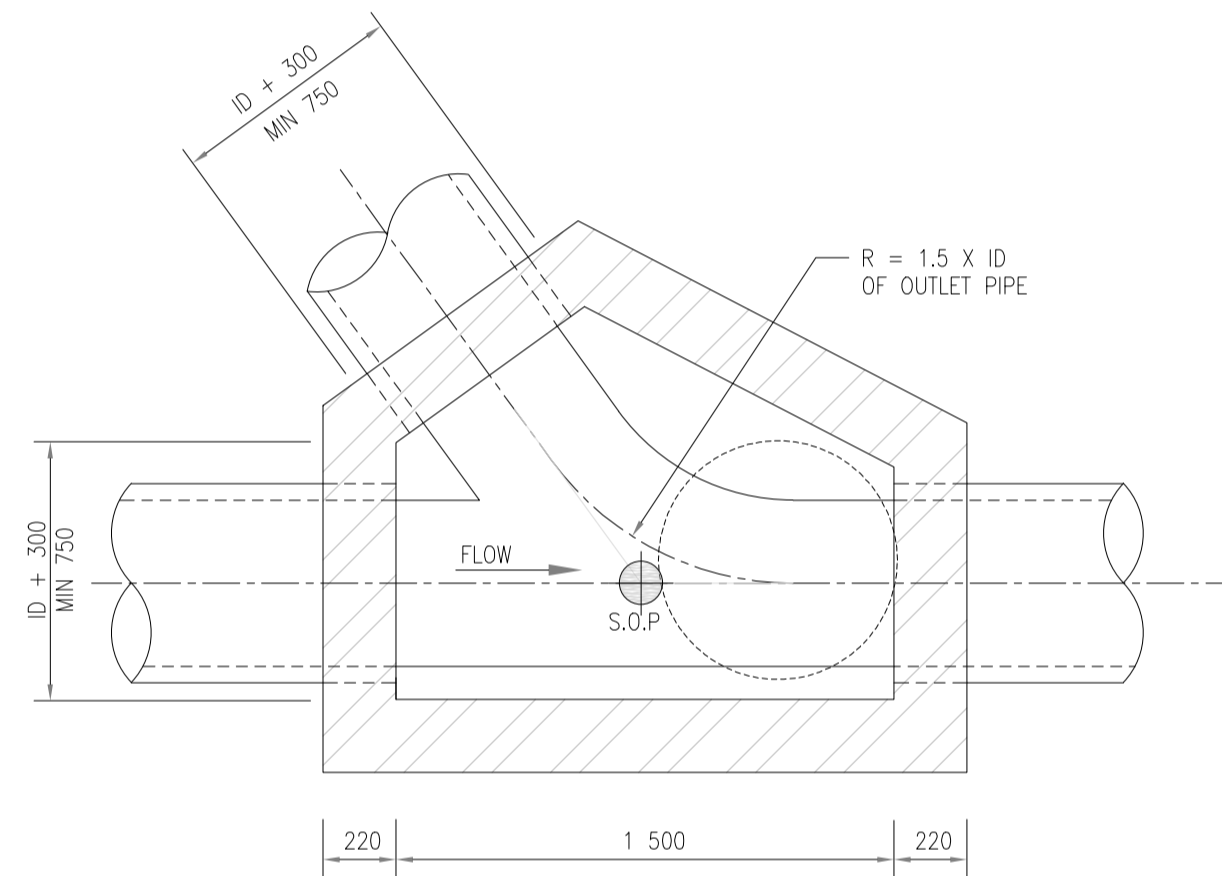
NOTE:
REFER TO SECTIONAL PLANS BELOW FOR DIFFERENT TYPES OF MANHOLE LAYOUT



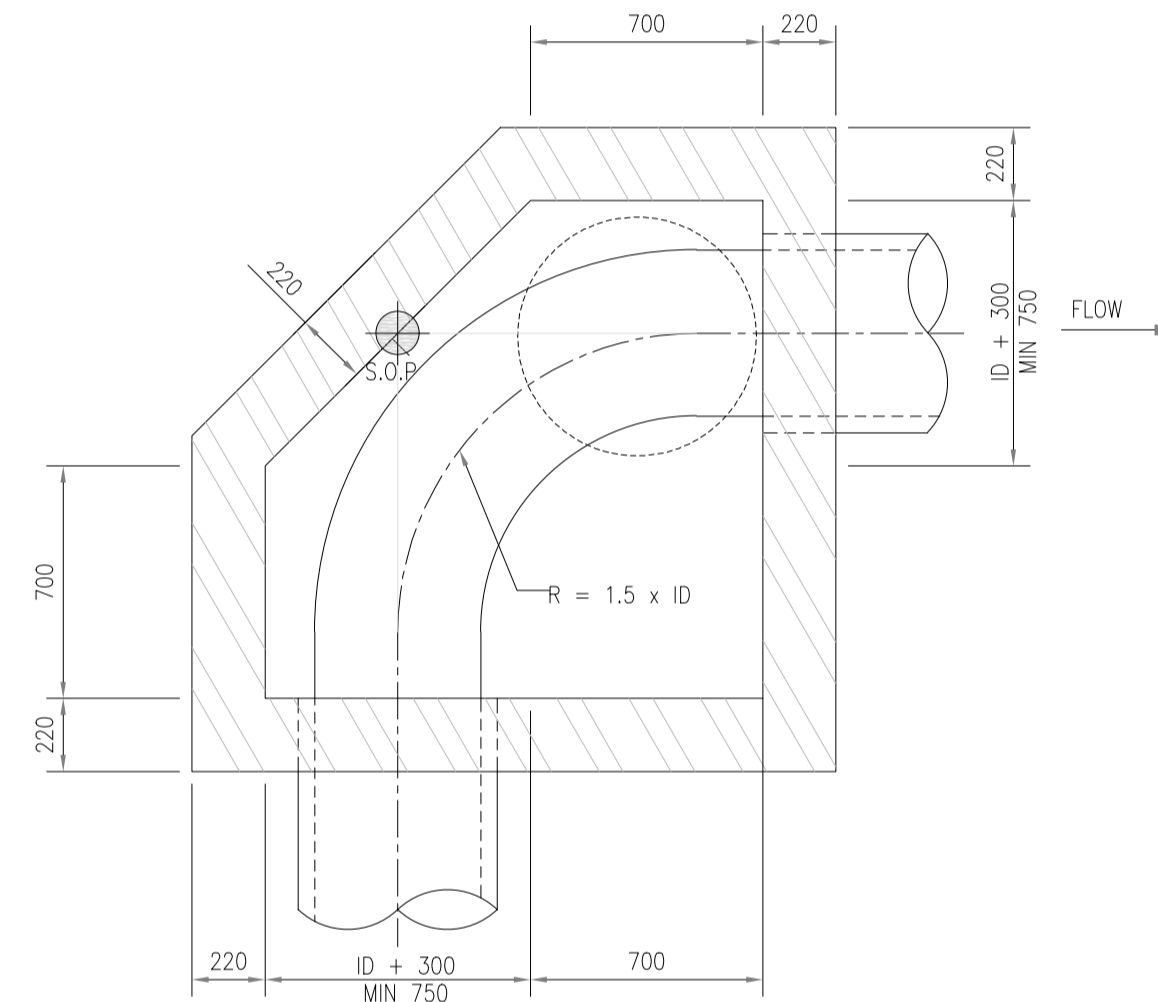
TYPICAL SECTION



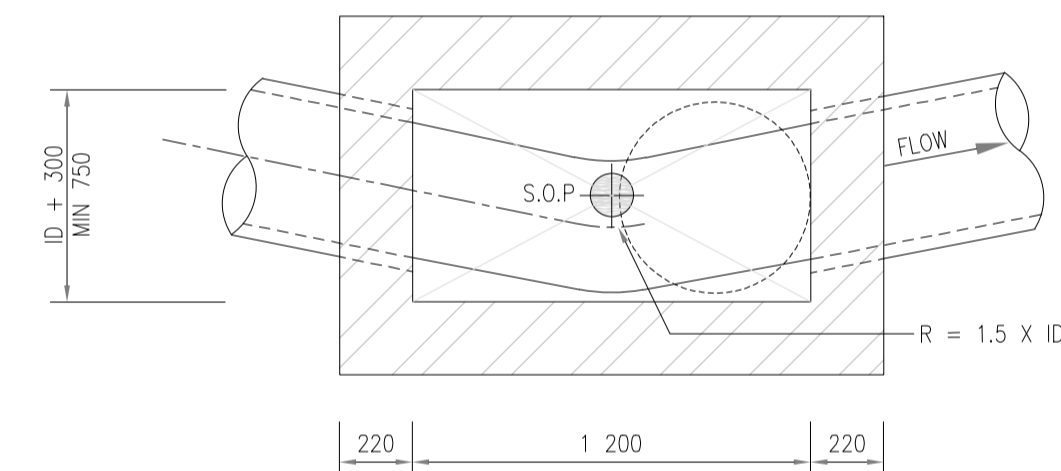
SECTIONAL PLAN - STRAIGHT



SECTIONAL PLAN - JUNCTION

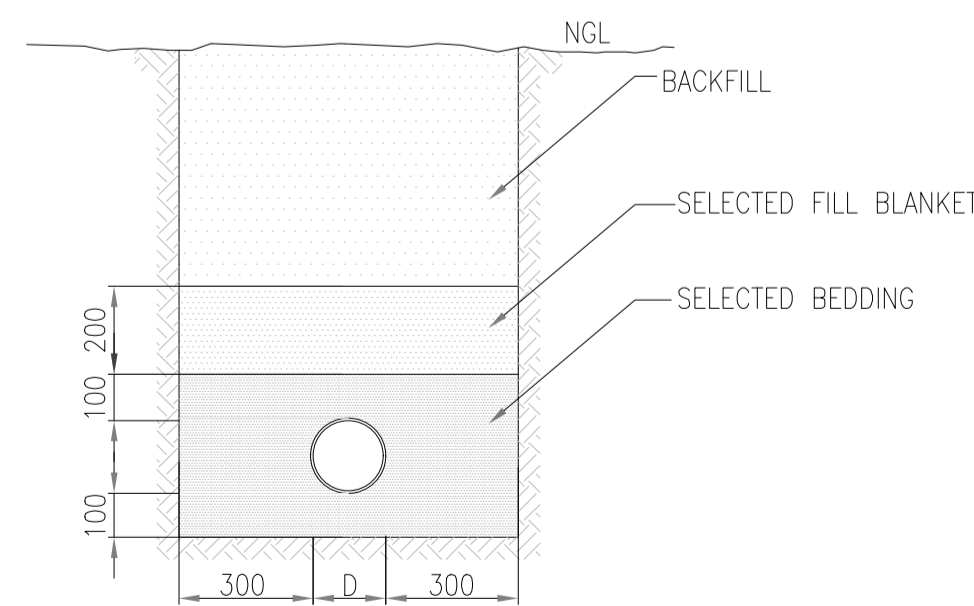


SECTIONAL PLAN - ANGLE > 22.5°



SECTIONAL PLAN - ANGLE < 22.5°

MANHOLE FOR PRECAST CONCRETE PIPE CULVERT
NTS



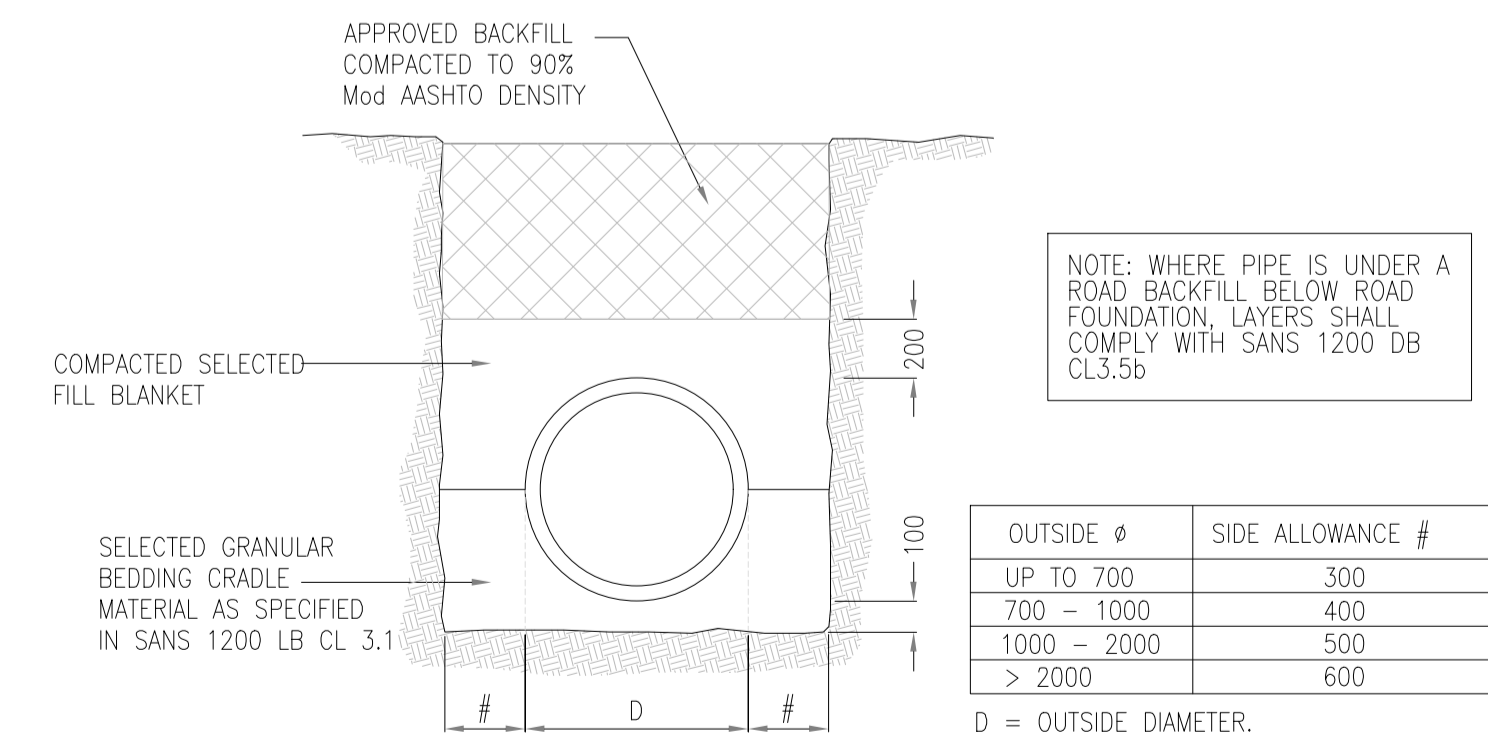
FLEXIBLE PIPE BEDDING DETAIL
NTS

BEDDING AND BACKFILL		
MATERIAL	DESCRIPTION	COMPACTION
BACKFILL	SANS 1200 DB CL 3.5	150 mm LAYERS 90% Mod AASHTO BACKFILLING IN STANDS/ERVEN TO BE SELECTED EXCAVATED MATERIAL BACKFILLING UNDER TRAFFIC AREAS TO BE IMPORTED MATERIAL COMPLYING WITH SANS 1200 DB CL.3.5
SELECTED FILL BLANKET	SANS 1200 LB CL 5.3 b)	IN 100 mm LAYERS 90% Mod AASHTO
SELECTED BEDDING	SANS 1200 LB CL 5.3 a)	90% Mod AASHTO DENSITY

MINIMUM COVER FOR STORMWATER PIPES	
APPLICATION	MIN DEPTH (mm)
UNDER TRAFFIC AREAS	1400
IN LANDSCAPED AREAS	1000

NOTES:

- SOCKETS OF PIPES SHALL BE ACCOMMODATED WITHIN THE SELECTED GRANULAR BEDDING MATERIAL
- WHERE PIPE IS UNDER A ROAD BACKFILL BELOW ROAD FOUNDATION, LAYERS SHALL COMPLY WITH SANS 1200 DB CL.3.5b AND 5.7.2



RIGID PIPE BEDDING SECTIONS (CLASS B)
NTS

OUTSIDE Ø	SIDE ALLOWANCE #
UP TO 700	300
700 - 1000	400
1000 - 2000	500
> 2000	600

D = OUTSIDE DIAMETER.

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REVISION INFORMATION

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F1	16-04-2026	ISSUED FOR TENDER	

CLIENT



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PROJECT DESCRIPTION
ENGINEERING SERVICES FOR THE UNDERGROUND MAIN WATER LINE AND SERVICE ROADS PROJECT FOR A PERIOD AT BRAM FISCHER INTERNATIONAL AIRPORT

DISCIPLINE
ROADS & TRANSPORT

DRAWING DESCRIPTION

STORMWATER DETAILS
SHEET 3 OF 3

DESIGNED BY: M. MTHETHWA	SIGNATURE AND DATE: 16-04-2026
CHECKED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
APPROVED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
PROJECT NO: 7089	DATE: 16-04-2026

DRAWING NO
GP05-24-ACSA-580-3

SCALE	SHEET SIZE	REVISION
N.T.S	A1	F1

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REVISION INFORMATION

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PROJECT DESCRIPTION
ENGINEERING SERVICES FOR THE UNDERGROUND MAIN WATER LINE AND SERVICE ROADS PROJECT FOR A PERIOD AT BRAM FISCHER INTERNATIONAL AIRPORT

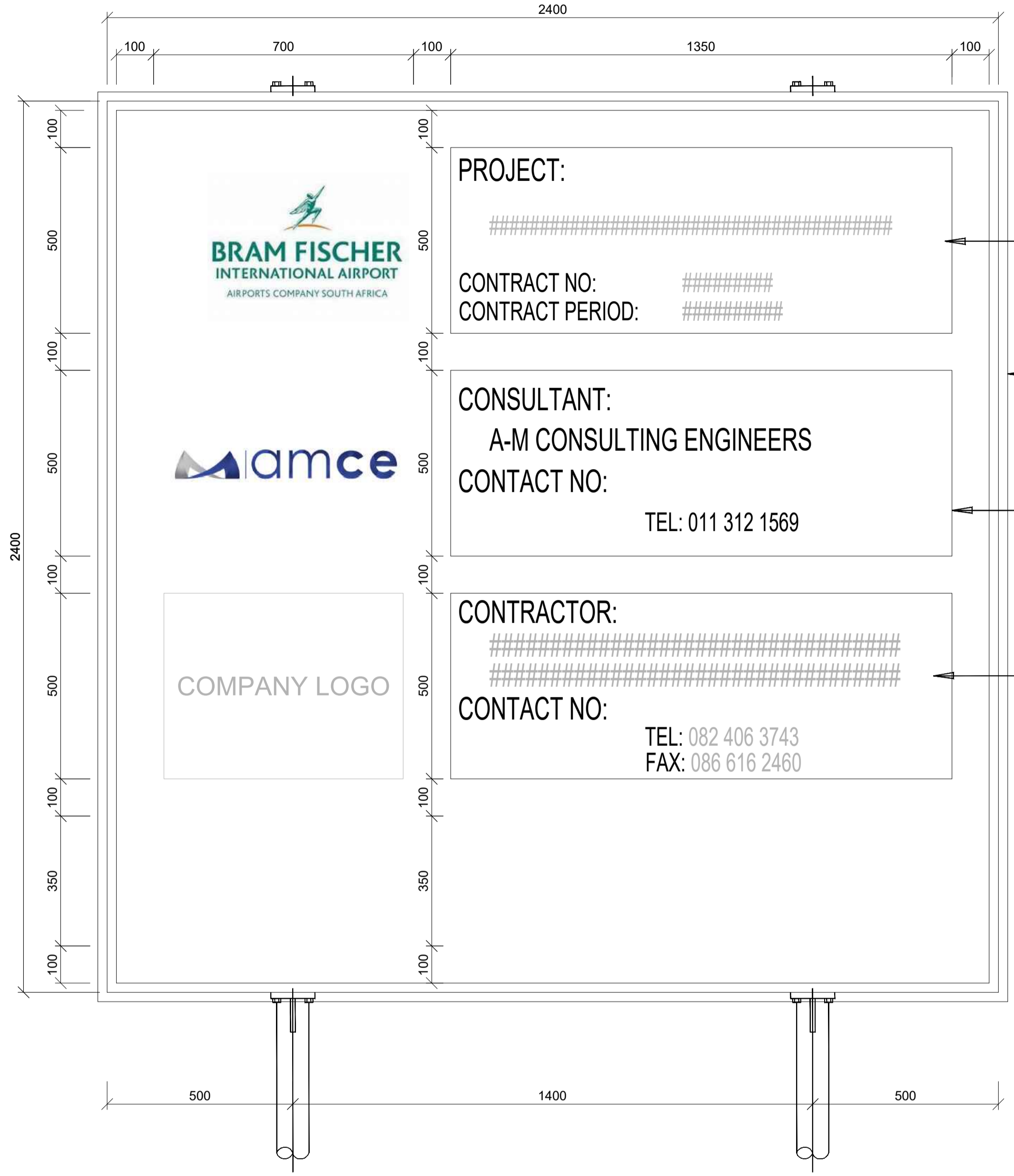
DISCIPLINE
ROADS & TRANSPORT

DRAWING DESCRIPTION

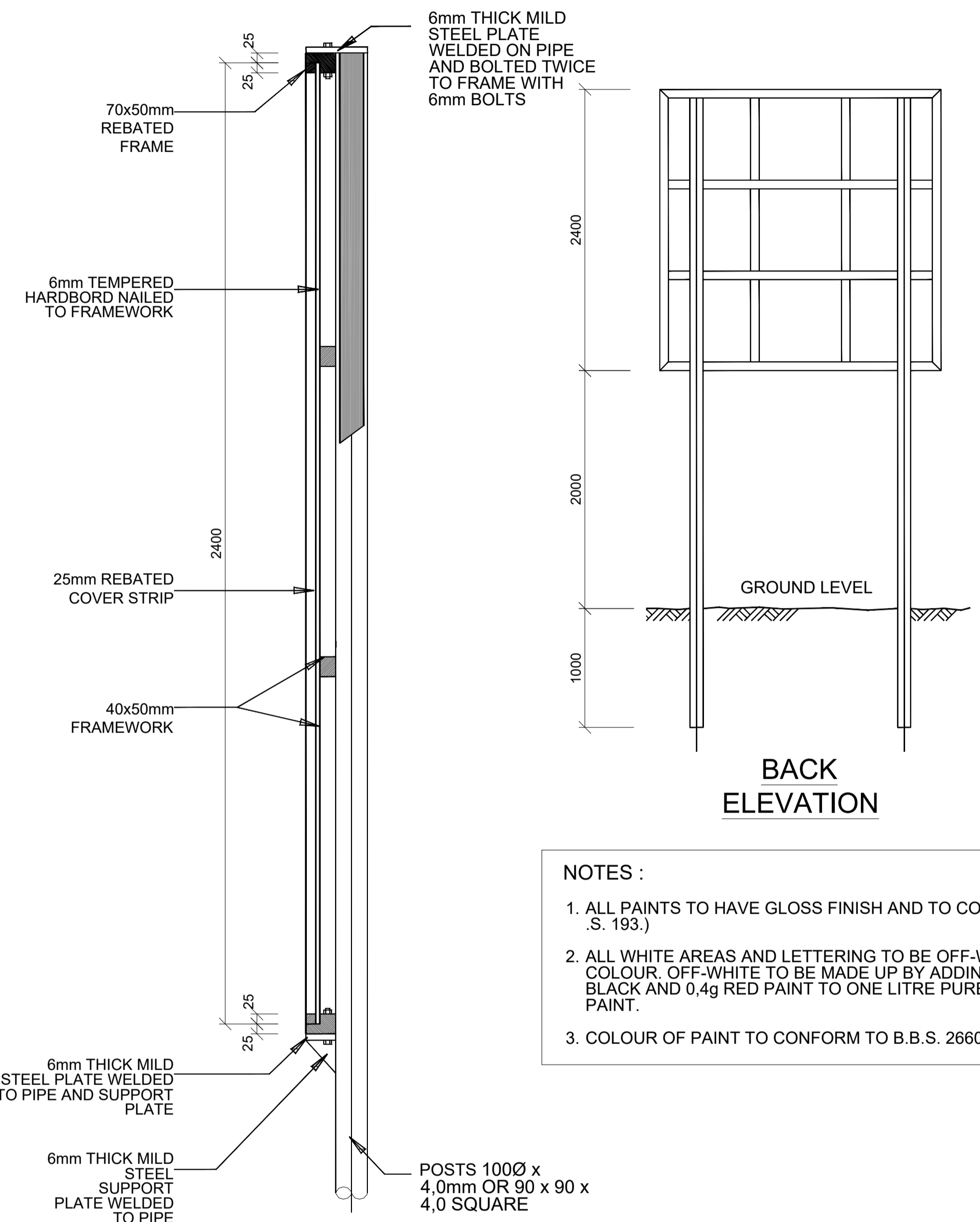
CONTRACT NAMEBOARD

DESIGNED BY: M. MTHETHWA	SIGNATURE AND DATE: 16-04-2026
CHECKED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
APPROVED BY: G. MALAMBO Pr. Eng.	SIGNATURE AND DATE: 16-04-2026
PROJECT NO: 7089	DATE 16-04-2026

DRAWING NO GP05-24-ACSA-580-4		
SCALE N.T.S	SHEET SIZE A1	REVISION F1



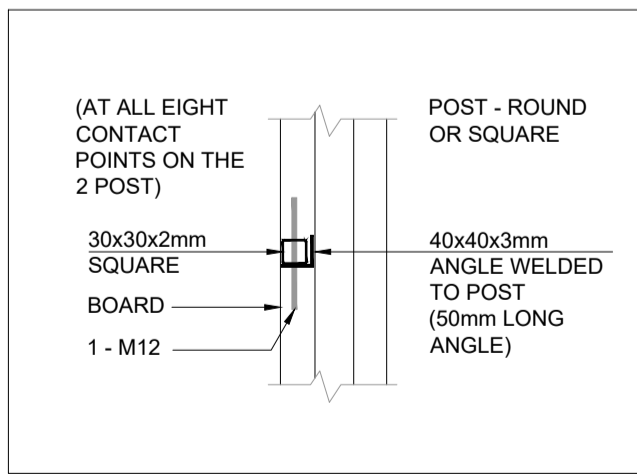
FRONT ELEVATION



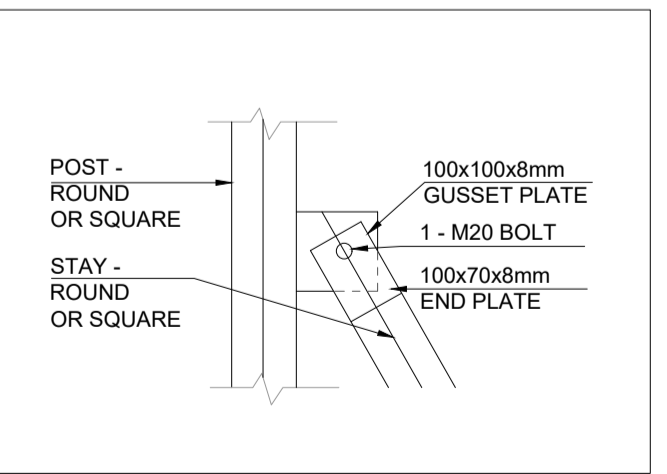
- NOTES :**
1. ALL PAINTS TO HAVE GLOSS FINISH AND TO COMPLY IN .S. 193.)
 2. ALL WHITE AREAS AND LETTERING TO BE OFF-WHITE IN COLOUR. OFF-WHITE TO BE MADE UP BY ADDING 0.4g BLACK AND 0.4g RED PAINT TO ONE LITRE PURE WHITE PAINT.
 3. COLOUR OF PAINT TO CONFORM TO B.B.S. 2660 NO. 03.

SECTION

- NOTES :**
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DETAIL 1






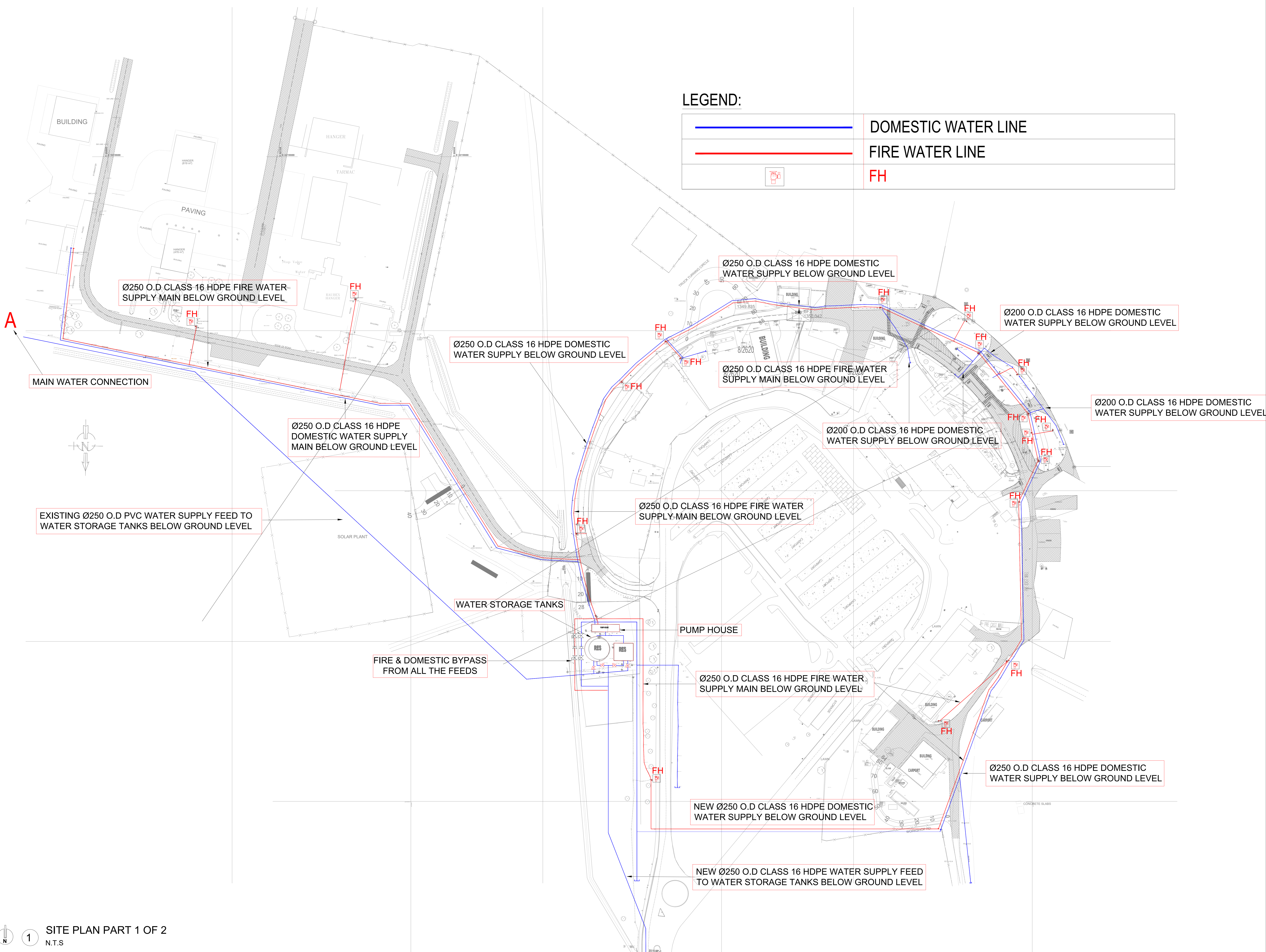
DETAIL 2

GENERAL NOTES

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 ALL CONTRACTORS TO CHECK THE DETAIL SHOWN ON THE DRAWING FOR COMPLIANCE WITH STANDARDS OF GOOD BUILDING PRACTICE WITH PARTICULAR REFERENCE TO SPECIAL REQUIREMENTS NECESSITATED BY LOCAL AND/OR SITE CONDITIONS.
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 CONTRACTORS ARE TO LOCATE AND IDENTIFY EXISTING SERVICES ON SITE AND TO PROTECT THESE FROM DAMAGE THROUGHOUT THE DURATION OF THE WORKS.
 ALL ASPECTS OF THE CONSTRUCTION REGULATIONS AS PER SABS 0400 ARE TO BE APPLIED AND ADHERED TO.

LEGEND:

	DOMESTIC WATER LINE
	FIRE WATER LINE
	FH



REVISION	BY	DATE	DESCRIPTION
C	AM	2020 04 17	FOR TENDER
B	AM	2020 07 01	DETAILED DESIGN
A	AM	2020 03 20	CONCEPT DESIGN

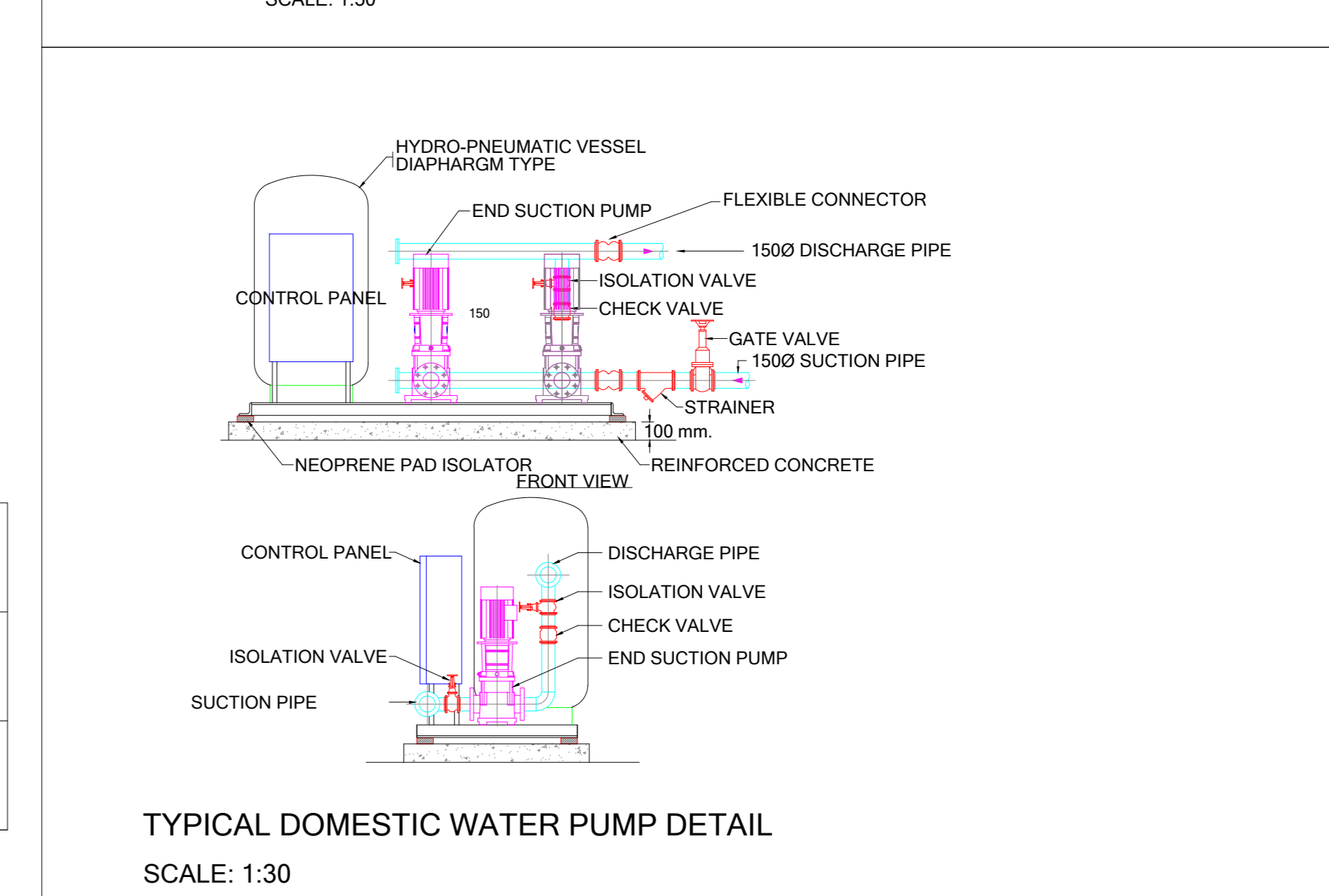
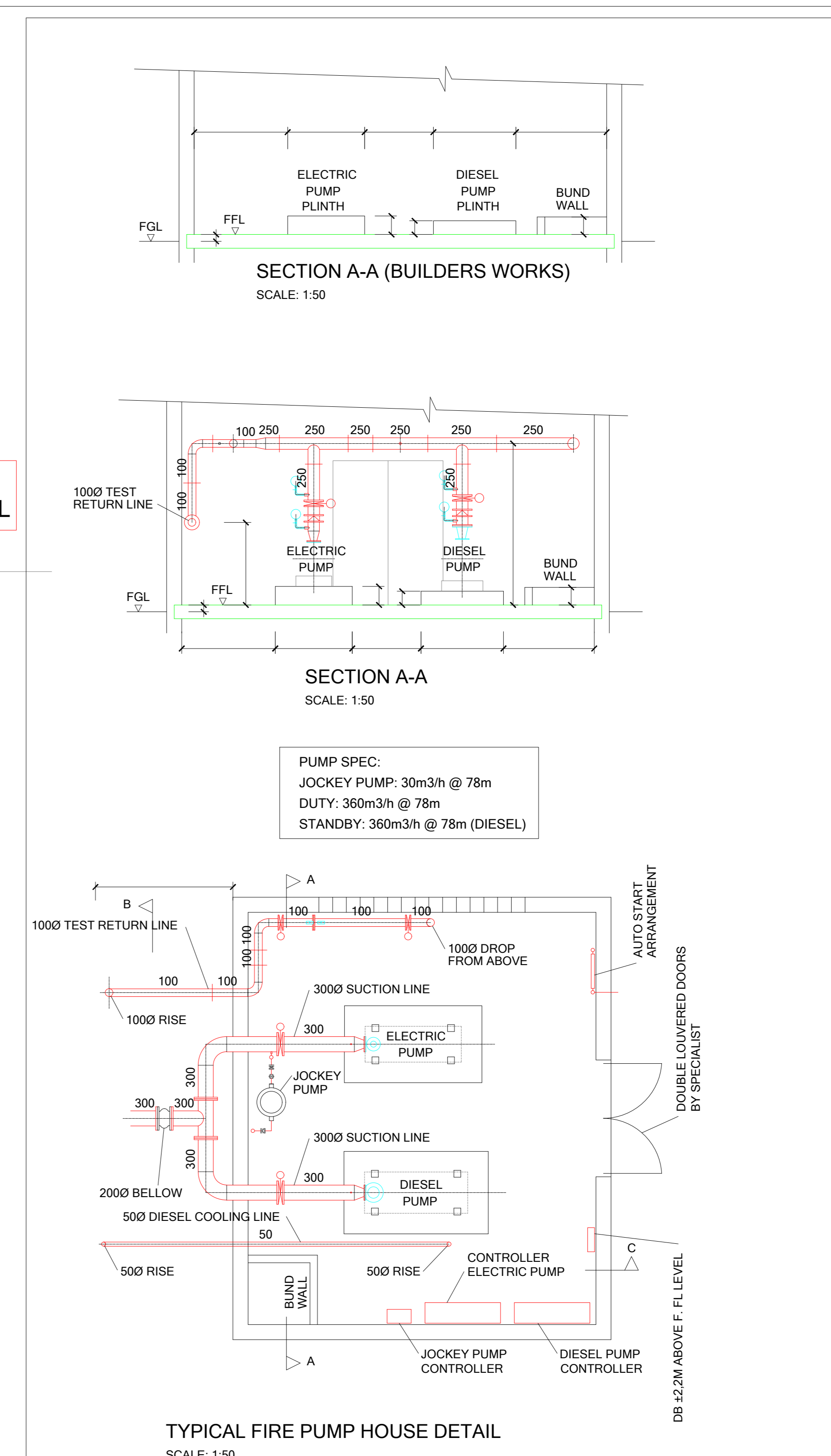
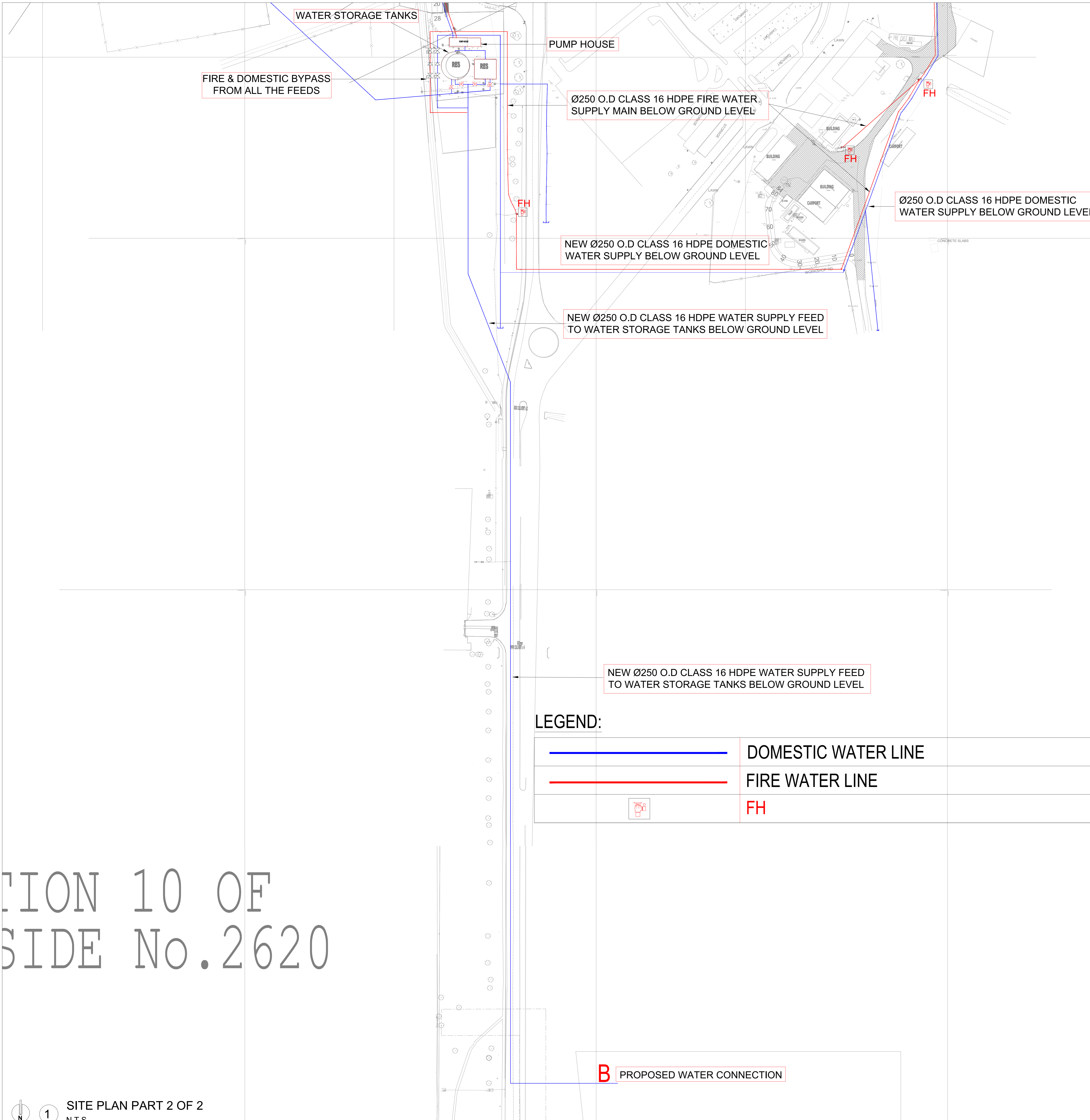
APPROVED BY CLIENT :
 SIGNATURE: _____ Date: _____
 APPROVED BY FIRE ENGINEER :
 ANDILE NTANJANA, ECSA PR ENG NO. 2019300487
 SIGNATURE: _____ Date: 2025.07.01
 APPROVED BY FIRE ENGINEER :
 QHAWE NKOMAZANA, ECSA PR ENG NO. 201670258
 SIGNATURE: _____ Date: 2025.07.01
 CLIENT



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PROJECT:
BRAM FISCHER INTERNATIONAL AIRPORT
 TITLE:
PROPOSED FIRE & DOMESTIC WATER SUPPLY RETICULATION
 DRAWN AM DATE MARCH 2025
 DESIGNED AN SCALE AS SHOWN
 DRAWING NO.
202505001-F/WS-01
 DRWG STATUS: FOR TENDER



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REVISION	BY	DATE	DESCRIPTION
C	AM	2025 04 17	FOR TENDER
B	AM	2025 07 01	DETAILED DESIGN
A	AM	2025 03 25	CONCEPT DESIGN

REVISION SCHEDULE

APPROVED BY CLIENT: _____ Date: _____

SIGNATURE: _____ Date: 2025.07.01

APPROVED BY FIRE ENGINEER: ANDILE NTANJANA, ECSA PR ENG NO.: 2019300487

SIGNATURE: _____ Date: 2025.07.01

APPROVED BY FIRE ENGINEER: QHAWHE NKOMAZANA, ECSA PR ENG NO.: 201670258

SIGNATURE: _____ Date: 2025.07.01

CLIENT

BRAM FISCHER INTERNATIONAL AIRPORT
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CONSULTANT

amce

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 www.amce.co.za

PROJECT:
BRAM FISCHER INTERNATIONAL AIRPORT

TITLE:
PROPOSED FIRE & DOMESTIC WATER SUPPLY RETICULATION

DRAWN	AM	DATE	MARCH 2025
DESIGNED	AN	SCALE	AS SHOWN
DRAWING NO.	202505001-F/WS-02		
DRWG STATUS:	FOR TENDER		

SECTION 10 OF
SIDE No. 2620